



Specification of symbols used on Audio-Tactile Maps for individuals with blindness

D2.1

User Requirements Specifications Report

Prepare by :

Konstantinos Charitakis, Konstantinos Papadopoulos

Contributors

All Partners

Work Package :

No 2

Email:

kcharitakis@uom.edu.gr

Form:








Final



Lifelong
Learning
Programme

"This project (543316-LLP-1-2013-1-GR-KA3-KA3MP) has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein."

THE ATMAPS CONSORTIUM

No.	Partner Name	Logo
1	University of Macedonia (UOM) – Project Coordinator	
2	Karlsruhe Institute of Technology (KIT)	
3	GeoImaging Ltd (GEO)	
4	National and Kapodistrian University of Athens (UOA)	
5	Mustafa Kemal University (MKU)	
6	Panhellenic Association for the Blind (PAB)	
7	Association of Barrier Free Access (ABFA)	

ABBREVIATIONS

Term	Explanation
IVIs	Individuals with Visual Impairments
AT-MAPS	Audio-Tactile Maps
WP	Work Package

COPYRIGHTS



This work is licensed under a [Creative Commons Attribution-NoDerivatives 4.0 International License](https://creativecommons.org/licenses/by-nd/4.0/).

Contents

The ATMAPS consortium.....	2
Abbreviations.....	3
Copyrights.....	3
1. Executive summary.....	7
2. Introduction	8
3. Method	12
3.1 Aims.....	12
3.2 Instruments and procedures.....	13
3.2.1 Initial list of information.....	14
3.2.2 Focus groups	14
3.2.3 Final Questionnaire.....	16
3.2.4 Concerns about Questionnaire Answering Process.....	18
3.2.5 Gathered Questionnaires.....	19
3.3 Participants' characteristics.....	20
4. Results.....	22
4.1 Calculating the significance of information	22
4.1.1 AT-Map of the indoors/inner space of building	22
4.1.2 AT-Map of neighborhood/residential area	26
4.1.3 AT-Map of campus	32
4.1.4 AT-Map of city center	38
4.1.5 AT Political Map	44
4.1.6 AT Physical Map.....	46
4.1.7 AT Historic Map.....	49
4.1.8 AT Thematic Map	52
4.2 Calculating the frequency of occurrence of information	56
4.2.1 AT-Map of the indoors/inner space of building	56
4.2.2 AT-Map of neighborhood/residential area	60
4.2.3 AT-Map of campus	66
4.2.4 AT-Map of city center	72
4.2.5 AT Political Map	78

4.2.6 AT Physical Map	80
4.2.7 AT Historic Map.....	83
4.2.8 AT Thematic Map	86
4.3 Calculating the preferred format of information	90
4.3.1 AT-Map of the indoors/inner space of building	90
4.3.2 AT-Map of neighborhood/residential area	94
4.3.3 AT-Map of campus	101
4.3.4 AT-Map of city center	107
4.3.5 AT Political Map	114
4.3.6 AT Physical Map	116
4.3.7 AT Historic Map.....	119
4.3.8 AT Thematic Map	122
4.4 Calculating the preferred format of information after familiarization of participants	126
4.4.1 AT-Map of the indoors/inner space of building – Format preference after familiarization.....	126
4.4.2 AT-Map of neighborhood/residential area – Format preference after familiarization.....	130
4.4.3 AT-Map of campus – Format preference after familiarization	137
4.4.4 AT-Map of city center – Format preference after familiarization	143
4.4.5 AT Political Map – Format preference after familiarization	150
4.4.6 AT Physical Map - – Format preference after familiarization	152
4.4.7 AT Historic Map - – Format preference after familiarization	155
4.4.8 AT Thematic Map – Format preference after familiarization.....	158
4.5 Defining the importance factor of information	162
4.5.1 AT-Map of the indoors/inner space of building	162
4.5.2 AT-Map of neighborhood/residential area	166
4.5.3 AT-Map of campus	172
4.5.4 AT-Map of city center	178
4.5.5 AT Political Map	184
4.5.6 AT Physical Map.....	186
4.5.7 AT Historic Map.....	189

4.5.8 AT Thematic Map	192
5. Conclusions	196
References	198
Appendix I: Initial list of information	199
Appendix II: Focus group instructions	212
Appendix III: Shorted enriched list of information	221
Appendix IV: Questionnaire Instructions	255
Appendix V: Questionnaire files for each map type.....	259
Appendix VI: Sample maps for familiarization purposes	293

1. EXECUTIVE SUMMARY

Touch and hearing are the primary senses that individuals with visual impairments (IVIs) use in order to access written and graphical information and to acquire knowledge about attributes of an environment and their surroundings.

Until now tactile maps included raised graphic patterns recognizable only by touch.

Nowadays, information technology offers the means to convert spatial information into audio, tactile or audio-tactile form.

Therefore the benefits of tactile graphics can be combined with audio information with the use of special devices. Audio-touchpad devices are touch-sensitive pads that can simultaneously provide users with tactile and audio information, while they explore tactile graphics with their fingers. In the case of audio-tactile maps, information is represented by audio symbols, tactile symbols, audio- tactile symbols (combined) and Braille labels.

What needs to be carefully examined is the basic query of which information should be presented in haptic mode by tactile symbols or with braille labels and which information should be presented in audio mode by audio symbols or delivered via audio-haptic mode by audio & tactile symbols combined.

Moreover, it should be specified what audio-tactile symbols (tactile, audio, audio & tactile) will represent specific information in audio-tactile maps.

The fundamental aim of the ATMAPS project is the specification of various kinds of audio, tactile and audio-tactile symbols to be used in Audio-Tactile Maps (AT-MAPS).

In practice this means that a reasoned process of user requirements elicitation process should be applied in order to derive what information should be included in the audio-tactile maps and in which format this information should be presented.

The first deliverable of WP2 is a scientific report about the requirements and specifications that IVIs set for the information and the symbols included in the different types of AT-Maps.

The present report presents the results of the user requirement specification process as part of the Work Package 2 of the project.

2. INTRODUCTION

Orientation and mobility in unfamiliar environment is a difficult task for IVIs. IVIs can hardly find their way without prior knowledge of a new environment or help by sighted people. IVIs are unable to collect the external visual stimuli from the environment or to use conventional maps. Hence, the importance of tactile maps as informational and orientation means is undoubted.

There are several studies that highlight the usefulness of tactile maps in the education and training of IVIs, the identification of location, way finding and formation of cognitive maps. The contribution of tactile maps in formatting new cognitive maps or in reforming the existing ones is very important. Tactile maps can also be an extremely effective tool for representing spatial information for the orientation and mobility (O&M) of IVIs.

The two main methods used for printing raised graphics on tactile maps are vacuum-forming and microcapsule paper.

Vacuum-forming, also called thermoforming, is a technique where a master is produced and then can be used for the reproduction of several images using a plastic sheet placed on the master and specific equipment. The plastic sheet is heated while air is evacuating causing the sheet to be permanently deformed in the shape of the master. The advantage of this technique is the production of raised graphics with different height levels providing improved readability of the raised graphics. The disadvantages are the high cost of production and the need for the production of a different master each time.

Microcapsule paper, also called swell paper, is a technique where a map is printed on special microcapsule paper. The microcapsule paper has a coat of microcapsules of alcohol on its surface. When the microcapsule paper is heated using a special device the black ink absorbs heat and the capsules on the surface of the paper expand providing the raised graphics. The design of graphics/images requires a computer and the printing on the microcapsule paper requires a normal printer or it can be photocopied on microcapsule paper using a photocopier. The advantages of this technique are the low cost of production (cost of microcapsule paper and special

heating device), the ease of reproduction, and the fact that the tactile image is perceivable both by tactile and visual senses and hence it can be perceived by individuals with low vision and sighted individuals. The disadvantage is the fixed height of the raised graphics that cannot be changed and they might wear off after long time of extensive use of the material.

Another popular tactile graphic's production method utilizes braille Embossers. Braille embossers print information received from a computer in braille onto specialized heavyweight paper. They provide the capability to emboss braille as well as graphics as variable height images. However, braille embossers are costly and this method is effective preferably for simple images.

The design of tactile map is a challenging process because strict rules must be followed in order to produce consistent outcomes. The production of tactile maps in many cases is based on the producers' experience on which information is useful for end users while some of them are advised by single end-users. This inconsistency of the results makes map reading challenging for IVIs.

In 1970s J.D. Armstrong and G.A. Games developed the Nottingham Map Making Kit as an attempt for the standardization of tactile map making process, while later in 1989 the Euro-Town Kit was developed by the German Institute for the Blind that developed. Edman (1992) gave an exhaustive overview of current practices in the design and production of tactile maps and images and proposed a wide list of symbols to be used. Apart from the attempts for standardization by Edman (1992) and Padadugu, Wang & Li (2010) providing sets of tactile symbols, others focused on the limitations of the symbols' perceptible dimensions (Bris, 1999; Tatham, 1991).

A patent for the design and production of a Visuo-Tactile Atlas focusing on the haptic perception was presented by Picard (2012), while a standardization of symbols for tactile map production on microcapsule paper was proposed by Lobben & Lawrence (2012) and was made available by the Braille Authority of North America (2010).

However there are limitations in the use of tactile maps. Some of the limitations consist of the low resolution of the fingerprint, the representation of complex graphics/images, the number of braille labels in a small area of a tactile map as well as the map legends. Based on such limitations it is proposed that the number of point, linear, areal symbols

and Braille labels should be limited in order to avoid map overloading (Jacobson, 1998).

Apart from the commonly used tactile maps new methods arise for the production of accessible maps. Zeng & Weber (2010) give an overview of different type of maps used by IVIs based on the maps' production method, amount of information and type of interaction, and also mention audio-tactile maps that combine audio with tactile information.

In audio-tactile maps, information can be represented by tactile graphics, audio symbols, tactile symbols, audio-tactile symbols and Braille labels. That allows a vast amount of information to be presented in auditory modality.

The main advantage of audio modality integrated in audio-tactile maps is that the information provided on these issues is more detailed compared to tactile maps and so not require Braille skills.

Nowadays the benefits of tactile maps can be combined with those of the verbal aids with the use of computer peripheral devices, such as audio-touchpads. Audio-touchpad devices are touch-sensitive pads that offer IVIS access to the benefits of tactile maps and verbal aids simultaneously while they explore tactile graphics with their fingers.

Using the audio modality also affects the design of tactile information: some information does not need to be presented in tactile mode but can be substituted by audio which saves space on a tactile map. Thus, audio-tactile maps are more compact and can provide more information than pure tactile maps.

The production of audio-tactile maps includes the following steps: 1) Development of digital maps on computers, on which specific spatial information for people with visual impairments is added, 2) Production of paper based tactile maps 3) Mount digital maps on audio-touchpads with special software and addition of audio/verbal information on predefined hotspots (Zeng & Weber, 2010).

There are different approaches in order to specify audio-tactile symbols. To bridge this gap, the ATMAPS project aims at specifying audio-tactile symbols for audio-tactile maps through a user-centered approach where IVIS as end-users of audio-tactile maps

should define what information should be incorporated in audio-tactile maps and in which format they should be presented.

3. METHOD

3.1 Aims

The aim of Task 2.1 of Work Package 2 (WP2) was the research based specification of user requirements and definition of what information should be included in audio-tactile maps (AT-MAPS) as well as how the information should be represented in those maps.

The user requirements elicitation process included a research study where individuals with visual impairments (IVIs) from the four different partner countries (Greece, Germany, Cyprus and Turkey) participated in order to define the most important information to be included in AT-MAPS and also to define which information should be represented in audio, which in tactile and which in audio-tactile form.

The research study focused on a wide spectrum of different types of maps, frequently used in education and training of individuals with blindness. The different types of AT-MAPS included:

1. AT-MAPS of the indoors/ inner space of buildings,
2. AT-MAPS of neighbourhoods/residential areas,
3. AT-Maps of campuses,
4. AT-Maps of city centres,
5. AT political, physical, historic, and thematic maps

An indicative but not exhaustive list of information included in the different types of maps follows:

- For map type 1 and 3: stairs, rooms, obstacles, entrances – exits, furniture, elevators etc.
- For map types 2 and 4: obstacles, reference points e.g. stairs, benches, trees, shops, etc.
- For map type 5: cities, mountains, rivers, borders, lakes, historical places, demographic information, etc.

The user requirements identification **regarding the information** to be included in the maps was based on the contribution/usefulness/significance of information in regard to:

1. Safety during movement of individuals with blindness (e.g. obstacles, stairs etc),
2. Information on the location of services (e.g. supermarkets, schools, etc),
3. Way-finding (information to help verify the position of the walker),
4. Orientation (e.g. landmarks), and
5. The theme of the map (for map type 5)

The user requirements identification **regarding the symbols** concerned which information (defined from the above mentioned procedure) should be represented, in audio, which in tactile and which in audio-tactile form.

The participants with blindness specified which of the information should be illustrated as tactile symbols, which ones as audio symbols and which ones as audio & tactile symbols combined (e.g. a tactile symbol that when a user touches it, he/she can hear additional information like names, descriptions etc).

The results of the first task (Task 2.1) of WP2 would then be used as input for the following tasks of the particular WP.

The study was initially planned to be completed on the first 6 months of the project implementation phase with the participation of approximately 120 individuals with blindness, from 4 different countries (Greece, Germany, Cyprus and Turkey).

However the study was finalized later in the project implementation phase due to the time consuming process of collecting the data to be entered in questionnaires, deploying and collecting the questionnaires and finally cleaning the answered questionnaires from invalid data.

3.2 Instruments and procedures

The following instruments were developed and used during the research study

3.2.1 Initial list of information

The partners (researches) developed an initial list of information to be included in the respective types of AT-Maps. The information included in this initial list was considered to be the most important, based on bibliography and previous experience. The initial list was created in English and it was also translated in the three different partner languages (Greek, German and Turkish). This initial list was proposed by UOM and was enriched by all other partners KIT, GEO, UOA, MKU, PAB and ABFA.

The initial list of information is presented in **Appendix I: Initial list of information**.

3.2.2 Focus groups

The initial list created was then enriched by suggestions of focus groups that were conducted in each partner country by partners (GEO, KIT, MKU and PAB). The participants in the focus groups were individuals with blindness (potential users of the AT-Maps – meaning users that utilize their hearing and touch).

A focus group is a form of qualitative research in which a group of people are asked about their perceptions, opinions, beliefs, and attitudes towards a topic. Questions are asked in an interactive group setting, where participants are free to talk with other group members. It is a small group of people brought together with a moderator to focus on a specific topic. Focus groups rely on interaction, based on topics that are provided by the researcher aiming at a discussion instead of on individual responses to formal questions, and produce qualitative data (preferences and beliefs) that may or may not be representative of the general.

The focus group was selected and assembled by researchers in order to discuss and comment, based on personal experience, the topic that is the subject of the research, in our case the information to be included in audio-tactile maps.

The key characteristic which distinguishes focus groups is the insight and data produced by the interaction between participants, hence a time constraint on the duration of the focus groups was not set. The time needed should be enough to go through all the parts of the instructions and information to be included in audio-tactile maps.

Moreover, it was considered helpful that the participants of the focus group were given the list of information in advance, in order for them to read it before the focus group meeting. However, this was helpful only for participants who are using screen reading software to read text.

The optimal focus group would include participants of: different age groups, gender, with different age at vision loss, blind and partially sighted, experienced users of tactile maps as well as users with no experience, etc.

However in the frames of the particular project it was decided that participants of the focus groups should be preferably blind individuals with no residual sight at all and not partially sighted persons, since the first will be mainly the users of audio-tactile maps, and also blind individuals who have some experience in using tactile maps or they are potential users of audio tactile maps.

The focus group instructions are presented in **Appendix II: Focus group instructions**.

The result of the focus groups procedure was an unshortened enriched list of information for each map type that was also translated in the three different partner languages (Greek, German and Turkish).

The enriched list of information was then shortened in groups based on the following categories.

1. Room / Hall
2. Room / Service
3. Entrance / Exit
4. Level change
5. Obstacle
6. O & M info
7. Haptic point of reference
8. Sound / Olfactory reference
9. Useful info
10. Machine / Device
11. Art work

Grouping the questionnaires would help IVIS participating in the research study to evaluate the information included in questionnaires.

The shorted enriched list of information is presented in **Appendix III: Shorted enriched list of information**.

3.2.3 Final Questionnaire

The final enriched and shorted list of information for each respective type of map was then included in a questionnaire to be answered by IVIS participating in the research study.

The questionnaire was developed as an accessible text document (.docx file) in order the participants to be able to use screen reading software of their preference in order to read it. The text in the document was structured using plain text, 1st level Headings, numbered lists and bulleted lists.

3.2.3.1 Questionnaire instructions

The first part of the questionnaire included the questionnaire instructions in a separate text document (.docx file) with the following sections.

- **Short introduction** about the ATMAPS project and what audio-tactile maps are.
- **Demographic data questions** to be filled in by participants.
- **Questionnaire purpose** explaining what the purpose of the questionnaire is.
- **Instructions** on how the participants should evaluate the list of information.
- **Questions** included three close-ended questions for each information. Participants were basically asked to evaluate the information by providing 3 answers, based on:
 - The **significance** of the information in regard to safety, location of services, way finding and orientation during movement based on a five point list:
 1. Not significant at all
 2. Somewhat significant
 3. Neutral
 4. Significant

5. Very significant.
- The **frequency** the participants meet the information based on a five point list:
 1. Never
 2. Rarely
 3. Sometimes
 4. Often
 5. Very often
- The **format** the participants prefer the information to be included in the maps:
 1. Audio
 2. Tactile
 3. Audio-Tactile
- **Examples** on how to answer the questions

The questionnaire instructions file is presented in Appendix IV: Questionnaire Instructions.

3.2.3.2 List of information

The second part of the questionnaire included separate text documents (.docx files) for each respective type of map. Each questionnaire file included the following sections:

- **Title of the map type** in order the participant to focus on the information related to the particular map type.
- **Questionnaire purpose** explaining what the purpose of the questionnaire is.
- **Important notice** to remind participants that the evaluation should be performed while they keep in mind that the information list under evaluation refers to the respective map type.
- **Order of provided answers** in order to remind in the beginning of each questionnaire file the order their answers should be provided, namely significance, frequency of occurrence, and format on the map.
- **Examples** on how to answer the questions.

- **List of information** to be evaluated. Each questionnaire file contained the final enriched and shorted list of information for the respective type of map that was developed in the previous stage.

The questionnaire files for each respective map type are presented in **Appendix V: Questionnaire files for each map type**.

3.2.4 Concerns about Questionnaire Answering Process

There was a major concern regarding the procedure to be followed. The question was, if individuals with blindness who have never use AT-Maps or the necessary equipment (e.g. the audio tactile touchpad device), are able to suggest which information will be represented with audio, tactile or audio-tactile symbols on AT-Maps.

Moreover, another concern was the fact that in some partner countries the blind participants may have never use tactile maps or have use them just a few times.

In order to overcome these concerns the following procedure was implemented.

A small group of participants from each partner country was familiarized with the audio tactile maps and the audio tactile touchpad device before they answer the questionnaires.

The rest of the participants were not be familiarized with the audio tactile maps and the audio tactile touchpad device before they answer the questionnaires but they got only detailed instructions by the researchers/ questionnaire moderators.

Therefore the research study also includes the results of the familiarization process that could be used for comparison of the answers of the two groups of participants (those who participated in the familiarization process and those who did not participate in the familiarization process).

The two options considered before taking the final decision are described below.

3.2.4.1 Option 1 – Proceed with familiarization of participants

The first option was to proceed with familiarization of participants with audio-tactile maps before their participation in the study.

This option demanded the development of a small sample of AT-Maps that would be used in order to familiarize individuals with the maps.

Moreover it was required that the partners should purchase the relevant equipment in order to conduct the familiarization of participants i.e. the audio tactile touchpad device.

Therefore, for the purpose of the familiarization process, sample audio-tactile maps of indoors and outdoors were created and are presented in **Appendix VI: Sample maps for familiarization purposes**.

After the familiarization procedure the participants answered the same questionnaires with the list of information for the different types of maps and the results of the analysis are listed in the present report.

This task required additional time that was not considered in the initial scheduling of the project proposal.

3.2.4.2 Option 2 – Proceed without familiarization of participants

The second option was to proceed without familiarization of participants before their participation in the study.

This option demanded that researchers/ moderators would provide very detailed instructions to the participants during the questionnaire answering process.

3.2.5 Gathered Questionnaires

During project meetings it was pointed out that this would be hard and time consuming work for the participants but it needs to be done in order the research to have a good justification and a provide valuable results.

A good suggestion proposed by KIT was to advice participants to answer one questionnaire (for a different type of map) per day.

All partners were asked to collaborate closely with the blind communities in their countries and involve as many participants as possible in order to have as many questionnaires answered as possible.

The results of the answered questionnaires were different lists of information for each type of map by each participant with their answers on significance, frequency and preference of format.

The data from the answered questionnaires were then transferred to spreads sheets in order to perform statistical analysis with statistical analysis software packages.

3.3 Participants' characteristics

One hundred fifteen adults with blindness took part in the research. Participants came from four countries: 40 from Greece, 8 from Cyprus, 50 from Turkey, and 17 from Germany. The sample consisted of 65 (56.5%) males and 60 (43.5%) females. The age ranged from 18 years to 64 years ($M = 34.82$, $SD = 11.11$). Seventy nine participants were blind, 30 had severe visual impairments and 6 were legally blind (visual acuity less than 1/20). The visual impairment was congenital for 62 participants and acquired for the rest 53 participants. With respect to their level of education, 71 participants were university graduates, 21 were university students, 15 had graduated from high school, and 8 had graduated from primary school.

The participants were asked to state the way of their daily movement in outdoor places, by choosing one of the following: a) with the assistance of a sighted guide, b) sometimes by myself and sometimes with the assistance of a sighted guide, and c) by myself, without any assistance.

Moreover, the participants were asked to indicate the frequency of their independent movement using a 5-point Likert scale: always, often, sometimes, rarely, or never. The following table presents the answers of the participants.

	With or without sighted guide			Frequency of independent movement			
	with	with & without	without	rarely	sometimes	often	always
Participants	3	72	40	5	19	61	30
<i>The score represent the number of participants in each group</i>							

Table 1 Ability and frequency of independent movement according to the answers of participants

Furthermore the participants were asked to indicate the frequency of use of tactile graphics or pictures using a 5-point likert scale: daily, often, sometimes, rarely, or never (see Table 2).

	Frequency of use tactile graphics or pictures				
	never	rarely	sometimes	often	daily
Participants	19	36	38	19	3
<i>The score represent the number of participants in each group</i>					

Table 2 Frequency of use tactile graphics or pictures

4. RESULTS

The statistical analysis method applied was descriptive statistics.

4.1 Calculating the significance of information

Using statistical analysis the mean value of the significance of each information was calculated. The results for each type of map are listed below in descending order, starting with those that are considered more significant by IVIS.

4.1.1 AT-Map of the indoors/inner space of building

#	Significance	Information
1	4,609	Toilet or bathroom for men, women, or people with disabilities
2	4,452	Stairs
3	4,409	Elevator
4	4,400	Reception
5	4,374	Dangerous area
6	4,348	Room number
7	4,322	Entrance or exit
8	4,304	Floor number
9	4,261	Emergency exit
10	4,252	Hanging obstacle or overhead obstacle
11	4,191	Clinic or infirmary or doctor
12	4,191	Revolving door
13	4,104	Office of the commissioner for the disabled
14	4,078	Library, the room or the service
15	4,070	Steps
16	4,035	Automatic doors
17	4,000	Audio guide
18	3,991	Dangerous point
19	3,991	Tactile signpost
20	3,965	Intersection
21	3,957	Bank cash machine
22	3,957	Cashier's desk
23	3,957	Indoor pillar
24	3,939	Door
25	3,912	Room
26	3,896	Haptic reference point or landmark

#	Significance	Information
27	3,878	Garbage bin
28	3,826	Obstacle on the ground
29	3,817	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
30	3,783	Glass door
31	3,765	Canteen
32	3,757	High obstacle
33	3,757	Office
34	3,737	Level change of the ground
35	3,722	Sliding door
36	3,713	Cafeteria or Coffee shop
37	3,713	Equipment or Machinery, computer, Printer, Photocopier
38	3,696	Intercom
39	3,696	Fire extinguisher
40	3,670	Security service office, or desk
41	3,661	Shop in general
42	3,643	Cash machine
43	3,626	Sound reference point or landmark
44	3,626	Queue management ticket machine
45	3,626	Conference room
46	3,617	Ramp
47	3,617	Prominent place as starting point
48	3,617	Balcony
49	3,591	Service
50	3,591	Kitchen
51	3,591	Baggage reclaim room
52	3,583	Scale Model of indoors area
53	3,574	Wall
54	3,522	Haptic information
55	3,513	Socket for Electricity or phone
56	3,504	Corridor
57	3,491	Map
58	3,487	Telephone
59	3,478	Short obstacle
60	3,461	Laboratory
61	3,452	Outdoors
62	3,435	Signs with audio sound
63	3,417	Hot water or anything that could be hot to burn
64	3,409	Household appliance, refrigerator, television, washing machine
65	3,391	Heat source, radiator, heating panels, fireplace

#	Significance	Information
66	3,348	Fire hose
67	3,330	Recycle bin
68	3,322	Projecting wall
69	3,304	Water tap
70	3,296	Notice board
71	3,296	Water dispenser
72	3,296	Mailbox
73	3,287	Automatic bars
74	3,287	Hanging cabinet
75	3,287	Gym
76	3,252	Sitting bench
77	3,235	Vending machine
78	3,226	Railings
79	3,219	Marked points of the compass
80	3,217	Window
81	3,200	Sink or washbasin
82	3,191	Glass partition
83	3,183	Shower
84	3,174	Box on the wall
85	3,174	Handrail for indoor stairs
86	3,165	Refrigerator
87	3,148	Sound source
88	3,096	Table
89	3,088	Big furniture, sofa, couch, bed, wardrobe
90	3,079	Highly populated zone in a building
91	3,078	Change of the surface or texture on the ground
92	3,053	Light switch
93	3,052	Desk
94	3,026	Shelf
95	3,026	Machine or Device
96	3,017	Oven
97	2,991	Uphill or Downhill or slope on the ground
98	2,974	Television
99	2,957	Furniture
100	2,948	Glass surface
101	2,948	Chair
102	2,939	Wardrobe or Closet or Locker
103	2,939	Cupboard
104	2,930	Pay phone or phone booth
105	2,922	Elevated floor of teacher's desk

#	Significance	Information
106	2,904	Wires or cables
107	2,886	Olfactory reference point or landmark
108	2,870	Armchair
109	2,870	Tea table
110	2,861	Coat hanger stand or hanger
111	2,860	Light source, Lamp or light bulb
112	2,852	Bed
113	2,817	Sofa or couch
114	2,800	Inscription
115	2,800	Air condition
116	2,798	Teacher's desk
117	2,783	Recess in the wall
118	2,754	Book case
119	2,739	Floor condition
120	2,730	Plants
121	2,722	Flower pot
122	2,722	Baby's changing table
123	2,713	Working Bench
124	2,704	Artwork
125	2,704	Drawers or Dresser
126	2,696	Smoking area
127	2,661	Pipes or tubes
128	2,649	Statue or sculpture
129	2,626	Newspaper or magazine Stand
130	2,609	Heating Burner
131	2,600	Carpet
132	2,574	Loft
133	2,557	Window shutters or rolling blinds or blinds
134	2,470	Stand with posters
135	2,417	Wall mirror
136	2,322	Frame of painting on the wall

4.1.2 AT-Map of neighborhood/residential area

#	Significance	Information
1	4,817	Bus stop
2	4,722	Point of access to public transport, bus stop, metro station
3	4,652	Traffic light with audio signals for the Blind
4	4,583	Metro station
5	4,522	Taxi station
6	4,513	Entrance to an underground pedestrian passageway or subway station
7	4,513	Traffic lights
8	4,500	Intersection, a place where two or more streets meet or cross
9	4,478	Dangerous area
10	4,470	Bus stop shelter or tram stop shelter
11	4,435	Supermarket
12	4,412	Street name
13	4,409	Toilet or bathroom for men, women, or people with disabilities
14	4,404	Pedestrian street
15	4,404	Pedestrian road crossing
16	4,404	Square
17	4,374	Pharmacy or drugstore
18	4,357	Clinic or infirmary or doctor
19	4,357	Public transport station
20	4,319	Sea
21	4,313	Entrance or exit
22	4,304	Bank
23	4,298	Round about or Large traffic circle with a solid circle center
24	4,296	Stairs
25	4,287	Public service building
26	4,252	Market place
27	4,252	Railway station
28	4,217	Park
29	4,217	Bridge for pedestrians
30	4,217	Shopping mall or shopping center
31	4,217	Information desk
32	4,193	Area name
33	4,184	Underpass
34	4,183	Grocery shop
35	4,170	Lake
36	4,167	Haptic information

#	Significance	Information
37	4,165	Underground entrance
38	4,158	Emergency exit
39	4,148	Elevator
40	4,139	Information booth
41	4,139	Stairs leading to the subway
42	4,139	Quay
43	4,133	Direction or course of the driveway
44	4,132	Prohibited area
45	4,130	Street market
46	4,123	Pavement or sidewalk with tactile paving
47	4,122	Restaurant or tavern or grill
48	4,113	School
49	4,113	Cafeteria or Coffee shop
50	4,106	Landmark
51	4,106	Buildings
52	4,105	Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions
53	4,096	Hanging obstacle or overhead obstacle
54	4,080	Coast line
55	4,079	Pedestrian trail or route
56	4,061	Audio guide
57	4,035	Bridge
58	4,035	Post office
59	4,026	Steps
60	4,017	Revolving door
61	4,017	Medical service
62	4,009	Danger line
63	4,000	Dangerous point
64	3,991	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
65	3,991	Name of building
66	3,983	Police station
67	3,947	Pavement or sidewalk
68	3,939	Haptic reference point or landmark
69	3,930	Pole or Pillar
70	3,930	Railroad crossing
71	3,913	Religious building, Church, mosque, or else
72	3,912	Automatic doors
73	3,886	Two way Driveway
74	3,861	Canal

#	Significance	Information
75	3,843	Shop in general
76	3,843	Bakery shop
77	3,841	Ramp
78	3,809	Gate
79	3,807	Tactile signpost
80	3,774	Patisserie
81	3,770	Beach
82	3,757	Water area
83	3,754	One way street
84	3,752	Pont, a small pond in a park
85	3,737	Streetcar tracks
86	3,730	Theater
87	3,730	Door
88	3,713	Library, the room or the service
89	3,711	Traffic sign
90	3,704	Balcony projecting
91	3,704	Garbage bin
92	3,699	Water stream
93	3,696	Glass door
94	3,693	Prominent place as starting point
95	3,687	Dentist
96	3,667	Paved area or paved road
97	3,649	Road in parking garage
98	3,649	Road
99	3,626	Hairdresser
100	3,619	Shop for coffee products or coffee grinder shop
101	3,591	Bridge over railroad tracks
102	3,588	Overhead cable
103	3,583	Level change of the ground
104	3,574	Canteen
105	3,574	Short poles alongside of pavements
106	3,565	Sliding door
107	3,561	Arcade or Gallery with shops
108	3,553	Green area
109	3,548	Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole
110	3,548	Butcher shop
111	3,539	Mailbox
112	3,530	Parking slots for the disabled people

#	Significance	Information
113	3,530	Box on the side of pavement of Electricity or Gas providers
114	3,513	High obstacle
115	3,504	Pizzeria
116	3,504	Sound reference point or landmark
117	3,500	Path
118	3,496	Gym
119	3,496	Service
120	3,474	Short obstacle
121	3,470	Shoe store
122	3,452	Recycle bin
123	3,439	Wall
124	3,439	Projecting wall
125	3,435	Obstacle on the ground
126	3,434	Road with a sharp ascent or descent
127	3,430	Bicycle road
128	3,421	Waterfall
129	3,417	Outdoor furniture, tables, bench, chairs
130	3,412	Sign with audio sound
131	3,409	Fish shop
132	3,391	Uphill or Downhill or slope on the ground
133	3,383	Sitting bench
134	3,374	Sports facility
135	3,374	Sports court
136	3,374	Cinema
137	3,360	Road Bar
138	3,357	Gas station
139	3,357	Sports facility
140	3,345	Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn
141	3,325	Fence around parts of pavement or sidewalk parts enclosed with fence
142	3,313	Bumps from the roots of trees on the pavements
143	3,304	Cava or Liquor shop
144	3,298	Tactile bumps on the street
145	3,287	Box on the wall
146	3,281	Flower bed or parterre
147	3,274	Map
148	3,261	Tree branches
149	3,252	Car parking
150	3,252	Bar
151	3,235	Glass partition

#	Significance	Information
152	3,235	Shop for photocopies
153	3,228	Tree
154	3,228	Bicycle stand for parking bicycles
155	3,226	Kiosk or pavilion
156	3,226	Missing tiles on pavement
157	3,219	Nature strip or outdoors open space or Lawn
158	3,211	Monument
159	3,209	Canal with a lock and sluice
160	3,191	Railings
161	3,183	Phone booth or Pay phone
162	3,175	Automatic bars
163	3,174	Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes
164	3,167	Tower
165	3,167	Broken tile on pavement
166	3,165	Flower shop
167	3,158	Notice board
168	3,157	Water tap
169	3,157	Wires or cables
170	3,148	Daycare
171	3,133	Parked cars or motorcycles
172	3,132	Fire hose or fire department's water hydrant on pavement
173	3,132	Fence
174	3,097	Room
175	3,097	Curbstone. Concrete part edging to a street or path
176	3,096	Shop's sign post
177	3,096	Olfactory reference point or landmark
178	3,088	Shape of block of houses
179	3,087	Edge of pavement
180	3,087	Chill out area
181	3,087	Activity area
182	3,078	Playground
183	3,071	Rapids
184	3,070	Water fountain
185	3,062	Metal plate on the ground
186	3,061	Bridge for vehicles
187	3,061	Pipes or tubes
188	3,053	Change of the surface or texture on the ground
189	3,044	Puddle
190	3,043	Railroad tracks passing through a tunnel

#	Significance	Information
191	3,018	Vending machine
192	2,991	Shop for leather products
193	2,991	Shop for cosmetics
194	2,974	Shop window
195	2,956	Bushes
196	2,956	Inscription
197	2,948	Cemetery or graveyard
198	2,930	Gravel
199	2,922	Newspaper or magazine Stand
200	2,870	Berm. Strips of cement found in parking lots that stop car wheels from going any further
201	2,861	Recess in the wall
202	2,860	Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge
203	2,860	Sand
204	2,816	Ground material
205	2,809	Plants
206	2,800	Window sill
207	2,772	Sound source
208	2,748	Car garage
209	2,746	Flower pot
210	2,737	People selling goods on the street
211	2,722	Pet shop
212	2,713	Statue or sculpture
213	2,711	Grass
214	2,702	Stand with posters
215	2,690	Machine or Device
216	2,664	Sprinklers watering machine injectors
217	2,558	Barking dog from specific house
218	2,513	Smoking area
219	2,491	Basketball net
220	2,474	Light source, Lamp or light bulb
221	2,465	Slide
222	2,465	Air condition
223	2,456	Electricity generator of traders selling goods on the street
224	2,421	Car washer
225	2,342	Sound from air condition device
226	2,292	Sound from ventilation

4.1.3 AT-Map of campus

#	Significance	Information
1	4,763	Bus stop
2	4,711	Point of access to public transport, bus stop, metro station
3	4,684	Student's registry office
4	4,623	Office with accessible books
5	4,614	Toilet or bathroom for men, women, or people with disabilities
6	4,570	Office of the commissioner for the disabled
7	4,561	Metro station
8	4,553	Traffic light with audio signals for the Blind
9	4,544	Taxi station
10	4,518	Lecture room
11	4,509	Service center for students
12	4,482	Name of faculties of educational institution
13	4,439	Clinic or infirmary or doctor
14	4,404	Library, the room or the service
15	4,404	Traffic lights
16	4,395	Intersection, a place where two or more streets meet or cross
17	4,377	Dangerous point
18	4,345	Floor number
19	4,342	Stairs leading to the subway
20	4,325	Room number
21	4,316	Elevator
22	4,307	Stairs
23	4,307	Pedestrian road crossing
24	4,301	Emergency exit
25	4,298	Street name
26	4,281	Dangerous area
27	4,254	Bank cash machine
28	4,246	Student's office
29	4,246	Area name
30	4,237	Academic staff offices
31	4,237	Consulting center
32	4,237	Pedestrian street
33	4,219	Audio guide
34	4,219	Tactile signpost
35	4,219	Lecture theatre
36	4,212	Dining room or Dining area
37	4,202	Haptic reference point or landmark
38	4,193	Cafeteria or Coffee shop

#	Significance	Information
39	4,175	Information desk
40	4,167	Square
41	4,149	Entrance or exit
42	4,142	Indoor pillar
43	4,140	Hanging obstacle or overhead obstacle
44	4,123	Dorms or Student houses
45	4,123	Canteen
46	4,114	Haptic information
47	4,105	Park
48	4,105	Class room
49	4,096	Steps
50	4,088	Administration offices
51	4,079	Pavement or sidewalk with tactile paving
52	4,070	Information booth
53	4,061	Door
54	4,044	Revolving door
55	4,044	Underpass
56	4,026	Examination office
57	4,018	Pavement or sidewalk
58	4,000	Building of administration offices
59	4,000	Pedestrian trail or route
60	3,991	Pole or Pillar
61	3,982	Name of building
62	3,965	Gate
63	3,956	Swimming pool
64	3,947	Landmark
65	3,939	Danger line
66	3,921	Bridge for pedestrians
67	3,921	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
68	3,904	Corridor
69	3,895	Ramp
70	3,886	Reception
71	3,868	Post office
72	3,868	Underground entrance
73	3,868	Bridge
74	3,860	Conference hall
75	3,842	Scale Model of campus
76	3,814	Office
77	3,807	Activity area

#	Significance	Information
78	3,807	Buildings
79	3,789	Laboratory
80	3,789	Pont, a small pond in a park
81	3,789	Garbage bin
82	3,781	Room
83	3,781	Parking slots for the disabled people
84	3,772	Lake
85	3,763	Concert hall
86	3,763	Seating area
87	3,763	Automatic doors
88	3,746	Sports facility
89	3,737	Hot water or anything that could be hot to burn
90	3,728	Shop for photocopies
91	3,702	Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole
92	3,684	Obstacle on the ground
93	3,675	Security service office or desk
94	3,649	Sliding door
95	3,649	Road
96	3,640	Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions
97	3,632	Sign with audio sound
98	3,632	Wall
99	3,614	Sports court
100	3,614	Glass door
101	3,605	Level change of the ground
102	3,605	Short poles alongside of pavements
103	3,605	Projecting wall
104	3,588	High obstacle
105	3,588	Low balcony alongside the pavement
106	3,588	Water dispenser
107	3,579	Cashier's desk
108	3,570	Service
109	3,570	Prominent place as starting point
110	3,570	Ground level
111	3,544	Shop in general
112	3,544	Water tap
113	3,540	Overhead cable
114	3,535	Traffic sign

#	Significance	Information
115	3,535	Chill out area
116	3,518	Student council
117	3,518	Gym
118	3,509	Projecting balcony
119	3,491	Music hall
120	3,491	Member's Club
121	3,482	Mailbox
122	3,474	Sink or washbasin
123	3,474	Server room or Data center
124	3,474	Path
125	3,474	Road in parking garage
126	3,456	Room with stage
127	3,456	Photocopying machine
128	3,447	Road Bar
129	3,439	Paved area or paved road
130	3,430	Short obstacle
131	3,430	Bicycle road
132	3,421	Outdoors
133	3,412	Sound reference point or landmark
134	3,395	Shape of block of houses
135	3,360	Equipment or Machinery, computer, Printer, Photocopier
136	3,351	Recycle bin
137	3,342	Fire extinguisher
138	3,342	Balcony
139	3,319	Recess in the wall
140	3,289	Outdoor furniture, tables, bench, chairs
141	3,289	Notice board
142	3,281	Sitting Bench
143	3,272	Fire hose or fire department's water hydrant on pavement
144	3,263	Religious building, Church, mosque, or else
145	3,263	Automatic bars
146	3,237	Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn
147	3,237	Map
148	3,228	Flower bed or parterre
149	3,228	Fire hose
150	3,211	Kitchen
151	3,211	Bumps from the roots of trees on the pavements
152	3,202	Car parking
153	3,193	Fence around parts of pavement or sidewalk parts enclosed with fence

#	Significance	Information
154	3,184	Glass partition
155	3,167	Vending machine
156	3,158	Box on the wall
157	3,140	Water fountain
158	3,140	Uphill or Downhill or slope on ground
159	3,140	Tree
160	3,132	Tree branches
161	3,132	Missing tiles on pavement
162	3,123	Bicycle stand for parking bicycles
163	3,080	Parked cars or motorcycles
164	3,079	Monument
165	3,061	Inscription
166	3,053	Machine or Device
167	3,053	Railings
168	3,044	Flip chart for meeting presentations
169	3,044	Refrigerator
170	3,018	Puddle
171	2,991	Broken tile on pavement
172	2,991	Olfactory reference point or landmark
173	2,982	Book case
174	2,974	Curbstone. Concrete part edging to a street or path
175	2,939	Wardrobe or Closet or Locker
176	2,939	Sound source
177	2,930	Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes
178	2,930	Desk
179	2,895	Wires or cables
180	2,895	Heat source, radiator, heating panels, fireplace
181	2,886	Berm. Strips of cement found in parking lots that stop car wheels from going any further
182	2,886	Shop window
183	2,877	Sofa or couch
184	2,877	Daycare
185	2,877	Glass surface
186	2,868	Smoking area
187	2,868	Edge of pavement
188	2,868	Pipes or tubes
189	2,851	Big furniture, sofa, couch, bed, wardrobe
190	2,851	Newspaper or magazine Stand
191	2,833	Artwork

#	Significance	Information
192	2,833	Ground material
193	2,825	Working Bench
194	2,816	Furniture
195	2,779	Bushes
196	2,763	Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge
197	2,726	Sprinklers watering machine injectors
198	2,667	Sand
199	2,667	Air condition
200	2,664	Stand with posters
201	2,649	Change of the surface or texture on the ground
202	2,649	Sound from ventilation
203	2,640	Gravel
204	2,632	Flower pot
205	2,614	Plants
206	2,579	Statue or sculpture
207	2,570	Light source, Lamp or light bulb
208	2,509	Grass
209	2,474	Heating Burner
210	2,465	Frame of painting on the wall
211	2,465	Ping pong table
212	2,404	Carpet
213	2,395	Door mat

4.1.4 AT-Map of city center

#	Significance	Information
1	4,678	Point of access to public transport, bus stop, metro station
2	4,661	Bus stop
3	4,609	Metro station
4	4,583	traffic light with audio signals for the Blind
5	4,530	Traffic lights
6	4,530	Pedestrian road crossing
7	4,496	Street name
8	4,487	Service center for the blind
9	4,487	Hospital
10	4,461	Public transport station
11	4,443	Intersection, a place where two or more streets meet or cross
12	4,426	Bus stop shelter or tram stop shelter
13	4,391	Clinic
14	4,383	Round about or Large traffic circle with a solid circle center
15	4,383	Taxi station
16	4,374	Shopping mall or shopping center
17	4,357	Bank
18	4,357	Squares
19	4,357	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
20	4,348	Toilet or bathroom for men, women, or people with disabilities
21	4,339	Railroad crossing
22	4,330	Supermarket
23	4,313	Stairs
24	4,313	Public service building
25	4,304	Town hall
26	4,296	Dangerous point
27	4,296	Pavement or sidewalk with tactile paving
28	4,281	Audio guide
29	4,278	Hotel
30	4,278	Bank cash machine
31	4,278	Area names
32	4,261	Park
33	4,261	Dangerous area
34	4,252	Market place
35	4,252	School
36	4,252	Grocery shop
37	4,243	Two way Driveway

#	Significance	Information
38	4,226	Entrance to an underground pedestrian passageway or subway station
39	4,211	Sea
40	4,209	Danger line
41	4,191	Railway station
42	4,183	Restaurant or tavern or grill
43	4,183	Police station
44	4,183	Bridge for pedestrians
45	4,174	Patisserie
46	4,165	Landmarks
47	4,165	Pedestrian street
48	4,165	Road
49	4,150	Sign with audio sound
50	4,149	Prohibited area
51	4,148	Haptic reference point or landmark
52	4,148	Street market
53	4,140	Quay
54	4,139	Information desk
55	4,122	Bakery shop
56	4,122	Post office
57	4,122	Medical service
58	4,122	Elevator
59	4,113	Stairs leading to the subway
60	4,104	Emergency exit
61	4,104	Tactile signpost
62	4,104	Haptic information
63	4,096	Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions
64	4,087	Direction or course of the driveway
65	4,078	Underpass
66	4,078	Museum
67	4,070	Revolving door
68	4,070	Steps
69	4,061	Scale Model of city
70	4,052	Information booth
71	4,043	Pedestrian trails
72	4,043	Hanging obstacle or overhead obstacle
73	4,035	Cafeteria or Coffee shop
74	4,035	Underground entrance
75	4,026	Water canal
76	4,026	Pavement or sidewalk

#	Significance	Information
77	4,017	Entrance or exit
78	4,017	Shop in general
79	4,009	Harbor
80	3,974	Library, the room or the service
81	3,965	Theater
82	3,957	Pole or Pillar
83	3,948	Water area
84	3,948	Tourist attraction
85	3,948	Tram tracks
86	3,930	Railways
87	3,913	Name of building
88	3,913	Public toilet
89	3,887	One way street
90	3,886	Beach
91	3,870	Pont, a small pond in a park
92	3,870	Bridge
93	3,860	Coast line
94	3,852	Short poles alongside of pavements
95	3,852	Garbage bin
96	3,851	Shop for coffee products or coffee grinder shop
97	3,851	Ramp
98	3,826	Ticket office
99	3,826	Buildings
100	3,809	Bridge over railroad tracks
101	3,800	Tourist information
102	3,791	Balcony projecting
103	3,783	Construction works
104	3,783	Sports facilities
105	3,774	Sights
106	3,774	Gate
107	3,757	Religious building, Church, mosque, or else
108	3,757	Cinema
109	3,754	Lake
110	3,746	Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole
111	3,722	Service
112	3,704	Paved area or paved road
113	3,704	Automatic doors
114	3,702	Traffic sign

#	Significance	Information
115	3,696	Queue management ticket machine
116	3,687	Sound reference point or landmark
117	3,675	Security service office or desk
118	3,655	Overhead cable
119	3,643	Shape of block of houses
120	3,632	Prominent place as starting points
121	3,626	Parking slots for the disabled people
122	3,617	Box on the side of pavement of Electricity or Gas providers
123	3,617	Gym
124	3,609	Sports court
125	3,574	Bar or club or entertainment
126	3,570	High obstacle
127	3,565	Fish shop
128	3,565	Arcade or Gallery with shops
129	3,565	Sports facility
130	3,561	Tower
131	3,548	Gas station
132	3,548	Path
133	3,548	Level change of the ground
134	3,539	Road Bar
135	3,539	Road with a sharp ascent or descent
136	3,526	Road where possibly loading or unloading is taking place
137	3,513	Monument
138	3,513	Canteen
139	3,513	Shop for cosmetics
140	3,504	Activity area
141	3,496	Driveway in parking garage
142	3,478	Sitting bench
143	3,461	Green area
144	3,456	Flagpole
145	3,443	Bicycle road
146	3,434	Water tap
147	3,430	Projecting wall
148	3,421	Obstacle on the ground
149	3,404	Short obstacle
150	3,389	Outdoors
151	3,383	Art work
152	3,374	Office
153	3,374	Flower shop
154	3,365	Water fountain

#	Significance	Information
155	3,365	Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn
156	3,365	Fence around parts of pavement or sidewalk parts enclosed with fence
157	3,360	Bridge for vehicles
158	3,351	Tree
159	3,330	Recycle bin
160	3,313	Daycare
161	3,307	Map
162	3,304	Outdoor furniture, tables, bench, chairs
163	3,296	Kiosk or pavilion
164	3,296	Nature strip or outdoors open space or Lawn
165	3,296	Fence
166	3,289	Vending machine
167	3,287	Playground
168	3,281	Water canal with a lock and sluice
169	3,270	Bar
170	3,263	Olfactory reference point or landmark
171	3,263	Highly populated zone in a building
172	3,263	Curbstone. Concrete part edging to a street or path
173	3,252	Phone booth or Pay phone
174	3,252	Flower bed or parterre
175	3,246	Railroad tracks passing through a tunnel
176	3,243	Bicycle stand for parking bicycles
177	3,211	Underground Religious building, Church or mosque or else
178	3,200	Automatic bars
179	3,200	Shop for leather products
180	3,200	Bumps from the roots of trees on the pavements
181	3,200	Wall
182	3,191	Cemetery or graveyard
183	3,191	Box on the wall
184	3,184	Sound source
185	3,183	Open parking
186	3,174	Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes
187	3,174	Parking garage
188	3,174	Glass partition
189	3,157	Car parking
190	3,149	Wires or cables
191	3,148	Inscription
192	3,148	Tree branches

#	Significance	Information
193	3,134	Equipment or Machinery
194	3,130	Edge of pavement
195	3,114	Ferry boat for cars or other vehicles
196	3,105	Fire hose or fire department's water hydrant on pavement
197	3,104	Change of the surface or texture on the ground
198	3,104	Railings
199	3,096	Chill out area
200	3,088	Recess in the wall
201	3,070	Pipes or tubes
202	3,035	Sand
203	3,026	Gravel
204	2,983	Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge
205	2,983	Room
206	2,983	Ground material
207	2,948	Pet shop
208	2,939	Metal plate on the ground
209	2,930	Uphill or Downhill or slope on ground
210	2,930	Berm. Strips of cement found in parking lots that stop car wheels from going any further
211	2,922	Plants
212	2,922	Glass surface
213	2,922	Flower pot
214	2,904	Statue or sculpture
215	2,896	Furniture
216	2,805	People selling goods on the street
217	2,800	Newspaper or magazine Stand
218	2,774	Bushes
219	2,746	Smoking area
220	2,730	Grass
221	2,722	Stand with posters
222	2,658	Car washer

4.1.5 AT Political Map

#	Significance	Information
1	4,609	Capital city
2	4,565	Country or State
3	4,530	City
4	4,513	Country borders
5	4,452	Airport
6	4,452	Sea
7	4,339	Distance in kilometers
8	4,270	Railway station
9	4,235	River
10	4,209	Island
11	4,193	Cardinal points
12	4,191	Highway
13	4,183	Prefecture or county or district
14	4,174	Continent
15	4,165	city borders or shape of city area
16	4,157	Town
17	4,148	Harbor
18	4,139	Coastline
19	4,113	Settlement
20	4,104	Lake
21	4,087	Scale of map
22	4,078	Sea transportation
23	4,070	Channel
24	4,070	Prefecture borders
25	4,052	Directional arrow
26	3,983	Province
27	3,965	Travel means
28	3,965	Sea gulf
29	3,930	Landmark
30	3,896	Village
31	3,887	Region or district
32	3,809	Federal state
33	3,809	Population
34	3,791	Castle
35	3,774	System of government or polity
36	3,722	Currency
37	3,704	Train network
38	3,704	Route

#	Significance	Information
39	3,696	Official language
40	3,661	Road network
41	3,661	Longitude and latitude
42	3,652	Water Dam
43	3,565	Tunnel
44	3,548	Geographical Area
45	3,530	Artificial lake or Reservoir
46	3,330	Salt water lake
47	3,287	Lagoon
48	3,026	Ski resort

4.1.6 AT Physical Map

#	Significance	Information
1	4,443	Sea
2	4,417	River
3	4,417	Mountain
4	4,365	Ocean
5	4,330	Island
6	4,330	Country or State
7	4,322	Continent
8	4,322	Scale of map
9	4,304	Capital city
10	4,278	Country borders
11	4,270	City
12	4,167	Cardinal points
13	4,113	National Park
14	4,113	Distances in kilometers
15	4,113	Mountain range
16	4,070	Highway
17	4,061	Coastline
18	4,052	Forest
19	4,043	Lake
20	4,043	Directional arrow
21	4,035	Harbor
22	4,017	Cliff coast
23	3,991	Valley
24	3,957	Longitude and latitude
25	3,957	Volcano, active or inactive
26	3,948	Costal area
27	3,939	Province
28	3,930	Plateau
29	3,913	Peninsular
30	3,904	Sight or attraction
31	3,904	Prefecture borders
32	3,896	Landmark
33	3,870	Population
34	3,870	Desert
35	3,861	Geographical Area
36	3,835	Prefecture or county or district
37	3,825	Natural phenomenon
38	3,817	Artificial lake or Reservoir

#	Significance	Information
39	3,817	Green field or valley
40	3,800	Physical resources. Products, oil, gas, coal
41	3,800	city borders or shape of city area
42	3,800	Train network
43	3,791	Town
44	3,791	Travel means
45	3,774	Swampland
46	3,765	Mountain peak
47	3,739	Waterfall
48	3,730	Beach
49	3,696	Sea gulf
50	3,693	Blue Flag beach
51	3,640	Region or district
52	3,626	water Dam
53	3,609	Channel
54	3,600	Thermal water springs or SPA
55	3,591	Cave
56	3,591	Sea transportation
57	3,588	Salt water lake
58	3,583	Vegetation zone
59	3,565	Mountain height
60	3,565	Fauna or animal life
61	3,539	Lagoon
62	3,535	Natural mineral water spring
63	3,522	Federal state
64	3,470	Forest road
65	3,470	Route
66	3,409	Road network
67	3,409	Flora or Plant life, tundra, forest, taiga
68	3,400	Rural road
69	3,374	Afforestation
70	3,357	Ocean depth
71	3,357	Village
72	3,348	Rainforest
73	3,310	Tundra
74	3,278	Ocean drift
75	3,272	Plate tectonic
76	3,259	Taiga
77	3,252	Mixed forest
78	3,226	Straits

#	Significance	Information
79	3,191	Coniferous forest
80	3,165	Grassland
81	3,139	Broadleaf forest
82	3,096	Ski resort

4.1.7 AT Historic Map

#	Significance	Information
1	4,474	Unesco World Heritage
2	4,456	Historic location
3	4,400	Country borders
4	4,348	Sea
5	4,339	Capital city
6	4,313	Castle
7	4,313	Country or State
8	4,237	Monument
9	4,209	Ancient city
10	4,200	City
11	4,191	Archeological site or monument
12	4,175	Important date
13	4,157	Sight or attraction
14	4,139	Distinct legend
15	4,139	Historic church or monastery
16	4,130	Palace
17	4,122	Ocean
18	4,114	Battle
19	4,087	War theatre
20	4,078	Cardinal points
21	4,070	Continent
22	4,061	Sea battle or naval battle
23	4,043	River
24	4,035	Straits
25	4,035	Scale of map
26	4,035	Harbor
27	4,026	Historic path, Way of Saint James
28	4,000	Timeline
29	3,965	Trade route
30	3,965	Gateway
31	3,948	Discovery
32	3,878	city borders or shape of city area
33	3,870	Distances in kilometers
34	3,861	Physical resources. Products, oil, gas, coal
35	3,852	Landmark
36	3,842	Natural phenomenon
37	3,817	Coastal area
38	3,800	Campaign

#	Significance	Information
39	3,791	Architecture
40	3,765	Mountain range
41	3,763	Conquest
42	3,757	Route of army and fleet
43	3,748	Population
44	3,730	Directional arrow
45	3,730	Town
46	3,728	Former borders
47	3,722	Coastline
48	3,719	Prefecture borders
49	3,713	Province
50	3,696	Island
51	3,670	Lake
52	3,640	National Park
53	3,635	Colony
54	3,626	Geographical Area
55	3,614	Peninsular
56	3,609	Pact
57	3,609	Empire and monarchy
58	3,600	Mountain
59	3,591	Village
60	3,574	Plateau
61	3,557	Confederation
62	3,553	Cave
63	3,539	Sea gulf
64	3,539	Nationality
65	3,535	Region or district
66	3,522	Graves
67	3,491	Trade
68	3,478	Federal state
69	3,470	Sea transportation
70	3,447	Shipwreck
71	3,443	Route
72	3,426	Lagoon
73	3,417	Volcano, active or inactive
74	3,409	Valley
75	3,409	Desert
76	3,409	Longitude and latitude
77	3,404	Prefecture or county or district
78	3,368	Natural disaster

#	Significance	Information
79	3,304	Religious affiliation
80	3,296	Green field or valley
81	3,243	Travel means
82	3,113	Salt water lake
83	3,061	Road network
84	3,053	Thermal water springs or SPA
85	2,930	Swampland

4.1.8 AT Thematic Map

#	Significance	Information
1	4,383	Capital city
2	4,348	Airport
3	4,296	Country or State
4	4,217	City
5	4,183	Sight or attraction
6	4,157	Sea
7	4,157	Subway Map
8	4,148	Island
9	4,139	Railway station
10	4,130	Country borders
11	4,122	Ancient city
12	4,122	Cardinal points
13	4,113	Historic location
14	4,096	Ocean
15	4,096	River
16	4,087	Harbor
17	4,061	Distances in kilometers
18	4,043	National Park
19	4,043	Highway
20	4,017	Unesco World Heritage
21	4,009	Mountain
22	4,009	Distinct legend
23	3,991	Beach
24	3,974	city borders or shape of city areas
25	3,974	Coastline
26	3,965	Landmark
27	3,957	Longitude and latitude
28	3,948	Travel means
29	3,921	Archeological site or monument
30	3,913	Hotel
31	3,913	Scale
32	3,912	Beach resort
33	3,904	Castle
34	3,904	Blue Flag beach
35	3,878	Natural phenomenon
36	3,878	Settlement
37	3,877	Monument
38	3,870	Temperature

#	Significance	Information
39	3,870	Historic church or monastery
40	3,861	Geographical area
41	3,861	Historic path, Way of Saint James
42	3,852	Coastal area
43	3,852	Language
44	3,851	Cliff coast
45	3,843	Town
46	3,835	Climatic map
47	3,825	Continent
48	3,817	Directional arrow
49	3,781	Population
50	3,774	Valley
51	3,761	Water Dam
52	3,739	Lake
53	3,739	Mountain range
54	3,730	Province
55	3,730	Waterfall
56	3,730	Prefecture or county or district
57	3,722	Straits
58	3,713	Nuclear power plant
59	3,711	Sea transportation
60	3,704	Train network
61	3,704	Village
62	3,704	Lagoon
63	3,678	Tunnel
64	3,661	Population density
65	3,652	Architecture
66	3,652	System of government or polity
67	3,649	Birthrate
68	3,637	Physical resources. Products, oil, gas, coal
69	3,632	Population data, gender, age
70	3,632	Important date
71	3,623	Gateways
72	3,617	Geographical Area
73	3,617	Meteorological phenomena
74	3,609	Economy and industry
75	3,591	Climate
76	3,591	Products Theme depended
77	3,591	Palace
78	3,583	Prefecture borders

#	Significance	Information
79	3,579	Ski resort
80	3,557	Sea gulf
81	3,553	Traditions and customs
82	3,549	Natural gas
83	3,548	Natural resources
84	3,544	Discovery
85	3,544	Official language
86	3,530	Afforestation
87	3,522	Timeline
88	3,522	Energy supply
89	3,500	Natural mineral water spring
90	3,496	Import export goods
91	3,496	Products
92	3,496	Route
93	3,487	Green field or valley
94	3,487	Region or district
95	3,474	Peninsular
96	3,465	Volcano, active or inactive
97	3,465	Thermal water springs or SPA
98	3,456	Colony
99	3,447	Currency
100	3,447	Mountain resort refuge
101	3,435	Trade
102	3,435	Vegetation zone
103	3,435	Mountain peak
104	3,426	Campground
105	3,426	Channel
106	3,417	Trade route
107	3,412	Mountain trail
108	3,409	Demographic group
109	3,404	Road tolls
110	3,400	Plateau
111	3,400	Mineral resources
112	3,386	Organized beaches
113	3,377	Drought
114	3,374	Nationality
115	3,348	Desert
116	3,330	Federal state
117	3,330	Road network
118	3,289	Oilfields for diesel or petroleum

#	Significance	Information
119	3,287	Pact
120	3,287	Cave
121	3,261	Empire and monarchy
122	3,246	Oil or diesel or petroleum
123	3,221	Natural disaster
124	3,211	Ethnicities
125	3,202	Religious affiliation
126	3,174	Rural road
127	3,165	Confederation
128	3,165	Ocean depth
129	3,132	Shipwreck
130	3,096	Coal
131	3,079	Mortality
132	3,070	Former boarders
133	3,061	Uranium
134	2,939	Ocean drift

4.2 Calculating the frequency of occurrence of information

Using statistical analysis the mean value of the frequency of occurrence of each information was calculated. The results for each type of map are listed below in descending order, starting with those that are met more frequently by IVIS.

4.2.1 AT-Map of the indoors/inner space of building

#	Frequency	Information
1	4,383	Entrance or exit
2	4,304	Toilet or bathroom for men, women, or people with disabilities
3	4,235	Stairs
4	4,165	Elevator
5	4,052	Door
6	4,043	Floor number
7	3,974	Reception
8	3,948	Steps
9	3,861	Cafeteria or Coffee shop
10	3,852	Room number
11	3,800	Corridor
12	3,772	Room
13	3,748	Intersection
14	3,730	Wall
15	3,696	Window
16	3,696	Socket for Electricity or phone
17	3,696	Household appliance, refrigerator, television, washing machine
18	3,670	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
19	3,661	Garbage bin
20	3,635	Canteen
21	3,626	Dangerous area
22	3,617	Cashier's desk
23	3,583	Handrail for indoor stairs
24	3,557	Telephone
25	3,548	Sound source
26	3,539	Hanging obstacle or overhead obstacle
27	3,539	Automatic doors

#	Frequency	Information
28	3,539	Clinic or infirmary or doctor
29	3,539	Balcony
30	3,530	Library, the room or the service
31	3,530	Obstacle on the ground
32	3,530	Refrigerator
33	3,522	Kitchen
34	3,513	Emergency exit
35	3,504	Sink or washbasin
36	3,504	Intercom
37	3,500	Table
38	3,487	Dangerous point
39	3,487	Outdoors
40	3,482	Big furniture, sofa, couch, bed, wardrobe
41	3,470	Office
42	3,470	Bank cash machine
43	3,470	Water tap
44	3,461	Shop in general
45	3,452	Light switch
46	3,443	Equipment or Machinery, computer, Printer, Photocopier
47	3,443	Ramp
48	3,426	Heat source, radiator, heating panels, fireplace
49	3,417	Furniture
50	3,409	Revolving door
51	3,409	Prominent place as starting point
52	3,400	Office of the commissioner for the disabled
53	3,400	Glass door
54	3,400	Shower
55	3,400	Chair
56	3,391	Indoor pillar
57	3,374	Security service office, or desk
58	3,365	Cash machine
59	3,357	Television
60	3,339	Railings
61	3,330	Service
62	3,325	Change of the surface or texture on the ground
63	3,322	High obstacle
64	3,316	Light source, Lamp or light bulb
65	3,298	Level change of the ground
66	3,287	Sofa or couch
67	3,270	Mailbox

#	Frequency	Information
68	3,261	Haptic reference point or landmark
69	3,226	Bed
70	3,226	Short obstacle
71	3,217	Hot water or anything that could be hot to burn
72	3,183	Sliding door
73	3,157	Sitting bench
74	3,149	Fire extinguisher
75	3,148	Desk
76	3,104	Water dispenser
77	3,104	Sound reference point or landmark
78	3,096	Map
79	3,096	Tea table
80	3,096	Conference room
81	3,087	Shelf
82	3,070	Tactile signpost
83	3,070	Book case
84	3,061	Air condition
85	3,052	Oven
86	3,052	Haptic information
87	3,044	Highly populated zone in a building
88	3,043	Audio guide
89	3,043	Recycle bin
90	3,043	Drawers or Dresser
91	3,009	Queue management ticket machine
92	3,000	Cupboard
93	2,991	Glass partition
94	2,965	Carpet
95	2,965	Signs with audio sound
96	2,930	Uphill or Downhill or slope on the ground
97	2,922	Laboratory
98	2,913	Hanging cabinet
99	2,887	Wardrobe or Closet or Locker
100	2,876	Marked points of the compass
101	2,870	Coat hanger stand or hanger
102	2,861	Vending machine
103	2,852	Projecting wall
104	2,842	Notice board
105	2,826	Armchair
106	2,809	Machine or Device
107	2,800	Glass surface

#	Frequency	Information
108	2,763	Plants
109	2,757	Gym
110	2,754	Olfactory reference point or landmark
111	2,754	Flower pot
112	2,748	Scale Model of indoors area
113	2,730	Fire hose
114	2,713	Window shutters or rolling blinds or blinds
115	2,696	Smoking area
116	2,696	Baggage reclaim room
117	2,678	Box on the wall
118	2,652	Pay phone or phone booth
119	2,643	Inscription
120	2,643	Wires or cables
121	2,609	Automatic bars
122	2,548	Recess in the wall
123	2,544	Teacher's desk
124	2,522	Working Bench
125	2,513	Elevated floor of teacher's desk
126	2,513	Pipes or tubes
127	2,496	Floor condition
128	2,426	Artwork
129	2,374	Newspaper or magazine Stand
130	2,348	Statue or sculpture
131	2,287	Wall mirror
132	2,278	Baby's changing table
133	2,219	Frame of painting on the wall
134	2,148	Loft
135	2,139	Heating Burner
136	2,122	Stand with posters

4.2.2 AT-Map of neighborhood/residential area

#	Frequency	Information
1	4,474	Point of access to public transport, bus stop, metro station
2	4,417	Bus stop
3	4,296	Traffic lights
4	4,243	Entrance or exit
5	4,139	Taxi station
6	4,122	Stairs
7	4,113	Bus stop shelter or tram stop shelter
8	4,105	Intersection, a place where two or more streets meet or cross
9	4,105	Two way Driveway
10	4,088	Pedestrian road crossing
11	4,078	Door
12	4,061	Pavement or sidewalk
13	4,061	Supermarket
14	4,043	Metro station
15	4,026	Public service building
16	4,000	Street name
17	3,991	Entrance to an underground pedestrian passageway or subway station
18	3,974	Toilet or bathroom for men, women, or people with disabilities
19	3,948	Pharmacy or drugstore
20	3,947	Buildings
21	3,939	Shopping mall or shopping center
22	3,930	Shop in general
23	3,912	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
24	3,886	Square
25	3,878	Traffic light with audio signals for the Blind
26	3,878	School
27	3,870	Elevator
28	3,870	Grocery shop
29	3,841	Direction or course of the driveway
30	3,835	Restaurant or tavern or grill
31	3,826	Public transport station
32	3,826	Steps
33	3,823	Parked cars or motorcycles
34	3,817	Clinic or infirmary or doctor
35	3,817	Bank

#	Frequency	Information
36	3,816	Pavement or sidewalk with tactile paving
37	3,809	Stairs leading to the subway
38	3,783	Cafeteria or Coffee shop
39	3,763	Area name
40	3,746	Round about or Large traffic circle with a solid circle center
41	3,722	Park
42	3,719	Pedestrian street
43	3,704	Market place
44	3,687	Railway station
45	3,670	Street market
46	3,661	Tree
47	3,643	Religious building, Church, mosque, or else
48	3,623	Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions
49	3,583	Underground entrance
50	3,575	Sea
51	3,574	Dangerous area
52	3,570	Underpass
53	3,566	Service
54	3,565	Garbage bin
55	3,540	Landmark
56	3,531	Ramp
57	3,513	Name of building
58	3,504	Revolving door
59	3,504	Medical service
60	3,504	Post office
61	3,491	Railroad crossing
62	3,487	Edge of pavement
63	3,482	Emergency exit
64	3,478	Glass door
65	3,470	Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes
66	3,470	Bakery shop
67	3,465	Traffic sign
68	3,461	Bridge
69	3,456	Automatic doors
70	3,447	Puddle
71	3,426	Railings
72	3,425	Road
73	3,404	Wall

#	Frequency	Information
74	3,400	Butcher shop
75	3,400	Shop window
76	3,395	Short obstacle
77	3,395	Streetcar tracks
78	3,391	Patisserie
79	3,389	Green area
80	3,389	Coast line
81	3,386	Pedestrian trail or route
82	3,383	Hanging obstacle or overhead obstacle
83	3,374	Uphill or Downhill or slope on the ground
84	3,365	Pole or Pillar
85	3,365	Level change of the ground
86	3,357	Bridge for pedestrians
87	3,357	Information desk
88	3,357	Obstacle on the ground
89	3,345	Room
90	3,333	Paved area or paved road
91	3,330	Dangerous point
92	3,325	Tactile bumps on the street
93	3,313	Quay
94	3,310	Change of the surface or texture on the ground
95	3,304	Gate
96	3,304	Short poles alongside of pavements
97	3,298	One way street
98	3,292	Beach
99	3,278	High obstacle
100	3,270	Information booth
101	3,263	Shop's sign post
102	3,261	Gym
103	3,254	Fence around parts of pavement or sidewalk parts enclosed with fence
104	3,252	Sitting bench
105	3,252	Library, the room or the service
106	3,237	Hairdresser
107	3,235	Outdoor furniture, tables, bench, chairs
108	3,235	Sliding door
109	3,230	Prominent place as starting point
110	3,226	Theater
111	3,221	Road with a sharp ascent or descent
112	3,217	Cava or Liquor shop
113	3,209	Police station

#	Frequency	Information
114	3,204	Flower bed or parterre
115	3,202	Ground material
116	3,191	Pizzeria
117	3,174	Dentist
118	3,157	Danger line
119	3,150	Shop for coffee products or coffee grinder shop
120	3,149	Nature strip or outdoors open space or Lawn
121	3,142	Curbstone. Concrete part edging to a street or path
122	3,132	Road in parking garage
123	3,130	Canteen
124	3,130	Gas station
125	3,122	Recycle bin
126	3,115	Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn
127	3,104	Shoe store
128	3,097	Pont, a small pond in a park
129	3,096	Mailbox
130	3,088	Water area
131	3,088	Audio guide
132	3,078	Balcony projecting
133	3,078	Sound reference point or landmark
134	3,071	Water stream
135	3,070	Box on the side of pavement of Electricity or Gas providers
136	3,061	Parking slots for the disabled people
137	3,053	Prohibited area
138	3,044	Light source, Lamp or light bulb
139	3,043	Sports facility
140	3,035	Arcade or Gallery with shops
141	3,035	Kiosk or pavilion
142	3,035	Tree branches
143	3,026	Bumps from the roots of trees on the pavements
144	3,018	Machine or Device
145	3,018	Haptic information
146	3,009	Lake
147	3,009	Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge
148	3,000	Haptic reference point or landmark
149	3,000	Grass
150	2,991	Missing tiles on pavement
151	2,982	Projecting wall

#	Frequency	Information
152	2,974	Road Bar
153	2,974	Bicycle road
154	2,965	Fish shop
155	2,965	Path
156	2,957	Bushes
157	2,956	Tactile signpost
158	2,930	Broken tile on pavement
159	2,922	Cinema
160	2,921	Glass partition
161	2,913	Canal
162	2,913	Shop for photocopies
163	2,896	Shop for cosmetics
164	2,895	Bar
165	2,887	Sports court
166	2,886	Playground
167	2,886	Bridge over railroad tracks
168	2,877	Olfactory reference point or landmark
169	2,870	Sports facility
170	2,851	Fence
171	2,844	People selling goods on the street
172	2,826	Car parking
173	2,825	Air condition
174	2,817	Flower shop
175	2,783	Phone booth or Pay phone
176	2,765	Water tap
177	2,757	Activity area
178	2,757	Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole
179	2,754	Notice board
180	2,739	Box on the wall
181	2,737	Shape of block of houses
182	2,730	Wires or cables
183	2,722	Daycare
184	2,711	Vending machine
185	2,693	Pipes or tubes
186	2,687	Newspaper or magazine Stand
187	2,684	Sound source
188	2,661	Monument
189	2,658	Automatic bars

#	Frequency	Information
190	2,649	Sign with audio sound
191	2,640	Overhead cable
192	2,626	Canal with a lock and sluice
193	2,619	Flower pot
194	2,617	Shop for leather products
195	2,614	Fire hose or fire department's water hydrant on pavement
196	2,602	Map
197	2,600	Recess in the wall
198	2,596	Water fountain
199	2,596	Bicycle stand for parking bicycles
200	2,591	Chill out area
201	2,591	Railroad tracks passing through a tunnel
202	2,588	Waterfall
203	2,566	Inscription
204	2,565	Berm. Strips of cement found in parking lots that stop car wheels from going any further
205	2,540	Metal plate on the ground
206	2,539	Cemetery or graveyard
207	2,530	Plants
208	2,518	Bridge for vehicles
209	2,513	Car garage
210	2,509	Tower
211	2,504	Window sill
212	2,456	Gravel
213	2,455	Rapids
214	2,421	Sand
215	2,416	Barking dog from specific house
216	2,412	Stand with posters
217	2,400	Smoking area
218	2,330	Statue or sculpture
219	2,325	Pet shop
220	2,325	Car washer
221	2,319	Sprinklers watering machine injectors
222	2,237	Sound from air condition device
223	2,140	Sound from ventilation
224	2,105	Slide
225	2,088	Electricity generator of traders selling goods on the street
226	1,982	Basketball net

4.2.3 AT-Map of campus

#	Frequency	Information
1	4,363	Point of access to public transport, bus stop, metro station
2	4,325	Bus stop
3	4,184	Toilet or bathroom for men, women, or people with disabilities
4	4,184	Entrance or exit
5	4,079	Traffic lights
6	4,000	Pavement or sidewalk
7	3,991	Metro station
8	3,991	Floor number
9	3,973	Door
10	3,956	Stairs
11	3,939	Intersection, a place where two or more streets meet or cross
12	3,939	Pavement or sidewalk with tactile paving
13	3,921	Taxi station
14	3,920	Street name
15	3,894	Name of faculties of educational institution
16	3,877	Lecture room
17	3,868	Room number
18	3,860	Elevator
19	3,814	Pedestrian road crossing
20	3,807	Student's registry office
21	3,772	Library, the room or the service
22	3,772	Stairs leading to the subway
23	3,746	Steps
24	3,735	Buildings
25	3,728	Cafeteria or Coffee shop
26	3,711	Lecture theatre
27	3,708	Outdoors
28	3,675	Traffic light with audio signals for the Blind
29	3,664	Area name
30	3,628	Parked cars or motorcycles
31	3,614	Canteen
32	3,596	Road
33	3,593	Corridor
34	3,584	Service
35	3,570	Academic staff offices
36	3,566	Square

#	Frequency	Information
37	3,561	Service center for students
38	3,553	Seating area
39	3,549	Bank cash machine
40	3,549	Park
41	3,540	Pedestrian street
42	3,531	Dining room or Dining area
43	3,522	Tree
44	3,509	Office with accessible books
45	3,509	Class room
46	3,469	Outdoor furniture, tables, bench, chairs
47	3,460	Emergency exit
48	3,456	Consulting center
49	3,451	Ramp
50	3,430	Glass door
51	3,416	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
52	3,412	Gate
53	3,407	Activity area
54	3,389	Sink or washbasin
55	3,386	Information desk
56	3,381	Photocopying machine
57	3,377	Building of administration offices
58	3,377	Revolving door
59	3,377	Clinic or infirmary or doctor
60	3,377	Student's office
61	3,368	Examination office
62	3,363	Pedestrian trail or route
63	3,363	Name of building
64	3,354	Office
65	3,351	Information booth
66	3,336	Desk
67	3,336	Underpass
68	3,336	Edge of pavement
69	3,327	Obstacle on the ground
70	3,325	Administration offices
71	3,307	Equipment or Machinery, computer, Printer, Photocopier
72	3,301	Sitting Bench
73	3,301	Wall
74	3,298	Office of the commissioner for the disabled
75	3,292	High obstacle

#	Frequency	Information
76	3,272	Ground level
77	3,272	Automatic doors
78	3,272	Hanging obstacle or overhead obstacle
79	3,268	Indoor pillar
80	3,263	Conference hall
81	3,263	Underground entrance
82	3,248	Traffic sign
83	3,246	Bridge
84	3,246	Garbage bin
85	3,246	Shop for photocopies
86	3,237	Post office
87	3,230	Road in parking garage
88	3,230	Pole or Pillar
89	3,228	Dangerous point
90	3,228	Dorms or Student houses
91	3,221	Sound source
92	3,212	Cashier's desk
93	3,212	Furniture
94	3,211	Room
95	3,211	Water tap
96	3,204	Short poles alongside of pavements
97	3,186	Paved area or paved road
98	3,175	Reception
99	3,167	Bridge for pedestrians
100	3,167	Sports facility
101	3,159	Level change of the ground
102	3,158	Swimming pool
103	3,150	Hot water or anything that could be hot to burn
104	3,150	Refrigerator
105	3,149	Mailbox
106	3,142	Big furniture, sofa, couch, bed, wardrobe
107	3,133	Ground material
108	3,132	Dangerous area
109	3,124	Landmark
110	3,114	Water dispenser
111	3,106	Short obstacle
112	3,106	Machine or Device
113	3,106	Flower bed or parterre
114	3,105	Laboratory
115	3,105	Sliding door

#	Frequency	Information
116	3,097	Haptic information
117	3,088	Shop in general
118	3,088	Security service office or desk
119	3,088	Sports court
120	3,079	Light source, Lamp or light bulb
121	3,070	Student council
122	3,053	Change of the surface or texture on the ground
123	3,053	Concert hall
124	3,035	Broken tile on pavement
125	3,035	Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions
126	3,035	Parking slots for the disabled people
127	3,027	Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge
128	3,026	Uphill or Downhill or slope on ground
129	3,018	Tactile signpost
130	3,018	Recycle bin
131	3,009	Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn
132	3,009	Book case
133	3,009	Balcony
134	3,009	Puddle
135	3,000	Music hall
136	3,000	Railings
137	2,991	Audio guide
138	2,991	Chill out area
139	2,991	Prominent place as starting point
140	2,982	Haptic reference point or landmark
141	2,982	Curbstone. Concrete part edging to a street or path
142	2,956	Gym
143	2,956	Sound reference point or landmark
144	2,956	Path
145	2,930	Room with stage
146	2,930	Server room or Data center
147	2,929	Vending machine
148	2,929	Road Bar
149	2,921	Member's Club
150	2,921	Carpet
151	2,920	Projecting balcony
152	2,920	Danger line

#	Frequency	Information
153	2,920	Pont, a small pond in a park
154	2,920	Missing tiles on pavement
155	2,912	Bicycle road
156	2,903	Heat source, radiator, heating panels, fireplace
157	2,894	Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes
158	2,894	Sign with audio sound
159	2,876	Projecting wall
160	2,876	Air condition
161	2,876	Bumps from the roots of trees on the pavements
162	2,876	Notice board
163	2,867	Shape of block of houses
164	2,867	Fire extinguisher
165	2,832	Low balcony alongside the pavement
166	2,832	Sofa or couch
167	2,832	Glass partition
168	2,823	Fence around parts of pavement or sidewalk parts enclosed with fence
169	2,814	Car parking
170	2,807	Kitchen
171	2,805	Lake
172	2,796	Fire hose or fire department's water hydrant on pavement
173	2,781	Tree branches
174	2,779	Shop window
175	2,763	Plants
176	2,754	Flower pot
177	2,752	Flip chart for meeting presentations
178	2,726	Religious building, Church, mosque, or else
179	2,717	Door mat
180	2,708	Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole
181	2,705	Overhead cable
182	2,699	Fire hose
183	2,690	Inscription
184	2,690	Water fountain
185	2,690	Box on the wall
186	2,673	Bicycle stand for parking bicycles
187	2,670	Recess in the wall
188	2,664	Olfactory reference point or landmark
189	2,646	Scale Model of campus

#	Frequency	Information
190	2,646	Working Bench
191	2,637	Pipes or tubes
192	2,611	Automatic bars
193	2,579	Grass
194	2,575	Glass surface
195	2,571	Bushes
196	2,566	Wardrobe or Closet or Locker
197	2,522	Wires or cables
198	2,522	Monument
199	2,514	Berm. Strips of cement found in parking lots that stop car wheels from going any further
200	2,513	Sound from ventilation
201	2,504	Map
202	2,500	Artwork
203	2,456	Newspaper or magazine Stand
204	2,439	Smoking area
205	2,438	Stand with posters
206	2,420	Sprinklers watering machine injectors
207	2,404	Daycare
208	2,377	Gravel
209	2,354	Sand
210	2,277	Statue or sculpture
211	2,228	Ping pong table
212	2,195	Heating Burner
213	2,175	Frame of painting on the wall

4.2.4 AT-Map of city center

#	Frequency	Information
1	4,404	Point of access to public transport, bus stop, metro station
2	4,304	Bus stop
3	4,235	Intersection, a place where two or more streets meet or cross
4	4,200	Street name
5	4,104	Pavement or sidewalk
6	4,104	Traffic lights
7	4,096	Bus stop shelter or tram stop shelter
8	4,070	Pedestrian road crossing
9	4,070	Shopping mall or shopping center
10	4,052	Metro station
11	4,035	Area names
12	4,026	Two way Driveway
13	4,009	Road
14	4,009	Public transport station
15	4,000	Stairs
16	3,974	Supermarket
17	3,930	Bank
18	3,930	Squares
19	3,896	Round about or Large traffic circle with a solid circle center
20	3,852	Pavement or sidewalk with tactile paving
21	3,843	Taxi station
22	3,835	Grocery shop
23	3,833	Buildings
24	3,826	Entrance or exit
25	3,813	Outdoors
26	3,809	Market place
27	3,809	Steps
28	3,800	Public service building
29	3,791	Hospital
30	3,791	Pedestrian street
31	3,774	Patisserie
32	3,774	Direction or course of the driveway
33	3,765	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
34	3,757	traffic light with audio signals for the Blind
35	3,739	Restaurant or tavern or grill

#	Frequency	Information
36	3,713	Shop in general
37	3,696	Cafeteria or Coffee shop
38	3,678	Town hall
39	3,678	School
40	3,670	Toilet or bathroom for men, women, or people with disabilities
41	3,670	Clinic
42	3,670	Stairs leading to the subway
43	3,661	Medical service
44	3,626	Hotel
45	3,626	Park
46	3,626	Elevator
47	3,617	Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions
48	3,609	Railway station
49	3,600	Bank cash machine
50	3,583	One way street
51	3,574	Tram tracks
52	3,565	Landmarks
53	3,557	Pedestrian trails
54	3,557	Entrance to an underground pedestrian passageway or subway station
55	3,548	Name of building
56	3,539	Garbage bin
57	3,539	Bridge for pedestrians
58	3,535	Sound source
59	3,535	Pole or Pillar
60	3,504	Street market
61	3,504	Bakery shop
62	3,478	Short poles alongside of pavements
63	3,460	Sea
64	3,452	Theater
65	3,435	Post office
66	3,430	Sights
67	3,417	Library, the room or the service
68	3,412	Ramp
69	3,409	Underground entrance
70	3,404	Beach
71	3,404	Shop for coffee products or coffee grinder shop
72	3,377	Tourist attraction
73	3,377	Gas station
74	3,368	Edge of pavement

#	Frequency	Information
75	3,365	Underpass
76	3,357	Service
77	3,348	Service center for the blind
78	3,330	Religious building, Church, mosque, or else
79	3,330	Dangerous area
80	3,325	Bridge
81	3,316	Coast line
82	3,296	Railroad crossing
83	3,296	Information desk
84	3,296	Public toilet
85	3,296	Police station
86	3,289	Tree
87	3,281	Curbstone. Concrete part edging to a street or path
88	3,261	Information booth
89	3,254	Office
90	3,252	Railways
91	3,243	Ticket office
92	3,243	Museum
93	3,239	Short obstacle
94	3,237	Cinema
95	3,237	High obstacle
96	3,237	Nature strip or outdoors open space or Lawn
97	3,237	Change of the surface or texture on the ground
98	3,235	Dangerous point
99	3,235	Danger line
100	3,228	Paved area or paved road
101	3,226	Construction works
102	3,226	Gate
103	3,217	Revolving door
104	3,209	Parking slots for the disabled people
105	3,204	Obstacle on the ground
106	3,202	Automatic doors
107	3,200	Room
108	3,174	Fish shop
109	3,168	Traffic sign
110	3,167	Level change of the ground
111	3,167	Sitting bench
112	3,165	Emergency exit
113	3,165	Shop for cosmetics
114	3,149	Shape of block of houses

#	Frequency	Information
115	3,148	Sports facilities
116	3,148	Bar or club or entertainment
117	3,148	Hanging obstacle or overhead obstacle
118	3,140	Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes
119	3,140	Road Bar
120	3,140	Flower bed or parterre
121	3,139	Balcony projecting
122	3,139	Tree branches
123	3,139	Harbor
124	3,132	Sound reference point or landmark
125	3,132	Prominent place as starting points
126	3,114	Haptic reference point or landmark
127	3,114	Bridge over railroad tracks
128	3,113	Outdoor furniture, tables, bench, chairs
129	3,097	Security service office or desk
130	3,096	Green area
131	3,089	Sign with audio sound
132	3,088	Bridge for vehicles
133	3,088	Quay
134	3,079	Canteen
135	3,061	Haptic information
136	3,061	Box on the side of pavement of Electricity or Gas providers
137	3,061	Gym
138	3,054	Equipment or Machinery
139	3,053	Tactile signpost
140	3,053	Prohibited area
141	3,053	Ground material
142	3,052	Driveway in parking garage
143	3,044	Tourist information
144	3,043	Path
145	3,035	People selling goods on the street
146	3,035	Bicycle road
147	3,035	Queue management ticket machine
148	3,035	Sports court
149	3,027	Water canal
150	3,018	Fence around parts of pavement or sidewalk parts enclosed with fence
151	3,018	Road with a sharp ascent or descent
152	3,017	Bumps from the roots of trees on the pavements
153	3,000	Arcade or Gallery with shops

#	Frequency	Information
154	3,000	Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn
155	3,000	Uphill or Downhill or slope on ground
156	2,991	Kiosk or pavilion
157	2,982	Railings
158	2,974	Bushes
159	2,974	Monument
160	2,974	Road where possibly loading or unloading is taking place
161	2,965	Recycle bin
162	2,965	Water fountain
163	2,956	Pont, a small pond in a park
164	2,956	Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge
165	2,939	Plants
166	2,939	Highly populated zone in a building
167	2,939	Olfactory reference point or landmark
168	2,921	Open parking
169	2,921	Glass partition
170	2,921	Wall
171	2,921	Sports facility
172	2,912	Flower shop
173	2,895	Water area
174	2,894	Audio guide
175	2,886	Phone booth or Pay phone
176	2,878	Bar
177	2,868	Activity area
178	2,868	Furniture
179	2,842	Projecting wall
180	2,841	Lake
181	2,823	Underground Religious building, Church or mosque or else
182	2,821	Water tap
183	2,814	Railroad tracks passing through a tunnel
184	2,814	Map
185	2,804	Overhead cable
186	2,798	Vending machine
187	2,791	Fence
188	2,791	Playground
189	2,789	Flower pot
190	2,789	Grass
191	2,781	Gravel

#	Frequency	Information
192	2,761	Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole
193	2,761	Wires or cables
194	2,737	Car parking
195	2,737	Bicycle stand for parking bicycles
196	2,737	Scale Model of city
197	2,737	Inscription
198	2,737	Art work
199	2,728	Shop for leather products
200	2,728	Fire hose or fire department's water hydrant on pavement
201	2,726	Water canal with a lock and sluice
202	2,719	Parking garage
203	2,719	Pipes or tubes
204	2,704	Daycare
205	2,702	Metal plate on the ground
206	2,661	Box on the wall
207	2,646	Recess in the wall
208	2,632	Cemetery or graveyard
209	2,632	Glass surface
210	2,623	Tower
211	2,619	Flagpole
212	2,593	Sand
213	2,535	Chill out area
214	2,531	Berm. Strips of cement found in parking lots that stop car wheels from going any further
215	2,504	Pet shop
216	2,496	Ferry boat for cars or other vehicles
217	2,491	Automatic bars
218	2,487	Smoking area
219	2,465	Statue or sculpture
220	2,417	Newspaper or magazine Stand
221	2,377	Car washer
222	2,316	Stand with posters

4.2.5 AT Political Map

#	Frequency	Information
1	4,174	Country or State
2	4,157	City
3	4,113	Capitals city
4	3,939	Country borders
5	3,826	Sea
6	3,774	Distance in kilometers
7	3,741	Cardinal points
8	3,635	Prefecture or county or district
9	3,574	Island
10	3,561	Continent
11	3,557	Airport
12	3,548	Prefecture borders
13	3,539	Town
14	3,539	Village
15	3,530	Settlement
16	3,509	Directional arrow
17	3,496	Highway
18	3,478	Harbor
19	3,443	Railway station
20	3,430	Scale of map
21	3,417	Travel means
22	3,412	River
23	3,400	city borders or shape of city area
24	3,391	Province
25	3,357	Region or district
26	3,348	Sea gulf
27	3,322	Landmark
28	3,296	Coastline
29	3,254	Official language
30	3,252	Sea transportation
31	3,252	Federal state
32	3,226	Currency
33	3,219	System of government or polity
34	3,217	Lake
35	3,209	Population
36	3,200	Road network

#	Frequency	Information
37	3,158	Castle
38	3,157	Train network
39	3,114	Longitude and latitude
40	3,113	Geographical Area
41	3,105	Channel
42	3,061	Route
43	3,043	Tunnel
44	3,035	Water Dam
45	2,887	Artificial lake or Reservoir
46	2,809	Salt water lake
47	2,791	Lagoon
48	2,623	Ski resort

4.2.6 AT Physical Map

#	Frequency	Information
1	3,896	Sea
2	3,860	River
3	3,835	Mountain
4	3,798	City
5	3,748	Country borders
6	3,730	Capital city
7	3,728	Scale of map
8	3,704	Country or State
9	3,696	Ocean
10	3,675	Cardinal points
11	3,643	Island
12	3,579	Continent
13	3,526	Distances in kilometers
14	3,522	Mountain range
15	3,491	Lake
16	3,470	Prefecture or county or district
17	3,452	Forest
18	3,430	Province
19	3,417	Harbor
20	3,404	Directional arrow
21	3,386	Prefecture borders
22	3,383	Town
23	3,374	Peninsular
24	3,357	Green field or valley
25	3,357	Coastline
26	3,348	National Park
27	3,333	Coastal area
28	3,325	Region or district
29	3,322	Plateau
30	3,304	Train network
31	3,283	Population
32	3,281	Artificial lake or Reservoir
33	3,278	Highway
34	3,278	Beach
35	3,278	Longitude and latitude
36	3,272	Geographical Area

#	Frequency	Information
37	3,263	Valley
38	3,252	Mountain peak
39	3,246	Blue Flag beach
40	3,230	Salt water lake
41	3,226	Sight or attraction
42	3,204	Natural phenomenon
43	3,200	Travel means
44	3,184	Volcano, active or inactive
45	3,184	Sea gulf
46	3,183	Landmark
47	3,177	Physical resources. Products, oil, gas, coal
48	3,159	city borders or shape of city area
49	3,140	Village
50	3,123	Route
51	3,096	Waterfall
52	3,088	Mountain height
53	3,079	Channel
54	3,070	Fauna or animal life
55	3,070	Cave
56	3,070	Road network
57	3,044	Lagoon
58	3,035	Natural mineral water spring
59	3,026	water Dam
60	3,026	Thermal water springs or SPA
61	3,018	Flora or Plant life, tundra, forest, taiga
62	3,017	Federal state
63	3,009	Sea transportation
64	2,991	Forest road
65	2,974	Cliff coast
66	2,974	Desert
67	2,913	Ocean depth
68	2,904	Vegetation zone
69	2,878	Rural road
70	2,851	Afforestation
71	2,843	Mixed forest
72	2,842	Straits
73	2,825	Ocean drift
74	2,791	Coniferous forest
75	2,788	Ski resort
76	2,772	Grassland

#	Frequency	Information
77	2,752	Plate tectonic
78	2,750	Taiga
79	2,728	Swampland
80	2,713	Broadleaf forest
81	2,693	Rainforest
82	2,670	Tundra

4.2.7 AT Historic Map

#	Frequency	Information
1	3,885	Historic location
2	3,885	Country borders
3	3,788	Country or State
4	3,763	Castle
5	3,743	Cardinal points
6	3,708	Capital city
7	3,699	Unesco World Heritage
8	3,652	Straits
9	3,649	Archeological site or monument
10	3,646	City
11	3,637	Important date
12	3,637	Sea
13	3,617	Sight or attraction
14	3,579	Historic church or monastery
15	3,570	Ancient city
16	3,566	Monument
17	3,535	Palace
18	3,522	Continent
19	3,513	Ocean
20	3,487	Battle
21	3,487	Distances in kilometers
22	3,447	Discovery
23	3,439	Campaign
24	3,421	Architecture
25	3,407	Province
26	3,404	Scale of map
27	3,404	War theatre
28	3,381	River
29	3,368	Historic path, Way of Saint James
30	3,363	Harbor
31	3,339	Timeline
32	3,319	Sea battle or naval battle
33	3,310	Conquest
34	3,310	Town
35	3,301	Geographical Area
36	3,274	Directional arrow

#	Frequency	Information
37	3,265	Physical resources. Products, oil, gas, coal
38	3,259	Gateway
39	3,257	city borders or shape of city area
40	3,248	Island
41	3,248	Trade route
42	3,230	Coastal area
43	3,228	Lake
44	3,221	Empire and monarchy
45	3,214	Former boarders
46	3,212	Natural phenomenon
47	3,205	Prefecture borders
48	3,204	Mountain
49	3,202	Pact
50	3,195	Nationality
51	3,188	Trade
52	3,150	Mountain range
53	3,142	Village
54	3,133	Distinct legend
55	3,132	Colony
56	3,115	Population
57	3,115	Sea gulf
58	3,107	Graves
59	3,107	Natural disaster
60	3,080	Peninsular
61	3,071	Route of army and fleet
62	3,070	Religious affiliation
63	3,053	Coastline
64	3,044	Cave
65	3,044	Shipwreck
66	3,018	Sea transportation
67	3,009	National Park
68	3,000	Volcano, active or inactive
69	2,991	Confederation
70	2,991	Federal state
71	2,965	Landmark
72	2,965	Region or district
73	2,956	Prefecture or county or district
74	2,920	Desert
75	2,912	Plateau
76	2,903	Longitude and latitude

#	Frequency	Information
77	2,886	Travel means
78	2,885	Green field or valley
79	2,877	Lagoon
80	2,876	Route
81	2,779	Valley
82	2,763	Road network
83	2,726	Thermal water springs or SPA
84	2,702	Salt water lake
85	2,473	Swampland

4.2.8 AT Thematic Map

#	Frequency	Information
1	4,027	Capital city
2	3,876	Country or State
3	3,788	Country borders
4	3,717	City
5	3,717	Airport
6	3,708	Climate
7	3,708	Historic location
8	3,690	River
9	3,661	Distances in kilometers
10	3,614	Travel means
11	3,611	Cardinal points
12	3,593	Sight or attraction
13	3,566	Railway station
14	3,558	Ocean
15	3,549	Highway
16	3,513	Sea
17	3,513	Scale
18	3,496	Ancient city
19	3,496	Village
20	3,491	Import export goods
21	3,487	Traditions and customs
22	3,460	Geographical area
23	3,460	Subway Map
24	3,439	Hotel
25	3,429	city borders or shape of city areas
26	3,411	Beach resort
27	3,407	Prefecture or county or district
28	3,404	Settlement
29	3,381	Town
30	3,381	Train network
31	3,366	Archeological site or monument
32	3,357	Beach
33	3,354	Coastline
34	3,351	Distinct legend
35	3,345	Castle
36	3,336	Mountain

#	Frequency	Information
37	3,336	Language
38	3,327	Island
39	3,327	Harbor
40	3,327	Historic church or monastery
41	3,313	Monument
42	3,304	Currency
43	3,298	Road network
44	3,292	Landmark
45	3,277	Population
46	3,257	National Park
47	3,257	Historic path, Way of Saint James
48	3,257	Natural phenomenon
49	3,248	Unesco World Heritage
50	3,248	Prefecture borders
51	3,248	Temperature
52	3,230	Straits
53	3,221	Longitude and latitude
54	3,214	Water Dam
55	3,195	Directional arrow
56	3,195	Mountain range
57	3,195	Continent
58	3,186	Afforestation
59	3,186	Tunnel
60	3,177	Province
61	3,177	Architecture
62	3,170	Population data, gender, age
63	3,168	System of government or polity
64	3,168	Geographical Area
65	3,161	Physical resources. Products, oil, gas, coal
66	3,150	Lake
67	3,134	Birthrate
68	3,133	Meteorological phenomena
69	3,133	Coastal area
70	3,124	Population density
71	3,124	Green field or valley
72	3,124	Products
73	3,116	Official language
74	3,107	Blue Flag beach
75	3,107	Natural mineral water spring
76	3,098	Important date

#	Frequency	Information
77	3,098	Mortality
78	3,097	Products Theme depended
79	3,088	Economy and industry
80	3,080	Natural resources
81	3,071	Route
82	3,062	Valley
83	3,053	Timeline
84	3,036	Peninsular
85	3,035	Nationality
86	3,027	Gateways
87	3,027	Ethnicities
88	3,027	Discovery
89	3,018	Organized beaches
90	3,009	Sea transportation
91	3,009	Region or district
92	3,000	Trade
93	2,991	Federal state
94	2,991	Energy supply
95	2,982	Nuclear power plant
96	2,982	Oil or diesel or petroleum
97	2,965	Climatic map
98	2,955	Cliff coast
99	2,947	Sea gulf
100	2,947	Plateau
101	2,938	Pact
102	2,938	Demographic group
103	2,938	Drought
104	2,938	Colony
105	2,938	Natural gas
106	2,929	Trade route
107	2,929	Mountain resort refuge
108	2,921	Rural road
109	2,920	Lagoon
110	2,920	Thermal water springs or SPA
111	2,912	Waterfall
112	2,903	Mountain peak
113	2,902	Natural disaster
114	2,902	Ski resort
115	2,885	Cave
116	2,876	Vegetation zone

#	Frequency	Information
117	2,858	Mineral resources
118	2,857	Oilfields for diesel or petroleum
119	2,857	Mountain trail
120	2,841	Channel
121	2,832	Volcano, active or inactive
122	2,830	Road tolls
123	2,823	Confederation
124	2,823	Campground
125	2,813	Religious affiliation
126	2,796	Empire and monarchy
127	2,788	Ocean depth
128	2,779	Palace
129	2,735	Desert
130	2,699	Coal
131	2,696	Shipwreck
132	2,673	Former borders
133	2,661	Uranium
134	2,655	Ocean drift

4.3 Calculating the preferred format of information

Using statistical analysis the mean value of the preference of the format (audio, tactile, audio-tactile) of each information was calculated. The results for each type of map are listed below in descending order based on the tactile format, starting with those that are more preferred to be represented in tactile format.

4.3.1 AT-Map of the indoors/inner space of building

#	Audio	Tactile	Audio-Tactile	Information
1	33,333	25,000	41,667	Wall
2	39,815	25,000	35,185	Desk
3	42,056	24,299	33,645	Handrail for indoor stairs
4	28,829	23,423	47,748	Door
5	28,829	23,423	47,748	Corridor
6	32,110	22,936	44,954	Room
7	43,519	22,222	34,259	Statue or sculpture
8	47,619	21,905	30,476	Carpet
9	34,545	21,818	43,636	Window
10	43,925	21,495	34,579	Book case
11	46,296	21,296	32,407	Loft
12	41,284	21,101	37,615	Table
13	35,849	20,755	43,396	Change of the surface or texture on the ground
14	43,396	20,755	35,849	Floor condition
15	35,135	20,721	44,144	Marked points of the compass
16	42,991	20,561	36,449	Glass surface
17	43,519	20,370	36,111	Stand with posters
18	33,028	20,183	46,789	Ramp
19	49,533	19,626	30,841	Armchair
20	33,333	19,444	47,222	Mailbox
21	42,593	19,444	37,963	Shelf
22	50,926	19,444	29,630	Window shutters or rolling blinds or blinds
23	39,450	19,266	41,284	Artwork
24	33,636	19,091	47,273	Steps
25	46,364	19,091	34,545	Chair
26	35,135	18,919	45,946	Sitting bench
27	34,579	18,692	46,729	Light switch
28	44,860	18,692	36,449	Plants
29	33,333	18,519	48,148	Inscription
30	33,333	18,519	48,148	Sink or washbasin
31	43,519	18,519	37,963	Tea table

#	Audio	Tactile	Audio-Tactile	Information
32	30,909	18,182	50,909	Haptic information
33	39,091	18,182	42,727	Glass partition
34	28,829	18,018	53,153	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
35	45,283	17,925	36,792	Baby's changing table
36	44,860	17,757	37,383	Bed
37	45,794	17,757	36,449	Sofa or couch
38	48,598	17,757	33,645	Uphill or Downhill or slope on the ground
39	47,222	17,593	35,185	Flower pot
40	41,284	17,431	41,284	Elevated floor of teacher's desk
41	44,954	17,431	37,615	Working Bench
42	42,857	17,143	40,000	Recess in the wall
43	35,135	17,117	47,748	Scale Model of indoors area
44	37,838	17,117	45,045	Indoor pillar
45	44,340	16,981	38,679	Pipes or tubes
46	44,643	16,964	38,393	Recycle bin
47	42,056	16,822	41,121	Railings
48	45,794	16,822	37,383	Furniture
49	46,729	16,822	36,449	Smoking area
50	47,664	16,822	35,514	Newspaper or magazine Stand
51	32,743	16,814	50,442	Shop in general
52	50,000	16,667	33,333	Wardrobe or Closet or Locker
53	23,853	16,514	59,633	Prominent place as starting point
54	39,450	16,514	44,037	Automatic bars
55	33,636	16,364	50,000	Gym
56	44,762	16,190	39,048	Wall mirror
57	30,088	15,929	53,982	Office
58	25,234	15,888	58,879	Socket for Electricity or phone
59	41,121	15,888	42,991	Teacher's desk
60	42,056	15,888	42,056	Big furniture, sofa, couch, bed, wardrobe
61	37,037	15,741	47,222	Water tap
62	29,358	15,596	55,046	Outdoors
63	41,284	15,596	43,119	Machine or Device
64	35,455	15,455	49,091	Glass door
65	36,364	15,455	48,182	Heat source, radiator, heating panels, fireplace
66	27,928	15,315	56,757	Haptic reference point or landmark
67	35,135	15,315	49,550	Telephone
68	40,541	15,315	44,144	Box on the wall
69	46,847	15,315	37,838	Hanging cabinet

#	Audio	Tactile	Audio-Tactile	Information
70	39,048	15,238	45,714	Heating Burner
71	25,000	15,179	59,821	Stairs
72	28,571	15,179	56,250	Intersection
73	33,019	15,094	51,887	Shower
74	46,729	14,953	38,318	Drawers or Dresser
75	43,519	14,815	41,667	Refrigerator
76	36,697	14,679	48,624	Household appliance, refrigerator, television, washing machine
77	30,000	14,545	55,455	Intercom
78	45,455	14,545	40,000	Projecting wall
79	42,308	14,423	43,269	Frame of painting on the wall
80	28,829	14,414	56,757	Tactile signpost
81	32,456	14,035	53,509	Conference room
82	50,000	13,889	36,111	Cupboard
83	42,202	13,761	44,037	Wires or cables
84	37,273	13,636	49,091	Sliding door
85	38,739	13,514	47,748	Service
86	40,541	13,514	45,946	Garbage bin
87	30,357	13,393	56,250	Balcony
88	44,860	13,084	42,056	Coat hanger stand or hanger
89	45,794	13,084	41,121	Television
90	46,729	13,084	40,187	Air condition
91	33,043	13,043	46,957	Level change of the ground
92	43,519	12,963	43,519	Highly populated zone in a building
93	26,549	12,389	61,062	Security service office, or desk
94	29,204	12,389	58,407	Entrance or exit
95	42,857	12,381	44,762	Light source, Lamp or light bulb
96	37,615	11,927	50,459	Obstacle on the ground
97	30,909	11,818	57,273	Floor number
98	35,135	11,712	53,153	Equipment or Machinery, computer, Printer, Photocopier
99	33,036	11,607	55,357	Audio guide
100	36,607	11,607	51,786	Kitchen
101	23,894	11,504	64,602	Emergency exit
102	28,319	11,504	60,177	Room number
103	30,973	11,504	57,522	Library, the room or the service
104	42,056	11,215	46,729	Notice board
105	43,925	11,215	44,860	Olfactory reference point or landmark
106	45,370	11,111	43,519	Oven
107	36,697	11,009	52,294	Cash machine

#	Audio	Tactile	Audio-Tactile	Information
108	39,450	11,009	49,541	Water dispenser
109	45,455	10,909	43,636	Sound source
110	33,333	10,811	55,856	Canteen
111	33,333	10,811	55,856	Vending machine
112	21,429	10,714	67,857	Clinic or infirmary or doctor
113	32,743	10,619	56,637	Cashier's desk
114	30,841	10,280	58,879	Map
115	34,862	10,092	55,046	Pay phone or phone booth
116	37,273	10,000	52,727	Automatic doors
117	42,342	9,910	47,748	Fire hose
118	38,393	9,821	51,786	High obstacle
119	35,398	9,735	54,867	Baggage reclaim room
120	38,053	9,735	52,212	Fire extinguisher
121	32,110	9,174	58,716	Hot water or anything that could be hot to burn
122	33,945	9,174	56,881	Bank cash machine
123	40,541	9,009	50,450	Short obstacle
124	43,243	9,009	47,748	Laboratory
125	45,045	9,009	45,946	Signs with audio sound
126	22,321	8,929	68,750	Reception
127	24,107	8,929	66,964	Elevator
128	31,250	8,929	59,821	Cafeteria or Coffee shop
129	37,500	8,929	53,571	Hanging obstacle or overhead obstacle
130	34,545	8,182	57,273	Revolving door
131	18,919	8,108	72,973	Toilet or bathroom for men, women, or people with disabilities
132	29,464	8,036	62,500	Office of the commissioner for the disabled
133	34,862	7,339	57,798	Queue management ticket machine
134	42,342	6,306	51,351	Sound reference point or landmark
135	28,319	3,540	68,142	Dangerous area
136	30,088	3,540	66,372	Dangerous point

4.3.2 AT-Map of neighborhood/residential area

#	Audio	Tactile	Audio-Tactile	Information
1	23,148	34,259	42,593	Shape of block of houses
2	39,048	27,619	33,333	Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge
3	37,963	25,000	37,037	Wall
4	38,679	24,528	36,792	Sand
5	20,370	24,074	55,556	Pavement or sidewalk
6	26,415	23,585	50,000	Ramp
7	27,778	23,148	49,074	Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn
8	34,259	22,222	43,519	Green area
9	25,688	22,018	52,294	Path
10	22,430	21,495	56,075	Pavement or sidewalk with tactile paving
11	42,718	21,359	35,922	Air condition
12	22,222	21,296	56,481	Prominent place as starting point
13	33,028	21,101	45,872	Tower
14	19,091	20,909	60,000	Pedestrian street
15	36,792	20,755	42,453	Paved area or paved road
16	25,000	20,370	54,630	Mailbox
17	26,852	20,370	52,778	Buildings
18	26,852	20,370	52,778	Road
19	39,815	20,370	39,815	Tree
20	38,462	20,192	41,346	Change of the surface or texture on the ground
21	34,234	19,820	45,946	Playground
22	35,849	19,811	44,340	Railings
23	32,710	19,626	47,664	Berm. Strips of cement found in parking lots that stop car wheels from going any further
24	33,333	19,444	47,222	Nature strip or outdoors open space or Lawn
25	41,667	19,444	38,889	Grass
26	41,667	19,444	38,889	Glass partition
27	27,523	19,266	53,211	Pont, a small pond in a park
28	29,358	19,266	51,376	One way street
29	32,110	19,266	48,624	Bar
30	40,000	19,091	40,909	Bridge for vehicles
31	30,189	18,868	50,943	Tactile bumps on the street

#	Audio	Tactile	Audio-Tactile	Information
32	35,849	18,868	45,283	Inscription
33	45,283	18,868	35,849	Gravel
34	28,037	18,692	53,271	Water stream
35	43,925	18,692	37,383	Recess in the wall
36	34,259	18,519	47,222	Flower bed or parterre
37	35,185	18,519	46,296	Room
38	37,037	18,519	44,444	Sitting bench
39	22,018	18,349	59,633	Coast line
40	23,853	18,349	57,798	Landmark
41	49,541	18,349	32,110	Window sill
42	46,154	18,269	35,577	Machine or Device
43	44,762	18,095	37,143	Stand with posters
44	31,132	17,925	50,943	Traffic sign
45	28,571	17,857	53,571	Area name
46	32,143	17,857	50,000	Tactile signpost
47	33,645	17,757	48,598	Fence
48	40,187	17,757	42,056	Bushes
49	42,991	17,757	39,252	Smoking area
50	33,333	17,593	49,074	Vending machine
51	38,372	17,442	44,186	People selling goods on the street
52	21,101	17,431	61,468	Direction or course of the driveway
53	23,853	17,431	58,716	Road in parking garage
54	32,110	17,431	50,459	Cemetery or graveyard
55	40,385	17,308	42,308	Slide
56	29,091	17,273	53,636	Sports court
57	43,810	17,143	39,048	Ground material
58	28,829	17,117	54,054	Streetcar tracks
59	30,631	17,117	52,252	Gas station
60	31,532	17,117	51,351	Bakery shop
61	21,698	16,981	61,321	Lake
62	41,509	16,981	41,509	Newspaper or magazine Stand
63	44,340	16,981	38,679	Flower pot
64	50,943	16,981	32,075	Basketball net
65	35,714	16,964	47,321	Haptic reference point or landmark
66	33,645	16,822	49,533	Pole or Pillar
67	42,056	16,822	41,121	Edge of pavement
68	53,271	16,822	29,907	Plants
69	31,481	16,667	51,852	Road with a sharp ascent or descent
70	34,259	16,667	49,074	Bicycle stand for parking bicycles
71	21,101	16,514	62,385	Square

#	Audio	Tactile	Audio-Tactile	Information
72	25,688	16,514	57,798	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
73	37,615	16,514	45,872	Outdoor furniture, tables, bench, chairs
74	45,872	16,514	37,615	Activity area
75	26,364	16,364	57,273	Door
76	29,091	16,364	54,545	Bicycle road
77	37,273	16,364	46,364	Water fountain
78	34,234	16,216	49,550	Kiosk or pavilion
79	37,500	16,071	46,429	Monument
80	28,972	15,888	55,140	Short poles alongside of pavements
81	35,514	15,888	48,598	Map
82	41,121	15,888	42,991	Shop's sign post
83	37,037	15,741	47,222	Canal with a lock and sluice
84	28,440	15,596	55,963	Steps
85	30,275	15,596	54,128	Railroad tracks passing through a tunnel
86	34,545	15,455	50,000	Pizzeria
87	34,545	15,455	50,000	Cinema
88	27,027	15,315	57,658	Gym
89	35,135	15,315	49,550	Shop in general
90	41,509	15,094	43,396	Curbstone. Concrete part edging to a street or path
91	40,187	14,953	44,860	Water tap
92	40,187	14,953	44,860	Car garage
93	37,037	14,815	48,148	Shop for photocopies
94	42,593	14,815	42,593	Statue or sculpture
95	22,936	14,679	62,385	Beach
96	38,532	14,679	46,789	Box on the wall
97	40,367	14,679	44,954	Chill out area
98	32,727	14,545	52,727	Water area
99	34,545	14,545	50,909	Recycle bin
100	37,273	14,545	48,182	Shop for leather products
101	41,818	14,545	43,636	Shop for cosmetics
102	59,615	14,423	25,962	Sound from air condition device
103	23,423	14,414	62,162	Two way Driveway
104	27,928	14,414	57,658	Post office
105	28,829	14,414	56,757	Street market
106	29,730	14,414	55,856	Religious building, Church, mosque, or else
107	34,234	14,414	51,351	Garbage bin
108	37,838	14,414	47,748	Name of building

#	Audio	Tactile	Audio-Tactile	Information
109	28,571	14,286	57,143	Haptic information
110	30,357	14,286	54,464	Restaurant or tavern or grill
111	32,143	14,286	53,571	Patisserie
112	25,664	14,159	60,177	Bus stop shelter or tram stop shelter
113	39,623	14,151	46,226	Automatic bars
114	29,630	13,889	56,481	Canal
115	39,815	13,889	46,296	Bumps from the roots of trees on the pavements
116	45,370	13,889	40,741	Missing tiles on pavement
117	28,440	13,761	57,798	Glass door
118	31,193	13,761	55,046	Phone booth or Pay phone
119	33,028	13,761	53,211	Service
120	36,697	13,761	49,541	Sports facility
121	39,450	13,761	46,789	Pet shop
122	22,727	13,636	63,636	Pedestrian trail or route
123	27,273	13,636	59,091	Bridge
124	33,636	13,636	52,727	Gate
125	39,091	13,636	47,273	Fish shop
126	24,324	13,514	62,162	Street name
127	27,027	13,514	59,459	Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions
128	31,532	13,514	54,955	Sports facility
129	34,234	13,514	52,252	Butcher shop
130	40,541	13,514	45,946	Flower shop
131	41,441	13,514	45,045	High obstacle
132	45,192	13,462	41,346	Metal plate on the ground
133	58,654	13,462	27,885	Light source, Lamp or light bulb
134	58,654	13,462	27,885	Sound from ventilation
135	30,357	13,393	56,250	Arcade or Gallery with shops
136	36,607	13,393	50,000	Car parking
137	43,810	13,333	42,857	Wires or cables
138	21,495	13,084	65,421	Sea
139	34,579	13,084	52,336	Uphill or Downhill or slope on the ground
140	44,860	13,084	42,056	Pipes or tubes
141	46,729	13,084	40,187	Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes
142	34,259	12,963	52,778	Shop for coffee products or coffee grinder shop

#	Audio	Tactile	Audio-Tactile	Information
143	43,519	12,963	43,519	Shop window
144	33,945	12,844	53,211	Waterfall
145	34,862	12,844	52,294	Short obstacle
146	38,532	12,844	48,624	Projecting wall
147	40,000	12,727	47,273	Cava or Liquor shop
148	43,689	12,621	43,689	Sprinklers watering machine injectors
149	38,739	12,613	48,649	Parking slots for the disabled people
150	25,893	12,500	61,607	School
151	27,679	12,500	59,821	Information desk
152	28,571	12,500	58,929	Market place
153	32,143	12,500	55,357	Theater
154	25,664	12,389	61,947	Pharmacy or drugstore
155	28,319	12,389	59,292	Clinic or infirmary or doctor
156	30,088	12,389	57,522	Police station
157	34,513	12,389	53,097	Dentist
158	46,226	12,264	41,509	Tree branches
159	42,991	12,150	44,860	Broken tile on pavement
160	47,664	12,150	40,187	Puddle
161	33,945	11,927	54,128	Canteen
162	41,284	11,927	46,789	Obstacle on the ground
163	26,364	11,818	61,818	Stairs
164	38,182	11,818	50,000	Shoe store
165	37,838	11,712	50,450	Balcony projecting
166	18,750	11,607	69,643	Pedestrian road crossing
167	21,429	11,607	66,964	Round about or Large traffic circle with a solid circle center
168	22,321	11,607	66,071	Quay
169	24,107	11,607	64,286	Public transport station
170	30,088	11,504	58,407	Public service building
171	56,604	11,321	32,075	Electricity generator of traders selling goods on the street
172	48,598	11,215	40,187	Parked cars or motorcycles
173	51,402	11,215	37,383	Olfactory reference point or landmark
174	28,704	11,111	60,185	Box on the side of pavement of Electricity or Gas providers
175	35,185	11,111	53,704	Fence around parts of pavement or sidewalk parts enclosed with fence
176	40,741	11,111	48,148	Level change of the ground
177	40,741	11,111	48,148	Hairdresser

#	Audio	Tactile	Audio-Tactile	Information
178	40,741	11,111	48,148	Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole
179	41,667	11,111	47,222	Fire hose or fire department's water hydrant on pavement
180	44,037	11,009	44,954	Sign with audio sound
181	30,000	10,909	59,091	Grocery shop
182	39,091	10,909	50,000	Daycare
183	27,027	10,811	62,162	Information booth
184	33,333	10,811	55,856	Bridge over railroad tracks
185	20,536	10,714	68,750	Intersection, a place where two or more streets meet or cross
186	20,536	10,714	68,750	Underpass
187	29,464	10,714	59,821	Medical service
188	17,699	10,619	71,681	Traffic light with audio signals for the Blind
189	30,973	10,619	58,407	Shopping mall or shopping center
190	55,238	10,476	34,286	Sound source
191	40,187	10,280	49,533	Notice board
192	31,481	10,185	58,333	Sliding door
193	40,741	10,185	49,074	Road Bar
194	23,853	10,092	66,055	Toilet or bathroom for men, women, or people with disabilities
195	53,211	10,092	36,697	Car washer
196	46,364	10,000	43,636	Sound reference point or landmark
197	29,730	9,910	60,360	Bridge for pedestrians
198	19,643	9,821	70,536	Railroad crossing
199	30,357	9,821	59,821	Library, the room or the service
200	24,779	9,735	65,487	Park
201	26,549	9,735	63,717	Supermarket
202	22,222	9,259	68,519	Entrance or exit
203	26,606	9,174	64,220	Stairs leading to the subway
204	33,945	9,174	56,881	Audio guide
205	27,273	9,091	63,636	Bank
206	26,126	9,009	64,865	Prohibited area
207	28,829	9,009	62,162	Elevator
208	37,838	9,009	53,153	Hanging obstacle or overhead obstacle
209	26,786	8,929	64,286	Cafeteria or Coffee shop
210	42,308	8,654	48,077	Overhead cable
211	43,519	8,333	48,148	Rapids

#	Audio	Tactile	Audio-Tactile	Information
212	22,523	8,108	69,369	Taxi station
213	62,264	7,547	30,189	Barking dog from specific house
214	38,318	7,477	54,206	Automatic doors
215	33,636	7,273	59,091	Danger line
216	21,622	7,207	71,171	Underground entrance
217	19,469	7,080	73,451	Traffic lights
218	30,973	7,080	61,947	Dangerous point
219	30,275	6,422	63,303	Revolving door
220	17,699	6,195	76,106	Bus stop
221	18,584	6,195	75,221	Entrance to an underground pedestrian passageway or subway station
222	18,750	5,357	75,893	Point of access to public transport, bus stop, metro station
223	16,814	5,310	77,876	Railway station
224	19,469	4,425	76,106	Metro station
225	27,434	4,425	68,142	Dangerous area
226	23,636	3,636	72,727	Emergency exit

4.3.3 AT-Map of campus

#	Audio	Tactile	Audio-Tactile	Information
1	29,907	35,514	34,579	Shape of block of houses
2	33,962	34,906	31,132	Sand
3	33,019	33,019	33,962	Gravel
4	15,094	32,075	52,830	Pavement or sidewalk
5	21,818	31,818	46,364	Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions
6	24,299	30,841	44,860	Path
7	20,370	30,556	49,074	Road in parking garage
8	28,302	30,189	41,509	Sitting Bench
9	33,019	30,189	36,792	Edge of pavement
10	37,383	28,972	33,645	Statue or sculpture
11	16,822	28,037	55,140	Pavement or sidewalk with tactile paving
12	18,349	27,523	54,128	Road
13	36,792	27,358	35,849	Bushes
14	31,481	26,852	41,667	Projecting wall
15	32,075	26,415	41,509	Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes
16	33,019	26,415	40,566	Curbstone. Concrete part edging to a street or path
17	33,962	26,415	39,623	Inscription
18	29,630	25,926	44,444	Car parking
19	22,018	25,688	52,294	Corridor
20	30,275	25,688	44,037	Recycle bin
21	35,849	25,472	38,679	Smoking area
22	22,430	25,234	52,336	Parking slots for the disabled people
23	31,776	25,234	42,991	Fire hose or fire department's water hydrant on pavement
24	33,645	25,234	41,121	Flower bed or parterre
25	35,514	25,234	39,252	Outdoor furniture, tables, bench, chairs
26	36,190	24,762	39,048	Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge
27	13,636	24,545	61,818	Pedestrian street
28	35,849	24,528	39,623	Railings
29	29,907	24,299	45,794	Fence around parts of pavement or sidewalk parts enclosed with fence
30	34,259	24,074	41,667	Monument

#	Audio	Tactile	Audio-Tactile	Information
31	17,431	23,853	58,716	Pedestrian trail or route
32	43,810	23,810	32,381	Flower pot
33	34,906	23,585	41,509	Paved area or paved road
34	26,168	23,364	50,467	Chill out area
35	34,579	23,364	42,056	Water tap
36	36,449	23,364	40,187	Wardrobe or Closet or Locker
37	26,667	22,857	50,476	Prominent place as starting point
38	34,286	22,857	42,857	Recess in the wall
39	36,190	22,857	40,952	Sink or washbasin
40	26,415	22,642	50,943	Door
41	36,449	22,430	41,121	Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn
42	20,183	22,018	57,798	Underpass
43	24,762	21,905	53,333	Gym
44	49,524	21,905	28,571	Grass
45	29,091	21,818	49,091	Garbage bin
46	36,792	21,698	41,509	Glass partition
47	27,027	21,622	51,351	Laboratory
48	31,776	21,495	46,729	Sports facility
49	23,148	21,296	55,556	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
50	27,778	21,296	50,926	Vending machine
51	30,556	21,296	48,148	Mailbox
52	29,358	21,101	49,541	Projecting balcony
53	53,333	20,952	25,714	Change of the surface or texture on the ground
54	56,190	20,952	22,857	Carpet
55	28,302	20,755	50,943	Sports court
56	29,245	20,755	50,000	Notice board
57	33,019	20,755	46,226	Glass door
58	24,324	20,721	54,955	Library, the room or the service
59	24,324	20,721	54,955	Emergency exit
60	27,027	20,721	52,252	Room number
61	27,027	20,721	52,252	Scale Model of campus
62	15,888	20,561	63,551	Pont, a small pond in a park
63	19,626	20,561	59,813	Lake
64	28,037	20,561	51,402	Water dispenser
65	28,037	20,561	51,402	Server room or Data center
66	30,556	20,370	49,074	Kitchen

#	Audio	Tactile	Audio-Tactile	Information
67	29,091	20,000	50,909	Religious building, Church, mosque, or else
68	39,048	20,000	40,952	Refrigerator
69	48,571	20,000	31,429	Wires or cables
70	23,585	19,811	56,604	Pole or Pillar
71	25,234	19,626	55,140	Low balcony alongside the pavement
72	27,103	19,626	53,271	Ramp
73	31,776	19,626	48,598	Room
74	24,324	18,919	56,757	Conference hall
75	31,132	18,868	50,000	Traffic sign
76	31,132	18,868	50,000	Shop in general
77	27,679	18,750	53,571	Park
78	35,514	18,692	45,794	Balcony
79	43,925	18,692	37,383	Wall
80	30,556	18,519	50,926	Activity area
81	16,514	18,349	65,138	Toilet or bathroom for men, women, or people with disabilities
82	46,667	18,095	35,238	Furniture
83	47,619	18,095	34,286	Ground material
84	36,792	17,925	45,283	Level change of the ground
85	44,340	17,925	37,736	Ping pong table
86	46,226	17,925	35,849	Uphill or Downhill or slope on ground
87	49,057	17,925	33,019	Working Bench
88	50,943	17,925	31,132	Glass surface
89	28,972	17,757	53,271	Short poles alongside of pavements
90	30,841	17,757	51,402	Office
91	32,710	17,757	49,533	Sliding door
92	37,383	17,757	44,860	Bicycle stand for parking bicycles
93	42,056	17,757	40,187	Student council
94	42,056	17,757	40,187	Box on the wall
95	50,467	17,757	31,776	Tree
96	24,074	17,593	58,333	Post office
97	27,523	17,431	55,046	Bank cash machine
98	31,193	17,431	51,376	Cashier's desk
99	32,110	17,431	50,459	High obstacle
100	48,077	17,308	34,615	Broken tile on pavement
101	50,000	17,308	32,692	Sofa or couch
102	24,545	17,273	58,182	Dining room or Dining area
103	24,545	17,273	58,182	Reception
104	29,245	16,981	53,774	Bicycle road
105	19,626	16,822	63,551	Haptic reference point or landmark

#	Audio	Tactile	Audio-Tactile	Information
106	33,333	16,667	50,000	Water fountain
107	37,037	16,667	46,296	Short obstacle
108	21,101	16,514	62,385	Tactile signpost
109	47,573	16,505	35,922	Sound from ventilation
110	53,398	16,505	30,097	Berm. Strips of cement found in parking lots that stop car wheels from going any further
111	24,545	16,364	59,091	Administration offices
112	25,455	16,364	58,182	Gate
113	41,346	16,346	42,308	Sprinklers watering machine injectors
114	52,885	16,346	30,769	Plants
115	61,538	16,346	22,115	Door mat
116	48,571	16,190	35,238	Missing tiles on pavement
117	50,476	16,190	33,333	Big furniture, sofa, couch, bed, wardrobe
118	50,476	16,190	33,333	Light source, Lamp or light bulb
119	25,472	16,038	58,491	Shop for photocopies
120	35,849	16,038	48,113	Automatic doors
121	50,000	16,038	33,962	Machine or Device
122	31,776	15,888	52,336	Daycare
123	33,645	15,888	50,467	Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole
124	51,402	15,888	32,710	Pipes or tubes
125	18,519	15,741	65,741	Buildings
126	18,519	15,741	65,741	Square
127	25,000	15,741	59,259	Class room
128	34,259	15,741	50,000	Road Bar
129	16,514	15,596	67,890	Taxi station
130	18,349	15,596	66,055	Intersection, a place where two or more streets meet or cross
131	20,909	15,455	63,636	Haptic information
132	50,962	15,385	33,654	Tree branches
133	56,731	15,385	27,885	Frame of painting on the wall
134	42,857	15,238	41,905	Flip chart for meeting presentations
135	44,762	15,238	40,000	Stand with posters
136	55,238	15,238	29,524	Heating Burner
137	28,037	14,953	57,009	Seating area
138	34,579	14,953	50,467	Room with stage
139	25,926	14,815	59,259	Steps
140	41,667	14,815	43,519	Outdoors

#	Audio	Tactile	Audio-Tactile	Information
141	23,853	14,679	61,468	Pedestrian road crossing
142	27,273	14,545	58,182	Information booth
143	30,909	14,545	54,545	Information desk
144	22,523	14,414	63,063	Office of the commissioner for the disabled
145	29,730	14,414	55,856	Concert hall
146	48,571	14,286	37,143	Book case
147	52,830	14,151	33,019	Desk
148	23,148	13,889	62,963	Dorms or Student houses
149	28,704	13,889	57,407	Bridge
150	29,630	13,889	56,481	Underground entrance
151	33,636	13,636	52,727	Security service office or desk
152	40,909	13,636	45,455	Fire hose
153	26,126	13,514	60,360	Bridge for pedestrians
154	22,321	13,393	64,286	Academic staff offices
155	42,857	13,393	43,750	Fire extinguisher
156	42,857	13,333	43,810	Overhead cable
157	48,113	13,208	38,679	Bumps from the roots of trees on the pavements
158	27,103	13,084	59,813	Indoor pillar
159	27,103	13,084	59,813	Landmark
160	48,598	13,084	38,318	Newspaper or magazine Stand
161	29,630	12,963	57,407	Member's Club
162	18,349	12,844	68,807	Canteen
163	27,523	12,844	59,633	Consulting center
164	37,615	12,844	49,541	Map
165	19,643	12,500	67,857	Metro station
166	22,321	12,500	65,179	Service center for students
167	24,107	12,500	63,393	Examination office
168	50,000	12,500	37,500	Sound source
169	50,000	12,500	37,500	Puddle
170	47,619	12,381	40,000	Shop window
171	50,000	12,264	37,736	Parked cars or motorcycles
172	39,252	12,150	48,598	Photocopying machine
173	42,991	12,150	44,860	Audio guide
174	22,222	12,037	65,741	Swimming pool
175	26,852	12,037	61,111	Danger line
176	27,778	12,037	60,185	Ground level
177	21,818	11,818	66,364	Traffic lights
178	22,727	11,818	65,455	Clinic or infirmary or doctor
179	20,721	11,712	67,568	Lecture theatre

#	Audio	Tactile	Audio-Tactile	Information
180	20,721	11,712	67,568	Office with accessible books
181	24,324	11,712	63,964	Lecture room
182	17,857	11,607	70,536	Student's registry office
183	52,885	11,538	35,577	Air condition
184	25,926	11,111	62,963	Student's office
185	28,704	11,111	60,185	Music hall
186	34,259	11,111	54,630	Revolving door
187	38,532	11,009	50,459	Obstacle on the ground
188	19,091	10,909	70,000	Elevator
189	28,182	10,909	60,909	Floor number
190	28,182	10,909	60,909	Cafeteria or Coffee shop
191	48,182	10,909	40,909	Name of building
192	38,462	10,577	50,962	Automatic bars
193	43,925	10,280	45,794	Sign with audio sound
194	51,402	10,280	38,318	Heat source, radiator, heating panels, fireplace
195	32,407	10,185	57,407	Service
196	46,296	10,185	43,519	Equipment or Machinery, computer, Printer, Photocopier
197	22,936	10,092	66,972	Traffic light with audio signals for the Blind
198	19,091	10,000	70,909	Point of access to public transport, bus stop, metro station
199	26,786	9,821	63,393	Dangerous point
200	46,667	9,524	43,810	Olfactory reference point or landmark
201	53,774	9,434	36,792	Sound reference point or landmark
202	34,259	9,259	56,481	Hanging obstacle or overhead obstacle
203	29,358	9,174	61,468	Entrance or exit
204	17,273	9,091	73,636	Bus stop
205	21,818	9,091	69,091	Stairs
206	26,786	8,929	64,286	Dangerous area
207	37,736	8,491	53,774	Hot water or anything that could be hot to burn
208	43,519	8,333	48,148	Street name
209	26,606	8,257	65,138	Building of administration offices
210	37,615	8,257	54,128	Area name
211	27,273	8,182	64,545	Stairs leading to the subway
212	51,852	7,407	40,741	Artwork
213	29,358	7,339	63,303	Name of faculties of educational institution

4.3.4 AT-Map of city center

#	Audio	Tactile	Audio-Tactile	Information
1	34,951	33,981	31,068	Berm. Strips of cement found in parking lots that stop car wheels from going any further
2	33,962	32,075	33,962	Uphill or Downhill or slope on ground
3	29,524	31,429	39,048	Curbstone. Concrete part edging to a street or path
4	18,349	30,275	51,376	Road
5	23,853	30,275	45,872	Road with a sharp ascent or descent
6	26,168	29,907	43,925	Fence
7	30,841	29,907	39,252	Flower bed or parterre
8	23,148	29,630	47,222	Buildings
9	23,810	29,524	46,667	Shape of block of houses
10	33,645	28,972	37,383	Edge of pavement
11	19,444	27,778	52,778	Pavement or sidewalk
12	24,299	27,103	48,598	Ramp
13	30,841	27,103	42,056	Nature strip or outdoors open space or Lawn
14	31,429	26,667	41,905	Wall
15	34,286	26,667	39,048	Recess in the wall
16	23,853	26,606	49,541	Bicycle road
17	30,189	26,415	43,396	Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes
18	35,849	26,415	37,736	Stand with posters
19	21,495	26,168	52,336	Lake
20	28,972	26,168	44,860	Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn
21	32,710	26,168	41,121	Bridge for vehicles
22	32,710	26,168	41,121	Fence around parts of pavement or sidewalk parts enclosed with fence
23	38,318	26,168	35,514	Grass
24	24,074	25,926	50,000	Parking slots for the disabled people
25	18,750	25,893	55,357	Tram tracks
26	23,364	25,234	51,402	Water canal with a lock and sluice
27	33,645	25,234	41,121	Bicycle stand for parking bicycles
28	35,514	25,234	39,252	Parking garage

#	Audio	Tactile	Audio-Tactile	Information
29	23,423	25,225	51,351	Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions
30	27,885	25,000	47,115	Flagpole
31	36,538	25,000	38,462	Sand
32	18,349	24,771	56,881	Post office
33	28,440	24,771	46,789	Daycare
34	32,110	24,771	43,119	Statue or sculpture
35	39,623	24,528	35,849	Railings
36	28,972	24,299	46,729	Sitting bench
37	37,383	24,299	38,318	Tree
38	19,643	24,107	56,250	Two way Driveway
39	23,148	24,074	52,778	Path
40	21,818	23,636	54,545	Religious building, Church, mosque, or else
41	28,302	23,585	48,113	Fire hose or fire department's water hydrant on pavement
42	31,132	23,585	45,283	Ferry boat for cars or other vehicles
43	18,018	23,423	58,559	Pedestrian trails
44	17,757	23,364	58,879	Water canal
45	19,626	23,364	57,009	Pavement or sidewalk with tactile paving
46	33,645	23,364	42,991	Railroad tracks passing through a tunnel
47	37,383	23,364	39,252	Open parking
48	18,182	22,727	59,091	Shopping mall or shopping center
49	38,679	22,642	38,679	Smoking area
50	18,018	22,523	59,459	Round about or Large traffic circle with a solid circle center
51	15,888	22,430	61,682	Hospital
52	19,626	22,430	57,944	Coast line
53	23,364	22,430	54,206	Phone booth or Pay phone
54	16,071	22,321	61,607	Railroad crossing
55	27,778	22,222	50,000	Sports facility
56	43,519	22,222	34,259	Car parking
57	31,429	21,905	46,667	Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge
58	43,810	21,905	34,286	Plants
59	19,091	21,818	59,091	Park
60	20,909	21,818	57,273	Restaurant or tavern or grill
61	25,455	21,818	52,727	Shop in general
62	31,132	21,698	47,170	Cemetery or graveyard

#	Audio	Tactile	Audio-Tactile	Information
63	32,075	21,698	46,226	Inscription
64	43,396	21,698	34,906	Flower pot
65	18,018	21,622	60,360	Pedestrian road crossing
66	23,423	21,622	54,955	Theater
67	17,857	21,429	60,714	Intersection, a place where two or more streets meet or cross
68	37,037	21,296	41,667	Office
69	20,183	21,101	58,716	Squares
70	20,183	21,101	58,716	Museum
71	21,101	21,101	57,798	School
72	24,771	21,101	54,128	Bridge
73	26,606	21,101	52,294	Balcony projecting
74	26,606	21,101	52,294	Driveway in parking garage
75	33,945	21,101	44,954	Monument
76	33,945	21,101	44,954	Box on the wall
77	28,571	20,952	50,476	Projecting wall
78	30,909	20,909	48,182	Gym
79	33,962	20,755	45,283	Activity area
80	23,423	20,721	55,856	Bridge for pedestrians
81	27,778	20,370	51,852	Bridge over railroad tracks
82	27,778	20,370	51,852	Tower
83	25,688	20,183	54,128	Pont, a small pond in a park
84	20,000	20,000	60,000	Town hall
85	21,818	20,000	58,182	One way street
86	18,018	19,820	62,162	Railways
87	24,528	19,811	55,660	Pole or Pillar
88	37,736	19,811	42,453	Gravel
89	42,453	19,811	37,736	Ground material
90	22,321	19,643	58,036	Underpass
91	30,841	19,626	49,533	Chill out area
92	18,519	19,444	62,037	Sea
93	21,101	19,266	59,633	Bus stop shelter or tram stop shelter
94	27,523	19,266	53,211	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
95	28,440	19,266	52,294	Ticket office
96	19,091	19,091	61,818	Service center for the blind
97	20,909	19,091	60,000	Pedestrian street
98	27,273	19,091	53,636	Gate
99	46,667	19,048	34,286	Furniture

#	Audio	Tactile	Audio-Tactile	Information
100	18,018	18,919	63,063	Hotel
101	28,037	18,692	53,271	Bar or club or entertainment
102	46,729	18,692	34,579	Room
103	31,481	18,519	50,000	Bar
104	21,101	18,349	60,550	Cafeteria or Coffee shop
105	24,771	18,349	56,881	Prominent place as starting points
106	25,455	18,182	56,364	Underground entrance
107	25,225	18,018	56,757	Public service building
108	25,472	17,925	56,604	Cinema
109	27,358	17,925	54,717	Box on the side of pavement of Electricity or Gas providers
110	41,509	17,925	40,566	Metal plate on the ground
111	51,887	17,925	30,189	Bushes
112	49,533	17,757	32,710	Newspaper or magazine Stand
113	22,222	17,593	60,185	Beach
114	25,926	17,593	56,481	Canteen
115	27,778	17,593	54,630	Short poles alongside of pavements
116	27,778	17,593	54,630	Green area
117	28,704	17,593	53,704	Steps
118	28,704	17,593	53,704	Water area
119	29,630	17,593	52,778	Gas station
120	29,630	17,593	52,778	Road where possibly loading or unloading is taking place
121	30,556	17,593	51,852	Vending machine
122	22,936	17,431	59,633	Stairs
123	22,727	17,273	60,000	Quay
124	25,455	17,273	57,273	Public toilet
125	33,333	17,143	49,524	Traffic sign
126	18,018	17,117	64,865	Railway station
127	31,776	16,822	51,402	Pet shop
128	24,074	16,667	59,259	Sports court
129	29,630	16,667	53,704	Direction or course of the driveway
130	29,630	16,667	53,704	Automatic doors
131	31,481	16,667	50,926	Water fountain
132	44,444	16,667	38,889	Outdoor furniture, tables, bench, chairs
133	44,444	16,667	38,889	Glass partition
134	43,119	16,514	40,367	Playground
135	20,721	16,216	63,063	Entrance to an underground pedestrian passageway or subway station
136	32,432	16,216	51,351	Arcade or Gallery with shops

#	Audio	Tactile	Audio-Tactile	Information
137	48,571	16,190	35,238	Car washer
138	30,189	16,038	53,774	Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole
139	32,075	16,038	51,887	Underground Religious building, Church or mosque or else
140	41,509	16,038	42,453	Level change of the ground
141	47,170	16,038	36,792	Glass surface
142	28,972	15,888	55,140	High obstacle
143	29,907	15,888	54,206	Paved area or paved road
144	35,514	15,888	48,598	Change of the surface or texture on the ground
145	30,556	15,741	53,704	Shop for cosmetics
146	22,018	15,596	62,385	Harbor
147	22,727	15,455	61,818	Police station
148	27,273	15,455	57,273	Library, the room or the service
149	32,727	15,455	51,818	Garbage bin
150	40,566	15,094	44,340	Short obstacle
151	42,056	14,953	42,991	Pipes or tubes
152	23,148	14,815	62,037	Landmarks
153	28,704	14,815	56,481	Flower shop
154	19,266	14,679	66,055	Supermarket
155	21,101	14,679	64,220	Bank cash machine
156	19,091	14,545	66,364	Taxi station
157	20,909	14,545	64,545	Stairs leading to the subway
158	25,455	14,545	60,000	Danger line
159	39,091	14,545	46,364	Recycle bin
160	18,018	14,414	67,568	Bus stop
161	18,018	14,414	67,568	Metro station
162	36,190	14,286	49,524	Wires or cables
163	29,907	14,019	56,075	Map
164	36,449	14,019	49,533	Outdoors
165	21,296	13,889	64,815	Haptic information
166	40,741	13,889	45,370	Automatic bars
167	20,183	13,761	66,055	Bank
168	24,771	13,761	61,468	Haptic reference point or landmark
169	19,091	13,636	67,273	Public transport station
170	27,273	13,636	59,091	Scale Model of city
171	22,523	13,514	63,964	Market place
172	29,907	13,084	57,009	Shop for coffee products or coffee grinder shop

#	Audio	Tactile	Audio-Tactile	Information
173	28,704	12,963	58,333	Tourist attraction
174	33,333	12,963	53,704	Road Bar
175	22,936	12,844	64,220	Information desk
176	18,182	12,727	69,091	traffic light with audio signals for the Blind
177	18,182	12,727	69,091	Clinic
178	31,818	12,727	55,455	Sports facilities
179	18,919	12,613	68,468	Emergency exit
180	35,849	12,264	51,887	Bumps from the roots of trees on the pavements
181	36,792	12,264	50,943	Equipment or Machinery
182	41,509	12,264	46,226	Obstacle on the ground
183	20,183	11,927	67,890	Entrance or exit
184	22,936	11,927	65,138	Tactile signpost
185	23,853	11,927	64,220	Elevator
186	32,110	11,927	55,963	Sights
187	24,545	11,818	63,636	Dangerous area
188	25,455	11,818	62,727	Street market
189	25,455	11,818	62,727	Information booth
190	30,000	11,818	58,182	Prohibited area
191	41,346	11,538	47,115	People selling goods on the street
192	34,579	11,215	54,206	Kiosk or pavilion
193	43,925	11,215	44,860	Highly populated zone in a building
194	33,333	11,111	55,556	Fish shop
195	39,815	11,111	49,074	Art work
196	25,688	11,009	63,303	Grocery shop
197	28,182	10,909	60,909	Patisserie
198	26,126	10,811	63,063	Area names
199	35,238	10,476	54,286	Overhead cable
200	41,905	10,476	47,619	Olfactory reference point or landmark
201	31,132	10,377	58,491	Shop for leather products
202	28,972	10,280	60,748	Audio guide
203	20,183	10,092	69,725	Traffic lights
204	20,183	10,092	69,725	Toilet or bathroom for men, women, or people with disabilities
205	30,275	10,092	59,633	Tourist information
206	16,364	10,000	73,636	Point of access to public transport, bus stop, metro station
207	31,818	10,000	58,182	Bakery shop
208	34,234	9,910	55,856	Name of building
209	37,500	9,615	52,885	Water tap

#	Audio	Tactile	Audio-Tactile	Information
210	42,857	9,524	47,619	Tree branches
211	28,972	9,346	61,682	Queue management ticket machine
212	37,383	9,346	53,271	Security service office or desk
213	33,945	9,174	56,881	Hanging obstacle or overhead obstacle
214	35,455	9,091	55,455	Service
215	27,778	8,333	63,889	Revolving door
216	32,407	7,407	60,185	Sound reference point or landmark
217	29,730	7,207	63,063	Medical service
218	39,048	6,667	54,286	Sound source
219	30,189	6,604	63,208	Sign with audio sound
220	27,273	6,364	66,364	Street name
221	27,928	4,505	67,568	Dangerous point
222	42,727	2,727	54,545	Construction works

4.3.5 AT Political Map

#	Audio	Tactile	Audio-Tactile	Information
1	28,440	31,193	40,367	city borders or shape of city area
2	29,358	28,440	42,202	Route
3	16,364	27,273	56,364	Country borders
4	23,423	27,027	49,550	River
5	20,909	24,545	54,545	Prefecture borders
6	27,027	24,324	48,649	Region or district
7	21,429	24,107	54,464	Coastline
8	20,536	24,107	55,357	Train network
9	22,124	23,009	54,867	Highway
10	32,727	22,727	44,545	Castle
11	38,532	22,018	39,450	Ski resort
12	22,018	20,183	57,798	Directional arrow
13	30,000	20,000	50,000	Longitude and latitude
14	29,091	20,000	50,909	Tunnel
15	22,523	19,820	57,658	Railway station
16	22,321	19,643	58,036	Island
17	33,333	19,444	47,222	Water Dam
18	30,000	19,091	50,909	Geographical Area
19	21,239	18,584	60,177	Sea
20	32,110	18,349	49,541	Salt water lake
21	27,523	18,349	54,128	Lagoon
22	28,182	18,182	53,636	Sea gulf
23	30,556	17,593	51,852	Artificial lake or Reservoir
24	26,126	17,117	56,757	Town
25	27,928	17,117	54,955	Lake
26	29,464	16,964	53,571	Village
27	19,469	16,814	63,717	Airport
28	28,440	16,514	55,046	Cardinal points
29	30,000	16,364	53,636	Province
30	26,364	16,364	57,273	Channel
31	25,893	16,071	58,036	Harbor
32	23,636	15,455	60,909	Continent
33	27,928	15,315	56,757	Sea transportation
34	30,357	15,179	54,464	Federal state
35	49,107	15,179	35,714	Population
36	23,894	15,044	61,062	Country or State

#	Audio	Tactile	Audio-Tactile	Information
37	31,481	14,815	53,704	Road network
38	33,636	14,545	51,818	Settlement
39	23,423	14,414	62,162	Capitals city
40	26,786	14,286	58,929	Prefecture or county or district
41	30,357	14,286	55,357	Landmark
42	46,296	13,889	39,815	System of government or polity
43	37,500	13,393	49,107	Currency
44	29,091	12,727	58,182	Scale of map
45	41,964	12,500	45,536	Distance in kilometers
46	30,631	11,712	57,658	City
47	34,545	10,000	55,455	Travel means
48	55,963	7,339	36,697	Official language

4.3.6 AT Physical Map

#	Audio	Tactile	Audio-Tactile	Information
1	18,919	29,730	51,351	Country borders
2	23,364	28,972	47,664	city borders or shape of city area
3	20,721	25,225	54,054	Train network
4	21,622	24,324	54,054	Prefecture borders
5	27,358	23,585	49,057	Grassland
6	20,721	22,523	56,757	Valley
7	26,852	22,222	50,926	Route
8	20,721	21,622	57,658	Channel
9	21,429	21,429	57,143	Highway
10	37,736	20,755	41,509	Tundra
11	23,214	20,536	56,250	Cardinal points
12	16,964	20,536	62,500	Coastline
13	20,354	20,354	59,292	Peninsular
14	19,266	20,183	60,550	Directional arrow
15	30,275	20,183	49,541	Ocean drift
16	18,349	19,266	62,385	Desert
17	19,091	19,091	61,818	Lake
18	28,829	18,919	52,252	Mountain peak
19	25,225	18,919	55,856	Sea gulf
20	34,906	18,868	46,226	Taiga
21	23,894	18,584	57,522	Mountain range
22	27,523	18,349	54,128	Forest road
23	25,225	18,018	56,757	Green field or valley
24	31,532	18,018	50,450	Region or district
25	15,179	17,857	66,964	River
26	16,814	17,699	65,487	Mountain
27	24,779	17,699	57,522	Forest
28	30,088	17,699	52,212	Cave
29	30,275	17,431	52,294	Thermal water springs or SPA
30	28,829	17,117	54,054	Scale of map
31	24,324	17,117	58,559	Coastal area
32	29,730	17,117	53,153	Waterfall
33	14,159	16,814	69,027	Sea
34	23,894	16,814	59,292	Island
35	24,779	16,814	58,407	Landmark
36	23,423	16,216	60,360	City

#	Audio	Tactile	Audio-Tactile	Information
37	34,234	16,216	49,550	Village
38	22,321	16,071	61,607	National Park
39	24,545	15,455	60,000	Longitude and latitude
40	27,928	15,315	56,757	Town
41	28,571	15,179	56,250	Plateau
42	24,107	15,179	60,714	Beach
43	25,234	14,953	59,813	Vegetation zone
44	22,018	14,679	63,303	Province
45	25,455	14,545	60,000	Artificial lake or Reservoir
46	25,893	14,286	59,821	Volcano, active or inactive
47	46,226	14,151	39,623	Plate tectonic
48	21,101	13,761	65,138	Salt water lake
49	41,818	13,636	44,545	Mountain height
50	23,423	13,514	63,063	Lagoon
51	37,168	13,274	49,558	Road network
52	33,028	12,844	54,128	Ski resort
53	37,500	12,500	50,000	Federal state
54	23,894	12,389	63,717	Capital city
55	23,894	12,389	63,717	Ocean
56	34,862	11,927	53,211	Travel means
57	34,862	11,927	53,211	Natural mineral water spring
58	24,545	11,818	63,636	Continent
59	27,273	11,818	60,909	Distances in kilometers
60	26,364	11,818	61,818	Swampland
61	30,631	11,712	57,658	Prefecture or county or district
62	33,333	11,712	54,955	Sight or attraction
63	35,135	11,712	53,153	Rural road
64	27,679	11,607	60,714	Blue Flag beach
65	26,786	11,607	61,607	Cliff coast
66	23,009	11,504	65,487	Country or State
67	30,841	11,215	57,944	Geographical Area
68	39,252	11,215	49,533	Afforestation
69	32,407	11,111	56,481	Sea transportation
70	28,440	11,009	60,550	Rainforest
71	37,615	10,092	52,294	Coniferous forest
72	36,364	10,000	53,636	Mixed forest
73	34,234	9,910	55,856	water Dam
74	38,889	9,259	51,852	Fauna or animal life
75	34,259	9,259	56,481	Flora or Plant life, tundra, forest, taiga
76	33,028	9,174	57,798	Broadleaf forest

#	Audio	Tactile	Audio-Tactile	Information
77	31,250	8,929	59,821	Harbor
78	35,455	8,182	56,364	Straits
79	46,847	8,108	45,045	Ocean depth
80	35,185	7,407	57,407	Physical resources. Products, oil, gas, coal
81	44,545	6,364	49,091	Population
82	35,185	5,556	59,259	Natural phenomenon

4.3.7 AT Historic Map

#	Audio	Tactile	Audio-Tactile	Information
1	21,622	26,126	52,252	City borders or shape of city area
2	29,730	25,225	45,045	Plateau
3	25,688	24,771	49,541	Prefecture borders
4	19,643	24,107	56,250	Country borders
5	20,000	23,636	56,364	Coastline
6	28,571	23,214	48,214	Valley
7	27,273	22,727	50,000	Route of army and fleet
8	25,893	22,321	51,786	Mountain range
9	19,469	21,239	59,292	River
10	21,818	20,909	57,273	Mountain
11	22,523	20,721	56,757	Island
12	24,324	20,721	54,955	Peninsular
13	24,324	20,721	54,955	Cave
14	31,250	20,536	48,214	Green field or valley
15	32,407	20,370	47,222	Region or district
16	26,606	20,183	53,211	Route
17	26,126	19,820	54,054	Cardinal points
18	27,027	19,820	53,153	Volcano, active or inactive
19	29,464	19,643	50,893	Castle
20	23,214	19,643	57,143	Historic church or monastery
21	30,357	19,643	50,000	Coastal area
22	25,000	19,643	55,357	Lake
23	30,000	19,091	50,909	Town
24	25,455	19,091	55,455	Trade route
25	31,532	18,919	49,550	Colony
26	24,074	18,519	57,407	Distinct legend
27	23,853	18,349	57,798	Directional arrow
28	25,455	18,182	56,364	Geographical Area
29	32,727	18,182	49,091	Shipwreck
30	23,423	18,018	58,559	City
31	25,455	17,273	57,273	Historic path, Way of Saint James
32	29,091	17,273	53,636	Former borders
33	28,182	17,273	54,545	Sea gulf
34	25,000	16,964	58,036	Ocean
35	28,704	16,667	54,630	Straits
36	31,481	16,667	51,852	Prefecture or county or district

#	Audio	Tactile	Audio-Tactile	Information
37	30,556	16,667	52,778	Salt water lake
38	33,945	16,514	49,541	Gateway
39	30,275	16,514	53,211	Graves
40	27,027	16,216	56,757	Village
41	26,126	16,216	57,658	Desert
42	31,250	16,071	52,679	Landmark
43	31,481	15,741	52,778	Scale of map
44	36,111	15,741	48,148	Thermal water springs or SPA
45	30,000	15,455	54,545	Campaign
46	28,829	15,315	55,856	Harbor
47	44,444	14,815	40,741	Swampland
48	44,037	14,679	41,284	Road network
49	23,423	14,414	62,162	Archeological site or monument
50	19,643	14,286	66,071	Sea
51	30,275	13,761	55,963	Province
52	33,945	13,761	52,294	Lagoon
53	28,704	12,963	58,333	Timeline
54	34,862	12,844	52,294	Federal state
55	26,126	12,613	61,261	Monument
56	40,367	11,927	47,706	Nationality
57	25,000	11,607	63,393	Historic location
58	29,464	11,607	58,929	Country or State
59	26,786	11,607	61,607	Ancient city
60	43,519	11,111	45,370	Confederation
61	41,284	11,009	47,706	Battle
62	41,284	11,009	47,706	Conquest
63	32,727	10,909	56,364	War theatre
64	25,893	10,714	63,393	Capital city
65	31,858	10,619	57,522	Palace
66	33,945	10,092	55,963	Longitude and latitude
67	43,119	10,092	46,789	Travel means
68	43,636	10,000	46,364	Sea battle or naval battle
69	45,045	9,910	45,045	Religious affiliation
70	34,821	9,821	55,357	Architecture
71	37,963	9,259	52,778	Sea transportation
72	28,440	9,174	62,385	National Park
73	26,126	9,009	64,865	Continent
74	34,821	8,929	56,250	Discovery
75	40,187	8,411	51,402	Trade
76	42,593	8,333	49,074	Distances in kilometers

#	Audio	Tactile	Audio-Tactile	Information
77	42,593	8,333	49,074	Empire and monarchy
78	46,364	8,182	45,455	Pact
79	40,909	8,182	50,909	Population
80	25,225	8,108	66,667	Unesco World Heritage
81	40,000	7,273	52,727	Important date
82	46,789	6,422	46,789	Physical resources. Products, oil, gas, coal
83	38,532	6,422	55,046	Natural phenomenon
84	35,714	6,250	58,036	Sight or attraction
85	49,541	5,505	44,954	Natural disaster

4.3.8 AT Thematic Map

#	Audio	Tactile	Audio-Tactile	Information
1	36,111	26,852	37,037	Religious affiliation
2	22,430	26,168	51,402	city borders or shape of city areas
3	19,091	24,545	56,364	Country borders
4	32,143	23,214	44,643	Tunnel
5	19,091	22,727	58,182	National Park
6	30,000	22,727	47,273	Desert
7	27,273	21,818	50,909	Afforestation
8	30,556	21,296	48,148	Ski resort
9	34,545	20,909	44,545	Route
10	33,019	20,755	46,226	Former borders
11	21,622	20,721	57,658	Highway
12	15,455	20,000	64,545	Mountain
13	18,182	20,000	61,818	Directional arrow
14	23,423	19,820	56,757	Mountain range
15	27,928	19,820	52,252	Valley
16	31,532	19,820	48,649	Plateau
17	35,185	19,444	45,370	Timeline
18	30,275	19,266	50,459	Prefecture borders
19	25,455	19,091	55,455	Geographical Area
20	22,523	18,919	58,559	Coastline
21	24,324	18,919	56,757	Peninsular
22	25,000	18,750	56,250	Landmark
23	27,273	18,182	54,545	Historic church or monastery
24	29,091	18,182	52,727	Longitude and latitude
25	33,636	18,182	48,182	Natural resources
26	35,455	18,182	46,364	Cave
27	27,928	18,018	54,054	Train network
28	25,225	18,018	56,757	Beach
29	24,324	18,018	57,658	Castle
30	30,357	17,857	51,786	Green field or valley
31	31,250	17,857	50,893	Rural road
32	25,688	17,431	56,881	Province
33	35,780	17,431	46,789	Campground
34	26,364	17,273	56,364	Waterfall
35	25,000	16,964	58,036	River
36	33,645	16,822	49,533	Water Dam

#	Audio	Tactile	Audio-Tactile	Information
37	43,925	16,822	39,252	Natural gas
38	33,645	16,822	49,533	Vegetation zone
39	31,481	16,667	51,852	Mountain peak
40	24,771	16,514	58,716	Distinct legend
41	26,606	16,514	56,881	Historic path, Way of Saint James
42	30,000	16,364	53,636	Prefecture or county or district
43	34,545	16,364	49,091	Region or district
44	21,622	16,216	62,162	Ocean
45	32,407	15,741	51,852	Gateways
46	31,193	15,596	53,211	Straits
47	41,284	15,596	43,119	Oil or diesel or petroleum
48	20,000	15,455	64,545	Geographical area
49	26,364	15,455	58,182	Trade route
50	24,324	15,315	60,360	Sea
51	27,928	15,315	56,757	Settlement
52	34,234	15,315	50,450	Coastal area
53	32,432	15,315	52,252	Nuclear power plant
54	27,679	15,179	57,143	Cardinal points
55	37,963	14,815	47,222	Natural mineral water spring
56	31,193	14,679	54,128	Sea gulf
57	33,945	14,679	51,376	Mountain resort refuge
58	31,193	14,679	54,128	Mountain trail
59	20,909	14,545	64,545	City
60	22,727	14,545	62,727	Subway Map
61	28,182	14,545	57,273	Volcano, active or inactive
62	38,182	14,545	47,273	Coal
63	27,928	14,414	57,658	Lake
64	22,321	14,286	63,393	Island
65	44,954	13,761	41,284	Ethnicities
66	22,523	13,514	63,964	Railway station
67	32,432	13,514	54,054	Lagoon
68	28,571	13,393	58,036	Harbor
69	33,036	13,393	53,571	Climatic map
70	37,615	12,844	49,541	Oilfields for diesel or petroleum
71	28,440	12,844	58,716	Channel
72	33,945	12,844	53,211	Palace
73	24,545	12,727	62,727	Beach resort
74	31,532	12,613	55,856	Village
75	24,324	12,613	63,063	Town
76	42,991	12,150	44,860	Road tolls

#	Audio	Tactile	Audio-Tactile	Information
77	32,110	11,927	55,963	Colony
78	25,225	11,712	63,063	Historic location
79	23,423	11,712	64,865	Ancient city
80	16,964	11,607	71,429	Airport
81	38,889	11,111	50,000	Natural phenomenon
82	38,889	11,111	50,000	Sea transportation
83	41,284	11,009	47,706	Temperature
84	33,028	11,009	55,963	Blue Flag beach
85	32,110	11,009	56,881	Organized beaches
86	36,697	11,009	52,294	Empire and monarchy
87	30,000	10,909	59,091	Scale
88	20,909	10,909	68,182	Archeological site or monument
89	34,545	10,909	54,545	Architecture
90	42,727	10,909	46,364	Physical resources. Products, oil, gas, coal
91	30,909	10,909	58,182	Thermal water springs or SPA
92	31,532	10,811	57,658	Road network
93	36,036	10,811	53,153	Federal state
94	24,771	10,092	65,138	Cliff coast
95	48,182	10,000	41,818	System of government or polity
96	35,455	10,000	54,545	Trade
97	27,928	9,910	62,162	Continent
98	53,153	9,910	36,937	Ocean depth
99	26,786	9,821	63,393	Country or State
100	43,925	9,346	46,729	Ocean drift
101	48,148	9,259	42,593	Uranium
102	39,450	9,174	51,376	Shipwreck
103	31,818	9,091	59,091	Monument
104	40,541	9,009	50,450	Climate
105	44,144	9,009	46,847	Mineral resources
106	28,571	8,929	62,500	Capital city
107	48,148	8,333	43,519	Birthrate
108	54,630	8,333	37,037	Mortality
109	48,624	8,257	43,119	Population density
110	46,789	8,257	44,954	Products Theme depended
111	41,284	8,257	50,459	Natural disaster
112	46,789	8,257	44,954	Confederation
113	46,364	8,182	45,455	Population
114	45,455	8,182	46,364	Nationality
115	27,928	8,108	63,964	Travel means
116	26,126	8,108	65,766	Sight or attraction

#	Audio	Tactile	Audio-Tactile	Information
117	41,441	8,108	50,450	Import export goods
118	44,144	8,108	47,748	Products
119	39,252	7,477	53,271	Distances in kilometers
120	48,148	7,407	44,444	Population data, gender, age
121	44,954	7,339	47,706	Important date
122	43,636	7,273	49,091	Currency
123	34,821	7,143	58,036	Hotel
124	45,536	7,143	47,321	Economy and industry
125	42,991	6,542	50,467	Energy supply
126	50,926	6,481	42,593	Pact
127	44,545	6,364	49,091	Meteorological phenomena
128	39,640	6,306	54,054	Discovery
129	49,541	5,505	44,954	Demographic group
130	46,364	5,455	48,182	Drought
131	49,550	5,405	45,045	Traditions and customs
132	48,148	4,630	47,222	Official language
133	47,706	4,587	47,706	Language
134	30,631	3,604	65,766	Unesco World Heritage

4.4 Calculating the preferred format of information after familiarization of participants

Using statistical analysis the mean value of the preference of the format (audio, tactile, audio-tactile) of each information after the familiarization process was calculated. The results for each type of map are listed below in descending order based on the tactile format, starting with those that are more preferred to be represented in tactile format.

4.4.1 AT-Map of the indoors/inner space of building – Format preference after familiarization

#	Audio	Tactile	Audio-Tactile	Information
1	33,333	43,333	23,333	Wall
2	31,034	37,931	31,034	Handrail for indoor stairs
3	36,667	36,667	26,667	Railings
4	35,484	35,484	29,032	Window
5	40,000	33,333	26,667	Uphill or Downhill or slope on the ground
6	34,483	31,034	34,483	Level change of the ground
7	44,828	31,034	24,138	Statue or sculpture
8	40,000	30,000	30,000	Loft
9	50,000	30,000	20,000	Pipes or tubes
10	41,935	29,032	29,032	Working Bench
11	37,931	27,586	34,483	Recess in the wall
12	51,724	27,586	20,690	Flower pot
13	44,828	27,586	27,586	Carpet
14	48,276	27,586	24,138	Light source, Lamp or light bulb
15	20,000	26,667	53,333	Door
16	46,667	26,667	26,667	Desk
17	50,000	26,667	23,333	Chair
18	43,333	26,667	30,000	Projecting wall
19	50,000	26,667	23,333	Shelf
20	53,333	26,667	20,000	Drawers or Dresser
21	46,667	26,667	26,667	Table
22	53,333	26,667	20,000	Television
23	32,258	25,806	41,935	Steps
24	25,806	25,806	48,387	Corridor
25	32,258	25,806	41,935	Ramp
26	45,161	25,806	29,032	Household appliance, refrigerator, television, washing machine
27	57,143	25,000	17,857	Frame of painting on the wall

#	Audio	Tactile	Audio-Tactile	Information
28	44,828	24,138	31,034	Sofa or couch
29	51,724	24,138	24,138	Plants
30	23,333	23,333	53,333	Room
31	30,000	23,333	46,667	Sliding door
32	43,333	23,333	33,333	Book case
33	36,667	23,333	40,000	Elevated floor of teacher's desk
34	43,333	23,333	33,333	Bed
35	38,710	22,581	38,710	Indoor pillar
36	38,710	22,581	38,710	Box on the wall
37	44,828	20,690	34,483	Artwork
38	30,000	20,000	50,000	Obstacle on the ground
39	33,333	20,000	46,667	High obstacle
40	60,000	20,000	20,000	Window shutters or rolling blinds or blinds
41	43,333	20,000	36,667	Stand with posters
42	56,667	20,000	23,333	Armchair
43	50,000	20,000	30,000	Tea table
44	30,000	20,000	50,000	Haptic information
45	30,000	20,000	50,000	Tactile signpost
46	36,667	20,000	43,333	Sink or washbasin
47	30,000	20,000	50,000	Shower
48	46,667	20,000	33,333	Oven
49	29,032	19,355	51,613	Balcony
50	29,032	19,355	51,613	Outdoors
51	32,258	19,355	48,387	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
52	41,935	19,355	38,710	Machine or Device
53	29,032	19,355	51,613	Heat source, radiator, heating panels, fireplace
54	41,935	19,355	38,710	Refrigerator
55	41,935	19,355	38,710	Water dispenser
56	55,172	17,241	27,586	Glass surface
57	55,172	17,241	27,586	Baby's changing table
58	37,931	17,241	44,828	Change of the surface or texture on the ground
59	36,667	16,667	46,667	Automatic bars
60	43,333	16,667	40,000	Teacher's desk
61	43,333	16,667	40,000	Big furniture, sofa, couch, bed, wardrobe
62	56,667	16,667	26,667	Furniture
63	50,000	16,667	33,333	Newspaper or magazine Stand
64	46,667	16,667	36,667	Cupboard

#	Audio	Tactile	Audio-Tactile	Information
65	43,333	16,667	40,000	Water tap
66	30,000	16,667	53,333	Socket for Electricity or phone
67	16,129	16,129	67,742	Elevator
68	38,710	16,129	45,161	Sitting bench
69	41,935	16,129	41,935	Marked points of the compass
70	38,710	16,129	45,161	Scale Model of indoors area
71	29,032	16,129	54,839	Canteen
72	35,484	16,129	48,387	Intercom
73	35,484	16,129	48,387	Pay phone or phone booth
74	32,258	16,129	51,613	Cash machine
75	51,613	16,129	32,258	Telephone
76	51,724	13,793	34,483	Coat hanger stand or hanger
77	51,724	13,793	34,483	Olfactory reference point or landmark
78	41,379	13,793	44,828	Mailbox
79	41,379	13,793	44,828	Light switch
80	55,172	13,793	31,034	Wall mirror
81	41,379	13,793	44,828	Heating Burner
82	30,000	13,333	56,667	Office
83	36,667	13,333	50,000	Laboratory
84	33,333	13,333	53,333	Gym
85	36,667	13,333	50,000	Glass door
86	26,667	13,333	60,000	Revolving door
87	46,667	13,333	40,000	Wardrobe or Closet or Locker
88	43,333	13,333	43,333	Glass partition
89	46,667	13,333	40,000	Floor condition
90	40,000	13,333	46,667	Audio guide
91	46,667	13,333	40,000	Inscription
92	40,000	13,333	46,667	Equipment or Machinery, computer, Printer, Photocopier
93	41,935	12,903	45,161	Shop in general
94	22,581	12,903	64,516	Stairs
95	41,935	12,903	45,161	Hanging cabinet
96	29,032	12,903	58,065	Fire extinguisher
97	22,581	12,903	64,516	Intersection
98	51,613	12,903	35,484	Highly populated zone in a building
99	54,839	12,903	32,258	Sound source
100	29,032	12,903	58,065	Hot water or anything that could be hot to burn
101	35,484	12,903	51,613	Cashier's desk
102	41,379	10,345	48,276	Air condition

#	Audio	Tactile	Audio-Tactile	Information
103	50,000	10,000	40,000	Smoking area
104	36,667	10,000	53,333	Service
105	36,667	10,000	53,333	Automatic doors
106	33,333	10,000	56,667	Hanging obstacle or overhead obstacle
107	36,667	10,000	53,333	Short obstacle
108	40,000	10,000	50,000	Garbage bin
109	36,667	10,000	53,333	Fire hose
110	26,667	10,000	63,333	Prominent place as starting point
111	30,000	10,000	60,000	Haptic reference point or landmark
112	50,000	10,000	40,000	Sound reference point or landmark
113	23,333	10,000	66,667	Bank cash machine
114	40,000	10,000	50,000	Queue management ticket machine
115	19,355	9,677	70,968	Security service office, or desk
116	19,355	9,677	70,968	Entrance or exit
117	41,935	9,677	48,387	Recycle bin
118	32,258	9,677	58,065	Cafeteria or Coffee shop
119	54,839	9,677	35,484	Wires or cables
120	54,839	9,677	35,484	Notice board
121	38,710	9,677	51,613	Vending machine
122	23,333	6,667	70,000	Clinic or infirmary or doctor
123	25,806	6,452	67,742	Baggage reclaim room
124	25,806	6,452	67,742	Conference room
125	29,032	6,452	64,516	Kitchen
126	22,581	6,452	70,968	Library, the room or the service
127	16,129	6,452	77,419	Toilet or bathroom for men, women, or people with disabilities
128	41,935	6,452	51,613	Floor number
129	51,613	6,452	41,935	Signs with audio sound
130	23,333	3,333	73,333	Office of the commissioner for the disabled
131	19,355	3,226	77,419	Reception
132	19,355	3,226	77,419	Emergency exit
133	25,806	3,226	70,968	Map
134	48,387	0,000	51,613	Room number
135	22,581	0,000	77,419	Dangerous area
136	19,355	0,000	80,645	Dangerous point

4.4.2 AT-Map of neighborhood/residential area – Format preference after familiarization

#	Audio	Tactile	Audio-Tactile	Information
1	48,276	34,483	17,241	Recess in the wall
2	41,379	31,034	27,586	Curbstone. Concrete part edging to a street or path
3	37,931	31,034	31,034	Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge
4	43,333	30,000	26,667	Edge of pavement
5	33,333	30,000	36,667	Pavement or sidewalk
6	43,333	30,000	26,667	Wall
7	58,621	27,586	13,793	Window sill
8	51,724	27,586	20,690	Tactile bumps on the street
9	53,571	25,000	21,429	Basketball net
10	46,429	25,000	28,571	Flower pot
11	37,931	24,138	37,931	Fence
12	20,690	24,138	55,172	Lake
13	37,931	24,138	37,931	Ramp
14	48,276	24,138	27,586	Ground material
15	40,000	23,333	36,667	Nature strip or outdoors open space or Lawn
16	43,333	23,333	33,333	Shape of block of houses
17	22,581	22,581	54,839	Streetcar tracks
18	35,484	22,581	41,935	Path
19	32,258	22,581	45,161	Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn
20	50,000	21,429	28,571	Plants
21	42,857	21,429	35,714	Change of the surface or texture on the ground
22	46,429	21,429	32,143	Metal plate on the ground
23	50,000	21,429	28,571	Paved area or paved road
24	44,828	20,690	34,483	Smoking area
25	55,172	20,690	24,138	Missing tiles on pavement
26	55,172	20,690	24,138	Pipes or tubes
27	44,828	20,690	34,483	Gravel
28	44,828	20,690	34,483	Sand
29	46,667	20,000	33,333	Berm. Strips of cement found in parking lots that stop car wheels from going any further
30	26,667	20,000	53,333	Door
31	30,000	20,000	50,000	Steps
32	43,333	20,000	36,667	Buildings

#	Audio	Tactile	Audio-Tactile	Information
33	26,667	20,000	53,333	Coast line
34	30,000	20,000	50,000	Pavement or sidewalk with tactile paving
35	23,333	20,000	56,667	Prominent place as starting point
36	32,258	19,355	48,387	Direction or course of the driveway
37	32,258	19,355	48,387	Pont, a small pond in a park
38	42,857	17,857	39,286	Newspaper or magazine Stand
39	44,828	17,241	37,931	Shop for photocopies
40	34,483	17,241	48,276	Uphill or Downhill or slope on the ground
41	41,379	17,241	41,379	Statue or sculpture
42	27,586	17,241	55,172	Short poles alongside of pavements
43	36,667	16,667	46,667	Shop in general
44	43,333	16,667	40,000	Level change of the ground
45	40,000	16,667	43,333	Outdoor furniture, tables, bench, chairs
46	36,667	16,667	46,667	Railings
47	40,000	16,667	43,333	Sitting bench
48	26,667	16,667	56,667	Road
49	30,000	16,667	53,333	Pedestrian street
50	30,000	16,667	53,333	Water stream
51	36,667	16,667	46,667	Grass
52	22,581	16,129	61,290	Bank
53	29,032	16,129	54,839	Square
54	38,710	16,129	45,161	Bicycle road
55	32,258	16,129	51,613	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
56	35,484	16,129	48,387	Restaurant or tavern or grill
57	32,258	16,129	51,613	Rapids
58	38,710	16,129	45,161	Water fountain
59	48,148	14,815	37,037	People selling goods on the street
60	32,143	14,286	53,571	Bicycle stand for parking bicycles
61	50,000	14,286	35,714	Stand with posters
62	57,143	14,286	28,571	Broken tile on pavement
63	53,571	14,286	32,143	Electricity generator of traders selling goods on the street
64	53,571	14,286	32,143	Sound from air condition device
65	53,571	14,286	32,143	Sound from ventilation
66	46,429	14,286	39,286	Inscription
67	41,379	13,793	44,828	Room
68	41,379	13,793	44,828	Tree
69	51,724	13,793	34,483	Bushes

#	Audio	Tactile	Audio-Tactile	Information
70	37,931	13,793	48,276	Box on the side of pavement of Electricity or Gas providers
71	44,828	13,793	41,379	Puddle
72	51,724	13,793	34,483	Flower bed or parterre
73	44,828	13,793	41,379	Projecting wall
74	51,724	13,793	34,483	Parked cars or motorcycles
75	41,379	13,793	44,828	Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes
76	24,138	13,793	62,069	Sea
77	37,931	13,793	48,276	Tower
78	40,000	13,333	46,667	Gas station
79	40,000	13,333	46,667	Cemetery or graveyard
80	20,000	13,333	66,667	Stairs
81	46,667	13,333	40,000	High obstacle
82	43,333	13,333	43,333	Pole or Pillar
83	40,000	13,333	46,667	Map
84	23,333	13,333	63,333	Waterfall
85	38,710	12,903	48,387	Sports court
86	41,935	12,903	45,161	Cinema
87	19,355	12,903	67,742	Park
88	35,484	12,903	51,613	Cafeteria or Coffee shop
89	35,484	12,903	51,613	Kiosk or pavilion
90	35,484	12,903	51,613	Glass door
91	32,258	12,903	54,839	Gate
92	32,258	12,903	54,839	Bridge
93	19,355	12,903	67,742	Intersection, a place where two or more streets meet or cross
94	29,032	12,903	58,065	Round about or Large traffic circle with a solid circle center
95	32,258	12,903	54,839	Two way Driveway
96	35,484	12,903	51,613	Tactile signpost
97	25,806	12,903	61,290	Street market
98	48,148	11,111	40,741	Slide
99	59,259	11,111	29,630	Light source, Lamp or light bulb
100	55,556	11,111	33,333	Air condition
101	57,143	10,714	32,143	Bumps from the roots of trees on the pavements
102	46,429	10,714	42,857	Wires or cables
103	39,286	10,714	50,000	Canal with a lock and sluice
104	50,000	10,714	39,286	Shop's sign post
105	32,143	10,714	57,143	Audio guide

#	Audio	Tactile	Audio-Tactile	Information
106	53,571	10,714	35,714	Sound source
107	50,000	10,714	39,286	Machine or Device
108	48,276	10,345	41,379	Car garage
109	34,483	10,345	55,172	Automatic bars
110	34,483	10,345	55,172	Short obstacle
111	48,276	10,345	41,379	Tree branches
112	51,724	10,345	37,931	Box on the wall
113	41,379	10,345	48,276	Road Bar
114	41,379	10,345	48,276	Fence around parts of pavement or sidewalk parts enclosed with fence
115	31,034	10,345	58,621	Fire hose or fire department's water hydrant on pavement
116	48,276	10,345	41,379	Glass partition
117	44,828	10,345	44,828	Shop window
118	37,931	10,345	51,724	Road with a sharp ascent or descent
119	41,379	10,345	48,276	Landmark
120	48,276	10,345	41,379	Olfactory reference point or landmark
121	41,379	10,345	48,276	Pet shop
122	37,931	10,345	51,724	Water tap
123	40,000	10,000	50,000	Theater
124	40,000	10,000	50,000	Parking slots for the disabled people
125	30,000	10,000	60,000	Post office
126	46,667	10,000	43,333	Sports facility
127	56,667	10,000	33,333	Activity area
128	30,000	10,000	60,000	Religious building, Church, mosque, or else
129	43,333	10,000	46,667	Pizzeria
130	46,667	10,000	43,333	Shoe store
131	33,333	10,000	56,667	Sliding door
132	40,000	10,000	50,000	Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole
133	40,000	10,000	50,000	Obstacle on the ground
134	43,333	10,000	46,667	Balcony projecting
135	30,000	10,000	60,000	Pedestrian trail or route
136	36,667	10,000	53,333	Road in parking garage
137	50,000	10,000	40,000	One way street
138	36,667	10,000	53,333	Beach
139	46,667	10,000	43,333	Green area
140	43,333	10,000	46,667	Sound reference point or landmark
141	40,000	10,000	50,000	Shop for coffee products or coffee grinder shop

#	Audio	Tactile	Audio-Tactile	Information
142	30,000	10,000	60,000	Bar
143	33,333	10,000	56,667	Sign with audio sound
144	33,333	10,000	56,667	Mailbox
145	33,333	10,000	56,667	Vending machine
146	38,710	9,677	51,613	Sports facility
147	38,710	9,677	51,613	Library, the room or the service
148	38,710	9,677	51,613	Gym
149	41,935	9,677	48,387	Car parking
150	29,032	9,677	61,290	Arcade or Gallery with shops
151	25,806	9,677	64,516	School
152	45,161	9,677	45,161	Phone booth or Pay phone
153	19,355	9,677	70,968	Medical service
154	32,258	9,677	58,065	Supermarket
155	41,935	9,677	48,387	Dentist
156	38,710	9,677	51,613	Daycare
157	32,258	9,677	58,065	Underground entrance
158	51,613	9,677	38,710	Bridge for vehicles
159	22,581	9,677	67,742	Bridge for pedestrians
160	29,032	9,677	61,290	Bridge over railroad tracks
161	38,710	9,677	51,613	Recycle bin
162	32,258	9,677	58,065	Garbage bin
163	25,806	9,677	64,516	Traffic lights
164	19,355	9,677	70,968	Traffic light with audio signals for the Blind
165	22,581	9,677	67,742	Pedestrian road crossing
166	22,581	9,677	67,742	Railroad crossing
167	32,258	9,677	58,065	Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions
168	61,290	9,677	29,032	Area name
169	32,258	9,677	58,065	Haptic information
170	32,258	9,677	58,065	Haptic reference point or landmark
171	35,484	9,677	54,839	Water area
172	29,032	9,677	61,290	Market place
173	41,935	9,677	48,387	Shop for leather products
174	45,161	9,677	45,161	Shop for cosmetics
175	32,258	9,677	58,065	Grocery shop
176	41,935	9,677	48,387	Playground
177	48,387	9,677	41,935	Monument
178	40,741	7,407	51,852	Sprinklers watering machine injectors
179	39,286	7,143	53,571	Automatic doors

#	Audio	Tactile	Audio-Tactile	Information
180	57,143	7,143	35,714	Overhead cable
181	32,143	7,143	60,714	Canal
182	46,429	7,143	46,429	Traffic sign
183	34,483	6,897	58,621	Service
184	51,724	6,897	41,379	Barking dog from specific house
185	55,172	6,897	37,931	Car washer
186	33,333	6,667	60,000	Railroad tracks passing through a tunnel
187	26,667	6,667	66,667	Public transport station
188	50,000	6,667	43,333	Cava or Liquor shop
189	50,000	6,667	43,333	Hairdresser
190	46,667	6,667	46,667	Butcher shop
191	20,000	6,667	73,333	Entrance or exit
192	30,000	6,667	63,333	Hanging obstacle or overhead obstacle
193	20,000	6,667	73,333	Quay
194	32,258	6,452	61,290	Police station
195	32,258	6,452	61,290	Public service building
196	25,806	6,452	67,742	Clinic or infirmary or doctor
197	16,129	6,452	77,419	Information booth
198	22,581	6,452	70,968	Bus stop shelter or tram stop shelter
199	22,581	6,452	70,968	Shopping mall or shopping center
200	22,581	6,452	70,968	Pharmacy or drugstore
201	22,581	6,452	70,968	Entrance to an underground pedestrian passageway or subway station
202	25,806	6,452	67,742	Elevator
203	29,032	6,452	64,516	Stairs leading to the subway
204	25,806	6,452	67,742	Dangerous point
205	25,806	6,452	67,742	Underpass
206	67,742	6,452	25,806	Name of building
207	45,161	6,452	48,387	Flower shop
208	38,710	6,452	54,839	Bakery shop
209	45,161	6,452	48,387	Patisserie
210	45,161	6,452	48,387	Fish shop
211	25,806	6,452	67,742	Canteen
212	41,379	3,448	55,172	Notice board
213	16,667	3,333	80,000	Toilet or bathroom for men, women, or people with disabilities
214	36,667	3,333	60,000	Danger line
215	20,000	3,333	76,667	Prohibited area
216	19,355	3,226	77,419	Information desk
217	12,903	3,226	83,871	Point of access to public transport, bus stop, metro station

#	Audio	Tactile	Audio-Tactile	Information
218	19,355	3,226	77,419	Railway station
219	12,903	3,226	83,871	Metro station
220	16,129	3,226	80,645	Bus stop
221	19,355	3,226	77,419	Taxi station
222	45,161	3,226	51,613	Chill out area
223	32,258	3,226	64,516	Revolving door
224	32,258	3,226	64,516	Dangerous area
225	58,065	3,226	38,710	Street name
226	23,333	0,000	76,667	Emergency exit

4.4.3 AT-Map of campus – Format preference after familiarization

#	Audio	Tactile	Audio-Tactile	Information
1	44,828	31,034	24,138	Bridge
2	37,931	27,586	34,483	Water tap
3	48,276	27,586	24,138	Bridge for pedestrians
4	36,667	26,667	36,667	Floor number
5	27,586	24,138	48,276	Lake
6	48,276	24,138	27,586	Olfactory reference point or landmark
7	37,931	24,138	37,931	Refrigerator
8	37,931	24,138	37,931	Water dispenser
9	27,586	24,138	48,276	Room with stage
10	30,000	23,333	46,667	Parking slots for the disabled people
11	26,667	23,333	50,000	Religious building, Church, mosque, or else
12	26,667	23,333	50,000	Class room
13	43,333	23,333	33,333	Stairs
14	25,806	22,581	51,613	Room number
15	44,444	22,222	33,333	Office of the commissioner for the disabled
16	31,034	20,690	48,276	Projecting balcony
17	27,586	20,690	51,724	Taxi station
18	34,483	20,690	44,828	Uphill or Downhill or slope on ground
19	30,000	20,000	50,000	Machine or Device
20	33,333	20,000	46,667	Inscription
21	40,000	20,000	40,000	Building of administration offices
22	36,667	20,000	43,333	Canteen
23	46,667	20,000	33,333	Ground level
24	32,143	17,857	50,000	Gravel
25	42,857	17,857	39,286	Heat source, radiator, heating panels, fireplace
26	39,286	17,857	42,857	Steps
27	34,483	17,241	48,276	Garbage bin
28	41,379	17,241	41,379	Change of the surface or texture on the ground
29	44,828	17,241	37,931	Grass
30	44,828	17,241	37,931	Sand
31	41,379	17,241	41,379	Sink or washbasin
32	41,379	17,241	41,379	Cafeteria or Coffee shop
33	27,586	17,241	55,172	Gate
34	48,276	17,241	34,483	Level change of the ground
35	51,724	17,241	31,034	Elevator
36	51,724	17,241	31,034	Music hall

#	Audio	Tactile	Audio-Tactile	Information
37	34,483	17,241	48,276	Outdoor furniture, tables, bench, chairs
38	31,034	17,241	51,724	Recess in the wall
39	30,000	16,667	53,333	Road in parking garage
40	30,000	16,667	53,333	Pedestrian street
41	23,333	16,667	60,000	Student council
42	26,667	16,667	56,667	Park
43	33,333	16,667	50,000	Underground entrance
44	46,667	16,667	36,667	Emergency exit
45	26,667	16,667	56,667	Glass door
46	26,667	16,667	56,667	Revolving door
47	25,806	16,129	58,065	Recycle bin
48	25,806	16,129	58,065	Sofa or couch
49	22,581	16,129	61,290	Prominent place as starting point
50	19,355	16,129	64,516	Carpet
51	22,581	16,129	61,290	Sports facility
52	25,806	16,129	58,065	Automatic doors
53	46,429	14,286	39,286	Server room or Data center
54	39,286	14,286	46,429	Ground material
55	42,857	14,286	42,857	Sign with audio sound
56	42,857	14,286	42,857	Office
57	44,828	13,793	41,379	Wires or cables
58	31,034	13,793	55,172	Overhead cable
59	31,034	13,793	55,172	Fence around parts of pavement or sidewalk parts enclosed with fence
60	34,483	13,793	51,724	Swimming pool
61	37,931	13,793	48,276	Plants
62	41,379	13,793	44,828	Path
63	37,931	13,793	48,276	Library, the room or the service
64	34,483	13,793	51,724	Name of building
65	55,172	13,793	31,034	Square
66	37,931	13,793	48,276	Sprinklers watering machine injectors
67	31,034	13,793	55,172	Bank cash machine
68	55,172	13,793	31,034	Mailbox
69	37,931	13,793	48,276	Security service office or desk
70	41,379	13,793	44,828	Student's office
71	48,276	13,793	37,931	Consulting center
72	48,276	13,793	37,931	Member's Club
73	44,828	13,793	41,379	Entrance or exit
74	48,276	13,793	37,931	Conference hall
75	37,931	13,793	48,276	Glass surface

#	Audio	Tactile	Audio-Tactile	Information
76	51,724	13,793	34,483	Obstacle on the ground
77	20,690	13,793	65,517	Lecture theatre
78	37,931	13,793	48,276	Dangerous area
79	58,621	13,793	27,586	Bushes
80	26,667	13,333	60,000	Dining room or Dining area
81	30,000	13,333	56,667	Water fountain
82	23,333	13,333	63,333	Vending machine
83	36,667	13,333	50,000	Heating Burner
84	33,333	13,333	53,333	Photocopying machine
85	26,667	13,333	60,000	Monument
86	43,333	13,333	43,333	Light source, Lamp or light bulb
87	43,333	13,333	43,333	Reception
88	23,333	13,333	63,333	Activity area
89	23,333	13,333	63,333	Car parking
90	33,333	13,333	53,333	Tree
91	26,667	13,333	60,000	Railings
92	25,806	12,903	61,290	Pole or Pillar
93	19,355	12,903	67,742	Parked cars or motorcycles
94	35,484	12,903	51,613	Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions
95	25,806	12,903	61,290	Academic staff offices
96	32,258	12,903	54,839	Student's registry office
97	25,806	12,903	61,290	Room
98	16,129	12,903	70,968	Chill out area
99	38,710	12,903	48,387	Gym
100	22,581	12,903	64,516	Service
101	39,286	10,714	50,000	Flower pot
102	28,571	10,714	60,714	Intersection, a place where two or more streets meet or cross
103	39,286	10,714	50,000	Map
104	46,429	10,714	42,857	Sound from ventilation
105	50,000	10,714	39,286	Air condition
106	46,429	10,714	42,857	Stairs leading to the subway
107	27,586	10,345	62,069	Frame of painting on the wall
108	20,690	10,345	68,966	Indoor pillar
109	41,379	10,345	48,276	Laboratory
110	34,483	10,345	55,172	Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes
111	37,931	10,345	51,724	Pipes or tubes

#	Audio	Tactile	Audio-Tactile	Information
112	31,034	10,345	58,621	Glass partition
113	34,483	10,345	55,172	Ping pong table
114	37,931	10,345	51,724	Traffic lights
115	31,034	10,345	58,621	Corridor
116	34,483	10,345	55,172	Road
117	41,379	10,345	48,276	Sports court
118	48,276	10,345	41,379	Bicycle road
119	48,276	10,345	41,379	Ramp
120	51,724	10,345	37,931	Shape of block of houses
121	48,276	10,345	41,379	Wall
122	37,931	10,345	51,724	Haptic reference point or landmark
123	41,379	10,345	48,276	Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn
124	48,276	10,345	41,379	Sound source
125	27,586	10,345	62,069	Equipment or Machinery, computer, Printer, Photocopier
126	34,483	10,345	55,172	Service center for students
127	31,034	10,345	58,621	Office with accessible books
128	58,621	10,345	31,034	Concert hall
129	62,069	10,345	27,586	Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole
130	51,724	10,345	37,931	Hanging obstacle or overhead obstacle
131	34,483	10,345	55,172	Short obstacle
132	44,828	10,345	44,828	Bumps from the roots of trees on the pavements
133	51,724	10,345	37,931	Artwork
134	26,667	10,000	63,333	Seating area
135	33,333	10,000	56,667	Wardrobe or Closet or Locker
136	23,333	10,000	66,667	Fire extinguisher
137	36,667	10,000	53,333	Broken tile on pavement
138	26,667	10,000	63,333	Outdoors
139	43,333	10,000	46,667	Pont, a small pond in a park
140	26,667	10,000	63,333	Scale Model of campus
141	23,333	10,000	66,667	Name of faculties of educational institution
142	43,333	10,000	46,667	Sound reference point or landmark
143	43,333	10,000	46,667	Lecture room
144	40,000	10,000	50,000	Hot water or anything that could be hot to burn

#	Audio	Tactile	Audio-Tactile	Information
145	53,333	10,000	36,667	Information booth
146	23,333	10,000	66,667	Post office
147	23,333	10,000	66,667	Sliding door
148	46,667	10,000	43,333	Book case
149	26,667	10,000	63,333	Missing tiles on pavement
150	26,667	10,000	63,333	High obstacle
151	16,129	9,677	74,194	Short poles alongside of pavements
152	32,258	9,677	58,065	Road Bar
153	29,032	9,677	61,290	Bicycle stand for parking bicycles
154	25,806	9,677	64,516	Flower bed or parterre
155	29,032	9,677	61,290	Low balcony alongside the pavement
156	19,355	9,677	70,968	Shop window
157	25,806	9,677	64,516	Buildings
158	22,581	9,677	67,742	Street name
159	29,032	9,677	61,290	Area name
160	29,032	9,677	61,290	Landmark
161	29,032	9,677	61,290	Pavement or sidewalk with tactile paving
162	32,258	9,677	58,065	Administration offices
163	16,129	9,677	74,194	Daycare
164	32,258	9,677	58,065	Toilet or bathroom for men, women, or people with disabilities
165	35,484	9,677	54,839	Berm. Strips of cement found in parking lots that stop car wheels from going any further
166	38,710	9,677	51,613	Door
167	60,714	7,143	32,143	Audio guide
168	39,286	7,143	53,571	Statue or sculpture
169	28,571	7,143	64,286	Dangerous point
170	41,379	6,897	51,724	Fire hose
171	51,724	6,897	41,379	Paved area or paved road
172	48,276	6,897	44,828	Examination office
173	41,379	6,897	51,724	Bus stop
174	48,276	6,897	44,828	Furniture
175	23,333	6,667	70,000	Balcony
176	26,667	6,667	66,667	Door mat
177	36,667	6,667	56,667	Stand with posters
178	33,333	6,667	60,000	Traffic sign
179	26,667	6,667	66,667	Traffic light with audio signals for the Blind
180	40,000	6,667	53,333	Pavement or sidewalk

#	Audio	Tactile	Audio-Tactile	Information
181	43,333	6,667	50,000	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
182	40,000	6,667	53,333	Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge
183	46,667	6,667	46,667	Clinic or infirmary or doctor
184	30,000	6,667	63,333	Shop in general
185	20,000	6,667	73,333	Shop for photocopies
186	30,000	6,667	63,333	Dorms or Student houses
187	53,333	6,667	40,000	Information desk
188	33,333	6,667	60,000	Big furniture, sofa, couch, bed, wardrobe
189	25,806	6,452	67,742	Tree branches
190	22,581	6,452	70,968	Puddle
191	19,355	6,452	74,194	Working Bench
192	25,806	6,452	67,742	Notice board
193	22,581	6,452	70,968	Flip chart for meeting presentations
194	25,806	6,452	67,742	Projecting wall
195	25,806	6,452	67,742	Smoking area
196	29,032	6,452	64,516	Fire hose or fire department's water hydrant on pavement
197	19,355	6,452	74,194	Pedestrian road crossing
198	19,355	6,452	74,194	Pedestrian trail or route
199	25,806	6,452	67,742	Cashier's desk
200	34,483	3,448	62,069	Tactile signpost
201	37,931	3,448	58,621	Desk
202	31,034	3,448	65,517	Newspaper or magazine Stand
203	33,333	3,333	63,333	Box on the wall
204	40,000	3,333	56,667	Haptic information
205	53,333	3,333	43,333	Point of access to public transport, bus stop, metro station
206	43,333	3,333	53,333	Metro station
207	33,333	3,333	63,333	Automatic bars
208	29,032	3,226	67,742	Danger line
209	22,581	3,226	74,194	Sitting Bench
210	32,258	3,226	64,516	Kitchen
211	22,581	3,226	74,194	Edge of pavement
212	29,032	3,226	67,742	Curbsstone. Concrete part edging to a street or path
213	16,129	3,226	80,645	Underpass

4.4.4 AT-Map of city center – Format preference after familiarization

#	Audio	Tactile	Audio-Tactile	Information
1	37,931	31,034	31,034	Room
2	50,000	28,571	21,429	Wall
3	46,429	25,000	28,571	Berm. Strips of cement found in parking lots that stop car wheels from going any further
4	53,571	25,000	21,429	Recess in the wall
5	37,931	24,138	37,931	Flower bed or parterre
6	34,483	24,138	41,379	Shape of block of houses
7	36,667	23,333	40,000	Edge of pavement
8	29,032	22,581	48,387	Buildings
9	32,143	21,429	46,429	Obstacle on the ground
10	42,857	21,429	35,714	Wires or cables
11	44,828	20,690	34,483	Furniture
12	44,828	20,690	34,483	Railings
13	31,034	20,690	48,276	Pole or Pillar
14	41,379	20,690	37,931	Bicycle stand for parking bicycles
15	44,828	20,690	34,483	Outdoors
16	41,379	20,690	37,931	Sand
17	34,483	20,690	44,828	Tower
18	33,333	20,000	46,667	Parking slots for the disabled people
19	40,000	20,000	40,000	Newspaper or magazine Stand
20	30,000	20,000	50,000	Short poles alongside of pavements
21	33,333	20,000	46,667	Sitting bench
22	26,667	20,000	53,333	Direction or course of the driveway
23	26,667	20,000	53,333	Pavement or sidewalk
24	43,333	20,000	36,667	Ground material
25	50,000	20,000	30,000	Grass
26	40,000	20,000	40,000	Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn
27	43,333	20,000	36,667	Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge
28	43,333	20,000	36,667	Paved area or paved road
29	43,333	20,000	36,667	Gravel
30	33,333	20,000	46,667	Water fountain
31	36,667	20,000	43,333	Monument
32	29,032	19,355	51,613	Road

#	Audio	Tactile	Audio-Tactile	Information
33	48,148	18,519	33,333	Projecting wall
34	35,714	17,857	46,429	Short obstacle
35	35,714	17,857	46,429	High obstacle
36	32,143	17,857	50,000	Tree branches
37	39,286	17,857	42,857	Traffic sign
38	37,931	17,241	44,828	Office
39	58,621	17,241	24,138	Smoking area
40	44,828	17,241	37,931	Car parking
41	41,379	17,241	41,379	Parking garage
42	44,828	17,241	37,931	Open parking
43	27,586	17,241	55,172	School
44	41,379	17,241	41,379	Uphill or Downhill or slope on ground
45	44,828	17,241	37,931	Bridge for vehicles
46	58,621	17,241	24,138	Glass surface
47	44,828	17,241	37,931	Tree
48	31,034	17,241	51,724	Box on the side of pavement of Electricity or Gas providers
49	34,483	17,241	48,276	Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes
50	44,828	17,241	37,931	Pipes or tubes
51	41,379	17,241	41,379	Flower pot
52	37,931	17,241	44,828	Curbside. Concrete part edging to a street or path
53	37,931	17,241	44,828	Driveway in parking garage
54	27,586	17,241	55,172	Lake
55	34,483	17,241	48,276	Coast line
56	27,586	17,241	55,172	Pavement or sidewalk with tactile paving
57	34,483	17,241	48,276	Ramp
58	34,483	17,241	48,276	Olfactory reference point or landmark
59	26,667	16,667	56,667	Shop in general
60	20,000	16,667	63,333	Service center for the blind
61	16,667	16,667	66,667	Hospital
62	20,000	16,667	63,333	Park
63	33,333	16,667	50,000	Kiosk or pavilion
64	40,000	16,667	43,333	Box on the wall
65	40,000	16,667	43,333	Fence around parts of pavement or sidewalk parts enclosed with fence
66	46,667	16,667	36,667	Glass partition
67	26,667	16,667	56,667	Round about or Large traffic circle with a solid circle center

#	Audio	Tactile	Audio-Tactile	Information
68	36,667	16,667	46,667	Road with a sharp ascent or descent
69	36,667	16,667	46,667	Path
70	43,333	16,667	40,000	Change of the surface or texture on the ground
71	36,667	16,667	46,667	Green area
72	29,032	16,129	54,839	Bridge for pedestrians
73	32,258	16,129	51,613	Tram tracks
74	25,806	16,129	58,065	Railways
75	32,258	16,129	51,613	Underpass
76	22,581	16,129	61,290	Intersection, a place where two or more streets meet or cross
77	29,032	16,129	54,839	Two way Driveway
78	32,258	16,129	51,613	Prominent place as starting points
79	25,806	16,129	58,065	Haptic information
80	35,484	16,129	48,387	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
81	45,161	16,129	38,710	Sights
82	21,429	14,286	64,286	Security service office or desk
83	53,571	14,286	32,143	Car washer
84	46,429	14,286	39,286	Ferry boat for cars or other vehicles
85	42,857	14,286	42,857	Bumps from the roots of trees on the pavements
86	39,286	14,286	46,429	Flagpole
87	37,931	13,793	48,276	Gas station
88	37,931	13,793	48,276	Playground
89	37,931	13,793	48,276	Daycare
90	41,379	13,793	44,828	Underground Religious building, Church or mosque or else
91	37,931	13,793	48,276	Automatic bars
92	34,483	13,793	51,724	Automatic doors
93	44,828	13,793	41,379	Level change of the ground
94	44,828	13,793	41,379	Outdoor furniture, tables, bench, chairs
95	55,172	13,793	31,034	Bushes
96	41,379	13,793	44,828	Overhead cable
97	48,276	13,793	37,931	Stand with posters
98	44,828	13,793	41,379	Plants
99	27,586	13,793	58,621	Water canal
100	37,931	13,793	48,276	Flower shop
101	41,379	13,793	44,828	Pet shop
102	44,828	13,793	41,379	Inscription

#	Audio	Tactile	Audio-Tactile	Information
103	23,333	13,333	63,333	Police station
104	26,667	13,333	60,000	Ticket office
105	33,333	13,333	53,333	Cinema
106	36,667	13,333	50,000	Cemetery or graveyard
107	23,333	13,333	63,333	Post office
108	30,000	13,333	56,667	Hanging obstacle or overhead obstacle
109	36,667	13,333	50,000	Recycle bin
110	36,667	13,333	50,000	Balcony projecting
111	33,333	13,333	53,333	Construction works
112	23,333	13,333	63,333	Traffic lights
113	40,000	13,333	46,667	Fence
114	46,667	13,333	40,000	Nature strip or outdoors open space or Lawn
115	33,333	13,333	53,333	Bicycle road
116	30,000	13,333	56,667	Scale Model of city
117	36,667	13,333	50,000	Water area
118	19,355	12,903	67,742	Town hall
119	25,806	12,903	61,290	Theater
120	29,032	12,903	58,065	Religious building, Church, mosque, or else
121	22,581	12,903	64,516	Clinic
122	22,581	12,903	64,516	Public transport station
123	29,032	12,903	58,065	Arcade or Gallery with shops
124	32,258	12,903	54,839	Service
125	22,581	12,903	64,516	Entrance or exit
126	25,806	12,903	61,290	Emergency exit
127	29,032	12,903	58,065	Elevator
128	35,484	12,903	51,613	Bridge
129	32,258	12,903	54,839	Stairs
130	19,355	12,903	67,742	Dangerous area
131	25,806	12,903	61,290	Danger line
132	19,355	12,903	67,742	traffic light with audio signals for the Blind
133	25,806	12,903	61,290	Prohibited area
134	32,258	12,903	54,839	Pedestrian road crossing
135	25,806	12,903	61,290	Railroad crossing
136	25,806	12,903	61,290	Pedestrian trails
137	32,258	12,903	54,839	One way street
138	29,032	12,903	58,065	Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions
139	29,032	12,903	58,065	Pedestrian street

#	Audio	Tactile	Audio-Tactile	Information
140	25,806	12,903	61,290	Tactile signpost
141	22,581	12,903	64,516	Haptic reference point or landmark
142	32,258	12,903	54,839	Market place
143	44,444	11,111	44,444	Water tap
144	42,857	10,714	46,429	Chill out area
145	32,143	10,714	57,143	Water canal with a lock and sluice
146	39,286	10,714	50,000	Shop for coffee products or coffee grinder shop
147	46,429	10,714	42,857	People selling goods on the street
148	27,586	10,345	62,069	Sports court
149	34,483	10,345	55,172	Sports facility
150	34,483	10,345	55,172	Steps
151	37,931	10,345	51,724	Road Bar
152	37,931	10,345	51,724	Fire hose or fire department's water hydrant on pavement
153	37,931	10,345	51,724	Landmarks
154	27,586	10,345	62,069	Beach
155	31,034	10,345	58,621	Audio guide
156	44,828	10,345	44,828	Shop for cosmetics
157	37,931	10,345	51,724	Sign with audio sound
158	30,000	10,000	60,000	Library, the room or the service
159	43,333	10,000	46,667	Gym
160	30,000	10,000	60,000	Bar or club or entertainment
161	36,667	10,000	53,333	Bar
162	26,667	10,000	63,333	Bus stop shelter or tram stop shelter
163	30,000	10,000	60,000	Phone booth or Pay phone
164	33,333	10,000	56,667	Revolving door
165	33,333	10,000	56,667	Bridge over railroad tracks
166	46,667	10,000	43,333	Statue or sculpture
167	30,000	10,000	60,000	Quay
168	26,667	10,000	63,333	Sea
169	36,667	10,000	53,333	Pont, a small pond in a park
170	50,000	10,000	40,000	Highly populated zone in a building
171	33,333	10,000	56,667	Map
172	50,000	10,000	40,000	Metal plate on the ground
173	33,333	10,000	56,667	Sound reference point or landmark
174	43,333	10,000	46,667	Tourist attraction
175	40,000	10,000	50,000	Vending machine
176	40,000	10,000	50,000	Equipment or Machinery
177	16,667	10,000	73,333	Bank cash machine

#	Audio	Tactile	Audio-Tactile	Information
178	26,667	10,000	63,333	Queue management ticket machine
179	22,581	9,677	67,742	Public service building
180	16,129	9,677	74,194	Public toilet
181	25,806	9,677	64,516	Cafeteria or Coffee shop
182	25,806	9,677	64,516	Museum
183	25,806	9,677	64,516	Information desk
184	19,355	9,677	70,968	Point of access to public transport, bus stop, metro station
185	22,581	9,677	67,742	Metro station
186	22,581	9,677	67,742	Toilet or bathroom for men, women, or people with disabilities
187	29,032	9,677	61,290	Medical service
188	25,806	9,677	64,516	Entrance to an underground pedestrian passageway or subway station
189	35,484	9,677	54,839	Underground entrance
190	38,710	9,677	51,613	Gate
191	25,806	9,677	64,516	Stairs leading to the subway
192	32,258	9,677	58,065	Garbage bin
193	35,484	9,677	54,839	Name of building
194	46,429	7,143	46,429	Activity area
195	42,857	7,143	50,000	Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole
196	44,828	6,897	48,276	Railroad tracks passing through a tunnel
197	41,379	6,897	51,724	Shop for leather products
198	44,828	6,897	48,276	Fish shop
199	55,172	6,897	37,931	Art work
200	33,333	6,667	60,000	Sports facilities
201	26,667	6,667	66,667	Restaurant or tavern or grill
202	33,333	6,667	60,000	Canteen
203	36,667	6,667	56,667	Road where possibly loading or unloading is taking place
204	40,000	6,667	53,333	Bakery shop
205	33,333	6,667	60,000	Patisserie
206	33,333	6,667	60,000	Street market
207	22,581	6,452	70,968	Shopping mall or shopping center
208	25,806	6,452	67,742	Supermarket
209	22,581	6,452	70,968	Hotel
210	25,806	6,452	67,742	Information booth
211	25,806	6,452	67,742	Railway station

#	Audio	Tactile	Audio-Tactile	Information
212	25,806	6,452	67,742	Bus stop
213	25,806	6,452	67,742	Taxi station
214	35,484	6,452	58,065	Tourist information
215	32,258	6,452	61,290	Bank
216	25,806	6,452	67,742	Dangerous point
217	32,258	6,452	61,290	Street name
218	35,484	6,452	58,065	Area names
219	29,032	6,452	64,516	Squares
220	41,379	3,448	55,172	Sound source
221	26,667	3,333	70,000	Harbor
222	33,333	3,333	63,333	Grocery shop

4.4.5 AT Political Map – Format preference after familiarization

#	Audio	Tactile	Audio-Tactile	Information
1	26,667	30,000	43,333	Coastline
2	31,034	27,586	41,379	Directional arrow
3	29,032	25,806	45,161	Train network
4	26,667	23,333	50,000	Tunnel
5	34,483	20,690	44,828	Route
6	46,667	20,000	33,333	Longitude and latitude
7	23,333	20,000	56,667	Continent
8	33,333	20,000	46,667	Sea gulf
9	30,000	20,000	50,000	city borders or shape of city area
10	26,667	20,000	53,333	Prefecture borders
11	25,806	19,355	54,839	Sea
12	25,806	19,355	54,839	Island
13	32,258	19,355	48,387	River
14	25,806	19,355	54,839	Country borders
15	44,828	17,241	37,931	Road network
16	30,000	16,667	53,333	Channel
17	26,667	16,667	56,667	Lake
18	36,667	16,667	46,667	Cardinal points
19	25,806	16,129	58,065	Highway
20	38,710	16,129	45,161	Town
21	48,387	16,129	35,484	Federal state
22	44,828	13,793	41,379	Settlement
23	55,172	13,793	31,034	System of government or polity
24	37,931	13,793	48,276	Water Dam
25	33,333	13,333	53,333	Landmark
26	46,667	13,333	40,000	Region or district
27	16,129	12,903	70,968	Airport
28	29,032	12,903	58,065	Sea transportation
29	61,290	12,903	25,806	Population
30	25,806	12,903	61,290	City
31	41,379	10,345	48,276	Castle
32	34,483	10,345	55,172	Artificial lake or Reservoir
33	27,586	10,345	62,069	Lagoon
34	44,828	10,345	44,828	Ski resort
35	43,333	10,000	46,667	Province
36	56,667	10,000	33,333	Official language

#	Audio	Tactile	Audio-Tactile	Information
37	36,667	10,000	53,333	Salt water lake
38	30,000	10,000	60,000	Railway station
39	46,667	10,000	43,333	Village
40	38,710	9,677	51,613	Scale of map
41	22,581	9,677	67,742	Harbor
42	61,290	9,677	29,032	Currency
43	38,710	9,677	51,613	Prefecture or county or district
44	41,935	9,677	48,387	Capitals city
45	38,710	9,677	51,613	Country or State
46	50,000	6,667	43,333	Geographical Area
47	43,333	6,667	50,000	Travel means
48	64,516	6,452	29,032	Distance in kilometers

4.4.6 AT Physical Map - – Format preference after familiarization

#	Audio	Tactile	Audio-Tactile	Information
1	34,483	27,586	37,931	city borders or shape of city area
2	22,581	25,806	51,613	Country borders
3	20,690	24,138	55,172	Directional arrow
4	37,931	20,690	41,379	Train network
5	23,333	20,000	56,667	Coastline
6	36,667	20,000	43,333	Forest road
7	38,710	19,355	41,935	Road network
8	33,333	16,667	50,000	Sea gulf
9	40,000	16,667	43,333	Federal state
10	33,333	16,667	50,000	Coastal area
11	33,333	16,667	50,000	Prefecture borders
12	44,444	14,815	40,741	Tundra
13	31,034	13,793	55,172	National Park
14	37,931	13,793	48,276	Vegetation zone
15	41,379	13,793	44,828	Ski resort
16	36,667	13,333	50,000	Rural road
17	40,000	13,333	46,667	Mixed forest
18	26,667	13,333	60,000	Channel
19	23,333	13,333	63,333	Waterfall
20	20,000	13,333	66,667	River
21	32,258	12,903	54,839	Highway
22	25,806	12,903	61,290	Mountain
23	32,258	12,903	54,839	Forest
24	16,129	12,903	70,968	Sea
25	25,806	12,903	61,290	Mountain range
26	22,581	12,903	64,516	Landmark
27	29,032	12,903	58,065	Beach
28	22,581	12,903	64,516	Peninsular
29	33,333	11,111	55,556	Taiga
30	39,286	10,714	50,000	Grassland
31	50,000	10,714	39,286	Plate tectonic
32	44,828	10,345	44,828	Afforestation
33	37,931	10,345	51,724	Sight or attraction
34	44,828	10,345	44,828	Sea transportation
35	24,138	10,345	65,517	Salt water lake
36	41,379	10,345	48,276	Travel means

#	Audio	Tactile	Audio-Tactile	Information
37	24,138	10,345	65,517	Plateau
38	44,828	10,345	44,828	Fauna or animal life
39	20,690	10,345	68,966	Green field or valley
40	34,483	10,345	55,172	Region or district
41	37,931	10,345	51,724	Route
42	40,000	10,000	50,000	Longitude and latitude
43	40,000	10,000	50,000	Coniferous forest
44	43,333	10,000	46,667	Broadleaf forest
45	40,000	10,000	50,000	Rainforest
46	40,000	10,000	43,333	Geographical Area
47	43,333	10,000	46,667	Ocean drift
48	26,667	10,000	63,333	Valley
49	40,000	10,000	50,000	Town
50	40,000	10,000	50,000	Harbor
51	23,333	10,000	66,667	Lake
52	36,667	10,000	53,333	Cardinal points
53	36,667	10,000	53,333	Straits
54	29,032	9,677	61,290	Cliff coast
55	22,581	9,677	67,742	Island
56	29,032	9,677	61,290	Cave
57	39,286	7,143	53,571	Natural mineral water spring
58	35,714	7,143	57,143	Flora or Plant life, tundra, forest, taiga
59	55,172	6,897	37,931	Ocean depth
60	24,138	6,897	68,966	Desert
61	41,379	6,897	51,724	Thermal water springs or SPA
62	51,724	6,897	41,379	Mountain height
63	44,828	6,897	48,276	Natural phenomenon
64	33,333	6,667	60,000	Swampland
65	36,667	6,667	56,667	Continent
66	36,667	6,667	56,667	Scale of map
67	30,000	6,667	63,333	Mountain peak
68	30,000	6,667	63,333	Artificial lake or Reservoir
69	43,333	6,667	50,000	Prefecture or county or district
70	40,000	6,667	53,333	Blue Flag beach
71	40,000	6,667	53,333	City
72	36,667	6,667	56,667	water Dam
73	40,000	6,667	53,333	Village
74	29,032	6,452	64,516	Volcano, active or inactive
75	25,806	6,452	67,742	Lagoon
76	25,806	6,452	67,742	Ocean

#	Audio	Tactile	Audio-Tactile	Information
77	46,429	3,571	50,000	Physical resources. Products, oil, gas, coal
78	50,000	3,571	46,429	Distances in kilometers
79	31,034	3,448	62,069	Province
80	48,276	3,448	48,276	Population
81	35,484	3,226	61,290	Capital city
82	32,258	3,226	64,516	Country or State

4.4.7 AT Historic Map - – Format preference after familiarization

#	Audio	Tactile	Audio-Tactile	Information
1	34,483	24,138	41,379	Route of army and fleet
2	23,333	23,333	53,333	Coastline
3	29,032	22,581	48,387	Directional arrow
4	25,806	22,581	51,613	Mountain range
5	29,032	22,581	48,387	City borders or shape of city area
6	30,000	20,000	50,000	Mountain
7	33,333	20,000	46,667	Road network
8	33,333	20,000	46,667	Route
9	30,000	20,000	50,000	Prefecture borders
10	32,258	19,355	48,387	Coastal area
11	38,710	19,355	41,935	Green field or valley
12	29,032	19,355	51,613	River
13	25,806	19,355	54,839	Country borders
14	41,379	17,241	41,379	Swampland
15	41,379	17,241	41,379	Campaign
16	33,333	16,667	50,000	Trade route
17	36,667	16,667	46,667	Travel means
18	30,000	16,667	53,333	Former boarders
19	29,032	16,129	54,839	Valley
20	39,286	14,286	46,429	Thermal water springs or SPA
21	41,379	13,793	44,828	Region or district
22	34,483	13,793	51,724	Timeline
23	36,667	13,333	50,000	Longitude and latitude
24	33,333	13,333	53,333	Geographical Area
25	36,667	13,333	50,000	Sea gulf
26	26,667	13,333	60,000	Castle
27	33,333	13,333	53,333	Town
28	33,333	13,333	53,333	Federal state
29	30,000	13,333	56,667	Plateau
30	30,000	13,333	56,667	City
31	33,333	13,333	53,333	Peninsular
32	25,806	12,903	61,290	Lake
33	19,355	12,903	67,742	Island
34	50,000	10,714	39,286	Trade
35	46,429	10,714	42,857	Natural phenomenon
36	37,931	10,345	51,724	Colony

#	Audio	Tactile	Audio-Tactile	Information
37	34,483	10,345	55,172	Volcano, active or inactive
38	37,931	10,345	51,724	Sea transportation
39	41,379	10,345	48,276	Gateway
40	34,483	10,345	55,172	Straits
41	26,667	10,000	63,333	Historic church or monastery
42	23,333	10,000	66,667	Harbor
43	30,000	10,000	60,000	Salt water lake
44	30,000	10,000	60,000	Lagoon
45	33,333	10,000	56,667	Cave
46	33,333	10,000	56,667	Village
47	29,032	9,677	61,290	Desert
48	19,355	9,677	70,968	Sea
49	29,032	9,677	61,290	Landmark
50	32,258	9,677	58,065	Cardinal points
51	25,806	9,677	64,516	Ocean
52	42,857	7,143	50,000	National Park
53	32,143	7,143	60,714	Historic path, Way of Saint James
54	46,429	7,143	46,429	Conquest
55	46,429	7,143	46,429	Battle
56	46,429	7,143	46,429	Shipwreck
57	50,000	7,143	42,857	Sea battle or naval battle
58	60,714	7,143	32,143	Natural disaster
59	44,828	6,897	48,276	Empire and monarchy
60	31,034	6,897	62,069	Monument
61	37,931	6,897	55,172	Distinct legend
62	51,724	6,897	41,379	Confederation
63	48,276	6,897	44,828	Distances in kilometers
64	36,667	6,667	56,667	War theatre
65	33,333	6,667	60,000	Sight or attraction
66	33,333	6,667	60,000	Archeological site or monument
67	43,333	6,667	50,000	Architecture
68	36,667	6,667	56,667	Province
69	56,667	6,667	36,667	Religious affiliation
70	33,333	6,667	60,000	Scale of map
71	40,000	6,667	53,333	Prefecture or county or district
72	43,333	6,667	50,000	Population
73	50,000	6,667	43,333	Pact
74	32,258	6,452	61,290	Continent
75	35,484	6,452	58,065	Palace
76	32,258	6,452	61,290	Country or State

#	Audio	Tactile	Audio-Tactile	Information
77	46,429	3,571	50,000	Important date
78	42,857	3,571	53,571	Graves
79	58,621	3,448	37,931	Nationality
80	34,483	3,448	62,069	Unesco World Heritage
81	48,276	3,448	48,276	Physical resources. Products, oil, gas, coal
82	46,667	3,333	50,000	Discovery
83	26,667	3,333	70,000	Ancient city
84	23,333	3,333	73,333	Historic location
85	25,806	3,226	70,968	Capital city

4.4.8 AT Thematic Map – Format preference after familiarization

#	Audio	Tactile	Audio-Tactile	Information
1	19,355	25,806	54,839	Highway
2	22,581	25,806	51,613	Directional arrow
3	29,032	22,581	48,387	Rural road
4	32,258	22,581	45,161	city borders or shape of city areas
5	38,710	22,581	38,710	Tunnel
6	37,931	20,690	41,379	Former borders
7	26,667	20,000	53,333	Coastline
8	36,667	20,000	43,333	Route
9	35,484	19,355	45,161	Plateau
10	22,581	19,355	58,065	Country borders
11	34,483	17,241	48,276	Sea transportation
12	40,000	16,667	43,333	Afforestation
13	33,333	16,667	50,000	Province
14	36,667	16,667	46,667	Sea gulf
15	33,333	16,667	50,000	Road network
16	33,333	16,667	50,000	Train network
17	16,129	16,129	67,742	Mountain
18	25,806	16,129	58,065	Valley
19	25,806	16,129	58,065	Island
20	25,806	16,129	58,065	Mountain range
21	29,032	16,129	54,839	Cardinal points
22	29,032	16,129	54,839	Prefecture borders
23	34,483	13,793	51,724	Colony
24	48,276	13,793	37,931	Road tolls
25	51,724	13,793	34,483	Religious affiliation
26	34,483	13,793	51,724	Gateways
27	37,931	13,793	48,276	Important date
28	48,276	13,793	37,931	Ski resort
29	30,000	13,333	56,667	Trade route
30	36,667	13,333	50,000	National Park
31	30,000	13,333	56,667	Ocean drift
32	33,333	13,333	53,333	Mountain peak
33	33,333	13,333	53,333	Coastal area
34	43,333	13,333	43,333	Confederation
35	40,000	13,333	46,667	Peninsular
36	29,032	12,903	58,065	Cliff coast

#	Audio	Tactile	Audio-Tactile	Information
37	35,484	12,903	51,613	Longitude and latitude
38	32,258	12,903	54,839	Desert
39	25,806	12,903	61,290	Continent
40	25,806	12,903	61,290	Sea
41	32,258	12,903	54,839	Harbor
42	38,710	12,903	48,387	Lagoon
43	22,581	12,903	64,516	Landmark
44	32,258	12,903	54,839	Green field or valley
45	32,258	12,903	54,839	Country or State
46	29,032	12,903	58,065	Village
47	25,806	12,903	61,290	Ocean
48	31,034	10,345	58,621	Empire and monarchy
49	55,172	10,345	34,483	Birthrate
50	34,483	10,345	55,172	Vegetation zone
51	41,379	10,345	48,276	Thermal water springs or SPA
52	55,172	10,345	34,483	Oil or diesel or petroleum
53	37,931	10,345	51,724	Natural mineral water spring
54	37,931	10,345	51,724	Water Dam
55	37,931	10,345	51,724	Natural disaster
56	20,000	10,000	70,000	Archeological site or monument
57	33,333	10,000	56,667	Architecture
58	50,000	10,000	40,000	Nationality
59	36,667	10,000	53,333	Trade
60	26,667	10,000	63,333	Beach resort
61	30,000	10,000	60,000	Historic path, Way of Saint James
62	36,667	10,000	53,333	Waterfall
63	40,000	10,000	50,000	Monument
64	30,000	10,000	60,000	Distinct legend
65	43,333	10,000	46,667	Travel means
66	40,000	10,000	50,000	Mountain trail
67	33,333	10,000	56,667	Beach
68	40,000	10,000	50,000	Blue Flag beach
69	33,333	10,000	56,667	Straits
70	50,000	10,000	40,000	Natural phenomenon
71	25,806	9,677	64,516	Sight or attraction
72	25,806	9,677	64,516	Ancient city
73	45,161	9,677	45,161	Ocean depth
74	35,484	9,677	54,839	Geographical area
75	25,806	9,677	64,516	Volcano, active or inactive
76	41,935	9,677	48,387	Historic church or monastery

#	Audio	Tactile	Audio-Tactile	Information
77	32,258	9,677	58,065	Historic location
78	35,484	9,677	54,839	Castle
79	35,484	9,677	54,839	Climatic map
80	22,581	9,677	67,742	Town
81	32,258	9,677	58,065	Lake
82	41,935	9,677	48,387	Prefecture or county or district
83	29,032	9,677	61,290	Settlement
84	35,484	9,677	54,839	Federal state
85	38,710	9,677	51,613	Region or district
86	32,258	9,677	58,065	River
87	25,806	9,677	64,516	Railway station
88	31,034	6,897	62,069	Channel
89	41,379	6,897	51,724	Currency
90	37,931	6,897	55,172	Organized beaches
91	58,621	6,897	34,483	Uranium
92	58,621	6,897	34,483	Pact
93	55,172	6,897	37,931	Natural gas
94	51,724	6,897	41,379	Timeline
95	40,000	6,667	53,333	Discovery
96	50,000	6,667	43,333	Energy supply
97	53,333	6,667	40,000	Meteorological phenomena
98	40,000	6,667	53,333	Shipwreck
99	36,667	6,667	56,667	Hotel
100	53,333	6,667	40,000	Economy and industry
101	36,667	6,667	56,667	Mountain resort refuge
102	50,000	6,667	43,333	Mineral resources
103	50,000	6,667	43,333	System of government or polity
104	53,333	6,667	40,000	Products Theme depended
105	50,000	6,667	43,333	Natural resources
106	30,000	6,667	63,333	Distances in kilometers
107	43,333	6,667	50,000	Campground
108	16,129	6,452	77,419	Airport
109	32,258	6,452	61,290	Geographical Area
110	32,258	6,452	61,290	Scale
111	35,484	6,452	58,065	Unesco World Heritage
112	22,581	6,452	70,968	City
113	29,032	6,452	64,516	Capital city
114	38,710	6,452	54,839	Nuclear power plant
115	41,935	6,452	51,613	Cave
116	22,581	6,452	70,968	Subway Map

#	Audio	Tactile	Audio-Tactile	Information
117	58,621	3,448	37,931	Official language
118	48,276	3,448	48,276	Drought
119	31,034	3,448	65,517	Oilfields for diesel or petroleum
120	41,379	3,448	55,172	Physical resources. Products, oil, gas, coal
121	53,333	3,333	43,333	Import export goods
122	53,333	3,333	43,333	Language
123	60,000	3,333	36,667	Demographic group
124	63,333	3,333	33,333	Coal
125	43,333	3,333	53,333	Population
126	50,000	3,333	46,667	Products
127	60,000	3,333	36,667	Population density
128	60,000	3,333	36,667	Ethnicities
129	41,935	3,226	54,839	Palace
130	60,000	0,000	40,000	Temperature
131	62,069	0,000	37,931	Mortality
132	56,667	0,000	43,333	Climate
133	62,069	0,000	37,931	Traditions and customs
134	55,172	0,000	44,828	Population data, gender, age

4.5 Defining the importance factor of information

In order to define what information is more important to be included in the audio-tactile maps a new list was created for each type of map that includes information based on their importance. The Importance factor is calculated by multiplying the significance with the frequency of occurrence of information based on the answers of IVIS.

4.5.1 AT-Map of the indoors/inner space of building

#	Importance Factor	Information
1	20,226	Toilet or bathroom for men, women, or people with disabilities
2	19,365	Entrance or exit
3	19,296	Stairs
4	18,904	Elevator
5	18,157	Floor number
6	17,852	Reception
7	17,339	Room number
8	16,974	Steps
9	16,730	Door
10	16,513	Dangerous area
11	15,922	Intersection
12	15,739	Hanging obstacle or overhead obstacle
13	15,713	Emergency exit
14	15,713	Clinic or infirmary or doctor
15	15,270	Dangerous point
16	15,209	Automatic doors
17	15,113	Cashier's desk
18	15,052	Revolving door
19	14,991	Library, the room or the service
20	14,982	Room
21	14,965	Cafeteria or Coffee shop
22	14,922	Garbage bin
23	14,826	Canteen
24	14,800	Bank cash machine
25	14,748	Office of the commissioner for the disabled
26	14,609	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
27	14,339	Obstacle on the ground

#	Importance Factor	Information
28	14,252	Corridor
29	14,174	Wall
30	13,974	High obstacle
31	13,913	Glass door
32	13,843	Indoor pillar
33	13,835	Prominent place as starting point
34	13,809	Equipment or Machinery, computer, Printer, Photocopier
35	13,765	Socket for Electricity or phone
36	13,678	Haptic reference point or landmark
37	13,626	Intercom
38	13,591	Office
39	13,539	Balcony
40	13,470	Telephone
41	13,470	Cash machine
42	13,386	Level change of the ground
43	13,374	Shop in general
44	13,374	Ramp
45	13,313	Household appliance, refrigerator, television, washing machine
46	13,270	Security service office, or desk
47	13,235	Outdoors
48	13,217	Kitchen
49	12,948	Sliding door
50	12,947	Fire extinguisher
51	12,922	Short obstacle
52	12,886	Tactile signpost
53	12,835	Service
54	12,783	Window
55	12,757	Audio guide
56	12,757	Heat source, radiator, heating panels, fireplace
57	12,478	Water tap
58	12,478	Sound reference point or landmark
59	12,252	Hot water or anything that could be hot to burn
60	12,104	Queue management ticket machine
61	12,104	Sound source
62	12,061	Refrigerator
63	12,061	Conference room
64	11,991	Haptic information
65	11,991	Handrail for indoor stairs
66	11,912	Map
67	11,896	Sink or washbasin

#	Importance Factor	Information
68	11,728	Table
69	11,661	Shower
70	11,600	Railings
71	11,583	Water dispenser
72	11,487	Signs with audio sound
73	11,470	Mailbox
74	11,439	Light switch
75	11,412	Big furniture, sofa, couch, bed, wardrobe
76	11,200	Sitting bench
77	11,157	Laboratory
78	11,026	Recycle bin
79	10,912	Change of the surface or texture on the ground
80	10,904	Highly populated zone in a building
81	10,878	Scale Model of indoors area
82	10,843	Furniture
83	10,841	Marked points of the compass
84	10,835	Glass partition
85	10,791	Fire hose
86	10,774	Chair
87	10,696	Vending machine
88	10,687	Baggage reclaim room
89	10,678	Hanging cabinet
90	10,600	Television
91	10,579	Notice board
92	10,470	Desk
93	10,470	Projecting wall
94	10,365	Oven
95	10,351	Light source, Lamp or light bulb
96	10,313	Shelf
97	10,043	Gym
98	10,018	Tea table
99	10,009	Bed
100	9,939	Sofa or couch
101	9,878	Machine or Device
102	9,800	Cupboard
103	9,757	Automatic bars
104	9,730	Uphill or Downhill or slope on the ground
105	9,678	Wardrobe or Closet or Locker
106	9,640	Olfactory reference point or landmark
107	9,626	Box on the wall

#	Importance Factor	Information
108	9,530	Air condition
109	9,470	Coat hanger stand or hanger
110	9,270	Pay phone or phone booth
111	9,252	Glass surface
112	9,123	Book case
113	9,104	Drawers or Dresser
114	9,096	Wires or cables
115	9,070	Armchair
116	9,000	Inscription
117	8,956	Teacher's desk
118	8,702	Plants
119	8,687	Smoking area
120	8,670	Elevated floor of teacher's desk
121	8,667	Flower pot
122	8,409	Carpet
123	8,391	Recess in the wall
124	8,252	Floor condition
125	8,052	Window shutters or rolling blinds or blinds
126	7,983	Artwork
127	7,948	Pipes or tubes
128	7,887	Working Bench
129	7,826	Baby's changing table
130	7,702	Statue or sculpture
131	7,391	Newspaper or magazine Stand
132	6,957	Wall mirror
133	6,722	Heating Burner
134	6,678	Stand with posters
135	6,623	Frame of painting on the wall
136	6,591	Loft

4.5.2 AT-Map of neighborhood/residential area

#	Importance Factor	Information
1	21,443	Bus stop
2	21,246	Point of access to public transport, bus stop, metro station
3	20,139	Traffic lights
4	19,243	Taxi station
5	19,191	Entrance or exit
6	19,104	Bus stop shelter or tram stop shelter
7	19,070	Metro station
8	19,061	Intersection, a place where two or more streets meet or cross
9	18,713	Entrance to an underground pedestrian passageway or subway station
10	18,667	Pedestrian road crossing
11	18,617	Stairs
12	18,591	Supermarket
13	18,491	Street name
14	18,435	Traffic light with audio signals for the Blind
15	18,391	Toilet or bathroom for men, women, or people with disabilities
16	17,930	Pharmacy or drugstore
17	17,746	Square
18	17,704	Public service building
19	17,278	Public transport station
20	17,226	Clinic or infirmary or doctor
21	17,150	Buildings
22	17,078	Shopping mall or shopping center
23	17,026	Bank
24	17,018	Round about or Large traffic circle with a solid circle center
25	16,983	Grocery shop
26	16,982	Pedestrian street
27	16,913	Stairs leading to the subway
28	16,858	Direction or course of the driveway
29	16,842	Pavement or sidewalk
30	16,842	Area name
31	16,835	Elevator
32	16,704	Railway station
33	16,687	Steps
34	16,684	Two way Driveway
35	16,661	Restaurant or tavern or grill
36	16,626	School
37	16,591	Dangerous area
38	16,443	Cafeteria or Coffee shop

#	Importance Factor	Information
39	16,421	Pavement or sidewalk with tactile paving
40	16,339	Park
41	16,319	Sea
42	16,200	Market place
43	16,009	Underground entrance
44	15,991	Underpass
45	15,974	Door
46	15,930	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
47	15,842	Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions
48	15,783	Street market
49	15,719	Emergency exit
50	15,655	Landmark
51	15,652	Shop in general
52	15,400	Medical service
53	15,243	Religious building, Church, mosque, or else
54	15,186	Name of building
55	15,044	Pedestrian trail or route
56	15,026	Hanging obstacle or overhead obstacle
57	15,026	Revolving door
58	15,009	Information desk
59	14,965	Post office
60	14,947	Railroad crossing
61	14,861	Bridge for pedestrians
62	14,861	Dangerous point
63	14,823	Coast line
64	14,807	Automatic doors
65	14,765	Bridge
66	14,713	Quay
67	14,540	Ramp
68	14,478	Bakery shop
69	14,296	Information booth
70	14,278	Garbage bin
71	14,254	Traffic sign
72	14,217	Pole or Pillar
73	14,130	Glass door
74	14,124	Road
75	13,816	Short obstacle
76	13,809	Police station

#	Importance Factor	Information
77	13,800	Patisserie
78	13,726	Beach
79	13,713	Danger line
80	13,670	Short poles alongside of pavements
81	13,652	High obstacle
82	13,640	Prohibited area
83	13,626	Gate
84	13,600	Obstacle on the ground
85	13,575	Service
86	13,513	Prominent place as starting point
87	13,411	Lake
88	13,404	Audio guide
89	13,404	Streetcar tracks
90	13,368	Haptic information
91	13,342	One way street
92	13,333	Paved area or paved road
93	13,239	Green area
94	13,174	Theater
95	13,158	Wall
96	13,157	Butcher shop
97	13,052	Level change of the ground
98	13,043	Dentist
99	13,026	Hairdresser
100	13,026	Balcony projecting
101	12,921	Haptic reference point or landmark
102	12,912	Pont, a small pond in a park
103	12,887	Canteen
104	12,852	Library, the room or the service
105	12,835	Pizzeria
106	12,833	Road in parking garage
107	12,833	Water area
108	12,817	Parking slots for the disabled people
109	12,807	Tree
110	12,783	Sound reference point or landmark
111	12,739	Outdoor furniture, tables, bench, chairs
112	12,687	Uphill or Downhill or slope on the ground
113	12,673	Parked cars or motorcycles
114	12,652	Sliding door
115	12,591	Sitting bench
116	12,561	Tactile signpost

#	Importance Factor	Information
117	12,553	Arcade or Gallery with shops
118	12,530	Canal
119	12,513	Shop for coffee products or coffee grinder shop
120	12,469	Water stream
121	12,357	Gym
122	12,348	Box on the side of pavement of Electricity or Gas providers
123	12,270	Bumps from the roots of trees on the pavements
124	12,239	Road with a sharp ascent or descent
125	12,217	Shoe store
126	12,096	Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes
127	12,087	Mailbox
128	12,070	Tree branches
129	11,965	Recycle bin
130	11,965	Tactile bumps on the street
131	11,965	Path
132	11,921	Fence around parts of pavement or sidewalk parts enclosed with fence
133	11,904	Gas station
134	11,895	Puddle
135	11,868	Bicycle road
136	11,826	Edge of pavement
137	11,814	Flower bed or parterre
138	11,789	Nature strip or outdoors open space or Lawn
139	11,713	Railings
140	11,670	Cava or Liquor shop
141	11,670	Missing tiles on pavement
142	11,649	Road Bar
143	11,632	Projecting wall
144	11,614	Bridge over railroad tracks
145	11,609	Kiosk or pavilion
146	11,600	Fish shop
147	11,553	Shop's sign post
148	11,426	Cinema
149	11,357	Sports facility
150	11,351	Broken tile on pavement
151	11,345	Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn
152	11,345	Room
153	11,193	Bar

#	Importance Factor	Information
154	11,150	Curbstone. Concrete part edging to a street or path
155	11,096	Sports facility
156	11,096	Shop for photocopies
157	11,026	Olfactory reference point or landmark
158	10,991	Change of the surface or texture on the ground
159	10,957	Shop window
160	10,896	Sports court
161	10,877	Glass partition
162	10,809	Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole
163	10,713	Car parking
164	10,704	Phone booth or Pay phone
165	10,702	Fence
166	10,702	Overhead cable
167	10,649	Notice board
168	10,561	Sign with audio sound
169	10,548	Flower shop
170	10,478	Box on the wall
171	10,443	Water tap
172	10,391	Canal with a lock and sluice
173	10,351	Shape of block of houses
174	10,339	Wires or cables
175	10,298	Waterfall
176	10,296	Activity area
177	10,200	Daycare
178	10,177	People selling goods on the street
179	10,158	Automatic bars
180	10,123	Playground
181	10,097	Map
182	10,087	Shop for cosmetics
183	10,070	Pipes or tubes
184	10,026	Fire hose or fire department's water hydrant on pavement
185	9,939	Monument
186	9,886	Ground material
187	9,737	Bicycle stand for parking bicycles
188	9,730	Railroad tracks passing through a tunnel
189	9,711	Vending machine
190	9,711	Bushes

#	Importance Factor	Information
191	9,699	Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge
192	9,605	Tower
193	9,530	Shop for leather products
194	9,491	Water fountain
195	9,478	Chill out area
196	9,442	Metal plate on the ground
197	9,375	Rapids
198	9,330	Newspaper or magazine Stand
199	9,292	Inscription
200	9,239	Machine or Device
201	9,226	Berm. Strips of cement found in parking lots that stop car wheels from going any further
202	9,193	Sound source
203	9,078	Recess in the wall
204	9,052	Cemetery or graveyard
205	8,974	Bridge for vehicles
206	8,965	Grass
207	8,835	Car garage
208	8,643	Window sill
209	8,574	Plants
210	8,553	Gravel
211	8,430	Stand with posters
212	8,342	Sand
213	8,307	Light source, Lamp or light bulb
214	8,283	Barking dog from specific house
215	8,265	Flower pot
216	8,211	Air condition
217	8,009	Statue or sculpture
218	7,938	Sprinklers watering machine injectors
219	7,921	Pet shop
220	7,435	Smoking area
221	7,061	Car washer
222	6,737	Slide
223	6,614	Sound from air condition device
224	6,491	Electricity generator of traders selling goods on the street
225	6,274	Sound from ventilation
226	6,175	Basketball net

4.5.3 AT-Map of campus

#	Importance Factor	Information
1	20,876	Point of access to public transport, bus stop, metro station
2	20,842	Bus stop
3	19,798	Toilet or bathroom for men, women, or people with disabilities
4	18,860	Traffic lights
5	18,816	Metro station
6	18,430	Taxi station
7	18,105	Lecture room
8	18,105	Intersection, a place where two or more streets meet or cross
9	18,088	Floor number
10	18,088	Name of faculties of educational institution
11	18,044	Student's registry office
12	17,974	Entrance or exit
13	17,761	Street name
14	17,702	Stairs
15	17,465	Room number
16	17,465	Elevator
17	17,345	Pedestrian road crossing
18	17,175	Library, the room or the service
19	17,175	Stairs leading to the subway
20	17,175	Traffic light with audio signals for the Blind
21	17,009	Door
22	16,833	Lecture theatre
23	16,735	Pavement or sidewalk
24	16,675	Pavement or sidewalk with tactile paving
25	16,623	Office with accessible books
26	16,535	Service center for students
27	16,439	Steps
28	16,360	Cafeteria or Coffee shop
29	16,336	Area name
30	16,000	Emergency exit
31	15,965	Canteen
32	15,858	Pedestrian street
33	15,814	Dining room or Dining area
34	15,807	Academic staff offices
35	15,779	Square
36	15,611	Bank cash machine

#	Importance Factor	Information
37	15,474	Class room
38	15,465	Clinic or infirmary or doctor
39	15,442	Park
40	15,412	Consulting center
41	15,351	Office of the commissioner for the disabled
42	15,319	Buildings
43	15,132	Student's office
44	15,027	Corridor
45	14,877	Examination office
46	14,868	Information desk
47	14,754	Dangerous point
48	14,717	Name of building
49	14,699	Pedestrian trail or route
50	14,673	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
51	14,619	Underpass
52	14,605	Building of administration offices
53	14,588	Gate
54	14,588	Revolving door
55	14,553	Information booth
56	14,531	Ramp
57	14,447	Hanging obstacle or overhead obstacle
58	14,384	Indoor pillar
59	14,316	Administration offices
60	14,149	Road
61	14,123	Dangerous area
62	14,096	Dorms or Student houses
63	14,018	Underground entrance
64	13,930	Seating area
65	13,929	Activity area
66	13,886	Garbage bin
67	13,851	Conference hall
68	13,832	Office
69	13,814	Pole or Pillar
70	13,789	Reception
71	13,726	Obstacle on the ground
72	13,673	Haptic information
73	13,605	Bridge
74	13,588	Ground level
75	13,566	Service

#	Importance Factor	Information
76	13,558	Tactile signpost
77	13,544	Swimming pool
78	13,526	Glass door
79	13,500	Automatic doors
80	13,465	Post office
81	13,447	Bridge for pedestrians
82	13,442	Haptic reference point or landmark
83	13,327	Audio guide
84	13,301	Landmark
85	13,283	Wall
86	13,219	Room
87	13,212	High obstacle
88	13,195	Outdoors
89	13,140	Shop for photocopies
90	13,035	Laboratory
91	13,009	Security service office or desk
92	12,991	Short poles alongside of pavements
93	12,973	Hot water or anything that could be hot to burn
94	12,920	Traffic sign
95	12,876	Sink or washbasin
96	12,876	Photocopying machine
97	12,868	Parking slots for the disabled people
98	12,833	Sports facility
99	12,754	Water tap
100	12,637	Level change of the ground
101	12,614	Concert hall
102	12,602	Cashier's desk
103	12,561	Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions
104	12,504	Short obstacle
105	12,496	Danger line
106	12,430	Water dispenser
107	12,386	Sports court
108	12,377	Equipment or Machinery, computer, Printer, Photocopier
109	12,372	Road in parking garage
110	12,360	Sliding door
111	12,272	Student council
112	12,248	Prominent place as starting point
113	12,142	Pont, a small pond in a park
114	12,115	Paved area or paved road

#	Importance Factor	Information
115	12,106	Outdoor furniture, tables, bench, chairs
116	12,088	Sign with audio sound
117	12,088	Chill out area
118	12,071	Sound reference point or landmark
119	12,053	Music hall
120	12,018	Mailbox
121	11,965	Shop in general
122	11,947	Lake
123	11,814	Sitting Bench
124	11,805	Tree
125	11,779	Projecting balcony
126	11,772	Server room or Data center
127	11,770	Gym
128	11,761	Path
129	11,737	Member's Club
130	11,664	Parked cars or motorcycles
131	11,535	Room with stage
132	11,421	Recycle bin
133	11,407	Low balcony alongside the pavement
134	11,398	Balcony
135	11,274	Fire extinguisher
136	11,239	Bicycle road
137	11,212	Projecting wall
138	11,168	Flower bed or parterre
139	11,124	Bumps from the roots of trees on the pavements
140	11,097	Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole
141	11,071	Road Bar
142	11,062	Shape of block of houses
143	11,035	Scale Model of campus
144	10,964	Overhead cable
145	10,876	Notice board
146	10,841	Missing tiles on pavement
147	10,814	Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn
148	10,796	Car parking
149	10,779	Vending machine
150	10,772	Uphill or Downhill or slope on ground
151	10,743	Fire hose or fire department's water hydrant on pavement

#	Importance Factor	Information
152	10,735	Puddle
153	10,735	Refrigerator
154	10,658	Tree branches
155	10,658	Kitchen
156	10,628	Glass partition
157	10,584	Machine or Device
158	10,558	Broken tile on pavement
159	10,549	Fence around parts of pavement or sidewalk parts enclosed with fence
160	10,540	Desk
161	10,504	Edge of pavement
162	10,478	Fire hose
163	10,372	Curbstone. Concrete part edging to a street or path
164	10,360	Railings
165	10,292	Religious building, Church, mosque, or else
166	10,221	Flip chart for meeting presentations
167	10,212	Sound source
168	10,097	Box on the wall
169	10,045	Recess in the wall
170	10,018	Inscription
171	10,000	Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes
172	9,991	Book case
173	9,965	Bicycle stand for parking bicycles
174	9,903	Olfactory reference point or landmark
175	9,823	Automatic bars
176	9,761	Furniture
177	9,690	Water fountain
178	9,664	Map
179	9,655	Ground material
180	9,460	Big furniture, sofa, couch, bed, wardrobe
181	9,434	Glass surface
182	9,425	Shop window
183	9,389	Pipes or tubes
184	9,354	Sofa or couch
185	9,230	Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge
186	9,177	Monument
187	9,150	Heat source, radiator, heating panels, fireplace
188	9,133	Wardrobe or Closet or Locker

#	Importance Factor	Information
189	9,035	Wires or cables
190	8,947	Artwork
191	8,912	Working Bench
192	8,868	Light source, Lamp or light bulb
193	8,847	Berm. Strips of cement found in parking lots that stop car wheels from going any further
194	8,752	Change of the surface or texture on the ground
195	8,664	Air condition
196	8,652	Bushes
197	8,640	Newspaper or magazine Stand
198	8,430	Smoking area
199	8,404	Plants
200	8,351	Flower pot
201	8,304	Stand with posters
202	8,116	Sprinklers watering machine injectors
203	8,114	Daycare
204	7,693	Carpet
205	7,673	Sound from ventilation
206	7,640	Gravel
207	7,628	Sand
208	7,393	Statue or sculpture
209	7,368	Grass
210	7,319	Door mat
211	7,035	Ping pong table
212	7,018	Heating Burner
213	7,000	Frame of painting on the wall

4.5.4 AT-Map of city center

#	Importance Factor	Information
1	21,044	Point of access to public transport, bus stop, metro station
2	20,443	Bus stop
3	19,583	Street name
4	19,530	Intersection, a place where two or more streets meet or cross
5	19,217	Metro station
6	19,217	Traffic lights
7	18,870	Pedestrian road crossing
8	18,774	Bus stop shelter or tram stop shelter
9	18,530	Public transport station
10	18,217	Shopping mall or shopping center
11	18,209	Area names
12	18,191	Stairs
13	17,913	Squares
14	17,887	Bank
15	17,835	Supermarket
16	17,809	Two way Driveway
17	17,800	Round about or Large traffic circle with a solid circle center
18	17,722	traffic light with audio signals for the Blind
19	17,675	Road
20	17,670	Hospital
21	17,513	Taxi station
22	17,374	Pavement or sidewalk with tactile paving
23	17,330	Pavement or sidewalk
24	17,087	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
25	17,078	Public service building
26	17,052	Grocery shop
27	16,843	Market place
28	16,791	Toilet or bathroom for men, women, or people with disabilities
29	16,757	Clinic
30	16,661	Pedestrian street
31	16,583	Direction or course of the driveway
32	16,557	Patisserie
33	16,539	Town hall
34	16,539	Steps
35	16,426	School

#	Importance Factor	Information
36	16,391	Railway station
37	16,357	Entrance or exit
38	16,348	Restaurant or tavern or grill
39	16,304	Medical service
40	16,278	Bank cash machine
41	16,217	Hotel
42	16,174	Park
43	16,165	Stairs leading to the subway
44	16,148	Elevator
45	16,122	Entrance to an underground pedestrian passageway or subway station
46	15,817	Shop in general
47	15,800	Cafeteria or Coffee shop
48	15,798	Buildings
49	15,757	Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions
50	15,713	Landmarks
51	15,549	Sea
52	15,548	Bridge for pedestrians
53	15,539	Service center for the blind
54	15,426	Pedestrian trails
55	15,322	Street market
56	15,191	Name of building
57	15,148	Bakery shop
58	15,017	Railroad crossing
59	14,983	Dangerous area
60	14,965	Garbage bin
61	14,939	One way street
62	14,904	Pole or Pillar
63	14,896	Post office
64	14,887	Theater
65	14,878	Underground entrance
66	14,852	Tram tracks
67	14,843	Underpass
68	14,713	Dangerous point
69	14,600	Information desk
70	14,544	Beach
71	14,530	Police station
72	14,496	Danger line
73	14,409	Short poles alongside of pavements

#	Importance Factor	Information
74	14,395	Tourist attraction
75	14,313	Emergency exit
76	14,298	Coast line
77	14,287	Library, the room or the service
78	14,281	Sights
79	14,270	Revolving door
80	14,200	Service
81	14,130	Information booth
82	14,122	Railways
83	14,104	Public toilet
84	14,088	Ramp
85	14,079	Shop for coffee products or coffee grinder shop
86	14,061	Museum
87	13,852	Religious building, Church, mosque, or else
88	13,851	Haptic reference point or landmark
89	13,833	Bridge
90	13,791	Construction works
91	13,748	Ticket office
92	13,711	Cinema
93	13,705	Outdoors
94	13,658	Prohibited area
95	13,605	Tactile signpost
96	13,600	Hanging obstacle or overhead obstacle
97	13,570	Quay
98	13,545	Sign with audio sound
99	13,470	Gate
100	13,470	Harbor
101	13,461	Parking slots for the disabled people
102	13,456	Haptic information
103	13,333	Automatic doors
104	13,272	Prominent place as starting points
105	13,246	Sound reference point or landmark
106	13,246	High obstacle
107	13,115	Traffic sign
108	13,114	Paved area or paved road
109	13,088	Audio guide
110	13,044	Short obstacle
111	12,991	Water canal
112	12,983	Balcony projecting
113	12,956	Security service office or desk

#	Importance Factor	Information
114	12,920	Obstacle on the ground
115	12,886	Bridge over railroad tracks
116	12,835	Bar or club or entertainment
117	12,807	Shape of block of houses
118	12,800	Sports facilities
119	12,789	Gas station
120	12,754	Tourist information
121	12,675	Queue management ticket machine
122	12,500	Water area
123	12,496	Fish shop
124	12,491	Level change of the ground
125	12,470	Gym
126	12,452	Path
127	12,439	Pont, a small pond in a park
128	12,430	Canteen
129	12,426	Driveway in parking garage
130	12,425	Tree
131	12,421	Road where possibly loading or unloading is taking place
132	12,421	Road Bar
133	12,342	Sitting bench
134	12,304	Box on the side of pavement of Electricity or Gas providers
135	12,289	Road with a sharp ascent or descent
136	12,278	Shop for cosmetics
137	12,243	Arcade or Gallery with shops
138	12,228	Green area
139	12,217	Sports court
140	12,149	Office
141	12,018	Monument
142	11,974	Nature strip or outdoors open space or Lawn
143	11,947	Bicycle road
144	11,930	Sound source
145	11,929	Lake
146	11,833	Sports facility
147	11,791	Outdoor furniture, tables, bench, chairs
148	11,763	Edge of pavement
149	11,678	Tree branches
150	11,670	Overhead cable
151	11,667	Scale Model of city
152	11,652	Recycle bin

#	Importance Factor	Information
153	11,640	Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn
154	11,640	Curbstone. Concrete part edging to a street or path
155	11,635	Bumps from the roots of trees on the pavements
156	11,566	Bridge for vehicles
157	11,553	Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes
158	11,548	Kiosk or pavilion
159	11,544	Olfactory reference point or landmark
160	11,518	Fence around parts of pavement or sidewalk parts enclosed with fence
161	11,434	Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole
162	11,421	Highly populated zone in a building
163	11,421	Phone booth or Pay phone
164	11,351	Flower bed or parterre
165	11,330	Bar
166	11,307	Activity area
167	11,307	Flower shop
168	11,186	Railroad tracks passing through a tunnel
169	11,152	Water tap
170	11,132	Open parking
171	11,132	Change of the surface or texture on the ground
172	11,105	Projecting wall
173	11,105	Water fountain
174	11,027	Underground Religious building, Church or mosque or else
175	11,009	Glass partition
176	11,000	Map
177	10,974	Wall
178	10,884	Equipment or Machinery
179	10,851	Railings
180	10,841	Vending machine
181	10,752	Water canal with a lock and sluice
182	10,658	Art work
183	10,584	Tower
184	10,558	Wires or cables
185	10,557	Fence
186	10,530	Playground
187	10,465	Shop for leather products

#	Importance Factor	Information
188	10,412	Ground material
189	10,281	Inscription
190	10,274	Flagpole
191	10,254	Pipes or tubes
192	10,252	Room
193	10,228	Bicycle stand for parking bicycles
194	10,158	Car parking
195	10,149	Parking garage
196	10,140	Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge
197	10,122	Daycare
198	10,079	Fire hose or fire department's water hydrant on pavement
199	10,061	Cemetery or graveyard
200	10,052	Box on the wall
201	10,026	Uphill or Downhill or slope on ground
202	9,921	Metal plate on the ground
203	9,913	Plants
204	9,798	Gravel
205	9,684	Glass surface
206	9,646	Recess in the wall
207	9,611	People selling goods on the street
208	9,570	Flower pot
209	9,553	Automatic bars
210	9,518	Furniture
211	9,478	Ferry boat for cars or other vehicles
212	9,421	Chill out area
213	9,412	Bushes
214	9,212	Berm. Strips of cement found in parking lots that stop car wheels from going any further
215	9,212	Sand
216	9,087	Pet shop
217	8,886	Grass
218	8,728	Statue or sculpture
219	8,522	Smoking area
220	8,443	Newspaper or magazine Stand
221	7,991	Car washer
222	7,640	Stand with posters

4.5.5 AT Political Map

#	Importance Factor	Information
1	19,626	Country or State
2	19,365	Capitals city
3	19,357	City
4	18,374	Country borders
5	17,722	Sea
6	16,887	Distance in kilometers
7	16,705	Cardinal points
8	16,470	Airport
9	16,183	Prefecture or county or district
10	15,957	Island
11	15,675	Continent
12	15,539	Railway station
13	15,513	Highway
14	15,461	Town
15	15,395	Directional arrow
16	15,391	Prefecture borders
17	15,360	River
18	15,296	Harbor
19	15,278	Settlement
20	14,991	city borders or shape of city area
21	14,991	Village
22	14,851	Scale of map
23	14,809	Travel means
24	14,530	Coastline
25	14,496	Sea gulf
26	14,409	Sea transportation
27	14,400	Province
28	14,157	Landmark
29	14,017	Lake
30	14,009	Region or district
31	13,789	System of government or polity
32	13,728	Official language
33	13,722	Federal state
34	13,617	Currency
35	13,614	Channel
36	13,461	Road network

#	Importance Factor	Information
37	13,228	Castle
38	13,191	Population
39	13,078	Train network
40	12,661	Route
41	12,609	Geographical Area
42	12,544	Longitude and latitude
43	12,342	Water Dam
44	11,991	Tunnel
45	11,635	Artificial lake or Reservoir
46	11,122	Salt water lake
47	11,078	Lagoon
48	9,904	Ski resort

4.5.6 AT Physical Map

#	Importance Factor	Information
1	17,817	Sea
2	17,702	River
3	17,304	Mountain
4	17,132	City
5	16,991	Capital city
6	16,983	Country borders
7	16,783	Ocean
8	16,739	Country or State
9	16,719	Scale of map
10	16,522	Island
11	16,132	Cardinal points
12	16,026	Continent
13	15,596	Distances in kilometers
14	15,254	Lake
15	15,217	Mountain range
16	15,200	Forest
17	14,904	Directional arrow
18	14,896	Prefecture or county or district
19	14,757	Harbor
20	14,635	Coastline
21	14,600	Peninsular
22	14,591	National Park
23	14,509	Province
24	14,430	Prefecture borders
25	14,278	Highway
26	14,148	Plateau
27	14,123	Coastal area
28	14,035	Town
29	13,983	Green field or valley
30	13,887	Longitude and latitude
31	13,860	Geographical Area
32	13,835	Mountain peak
33	13,825	Valley
34	13,809	Train network
35	13,805	Population
36	13,798	Volcano, active or inactive

#	Importance Factor	Information
37	13,739	Beach
38	13,739	Sight or attraction
39	13,684	Blue Flag beach
40	13,579	Artificial lake or Reservoir
41	13,513	Landmark
42	13,452	Travel means
43	13,451	Natural phenomenon
44	13,425	city borders or shape of city area
45	13,389	Salt water lake
46	13,377	Region or district
47	13,274	Physical resources. Products, oil, gas, coal
48	13,114	Sea gulf
49	12,878	Cliff coast
50	12,860	Waterfall
51	12,693	Desert
52	12,687	Cave
53	12,605	Mountain height
54	12,500	Channel
55	12,496	Road network
56	12,368	Thermal water springs or SPA
57	12,325	Natural mineral water spring
58	12,307	Lagoon
59	12,304	Sea transportation
60	12,298	Route
61	12,272	Fauna or animal life
62	12,254	Village
63	12,149	water Dam
64	12,052	Federal state
65	11,965	Forest road
66	11,938	Flora or Plant life, tundra, forest, taiga
67	11,728	Vegetation zone
68	11,539	Ocean depth
69	11,342	Afforestation
70	11,339	Rural road
71	11,158	Straits
72	11,114	Swampland
73	10,974	Mixed forest
74	10,920	Plate tectonic
75	10,754	Ocean drift
76	10,730	Coniferous forest

#	Importance Factor	Information
77	10,652	Taiga
78	10,605	Rainforest
79	10,464	Tundra
80	10,421	Grassland
81	10,261	Broadleaf forest
82	10,221	Ski resort

4.5.7 AT Historic Map

#	Importance Factor	Information
1	17,805	Country borders
2	17,735	Historic location
3	17,230	Country or State
4	17,062	Unesco World Heritage
5	16,895	Castle
6	16,850	Capital city
7	16,513	Sea
8	16,434	Cardinal points
9	16,310	City
10	16,175	Archeological site or monument
11	16,106	Important date
12	16,043	Sight or attraction
13	15,825	Ancient city
14	15,823	Monument
15	15,714	Straits
16	15,640	Palace
17	15,518	Historic church or monastery
18	15,354	Continent
19	15,327	Ocean
20	15,053	Battle
21	14,860	Scale of map
22	14,832	Distances in kilometers
23	14,789	War theatre
24	14,699	River
25	14,684	Discovery
26	14,522	Harbor
27	14,438	Timeline
28	14,412	Historic path, Way of Saint James
29	14,360	Campaign
30	14,351	Architecture
31	14,301	Sea battle or naval battle
32	14,088	Conquest
33	13,867	Distinct legend
34	13,823	Trade route
35	13,823	City borders or shape of city area
36	13,795	Gateway

#	Importance Factor	Information
37	13,761	Province
38	13,655	Town
39	13,655	Physical resources. Products, oil, gas, coal
40	13,575	Directional arrow
41	13,558	Island
42	13,354	Natural phenomenon
43	13,333	Pact
44	13,327	Geographical Area
45	13,319	Coastal area
46	13,310	Empire and monarchy
47	13,195	Nationality
48	13,179	Prefecture borders
49	13,161	Former borders
50	13,132	Lake
51	13,115	Population
52	13,079	Colony
53	13,044	Mountain
54	13,018	Mountain range
55	12,750	Peninsular
56	12,719	Coastline
57	12,699	Village
58	12,688	Graves
59	12,637	Route of army and fleet
60	12,575	Sea gulf
61	12,487	Landmark
62	12,429	Trade
63	12,366	Natural disaster
64	12,354	Sea transportation
65	12,319	Cave
66	12,310	National Park
67	12,265	Shipwreck
68	12,105	Religious affiliation
69	12,000	Federal state
70	11,930	Volcano, active or inactive
71	11,912	Confederation
72	11,759	Prefecture or county or district
73	11,690	Region or district
74	11,655	Plateau
75	11,628	Desert
76	11,496	Longitude and latitude

#	Importance Factor	Information
77	11,301	Route
78	11,193	Lagoon
79	11,158	Travel means
80	11,035	Green field or valley
81	10,850	Valley
82	10,570	Road network
83	10,212	Thermal water springs or SPA
84	10,158	Salt water lake
85	9,152	Swampland

4.5.8 AT Thematic Map

#	Importance Factor	Information
1	18,381	Capital city
2	17,487	Country or State
3	16,779	Airport
4	16,611	City
5	16,575	Country borders
6	16,301	Historic location
7	16,080	Distances in kilometers
8	16,062	River
9	15,920	Cardinal points
10	15,876	Sight or attraction
11	15,743	Railway station
12	15,664	Ocean
13	15,566	Sea
14	15,442	Ancient city
15	15,442	Subway Map
16	15,407	Highway
17	15,360	Travel means
18	15,124	Scale
19	14,830	city borders or shape of city areas
20	14,735	Island
21	14,623	Distinct legend
22	14,553	Hotel
23	14,549	Harbor
24	14,509	Archeological site or monument
25	14,469	Geographical area
26	14,455	Beach
27	14,375	Beach resort
28	14,345	Castle
29	14,333	Settlement
30	14,319	Mountain
31	14,274	Unesco World Heritage
32	14,257	Prefecture or county or district
33	14,150	National Park
34	14,150	Coastline
35	14,150	Town
36	14,080	Climate

#	Importance Factor	Information
37	14,045	Monument
38	14,044	Language
39	13,991	Historic church or monastery
40	13,991	Landmark
41	13,965	Village
42	13,848	Population
43	13,796	Traditions and customs
44	13,796	Historic path, Way of Saint James
45	13,743	Train network
46	13,726	Longitude and latitude
47	13,673	Natural phenomenon
48	13,496	Directional arrow
49	13,434	Temperature
50	13,425	Continent
51	13,292	Straits
52	13,277	Water Dam
53	13,223	Blue Flag beach
54	13,186	Architecture
55	13,159	Coastal area
56	13,124	Province
57	13,088	Lake
58	13,080	Mountain range
59	13,071	Currency
60	13,063	Population data, gender, age
61	12,991	Prefecture borders
62	12,974	Import export goods
63	12,973	System of government or polity
64	12,929	Physical resources. Products, oil, gas, coal
65	12,920	Meteorological phenomena
66	12,920	Important date
67	12,850	Tunnel
68	12,841	Population density
69	12,805	Geographical Area
70	12,779	Products Theme depended
71	12,770	Afforestation
72	12,768	Birthrate
73	12,646	Valley
74	12,593	Natural resources
75	12,588	Economy and industry
76	12,580	Official language

#	Importance Factor	Information
77	12,531	Products
78	12,455	Sea transportation
79	12,446	Cliff coast
80	12,301	Climatic map
81	12,292	Discovery
82	12,277	Natural mineral water spring
83	12,265	Nationality
84	12,248	Nuclear power plant
85	12,211	Road network
86	12,204	Green field or valley
87	12,168	Timeline
88	12,116	Peninsular
89	12,080	Gateways
90	12,027	Drought
91	11,973	Sea gulf
92	11,965	Lagoon
93	11,903	Route
94	11,867	Region or district
95	11,832	Waterfall
96	11,805	Trade
97	11,777	Organized beaches
98	11,759	Energy supply
99	11,759	Colony
100	11,681	Federal state
101	11,673	Pact
102	11,607	Natural gas
103	11,571	Thermal water springs or SPA
104	11,563	Mountain resort refuge
105	11,540	Volcano, active or inactive
106	11,531	Mountain peak
107	11,522	Demographic group
108	11,504	Trade route
109	11,496	Ethnicities
110	11,429	Ski resort
111	11,384	Oil or diesel or petroleum
112	11,381	Vegetation zone
113	11,345	Mineral resources
114	11,310	Cave
115	11,310	Plateau
116	11,221	Palace

#	Importance Factor	Information
117	11,196	Natural disaster
118	11,168	Channel
119	11,045	Oilfields for diesel or petroleum
120	11,009	Rural road
121	11,000	Mountain trail
122	10,929	Religious affiliation
123	10,912	Campground
124	10,903	Ocean depth
125	10,885	Empire and monarchy
126	10,884	Road tolls
127	10,726	Desert
128	10,708	Confederation
129	10,589	Mortality
130	10,384	Shipwreck
131	9,920	Coal
132	9,866	Uranium
133	9,770	Ocean drift
134	9,664	Former borders

5. CONCLUSIONS

The present study depicts the requirements and specifications that IVIs set for the information and the symbols included in the different types of AT-Maps.

The result of the study is an exhaustive list of information for the representation of information based on the user requirements of IVIS

The study was completed with the participation of 115 individuals with blindness, from the 4 partner countries (Greece, Germany, Cyprus and Turkey). The sample depicts the cultural differences of the blind communities of the participating partner countries.

During the study the most important information that should be included in each one of the different types of audio-tactile maps namely: 1) Indoors maps, 2) Neighborhoods/ residential areas maps, 3) Campus maps, 4) Maps of city centers, 5) Political maps, 6) Physical maps, 7) Historic maps, 8) Thematic maps e.g. climate characteristics, population density) were defined.

The definition was based on the contribution/significance of information in regard to:

- safety during movement of the individual with blindness (e.g. obstacles, stairs etc),
- information on the location of services (e.g. supermarkets, schools, etc),
- way-finding (information to help verify the position of the walker), and
- orientation (e.g. landmarks).

Moreover, the definition was based on the frequency that the information is met by blind individuals during their daily living.

Furthermore, the participants with blindness specified which of the information should be illustrated as tactile symbols, which ones as audio symbols and which ones as audio & tactile symbols.

The study derived the format with which each information should be depicted in the audio-tactile maps (i.e. audio-tactile, audio-tactile symbols) according to the preferences of IVIs.

The list of information derived for each type of maps includes:

- 136 items for map of indoors
- 226 items for map of residential area
- 213 items for map of campuses
- 222 items for map of city centers
- 48 items for political maps
- 82 items for physical maps
- 85 items for historic maps
- 134 items for thematic maps

REFERENCES

- Braille Authority of North America. (2010). Guidelines and standards for tactile graphics (n.d). Retrieved <http://www.brailleauthority.org/tg/web-manual/index.html>
- Bris, M. (1999). Rapport «Tactimages & Training» (pp. 1–34). Paris, France.
- Edman, P. K. (1992). *Tactile Graphics*. New York, American Foundation for the Blind.
- Jacobson, R. D. (1998). Navigating maps with little or no sight: An audio-tactile approach. In *Proceedings of Content Visualization and Intermedia Representations (CVIR)*. (pp. 95–102). Montréal, Québec, Canada.
- Lobben, A., & Lawrence, M. (2012). The Use of Environmental Features on Tactile Maps by Navigators Who Are Blind. *The Professional Geographer*, 64, 95–108.
- Tatham, A. F. (1991). The design of tactile maps: theoretical and practical considerations. In M. Rybaczak & K. Blakemore (Eds.), *Proceedings of international cartographic association: mapping the nations* (pp. 157–166). London, UK: ICA.
- Paladugu, D. A., Wang, Z., & Li, B. (2010). On presenting audio-tactile maps to visually impaired users for getting directions. In *CHI EA '10* (pp. 3955–3960). Atlanta, Georgia, United States: ACM Press.
- Picard, D. (2012). VISUO-TACTILE ATLAS. France: Organisation mondiale de la propriété intellectuelle.]
- Zeng, L., & Weber, G. (2011). Accessible Maps for the Visually Impaired. In *Proc. of IFIP INTERACT 2011 Workshop on ADDW* (pp. 54–60). Lisbon, Portugal.

APPENDIX I: INITIAL LIST OF INFORMATION

1. AT-Maps of the indoors/inner space of buildings	
1.	Elevator
2.	Vending Machine
3.	Library
4.	Shop window
5.	Water tap
6.	Flower pot
7.	Mailbox
8.	Desk
9.	Light switch
10.	Differentiation of floor texture or material
11.	Room
12.	Elevated floor
13.	Entrance
14.	Exit
15.	Equipment/ Machinery (PC, Printers, Photocopiers etc.)
16.	Furniture
17.	Recess in the wall
18.	Intercom
19.	Information desk
20.	Railings
21.	Recycle bin
22.	Garbage bin
23.	Frame or painting or announcement board on the wall
24.	Wall mirror
25.	Heating sources (eg. Radiator, heating panels etc.)
26.	Wires
27.	Chair
28.	Pay phone
29.	Heating Burner
30.	Air condition
31.	Indoor pillar
32.	Kitchen
33.	Handrail for indoor stairs
34.	Box on the wall
35.	Window and door frames
36.	Coat/jacket Hanger
37.	Escalator
38.	Flowers
39.	Balcony
40.	Toilet/ bathroom

41.	Working bench / Desk / Reception
42.	Sink / washbasin
43.	Locker/Closet
44.	Cupboard/ Closet
45.	Household appliances (e.g. refrigerator, TV, washing machine)
46.	Sitting bench
47.	Working bench
48.	Window
49.	Loft
50.	Window shutters/ rolling blinds/ blinds
51.	Light source - Lamp or light bulb
52.	Notice Board
53.	Stand with Posters
54.	Door
55.	Glass door
56.	Socket (eg. Electricity etc.)
57.	Hanging wall
58.	Fire extinguisher
59.	Fire hose
60.	Ramp
61.	Shelf
62.	Stairs
63.	Indoor stairs
64.	Big furniture (sofa, couch, bed, wardrobe etc.)
65.	Door stop on the floor
66.	Drawers / Dresser
67.	Pipes, tubes
68.	Water pipes
69.	Cash machine
70.	Tent
71.	Fireplace
72.	Television/ TV
73.	Wall
74.	Table
75.	Oven
76.	Photocopying machine
77.	Door mat
78.	Carpet
79.	Refrigerator

2. AT-Maps of neighborhoods/residential areas

1.	Statue/ sculpture
2.	Change of the surface /texture on the ground
3.	Uphill
4.	Flower shop
5.	Nature strip/ outdoors open space/ Lawn
6.	Bakery shop
7.	Police station
8.	Schoolyard
9.	Automatic doors
10.	Bank - ATM
11.	Gas station
12.	Water tap
13.	Barking dog from specific house
14.	Electricity generator of traders selling goods on the street
15.	Bridge/ small bridge
16.	Sports court
17.	Flower pot
18.	Grass
19.	Information desk
20.	Tree
21.	Pedestrian road crossing
22.	Church
23.	Lack of tiles on pavement
24.	Bumps from the roots of trees on the pavements/sidewalks
25.	Restaurant / tavern / grill
26.	Tax Office / Public service building
27.	Patisserie
28.	Traffic light with sound
29.	Sound from air condition
30.	Sound from ventilation of supermarket
31.	Intercom sound
32.	Fish shop
33.	Cava/ Liquor store
34.	Railings
35.	Recycle bin
36.	Garbage bin
37.	Pay phone
38.	Phone booth
39.	Shop in general
40.	Shop for leather products
41.	Shop for cosmetics (cosmetic s shop)
42.	Shop for pets (pet shop)
43.	Shop for shoes

44.	Shop for photocopies
45.	Downhill
46.	Shop for coffee products (coffee grinder shop)
47.	Coffee shop / Café / cafeteria
48.	Tree branches
49.	Cemetery
50.	Pole/ pillar
51.	Short poles alongside of pavements
52.	Hairdresser
53.	Box on the side of pavement of Electricity or Gas providers
54.	Butcher shop
55.	Street market
56.	Puddle
57.	Grocery shop
58.	Newspaper/magazine stand
59.	Metal plate on the ground
60.	Monument / statue
61.	Museum
62.	Bicycle stand/ parking for bicycles
63.	Walkway for the blind / Blind path pages
64.	Bench
65.	playground
66.	Car parking
67.	Park
68.	Flowerbed / parterre
69.	Door mat
70.	Pavement / Sidewalk
71.	Window sill
72.	Kiosk /pavilion
73.	Pizzeria
74.	Paved area / paved road
75.	People selling goods on the street/ Itinerant traders
76.	Car washing stop
77.	Sprinklers watering machine (injectors)
78.	Fire hose/ fire department's water hydrant on pavement
79.	Ramp
80.	-Metal drain grill/rack next to pavement - -Drain grill for water and sewer pipelines placed on the roads next to pavements
81.	Water stream
82.	Traffic sign
83.	Water fountain
84.	Stairs leading to basement left or right of the sidewalk
85.	Building stairs projecting vertically to the left or right of the pavement/ sidewalk
86.	Broken tiles on pavement
87.	Parked cars / motorcycles
88.	Metro station

89.	Bus stop
90.	Shop's window blinds
91.	Car garage
92.	Drain grill for water and sewer pipelines placed on the roads next to pavements - sewer grill - manholes
93.	Water pipes on building wall
94.	Shop signpost
95.	Taxi station
96.	End of pavement/sidewalk - Danger (eg. Harbor, cliff)
97.	Wall
98.	Traffic lights
99.	Pharmacy/ drugstore/ apotheke
100.	Low balcony alongside the pavement

3. AT-Maps of campuses

1.	Lecture theatre
2.	Lecture room
3.	Concert hall
4.	Statue/ sculpture
5.	Change of the surface/ texture on the ground
6.	Uphill
7.	Automatic doors
8.	Bank - ATM
9.	Library
10.	Water tap / water cooler
11.	Bridge / small bridge
12.	Sports court
13.	Flower pot
14.	Grass
15.	Information desk
16.	Tree
17.	Church
18.	Lack of tiles on pavement
19.	Bumps from the roots of trees on the pavements/sidewalks
20.	Outdoor furniture (eg. tables, bench, chairs etc.)
21.	Dining room/area
22.	Traffic light with sound
23.	Information desk
24.	Clinic/ infirmary/ doctor
25.	Railings
26.	Recycle bin
27.	Garbage bin
28.	Phone booth
29.	Sound from ventilation of supermarket
30.	Shop for photocopies
31.	Downhill
32.	Coffee shop / Café / cafeteria
33.	Tree branches
34.	Dorms/ Student houses
35.	Pole/ pillar
36.	Short poles alongside of pavements
37.	Administration offices
38.	Canteen
39.	Puddle
40.	Newspaper/magazine stand
41.	Monument / statue
42.	Road Bar
43.	Walkway for the blind / Blind path pages

44.	Bench
45.	Parking
46.	Park
47.	Flowerbed / parterre
48.	Door mat
49.	Pavement / Sidewalk
50.	Fence around parts of pavement/ sidewalk parts enclosed with fence
51.	Taxi station
52.	Paved area / paved road
53.	Bicycle road
54.	Sprinklers watering machine (injectors)
55.	Birds
56.	Fire hose/ fire department's water hydrant on pavement
57.	Ramp
58.	Metal drain grill/rack next to pavement - -Drain grill for water and sewer pipelines - placed on the roads next to pavements
59.	Water stream
60.	Traffic sign
61.	Water fountain
62.	Building stairs projecting vertically to the left or right of the pavement/ sidewalk
63.	Stairs leading to basement left or right of the sidewalk
64.	Stairs leading to the subway
65.	Broken tiles on pavement
66.	Parked cars / motorcycles
67.	Bus stop
68.	Drain grill for water and sewer pipelines placed on the roads next to pavements - sewer grill - manholes
69.	Shop signpost
70.	Taxi
71.	End of pavement/sidewalk - Danger (eg. Harbor, cliff)
72.	Traffic lights
73.	Low balcony alongside the pavement

4. AT-Maps of city centers

1.	Statue/ sculpture
2.	Change of the surface/texture on the ground
3.	Uphill
4.	Flower shop
5.	Nature strip/ outdoors open space/ Lawn
6.	Petrol/Gas pump
7.	Bakery
8.	Police office
9.	Schoolyard
10.	Automatic doors
11.	ATM - Automatic Teller Machine
12.	Gas station
13.	Water tap
14.	Bridge for pedestrians
15.	Bridge for cars
16.	Sports court
17.	Tree
18.	Public service
19.	Public toilet
20.	Pedestrian road crossing
21.	Church
22.	Missing tiles on pavement
23.	Shopping mall
24.	Sound from ventilation of supermarket
25.	Restaurant / tavern / grill
26.	Patisserie
27.	Traffic light with sound
28.	Sea
29.	Cava/ Liquor store
30.	Railings
31.	Recycle bin
32.	Garbage bin
33.	Pay phone
34.	Phone booth
35.	Shop
36.	Shop for leather products
37.	Shop for cosmetics (cosmetics shop)
38.	Shop for pets (pet shop)
39.	Shop for shoes
40.	Shop for photocopies
41.	Downhill
42.	Shop for coffee products (coffee grinder shop)
43.	Coffee shop/ café / cafeteria

44.	Pole/ pillar
45.	Short poles alongside of pavements
46.	Hairdresser/ barber shop
47.	Box on the side of pavement of Electricity or Gas providers
48.	Butcher shop
49.	Street market
50.	Puddle
51.	Harbor
52.	Grocery shop
53.	Monument / statue
54.	Museum
55.	Road Bar
56.	Bicycle stand / Parking for bicycles
57.	Hospital
58.	Walkway for the blind / Blind path pages
59.	Road works
60.	Construction works
61.	Bench
62.	Playground
63.	Parking
64.	Park
65.	Flowerbed / parterre
66.	Door mat
67.	Pavement / Sidewalk
68.	Kiosk /pavilion/ ticket office
69.	Fence around parts of pavement/ sidewalk parts enclosed with fence
70.	Taxi station
71.	Pizzeria
72.	Paved area / paved road
73.	People selling goods on the street/ Itinerant traders
74.	Car wash
75.	Bicycle road
76.	Sprinklers watering machine (injectors)
77.	Fire department's water hydrant on pavement
78.	Ramp
79.	Metal drain grill/rack next to pavement - Drain grill for water and sewer pipelines - placed on the roads next to pavements
80.	Traffic sign
81.	Water fountain
82.	Stairs leading to basement left or right of the sidewalk
83.	Building stairs projecting vertically to the left or right of the pavement/ sidewalk
84.	Stairs leading to the subway
85.	Fast food shop
86.	Super market
87.	Broken tiles on pavement
88.	Parked car / motorcycle

89.	Metro station
90.	Bus stop
91.	Shop's window blinds
92.	Car garage
93.	Drain grill for water and sewer pipelines placed on the roads next to pavements - - sewer grill - - manholes
94.	Shop signpost
95.	Taxi
96.	Wall
97.	Train
98.	Sewer
99.	Traffic lights
100.	Pharmacy / drugstore/ apotheke
101.	Bakery
102.	Low balcony alongside the pavement
103.	Fish shop

5. AT Political map

1.	Continents
2.	Countries
3.	Cities
4.	Capitals cities
5.	Prefectures/ counties/ districts
6.	Islands
7.	Villages
8.	Settlements
9.	Country borders
10.	Prefecture borders
11.	Area
12.	Population
13.	Distances (in kilometers)
14.	Sea transportation
15.	Road network
16.	Airports
17.	Train network
18.	Harbours
19.	Archeological sites/ monuments
20.	Hot springs/ SPA
21.	Historic churches/monasteries
22.	Castles
23.	Beach resorts
24.	National Parks
25.	Sights/ attractions

6. AT Physical map

1.	Continents
2.	Countries
3.	Cities
4.	Capitals cities
5.	Prefectures/ counties/ districts
6.	Islands
7.	Country borders
8.	Prefecture borders
9.	Area
10.	Population
11.	Mountains
12.	Green fields
13.	Rivers
14.	Lakes
15.	Lagoons
16.	Climate
17.	Products
18.	Road networks
19.	Train networks

7. AT Historical Map

1.	Countries
2.	Nationalities
3.	Cities
4.	Capital cities
5.	Country borders
6.	Campaigns
7.	Battles
8.	Sea battles/ naval battles
9.	Historic locations
10.	Important dates
11.	Timelines
12.	Harbours
13.	Monuments
14.	Route of army and fleet

8. AT Thematic map

1.	Countries
2.	Cities
3.	Capital cities
4.	Prefectures
5.	Islands
6.	Products (Theme depended)
7.	Meteorological phenomena (Theme depended)
8.	Archeological locations (Theme depended)
9.	Mortality (Theme depended)
10.	Birthrate (Theme depended)
11.	Population density
12.	Ethnicities
13.	Temperature
14.	Climate
15.	Traditions and customs
16.	Population data (gender, age)

APPENDIX II: FOCUS GROUP INSTRUCTIONS



Specification of symbols used on Audio-Tactile Maps for individuals with blindness

D2.1

Instructions on the implementation of Focus Groups








Prepare by :	Konstantinos Charitakis
Contributors	Konstantinos Charitakis, Konstantinos Papadopoulos
Work Package :	No 2
Date:	10/3/2014
Email:	kons.cha@gmail.com
Form:	Other



Lifelong
Learning
Programme

"This project (543316-LLP-1-2013-1-GR-KA3-KA3MP) has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein."

THE ATMAPS CONSORTIUM

No.	Partner Name	Logo
1	University of Macedonia (UOM) – Project Coordinator	
2	Karlsruhe Institute of Technology (KIT)	
3	GeoImaging Ltd (GEO)	
4	National and Kapodistrian University of Athens (UOA)	
5	Mustafa Kemal University (MKU)	
6	Panhellenic Association for the Blind (PAB)	
7	Association of Barrier Free Access (ABFA)	

ABBREVIATIONS

Term	Explanation
IVIs	Individuals with Visual Impairments
AT-Map	Audio-Tactile Map

Contents

The ATMAPS consortium.....	213
Abbreviations.....	214
Document description.....	216
1. Instructions for moderators of Focus groups	217
2. Analysis of the results	220

DOCUMENT DESCRIPTION

Instructions for the moderators/researchers for the organization of focus groups as part of the first deliverable of WP2 which is a scientific report about the requirements and specifications that IVIs set for the information and the symbols included in the different types of AT-maps.

1. INSTRUCTIONS FOR MODERATORS OF FOCUS GROUPS

A **focus group** is a form of qualitative research in which a group of people are asked about their perceptions, opinions, beliefs, and attitudes towards a topic. Questions are asked in an interactive group setting where participants are free to talk with other group members. It is a small group of people (10 members) brought together with a moderator to focus on a specific topic. Focus groups aim at a discussion instead of on individual responses to formal questions, and produce qualitative data (preferences and beliefs) that may or may not be representative of the general.

A **Focus group** is a group of individuals selected and assembled by researchers to discuss and comment, based on personal experience, the topic that is the subject of the research. Focus groups are a form of group interviewing but it is important to **distinguish** between the two.

- Group interviewing involves interviewing a number of people at the same time, the emphasis lies on questions and responses between the researcher and participants.
- Focus groups however rely on interaction within the group based on topics that are provided by the researcher.

Hence the key characteristic which distinguishes focus groups is the insight and data produced by the interaction between participants.

IMPORTANT NOTICE for the Moderators/Researchers:

- The Moderator/Researcher will make specific questions and the blind participants will discuss on them.
- The Moderator/Researcher should motivate the participants to provide as much information as possible and not only information participants consider being important.
- The Moderator/Researcher will record (in an audio file) the conversation in order to utilize it during the analysis.

- In the respective point for “Significant locations/ information” bellow, you should encourage the participants to provide any information previously missed/ omitted.

The questions are the following:

IMPORTANT NOTICE: The participants **should not be questioned at once** for points a, b, c, d, e bellow, but you should question them for each one point (a, b, c, d and e) individually.

1. Regarding the Maps of the indoors/ inner space of buildings, I would like you to provide the information that could be included in the maps, based on the contribution/ usefulness/ significance of information in regard to:
 - a) Safety during movement of the individual with blindness,
 - b) Daily living,
 - c) Way-finding (information to help verify the position of the walker), and
 - d) Orientation (e.g. landmarks).
 - e) Significant locations/ information.
2. Regarding the Maps of neighborhoods/residential areas, I would like you to provide the information that could be included in the maps, based on the contribution/ usefulness/ significance of information in regard to:
 - a) Safety during movement of the individual with blindness,
 - b) Daily living,
 - c) Way-finding (information to help verify the position of the walker), and
 - d) Orientation (e.g. landmarks).
 - e) Significant locations/ information.

3. Regarding the Maps of campuses, I would like you to provide the information that could be included in the maps, based on the contribution/ usefulness/ significance of information in regard to:
 - a) Safety during movement of the individual with blindness,
 - b) Daily living,
 - c) Way-finding (information to help verify the position of the walker), and
 - d) Orientation (e.g. landmarks).
 - e) Significant locations/ information.

4. Regarding the Maps of city centers, I would like you to provide the information that could be included in the maps, based on the contribution/ usefulness/ significance of information in regard to:
 - a) Safety during movement of the individual with blindness,
 - b) Daily living,
 - c) Way-finding (information to help verify the position of the walker), and
 - d) Orientation (e.g. landmarks).
 - e) Significant locations/ information.

5. Regarding the political, physical, historic, and thematic maps, I would like you to provide the information that could be included in the maps, based on the contribution/ usefulness/ significance of information in regard to:
 - a) Significant spatial information (Borders, coast line, rivers, mountains, etc.),
 - b) Significant thematic information (Locations, Monuments, customs and traditions, etc)
 - c) Significant locations/ information.

6. I will now read to you a list of information to be included in each type of map and I want you to add any information you believe that it is missed.

At this point you read the final list of information (after the contribution of KIT, UOA, MKU) that we (UOM) will send you for each type of map separately, and you moderate the conversation that is being recorded in an audio file.

2. ANALYSIS OF THE RESULTS

We listen to the recorded interviews/conversations and we enter in a new list the information that the participants mention for each type of map, categorized in different groups, as follows:

- 1st group of information: The information the participants added for each type of map separately in questions 1-5.
- 2nd group of information: The information the participants added for each type of map separately in question 6.

APPENDIX III: SHORTED ENRICHED LIST OF INFORMATION

1. AT-MAP OF THE INDOORS/INNER SPACE OF BUILDING

#	Information
1	Toilet or bathroom for men, women, or people with disabilities
2	Stairs
3	Elevator
4	Reception
5	Dangerous area
6	Room number
7	Entrance or exit
8	Floor number
9	Emergency exit
10	Hanging obstacle or overhead obstacle
11	Clinic or infirmary or doctor
12	Revolving door
13	Office of the commissioner for the disabled
14	Library, the room or the service
15	Steps
16	Automatic doors
17	Audio guide
18	Dangerous point
19	Tactile signpost
20	Intersection
21	Bank cash machine
22	Cashier's desk
23	Indoor pillar
24	Door
25	Room
26	Haptic reference point or landmark
27	Garbage bin
28	Obstacle on the ground
29	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
30	Glass door
31	Canteen
32	High obstacle
33	Office
34	Level change of the ground

#	Information
35	Sliding door
36	Cafeteria or Coffee shop
37	Equipment or Machinery, computer, Printer, Photocopier
38	Intercom
39	Fire extinguisher
40	Security service office, or desk
41	Shop in general
42	Cash machine
43	Sound reference point or landmark
44	Queue management ticket machine
45	Conference room
46	Ramp
47	Prominent place as starting point
48	Balcony
49	Service
50	Kitchen
51	Baggage reclaim room
52	Scale Model of indoors area
53	Wall
54	Haptic information
55	Socket for Electricity or phone
56	Corridor
57	Map
58	Telephone
59	Short obstacle
60	Laboratory
61	Outdoors
62	Signs with audio sound
63	Hot water or anything that could be hot to burn
64	Household appliance, refrigerator, television, washing machine
65	Heat source, radiator, heating panels, fireplace
66	Fire hose
67	Recycle bin
68	Projecting wall
69	Water tap
70	Notice board
71	Water dispenser
72	Mailbox
73	Automatic bars
74	Hanging cabinet

#	Information
75	Gym
76	Sitting bench
77	Vending machine
78	Railings
79	Marked points of the compass
80	Window
81	Sink or washbasin
82	Glass partition
83	Shower
84	Box on the wall
85	Handrail for indoor stairs
86	Refrigerator
87	Sound source
88	Table
89	Big furniture, sofa, couch, bed, wardrobe
90	Highly populated zone in a building
91	Change of the surface or texture on the ground
92	Light switch
93	Desk
94	Shelf
95	Machine or Device
96	Oven
97	Uphill or Downhill or slope on the ground
98	Television
99	Furniture
100	Glass surface
101	Chair
102	Wardrobe or Closet or Locker
103	Cupboard
104	Pay phone or phone booth
105	Elevated floor of teacher's desk
106	Wires or cables
107	Olfactory reference point or landmark
108	Armchair
109	Tea table
110	Coat hanger stand or hanger
111	Light source, Lamp or light bulb
112	Bed
113	Sofa or couch
114	Inscription

#	Information
115	Air condition
116	Teacher's desk
117	Recess in the wall
118	Book case
119	Floor condition
120	Plants
121	Flower pot
122	Baby's changing table
123	Working Bench
124	Artwork
125	Drawers or Dresser
126	Smoking area
127	Pipes or tubes
128	Statue or sculpture
129	Newspaper or magazine Stand
130	Heating Burner
131	Carpet
132	Loft
133	Window shutters or rolling blinds or blinds
134	Stand with posters
135	Wall mirror
136	Frame of painting on the wall

2. AT-MAP OF NEIGHBORHOOD/ RESIDENTIAL AREA

#	Information
1	Bus stop
2	Point of access to public transport, bus stop, metro station
3	Traffic light with audio signals for the Blind
4	Metro station
5	Taxi station
6	Entrance to an underground pedestrian passageway or subway station
7	Traffic lights
8	Intersection, a place where two or more streets meet or cross
9	Dangerous area
10	Bus stop shelter or tram stop shelter
11	Supermarket
12	Street name
13	Toilet or bathroom for men, women, or people with disabilities
14	Pedestrian street
15	Pedestrian road crossing
16	Square
17	Pharmacy or drugstore
18	Clinic or infirmary or doctor
19	Public transport station
20	Sea
21	Entrance or exit
22	Bank
23	Round about or Large traffic circle with a solid circle center
24	Stairs
25	Public service building
26	Market place
27	Railway station
28	Park
29	Bridge for pedestrians
30	Shopping mall or shopping center
31	Information desk
32	Area name
33	Underpass
34	Grocery shop
35	Lake
36	Haptic information

#	Information
37	Underground entrance
38	Emergency exit
39	Elevator
40	Information booth
41	Stairs leading to the subway
42	Quay
43	Direction or course of the driveway
44	Prohibited area
45	Street market
46	Pavement or sidewalk with tactile paving
47	Restaurant or tavern or grill
48	School
49	Cafeteria or Coffee shop
50	Landmark
51	Buildings
52	Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions
53	Hanging obstacle or overhead obstacle
54	Coast line
55	Pedestrian trail or route
56	Audio guide
57	Bridge
58	Post office
59	Steps
60	Revolving door
61	Medical service
62	Danger line
63	Dangerous point
64	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
65	Name of building
66	Police station
67	Pavement or sidewalk
68	Haptic reference point or landmark
69	Pole or Pillar
70	Railroad crossing
71	Religious building, Church, mosque, or else
72	Automatic doors
73	Two way Driveway
74	Canal

#	Information
75	Shop in general
76	Bakery shop
77	Ramp
78	Gate
79	Tactile signpost
80	Patisserie
81	Beach
82	Water area
83	One way street
84	Pont, a small pond in a park
85	Streetcar tracks
86	Theater
87	Door
88	Library, the room or the service
89	Traffic sign
90	Balcony projecting
91	Garbage bin
92	Water stream
93	Glass door
94	Prominent place as starting point
95	Dentist
96	Paved area or paved road
97	Road in parking garage
98	Road
99	Hairdresser
100	Shop for coffee products or coffee grinder shop
101	Bridge over railroad tracks
102	Overhead cable
103	Level change of the ground
104	Canteen
105	Short poles alongside of pavements
106	Sliding door
107	Arcade or Gallery with shops
108	Green area
109	Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole
110	Butcher shop
111	Mailbox
112	Parking slots for the disabled people

#	Information
113	Box on the side of pavement of Electricity or Gas providers
114	High obstacle
115	Pizzeria
116	Sound reference point or landmark
117	Path
118	Gym
119	Service
120	Short obstacle
121	Shoe store
122	Recycle bin
123	Wall
124	Projecting wall
125	Obstacle on the ground
126	Road with a sharp ascent or descent
127	Bicycle road
128	Waterfall
129	Outdoor furniture, tables, bench, chairs
130	Sign with audio sound
131	Fish shop
132	Uphill or Downhill or slope on the ground
133	Sitting bench
134	Sports facility
135	Sports court
136	Cinema
137	Road Bar
138	Gas station
139	Sports facility
140	Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn
141	Fence around parts of pavement or sidewalk parts enclosed with fence
142	Bumps from the roots of trees on the pavements
143	Cava or Liquor shop
144	Tactile bumps on the street
145	Box on the wall
146	Flower bed or parterre
147	Map
148	Tree branches
149	Car parking
150	Bar
151	Glass partition

#	Information
152	Shop for photocopies
153	Tree
154	Bicycle stand for parking bicycles
155	Kiosk or pavilion
156	Missing tiles on pavement
157	Nature strip or outdoors open space or Lawn
158	Monument
159	Canal with a lock and sluice
160	Railings
161	Phone booth or Pay phone
162	Automatic bars
163	Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes
164	Tower
165	Broken tile on pavement
166	Flower shop
167	Notice board
168	Water tap
169	Wires or cables
170	Daycare
171	Parked cars or motorcycles
172	Fire hose or fire department's water hydrant on pavement
173	Fence
174	Room
175	Curbstone. Concrete part edging to a street or path
176	Shop's sign post
177	Olfactory reference point or landmark
178	Shape of block of houses
179	Edge of pavement
180	Chill out area
181	Activity area
182	Playground
183	Rapids
184	Water fountain
185	Metal plate on the ground
186	Bridge for vehicles
187	Pipes or tubes
188	Change of the surface or texture on the ground
189	Puddle
190	Railroad tracks passing through a tunnel

#	Information
191	Vending machine
192	Shop for leather products
193	Shop for cosmetics
194	Shop window
195	Bushes
196	Inscription
197	Cemetery or graveyard
198	Gravel
199	Newspaper or magazine Stand
200	Berm. Strips of cement found in parking lots that stop car wheels from going any further
201	Recess in the wall
202	Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge
203	Sand
204	Ground material
205	Plants
206	Window sill
207	Sound source
208	Car garage
209	Flower pot
210	People selling goods on the street
211	Pet shop
212	Statue or sculpture
213	Grass
214	Stand with posters
215	Machine or Device
216	Sprinklers watering machine injectors
217	Barking dog from specific house
218	Smoking area
219	Basketball net
220	Light source, Lamp or light bulb
221	Slide
222	Air condition
223	Electricity generator of traders selling goods on the street
224	Car washer
225	Sound from air condition device
226	Sound from ventilation

3. AT-MAP OF CAMPUS

#	Information
1	Bus stop
2	Point of access to public transport, bus stop, metro station
3	Student's registry office
4	Office with accessible books
5	Toilet or bathroom for men, women, or people with disabilities
6	Office of the commissioner for the disabled
7	Metro station
8	Traffic light with audio signals for the Blind
9	Taxi station
10	Lecture room
11	Service center for students
12	Name of faculties of educational institution
13	Clinic or infirmary or doctor
14	Library, the room or the service
15	Traffic lights
16	Intersection, a place where two or more streets meet or cross
17	Dangerous point
18	Floor number
19	Stairs leading to the subway
20	Room number
21	Elevator
22	Stairs
23	Pedestrian road crossing
24	Emergency exit
25	Street name
26	Dangerous area
27	Bank cash machine
28	Student's office
29	Area name
30	Academic staff offices
31	Consulting center
32	Pedestrian street
33	Audio guide
34	Tactile signpost
35	Lecture theatre
36	Dining room or Dining area
37	Haptic reference point or landmark
38	Cafeteria or Coffee shop

#	Information
39	Information desk
40	Square
41	Entrance or exit
42	Indoor pillar
43	Hanging obstacle or overhead obstacle
44	Dorms or Student houses
45	Canteen
46	Haptic information
47	Park
48	Class room
49	Steps
50	Administration offices
51	Pavement or sidewalk with tactile paving
52	Information booth
53	Door
54	Revolving door
55	Underpass
56	Examination office
57	Pavement or sidewalk
58	Building of administration offices
59	Pedestrian trail or route
60	Pole or Pillar
61	Name of building
62	Gate
63	Swimming pool
64	Landmark
65	Danger line
66	Bridge for pedestrians
67	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
68	Corridor
69	Ramp
70	Reception
71	Post office
72	Underground entrance
73	Bridge
74	Conference hall
75	Scale Model of campus
76	Office
77	Activity area

#	Information
78	Buildings
79	Laboratory
80	Pont, a small pond in a park
81	Garbage bin
82	Room
83	Parking slots for the disabled people
84	Lake
85	Concert hall
86	Seating area
87	Automatic doors
88	Sports facility
89	Hot water or anything that could be hot to burn
90	Shop for photocopies
91	Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole
92	Obstacle on the ground
93	Security service office or desk
94	Sliding door
95	Road
96	Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions
97	Sign with audio sound
98	Wall
99	Sports court
100	Glass door
101	Level change of the ground
102	Short poles alongside of pavements
103	Projecting wall
104	High obstacle
105	Low balcony alongside the pavement
106	Water dispenser
107	Cashier's desk
108	Service
109	Prominent place as starting point
110	Ground level
111	Shop in general
112	Water tap
113	Overhead cable
114	Traffic sign

#	Information
115	Chill out area
116	Student council
117	Gym
118	Projecting balcony
119	Music hall
120	Member's Club
121	Mailbox
122	Sink or washbasin
123	Server room or Data center
124	Path
125	Road in parking garage
126	Room with stage
127	Photocopying machine
128	Road Bar
129	Paved area or paved road
130	Short obstacle
131	Bicycle road
132	Outdoors
133	Sound reference point or landmark
134	Shape of block of houses
135	Equipment or Machinery, computer, Printer, Photocopier
136	Recycle bin
137	Fire extinguisher
138	Balcony
139	Recess in the wall
140	Outdoor furniture, tables, bench, chairs
141	Notice board
142	Sitting Bench
143	Fire hose or fire department's water hydrant on pavement
144	Religious building, Church, mosque, or else
145	Automatic bars
146	Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn
147	Map
148	Flower bed or parterre
149	Fire hose
150	Kitchen
151	Bumps from the roots of trees on the pavements
152	Car parking
153	Fence around parts of pavement or sidewalk parts enclosed with fence

#	Information
154	Glass partition
155	Vending machine
156	Box on the wall
157	Water fountain
158	Uphill or Downhill or slope on ground
159	Tree
160	Tree branches
161	Missing tiles on pavement
162	Bicycle stand for parking bicycles
163	Parked cars or motorcycles
164	Monument
165	Inscription
166	Machine or Device
167	Railings
168	Flip chart for meeting presentations
169	Refrigerator
170	Puddle
171	Broken tile on pavement
172	Olfactory reference point or landmark
173	Book case
174	Curbstone. Concrete part edging to a street or path
175	Wardrobe or Closet or Locker
176	Sound source
177	Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes
178	Desk
179	Wires or cables
180	Heat source, radiator, heating panels, fireplace
181	Berm. Strips of cement found in parking lots that stop car wheels from going any further
182	Shop window
183	Sofa or couch
184	Daycare
185	Glass surface
186	Smoking area
187	Edge of pavement
188	Pipes or tubes
189	Big furniture, sofa, couch, bed, wardrobe
190	Newspaper or magazine Stand
191	Artwork

#	Information
192	Ground material
193	Working Bench
194	Furniture
195	Bushes
196	Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge
197	Sprinklers watering machine injectors
198	Sand
199	Air condition
200	Stand with posters
201	Change of the surface or texture on the ground
202	Sound from ventilation
203	Gravel
204	Flower pot
205	Plants
206	Statue or sculpture
207	Light source, Lamp or light bulb
208	Grass
209	Heating Burner
210	Frame of painting on the wall
211	Ping pong table
212	Carpet
213	Door mat

4. AT-MAP OF CITY CENTER

#	Information
1	Point of access to public transport, bus stop, metro station
2	Bus stop
3	Metro station
4	traffic light with audio signals for the Blind
5	Traffic lights
6	Pedestrian road crossing
7	Street name
8	Service center for the blind
9	Hospital
10	Public transport station
11	Intersection, a place where two or more streets meet or cross
12	Bus stop shelter or tram stop shelter
13	Clinic
14	Round about or Large traffic circle with a solid circle center
15	Taxi station
16	Shopping mall or shopping center
17	Bank
18	Squares
19	Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians
20	Toilet or bathroom for men, women, or people with disabilities
21	Railroad crossing
22	Supermarket
23	Stairs
24	Public service building
25	Town hall
26	Dangerous point
27	Pavement or sidewalk with tactile paving
28	Audio guide
29	Hotel
30	Bank cash machine
31	Area names
32	Park
33	Dangerous area
34	Market place
35	School
36	Grocery shop
37	Two way Driveway

#	Information
38	Entrance to an underground pedestrian passageway or subway station
39	Sea
40	Danger line
41	Railway station
42	Restaurant or tavern or grill
43	Police station
44	Bridge for pedestrians
45	Patisserie
46	Landmarks
47	Pedestrian street
48	Road
49	Sign with audio sound
50	Prohibited area
51	Haptic reference point or landmark
52	Street market
53	Quay
54	Information desk
55	Bakery shop
56	Post office
57	Medical service
58	Elevator
59	Stairs leading to the subway
60	Emergency exit
61	Tactile signpost
62	Haptic information
63	Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions
64	Direction or course of the driveway
65	Underpass
66	Museum
67	Revolving door
68	Steps
69	Scale Model of city
70	Information booth
71	Pedestrian trails
72	Hanging obstacle or overhead obstacle
73	Cafeteria or Coffee shop
74	Underground entrance
75	Water canal
76	Pavement or sidewalk

#	Information
77	Entrance or exit
78	Shop in general
79	Harbor
80	Library, the room or the service
81	Theater
82	Pole or Pillar
83	Water area
84	Tourist attraction
85	Tram tracks
86	Railways
87	Name of building
88	Public toilet
89	One way street
90	Beach
91	Pont, a small pond in a park
92	Bridge
93	Coast line
94	Short poles alongside of pavements
95	Garbage bin
96	Shop for coffee products or coffee grinder shop
97	Ramp
98	Ticket office
99	Buildings
100	Bridge over railroad tracks
101	Tourist information
102	Balcony projecting
103	Construction works
104	Sports facilities
105	Sights
106	Gate
107	Religious building, Church, mosque, or else
108	Cinema
109	Lake
110	Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole
111	Service
112	Paved area or paved road
113	Automatic doors
114	Traffic sign

#	Information
115	Queue management ticket machine
116	Sound reference point or landmark
117	Security service office or desk
118	Overhead cable
119	Shape of block of houses
120	Prominent place as starting points
121	Parking slots for the disabled people
122	Box on the side of pavement of Electricity or Gas providers
123	Gym
124	Sports court
125	Bar or club or entertainment
126	High obstacle
127	Fish shop
128	Arcade or Gallery with shops
129	Sports facility
130	Tower
131	Gas station
132	Path
133	Level change of the ground
134	Road Bar
135	Road with a sharp ascent or descent
136	Road where possibly loading or unloading is taking place
137	Monument
138	Canteen
139	Shop for cosmetics
140	Activity area
141	Driveway in parking garage
142	Sitting bench
143	Green area
144	Flagpole
145	Bicycle road
146	Water tap
147	Projecting wall
148	Obstacle on the ground
149	Short obstacle
150	Outdoors
151	Art work
152	Office
153	Flower shop
154	Water fountain

#	Information
155	Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn
156	Fence around parts of pavement or sidewalk parts enclosed with fence
157	Bridge for vehicles
158	Tree
159	Recycle bin
160	Daycare
161	Map
162	Outdoor furniture, tables, bench, chairs
163	Kiosk or pavilion
164	Nature strip or outdoors open space or Lawn
165	Fence
166	Vending machine
167	Playground
168	Water canal with a lock and sluice
169	Bar
170	Olfactory reference point or landmark
171	Highly populated zone in a building
172	Curbstone. Concrete part edging to a street or path
173	Phone booth or Pay phone
174	Flower bed or parterre
175	Railroad tracks passing through a tunnel
176	Bicycle stand for parking bicycles
177	Underground Religious building, Church or mosque or else
178	Automatic bars
179	Shop for leather products
180	Bumps from the roots of trees on the pavements
181	Wall
182	Cemetery or graveyard
183	Box on the wall
184	Sound source
185	Open parking
186	Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes
187	Parking garage
188	Glass partition
189	Car parking
190	Wires or cables
191	Inscription
192	Tree branches

#	Information
193	Equipment or Machinery
194	Edge of pavement
195	Ferry boat for cars or other vehicles
196	Fire hose or fire department's water hydrant on pavement
197	Change of the surface or texture on the ground
198	Railings
199	Chill out area
200	Recess in the wall
201	Pipes or tubes
202	Sand
203	Gravel
204	Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge
205	Room
206	Ground material
207	Pet shop
208	Metal plate on the ground
209	Uphill or Downhill or slope on ground
210	Berm. Strips of cement found in parking lots that stop car wheels from going any further
211	Plants
212	Glass surface
213	Flower pot
214	Statue or sculpture
215	Furniture
216	People selling goods on the street
217	Newspaper or magazine Stand
218	Bushes
219	Smoking area
220	Grass
221	Stand with posters
222	Car washer

5. AT POLITICAL MAP

#	Significance	Information
1	4,609	Capital city
2	4,565	Country or State
3	4,530	City
4	4,513	Country borders
5	4,452	Airport
6	4,452	Sea
7	4,339	Distance in kilometers
8	4,270	Railway station
9	4,235	River
10	4,209	Island
11	4,193	Cardinal points
12	4,191	Highway
13	4,183	Prefecture or county or district
14	4,174	Continent
15	4,165	city borders or shape of city area
16	4,157	Town
17	4,148	Harbor
18	4,139	Coastline
19	4,113	Settlement
20	4,104	Lake
21	4,087	Scale of map
22	4,078	Sea transportation
23	4,070	Channel
24	4,070	Prefecture borders
25	4,052	Directional arrow
26	3,983	Province
27	3,965	Travel means
28	3,965	Sea gulf
29	3,930	Landmark
30	3,896	Village
31	3,887	Region or district
32	3,809	Federal state
33	3,809	Population
34	3,791	Castle
35	3,774	System of government or polity
36	3,722	Currency
37	3,704	Train network
38	3,704	Route

#	Significance	Information
39	3,696	Official language
40	3,661	Road network
41	3,661	Longitude and latitude
42	3,652	Water Dam
43	3,565	Tunnel
44	3,548	Geographical Area
45	3,530	Artificial lake or Reservoir
46	3,330	Salt water lake
47	3,287	Lagoon
48	3,026	Ski resort

6. AT PHYSICAL MAP

#	Significance	Information
1	4,443	Sea
2	4,417	River
3	4,417	Mountain
4	4,365	Ocean
5	4,330	Island
6	4,330	Country or State
7	4,322	Continent
8	4,322	Scale of map
9	4,304	Capital city
10	4,278	Country borders
11	4,270	City
12	4,167	Cardinal points
13	4,113	National Park
14	4,113	Distances in kilometers
15	4,113	Mountain range
16	4,070	Highway
17	4,061	Coastline
18	4,052	Forest
19	4,043	Lake
20	4,043	Directional arrow
21	4,035	Harbor
22	4,017	Cliff coast
23	3,991	Valley
24	3,957	Longitude and latitude
25	3,957	Volcano, active or inactive
26	3,948	Costal area
27	3,939	Province
28	3,930	Plateau
29	3,913	Peninsular
30	3,904	Sight or attraction
31	3,904	Prefecture borders
32	3,896	Landmark
33	3,870	Population
34	3,870	Desert
35	3,861	Geographical Area
36	3,835	Prefecture or county or district
37	3,825	Natural phenomenon
38	3,817	Artificial lake or Reservoir

#	Significance	Information
39	3,817	Green field or valley
40	3,800	Physical resources. Products, oil, gas, coal
41	3,800	city borders or shape of city area
42	3,800	Train network
43	3,791	Town
44	3,791	Travel means
45	3,774	Swampland
46	3,765	Mountain peak
47	3,739	Waterfall
48	3,730	Beach
49	3,696	Sea gulf
50	3,693	Blue Flag beach
51	3,640	Region or district
52	3,626	water Dam
53	3,609	Channel
54	3,600	Thermal water springs or SPA
55	3,591	Cave
56	3,591	Sea transportation
57	3,588	Salt water lake
58	3,583	Vegetation zone
59	3,565	Mountain height
60	3,565	Fauna or animal life
61	3,539	Lagoon
62	3,535	Natural mineral water spring
63	3,522	Federal state
64	3,470	Forest road
65	3,470	Route
66	3,409	Road network
67	3,409	Flora or Plant life, tundra, forest, taiga
68	3,400	Rural road
69	3,374	Afforestation
70	3,357	Ocean depth
71	3,357	Village
72	3,348	Rainforest
73	3,310	Tundra
74	3,278	Ocean drift
75	3,272	Plate tectonic
76	3,259	Taiga
77	3,252	Mixed forest
78	3,226	Straits

#	Significance	Information
79	3,191	Coniferous forest
80	3,165	Grassland
81	3,139	Broadleaf forest
82	3,096	Ski resort

7. AT HISTORIC MAP

#	Significance	Information
1	4,474	Unesco World Heritage
2	4,456	Historic location
3	4,400	Country borders
4	4,348	Sea
5	4,339	Capital city
6	4,313	Castle
7	4,313	Country or State
8	4,237	Monument
9	4,209	Ancient city
10	4,200	City
11	4,191	Archeological site or monument
12	4,175	Important date
13	4,157	Sight or attraction
14	4,139	Distinct legend
15	4,139	Historic church or monastery
16	4,130	Palace
17	4,122	Ocean
18	4,114	Battle
19	4,087	War theatre
20	4,078	Cardinal points
21	4,070	Continent
22	4,061	Sea battle or naval battle
23	4,043	River
24	4,035	Straits
25	4,035	Scale of map
26	4,035	Harbor
27	4,026	Historic path, Way of Saint James
28	4,000	Timeline
29	3,965	Trade route
30	3,965	Gateway
31	3,948	Discovery
32	3,878	city borders or shape of city area
33	3,870	Distances in kilometers
34	3,861	Physical resources. Products, oil, gas, coal
35	3,852	Landmark
36	3,842	Natural phenomenon
37	3,817	Coastal area
38	3,800	Campaign

#	Significance	Information
39	3,791	Architecture
40	3,765	Mountain range
41	3,763	Conquest
42	3,757	Route of army and fleet
43	3,748	Population
44	3,730	Directional arrow
45	3,730	Town
46	3,728	Former borders
47	3,722	Coastline
48	3,719	Prefecture borders
49	3,713	Province
50	3,696	Island
51	3,670	Lake
52	3,640	National Park
53	3,635	Colony
54	3,626	Geographical Area
55	3,614	Peninsular
56	3,609	Pact
57	3,609	Empire and monarchy
58	3,600	Mountain
59	3,591	Village
60	3,574	Plateau
61	3,557	Confederation
62	3,553	Cave
63	3,539	Sea gulf
64	3,539	Nationality
65	3,535	Region or district
66	3,522	Graves
67	3,491	Trade
68	3,478	Federal state
69	3,470	Sea transportation
70	3,447	Shipwreck
71	3,443	Route
72	3,426	Lagoon
73	3,417	Volcano, active or inactive
74	3,409	Valley
75	3,409	Desert
76	3,409	Longitude and latitude
77	3,404	Prefecture or county or district
78	3,368	Natural disaster

#	Significance	Information
79	3,304	Religious affiliation
80	3,296	Green field or valley
81	3,243	Travel means
82	3,113	Salt water lake
83	3,061	Road network
84	3,053	Thermal water springs or SPA
85	2,930	Swampland

8. AT THEMATIC MAP

#	Significance	Information
1	4,383	Capital city
2	4,348	Airport
3	4,296	Country or State
4	4,217	City
5	4,183	Sight or attraction
6	4,157	Sea
7	4,157	Subway Map
8	4,148	Island
9	4,139	Railway station
10	4,130	Country borders
11	4,122	Ancient city
12	4,122	Cardinal points
13	4,113	Historic location
14	4,096	Ocean
15	4,096	River
16	4,087	Harbor
17	4,061	Distances in kilometers
18	4,043	National Park
19	4,043	Highway
20	4,017	Unesco World Heritage
21	4,009	Mountain
22	4,009	Distinct legend
23	3,991	Beach
24	3,974	city borders or shape of city areas
25	3,974	Coastline
26	3,965	Landmark
27	3,957	Longitude and latitude
28	3,948	Travel means
29	3,921	Archeological site or monument
30	3,913	Hotel
31	3,913	Scale
32	3,912	Beach resort
33	3,904	Castle
34	3,904	Blue Flag beach
35	3,878	Natural phenomenon
36	3,878	Settlement
37	3,877	Monument
38	3,870	Temperature

#	Significance	Information
39	3,870	Historic church or monastery
40	3,861	Geographical area
41	3,861	Historic path, Way of Saint James
42	3,852	Coastal area
43	3,852	Language
44	3,851	Cliff coast
45	3,843	Town
46	3,835	Climatic map
47	3,825	Continent
48	3,817	Directional arrow
49	3,781	Population
50	3,774	Valley
51	3,761	Water Dam
52	3,739	Lake
53	3,739	Mountain range
54	3,730	Province
55	3,730	Waterfall
56	3,730	Prefecture or county or district
57	3,722	Straits
58	3,713	Nuclear power plant
59	3,711	Sea transportation
60	3,704	Train network
61	3,704	Village
62	3,704	Lagoon
63	3,678	Tunnel
64	3,661	Population density
65	3,652	Architecture
66	3,652	System of government or polity
67	3,649	Birthrate
68	3,637	Physical resources. Products, oil, gas, coal
69	3,632	Population data, gender, age
70	3,632	Important date
71	3,623	Gateways
72	3,617	Geographical Area
73	3,617	Meteorological phenomena
74	3,609	Economy and industry
75	3,591	Climate
76	3,591	Products Theme depended
77	3,591	Palace
78	3,583	Prefecture borders

#	Significance	Information
79	3,579	Ski resort
80	3,557	Sea gulf
81	3,553	Traditions and customs
82	3,549	Natural gas
83	3,548	Natural resources
84	3,544	Discovery
85	3,544	Official language
86	3,530	Afforestation
87	3,522	Timeline
88	3,522	Energy supply
89	3,500	Natural mineral water spring
90	3,496	Import export goods
91	3,496	Products
92	3,496	Route
93	3,487	Green field or valley
94	3,487	Region or district
95	3,474	Peninsular
96	3,465	Volcano, active or inactive
97	3,465	Thermal water springs or SPA
98	3,456	Colony
99	3,447	Currency
100	3,447	Mountain resort refuge
101	3,435	Trade
102	3,435	Vegetation zone
103	3,435	Mountain peak
104	3,426	Campground
105	3,426	Channel
106	3,417	Trade route
107	3,412	Mountain trail
108	3,409	Demographic group
109	3,404	Road tolls
110	3,400	Plateau
111	3,400	Mineral resources
112	3,386	Organized beaches
113	3,377	Drought
114	3,374	Nationality
115	3,348	Desert
116	3,330	Federal state
117	3,330	Road network
118	3,289	Oilfields for diesel or petroleum

#	Significance	Information
119	3,287	Pact
120	3,287	Cave
121	3,261	Empire and monarchy
122	3,246	Oil or diesel or petroleum
123	3,221	Natural disaster
124	3,211	Ethnicities
125	3,202	Religious affiliation
126	3,174	Rural road
127	3,165	Confederation
128	3,165	Ocean depth
129	3,132	Shipwreck
130	3,096	Coal
131	3,079	Mortality
132	3,070	Former boarders
133	3,061	Uranium
134	2,939	Ocean drift

APPENDIX IV: QUESTIONNAIRE INSTRUCTIONS

Short introduction

Until now tactile maps included raised graphic patterns that are recognizable only by touch. Information technology offers the possibility to convert the spatial information into Audio, Tactile or Audio-Tactile form. Therefore the benefits of tactile graphics can be combined with audio information with the use of special devices. Audio-touchpad devices are touch sensitive pads that can simultaneously provide users with tactile and audio information, while they explore tactile graphics by their fingers. In the case of Audio-Tactile Maps, information is represented by audio symbols, tactile symbols, audio- tactile symbols (combined) and Braille labels. Project ATMAPS envisages to specify audio, tactile and audio-tactile symbols to be used in Audio-Tactile Maps.

In the current study, we are performing a survey on how people with blindness evaluate certain information to be included in audio-tactile maps.

Please fill in the anonymous demographic data, read the following instructions carefully and answer the respective eight questionnaires responsibly.

Demographic data of participant and instructions for answering the questionnaire

Demographic data of participant

Please fill in or underline, or mark with an x your answer

1. Name and surname initials:
2. Age:
3. Gender: (in the excel Male should be entered as 1 and Female as 2)
4. Educational status
 - Graduate of elementary school (in the excel should be entered as 1)
 - Graduate of high school (in the excel should be entered as 2)
 - University student (in the excel should be entered as 3)
 - Graduate of university (in the excel should be entered as 4)
5. Age when visual impairment appeared first:
6. Age at vision loss:
7. Level of visual impairment:
 - Total blindness (in the excel should be entered as 1)
 - Severe visual impairment (in the excel should be entered as 2)
 - Moderate visual impairment (in the excel should be entered as 3)

8. Visual acuity at left eye:
 - Total blindness without light perception (in the excel should be entered as 1)
 - Light perception only (in the excel should be entered as 2)
 - Less than one twentieth (in the excel should be entered as 3)
9. Visual acuity at right eye:
 - Total blindness without light perception (in the excel should be entered as 1)
 - Light perception only (in the excel should be entered as 2)
 - Less than one twentieth (in the excel should be entered as 3)
10. Visual field:
 - Full field (in the excel should be entered as 1)
 - Loss of central vision (in the excel should be entered as 2)
 - Loss of peripheral vision (in the excel should be entered as 3)
11. Do you move alone or with escort:
 - With escort (in the excel should be entered as 1)
 - Sometimes with escort and sometimes alone (excel should be entered as 2)
 - Alone (in the excel should be entered as 3)
12. How often do you move alone:
 - Never (in the excel should be entered as 1)
 - Rarely (in the excel should be entered as 2)
 - Sometimes (in the excel should be entered as 3)
 - Often (in the excel should be entered as 4)
 - Always (in the excel should be entered as 5)
13. How often do you use tactile graphics or pictures:
 - Never (in the excel should be entered as 1)
 - Rarely (in the excel should be entered as 2)
 - Sometimes (in the excel should be entered as 3)
 - Often (in the excel should be entered as 4)
 - Daily (in the excel should be entered as 5)

Purpose of the questionnaire

The purpose of the questionnaire is to evaluate firstly the significance of information on audio tactile maps, secondly the frequency of occurrence of information on audio tactile maps and thirdly the format that each information should be included in audio tactile maps

Instructions on how to answer the questionnaire

Dear participants

You are asked to evaluate a list of information to be included in an Audio Tactile Map.

An audio tactile map contains symbols that can be audio, tactile, or audio tactile meaning their combination.

For example, when the user touches the symbol of a circle on the map then the word stairs is heard at the same time as audio information.

For each one information of the list, you need to provide 3 answers.

Your first answer should answer the question

How useful and significant is the information in regard to safety, location of services, way finding and orientation during movement?

Enter a number from one to five based on the following five point list:

1. Not significant at all
2. Somewhat significant
3. Neutral
4. Significant
5. Very significant

Your second answer should answer to the question

How frequently do you meet that information?

Enter a number one to five based on the following five point list:

1. Never
2. Rarely
3. Sometimes
4. Often
5. Very often

Your third answer should answer to the question

In what form do you want the information to be included in the map?

- For audio format enter the letter A
- For tactile format enter the letter T
- For audio tactile format enter the letters A and T without a space

Example

For example according to the above procedure a possible answer regarding the word stairs could be the following:

1. Stairs: 4 3 AT

In this example regarding the word stairs:

- The user enters the number 4 indicating the usefulness of the information
- He enters the number 3 indicating the frequency he comes across the information
- He enters the letters A and T indicating that he wants this information to be included in the map as a combination of audio and tactile symbols

Filling the excel file for data collection

In the excel file the answers regarding the format should be entered as following:

A for Audio should be entered as 1

T for tactile should be entered as 2 and

AT for Audio-Tactile should be entered as 3

For example

Beginning of a list with 136 items

1. Room number: 1 0 A (in the excel A should be entered as 1, T as 2 and AT as 3)
2. Room: 4 5 T
3. Baggage reclaim room: 1 1 AT
4. Conference room: 2 1 A
5. Office: 3 4 T
6. Laboratory: 2 3 T
7. Smoking area: 4 4 AT
8. Kitchen: 4 3 A
9. Library, the room or the service: 2 2 AT

APPENDIX V: QUESTIONNAIRE FILES FOR EACH MAP TYPE

QUESTIONNAIRE FOR MAP OF INDOORS

Purpose of the questionnaire

The purpose of the questionnaire is to evaluate firstly the significance of information on audio tactile maps, secondly the frequency of occurrence of information on audio tactile maps and thirdly the format that each information should be included in audio tactile maps

Important notice

Before you evaluate the list of information bellow, it is very important to keep in mind that the information list bellow refers to a map of indoors.

Order of your answers for each information

The order of answers should be: significance, frequency of occurrence, and format on the map.

Example on how to answer according to instructions

1. Obstacle: 4 3 AT

Beginning of a list with 136 items

1. Room number:
2. Room:
3. Baggage reclaim room:
4. Conference room:
5. Office:
6. Laboratory:
7. Smoking area:
8. Kitchen:
9. Library, the room or the service:
10. Office of the commissioner for the disabled:
11. Security service office, or desk:
12. Gym:
13. Reception:
14. Clinic or infirmary or doctor:
15. Shop in general:
16. Toilet or bathroom for men, women, or people with disabilities:
17. Service:
18. Automatic bars:
19. Automatic doors:
20. Entrance or exit:
21. Emergency exit:
22. Door:
23. Glass door:

24. Revolving door:
25. Sliding door:
26. Level change of the ground:
27. Elevator:
28. Uphill or Downhill or slope on the ground:
29. Floor number:
30. Handrail for indoor stairs:
31. Loft:
32. Stairs:
33. Steps:
34. Book case:
35. Desk:
36. Glass surface:
37. Teacher's desk:
38. Obstacle on the ground:
39. Hanging obstacle or overhead obstacle:
40. Short obstacle:
41. High obstacle:
42. Elevated floor of teacher's desk:
43. Dangerous area:
44. Dangerous point:
45. Big furniture, sofa, couch, bed, wardrobe:
46. Furniture:
47. Newspaper or magazine Stand:
48. Recess in the wall:
49. Railings:
50. Recycle bin:
51. Garbage bin:
52. Sofa or couch:
53. Chair:
54. Indoor pillar:
55. Box on the wall:
56. Bed:
57. Coat hanger stand or hanger:
58. Balcony:
59. Wardrobe or Closet or Locker:
60. Hanging cabinet:
61. Cupboard:
62. Sitting bench:
63. Working Bench:
64. Window shutters or rolling blinds or blinds:
65. Stand with posters:
66. Armchair:
67. Projecting wall:
68. Fire extinguisher:
69. Fire hose:
70. Shelf:
71. Drawers or Dresser:

72. Glass partition:
73. Baby's changing table:
74. Tea table:
75. Table:
76. Plants:
77. Flower pot:
78. Corridor:
79. Intersection:
80. Marked points of the compass:
81. Outdoors:
82. Prominent place as starting point:
83. Highly populated zone in a building:
84. Ramp:
85. Wall:
86. Map:
87. Change of the surface or texture on the ground:
88. Haptic information:
89. Tactile signpost:
90. Haptic reference point or landmark:
91. Floor condition:
92. Scale Model of indoors area:
93. Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians:
94. Carpet:
95. Olfactory reference point or landmark:
96. Sound reference point or landmark:
97. Audio guide:
98. Cafeteria or Coffee shop:
99. Canteen:
100. Sound source:
101. Signs with audio sound:
102. Water tap:
103. Mailbox:
104. Light switch:
105. Inscription:
106. Hot water or anything that could be hot to burn:
107. Intercom:
108. Wall mirror:
109. Wires or cables:
110. Pay phone or phone booth:
111. Sink or washbasin:
112. Shower:
113. Window:
114. Light source, Lamp or light bulb:
115. Notice board:
116. Socket for Electricity or phone:
117. Pipes or tubes:
118. Cashier's desk:

- 119. Vending machine:
- 120. Heating Burner:
- 121. Air condition:
- 122. Bank cash machine:
- 123. Equipment or Machinery, computer, Printer, Photocopier:
- 124. Queue management ticket machine:
- 125. Machine or Device:
- 126. Household appliance, refrigerator, television, washing machine:
- 127. Heat source, radiator, heating panels, fireplace:
- 128. Cash machine:
- 129. Television:
- 130. Telephone:
- 131. Oven:
- 132. Refrigerator:
- 133. Water dispenser:
- 134. Statue or sculpture:
- 135. Artwork:
- 136. Frame of painting on the wall:

End of list

QUESTIONNAIRE FOR MAP OF RESIDENTIAL AREA

Purpose of the questionnaire

The purpose of the questionnaire is to evaluate firstly the significance of information on audio tactile maps, secondly the frequency of occurrence of information on audio tactile maps and thirdly the format that each information should be included in audio tactile maps

Important notice

Before you evaluate the list of information bellow, it is very important to keep in mind that the information list bellow refers to a map of residential area

Order of your answers for each information

The order of answers should be: significance, frequency of occurrence, and format on the map.

Example on how to answer according to instructions

1. Obstacle: 4 3 AT

Beginning of a list with 226 items

1. Sports facility:
2. Police station:
3. Gas station:
4. Library, the room or the service:
5. Sports court:
6. Gym:
7. Public service building:
8. Theater:
9. Parking slots for the disabled people:
10. Clinic or infirmary or doctor:
11. Smoking area:
12. Cinema:
13. Cemetery or graveyard:
14. Car parking:
15. Berm. Strips of cement found in parking lots that stop car wheels from going any further:
16. Park:
17. Information desk:
18. Information booth:
19. Point of access to public transport, bus stop, metro station:
20. Railway station:
21. Railroad tracks passing through a tunnel:
22. Public transport station:
23. Metro station:
24. Bus stop:
25. Bus stop shelter or tram stop shelter:
26. Arcade or Gallery with shops:
27. School:

28. Taxi station:
29. Post office:
30. Phone booth or Pay phone:
31. Bank:
32. Service:
33. Medical service:
34. Sports facility:
35. Chill out area:
36. Activity area:
37. Room:
38. Shopping mall or shopping center:
39. Religious building, Church, mosque, or else:
40. Shop in general:
41. Cava or Liquor shop:
42. Hairdresser:
43. Butcher shop:
44. Pizzeria:
45. Supermarket:
46. Shoe store:
47. Pharmacy or drugstore:
48. Shop for photocopies:
49. Cafeteria or Coffee shop:
50. Dentist:
51. Daycare:
52. Kiosk or pavilion:
53. Car garage:
54. Toilet or bathroom for men, women, or people with disabilities:
55. Automatic bars:
56. Automatic doors:
57. Entrance to an underground pedestrian passageway or subway station:
58. Underground entrance:
59. Entrance or exit:
60. Emergency exit:
61. Door:
62. Glass door:
63. Revolving door:
64. Sliding door:
65. Gate:
66. Level change of the ground:
67. Elevator:
68. Uphill or Downhill or slope on the ground:
69. Bridge:
70. Bridge for vehicles:
71. Bridge for pedestrians:
72. Bridge over railroad tracks:
73. Stairs:
74. Steps:
75. Stairs leading to the subway:

- 76. Statue or sculpture:
- 77. Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole:
- 78. Tree:
- 79. Missing tiles on pavement:
- 80. Obstacle on the ground:
- 81. Hanging obstacle or overhead obstacle:
- 82. Short obstacle:
- 83. High obstacle:
- 84. Bumps from the roots of trees on the pavements:
- 85. Dangerous area:
- 86. Dangerous point:
- 87. Outdoor furniture, tables, bench, chairs:
- 88. Newspaper or magazine Stand:
- 89. Recess in the wall:
- 90. Bushes:
- 91. Railings:
- 92. Recycle bin:
- 93. Garbage bin:
- 94. Wires or cables:
- 95. Overhead cable:
- 96. Canal:
- 97. Canal with a lock and sluice:
- 98. Tree branches:
- 99. Pole or Pillar:
- 100. Short poles alongside of pavements:
- 101. Box on the side of pavement of Electricity or Gas providers:
- 102. Box on the wall:
- 103. Puddle:
- 104. Balcony projecting:
- 105. Road Bar:
- 106. Bicycle stand for parking bicycles:
- 107. Basketball net:
- 108. Danger line:
- 109. Sitting bench:
- 110. Flower bed or parterre:
- 111. Window sill:
- 112. Fence around parts of pavement or sidewalk parts enclosed with fence:
- 113. Notice board:
- 114. Stand with posters:
- 115. Projecting wall:
- 116. Fire hose or fire department's water hydrant on pavement:
- 117. Traffic sign:
- 118. Broken tile on pavement:
- 119. Parked cars or motorcycles:
- 120. Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes:
- 121. Pipes or tubes:

- 122. Shop's sign post:
- 123. Glass partition:
- 124. Slide:
- 125. Traffic lights:
- 126. Traffic light with audio signals for the Blind:
- 127. Fence:
- 128. Plants:
- 129. Flower pot:
- 130. Edge of pavement:
- 131. Curbstone. Concrete part edging to a street or path:
- 132. Nature strip or outdoors open space or Lawn:
- 133. Prohibited area:
- 134. Quay:
- 135. Shop window:
- 136. Streetcar tracks:
- 137. Pedestrian road crossing:
- 138. Railroad crossing:
- 139. Underpass:
- 140. Pedestrian trail or route:
- 141. Intersection, a place where two or more streets meet or cross:
- 142. Round about or Large traffic circle with a solid circle center:
- 143. Two way Driveway:
- 144. Road in parking garage:
- 145. Road with a sharp ascent or descent:
- 146. Road:
- 147. Sea:
- 148. Direction or course of the driveway:
- 149. Buildings:
- 150. Lake:
- 151. Pond, a small pond in a park:
- 152. One way street:
- 153. Path:
- 154. Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions:
- 155. Street name:
- 156. Name of building:
- 157. Area name:
- 158. Landmark:
- 159. Beach:
- 160. Coast line:
- 161. Pavement or sidewalk:
- 162. Pavement or sidewalk with tactile paving:
- 163. Pedestrian street:
- 164. Prominent place as starting point:
- 165. Square:
- 166. Bicycle road:
- 167. Ramp:
- 168. Water stream:

- 169. Shape of block of houses:
- 170. Wall:
- 171. Map:
- 172. Haptic information:
- 173. Tactile signpost:
- 174. Haptic reference point or landmark:
- 175. Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians:
- 176. Tactile bumps on the street:
- 177. Ground material:
- 178. Change of the surface or texture on the ground:
- 179. Grass:
- 180. Metal plate on the ground:
- 181. Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn:
- 182. Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge:
- 183. Green area:
- 184. Water area:
- 185. Paved area or paved road:
- 186. Gravel:
- 187. Sand:
- 188. Market place:
- 189. Barking dog from specific house:
- 190. Electricity generator of traders selling goods on the street:
- 191. Restaurant or tavern or grill:
- 192. Olfactory reference point or landmark:
- 193. Sound reference point or landmark:
- 194. Audio guide:
- 195. Waterfall:
- 196. Flower shop:
- 197. Bakery shop:
- 198. Shop for leather products:
- 199. Patisserie:
- 200. Fish shop:
- 201. Shop for cosmetics:
- 202. Shop for coffee products or coffee grinder shop:
- 203. Grocery shop:
- 204. Pet shop:
- 205. Canteen:
- 206. Street market:
- 207. Bar:
- 208. Rapids:
- 209. Playground:
- 210. Sound from air condition device:
- 211. Sound from ventilation:
- 212. Sound source:
- 213. Sign with audio sound:

- 214. People selling goods on the street:
- 215. Car washer:
- 216. Sprinklers watering machine injectors:
- 217. Water fountain:
- 218. Water tap:
- 219. Mailbox:
- 220. Inscription:
- 221. Monument:
- 222. Light source, Lamp or light bulb:
- 223. Tower:
- 224. Vending machine:
- 225. Air condition:
- 226. Machine or Device:

End of list

QUESTIONNAIRE FOR MAP OF CAMPUS

Purpose of the questionnaire

The purpose of the questionnaire is to evaluate firstly the significance of information on audio tactile maps, secondly the frequency of occurrence of information on audio tactile maps and thirdly the format that each information should be included in audio tactile maps

Important notice

Before you evaluate the list of information bellow, it is very important to keep in mind that the information list bellow refers to a map of campus

Order of your answers for each information

The order of answers should be: significance, frequency of occurrence, and format on the map.

Example on how to answer according to instructions

1. Obstacle: 4 3 AT

Beginning of a list with 213 items

1. Seating area:
2. Lecture room:
3. Concert hall:
4. Room:
5. Class room:
6. Room with stage:
7. Music hall:
8. Conference hall:
9. Lecture theatre:
10. Room number:
11. Server room or Data center:
12. Laboratory:
13. Smoking area:
14. Kitchen:
15. Dining room or Dining area:
16. Library, the room or the service:
17. Sports court:
18. Academic staff offices:
19. Student's registry office:
20. Administration offices:
21. Examination office:
22. Service center for students:
23. Office with accessible books:
24. Office:
25. Office of the commissioner for the disabled:
26. Security service office or desk:
27. Student's office:

28. Reception:
29. Clinic or infirmary or doctor:
30. Shop in general:
31. Shop for photocopies:
32. Cafeteria or Coffee shop:
33. Consulting center:
34. Dorms or Student houses:
35. Building of administration offices:
36. Canteen:
37. Member's Club:
38. Daycare:
39. Toilet or bathroom for men, women, or people with disabilities:
40. Student council:
41. Sports facility:
42. Chill out area:
43. Activity area:
44. Gym:
45. Parking slots for the disabled people:
46. Religious building, Church, mosque, or else:
47. Car parking:
48. Berm. Strips of cement found in parking lots that stop car wheels from going any further:
49. Park:
50. Information booth:
51. Information desk:
52. Point of access to public transport, bus stop, metro station:
53. Metro station:
54. Bus stop:
55. Taxi station:
56. Post office:
57. Service:
58. Automatic bars:
59. Automatic doors:
60. Underground entrance:
61. Entrance or exit:
62. Emergency exit:
63. Door:
64. Glass door:
65. Revolving door:
66. Sliding door:
67. Gate:
68. Level change of the ground:
69. Elevator:
70. Uphill or Downhill or slope on ground:
71. Floor number:
72. Bridge:
73. Bridge for pedestrians:
74. Ground level:

- 75. Stairs:
- 76. Steps:
- 77. Stairs leading to the subway:
- 78. Statue or sculpture:
- 79. Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole:
- 80. Book case:
- 81. Desk:
- 82. Glass surface:
- 83. Tree:
- 84. Missing tiles on pavement:
- 85. Obstacle on the ground:
- 86. Hanging obstacle or overhead obstacle:
- 87. Short obstacle:
- 88. High obstacle:
- 89. Bumps from the roots of trees on the pavements:
- 90. Dangerous area:
- 91. Dangerous point:
- 92. Outdoor furniture, tables, bench, chairs:
- 93. Big furniture, sofa, couch, bed, wardrobe:
- 94. Furniture:
- 95. Newspaper or magazine Stand:
- 96. Artwork:
- 97. Recess in the wall:
- 98. Bushes:
- 99. Railings:
- 100. Recycle bin:
- 101. Garbage bin:
- 102. Frame of painting on the wall:
- 103. Wires or cables:
- 104. Overhead cable:
- 105. Sofa or couch:
- 106. Tree branches:
- 107. Pole or Pillar:
- 108. Indoor pillar:
- 109. Short poles alongside of pavements:
- 110. Box on the wall:
- 111. Puddle:
- 112. Balcony:
- 113. Projecting balcony:
- 114. Road Bar:
- 115. Bicycle stand for parking bicycles:
- 116. Wardrobe or Closet or Locker:
- 117. Danger line:
- 118. Sitting Bench:
- 119. Working Bench:
- 120. Flower bed or parterre:
- 121. Door mat:

- 122. Fence around parts of pavement or sidewalk parts enclosed with fence:
- 123. Notice board:
- 124. Flip chart for meeting presentations:
- 125. Swimming pool:
- 126. Stand with posters:
- 127. Projecting wall:
- 128. Fire extinguisher:
- 129. Fire hose:
- 130. Fire hose or fire department's water hydrant on pavement:
- 131. Traffic sign:
- 132. Broken tile on pavement:
- 133. Parked cars or motorcycles:
- 134. Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes:
- 135. Pipes or tubes:
- 136. Glass partition:
- 137. Ping pong table:
- 138. Traffic lights:
- 139. Traffic light with audio signals for the Blind:
- 140. Plants:
- 141. Flower pot:
- 142. Low balcony alongside the pavement:
- 143. Edge of pavement:
- 144. Curbstone. Concrete part edging to a street or path:
- 145. Shop window:
- 146. Pedestrian road crossing:
- 147. Underpass:
- 148. Pedestrian trail or route:
- 149. Corridor:
- 150. Intersection, a place where two or more streets meet or cross:
- 151. Road:
- 152. Road in parking garage:
- 153. Outdoors:
- 154. Buildings:
- 155. Lake:
- 156. Pont, a small pond in a park:
- 157. Scale Model of campus:
- 158. Path:
- 159. Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions:
- 160. Street name:
- 161. Name of building:
- 162. Area name:
- 163. Name of faculties of educational institution:
- 164. Landmark:
- 165. Pavement or sidewalk:
- 166. Pavement or sidewalk with tactile paving:
- 167. Pedestrian street:

168. Prominent place as starting point:
169. Square:
170. Bicycle road:
171. Ramp:
172. Shape of block of houses:
173. Wall:
174. Map:
175. Haptic information:
176. Tactile signpost:
177. Haptic reference point or landmark:
178. Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians:
179. Ground material:
180. Carpet:
181. Change of the surface or texture on the ground:
182. Grass:
183. Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn:
184. Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge:
185. Paved area or paved road:
186. Gravel:
187. Sand:
188. Olfactory reference point or landmark:
189. Sound reference point or landmark:
190. Audio guide:
191. Sound from ventilation:
192. Sound source:
193. Heat source, radiator, heating panels, fireplace:
194. Sign with audio sound:
195. Sprinklers watering machine injectors:
196. Water fountain:
197. Vending machine:
198. Heating Burner:
199. Air condition:
200. Equipment or Machinery, computer, Printer, Photocopier:
201. Bank cash machine:
202. Machine or Device:
203. Photocopying machine:
204. Refrigerator:
205. Water dispenser:
206. Water tap:
207. Mailbox:
208. Inscription:
209. Hot water or anything that could be hot to burn:
210. Monument:
211. Sink or washbasin:
212. Light source, Lamp or light bulb:

213. Cashier's desk:

End of list

QUESTIONNAIRE FOR MAP OF CITY CENTER

Purpose of the questionnaire

The purpose of the questionnaire is to evaluate firstly the significance of information on audio tactile maps, secondly the frequency of occurrence of information on audio tactile maps and thirdly the format that each information should be included in audio tactile maps

Important notice

Before you evaluate the list of information bellow, it is very important to keep in mind that the information list bellow refers to a map of city center

Order of your answers for each information

The order of answers should be: significance, frequency of occurrence, and format on the map.

Example on how to answer according to instructions

1. Obstacle: 4 3 AT

Beginning of a list with 222 items

1. Sports facilities:
2. Room:
3. Police station:
4. Gas station:
5. Library, the room or the service:
6. Sports court:
7. Office:
8. Security service office or desk:
9. Gym:
10. Town hall:
11. Public service building:
12. Public toilet:
13. Ticket office:
14. Shopping mall or shopping center:
15. Restaurant or tavern or grill:
16. Theater:
17. Parking slots for the disabled people:
18. Religious building, Church, mosque, or else:
19. Smoking area:
20. Shop in general:
21. Supermarket:
22. Cafeteria or Coffee shop:
23. Bar or club or entertainment:
24. Service center for the blind:
25. Cinema:
26. Clinic:
27. Cemetery or graveyard:

28. Canteen:
29. Harbor:
30. Museum:
31. Bar:
32. Hospital:
33. Hotel:
34. Playground:
35. Daycare:
36. Car parking:
37. Parking garage:
38. Open parking:
39. Berm. Strips of cement found in parking lots that stop car wheels from going any further:
40. Park:
41. Kiosk or pavilion:
42. Information desk:
43. Information booth:
44. Car washer:
45. Point of access to public transport, bus stop, metro station:
46. Railway station:
47. Railroad tracks passing through a tunnel:
48. Public transport station:
49. Metro station:
50. Bus stop:
51. Bus stop shelter or tram stop shelter:
52. Arcade or Gallery with shops:
53. School:
54. Taxi station:
55. Post office:
56. Phone booth or Pay phone:
57. Toilet or bathroom for men, women, or people with disabilities:
58. Tourist information:
59. Bank:
60. Service:
61. Medical service:
62. Underground Religious building, Church or mosque or else:
63. Ferry boat for cars or other vehicles:
64. Sports facility:
65. Chill out area:
66. Activity area:
67. Automatic bars:
68. Automatic doors:
69. Entrance to an underground pedestrian passageway or subway station:
70. Underground entrance:
71. Entrance or exit:
72. Emergency exit:
73. Revolving door:
74. Gate:

75. Level change of the ground:
76. Elevator:
77. Uphill or Downhill or slope on ground:
78. Bridge:
79. Bridge for vehicles:
80. Bridge for pedestrians:
81. Bridge over railroad tracks:
82. Stairs:
83. Steps:
84. Stairs leading to the subway:
85. Statue or sculpture:
86. Pillar support. A metal cable that holds a pole, placed diagonally, at one end attached to the ground, at the other end attached at the top part of the pole:
87. Glass surface:
88. Tree:
89. Obstacle on the ground:
90. Hanging obstacle or overhead obstacle:
91. Short obstacle:
92. High obstacle:
93. Bumps from the roots of trees on the pavements:
94. Dangerous area:
95. Dangerous point:
96. Outdoor furniture, tables, bench, chairs:
97. Furniture:
98. Newspaper or magazine Stand:
99. Recess in the wall:
100. Bushes:
101. Railings:
102. Recycle bin:
103. Garbage bin:
104. Wires or cables:
105. Overhead cable:
106. Tree branches:
107. Pole or Pillar:
108. Short poles alongside of pavements:
109. Box on the side of pavement of Electricity or Gas providers:
110. Box on the wall:
111. Balcony projecting:
112. Road Bar:
113. Bicycle stand for parking bicycles:
114. Construction works:
115. Danger line:
116. Sitting bench:
117. Flower bed or parterre:
118. Fence around parts of pavement or sidewalk parts enclosed with fence:
119. Stand with posters:
120. Projecting wall:
121. Fire hose or fire department's water hydrant on pavement:

- 122. Traffic sign:
- 123. Flagpole:
- 124. Drain grill for water and sewer pipelines, placed on the roads next to pavements, or sewer grill or manholes:
- 125. Pipes or tubes:
- 126. Glass partition:
- 127. Traffic lights:
- 128. traffic light with audio signals for the Blind:
- 129. Fence:
- 130. Plants:
- 131. Flower pot:
- 132. Edge of pavement:
- 133. Curbstone. Concrete part edging to a street or path:
- 134. Nature strip or outdoors open space or Lawn:
- 135. Prohibited area:
- 136. Quay:
- 137. Tram tracks:
- 138. Railways:
- 139. Pedestrian road crossing:
- 140. Railroad crossing:
- 141. Underpass:
- 142. Pedestrian trails:
- 143. Intersection, a place where two or more streets meet or cross:
- 144. Round about or Large traffic circle with a solid circle center:
- 145. Two way Driveway:
- 146. Road where possibly loading or unloading is taking place:
- 147. Driveway in parking garage:
- 148. Road with a sharp ascent or descent:
- 149. Road:
- 150. Outdoors:
- 151. Sea:
- 152. Water canal:
- 153. Water canal with a lock and sluice:
- 154. Direction or course of the driveway:
- 155. Buildings:
- 156. Lake:
- 157. Pond, a small pond in a park:
- 158. One way street:
- 159. Path:
- 160. Pedestrian island or median strip. A safety zone in the street which separates traffic travelling in opposite directions:
- 161. Street name:
- 162. Name of building:
- 163. Area names:
- 164. Landmarks:
- 165. Beach:
- 166. Coast line:
- 167. Pavement or sidewalk:

- 168. Pavement or sidewalk with tactile paving:
- 169. Pedestrian street:
- 170. Prominent place as starting points:
- 171. Highly populated zone in a building:
- 172. Squares:
- 173. Bicycle road:
- 174. Ramp:
- 175. Shape of block of houses:
- 176. Wall:
- 177. Map:
- 178. Haptic information:
- 179. Tactile signpost:
- 180. Haptic reference point or landmark:
- 181. Scale Model of city:
- 182. Tactile paving for the blind. Textured ground surface with indicators as aid to assist blind pedestrians:
- 183. Ground material:
- 184. Change of the surface or texture on the ground:
- 185. Grass:
- 186. Metal plate on the ground:
- 187. Parkway or grass line or tree lawn. The boundaries between a sidewalk and the edge of other surface like grass or lawn:
- 188. Shoreline or guideline. A line formed at the meeting point of two different surfaces like grass and sidewalk edge:
- 189. Green area:
- 190. Water area:
- 191. Paved area or paved road:
- 192. Gravel:
- 193. Sand:
- 194. Market place:
- 195. Olfactory reference point or landmark:
- 196. Sound reference point or landmark:
- 197. Audio guide:
- 198. Flower shop:
- 199. Bakery shop:
- 200. Shop for leather products:
- 201. Patisserie:
- 202. Fish shop:
- 203. Shop for cosmetics:
- 204. Shop for coffee products or coffee grinder shop:
- 205. Grocery shop:
- 206. Pet shop:
- 207. Street market:
- 208. Sound source:
- 209. Sign with audio sound:
- 210. People selling goods on the street:
- 211. Water fountain:
- 212. Sights:

- 213. Water tap:
- 214. Inscription:
- 215. Art work:
- 216. Monument:
- 217. Tower:
- 218. Tourist attraction:
- 219. Vending machine:
- 220. Equipment or Machinery:
- 221. Bank cash machine:
- 222. Queue management ticket machine:

End of list

QUESTIONNAIRE FOR POLITICAL MAP

Purpose of the questionnaire

The purpose of the questionnaire is to evaluate firstly the significance of information on audio tactile maps, secondly the frequency of occurrence of information on audio tactile maps and thirdly the format that each information should be included in audio tactile maps

Important notice

Before you evaluate the list of information bellow, it is very important to keep in mind that the information list bellow refers to a political map

Order of your answers for each information

The order of answers should be: significance, frequency of occurrence, and format on the map.

Example on how to answer according to instructions

1. Obstacle: 4 3 AT

Beginning of a list with 48 items

- 1.Airport:
- 2.Coastline:
- 3.Highway:
- 4.Direction arrow:
- 5.Longitude and latitude:
- 6.Geographical Area:
- 7.Province:
- 8.Official language:
- 9.Continent:
- 10.Sea:
- 11.Sea transportation:
- 12.Sea gulf:
- 13.Channel:
- 14.Castle:
- 15.Scale of map:
- 16.Town:
- 17.Harbor:
- 18.Lake:
- 19.Salt water lake:
- 20.Artificial lake or Reservoir:
- 21.Lagoon:
- 22.Island:
- 23.Currency:
- 24.Prefecture or county or district:
- 25.Travel means:
- 26.Road network:
- 27.Settlement:

- 28.Federal state:
 - 29.Landmark:
 - 30.Region or district:
 - 31.Population:
 - 32.City:
 - 33.city borders or shape of city area:
 - 34.System of government or polity:
 - 35.Route:
 - 36.River:
 - 37.Capitals city:
 - 38.Cardinal points:
 - 39.Tunnel:
 - 40.Train network:
 - 41.Railway station:
 - 42.Country borders:
 - 43.Prefecture borders:
 - 44.water Dam:
 - 45.Distance in kilometers:
 - 46.Ski resort:
 - 47.Country or State:
 - 48.Village:
- End of list**

QUESTIONNAIRE FOR MAP OF PHYSICAL MAP

Purpose of the questionnaire

The purpose of the questionnaire is to evaluate firstly the significance of information on audio tactile maps, secondly the frequency of occurrence of information on audio tactile maps and thirdly the format that each information should be included in audio tactile maps.

Important notice

Before you evaluate the list of information bellow, it is very important to keep in mind that the information list bellow refers to a physical map.

Order of your answers for each information

The order of answers should be: significance, frequency of occurrence, and format on the map.

Example on how to answer according to instructions

1. Obstacle: 4 3 AT

Beginning of a list with 82 items

1. Rural road:
2. Coastline:
3. Afforestation:
4. Sight or attraction:
5. Cliff coast:
6. Highway:
7. Ocean depth:
8. Swampland:
9. Directional arrow:
10. Mountain:
11. Longitude and latitude:
12. Grassland:
13. Forest road:
14. Forest:
15. Coniferus forest:
16. Mixed forest:
17. Broadleaf forest:
18. Rainforest:
19. National Park:
20. Geographical Area:
21. Province:
22. Desert:
23. Vegetation zone:
24. Continent:
25. Volcano, active or inactive:
26. Sea:
27. Sea transportation:

28. Ocean drift:
29. Sea gulf:
30. Thermal water springs or SPA:
31. Channel:
32. Waterfall:
33. Scale of map:
34. Valley:
35. Mountain peak:
36. Town:
37. Harbor:
38. Lake:
39. Salt water lake:
40. Artificial lake or Reservoir:
41. Lagoon:
42. Island:
43. Prefecture or county or district:
44. Travel means:
45. Road network:
46. Federal state:
47. Plateau:
48. Mountain range:
49. Landmark:
50. Fauna or animal life:
51. Costal area:
52. Beach:
53. Blue Flag beach:
54. Green field or valley:
55. Region or district:
56. Natural mineral water spring:
57. Population:
58. Physical resources. Products, oil, gas, coal:
59. City:
60. city borders or shape of city area:
61. Route:
62. River:
63. Capital city:
64. Cardinal points:
65. Train network:
66. Cave:
67. Straits:
68. Country borders:
69. Prefecture borders:
70. Taiga:
71. Plate tectonic:
72. Tundra:
73. Mountain height:
74. water Dam:
75. Natural phenomenon:

- 76. Peninsular:
 - 77. Distances in kilometers:
 - 78. Ski resort:
 - 79. Flora or Plant life, tundra, forest, taiga:
 - 80. Country or State:
 - 81. Village:
 - 82. Ocean:
- End of list**

QUESTIONNAIRE FOR MAP OF HISTORIC MAP

Purpose of the questionnaire

The purpose of the questionnaire is to evaluate firstly the significance of information on audio tactile maps, secondly the frequency of occurrence of information on audio tactile maps and thirdly the format that each information should be included in audio tactile maps

Important notice

Before you evaluate the list of information bellow, it is very important to keep in mind that the information list bellow refers to a historic map

Order of your answers for each information

The order of answers should be: significance, frequency of occurrence, and format on the map.

Example on how to answer according to instructions

1. Obstacle: 4 3 AT

Beginning of a list with 85 items

1. Coastline:
2. Discovery:
3. War theatre:
4. Sight or attraction:
5. Colony:
6. Ancient city:
7. Archeological site or monument:
8. Architecture:
9. Empire and monarchy:
10. Swampland:
11. Directional arrow:
12. Mountain:
13. Longitude and latitude:
14. Route of army and fleet:
15. Trade route:
16. National Park:
17. Nationality:
18. Campaign:
19. Geographical Area:
20. Trade:
21. Province:
22. Desert:
23. Continent:
24. Volcano, active or inactive:
25. Sea:
26. Sea transportation:
27. Sea gulf:

28. Religious affiliation:
29. Thermal water springs or SPA:
30. Historic church or monastery:
31. Historic path, Way of Saint James:
32. Historic location:
33. Castle:
34. Conquest:
35. Scale of map:
36. Valley:
37. Town:
38. Harbor:
39. Lake:
40. Salt water lake:
41. Lagoon:
42. Battle:
43. Monument:
44. Unesco World Heritage:
45. Shipwreck:
46. Sea battle or naval battle:
47. Island:
48. Prefecture or county or district:
49. Distinct legend:
50. Travel means:
51. Road network:
52. Federal state:
53. Plateau:
54. Mountain range:
55. Landmark:
56. Palace:
57. Coastal area:
58. Green field or valley:
59. Region or district:
60. Population:
61. Physical resources. Products, oil, gas, coal:
62. City:
63. city borders or shape of city area:
64. Route:
65. River:
66. Capital city:
67. Gateway:
68. Important date:
69. Cardinal points:
70. Cave:
71. Straits:
72. Pact:
73. Confederation:
74. Former borders:
75. Country borders:

- 76. Prefecture borders:
- 77. Graves:
- 78. Natural disaster:
- 79. Natural phenomenon:
- 80. Peninsular:
- 81. Distances in kilometers:
- 82. Timeline:
- 83. Country or State:
- 84. Village:
- 85. Ocean:

End of list

QUESTIONNAIRE FOR MAP OF THEMATIC MAP

Purpose of the questionnaire

The purpose of the questionnaire is to evaluate firstly the significance of information on audio tactile maps, secondly the frequency of occurrence of information on audio tactile maps and thirdly the format that each information should be included in audio tactile maps

Important notice

Before you evaluate the list of information bellow, it is very important to keep in mind that the information list bellow refers to a thematic map

Order of your answers for each information

The order of answers should be: significance, frequency of occurrence, and format on the map.

Example on how to answer according to instructions

1. Obstacle: 4 3 AT

Beginning of a list with 134 items

1. Import export goods:
2. Rural road:
3. Airport:
4. Coastline:
5. Afforestation:
6. Discovery:
7. Sight or attraction:
8. Colony:
9. Cliff coast:
10. Ancient city:
11. Archeological site or monument:
12. Architecture:
13. Highway:
14. Empire and monarchy:
15. Ocean depth:
16. Directional arrow:
17. Mountain:
18. Birthrate:
19. Geographical area:
20. Longitude and latitude:
21. Language:
22. Demographic group:
23. Road tolls:
24. Trade route:
25. National Park:
26. Nationality:
27. Geographical Area:

28. Trade:
29. Province:
30. Official language:
31. Desert:
32. Energy supply:
33. Vegetation zone:
34. Continent:
35. Volcano, active or inactive:
36. Sea:
37. Sea transportation:
38. Ocean drift:
39. Sea gulf:
40. Beach resort:
41. Temperature:
42. Mortality:
43. Religious affiliation:
44. Thermal water springs or SPA:
45. Historic church or monastery:
46. Historic path, Way of Saint James:
47. Historic location:
48. Channel:
49. Coal:
50. Castle:
51. Waterfall:
52. Climate:
53. Scale:
54. Climatic map:
55. Valley:
56. Mountain peak:
57. Town:
58. Harbor:
59. Lake:
60. Lagoon:
61. Meteorological phenomena:
62. Monument:
63. Unesco World Heritage:
64. Shipwreck:
65. Island:
66. Currency:
67. Prefecture or county or district:
68. Hotel:
69. Distinct legend:
70. Drought:
71. Travel means:
72. Road network:
73. Settlement:
74. Economy and industry:
75. Federal state:

76. Organized beaches:
77. Mountain trail:
78. Mountain resort refuge:
79. Plateau:
80. Mountain range:
81. Landmark:
82. Mineral resources:
83. Uranium:
84. Palace:
85. Traditions and customs:
86. Coastal area:
87. Beach:
88. Blue Flag beach:
89. Green field or valley:
90. Region or district:
91. Oil or diesel or petroleum:
92. Oilfields for diesel or petroleum:
93. Natural mineral water spring:
94. Population data, gender, age:
95. Population:
96. Physical resources. Products, oil, gas, coal:
97. City:
98. city borders or shape of city areas:
99. System of government or polity:
100. Route:
101. River:
102. Products:
103. Products Theme depended:
104. Capital city:
105. Population density:
106. Gateways:
107. Nuclear power plant:
108. Important date:
109. Cardinal points:
110. Tunnel:
111. Train network:
112. Railway station:
113. Cave:
114. Straits:
115. Pact:
116. Confederation:
117. Former borders:
118. Country borders:
119. Prefecture borders:
120. Water Dam:
121. Ethnicities:
122. Natural disaster:
123. Natural gas:

- 124. Natural phenomenon:
- 125. Natural resources:
- 126. Subway Map:
- 127. Peninsular:
- 128. Distances in kilometers:
- 129. Ski resort:
- 130. Timeline:
- 131. Country or State:
- 132. Village:
- 133. Campground:
- 134. Ocean:

End of list

APPENDIX VI: SAMPLE MAPS FOR FAMILIARIZATION PURPOSES

Instructions for familiarization process and demographic data of participants

Dear partners

Attached you can find a zipped file that includes all files you need in order to use the sample maps and conduct the familiarization process with the participants.

It is suggested that you conduct the familiarization process with 5-10 individuals with blindness. They may also be blind individuals that participated in the focus group but they must be users that are going to answer the questionnaire at the next stage.

In order to conduct the familiarization process you need to do the following

You need to produce the tactile maps by printing the .JPG files on microcapsule paper using a PIAF machine.

Then you need to install the IVEO Touchpad and the IVEO viewer to a 32bit computer. Then you can open the .SVG files in order to read the sample maps as audio tactile maps.

Important Notice

Please keep the demographic data according to the respective file included for each participant in the familiarization process.

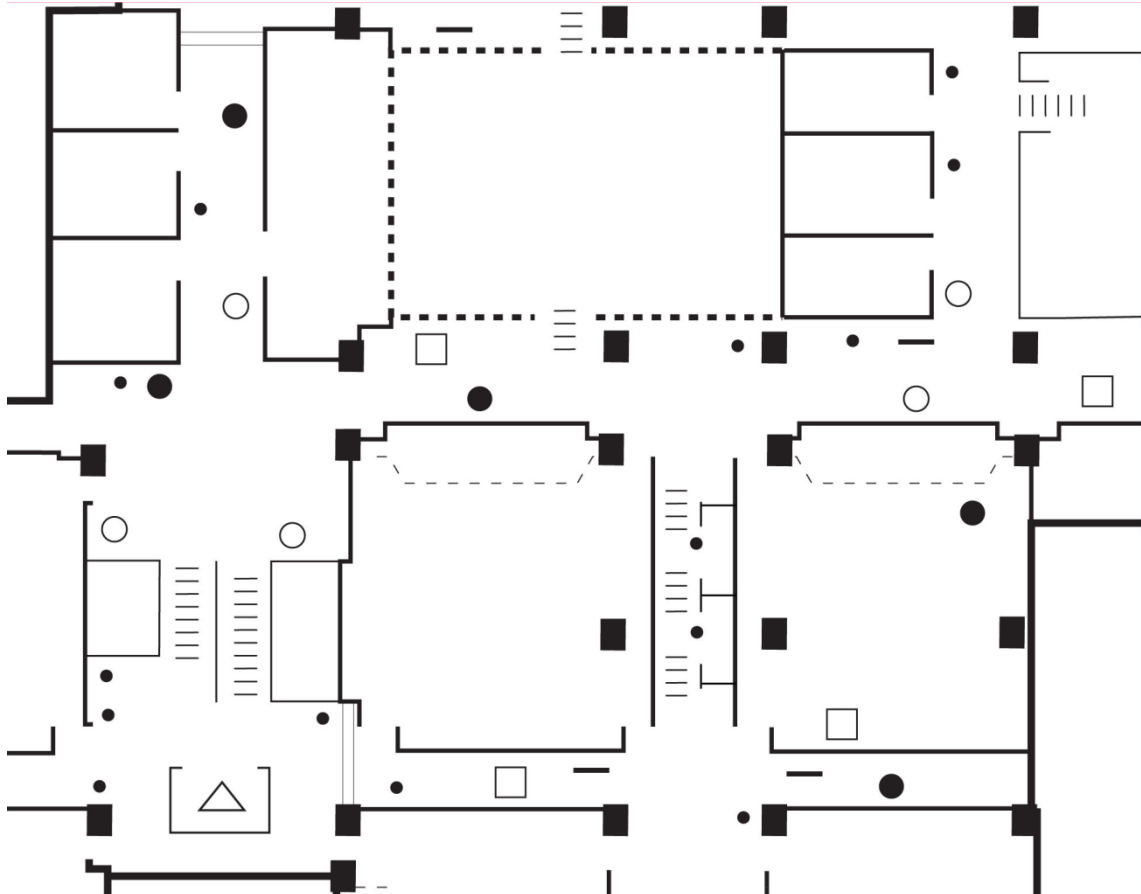
Demographic data of participants in the familiarization process

Please fill in or check with an x mark your answer

1. Name and surname initials:
2. Age:
3. Gender:
4. Educational status
 - Graduate of elementary school
 - Graduate of high school
 - University student
 - Graduate of university
5. Age when visual impairment appeared first:
6. Age at vision loss:
7. Level of visual impairment:
 - Total blindness
 - Severe visual impairment
 - Moderate visual impairment
8. Visual acuity at left eye:
 - Total blindness without light perception
 - Light perception only
 - Less than one twentieth

9. Visual acuity at right eye:
 - Total blindness without light perception
 - Light perception only
 - Less than one twentieth
10. Visual field:
 - Full field
 - Loss of central vision
 - Loss of peripheral vision
11. Do you move alone or with escort:
 - With escort
 - Sometimes with escort and sometimes alone
 - Alone
12. How often do you move alone:
 - Never
 - Rarely
 - Sometimes
 - Often
 - Always
13. How often do you use tactile graphics or pictures:
 - Never
 - Rarely
 - Sometimes
 - Often
 - Daily

QUESTIONNAIRE FOR MAP OF THEMATIC MAP



QUESTIONNAIRE FOR MAP OF THEMATIC MAP



