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The Accessibility of Cultural Attractions for All Senses in Kerava

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Laurea University of Applied Sciences
Kerava

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Laurea University of Applied Sciences **Abstract**
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The aim of this Bachelor's thesis is to estimate if the cultural attractions of Kerava are visitor friendly for all citizens and possible visitors. Accessibility has the potential of attracting vast positive attention and acknowledgement when it is done right, which could help spread knowledge about Kerava's cultural attractions as well as improve the image of the city in the Helsinki metropolitan area.

Accessible tourism is a relatively young sector in the tourism field regardless of its relatively large customer base. Accessible tourism does not only enable tourism for those with a visible disability such as a wheelchair or a hearing aid but makes travelling easier by offering customized service and assistance to those in need; families, pregnant women, people with a weaker physique, a bad eyesight or merely a first-time traveler seeking for information and suitable services provided in the destination. The concept of accessibility refers to a service environment that is compliant with every user from the attainability of information to the actual service encounter. Nowadays accessibility is frequently being emphasized in the tourism field as travelling easily draws attention to the smallest, even mundane details; the height of a threshold, adequate signalization, width of doors, lighting e.g. Along with the physical obstacles a tourist may encounter also social and psychological ones for example the staff's attitudinal barriers. All of these possible drawbacks were attempted to take into account when assessing the attractions of Kerava.

This Bachelor's thesis examines whether the cultural attractions of Kerava are visitor friendly for all senses with or without a helper. The authors present the research process and findings of the accessibility of seven cultural attractions in Kerava; the Kerava City Library and Church, the Sampola Service Centre, the Art and Museum Centre Sinkka, the art Gallery Alli, and the railway station, as well as briefly cover the main pedestrian street and its surroundings. Hence the accessibility and customer friendliness being the subject of the study, a qualitative research with test users, interviews and observation are the most natural choices since the nature of this study is empirical. The research is conducted during the summer of 2015 in co-operation with Keravan Vammaisneuvosto ry (VANE) (free translation in English Council of Disability of Kerava Registered Association) by visiting the seven locations with test users with restricted hearing and vision. A test user with restricted mobility was not able to participate in the study but a wheelchair was used to research the measurements and space needed in the locations. Research permits for the study were acquired from each of the locations individually and in written form via email.

Based on the collected data and test users' experience all of the locations were accessible. The greatest factors that hindered the accessibility were the lack of automatic doors, audio induction loops, inadequate elevators and the height of service counters. The most common positive remarks in all of the destinations were contrast colors, lighting, railings, helpful and professional staff and accessible toilets. All considered, the cultural destinations researched in Kerava are well adapted for all senses aside from minor inadequacies.

Keywords: accessibility, service encounter, qualitative research, case study

Laurea-ammattikorkeakoulu **Tiivistelmä**
Kerava
Degree Program in Tourism

Aino Laine, Mila Toivanen

Keravan kulttuurikohteiden esteettömyys kaikille aisteille

Vuosi 2015 Sivumäärä 60

Tämän opinnäytetyön tarkoitus on arvioida Keravan kulttuurikohteiden käyttäjäystävällisyyttä ja esteettömyyttä. Esteettömillä palveluntarjoajilla on potentiaalia saada paljon positiivista huomiota ja tunnustusta kun esteettömyys toteutetaan oikealla tavalla ja oikeissa kanavissa. Tästä syystä esteettömyys on hyvä keino saada julkisuutta Keravan kulttuurikohteissa ja mahdollisesti parantaa Keravan imagoa Helsingin ja pääkaupunkiseudun alueella.

Esteettömyys on uusi sektori matkailun alalla huolimatta sen laajasta asiakaskunnasta. Esteetön matkailu ei ainoastaan mahdollista matkailua niille joilla on näkyvä rajoite kuten pyörätuoli tai kuulolaite vaan helpottaa matkustamista tarjoamalla räätälöityjä palveluja niitä kaipaaville; perheille, raskaana oleville naisille, fyysisesti heikommille, huononäköisille tai henkilölle joka matkustaa kyseiseen kohteeseen ensimmäistä kertaa. Esteettömyyden konsepti viittaa palveluympäristöön jokaisessa palvelutilanteessa alkaen tiedon saavutettavuudesta ja päättyen itse asiakaskohtaamiseen. Nykyään matkailun alalla esteettömyyttä korostetaan arkipäiväisissä yksityiskohdissa; kynnyksen korkeudessa, riittävissä opasteissa, ovien leveydessä, valaistuksessa ja niin edelleen. Fyysisten esteiden ohella matkailija voi kohdata myös sosiaalisia ja psyykkisiä esteitä kuten esimerkiksi puutteita henkilökunnan suhtautumisessa asiakaskohtaamiseen. Kaikki nämä mahdolliset epäkohdat yritettiin ottaa huomioon Keravan kulttuurikohteiden arvioinnissa.

Tämä opinnäytetyö tutkii ovatko Keravan kulttuurikohteet käyttäjäystävällisiä kaikille aisteille, avustajan kanssa tai ilman. Tekijät esittelevät koko tutkimusprosessin sekä löydökset seitsemästä valitusta Keravan kulttuurikohteesta; Keravan kirjasto ja kirkko, Sampolan palvelukeskus, taide- ja museokeskus Sinkka, taidegalleria Alli, rautatieasema sekä kuvaus Keravan kävelykadusta ja sen ympäristöstä. Tutkimuksen aiheen käsitellessä käyttäjäystävällisyyttä ja esteettömyyttä on luontevinta käyttää tutkimusmetodina laadullista tutkimusta hyödyntäen muun muassa testikäyttäjiä, haastatteluja ja havainnointia. Tutkimus on suoritettu kesän 2015 aikana yhteistyössä Keravan Vammaisneuvoston kanssa vierailemalla edellä mainituissa kohteissa näkö- ja kuulorajoitteisten testihenkilöiden kanssa. Liikuntarajoitteista henkilöä ei saatu osallistumaan tutkimukseen, joten pyörätuolia käytettiin havainnollistamaan tarvittavat ulottuvuudet kohteissa. Tutkimusluvat hankittiin jokaisesta kohteesta erikseen ja kirjallisessa muodossa.

Perustuen kerättyyn dataan sekä testikäyttäjien havainnointiin ja kokemuksiin, kaikki tutkitut kohteet ovat esteettömiä. Yleisimmät tekijät, jotka vähensivät esteettömyyttä olivat automaattiovien, induktiosilmukan, riittävästi varusteltujen hissien sekä palvelutiskien puutteet. Sen sijaan yleisimmät positiiviset havainnot olivat kontrastivärit, valaistus, kaiteet, avulias ja asiantunteva henkilökunta sekä esteettömät wc-tilat. Kaiken huomioon ottaen Keravan tutkimuskohteet sopivat kaikille aisteille.

Avainsanat: Esteettömyys, asiakaskohtaaminen, laadullinen tutkimus, tapaustutkimus

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1 Introduction

The aim of this Bachelor's thesis is to estimate if the cultural attractions of Kerava are visitor friendly for all senses. The principle of visitor friendliness is to ensure that the environment, services, communication and transportation are accessible for all. Services, products and environments are designed in a way that they can be utilized equally, regardless of the visitor's functional ability. Thus it is important for service providers to consider different impairments and disabilities, such as reduced mobility, vision or hearing.

The research is made in cooperation with Keravan Vammaisneuvosto ry (VANE) (free translation in English Council of Disability of Kerava Registered Association). There are six cultural attractions assessed in this thesis including a museum, an art gallery, a church, a library, a service center and the railway station. Also the surroundings of the main pedestrian street are covered, however leaving out the business premises. The research method used is a quantitative case study constructed of observation, notes, test users, documentation by camera and interviewing the personnel and test users. The observation with the test users and the data gathering was carried out in July, August and September of 2015.

This thesis begins with a theoretical part consisting of chapters two and three that present the research question and the reasons why the authors chose this subject for their Bachelor's thesis, followed by explaining the relevant definitions and research related information. Introduction of Kerava where the research takes place as well as relevant associations related to the subject of accessibility are also covered in these chapters. Additionally, the commissioner and the criteria used are presented. Chapter four presents the qualitative research methods and the phases of conducting the research. After the research background information the next section introduces the concepts and definitions of accessibility and disability briefly describing the different disabilities related to the research. Along with universal design and architectural barriers, staff training, marketing and communication as well as technical aids are addressed.

The final chapters 7 to 9 unveil the results of the study's findings, along with improvement suggestions and self-assessment of the thesis in its entirety. Brief information of each destination is provided before the actual analysis of the results. The results include relevant pictures taken on-site to demonstrate the negative and positive remarks of the destinations. Improvement suggestions are based on the test users and the authors' experience and observations.

2 Research Details

The idea for this thesis came from a study unit in which the authors of this thesis participated in the spring of 2015.The subject of the study unit was Tourism Service Development. Accessible tourism should have major impact on it in order to enable travelling for all; it is both more effortless and more economically efficient to take the necessary architectural details such as ramps, floor patterns and materials and elevators into account before the construction rather than begin reconstructions and repairs afterwards.

In the study unit the authors of this thesis along with other students assessed the accessibility of several public sites in the neighboring city of Järvenpää. Conducting the research gave concrete results and a proper opportunity to bring forth the problem areas noticed during the research. As both of the authors live in Kerava, it is in the best interest for both of them to ensure on their own part that Kerava is as accessible as possible.

2.1 Research Question and Limitations

The research question of this thesis is phrased: Are the cultural attractions of Kerava visitor friendly for all senses with or without a helper? Due to limited resources and equipment the study concentrates on the visitor friendliness for people with restricted mobility, hearing and vision, thus leaving out the ones with for example respiratory diseases due to lack of specific measurement and research equipment as well as professional knowledge on the subject. Also mental disorders and retardation are ruled out due to resource limitations. The lack of a test user with reduced mobility may influence the results of this research. Additionally, two of the test users are familiar with most of the destinations beforehand, which may affect their perception of the locations' accessibility.

Financial limitations are also relevant since the attractions chosen for the study have an entrance fee and transportation to the locations are not free and no compensation is granted. However the authors succeeded in negotiating a free entrance because of educational purposes, and transportation was handled with the author's own car or public transport at one's own cost.

2.2 Research Plan

The thesis process began in March by inquiring if VANE would be interested in cooperating with the authors to assess the accessibility of the cultural locations in Kerava. After an affirmative answer the authors started to plan the timetable and structure of the study while continuously updating the counseling teacher and the contact person at VANE, as well as meeting

in person. An agreement was reached concerning the six chosen locations and visitation days to the locations were set; the contact person from VANE, Olavi Taipale agreed to be the test user representing the hearing impaired and Pekka Viitala and Airi Räsänen acted as representatives of the visually impaired. Pekka Viitala is also a member of VANE and Airi Räsänen represents Keski-Uudenmaan Näkövammaiset ry (KUN) (free translation in English Association of the visually impaired of Keski-Uusimaa Registered Association.) A test user with reduced mobility could not be found so the authors borrowed a wheelchair from the local health care center in order to have a better understanding of the use and difficulties related with its use. The field research took place in July on one day as well as one day in August and one in September. The analysis of test results and the final thesis were written between June and September and returned for proofreading by 30th September.

3 In Relation to Research

In this chapter are presented the relevant parties and associations related to the research of this thesis, as well as information of the city of Kerava where the research was conducted.

3.1 VANE

The authors of this thesis approached VANE in hope of cooperation due to VANE's experience, knowledge and network concerning the accessibility of a destination. The cooperation and results of this thesis would be useful for both the authors of this thesis and the members of VANE. VANE agreed to cooperation and became the commissioner for this thesis.

VANE is a committee organized by the city of Kerava. VANE works in co-operation with the decision makers, officials and disability organizations of Kerava and surrounding municipalities by affecting the planning and renovation of private and public enterprises. Their most important objective is to ensure that Kerava is equally habitable and agreeable for every citizen, highlighting the conditions of representatives of different disabilities. VANE actively follows and engages in the events that take place in Kerava, initiates development projects and proposals to improve municipal services and living conditions. VANE is an essential party to introduce service producers the realistic and relevant information of mundane life of a disabled person. (Keravan kaupunki; VANE.)

In the public action plan for the year 2015 VANE is stated the objectives for the members of VANE. These objectives include e.g. participating in seminars and educational events, upgrading the disability policy and especially focusing on the conventional aspect of mundane issues concerning different disability groups. (Keravan kaupunki; VANE; toimintasuunnitelma.) The

new non-discrimination act that entered in force 1st of January 2015 expands and specifies the legislation concerning the service environment and conditions for the disabled, thus having roused special attention from VANE in their meetings. The following quote is straight from the Finland's Ministry of Justice concerning the Non-Discrimination Act: "Public authorities, education providers and employers must, where necessary, make reasonable accommodations to ensure that employees with disabilities have equal access to services, work or education and training. Persons with disabilities must also have equal access to goods and services. The disability of a person must be taken into account in provision of services, for example, by arranging accessible passage for those who need it whenever possible. Employers were already under the former legislation obliged to make reasonable accommodations, but for providers of goods and services, such as hotels, restaurants and retailers, this is a new obligation." (Ministry of Justice; New Non-Discrimination Act entered into force). The new act has increased and further detailed the requirements and restrictions of service providers, employees and other organizations based on the Constitutional Law of Finland: "Everyone is equal before the law. No one shall, without an acceptable reason, be treated differently from other persons on the ground of sex, age, origin, language, religion, conviction, opinion, health, disability or other reason that concerns his or her person." (Ministry of Justice; The Constitution of Finland.)

3.2 Kerava

The city of Kerava is located in the county of Uusimaa, approximately 30 kilometers from the capital city Helsinki with just under 35 000 inhabitants at the end of the year 2013 according to Tilastokeskus (Statictics Centre; Kerava). Bordering cities are Vantaa, Tuusula and Sipoo. The city is divided into 14 districts offering a variety of suburban living areas for different needs. The central area and the main pedestrian street of Kerava is closed from cars and other vehicles thus offering a safe center for businesses and festivities organized in the city, such as the Garlic Festival held annually in August. In addition to the festivities and happenings in the center Kerava has good connections to neighboring cities and municipalities by train, bus or car due to extensive infrastructure and traffic communication.

As a city Kerava has attended to improving the safety and convenience of public transport and recreational activities in order to offer its citizens a comfortable living environment. Kerava has improved its central area by focusing on the accessibility and safety, as well as the esthetical aspect in order to invite visitors and offering its citizens an enjoyable environment to live in. For example the pedestrian zone in the center of Kerava has been closed from motorized vehicles, pedestrian and bicycle traffic has been taken into account on the city planning and green belts and parks have been constructed. (Keravan kaupunki; Kaupungin kehittäminen.) The 850 meters long pedestrian street crossing the center of Kerava has been called the

longest pedestrian street in Finland (Wikipedia; Kerava; maantiede). In addition to creating a safe environment Kerava also offers cultural experiences with annual events such as Valkosipulimarkkinat (Garlic Festival), Keravan päivä (Kerava Day) and Kerava Jazz.

3.3 ESKE Criteria

The main focus of this thesis is on assessing the visitor friendliness of the cultural public buildings of Kerava based on the Helppo Liikkua- criteria of Invalidiliiton Esteettömyyskeskus (ESKE) (The Accessibility Centre of the Finnish Association of People with Physical Disabilities (FPD)). The assessment of the accessibility of the six cultural locations is based on the criteria of ESKE. The criteria are familiar to the authors as it has been used previously on another research as part of the studies in the Laurea University of Applied Sciences. The Helppo Liikkua-criteria (freely translated in English the Easy to Move-criteria) designed by ESKE includes restrictions, measurements and details for city planning, exterior and interior design, fairways, public and private premises e.g. to make it accessible for everyone.

The basic measurements for an adequate signalization, lighting, doorways, elevators and ramps are also listed in the criteria and are used in this thesis when determining whether a door is wide enough for a wheelchair or an elevator spacious enough. The amount of light, height of signs or every table, chair and counter were not measured with specific equipment but based on the test users experience and concrete testing if the location is suitable and accessible. All the locations' doors and elevators were however adequate for a wheelchair thus filling the qualifications of ESKE with the doors being at least 800mm wide and elevators dimensions at least 1100mm x 1400mm. Thresholds caused most of the negative remarks by exceeding the ESKE's recommended height of 20mm. (Esteettömyystiedon Keskus; Kulkuväylät.) In addition the lack of an audio induction loop for people with impaired hearing appeared to be a problem in many locations. The further requirements for accessibility can be found in the following chapter 6 Accessible Service Environment and the results of the locations' accessibility can be found in chapter seven.

3.4 Test Users

Test Use, similar to Participant Observation, allows the researcher to gather first-hand, personal knowledge and deeper understanding of the research situation. In the participant observation the researcher takes the role of a customer in a chosen situation thus experiencing the customer encounter from his/hers own point of view. (Smith, J. 2010, 52; Bruyn 1972) In this thesis the authors chose to use test users instead of using participant observation in order to acquire a realistic impression of the locations' accessibility as experienced by the test users each presenting a different form of impairment. Thus, the authors were mainly observing

from the background, taking notes and interviewing the test users and the staff. Test users were however able to provide accurate and personal data from according to their experience, pointing out the positive and negative remarks of the locations.

The test users that participated in this research were Olavi Taipale representing the hearing-impaired and Pekka Viitala and Airi Räsänen representating the visually impaired. As mentioned before, a test user with reduced mobility could not be found so the authors borrowed a wheelchair from the local health care center of Kerava to illustrate the measurements and space needed in the locations, as well as possible problem areas.

3.5 Associations

The European Network for Accessible Tourism (ENAT) founded in 2006 is a non-profit association of tourism enterprises, organizations and individuals from the private, public and non-governmental sectors aimed at evaluating good practices, as well as providing and endorsing services and products for accessible tourism in Europe. (European Network for Accessible Tourism.)

The Finnish Association of People with Physical Disabilities (FPD) founded in 1938 is a national advocacy and service association. FPD's aim is to enable everyday life to be independent and fulfilling for people with physical disabilities. FPD has 154 member associations and 32 000 individual members. The member associations aim to function as a link for people with a permanent physical disability and to foster opportunities for them. The associations also promote the fulfilment of rights for people with a disability to maintain and develop their functional capabilities. The FPD's members and other interested parties are provided with regional training days and nationwide courses, seminars and consultation days. A number of seminars are targeted at professionals and decision-makers. (Invalidiliitto.)

The Accessibility Centre ESKE is a part of FPD's organizational work. The duties of ESKE include advocacy work, distribution of information, production of materials, training, guidance, and consultation. ESKE's activities also include arrangement of accessibility-promoting events and seminars. ESKE actively co-operates with various associations, officials, and other stakeholders to promote accessibility. (Esteettömyystiedon Keskus.)

Keski-Uudenmaan Kuulo ry is an independent registered association for the hearing impaired in the county of Keski-Uusimaa and it is part of the Finnish Federation of Hard of Hearing (FFHOH). It was founded in 1975 and it provides its members with information on the use and maintenance of hearing aids and other equipment, rehabilitation and events in the sector.

The chairman of the association is one of the test users of this thesis, Olavi Taipale. (Keski-Uudenmaan Kuulo.)

Keski-Uudenmaan Näkövammaiset ry (KUN) is an association of the visually impaired of Keski-Uusimaa founded in 1966. It is part of the Helsinki and Uusimaa Association for Visually Impaired (HUN) and it aims to improve access to information for the visually impaired as well as acts as a lobbying organization for municipalities in its area of operation. (Keski-Uudenmaan Näkövammaiset.)

3.6 Previous Studies on Topic

Laurea University of Applied Sciences has a study unit called Tourism Service Development in which the students have conducted previous studies on the accessibility of the public buildings and cultural sights in Kerava and Tuusulanjärvi area in 2014 and in Järvenpää in 2015. The research was conducted in teams of four to five students and in 2014 in cooperation with Keuda students and Rullaten, an association for promoting accessible tourism in Finland. The research in Järvenpää was conducted without the help of test users.

The methods used in the researches were qualitative; measuring, observation, interviewing and documentation by camera. The data was analyzed and results were presented to the commissioner. The authors of this thesis participated in the study unit in spring 2015 where they analyzed the accessibility of the movie theater Studio123 in Järvenpää.

The authors became familiar with another thesis written by Janni-Julia Heiskanen in 2014 on a similar topic. The title of her thesis is “Istanbul Inspirations – Case: A Study on the Accessibility of Historical Attractions”. In her thesis Heiskanen uses qualitative research methods in the research process of the accessibility of four attractions and the public transportation in Istanbul, Turkey.

The accessibility of different tourism environments has been research by Soile Veijola in her piece “Matkailututkimuksen lukukirja” (free translation in English: Tourism Research Textbook). In her book Veijola studies the accessibility of two different environments; the Helsinki-Vantaa Airport and the Arctic Circle camping area in Rovaniemi. Also Veijola uses the as presented in this thesis in chapters five and six. (Veijola S. toim. 2013, 115-125)

4 Research Method and Execution

When planning any type of research the author must decide on a topic and the type of investigation to be executed for the study. Basically, there are two questions to be examined, answered and analyzed; 'what' and 'how'. (Botterkill & Platenkamp 2012, 3-5.) The nature of these questions will also help determine whether the study type should be qualitative or quantitative, focusing on either deep and detailed investigation with a small sampling of carefully chosen test persons or giving a more shallow overview of the overall state. As mentioned in the previous chapter the authors of this thesis answered to the question 'Why?' by explaining their reason for choosing this particular topic concerning Accessibility and Visitor friendliness.

Due to the co-operation with VANE and the qualitative nature of this thesis the best applicable research types are Action Research and Case Study. Action Research, which is a research conducted for solving practical problems, as in this thesis the accessibility of Kerava's cultural destinations. Also, the action research is often conducted in cooperation between the researcher(s) and a client/commissioner concerned with the research issue, in this case the authors and VANE. Control of the research is shared between the client and the researcher that are likely to use the results of this thesis. The subject of the research is also often affected by the client's wishes and needs but either of the parties may initiate the research. (Smith, J. 2010, 10) In addition to the action research also a Case Study- approach may be well applied since there are individual destinations that each are assessed by test use with actual test persons in order to get as concrete data as possible. The destinations' locations are also close by enabling several visits if necessary to get all the possible data. Execution-wise the chosen methods are qualitative to ensure a specific and realistic result, assessed by using qualitative methods as described below.

4.1 Case Study

There are numerous research methods designed to cover all the possible areas of investigation divided into different categories according to their nature and purpose. In the book Qualitative Inquiry & Research Design Choosing Among Five Approaches, published in 2007 by SAGE publications Ltd, John W. Creswell divides the most usual areas of research methods into five categories based on the educational perspectives in the behavioral, social and health sciences. These five categories of qualitative research are narrative, phenomenology, grounded theory, ethnography and case study. The educational backgrounds stem from the following; narrative from humanities and social sciences, phenomenology from philosophy and psychology, grounded theory from sociology, ethnography from anthropology and society, as case study from social and evaluation research, as well as other applied areas. (Creswell 2007, 6-9).

As a research method case study is a relatively large concept and could result in enormous amounts of data. The definition of a case study is explained in the following way: The study of a few cases, sometimes one, constructed out of naturally occurring social situations and investigated in considerable depth. (Botterill & Platenkamp 2012). As well, Creswell defines a case study as following: '… case study research involves the study of an issue explored through one or more cases with a bounded system' (Creswell 2007, 73). Thus, the limits of the research must be clearly stated and held onto. There are various ways to limit a study by first choosing the most corresponding limitation of these three categories; experience, place and organization (Botterill & Platenkamp 2012, 5-6). Even though these categories can be combined in one study as in this thesis with experience and place it narrows down the possible research methods. Visitor friendliness is based on the tourist's perception of the destination and service quality emphasizing the importance of experience, hence guiding the research method towards interviews, personal narratives and test use, all of which are qualitative research methods focusing rather on the quality than the quantity. Also the place binds the examination into a few chosen, specific locations rather than a large entity allowing the authors to examine in detail. With place-category the best research methods to use are documentation, case study, analysis and interviews. (Botterill & Platenkamp 2012, 3-5.) Hence, the authors decided to use quantitative case studies of each cultural location including test use, interviews, personal experiences and estimations, while documentation with camera as well as familiarizing oneself with literature provided on the subject on hand.

Creswell also mentions three types of case studies depending on the quantity of destinations to be classified as case studies. There are the single instrumental case study, the collective/multiple case study and the intrinsic case study. In the single instrumental case study the person conducting the research focuses on one issue and then selects only one case for illustration. In the collective/multiple case study there is also one issue but several cases used to illustrate this issue or vice versa one case but multiple issues. In the last one, intrinsic case study the focus is mainly on the case study, e.g. evaluation of a service due to its unique situation, thus resembling the narrative research. The main focus of the intrinsic study however remains on the analytical assessment of the problem rather than emotional experience. (Creswell 2007, 74.) The best applicable study of the three mentioned above for this thesis is definitely the collective/multiple case study since the authors have formulated one comprehensive problem, a research question and the answer will be collected from the six destinations.

4.2 Qualitative Approach

The form of execution in this thesis is qualitative due to the empirical nature of the study and its basis on personal experience of the test users. According to the Qualitative Research Con-

sultants Association (QRCA) qualitative research is defined as in-depth, descriptive research that is usually conducted by a small group. Qualitative research originates from behavioral and social sciences thus the most effective research methods include e.g. in-depth interviews, visits, in-context observations and experiences. Qualitative research is used to capture the emotions and personal experiences of a customer, thus revealing the most relevant information of the conventional aspect of a product or a service. (Qualitative Research Consultants Association.)

The research is also executed in the natural environment instead of a laboratory. Research could be conducted in many ways; questionnaires with open ended questions, interviews, observation and documentation. In this thesis the authors also had test users with different impairments to help evaluate the realistic accessibility of the chosen locations. The results of this thesis are based on the comments and feedback of the test users, as well as documentation, notes, ESKE criteria and observations of the authors. As qualitative research is based on quality instead of quantity so there will be no numeric data in this thesis. Due to this most of the information and results will be described narratively and with pictures from the locations indicating the details relevant to the accessibility issues.

4.3 Conducting the Research

The research is conducted in co-operation with VANE. Due to limited resources and equipment the assessment is done from the perspectives of those with restricted mobility, hearing or vision thus ruling out for example the restrictions caused by respiratory disorders. The assessment is carried out with test users in order to obtain as realistic and valid conclusions as possible.

The research on-site was conducted on three separate days by visiting the six cultural destinations with the test users. Each cultural destination was contacted prior to the visit to agree on a certain time for the visit. In order to have as realistic service experience as possible the visits were preferably conducted on normal opening hours with possible other customers without disturbing them. However, some of the locations were not open at the time of the visit on a weekday so the authors arranged for a special visit outside opening hours. In most of the locations the authors had a chance to interview a staff member who could answer the questions and tell about the customs and staff perspective in the location.

Conduction of the research was done by using test persons and listening to their comments, opinions and evaluations on-site as well as relying on the documentation, notes, observations and interviews carried out by the authors. All of the locations had staff that were welcoming, helpful and informative introducing the premises and answering the authors' questions to

their best ability. Measuring and documentation by camera were also permitted without problem and even though the research permits had been acquired no one asked for them.

5 Accessibility and User Friendliness

This section deals with the subject of accessibility and disability. The concepts are introduced and explained in the frames of the research of this thesis.

5.1 Definitions and Synonyms

Accessible, user friendly and barrier-free are synonyms used to describe a place, building, terrain, infrastructure or a service suitable for use by people with disabilities or impairments. Accessibility does not consider only people with disabilities but also the increasing number of seniors who require more accessible services (Buhalis, Darcy & Ambrose 2012,3).

Accessibility in a cultural destination includes physical access and availability of services and equipment and the comprehensibility of the information provided. Accessibility is the degree of measurement to which a product, device, service, or environment is available to as many people as possible. Accessibility is something that can be seen as level of ease of access and as a possible benefit from some system or entity. (Wikipedia; Accessibility.)

5.2 Different Impairments and Disablilities

Impairment is any loss or abnormality of psychological, physiologic, or anatomic structure or function. A disability is any restriction or lack of ability to perform an activity in the manner or within the range considered normal for a human being. (United Nations Enable.)

Disabilities come in different forms involving mobility, vision, hearing, intellectual/cognitive/learning, mental health and sensitivities including respiratory, food and chemical related issues (Buhalis & Darcy 2011, 5). The disabilities and impairments related to the research of this thesis are reduced mobility, visual impairment and hearing impairment.

5.2.1 Reduced Mobility

Reduced mobility is caused by physical disability, age, pregnancy or another factor. Physical disabilities can be locomotor or sensory, and they can be permanent or temporary. There is a significant relationship between ageing and rates of physical disability that show an increase in disabilities at older age (Buhalis & Darcy 2011, 5). This means that there is an increasing

need of appropriate attention and adaptation to the particular needs of services of the individuals with reduced mobility or other disability. Due to this there is a relatively new niche market in the Tourism field called Senior Tourism, also known as 'grey tourism'. The Senior Tourism is defined as tourists aged 55 and above but also other ages are used as thresholds such as 50, 60 or 65. The Senior tourism is a growing market in the Western countries due to the following four factors; demographic and socio-economic changes that enable the continuously increasing population of the elderly that are better educated and thus often more wealthy than the previous generations. The third fact stems from the previous two as the expectation of travelling will become a norm for the current generations, also the following generations will be most likely to continue the travelling. The fourth factor is the improved health care that allows Senior Tourism for older persons as their physique is fit for travelling. (Lominé & Edmunds 2007, 167.)

5.2.2 Visual Impairment

Visual impairment is any loss of vision or no vision and it is caused by many factors. A visual impairment can be innate or caused by an illness, an injury, old age or a medical condition. The term blindness is used for complete or nearly complete vision loss. The blind or visually impaired rely largely on their other senses such as hearing, touch, and smell in order to understand their surroundings and to communicate. (World Health Organization; Visual Impairment and Blindness.)

Mundane difficulties in the observation of the environment of the visually impaired that are caused by the disability are for example orienteering, evaluation of distances, detection of level differences, insufficient color vision, night blindness, dazzling, insufficient field of view, maladjustment to changes in light level and tripping, falling or colliding. Difficulties in the social interaction are for example the inability to recognize people based on appearance, detecting facial expressions and gestures and detecting eye contact and replying to it. (Näkövammaisten Keskusliitto.)

5.2.3 Hearing Impairment

A person who is not able to hear as well as someone with normal hearing is said to have a hearing impairment. It may be mild, moderate, severe or profound and it can affect one ear or both ears, and lead to difficulty in hearing conversational speech or loud sounds. A hearing impairment can be congenital or caused by an injury, illness, genetics, a medical condition, old age, certain medication or exposure to toxins or noise. Hard of hearing refers to people with hearing loss ranging from mild to severe. They usually communicate through spoken language and can benefit from hearing aids, cochlear implants and other assistive devices as well

as captioning. Deaf people have a profound hearing loss, which implies very little or no hearing. They often use sign language for communication. (World Health Organization; Deafness and Hearing loss.)

6 Accessible Service Environment

This section focuses on accessible service environment and universal design introducing also the concepts of signalization, technical aids and disability equipment, marketing and communication as well as staff training and service encounter.

6.1 Architectural Barriers and Universal Design

The principles of Universal Design enable service providers to expand their target market and improve the service quality, thus creating better customer satisfaction and loyalty (Buhalis, Darcy & Ambrose 2012, 1; Darcy & al., 2011). Ensuring access to move and to use the services independently or with a helper in all built environments requires knowledge and design structures that are inclusive for all citizens. The universal design of buildings refers to them being barrier-free, safe and easily accessible to everyone without the need of adaptation or specialized design. The implication of this design approach is to make accessibility central to design rather than an add-on. Freeing a building of barriers consists of recognizing the features that could form barriers for some users and reviewing everything from structure to smallest detail.

A barrier-free building has a smooth ground-level entrance without stairs or high thresholds and the front doors are automated. There are no differences in level and moving inside the spacious building is effortless. All doors are wide and open without the need of using force. The elevators of the building are spacious and the doors open from both ends. Also an audio guidance is required for the elevators to indicate the floors and the buttons are placed on a suitable height with the numbers distinguishable by touch. The lighting inside the whole building is bright and adequate and the surface materials used provide sufficient visual contrasts and prevent slipping (Invalidiliitto; Esteetön toimitalo.)

A service counter needs to be designed in the way that a part of it is suitable for a wheelchair user and the other part for a walking person. At the service counter there should be an audio induction loop and no glass wall. An audio induction loop is an assistive listening technology for individuals with hearing impairment. It consists of a physical loop of cable that is placed around a specific area such as a service counter. The loop generates good acoustics that can be picked up by a hearing aid and it minimizes the background noises facilitating the hearing. The signalization, menus, product and other information is written clearly. For a visually im-

paired person it is tricky to navigate through a large empty space such as a lobby. Furniture that forms a clear passage can be used to facilitate the navigation. There can also be a contrast material or a color stripe on the floor guiding the visually impaired person inside the building (Esteettömyystiedon Keskus.)

Spectator stands, auditoria, banquet, meeting and restaurant halls, study halls and classrooms and any corresponding assembly facilities must apply also to the use of the disabled. In the audio systems installed in these facilities there needs to be an audio induction loop or other audio transmission system. When assembly facilities have fixed seats, wheelchair spaces shall be located according to the accessible entry points in different rows of seats (Suomen Rakentamismääräyskokoelma.)

6.2 Signalization

The signalization of an environment, such as the house number, name plate, toilet signs, text labels and the info boards are designed in a certain way when taken into consideration the needs of the disabled. A sign needs to be well-illuminated and easily detectable with light-on-dark visual contrast. The text, numbers, icons and symbols in the signs need to be large enough, clear and easily distinguishable also by touch. The numbers and nameplates need to be placed on eye level, elevator buttons and doorbells on a suitable height within the reach of wheelchair users. The use of Braille together with different sign facilitates the understanding of the message. All signs need to be positioned on the opening side of the door in order to avoid bumping into an opening door. The International Symbol of Access (ISA) is a white wheelchair symbol on a dark blue or black background. It can be used to indicate an accessible entrance, an elevator, a toilet or a parking space (Vammaisten yhdyskuntasuunnittelupalvelu.)

6.3 Technical Aids and Disability Equipment

A well-equipped and adapted built environment provides its users with various aids and equipment that differ in price and size. The most inexpensive aids with a great advantage for many users are for example magnifying glasses, large print or braille books, railings, walkers and clothing hooks. Some of the accessibility barriers can be made more accessible with for example an audio induction loop, ramps and wheelchair lifts. If these architectural details are taken into consideration already in the design and construction of a building they tend to be more cost-effective or not costly at all.

6.4 Marketing and Communication

Web service accessibility refers to how well different users can benefit from the network services. An accessible web service takes into account all groups of users regardless of their age, disability or other individual characteristics. An accessible web service provides alternative text to describe images and any non-text content so that it can be changed into other needed forms, such as large print, braille, speech, symbols or simpler language. The size of the text is adjustable and there are volume and speed controls on auditory output. All text should have a light-on-dark visual contrast with its background or alternatively, a dark-on-light contrast to make the text more readable and easily distinguishable for those with vision loss (W3C.)

The issue concerning marketing is that there is insufficient information on accessibility provided at all stages. Informing all customer groups about the existing services and their accessibility is vital to all businesses who wish to expand their customer base. The information needs to be targeted to those who can better reach the customers in need of accessible services.

Regarding the web pages of cultural destinations, the information that needs to be available is the location, the accessibility by public transport or by car, the signalization, the accessibility of the entrance, reception, toilets, the restaurant services and activities. In addition there needs to be contact information of someone who can provide more information if needed. (Rovaniemen ammattikorkeakoulu; Esteettömän matkailun markkinointi osana matkailun esteettömyyttä ja saavutettavuutta.)

6.5 Staff Training and Service Encounter

Creating an accessible service environment does not mean only improving the accessibility infrastructure but also raising the level of disability awareness. Training of the staff of any public services or an enterprise is vital to decrease the attitudinal barriers towards disabilities. The training consists of providing the employees with information on different disabilities and impairments and how to encounter and take them into consideration in everyday work. A prerequisite of effective service is having staff that is aware that people may have problems with vision, hearing, mobility or any other physical or mental aspect. Communication and different ways of being able to communicate with and to guide clients must be tailored to individual needs and to be available at all times.

In a service encounter with a disabled person, it is important to ensure that their dignity is respected. Whenever necessary and reasonable, the service providers should adjust the way they offer their services, so that people who are physically challenged can use them in the best way. It is acceptable to consult with the customer about how they might best be served.

It is important to practice patience and allow more time to deal with disabled customers. (Gibson 2012, 33-34.)

When communicating with a disabled customer one should not be afraid to ask questions when unsure of what to do. If one offers assistance, one has to wait until the offer is accepted and ask or wait for instructions. With a visually impaired customer one should speak to the individual when approaching him or her. One needs to state clearly who they are with a normal tone of voice and inform when they are leaving. It is important to be descriptive when giving directions verbally. In encounters with people with hearing impairments one needs to gain the person's attention before starting a conversation. If the individual is lip reading, one needs to look directly at him or her and to speak clearly with a normal tone. (Gibson 2012, 34.)

7 Results

In this chapter the authors present the results of the accessibility research. The pictures were taken on-site by the authors and in some of the locations by Lauri Jaakkonen, the research assistant. The results are based on the notes, measurements, interviews and test users' experiences. The authors did not choose to grade the locations' accessibility on the ESKE's scale from A to D since they do not have the authority. The results are introduced and listed through positive and negative observations made during the research.

7.1 Art and Museum Centre Sinkka

Art and Museum Centre Sinkka was opened in Kerava 2012 and it includes both Kerava Museum and Kerava Art museum. Sinkka displays the latest trends and work of designers from the Keravan Puusepäntehdas (free translation in English Carpenters' Cabinet), lamp and light-fixture factory Orno and contemporary art. In addition to the public exhibitions there is a cafe and a Museum Shop. Guests can also book private events from small-scale meetings to larger events. During 21.8-15.11.2015 the subject of the exhibition is Huvin Vuoksi - Suuremoiset Sariolat (Just for Fun - The magnificent Sariola Family). According to a brochure from Sinkka the public areas of the museum are fully accessible to guests with disabilities. The brochure also provides a map marked with accessible routes from the railway station to the museum. (Taide- ja Museokeskus Sinkka.)

As an entity, the Art and Museum Centre Sinkka is accessible for all users. The user experience as a whole was successful on all areas of investigation; the lighting, personnel, architectural structures and ancillary were all taken into consideration. The only negative remarks

were the entrance doors that were heavy and non-automatic and the lack of an audio induction loop. The building was constructed in the mid 1980's but on the inside it was barrier free and modern. The interior design was simple and plain designed to highlight the focus on the artwork. The colors used were white and light gray, as well as black in some rooms that had film exhibitions. The following features got positive remarks; adequate lighting, contrast colors and patterns on surface materials, spaciousness, automatic doors on entrance and elevator, as well as railings and low thresholds. Also the well-informed staff, informative brochure and accessible service environment along with clear floor map of the building.

7.1.1 Arrival and Parking

Art and Museum Centre Sinkka has good signalization starting from the parking area to the entrance, which was on the other side of the building. Sinkka is located near the railway station, and in their web site there is a map available with accessible routes to the museum. The parking area is shared with other business premises and there is only one parking place reserved for accessible parking.

7.1.2 Entrance and Service Counter

The main entrance to Sinkka is on the street level with a small level difference that has been corrected with a ramp (Image 1). There are two heavy doors on the entrance, neither of which is automatic. The service counter for the museum and the cafe was high for a customer in wheelchair or for a short person as seen in image 2. Benches and tables were placed in the lobby next to the service counter and cafe area. The staff is extremely helpful and professional with expertise in accessibility matters. A member of the staff highlighted the personnel's willingness to help in all situations by explaining that if the architectural design does not allow the use of services for all customers, the personnel will do its best to provide it in another way, for example assisting a customer in the entrance and whenever needed. All the information, brochures and signs are in written in English and Finnish. Around the corner from the service counter there was a clear floor map indicating the customer areas and exhibition halls.

Image 1: Main entrance (Toivanen, 2015)

Image 2: Service counter (Laine, 2015)

7.1.3 Exhibition Areas

The exhibition was divided between three floors; street level, cellar floor and second floor. The image 3 illustrates the exhibition included artwork for different senses with audio, film and concrete artwork and pieces. The artwork consisted of posters and photographs, games, statues, replicas, artifacts, historical timelines, films and audio effects. It was prohibited to touch most of the artwork, except for the life-sized elephant made of strong enough material to support 80 kilograms' weight. In addition to the elephant there was another interactive piece of art operated with a touch screen. The walking route through the exhibition was a

square leading the customer back to the stairs or the elevator making it easy to understand the structure of the exhibition.

Image 3: Exhibition area, street floor (Toivanen, 2015)

The contrasts were good with dark gray floors and white walls. Lighting was adequate but in the exhibition halls with films there were minimal lighting and black walls that could cause perception problems for those with impaired vision. The whole exhibition area had no thresholds or other level differences. The only negative remark was in the cellar floor that had an inclined ceiling due to the staircase (Image 4), located right in front of a doorway. This ceiling had no contrast stripe and could cause incidents for unaware customers. The signalization was good, except for the elevator that had only a small text in the upper corner of the door. There was only one call-button for the elevator along with two small screens indicating the vacancy and floor of the elevator.

Image 4: The inclined ceiling in the cellar floor (Laine, 2015)

7.1.4 Elevator and stairs

The elevator was large, designed for transporting paintings and large exhibition objects. The door was heavy and had no audio signal for its arrival. There was more than enough room for a wheelchair and other persons (Image 5). However the elevator had no inner doors so the walls moved with the elevator causing a risk for the customers. There was no audio guidance or Braille writing. Obligatory emergency buttons and weight capacity were written inside the elevator as well as the buttons that were distinguishable by touch. The stairs were dark gray with contrast stripes and made of material that prevent slipping. There were embedded railings with light on the other side and normal railings on the other.

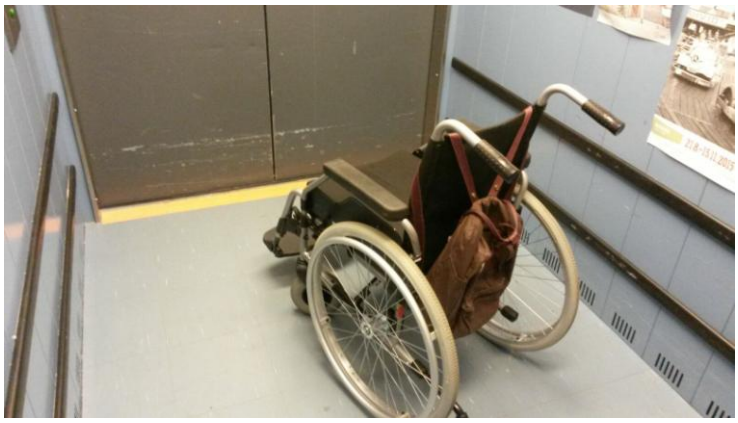

Image 5: Inside of the elevator (Laine, 2015)

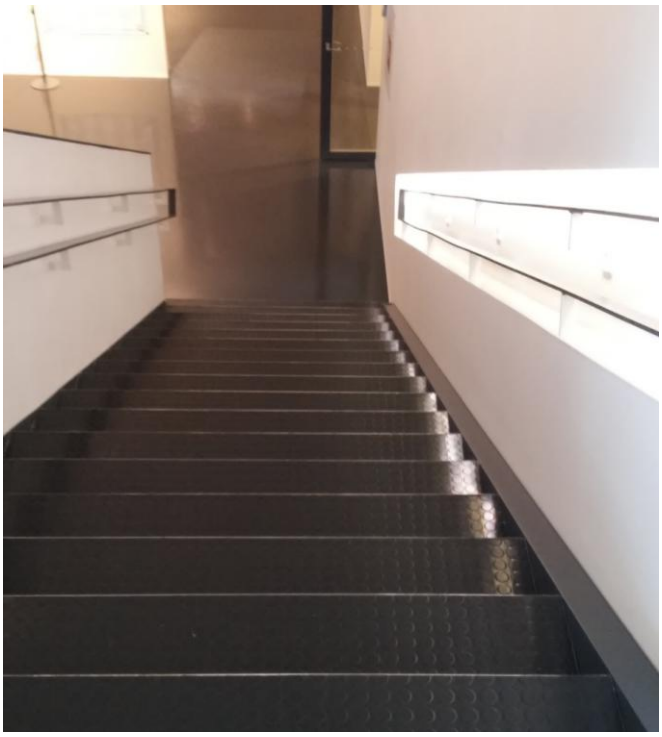

Image 6: The stairs (Toivanen, 2015)

7.1.5 Toilet

The interior of the accessible toilet was completely black with patterned tiles, thus creating a clear contrast with the white sink and toilet (Image 7). There was a large window that let in natural light and the overall lighting was sufficient. The toilet seat had railings and an emergency alarm cord right next to it. The sink had enough space under it for a wheelchair but it was hard to reach the soap and the paper towels. There was also a foldable baby changing station and railing on the door. The toilet was on the street level and was signalized with an accessible symbol. The non-accessible toilets were located in the cellar floor and had a sign indicating the location.

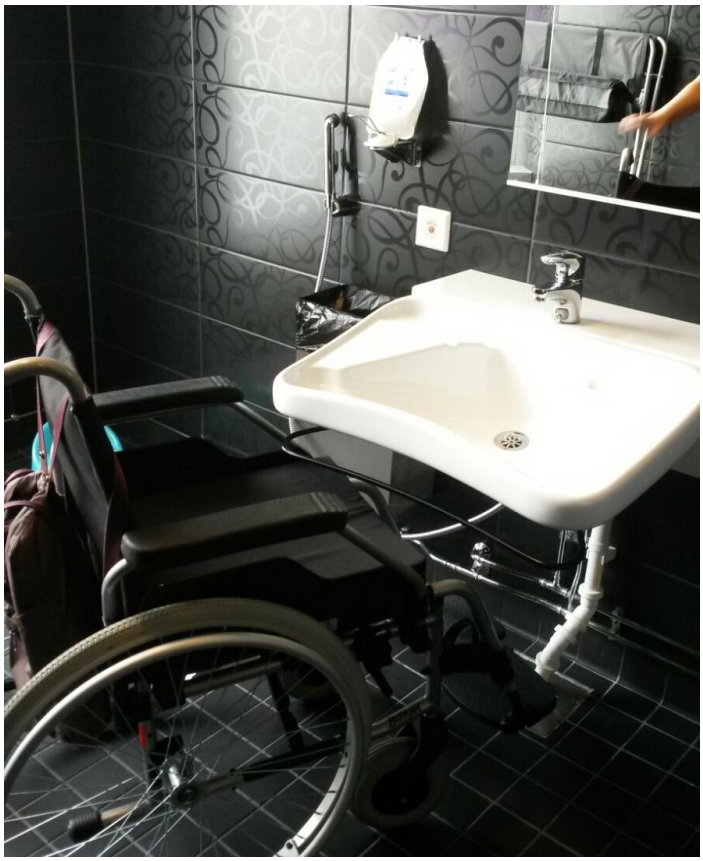

Image 7: The accessible toilet (Laine, 2015)

7.2 Gallery Alli

The Gallery Alli is an art gallery for which the art association KuumArt ry and Kerava Culture Services are responsible. It is a small, old building located next to the railway station. The gallery acts as both an exhibition space and the association's training and conference venue. Members as well as third parties can rent the Gallery Alli for an exhibition. (Taideseura KuumArt.) At the moment the Gallery is fully booked till the end of year 2015. (Galleria Alli.)

Due to the entrance's narrow stairs as seen in Image 8, Gallery Alli is not accessible for customers with reduced mobility or disability equipment such as a wheelchair or a rollator. Being an art gallery, the place is not relevant for those with severe visual impairment. For this reason the research in Gallery Alli was conducted without the visually impaired test users.

Image 8: Staircase to the Gallery (Toivanen, 2015)

The inside of the gallery's building is divided into four separate rooms, which are all reserved for the exhibitions. The upstairs is not for customer use. As an entity, the Gallery is not accessible. The exhibition space is has high thresholds and narrow doorways, and no accessible toilet. The lighting was sufficient but it was directed at walls where the artwork was presented. There was no need for signalization in the building, except for the information board on the front door where the exhibitions were listed.

Image 9: Inside of the Gallery (Laine, 2015)

7.3 Kerava City Church and Congregation Center

The church of Kerava was separated from Tuusula in 1955 and the current church building was designed by an architect named Ahti Korhonen and constructed in 1963. The building was renovated in 1993. The church and the congregation center are located right next to each other together providing all the religious services. There are services each festive day, Sunday and

Thursday, as well as a numerous concerts, choir evenings and other events for the congregation. (Keravan Seurakunta; Keravan kirkko.)

The congregation center was constructed in 1969 and was also designed by Ahti Korhonen. It is open to public on weekdays and by appointment. The premises can be booked for family celebrations, events and concerts and can fit up to 300 persons. The congregation center also includes a conference room, a chapel, a confirmation hall, a living room and sauna premises. (Keravan Seurakunta; Keravan seurakuntakeskus.)

The overall image of the church and congregation center's accessibility was good. The interiors of the premises had no architectural barriers and were well illuminated. Outside the church there was a clear map of the premises making it easy to comprehend. Special positive remarks were the hymn books written in Braille available in the congregation center and a wheelchair for customer use. The signalization in the premises was sufficient, even though the elevator in the congregation center was located behind two fireproof doors. There were also audio induction loops in both premises and also signalization informing about it. The lack of automatic doors in the church and insufficient elevators were the only negative details since there were no audio or Braille guidance in the elevator. Additionally, a helper does not have free access to the events held in the congregation center.

7.3.1 Arrival and Parking

The church is located near the railway station and is easily accessible by a car. The parking area is right in front of the church and a car can be driven right to the main entrance. There are also good signs for parking and accessible entrances. The congregation center is located next to the church and has its own parking area close to the main door. The church and the congregation center have good signalization on the accessible parking, and congregation center also has a map of the premises in the parking area.

Image 10: Parking signalization (Laine, 2015)

7.3.2 Entrance and Lobby Area

The main entrance to the church did not have an automatic door. The church lobby had plenty of space for a wheelchair and the lighting was adequate. The lobby led straight to the service hall. The side entrance to the church was not accessible for a wheelchair since the door is not automatic and there is a high threshold of 4 cm. The side entrance opened straight to the parlor with a long table and seats around it. The floor was dark blue.

Image 11: The main entrance to the church (Toivanen, 2015)

The congregation center had also two entrances, both of which were accessible for a wheelchair. In the lobby there are armchairs for customer use. The hall's main entrance had a non-automatic door with a low threshold but the side entrance also had a button for opening the door as seen in Image 13. The lobby area by the main entrance was spacious and well illuminated due to the large windows and light colors (Image 12), with clear signalization of the audio induction loop available. The plant seen in Image 12 was placed temporarily in front of the door due to renovations. The side entrance was only for entering, there were no customer spaces, only offices and the elevator.

Image 12: The lobby area of the congregation center (Laine, 2015)

Image 13: The door opening button in the congregation center (Laine, 2015)

7.3.3 The Church Service Hall

The church hall is spacious and well illuminated hall due to the light colors and large windows. There are no level differences in the room except for the altar and the choir balcony. The floor is dark and creates good contrast for the white walls and wooden benches. Due to the long benches there is little space for a wheelchair in the back of the church for three or four wheelchairs. According to the janitor the altar is not accessible for a wheelchair at the moment because of a high step but the communion is served personally to someone who cannot access the altar. The altar lacks a railing but one is planned to be installed in the future. There is a contrast stripe on the step to make it easier to notice.

There is an audio induction loop in the church hall with clear signalization and instructions for the hearing impaired. For the visually impaired there are hymn books written in Braille available on demand. In addition there is also a wheelchair for customer use both in the church hall and in the chapel. There is a noticeable echo in the hall which is why there are sound system and mixing and sound control panels for the speakers' stand and loudspeakers.

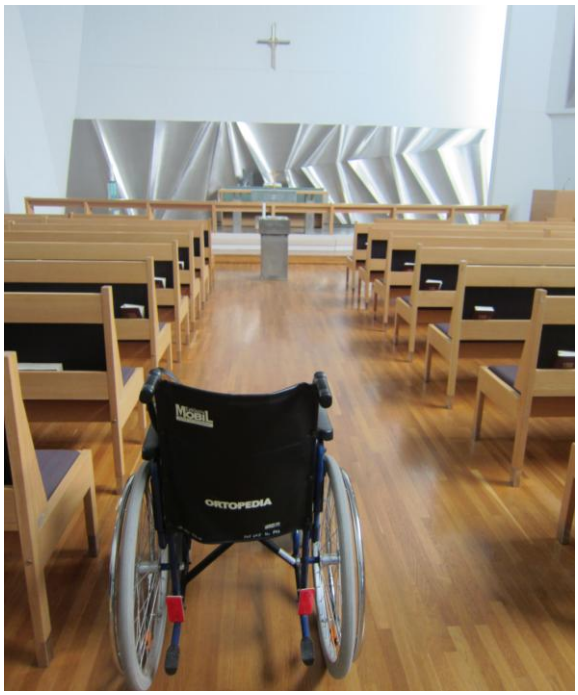

Image 14: The church service hall (Laine, 2015)

7.3.4 The Congregation Center

People with disability aids have been taken into consideration by miniscule thresholds and other architectural barriers in the hall as well as installing an audio induction loop. The hall has large windows and good contrast colors. The upstairs is divided into two rooms, one larger room where the concerts are held and another smaller room with tables and chairs. In the downstairs of the congregation center besides the stairs there is a ramp with railing and contrast stripes enabling a wheelchair to enter the office area. The doors are not automatic but can be opened by pressing a button on both sides.

Image 15: The congregation center (Laine, 2015)

7.3.5 Toilets

The church has an accessible toilet downstairs by the parlor. The toilet has good lighting and enough space. There were relevant railings and the sink had enough room under it. The coat hook was placed low but there was no emergency alarm available. In the congregation center the accessible toilets is located upstairs, right by the entrance. The toilet had little space and there was no emergency alarm. The threshold had an inclined ramp made of concrete forming a level difference between the corridor and the toilet (Image 17). It was accessible without a helper but with some difficulties in exceeding the ramp. The lighting was sufficient in both toilets.

Image 16: The accessible toilet in the church (Laine, 2015)

Image 17: The threshold of the accessible toilet in the congregation center (Laine, 2015)

7.3.6 Elevators

In the upstairs of the church the elevator was located right in the lobby whereas in the downstairs it was at the end of a corridor, marked with a sign. The elevator had a foldable seat

inside and enough room for a wheelchair and a helper. There was no audio signal on the arrival and the door was non-automatic. Inside the elevator there were the obligatory emergency buttons and weight capacity information. There was no audio guidance or Braille indicating the floors, just two embossed buttons.

Image 18: The inside of the elevator in church (Laine, 2015)

The congregation center's elevator was behind two corners and two fire doors with weak signalization from the upstairs lobby. The threshold to the elevator was 2, 5 cm high and the door was heavy and non-automated. There was no audio guidance or audio signal for the arrival of the elevator and the door had no window. The numbers on the buttons could not be distinguished by touch, except for the first floor that was carved. There was also a sign with a description for each floor. The space inside was adequate for one wheelchair and a helper.

Image 19: The buttons inside the congregation center's elevator (Laine, 2015)

7.4 Kerava City Library

The current Kerava City Library building was opened in September 2003. The library is located next to the railway station and in the center of Kerava making it easily accessible for all visitors. There is accessible parking space in the corner of the building, however it is signalized only on one side. The Laurea University of Applied Sciences has its own library, as well as teaching facilities in the upstairs of the public library. The collection of the City Library's pieces is divided in three floors. On the street level there are the children's and youth literature, belles-lettres, fiction, music and films along with the Uutistori (free translation in English Newsroom) reading room. The second floor is for science, non-fiction and history literature while the cellar floor functions as an open storage space consisting of older pieces from the collection. (Kerava; Omatoimikirjasto.)

The results of the study were positive and the premises were found to be easily accessible for all users. The user experience in its entirety was successful on all areas of investigation; the lighting, personnel, architectural structures and ancillary were all taken into consideration. According to the test users the following features got positive remarks; adequate lighting, contrast colors and patterns on surface materials, spaciousness, automatic doors on entrance and elevator, as well as railings and low thresholds. Also the width of the doors was sufficient and on most entrances there were double doors that could be opened if necessary. There are also audio books and films to be borrowed. The library received negative remarks for the lack of an audio induction loop and the self-service stations all work with touch screens which makes it difficult for a visually impaired person to operate. There are no magnifying glasses available in the library. Also the signalization was in some cases inadequate; for example the entrance for a wheelchair was poorly signalized due to being worn-out and ill-placed. An au-

dio induction loop in the library service desk was missing; however it could be found from the Pentinkulma (free translation in English Pentti's Corner), a hall where events and performances frequently take place.

7.4.1 Arrvial and Parking

The library is close to the railway station and the entrance can be reached by parking a car right in front of it. There are two accessible parking places in the corner of the building. They are signalized only on one side, when arriving from the center one can only see the backside of the sign (Images 20 and 21).

Image 20: The accessible parking place sign (Toivanen, 2015)

Image 21: The accessible parking place sign from the other direction (Toivanen, 2015)

7.4.2 Entrance and Lobby Area

The main entrance consisted of stairs with four steps equipped with a railing. There were no contrast stripes and the doors were not automatic and heavy. The entrance for persons with reduced mobility was located at side of the building equipped with a ramp and a door that could be opened by pressing a button (Image 24). The signalization was poor as Image 22 illustrates; the sign was worn off and situated low, next to a bicycle rack causing the bicycles to occasionally cover the sign.

In the lobby there were good signs where the toilets and lockers were situated. However, the accessible toilet was around a corner with no clear signalization on the door. There are no thresholds too high in the library service area for a person with reduced mobility.

Image 22: The accessible entrance sign outside the City Library (Jaakkonen, 2015)

Image 23: The toilet signalization (Jaakkonen, 2015)

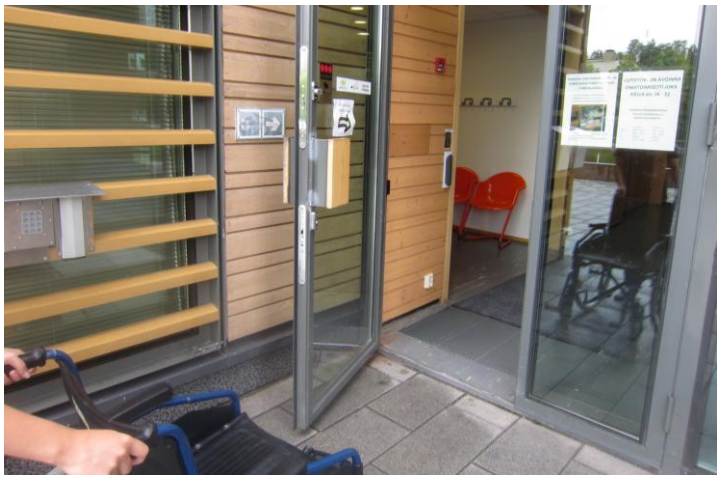

Image 24: The button operated accessible entrance (Jaakkonen, 2015)

7.4.3 Service Area and Counters

The service area is well illuminated and the area is easy to perceive. Contrast colors and floor surface materials are well-used making it easy for a visually impaired person to move around the premises. Also the floor material varied from plain grey to dark red with contrast stripes. The service desk area is separated with a metal stripe enabling a visually impaired person with a cane to notice.

The service counters near the entrance were well designed as there were two levels in each service desk. The height was also good making it possible for a wheelchair customer or a short person to reach the counter and self-service automats. The automats shown in Images 25 and 26 are operated with a touch screen making it difficult for visually impaired customers to use independently. There is at least one staff member present at all times willing to help if necessary. An audio induction loop has not been installed in the library service counter area. An employee summed up the personnel's willingness to help in all situations by explaining that if the architectural design does not allow the use of services for all customers, the personnel will do its best to provide it in another way.

The computers used for searching literature pieces could be found on both the children and adults' sides. The computer desks in children's side could be used sitting in a wheelchair but the adults' side's desks were clearly too high. There was also enough space everywhere in the service area to move around in a wheelchair or with a rollator. Next to the computers there were tables, chairs and arm chairs for customers to sit in.

Image 25: The self-service return automat (Jaakkonen, 2015)

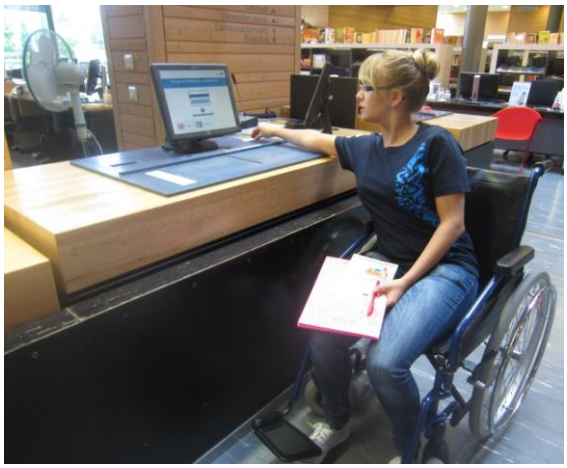

Image 26: The self-service borrowing automat (Jaakkonen, 2015)

Image 27: The service counter (Jaakkonen, 2015)

7.4.4 Toilets

The toilets were located right next to the side entrances and were clearly signalized, with the exception of the accessible toilet which was poorly signalized and located around the corner from the other toilets. In the toilet there were automatic blue lights and the door was locked with a note saying that it is opened by request. The toilet was spacious enough and had railings both on the door and on the toilet. There was also a baby changing station in the toilet next to the door which made the entrance narrow; the station could be folded against the wall but the mechanism was heavy and not easy to use. There was no alarm button in case of emergency and the door was not automatic. The sink had room under it for feet when sitting in a wheelchair. A hook to hang a coat or a bag was situated low enough.

Image 28: The main accessible toilet (Jaakkonen, 2015)

There was also another accessible toilet in the children's area but with no signalization of an accessible toilet. In this toilet the light was normal and sufficient, and there was more room

even with the baby changing station. The sink and a hook were also on a good level as well as the railings. Contrast colors were easily distinguishable.

Image 29: The second accessible toilet (Jaakkonen, 2015)

7.4.5 Elevator and stairs

The elevator was located near the entrance and had automatic doors with a voice signal and audio guidance on each floor. In addition the buttons were marked both with Braille and numbers and the call-button for the elevator was on a suitable height. Obligatory emergency buttons and weight capacity were written inside the elevator. The elevator had enough space for a wheelchair and a helper as seen in Image 30. There was also another elevator near the children's area but it was not in customer use. The stairs leading to the second floor and the cellar storage room are made of red tile with railings. There were no contrast stripes on the stairs.

Image 30: Inside of the elevator (Jaakkonen, 2015)

7.4.6 Uutistori and Pentinkulma

Uutistori is a separate reading hall with a return automat located inside the library with longer opening hours. There are magazines and papers available for reading, and there are no personnel present at all times. The self-service automats are accessible with a library card with which literature can be either returned or borrowed. Also computers are available for browsing or searching material. Inside Uutistori there are tables and chairs for reading.

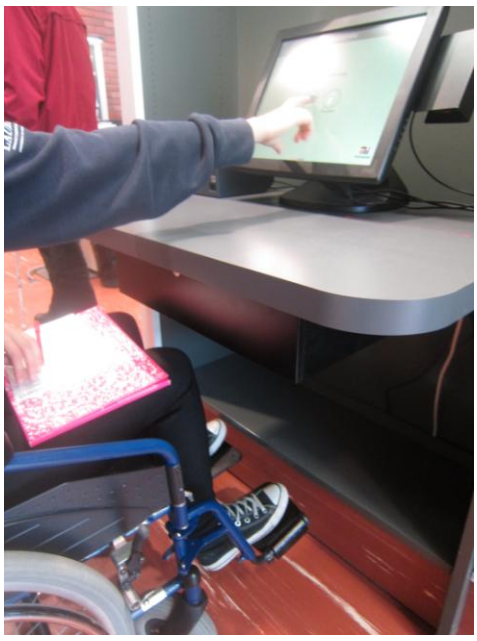

Image 31: The self-service automat and computer in Uutistori (Jaakkonen, 2015)

Pentinkulma is a hall used for events and performances, as well as small concerts. It has an audio induction loop installed and good audio system. Pentinkulma is open only during the events and occasions. Both Uutistori and Pentinkulma are easily accessible with low thresholds and wide, double doors. The room is spacious and has large windows making it well illuminated.

7.5 Pedestrian Street

The pedestrian street of Kerava is located in the heart of the city. The street is the center of business in Kerava as well as a venue for all the annual events and festivities such as Valkosipulimarkkinat (free translation in English Garlic Festival), Sirkusmarkinat (free translation in English Circus Market) and Kansainväliset Suurmarkkinat (free translation in English International Major Market). Aurinkomäki (free translation in English Sunhill) is also a popular park along the pedestrian street where outdoor concerts are held during summertime.

The pedestrian street is barrier free. The only barriers are the caused by the restaurants along the street that have terrace areas with moving furniture during the summer. According to our visually impaired test users the street lamps, sewer grates, benches and other permanent structures do not form barriers after they have been memorized. However, the moving obstacles create more problems. The street is partly paved with cobblestone which causes problems for those who use a cane for orienteering (Image 32). The street has no level differences except for a few stairs that can be avoided by using ramps. There are different materials and colors used in the paving, which create contrast and memorable walking routes.

The pedestrian street is almost completely closed from cars and motorized vehicles, thus making the area safe for pedestrians. Only taxis and maintenance vehicles are allowed, as well as the transport of goods to the market square. Bicycles are allowed and since there are no bicycle lanes they are ridden amongst the pedestrians.

Image 32: Pedestrian Street (Jaakkonen, 2015)

7.6 Railway station and Surroundings

The public transportation of Kerava includes train and bus traffic, both intercity and regional. The combined bus and railway station is located in the center of Kerava and offers good connections to Helsinki Regional Traffic areas further. The operating commuter trains that stop in Kerava go south towards Helsinki and North towards Lahti and Riihimäki. The commuter buses in Kerava include two internal bus lines and also regional buses can be made use of. The bus and train schedules are designed to fit the needs of everyday traffic and school timetables. Parking spots and bicycle racks can be found next to the station but they are limited. The ticket sale is operated by HRT and VR in an R-kiosk in the station building. (Keravan kaupunki; joukkoliikenne.)

Overall image of the accessibility of the station is adequate. There are no level differences in the station area and the signalization is good. The positive remarks are the renewed audio and announcement systems that are clear and spoken in three languages; Finnish, Swedish and English. There are also digital information boards next to each track announcing the arriving and departing trains. The negative remarks are the gap between the track and train making it hard or even impossible to get onboard the train in a wheelchair without a helper. Also, the station building is not easily accessible with heavy non automatic doors and tight spaces. The bicycle racks at the station are insufficient causing the fairway to get easily blocked with bicycles as illustrated in Image 33. On the other hand there is a ticket vending machine right by the station so it is not necessary to go into the building in order to buy a ticket. The machine is operated by a touch screen but tickets can be bought from the R kiosk or on the train. The toilets however are located in the station building and are not free of charge. The station tunnel leading to the center and pedestrians' street can be found in each track, enabling access to the tracks in case the elevators don't work.

Image 33: Bicycles in front of the station (Toivanen, 2015)

7.6.1 Arrival and Parking

There are two parking areas, one on each side of the tracks. There are accessible parking spots on each side as well as an accessible drop-off place next to the station building (Image

34). The amount of parking spots with unlimited parking time is inadequate compares to the amount of cars. There are also two-hour parking spots on one side. The way from the parking areas to tracks and the station building is even and relatively short. The bus station is right next to the station building that has straight access to the first track. The tracks can be accessed using the tunnel connecting all the tracks. There are steep stairs and a ramp for bicycles and baby carts but they cannot be used with a wheelchair. There are two elevators that provide access to tracks. However, on the testing day the other elevator did not function which would cause a long detour around the whole station area to the station tunnel leading to the pedestrians' street.

Image 34: Accessible drop-off place in front of the station (Toivanen, 2015)

7.6.2 Signalization

The signalization of the railways station is sufficient for all senses. There are signs with good contrasts and adequate size indicating the location of the elevators and the number of the track. The information boards displaying the train and bus schedules can be found in more than one place and they are clear. In addition there are announcements informing the visually impaired. The train lines inside HRT area are indicated on large info boards together with the daily train schedules.

Image 35: The accessible elevator sign (Jaakkonen, 2015)

7.6.3 Station building

The entrances to the station building are located on two sides, one of them with a ramp (Image 36) and the other with stairs. The ramp has railings that prevent falling off and provide support. The double doors are heavy and non-automated with a reasonably high threshold that cannot be easily passed without a helper. The vestibule between the double doors was narrow and caused problems for a wheelchair user without a helper. All in all with the high threshold, double doors and little space the station building was inaccessible without a helper. The customer area consists of a cafe and an R-kiosk. The space between the shelves in R-kiosk was narrow. The toilets are not free of charge but there is an accessible toilet together with women's' toilet. The toilet is spacious and well-illuminated and the toilet has railings. The sink had enough room under it for a wheelchair and the door was light and easy to open. The coat hook however was placed too high.

Image 36: The wheelchair entrance (Jaakkonen, 2015)

7.6.4 Elevator, Stairs and Station Tunnel

The two elevators were located on the first track as well as between the fourth and fifth track providing access to each track. There were good signalization for the elevators and they were wide enough for a wheelchair and a helper. There was only one button for moving up or down in addition to the alarm and a button for closing or opening the doors. There was no audio guidance or Braille except on the alarm button. However, all the buttons had embossed symbols. There was no threshold to the elevator making it easy to access. The stairs were made of homogenous granite tiles that had no contrast stripes and had railings on both sides. There was a ramp that was separated from the rest of the stairs with a railing.

Image 37: The elevator (Jaakkonen, 2015)

Image 38: The stairs (Jaakkonen, 2015)

The station tunnel under the tracks was well-illuminated and with good color contrasts and had also a contrast stripe the floor. The railing existed on both walls of the tunnel (Image 39). In the other tunnel that lead from the tracks to the station tunnel near Sampola Service Centre and the pedestrian street in the center was entered by walking a long, downward ramp. In the middle of the ramp there was a plateau for resting, and the gradient was light enough for going up or down using a wheelchair. The ramp was also illuminated and had railings, as well as a contrast stripe on the floor.

Image 39: The station tunnel under the tracks (Jaakkonen, 2015)

Image 40: The station tunnel connected to the pedestrian street (Jaakkonen, 2015)

7.7 Sampola Service Centre

Located next to the railway station Sampola Service Centre provides most of the municipal services in Kerava. It was opened to the public 1.10.2014 and designed to offer all necessary services under one roof. There are a total of five floors, of which floors from one to three are meant for customer use. Floors four and five are for the staff and city's office premises. The services available are dental care, social work, guidance center, adult education center, education and teaching activity, social and health administration and city management premises. Police and registry office related issues, as well as Helsinki Regional Traffic services are handled in one joint service point. Also youth center and rental conference rooms are available in the downstairs. (Keravan kaupunki; Sampolan palvelukeskus.)

As a whole, Sampola building was accessible and in most cases could be visited without a helper. There were however a few problem areas, the greatest problem for the visually impaired customers being the signing in to the dental services. The signing in was done using a touch screen machine seen in Image 41, where one had to place a social health insurance card and receive a service number. There was an audio signal when a service number was changed and the customer had to check the room number from the service screen. If the customer did not find the right room, the dentist came calling them by name. Otherwise the staff was very helpful and ready to assist a customer in need. The structure of the building was simple and there were no architectural barriers. The signalization was also good and the info desk had a floor map of the building.

Image 41: The self-service automat with touch screen (Jaakkonen, 2015)

7.7.1 Arrival and Parking

Sampola is located right next to the railway station and even has an entrance straight from the station's tunnel. There is also an underground parking area and easy access for a car to right in front of the main entrance.

Image 42: In front of the main entrance to Sampola Service Centre (Jaakkonen, 2015)

7.7.2 Entrance and Lobby Area

There are two entrances to Sampola, a side entrance below the ground level and a main entrance in the street level. In the side entrance there is an assisted door but not fully automatic. The width of the door was sufficient for a wheelchair and could be managed without a helper. The main entrance had one automatic door out of three doors in total. However, the automatic door did not have any signalization. After pointing out the lack of a sign to the staff they immediately fixed it. In both of the entrance halls the contrasts were good and lighting was excellent leaving no corner dark. The info desk was located directly in front of the entrance thus making it easily accessible for all. There was also an information board of the buildings floors and their services.

Image 43: The information counter in the entrance hall (Jaakkonen, 2015)

7.7.3 Service Counters and Waiting Area

The service encounters were all good height and had two levels, one suitable for a wheelchair customer and one for a walking customer. However there was a partial glass between the customer and the clerk which could cause problems for communication with those that have a

hearing impairment, especially since there was no audio induction loop. The service counters and customer areas on different floors were similar, which makes it easier to orientate for the visually impaired. The waiting areas were spacious and had plenty of seats for customers (Image 44). In the first floor there was also a computer table and a practicing point for using the travel card. All if the counters and information desks were accessible by a wheelchair. The coat racks were ill-placed around the corner with no signalization.

Image 44: The waiting area (Jaakkonen, 2015)

7.7.4 Toilets

On each floor there was an accessible toilet in the same location. The toilet was well signalized and spacious. The only problem with the accessible toilet was that there was an automatic light which did not recognize the customer until they reached the sink. When the lighting was on it was bright and sufficient. There were railings on the toilet and in the door, as well as a coat hook low enough. Also an alarm cord was available in case of emergency. The sink had enough space under it and was on a suitable height for a wheelchair. There was also a baby changing station in the toilet that could be lifted up against the wall.

Image 45: The accessible toilet (Jaakkonen, 2015)

7.7.5 Elevator and Stairs

The elevator had an automatic door but no arrival signal making it hard to notice when the elevator had arrived. There was no threshold and the buttons were lit and distinguishable by touch but had neither Braille nor audio guidance. The elevator was large with enough room for a wheelchair and other customers. Obligatory emergency buttons and weight capacity were written inside the elevator. The staircases did not have a contrast stripe and the pattern was granular and gray made of stone tiles. There were railings on each side but the homogenous pattern made it difficult to distinguish the floor from the stairs.

7.7.6 Conference Rooms

The conference rooms in the third floor were accessible by wheelchair even though there was a small threshold. The room could be combined with the adjacent room next to it by removing the partition. All these rooms had an audio induction loop and could be modified to suit several occasions by moving the tables and chairs. The fifth floor conference rooms were not open for public and due to the summer holiday season there was not enough staff to show the rooms.

8 Conclusions

Based on the collected data and test users' experience all of the locations were accessible except for Gallery Alli due to its architectural barriers. The greatest factors that hindered the accessibility were the lack of automatic doors, audio induction loops, inadequate elevators and the height of service counters. Automatic doors include completely automatic and partly assisted doors. Partly assisted doors can be either button operated or equipped with a mechanism that assists the opening and maintains it open for a short time. For example the Sampola Service Centre had a completely automated door on both entrances. The only destinations with an audio induction loop were Pentinkulma in Kerava City Library, Kerava City Church and Congregation Center and in the conference rooms of the Sampola Service Centre. None of the destinations' elevators had audio guidance and only one of them had Braille writing to indicate the buttons. Only the Kerava City Library, Sampola Service Centre and the railway station had elevators with automatically opening doors.

The most accessible destinations were Art and Museum Centre Sinkka, the Kerava City Library and the Kerava City Congregation Center. The most common positive remarks in all of the destinations were contrast colors, lighting, railings, helpful and professional staff and accessible toilets. Contrast colors help visually impaired to gain better understanding of the sur-

roundings. In addition to contrast colors, contrast stripes, different floor patterns and materials help customers to recognize and understand the different areas in the service environment. For example, in the Kerava City Library the service counter area was lined with a low metal stripe. The Art and Museum Centre in turn had good contrast colors with dark gray floors and white walls. The importance of lighting is highlighted when there are visually impaired customers involved. The Kerava City Library had good lighting all around the customer areas. All the corners must be illuminated as well as the entrance areas both from the inside and the outside. Considering the importance of railings, stairs and toilets are highlighted as these are the places where extra support is needed for those with reduced mobility. The staff on the other hand is the main source of information and assistance which is why it is important to train and educate the staff for different customer encounters. In the Art and Museum Centre Sinkka the staff was extremely informative and helpful and was aware of the research for this thesis. The requirements for an accessible toilet are a toilet seat with railings, an alarm cord, a sink with enough room underneath for a wheelchair and easy to reach all the necessities.

To summarize, the cultural destinations researched in Kerava are well adapted for all senses aside from minor inadequacies. The research results base on the experiences of the test users and of the authors, interviews and general observations. The lack of a test user with reduced mobility may have influenced the results of this research. Additionally, two of the test users were familiar with most of the destinations beforehand, which may have affected their perception of the locations' accessibility. The authors did not have sufficient equipment to measure the gradient of the ramps. Instead the appropriate gradient was estimated by concrete tests with a wheelchair.

9 Improvement Suggestions

Removing architectural barriers is one of the most expensive renovations to be done in order to achieve accessibility. Most of the researched locations' premises are old and therefore have considerably many physical obstacles in the structures. If these architectural barriers and details are taken into consideration already in the design and construction phase of a building they tend to be more cost-effective or not costly at all. Renovating the structures of a building causes expenses both from the actual construction work and possibly the ability to serve customers during the repairs.

Most of the improvement suggestions the authors noted would require great financial investments as the most common inadequacies were caused by architectural structures. Automatic doors, audio induction loops, two-leveled counters and audio guided elevators are examples of the more affordable improvements. Some of the most economic and simple corrections

include adding contrast stripes e.g. to stairs, Braille indicators to elevators, magnifying glasses, clothing hooks, railings, portable ramps, seats, removing glass walls from service counters, doorbells for entrances, more informative marketing and better training for staff.

10 Self-assessment

All in all the thesis process was surprisingly interesting and intriguing. The authors have never before conducted a research as thorough as this thesis, which was a good learning experience. As the research and data analysis took place during the summer when both of the authors were working, the time felt limited. Having a commissioner helped and motivated in the process of research and writing. Dividing the work load both in the writing process and the on-site research was functional and easy. The authors hope that the results of this thesis will benefit VANE and other associations and private persons when considering the accessibility of a destination.

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