Degree project

Designing New Social Media Services For Seniors’
A Participatory Design Approach

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Dedicated to
My father
Vilson Çarçani
Abstract

The society is getting older. A process called aging at the bottom will come with demographic and consequently socio economic changes. Due to this tide wave of elderly I have focused my research on seniors and the need for designing new social media services for them. This thesis is focused an understanding senior’s daily life, their activities, their relationship with their family, friends and groups of interest, how are they currently using the technology and finally to find out with them possibilities for alternative social media services that can sustain or enhance their social engagement and participation. A participatory design approach has been used for the research. Different techniques like cartographic mapping future workshops, walkthrough and diary are the methods that I have chosen for the collection of data. Data gathers is analyzed through the usage of thematic analysis and the main thematic has been presented by the original expressions of seniors during the workshops. Social media is still in its begging when it comes to services for seniors and the opportunities available are huge. This research can be considered a good start also for further services in the future.

Keyword: Social media services, Seniors, PD, Elderly
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# Table of Content

Chapter 1: Introduction

1.1 The Aim and Research Questions ................................................. 7
1.2 Significance and Contribution of the Study ..................................... 7
1.3 Limitations ................................................................................. 8
1.4 Justification .............................................................................. 9
1.5 Disposition of the Thesis ............................................................. 10

Chapter 2: Seniors and Social Media – A Literature Review ..................... 12

2.1 A Review of Seniors Life and Social Interaction ............................... 12
2.2 Social Media – an Introduction ..................................................... 14
2.3 Social Media as a Communication and Co-operation Tool .................. 15
2.4 Seniors and Social Media ............................................................... 17
2.5 Seniors Use of Social Media in Sweden .......................................... 18
2.6 Summary .................................................................................. 20

Chapter 3: Design, Participatory Design and Designing with seniors – A Literature Review ................................................................. 22

3.1 Designing for Enhancing Creativity .............................................. 22
3.2 Participatory Design .................................................................... 24
3.3 Guiding Principles of Participatory Design ..................................... 25
3.4 PD as a Value Centered Approach ................................................ 26
3.5 Challenges to Design with Seniors ............................................... 26
3.6 Presentation of PD Tools and Techniques ....................................... 28
  3.6.1 Mapping Methods ................................................................. 28
  3.6.2 Future Workshop ................................................................. 29
  3.6.3 Diary and Walkingthrough ..................................................... 30

Chapter 4: Research Methodology .......................................................... 32

4.1 Research Paradigm ................................................................... 32
4.2 Why PD in this project? ................................................................. 33
4.3 Data Gathering ........................................................................... 34
  4.3.1 Recruitment ........................................................................ 35
  4.3.2 Participant ....................................................................... 36
  4.3.3 Location ........................................................................... 36
4.4 Participative Methods ................................................................. 36
  4.4.1 Cartographic Mapping – Workshop A ................................. 37
  4.4.2 Cartographic mapping – Workshop B .................................. 39
  4.4.3 Diary .............................................................................. 41
  4.4.4 Walking Through (Self – Observations) ............................. 42
  4.4.5 Future Workshop – Workshop C ........................................ 43
4.5 Data Analysis Method ................................................................. 45
4.6 Ethical Considerations .................................................................. 47
Chapter 5: The Empirical Findings

5.1 Seniors Everyday Life

5.1.1 Daily Activities
5.1.2 Technology used in daily activities
5.1.3 Seniors Vision of the Future
5.1.4 Social Relations
5.1.5 Social Networks as a Communication Tool

5.2 Toward the Design of Social Media

5.2.1 Critique of the Actual Situation
5.2.2 Seniors Wishes and Requirements

Chapter 6: Discussion

6.1 Discussion on Empirical Material

6.1.1 Daily Life Activities
6.1.2 Seniors Social Relations
6.1.3 Social Media Services – Desires and Requirements
6.1.4 Reflections on The Design Process - Designing with and for Seniors

6.2 Reflection on the Methods

Chapter 7: Conclusion

7.1 Conclusions
7.2 Research Contribution
7.3 Future Research

REFERENCES
Table of Figures

Figure 2-1: Seniors and usage of computer and Internet
Figure 3-1: Level of abstraction in the design process
Figure 3-2: Cycles of involvement in the design process
Figure 4-1: During the workshop of “An active day of social engagement and participation”
Figure 4-2: Cartographic mapping – Sheet based
Figure 4-3: During the development of the workshop
Figure 4-4: Ranking the results of the critique phase
Figure 4-5: Activities in the Future workshop
Figure 5-1: Workshop A - Cartographic Mapping
Figure 5-2: Some moments from the walkthrough of a participant
Figure 5-3: Moment from playing the Video Scenario
Chapter 1: Introduction

An ageing population is taking place in the European countries as well as in the rest of the world (AAL, 2014). The so-called tide-wave-of-elderly is noticed also from the statistics which show that in European Union zone the percentage of persons over 65 will grow and will be around 30% of the total population by 2060 (Demunter, 2012). Factors like the increase of the longevity and the low levels of fertility that have been maintained in Europe during the last decades will have an impact on social and economic level (Wittgenstein Center, 2014).

Depending on an ageing population it is also necessary to pay attention to elderly and their everyday lives. Hence, in order to maintain the social structures in the whole society we need to focus on the way seniors socialize and how they communicate with others in the environment in which they live. Even though the statistics differs between different agencies it is noticed that the percentage of the population over 65 has increased during the last decades. Further, this is estimated to continue to grow with a fast rhythm during the next years while the baby boomers, persons born during the demographic Post–World War II between the years 1946 and 1964, will arrive their retirement age (OECD, 2013).

While the population is getting older, we need to increase the understanding of seniors and their daily lives and activities. Actually, thinking about seniors reminds me of my grandparents, their stories and their incapability to deal with new technologies that sometimes made me smile. Nowadays there is a shift in our view of elderly persons’ daily life and activities. Seniors have become more independent on affording the life at their homes. In addition, they have become more positive toward the exploration of new technologies (GlobalAgeWatch Index, 2014a).

As the number of seniors grows the same happen with the interest of ICT toward this social group. A number of ICT tools and services have been developed lately. ICT for elderly has focused on four main sub-divisions: the first are smart homes devices which help in allowing aging in place by offering fully automated devices like alarms, sensors, reminders, door locks etc. second are assistive technologies which gives the possibility of elderly with problems to perform a better and independent living, third social care technologies which are tools that allow the communication with social care workers and fourth Internet based tools which enhance the communication and relationship through the usage of social media services. These devices are designed to fit to seniors and their ability to adapt to new technology.

The term smart home devices refer to a number of smart devices installed in houses to increase the safety of actions of seniors. These devices communicate with each other and are centrally managed. Here we can mention devices like sensors activators, heating sequence, safety alarms etc. Finken and Mörterb (2014) in their article Performing Elderliness - Intra-actions with Digital Domestic Care Technologies argue that Smart Homes can be divided into two types a) fully automated smart house which is a home for elderly equipped with digital infrastructure for offering security and b) home for elderly with a digital infrastructure which offers security, trust and autonomy to elderly in their homes. That is, a number of devices have been designed for smart homes and remote control of them like
sensors activators, alarm systems and tele-care or tele-medicine systems (Mort et. al., 2008), temperature sensor, light sensors, microphone, and pressure sensors. Sensors are mostly used for avoiding obstacles and to preventing dangerous conditions (Chan, et al., 2008). These smart homes improve the feeling of comfort, enhance security and also save time for seniors (Maitra and Vasquez, 2012).

Assistive technologies refer to the technologies that help seniors to perform their daily activities independently. They represent tools like pill reminders and other tools of support activities to perform daily task. As seniors forget things with the age these technologies take the place of task reminders. Some of the most used ICT tools for elderly are portable alarm, fire alarm, movement sensor mats and door alarms Miskelly (2001). One of the main initiatives toward the design of new ICT tools and social media service for senior citizens has been the Active and Assisted Living program (ALL). The Ambient Assisted Living Joint Programme (AAL JP) is a funding activity running from 2008 to 2013, with the aim of enhancing the quality of life of older people and strengthening the industrial base in Europe through the use of Information and Communication Technologies (ICT). Therefore, the AAL JP is an activity that operates in the field of services and actions to enable the active ageing among the population (AAL 2014). Other projects towards the usage of social media and senior citizens are Shades of lightweight: Supporting cross-generational communication through home messaging (Lindley, Harper and Sallen 2012).

Health care devices are the third kind of devices designed to support elderly. These technologies improve the health and social care service for seniors. An example is the digital pen in Sweden used to transfer information and documentation of elderly daily activities. It transfers information to care workers through the usage of serial buses and helps them in giving a better care service to seniors (McKinney and Desantis, 2012). Other technologies had to do with smart devices which can measure health parameters and transmit the information in the remote where seniors are controlled by the care workers.

In the last years the focus of applications designed for seniors has changed. Despite the literature for Smart Home devices designers are also focusing on the part of entertainment and enhancement of social connection between seniors by developing Internet based services in the form of social media services. Toward this social commitment of seniors in the society have been discussed different projects but still few things are implemented in this direction.

Hence, simultaneously as the population is growing older new technologies are introduced in peoples’ everyday lives. In the last decade, an array of technologies has changed the way many of us interact with each other depending on the availability of Internet based communication systems such as email and social networking services like Facebook and Twitter (Fuchs, 2014). These new technologies have changed personal communication. Other communication technologies have changed old business practices and have introduced new channels of communication with the customers (Howcroft and Trauth, 2005). In the beginning technological tools were designed only for improving working processes but nowadays the technologies has moved outside the workplace and are projected mostly for entertainment of the society. Especially social media services and the Internet have influenced people’s communication and their engagement in the society. As Fuchs (2014) expresses in his book Social Media a Critical Introduction, based on theories of Karl Marx and technological determinism, social media is one of the main technological influencers of
the last decade in terms of human social relations, organizational structure, and cultural practices.

As social media services on the Internet are changing fast and customizing based on clients’ needs, the designers of these social media services are also paying attention to the changes in the demography of the population. The socio-economic changes due to the aging population have also attracted the interest of the designers of ICT services. Hence, designers are now showing more interest in seniors which can use the technology in performing and enhancing their daily activities (Czaja and Lee, 2007). ICT services designed for seniors has until now focused more on tools to help seniors to age well in their homes like alarms, sensors etc. and also on health care monitoring systems like blood pleasure and heart bit bracelet, pills reminder etc. (Mort et. al., 2008; Chan et al., 2008)

These ICT services and tools have increased the quality of life for seniors and also the autonomy on performing daily activities (AAI, 2014). Researchers with a focus on the relationship between seniors and ICT have started lately to turn their attention to provide innovative ICT based solutions aimed to help seniors to be active, joyful and socially connected, effectively contributing to their health, overall quality of life and to social inclusion (AAI, 2014). Designing innovative ICT based solutions aimed to help seniors to be active, joyful and socially connected will be my research focus. Thus, my focus has similarities with Alaoui’s and Lewkowicz’ (2013) research - it was part of the European project AAL FoSIBLE, with a focus on design of Smart TV to help seniors to better interact with their external network and in this case reduce the social isolation.

In order to be able to measure the social and economic progress of seniors, the HelpAge International, an organization which helps seniors in having a better life, in collaboration with other organization and researchers developed the Global AgeWatch Index (Global AgeWatch Index, 2014a). 13 different indicators are used to calculate this Index including income security, health status, education and employment and enabling environment to examine elderly quality of life. In 2013 the Global AgeWatch Index examined the quality of life of people over 60 in 91 nations (Global AgeWatch Index, 2014b). Based on the analysis of these factors researchers concluded that Sweden is the best place to grow old due to the facilities that seniors have access to. Having a standard base of income that support your expenditures, health care services that focus on strategies for increasing life expectancy and having the right to influence and work in the society in which you live enable seniors the desire of engaging more in activities and improves the quality of their daily life. Further, seniors in Sweden are going out of their comfort zone and trying to have a more active life. Swedish seniors are now exploring the facilities that the Internet and social media offers. (Global AgeWatch, 2014b) Hence, seniors in Sweden are changing as they are living longer, are more active, and are becoming increasingly literate online. Swedish seniors are interested in new communication channels and new social media solutions which can empower them and their social relationships. Due to this, I will explore their daily activities and how new social media service can help them to enhance their social relationship and to

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1 I will use the term seniors and senior citizens as synonyms to refer to my target group.
engage them in the social activities in the environment in which they live (Statistics Sweden, 2014).

The situation of senior citizens and especially the 65+ population in Sweden as well as in other western country has changed. A new viewpoint of life after retirement, favored by a better health condition, has evolved. Seniors are living more active lives and they will continue doing so in the future. They are participating more in different entertainment activities in that they are interested in. Another interesting aspect is the increase in the usage of Internet and especially social networks as an important communication tool to be used to communicate with their friends and families. The relationship that seniors have with the technology now has changed this also due to the fact that the technology itself is evolving. New ICT services have developed and the services in itself are more customer oriented (Howcroft and Trauth, 2005).

In the research I will focus on social media and its characteristic for enhancing the social engagement and participation of seniors in the society. The importance of social media will be analyzed by involving seniors to discuss their daily activities and the most important social relations in their life. The research approach that I will use will be Participatory Design and its methods and techniques.

1.1 The Aim and Research Questions

The aim of my research will be to get an understanding of senior’s daily life, their activities, and their relationships with their family, friends and groups of interest. By having a general overview of their daily life I aim to understand if they are using social media and if it is an important part of their daily life. My focus is on seniors’ social relationships and whether the usage of social media can help in empowering them, and at the end to find out possibilities for alternative social media services that can sustain or enhance their social engagement and participation. The main research questions are as follows:

What are the main activities that seniors perform in their daily life and what kind of ICT or social media do they use to support these activities?

Who are the most important social groups in seniors’ lives and how do seniors sustain these relationships/communicate with these persons? Is social media an important tool for enhancing social relationships of seniors?

What kind of social media services do they require and wish for to enhance communication with the social networks and to support active lives?

The research will be conducted in Växjö, Sweden. A participatory design approach will be used to empower the participants, to describe their needs better, and to contribute in the future design of social media services. Seniors living in Växjö will be involved in the study.

1.2 Significance and Contribution of the Study

Bradley (2001, p. 21) expresses that new technology design gives the opportunity to redesign society towards welfare for all. She writes:
We now have a whole new chance to explore the human side of societal change taking advantage of technology to shape a good and balanced life. Let us use this opportunity to redesign society towards peace, democracy and welfare for all...those who develop, introduce and use technology promoting peace, a deepening of democracy, welfare and quality of life for all will be the winners.”

The design of new technology has to aim toward the enhancing of a good information society. My research is based on the vision Bradley argues for with the aim to be able to design technologies with seniors who will redesign in itself the social relationship of seniors and the environment in which they live. My research aim is also to promote a good information society for seniors, and to be able to come up with some social media services which will empower seniors and their social relations. Another contribution will be the fact that seniors will be the one who will think of solutions for social media services for them. Seniors will have the possibility to express their opinion and suggestions for possible social media services.

I will use Participatory Design (PD), an approach that by itself is rooted in the Swedish academic history. PD is a collection of design practices for involving the future users of the design as co-designers in the design process (van der Velden and Mörtberg, 2014). PD offers a number of methods and techniques which can be adapted to the goals of the research. The aim is to design with and for seniors and to pay attention to their ideas in the design process. Designing with and for seniors will support them in order to express their needs in a better way. This will also be useful for me in order to design something based on more realistic scenarios of Swedish seniors’ daily life.

As mentioned above seniors now are performing more activities in their life. The improvements in health care and Smart Home devices have helped in the longevity and have also permitted seniors to retire at their homes (Finken and Mörtberg, 2014). As the social media services have offered so many facilities for communicating and has created a new way of entertainment for a huge part of the population, it is important that also seniors profit from this. Due to this, trying to understand what social media services can be designed for seniors in order to increase their quality of life and enhance their social engagement and participation in the society is important and significant.

The significance of the research stands also in the fact that most of the researches in Sweden toward seniors have been for designing Smart House devices. Only some recently research moves has been toward seniors social inclusion and reconnection with their networks. In this direction the wide area of study of this research toward the understanding of needs and desires of seniors for new social media services is important for offering to seniors some new ICT solutions which will promote entertainment and social engagement in the good information society.

The contribution of the study stands also on the fact that it gives a full view of the daily social and individual activities of a group of seniors. This is a good start to understand what can be designed for them, what social media services we can think to design which fit better to what seniors want.

1.3 Limitations
Seniors represent a wide group. There are variations within the group due to the level of cognitive decline, social life and other activities that seniors do. These variations bring the need of many workshop groups in order to be able to gather data and to represent in the research all the categories in the seniors‘ community. Due to the existence of variations within the group in seniors make the small number of participants in my workshops to be considered as a limitation of the study. However, the qualitative nature of the study and the focus in the content rather than the quantity of material gathered in the workshops make the small number of participants to not be considered as a limitation. I try to make the group as representative as possible for all the categories, but still there are gaps in the sense of representation of the whole categories of this target group. My target group is seniors which were actively living their life and which have something to say and wanted to participate.

Secondly I did not include persons with dementia in study. This can be considered as a limitation because actually persons with dementia are mostly suffering of social isolation and need new ways of interacting with the external world. Working with persons with dementia includes also ethical implication which has to be taken in consideration and I judged it was not suitable to include this category in the study. My choice was conditioned by the fact that seniors who are still actively living their life are more willing to participate and at the same time, they have something to say and are willing to express their desires when it comes to new technologies. Even when seniors are active they unconsciously might be afraid of aging and problems that they can face in the near future and tend to not talk about it. By making them think even for problems that they can face in the future can make seniors generate more ideas which will help not only the category of seniors that they represent but also seniors which has incapability’s. Making seniors think all the scenarios of senior’s life will diminish the limitation of not including all senior’s categories in the study.

Another limitation is that I perform the study in Växjö, Sweden. This is a huge challenge for me as a researcher because I have another cultural background and I do not speak the same language as my target group. As people express better their ideas and feeling in their native language sometimes it is difficult for the involved seniors to express their feelings in English.

In order to diminish the effects of this limitation and understand better what the participants wanted to say I will tell them that they can also express themselves in Swedish and others will to help to find the right English word. This flexibility of using both languages, might give me the possibility to get the whole essence of the research without the boundary of the language. Another element that I will use for diminishing the limitation in language is to try to pay attention to the expression from their body language. Even the emphasis of some expression while talking might be a helpful tool for me during the workshops.

1.4 Justification
An ageing population is a long-term trend that began several decades ago in the EU as well as in the rest of the world. In the past two decades, it was noted that the percentage of the working age population in the EU-27 increased by 0.3 points, while the percentage of the older population increased by 3.7 points (AAL, 2014).
The change in the population is called an ‘ageing at the bottom’. In order to better understand this shift in the demography of the population I present some statistics about the population in Europe (AAL, 2014): By 2020 around 25% of the EU population will be over 65;

- People aged from 65 to 80 will rise by nearly 40% between 2010 and 2030;
- From 2012, the European working-age population will start to shrink, while the over-60 population will continue to increase by about two million people a year;
- The strongest pressure is expected during the period 2015-35 when the so-called baby-boom generation will enter retirement;

Governments in different countries are preparing for this demographic change by taking financial politics and monetary policies in order to manage the situation. The situation in Sweden is the same. Based on the projection for the future by 2050, about 24% of the Swedish population is projected to be aged 65 and over and about 10% of the population aged 80 and over, similar to OECD population average (OECD, 2013).

In Sweden investments has been made toward the health care section and offering home health care to the elderly population (Global AgeWatch, 2014b). A big help has been given also by the academics and their interest toward seniors and their wellbeing. Research has been made also in designing the smart homes, which offer alarm services, care service in elderly people homes, which give them the possibility to stay at home even when there are not so physically active any more (Finken and Mörtberg, 2014). New technological services which support performing physical activities have also been designed and implemented by giving the possibility to seniors to perform physical training adequate for them. This has increased the quality of life and the wellbeing of seniors.

Loneliness and social isolation are considered to be the main problems that cause also illness between seniors’. It is important to think about new way for enhancing the communication between them in order to diminish loneliness. Social media services are considered important tools to redesign the communication between people and give the possibility for actively participating in social activities of own interest (Mayfield, 2008). Hence, social networks are playing an important role in cutting the distance between people and giving the sensation of live communication in every time and from every place possible. The social in social media is related exactly to the idea of communication and collaboration through these services.

Seniors will have an important part in the information society in the upcoming years. The need for staying socially active in order to enhance also their wellbeing will make them start using social media services (Chou, Lai and Liu, 2013). The usage of social media services designed and adapted for special groups of interest gives the possibility of communication to seniors even when they will not be able to move from their home to meet their friends and family.

1.5 Disposition of the Thesis
The rest of the thesis is structured in the following way:

• *Chapter 2. Seniors and Social Media – A Literature Review*
This chapter introduces the concepts and theories about social media services and its social aspect and how seniors are benefitting and can benefit from this. First seniors and their characteristic as social being are described in order to support the idea of need for designing further social media services for enhancing the communication between seniors in the conditions of physical, psychological and cognitive decline. As the focus of my research is to design new social media services then an introduction to social media has been given. The theoretical analysis that has been made from different authors on social media services and their social impact is important for describing why social media service can be important for the seniors and for enhancing their communication and social engagement and participation. Then presentation of authors work on what influence seniors on accepting the social media service and what are the main reasons why they are using social media service has been describes. In the end are presented what social media services are actually being used from the seniors in Sweden in order to give a general perspective of how Swedish seniors behave toward the new social media services.

• Chapter 3. Participatory Design
In this chapter a detailed view of the design process and Participatory design is given. Also the tools and techniques which will be later used for the workshops are presented. The chapter starts with a general overview of the paradigm of this research. Later the explanation of the design in itself as a method of researching especially in understanding daily life and activities is presented. Also participatory design, the development of this method and the main guiding principles of PD has been analyzed in the successive subsections. At the end are presented the techniques of participatory design that I have used in my research and each theoretical characteristic of why are important to be used and how they can be implemented in workshops described by other authors who has developed this techniques.

• Chapter 4. Methodology
This chapter provides an overview of the research design and methodological approach of the study. Ethical considerations important for the study have also been presented. At the end methods used for gathering data and also information about participants, recruitment and location of the study are included.

• Chapter 5 Discussion
This chapter provides the discussion of the empirical data in confront of the existing theories presented in chapter 2 and 3. I have structured it as a discussion for each of the phases of data collection and the answers given to the research question. After discussing each of the empirical finding in relation with the question of the research a discussion and reflection on the methods use has been presented. Here I have included also some tips which will be useful for facilitators while working with seniors in the future.

• Chapter 6. Conclusions
This chapter is constructed on making a conclusion of the study, from the research question posed, methods used for answering to the question and to what extent the research has helped on enriching the field of inquiry with empirical data. The chapter after the general overview of the research concludes with the reflections and recommendations for future research.
Chapter 2: Seniors and Social Media – A Literature Review

In this chapter previous work on the main directions of the research are presented. First, I have presented previous research related to seniors and their characteristic in the terms of daily life activities, social engagement and participation and the importance of their relationships. Then social media and theories that are related to it are introduced. The social impact of social media and its role in promoting the communication and social engagement based on the analysis of different authors are later presented. This is followed by a description of seniors’ nature of communication with an overview of why seniors use or not social media. Then the focus will be on research and projects for social media and the interaction that seniors have with new services and how they are actually using social media services in their daily life. At the end a summary is included

2.1 A Review of Seniors Life and Social Interaction

As the proportion of older people in populations worldwide has rapidly increased, the number of studies that have focused on this demographic group has also increased (Gorn and Claxton, 1985). The most important activities recognized from the literature refer to activities that enhance senior’s mental, physical, and social health during free time. These activities make seniors feel satisfied, happy, and self-enriched in a leisure state (Wang and Wang). These activities are also what I will focus on in my research. In classification of leisure activities, the type of leisure activities the elderly participate is pretty much the same with other groups. The difference with the other groups stands in the degree of participation in activities. Elderly mostly tend to do activities that are pure recreational or which require less effort, such as watching TV and making tea.

There are two main problematic issues related to the aging in contemporary societies: social isolation and loneliness (Hall and Havens, 2004). In their article Social Isolation and Loneliness, Hall and Havens explain that social isolation come as the result of shrinking of the social relationships that seniors have. They can lose their friends or their loved ones, or they cannot be able to frequent the social networks which they enjoyed to join earlier. The concept of loneliness is not connected only with the idea of living alone but also with one's feeling of dissatisfaction with social contacts in terms of quantity of contacts, quality of relationships or both. One person can feel lonely even when s/he is surrounded by a lot of people, that’s why loneliness is perceived as the negatively perceived social isolation. Social media services might give the opportunity to seniors to diminish the loneliness and social isolation. Findlay (2003) has found that Internet usage helps in alleviating feelings of social isolation and loneliness in older adults. Also the use of emails is seen in other studies as a form of communication which contribute strongly in the ability to live independently (Czaja, et.al, 1993).

The elements presented above have been part of the studies from the field of Gerontology. Gerontology is broadly defined as the study of aging (Phang et. al, 1986). There are three major streams of gerontology research: biological perspective, psychological perspective, and sociological perspective of aging. In the biological and psychological perspectives, the main focus is on the physical and mental faculties of individuals as they enter older age. The sociological perspective, on the other hand, attempts to explain the social behavior of
individuals during the aging process. The last stream of gerontology is also important for the focus of my research and the research that I present below can be positioned in this perspective.

Further, Lindley, Harper and Sallen (2008) in their paper “Designing for Elders: Exploring the Complexity of Relationships in Later Life” give a review of the literature in gerontology, HCI, and human factors with a focus on family and peer relationship in older ages. The review gives a more positive view compared to Hall and Havens view. Thus, Lindley, Harper and Sallen (2008) emphasize that while people grow older they tend to be more positive to their relationship. They are more selective in choosing the people they spend the time with by turning their interest to the most important persons in their life. So by this point of view the social isolation can be seen as something preferred by the seniors themselves. They chose to keep only the most closely relationships. Another aspect that has to be taken into consideration is the fact that seniors want autonomy. They like to be able to live at their homes but at the same keep the close relationships with their children and loved ones. (Lindley, Harper and Sallen, 2008)

Luong, Charles and Figerman (2011) research is also of interest. In their paper “Better in Age: Social Relationship in Adulthood”, they have studied the relationship that seniors have with their close groups. They conclude the most closed persons in seniors’ life are their children, grandchildren, spouse, siblings and best friends. These persons have an important place in seniors’ life with positive effects on their wellbeing once they are strong and intense. The relationship with the husband and wife become stronger as the age passes by and also the amount of time spent together increases in confront of before where everyone had their own social activities where they participated. In the relationship with their children the problem stands in negotiating the time they would like to spend with their children without interfering in their children's lives (Luong, Charles and Figerman, 2011).

In addition, grandparenthood is important because it is a source of fulfilment and happiness depending on that it gives seniors a meaningful role in maintaining family stability, traditions and values, a chance to relive life, and to indulge grandchildren. The problem in this relationship is in the gap created between the generations. While grandchildren are growing up in a digitalized world and as soon as they grow up they are integrated in different social networks, and use digital devices for communication. Due to that it becomes sometimes difficult for their older grandparents to follow their grandchildren (Luong, Charles and Figerman, 2011).

Mostly older adults have at least one living brother or sister, and many have contact on a weekly or monthly basis, particularly if they live near each other (Luong, Charles and Figerman, 2011). For older adults, relationships between siblings are unique and important. Often this is the only continuous family relationship that endures from childhood to old age. Seniors tend to save these relationship and intense their communication in years. The problem starts when they are away and do not have physical possibilities to visit each other. The friends group plays also an important role in seniors’ life. Gathering with people who has the same age gives the possibility for sharing the same interest on the things to discuss and also enable the participation on different activities of their own interest.
Many elderly report that social involvement contributes to a positive self-attitude and self-acceptance (Reichstadt et al., 2010). For example Shaw et al., (2007) note that social support is directly linked to decreased mortality and offers positive health benefits.

2.2 Social Media – an Introduction

Social media represent the new generation of web technologies. It is related to Web 2.0, generated content, and its social nature toward the enhancing of collaboration and communication in the whole society. In order to better understand the social media a review of the Web 2.0 is given. Social media is the latest word used for the services performed through the net. Other terms related to social media are: ‘user-generated content’ or content that is contributed by participants rather than editors (Boyd 2009 in Fuschs, 2014).

The concept of "Web 2.0" began with a conference brainstorming session between O’Reilly and MediaLive International after the crisis of the web in 2001 (O’Reill, 2004). Thus, after the bubble of 2001 where a number of “e” - companies burst, the web started to change from a model of a static web page into a more social oriented model, which was called Web 2.0. This new model was established in order to represent the idea of a new era (O’Reill, 2004).

Web 2.0 was referred to the web as a platform, a single platform where all the e-services where executed. At the beginning no one had a clear idea of what Web 2.0 was but with the years the new dimension and characteristic of the web are affiliated with the term Web 2.0 (Fuchs, 2014).

Consequently, Web 2.0 implies the changes in the architecture of the web toward a more participative and social environment. While in Web 1.0 the power of content creation and sharing was centralized, in Web 2.0 it is noticed the empowerment of the user and its capability to produce the content to be shared through the usage of spreadable media. Users are given the possibility to share any kind of information by the usage of a new topology. A topology with roots in real social networks that also enhanced by casual and algorithmic connections (Fuschs, 2014). The network in itself becomes more potent as the number of users that join it increases.

O’Reilly (2005) mentions the basic principle for the success of the web as a platform the harnessing collective intelligence. Companies like Google, Wikipedia and others use the information provided by the users in order to better reply to user needs and becoming in this way more users – oriented. He also explains that the operations become a core competency and web applications are seen more as services which have to be updated and maintain on a daily basis. Another important principle is to see the users as co-developers, to understand what they want in order to give more user-friendly service. In their paper “Web squared: Web 2.0 five years on” Tim O’Reilly and John Battelle (2009) make a new analysis of the web 2.0. They emphasize once more the idea of user content potential and the importance that web 2.0 and social media services enable the promotion of sociality. An important part of their work was the call for example section and the promotion of web 2.0 usages in order to enhance daily activities of people in different sectors of life.

Social media is so based on the opportunities that Web 2.0 platform offers and refers to different services developed throughout the web. Mansours (2011, p.10) describe social media as:
Social media is defined as a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0 and allow for the creation and exchange of user-generated content.”

Social media help in increasing the ability to share and to cooperate with each other which serve also as a tool for collective actions (Fuschs, 2014).

As explained above social media is an important tool for social interaction. There are some features of social media that makes it more vulnerable and promote the collaboration between users. The main feature is Participation. Social media promotes the participation of user in the creation of content by blurring the line between media and audience. Another important characteristic is Openness. Social media is also open for everyone who is interested to share its opinion, voting, comments sharing information etc. Despite enhancing participation and openness social media also emphasize and strength the Communities. Social media promotes communities and give them the possibility to communicate better. It gives the possibility to people who share a specific interest to be organized in communities where everyone shares the same experience, promoting in this way the communities of practices. Social media enhance the community participation and openness though the Conversation and connectedness. Hence, social media is a two way communication medium and it gives the possibility to everyone to stay connected in its virtual networks (Mayfield, 2008).

All the elements mentioned above promote the idea of sociality in social media. It can be noticed that one of the characteristic of social media is its democratic aspects. Giving to the people the freedom of expression and also the possibility to organize massive actions is an expression of democracy and also enhances in itself the sociality between humans.

2.3 Social Media as a Communication and Co-operation Tool

In this subsection the focus is on social media and its social aspect. In his book Social Media a Critical Introduction, Fuchs (2014) analyze social media in a more theoretical viewpoint. He raises an important question: What is social about the social media? (Fuchs, 2014, p.31). In order to analyze the sociality in social media Fuchs bases his analysis on three notions of sociality. The first is social facts built on Durkheim, the second is the concept of Weber’s social actions/relations, and the third is the concept of cooperation developed by Marx and Tönnies. The three concepts are then included in a model of human social activity. This model is based on the assumption that knowledge is a threefold dynamic process of cognition, communication and co-operation (Fuchs, 2014).

Cognition is the necessary prerequisite for communication and the precondition for the emergence of co-operation. Social media is first based in cognition, or knowledge. Is the knowledge of people over some specific topics who promotes and enhance the communications between them. Social media influence especially the empowerment of communication. People with their knowledge and with the interest on sharing and acquiring more knowledge with each other enter in a line of communication. The communication can start the co-operation between people. The main part of Fuchs’ (2014) the threefold theory that I will use is the communication aspect and the perspective of social media as a
communication tool. As Fusch (2014) has explained social media and the social aspect of social media it is noted that social media plays an important role on promoting the communication and co-operation between people. These aspects of social media are what is needed for the seniors in order to enhance their engagement and participation in the society.

Onegri (2012) also presented as main characteristics of social media sites the immediacy, communication, free expression, information exchange and social interaction. The services are thought to enhance communication and an active dialogue between the members or to help to achieve a specific service wherever you are and whenever you want (especially when you connect via the Internet). Ongeri explains:

“Social media is a term used to describe relatively straightforward ways of creating and publishing material on the Internet. The term also describes the media that individuals and organizations use to publish and access material on the Internet and to share it with other users.” (Ongeri 2012, p.1)

Both the authors Onegri (2012) and Fusch (2014) describe social media as a communication and cooperation tool, which can enhance social engagement and participation of people who use these services. In addition, social media sites are potentially powerful tools for communication between individuals and peers, but this form of contact does not necessarily replace traditional forms of communication. It will certainly enhance them and it will definitely produce new ways of communicating. When we think about social media service we have to think not only for the social networks but also for other services, like reading a newspaper, making payment online, buy services online, search on the web for material, read books, listen to music, watch movies, play games etc. All this activities come under the umbrella of the social media services.

By their side customers have realized that they have a wide range of services which has facilitated their life due to the usage of social media so they are asking now for more and more specific services in order to fulfill their desires and wishes. In addition Ongeri (2012, p. 5) argues:

‘making astute use of free tools and more complex services such as SMS text and bespoke social networking software can give councils a scalable, time-efficient way to connect residents together and build community in their locality ... It can be the missing ingredient that makes everything in the community work better.’

In the viewpoint of my thesis the target group of the research is characterized in a decline and shrink of social connections. Seniors with years lose communication with their social networks and also cooperating with them and participating in different social activities become always more difficult. The social aspect of social media described above is what I have cited above from Onegri, “the missing ingredient”. Social media enhance communication and cooperation and what is more important it breaks the limits of space. With social media seniors can connects with the people they want and also can participate in activities even from their home. They can share their knowledge and discuss them with their friend or others that share the same interest. Social media is in this aspect what senior need in order to surpass the social isolation and loneliness and offer to seniors a better living.
2.4 Seniors and Social Media

As described above social media services are becoming an important tool in the technological world. The services are enhancing communication and collaboration between users shortening in this way the distances between them. As explained above cognition, communication and co-operations are the main characteristics of social media and are exactly this characteristic that can help seniors in their daily life and activities (Fuchs, 2014). Social media enhance the sociality and relationships through the usage of it tools. It gives the possibility of connections and communication with social networks. These aspects can be helpful for seniors in order to avoid social isolation and loneliness. Social media services can offer seniors a tool to stay connected with their family members and their close friends even from their homes. The aspect of cognition can give seniors the possibility to explore all the information to facilitate important relationships that they want and are interested to keep (Luong, Charles and Figerman, 2011). The aspect of co-operation might also be possible with social media and to use it gives the possibility to be involved in the activities in the society even if they do not have the possibility to attend them physically.

Even when social media services can play an important role to support seniors’ social engagement and participation it seems that the usage of these services is still too low (Findahl, 2013). Research has focused more on what elements influence negatively in seniors lives to prevent them for using social media service. One of the main phenomena recognized by the literature is the “cognitive decline” (Phiriyapokanon, 2011, p. 8). Cognitive decline is related with senior’s ability to learn and to adapt to new technologies. Thus, the argument is that elderly cannot have the same speed of learning technologies like the youngest. This idea of incapability to adapt to the new technology makes seniors to negatively respond to new ICT tools. Czaja et al. (2006) has found that computer anxiety, unfamiliarity, inaccessible technology, and cognitive abilities have an important impact in predicting technology usage. The research shows that anxiety and unfamiliarity are two common factors of non-use of technology amongst older people. An example is the study of Jay and Willis (1992) who examined seniors’ attitudes toward computers before and after computer training. What they found was that the experience of the training changes the seniors’ attitudes. Selwyn et al. (2003) argue that factors age, gender, marital status and education impact influence whether the technology is accepted or not. The most important factors detected from this study were attributed to seniors’ opinion that computers and social media services had low relevance in their lives. Another factor which influences the usage of Internet or social media services is related to the perception of uncertainty of Internet security. Displaying personal and confidential data on the Internet make seniors unsecure for the usage of social media services (Chou, Lai and Liu, 2013). In the second phase of their research Chou, Lai and Liu have focused on more specific factors which influence the usage of social media services from seniors. The main factors detected are: a) psychological aspect which is related with the psychological viewpoint of social media form seniors. The fact that seniors tend to be confused while using the technology, they also have a comprehension gap of the activities performed on social media service and also they can’t immediately understand the different information access experience in different social networks. b) physical aspect based on the physical incapability to detect some animation of the WebPages, ore to understand the various standard of buttons and hyperlinks in the sites c) cognitive aspect based on the incapability to understand the taxonomies of usage of
Facebook, the access of information and the difficulty of navigation through that big amount of information.

Some other authors have focused on finding out why seniors are using social media. It is seen that there are a number of factors which push seniors toward the usage of social media. One of the main factors recognized from the literature is communication (Gatto and Sunghee, 2008). Seniors want to communicate with their family and friends and in order to keep this connections and communication they have to adapt to the tools that their children and grandchildren use. Familiarity is an important factor (Selwyn et al., 2003) and actively participating in their children and grandchildren life become the source of motivation for accessing the social media services and spending time on mastering them (Chou, Lai and Liu, 2013). Hence, Chou, Lai and Liu (2013) in their study have found that seniors see the Internet and social media as a tool for enriching their lives. Another important factor of using social media services and the Internet is to search for the information that they want. This is called computer self-efficacy (Czaja et. al., 2006). It is typical to search for health caring sites and information about healthy living. This phenomenon is seen as searching for relevant information in their lifestyle (Selwyn, 2004). Finally, seniors use the social media services for different kind of entertainment related to their hobbies and interest e.g. listening to music or exploring the books they like (Gatto and Sunghee, 2008).

Niamh et. al. (2012) in their paper Technology Use in Everyday Life: Implications for Designing for Older Users found that the most popular Internet features used by all age groups were email and Internet search applications, followed by photo based applications. They also detected that older adults were the most interested group on owning a computer and willing to learn to use ICT service. They studied the technologies that were used by seniors. Between them we can mention, digital camera, video games, fitness devices and computer for hobby specific use. One of the main findings was that seniors thought that DVD player were difficult to use but they still had a high rate of usage and all this was attributed to the fact that seniors perceived that this technological tool was useful for them. They also found that seniors use the mobile phone especially for call, text messages and also for photos and picture message.

2.5 Seniors Use of Social Media in Sweden

We know that the worlds’ trend nowadays is the Internet and the services that can be performed through it. In order to better, understand the relationship of the senior citizens with the Internet and social media activities in Sweden, I will present the statistics of the Statistic Sweden (2014).
In Fig. 1 the statistics is presented in the following way:

a. Share of people who have access to a computer at home. (Statistic Sweden 2014)
b. Share of person who has used the Internet every day or almost every day (Statistic Sweden 2014)

As we can notice in Fig. 1 a and b there around 80% of the 65-74 who have a computer and the same percentage is for the access at the Internet. From this, around 47% access the Internet daily. As it visible from the facts, seniors are accessing always more the Internet and in this way they are having access to a whole range of tools that the Internet offers.

In statistics Sweden (2014) there is a list of the activities that the Swedish do while they navigate on the Internet. Among the main Internet services used are sending mail e-post, reading information about different fields of concerns like travel, goods, communication through different instant message tools etc.

There are also public services which are offered on the Internet, like timetable of activities like bus lines, municipality activities, tax payment, application for health care etc. These Internet based services are commonly used by the Swedish citizens. In this statistics is noticed an increase in the usage of social networks among seniors and especially in the usage of Facebook, which is considered the most visited social network.

Another important attitude mention in Findahl (2013) is the increase in the use of e-commerce. From the statistics is noticed that people in Sweden has increased the level of confidence toward the online payments. Seniors in Sweden are more locally oriented on the Internet. They use and visit more Swedish WebPages and also a high percent of them use local WebPages near the region where they live. An important insight was the fact that seniors in Sweden access Internet and the social media services toward the computer. A low percent uses the Smartphone for accessing the net, which makes the computer a good platform for thinking of developing our idea of social media services.
In Findahl (2013) the part of the statistics about senior citizens start with a very interesting story about a 66 doctor which is very active in the technological world. It gives a funny and true view of the senior’s life and expectancy in Sweden.

A difference in seniors and their relationship with the Internet is seen in the level of income and also their educational background. People with a higher income have more access on the Internet and also uses more smart devices in their daily life and the same is with people who has achieved a college degree. They are keener on using the technology and adapting with the new trends.

Findahl (2013) reports also how people of different age feel toward the technology. There can be noticed that seniors do not feel as they belong to this ICT society and also a high percentage find it difficult to find their place in the ICT society. My research will help on understanding why they have this reaction, and with them I will try do understand their requirements toward the huge gamma of services offered by social media.

How it is Sweden situated toward other countries in the Internet usage? Sweden is situated third for the density of users in the Internet and also is positioned third in the ranking for best suited countries to take advantages from the development of IT (Findahl 2013). This make me believe more in my research and the possibilities that this country offers.

However, even though older adults may be among the most resistant to broadband, there is evidence that once these users get a taste of high-speed access, they often come to rely on the Internet as an everyday utility in their lives. While the rates of broadband adoption among the oldest users are low, the frequency of use among those who do have high-speed access is relatively close to the usage levels of younger users. Social media use is somewhat more prevalent among older users who have high-speed connections at home.

2.6 Summary
As noticed above there are some limitations in the interaction between the seniors, the Internet and social media services. In my study I will try to find out where the problems are with the existing social media services offered, why senior citizens do not use them so often and try to find out their requirement and their need toward the designing of social media services which are designed for them and with them.

The motivation of my research is that previous research report senior citizens are suffering from social isolation and loneliness due to the loss of communication in later age. Social media is becoming an important tool in enhancing cognition, communication and co-operation. This makes social media services an important tool to contest social isolation and loneliness by enhancing social engagement and participation. In the literature both a number of factors were recognized with a negative influence on the usage of social media services and factors which enhance the usage of social media. It is important for the researchers to focus on what seniors want in order to diminish the negative factors and enhance the reasons or using social media.

The ICT services developed till now are focused on different directions as explained in section 2.4. As we can notice the focus has been mostly on services related to give to senior’s autonomy at home and to take care for themselves. A few researches have focused
on designing services to enhance communication and social engagement and participation.
Chapter 3: Design, Participatory Design and Designing with seniors – A Literature Review

In this chapter a general overview of a design process will be presented. Then Participatory Design is presented, how it has evolved, and also its main guiding principles and methods. At the end of the chapter researches from authors that have used participatory design in design with and for seniors are presented.

3.1 Designing for Enhancing Creativity

In the book Thoughtful Interaction Design: a design perspective on information technology, Löwgren and Stolterman (2005) describe a way to characterize a design process. It is a helpful resource to gain a better understanding of the entire processes and its activities. They describe design in the following way:

“Design is an amazing activity – it enables people to engage in creating the reality in which they spend their lives. A designer has a chance to do something of importance.” Löwgren and Stolterman (2005, p.1)

Hence, the design is seen as a creative process where there are no wrong answers and where everyone has its own viewpoint of the topics in focus. Having the freedom of working in a unexplored field is very challenging, but at the same time it can lead to revolutionary solutions (Löwgren and Stolterman, 2005). Designing means creating something new. Every design process is unique and it is influenced by a number of factors in which it is developed. The design gives the possibility to rethink on a specific theme and give to the reality the shape that the designer and users all together create. Another element of design mentioned by Löwgren and Stolterman (2005) is the uncertainty. In itself it is related with a number of decisions that are influenced by values and ideals and hold in themselves a quantity of risks. The uncertainty is also caused from the fact that what are being discussed are values and values are influenced from who is participating in the workshop, how the facilitator influence the process of deign. The design in itself is subjective also as values so they are open to further discussion or interpretation which makes the design in itself to be uncertain. This leads to the fact that the design includes responsibility and the designer have to be very careful when she makes decision during the design process.

The design is also a social process where a number of people are included and a number of decisions are taken. The role of the designer is to make reflective decisions and to lead the process of design. These dialectics of design do not stop in one cycle. The design itself goes up and down of this dialectics while it is developed. For example Schön (1987) describes the terms of reflection in action and reflection on action to illustrate how decisions are made depending on practitioner skills and knowledge.
Löwgren and Stolterman (2005) illustrate a design process with three levels of abstraction which influence the way how a good design is realized. They illustrate the design process as a dynamic dialectic as shown in Fig. 3.1.

![Figure 3-1: Level of abstraction in the design process (after Löwgren and Stolterman, 2005)](image)

- Vision – what comes in your mind in the first place that you think about a topic
- Operative Image – The image that you start to build or images that you start to have related to the first vision.
- Specification

It is important to emphasize that the process is not linear or iterative but it is a fully dynamic dialectical process (Löwgren and Stolterman, 2005). The vision, the operative image, and the specification influence each other continuously. The enhancing of visions, operative images and specifications are all very important for the designer and also for the participants involved in the design process. The designer has to implement the right techniques, like brainstorming, games, warm-ups etc. in order to enable all the participants’ visions possible. Are the visions that come in participants mind when they are presented with the theme of the research that will lead them in creating as many operative images as possible. The way how Löwgren and Stolterman (2005) have described the design process is important to catch the holistic view of how the design will develop. The design process starts with a divergent approach and then converges into a single image with its own specification.

Löwgren and Stolterman (2005) describe also design as a social process. As I am going to use the participatory design the design will be considered as a social process in the way Löwgren and Stolterman plead for. In order to have a holistic view of the design, the designer has to know the cycles of invlovement (ibid.). The cycles of invlovement consist of the following:

- The core – here it will be me as the designer and the seniors who will participate in my design
- Periphery – are the senior citizen in Sweden which are considered to have the same living conditions as the one included in the process of design.
- Context – The whole society where the seniors live and part of this big picture of human computer interaction.
The figure below shows the three cycles of involvement.

![Figure 3-2: Cycles of involvement in the design process (after Löwgren and Stolterman, 2005)](image)

A successful design requires recognition of the intricate relationships between the persons included in circles, as well as managing the processes within each circle. In my research, I will try to include the viewpoint of a “thoughtful designer” (Löwgren and Stolterman, 2005). The main focus of the research will be on trying to find out and understand the tacit knowledge of seniors during the process of the design and make them secure to express their feelings and ideas. The focus and the way that the research will be organized will point on the construction of knowledge. In my research there is not an explicit problem that has to be solved but I want to understand senior’s daily activity and how social media can help them to perform these activities and enhancing senior’s engagement and participation in social activities. Due to this the design process of Löwgren and Stolterman, (2005) is a useful way in realizing the objective of the research in a better way.

In the next subsection I will present Participatory Design, a design approach that will facilitate my intention to be a thoughtful designer and researcher.

### 3.2 Participatory Design

Participatory Design (PD) lies among the various social, political and civil rights movement of the 1960s – 70’ when people in Western countries where asking for more rights on the decision making in situation of shared interest and values (Robertson and Simonsen, 2012). That is, PD has its roots in the democratization of the working place. Kristen Nygaard who in 1972 involved the Norwegian Iron and Metal Workers Union (NJMF) in the process of system development, started the Scandinavian PD tradition. The idea of including workers in the design process had two main aims. The first were to contradict the management strategies which were oriented on driving the working task and de-skilling the workers. The second came as a consequence of a change in legislation were workers were given the right to access to the information (Kensing and Greenbaum, 2012). The NJMF project was the first project in which workers and trade unions were involved in a design process. In the project people from the academic world also participated. This new approach of system design became first a representative of the Scandinavian design tradition and later it moved to other countries and disciplines as well (van der Velden and Mörtberg, 2014). Despite the development of new ways to involve workers in a design process the Scandinavian PD
tradition also played an important role in the establishment of the Data Protection Acts and influenced the Worker Protection and Working Environment Acts in Norway, Denmark, and Sweden (Bratteteig, 2004). Other factors that are considered in the root of the Scandinavian PD tradition are political economy and feminism. Political economy is related to workers movements and feminism is related to the movement of women asking for their rights and initiating change through direct actions (Kensing and Greenbaum 2012).

In Routledge Handbook of Participatory Design, Robertson and Simonsen (2012, p.2) define PD as:

“a process of investigating, understanding, reflecting upon, establishing, developing and supporting mutual learning participants in collective “reflection-in-action”. The participants typically undertake the two principal roles of users and designers where the designer strives to learn the realities of users’ situation while the users strive to articulate their desired aims and learn appropriate technological means to obtain them.”

As it is noticed by this definition PD has to do with a collective reflection in action and it is based on the exchange of values and knowledge between the designers and users that make all as equal in PD projects (Kensing and Greenbaum, 2012). Hence, PD is a methodology for involving the future users in the design as co-designers. PD’s methodology is based on a genuine decision-making power of the co-designers and the incorporation of their values in the design process (van der Velden and Mörtberg, 2014). PD emphasizes the idea that those who will be affected by the design should have a say in the design process (Kensing and Greenbaum, 2012). Although PD has evolved it still has the same core assumption: to examine the tacit aspects of human activity, and to believe that the tacit knowledge can be examined ethically and efficiently through cooperation and partnership with the participants (Machniak, 2013).

3.3 Guiding Principles of Participatory Design

Even though PD has evolved there are some guiding principles to include in a PD project. Robertson and Simonsen (2012) say that PD is not defined by rules or strict definitions but to core principles of commitment to the participation. The main guiding principles are democracy and participation. These principles are the functional idea of PD and promote the participation of users in the design process. Having a say plays an important role in designing to the thoughtful designer by focusing and trying to understand the involved values. The guiding principles described by Kensing and Greenbaum (2012) are the following:

*Equalizing power relations* which mean the co-realization of values of participants even in an environment where people pose different kind of knowledge and values. This way of sitting together the power forces in order to discuss and find a common point in their values promotes democratic practices. A *democratization practice* includes that users has to be educated with the idea of democracy and the rights that they have in those kinds of situations. And democratic practices are rooted in *situation-based actions*, that is, people’s daily activities and how these activities are shaped based on human relations. This situated based action gives the possibility to understand the working process or life activities from a
generic viewpoint into a more contest based approach. These actions give raise to mutual learning.

Mutual learning is a core element in PD. Hence, in a process both designers and future users try to share knowledge and values and learn from the expertise of each other. The designer learns from the user and the user learns from the designer how to better express their knowledge. In her work Suchman (2002) describes design with three position of the designer. I will present the position Suchman locates PD, in – design from somewhere:

- Designing from somewhere which means that the designer starts from an earlier idea and then gave shape to this idea during the workshop and at the same time help him organize better the workshops.

The process of mutual learning can be facilitated with tools and techniques. This tools and techniques are important in a PD process in order to enhance the participation of users and the dialog between them. There are different tools and techniques that can be used and the one chosen for this research are presented in chapter 4. All PD methods try to encourage participatory dialogues and to integrate ethical values in the entire design process. The tools are important for the development of alternative visions about technology. This is the idea that new technologies can be useful in different situations in daily life.

3.4 PD as a Value Centered Approach
PD as a value centered approach is presented by Iversen, Halskov and Leong (2012). They argue that bringing together the stakeholders in a design process do not qualify it as a PD project. Based on their view, PD is a design process where values are negotiated. Consequently, PD has to be seen as a value-led approach.

The process of negotiating values through dialog goes through three main steps: from cultivating the emergency of values to supporting their development and then to grounding them into the current practice – a recursive process (Iversen, Halskov and Leong, 2012).

The emergence of values is related to the expression of values from all the participants and then the discussion of those emerging values. The methods chosen at this phase are highly facilitated and related to the freedom of expression. In my research the focus is on understanding the needs and requirements of seniors toward the social integration through the use of social media. In the first phase the research would focus on understanding the value that lead senior’s daily life and then these values will be discussed for creating the emergency of values. The second step is value negotiation. Ones the values have been expressed it is suitable to come up with a common approach of the situation. It can happen that the values are contradictory. In this case a reframe of the values is needed in order to resolve the dilemma. The third step of grounding values is reestablishing the new values among the participants.

3.5 Challenges to Design with Seniors
In this subsection I will give a review of the literature on the design with and for senior citizens. Most of past research has been in the field of the health care and especially smart home devices. This gives seniors’ the possibility of living independently at their homes and feeling safe even when they have arrived at an age that they do not have all the capabilities
of performing all the tasks needed (see e.g. Callén et. al., 2009; Jansson and Mörtberg, 2011). However, my focus is especially on understanding the needs and desires of seniors in designing technologies for themselves which will integrate them more in the interactive digital society in which we live. I want to pay attention to senior’s ideas, thus, what they think could make them stay connected even when they will not have the capability to move from their homes.

Despite the Smart Houses there have been different researches in finding the way of designing with elderly people in the field of ICT. In these researches different aspect of working with this target group has been emphasized. Here I will first present some main findings of these researches. Understanding the characteristic of working with seniors and how they interact with technology will make it possible to improve the data collection and analysis.

One of the main concepts which have been emphasized most recently is the idea of situated elderliness. This concept is established by Brand et. al. (2010) and it is very helpful when designing with seniors. They emphasize that seniors mostly do not define themselves as elderly, for themselves they are never there. This was also to honor elderly and their knowledge. In this context is important later to remember this factor in the workshops and make seniors like thinking for better ICT solutions for their older parents, not themselves.

Due to this, with situated elderliness they refer to practices that include activities that for some reason or another have become more challenging or perhaps even impossible to carry out by seniors as they did before. In this context we will see how the social media can help on reducing the situations of situated elderliness when it comes to communication with the interest groups.

In order to design better ICT service for seniors’ and to pay attention to situated elderliness Brand et. al. (2010) proposed to use every day practices as a frame and starting point.

In these communities senior citizens are enacting day to day activities so studying these communities of everyday practice will give a better view of what seniors need in order to enhance their social engagement and participation. This means that is important to study seniors and their way of living in their environment. This will be considered in the selection of methods used in order to better respond to research questions.

Another factors to pay attention to when seniors are in focus is mentioned in Culén’s, Finken’s and Bratteteig’s (2013) paper Design and Interaction in Smart Gym: Cognitive and Bodily Mastering and also in Touch Screen and Elderly usage: A Perfect Match? by Culén and Bratteteig (2013). In this research they report the difficulties on mastering smart devices. The research emphasized the physical and body dimensions of mastery and considers how these differ between individuals, and within the context and situation. Further, Culén and Bratteteig (2013) emphasize that elderly citizens constitute a challenging and vulnerable using group with whom to design with. They emphasize the challenge of seniors in using the touch screen. The physical decline makes it difficult for seniors to use the touch screen. Seniors do not have the same ability as youngsters to adapt to the new technology, or to use the touch screen as can a normal user and it is difficult for seniors to master their hobbies. Another important tip is that while designing for and with seniors it is important to not see them as research objects but as research collaborators (Parra, D’Andrea
This together with situated elderliness will enhance the participation in my research.

The above literature is related to the acceptance and the factors that influence the usage of ICT by seniors. By knowing the factors which enable the usage of ICT by seniors is easier to choose the participatory design methods adapted to understand seniors social interaction and daily activities. In the position of a thoughtful design and the critical analysis of each of the methods that I will use I needed this kind of information for making the right decisions.

3.6 Presentation of PD Tools and Techniques

Methods used in research builds also an epistemological and ontological view, that is, how we related to the world around us and the knowledge's we create. Here is given a theoretical description of the main methods of participatory design which later I have used as methods of conducting my workshops. Taking the position of a thoughtful designer I have made an analysis of the methods and if they could be suitable in my research before using them, so in this subsection I will give the theoretical background which made me chose this methods later in my research. In the role of a thoughtful designer I have to theoretically analyze each of the methods and how they could find their place later in achieving the aim of my research. The reason I have included methods here is because I find it is suitable for the thoughtful researcher to first critically discuss on methods and later present how they implement them in the research. Here I can make an analogy with Iversen, Halskov and Leong (2010) which emphasize the need for discussing the values at the beginning the same with the methodology that will be later used, is important to discuss them in theoretical terms how suitable they could be in the actual research.

3.6.1 Mapping Methods

Mapping is a technique for treating a problematic situation, sketching the solution and assessing what it will take to solve the problem (Bødker, Kensing and Simonsen, 2004). Thus, mapping, in Bødker, Kensing and Simonsen terms (2004, p. 212), consist of two different visual presentations with different aims:

"Diagnostic mapping – focusing on problems, causes, consequences, and solution proposals – and virtual mapping – focusing on solution proposals, actions, consequences, and evaluation."

Another argument is Elovaara's and Mörtberg's (2010) who in their paper Cartographic Mapping – Participative Methods argue that cartographic mapping is suitable for making visible people’s daily life and activities. Also van der Velden and Mörtberg (2014) argue that mapping methods are used to focus on local knowledge and how the situatedness plays an important role in exploring life histories, connections and experience. Mapping as a method is easy to use because it does not have high cost of material has a collective nature and the participants are more willing to participate because they do not have to make any special preparation for participating (Elovaara and Mörtberg, 2010).

The facilitators of the mapping activity prepare the workshop by collecting images of people and things and other materials such as pencils, color paper, post-it notes, and large sheets to paste the images on (Elovaara and Mörtberg, 2010). At the beginning participants are
presented with the method and the room is organized in the form of a design studio where each of the participants has a sheet of paper and there they have to construct their narratives based on the theme of the workshop. During the time that the participants are designing their maps the facilitators has to make question for better understanding the peoples images and the relations that the participants are reflecting on the sheet. After they finish they will tell their stories to the other parts of the group (Elovaara and Mörtberg, 2010). In the viewpoint of a thoughtful designer, I have to look at the mappings and try to get the most information possible from the participants. The use of the in situ question for investigating deeper in participant’s ideas and way of thinking while designing the map is helpful for the thoughtful designer.

The mapping activity initiates and contributes to a process in which values become expressed and materialized through the visualizations, the informal interviews, and the participants’ oral stories of their cartographies (van der Velden and Mörtberg, 2014). These stories can then be translated with the use of other methods and techniques, such as storyboards or mock-ups. It can be noticed that cartographic mappings help in the expression of values of participants through their maps and then by discussing the mappings values that emerge (Iversen, Halskov and Leong, 2010).

In order to have an expression of values that lead the social life of seniors I had to start the research by focusing on daily activities of seniors and understand with them their needs and desires toward more social interaction. In this context was needed a technique which:

- Could give to seniors the freedom to better express their daily social activities
- Easy in understanding and implementing

As a design facilitator and as a thoughtful designer I was thinking about an inclusive method which could generate also creativity between seniors and make them express better their values and also to follow the importance of being a thoughtful designer (Löwgren and Stolterman, 2005)

3.6.2 Future Workshop

Future workshop is another method to facilitate the creation of values. Future workshop was introduced by Jungk and Müllert (1987) to be used to engage citizens in decision making processes in their communities. It was later integrated in PD by Kensing and Halskov (1991). Future workshop tends to start with a general discussion of a topic and critics about it and then after the critics coming up with ideas for improving the current situation. It gives participants the opportunity to think critically about the topic of concern and derive visions and future solutions for the problems. As Löwgren and Stolterman (2005, p.70) state:

“aim of a future workshop is for future users or stakeholders to clarify the common problems in the current situation, create vision about the future and discuss how these visions could be realized.”

From the perspective of a thoughtful designer I need to discuss with participants critically for the current situation of social engagement and participation of seniors and then to design with them better future solution of social media services which can improve seniors’ social interactions. This method is also suitable in the value led approach of PD. In the second
phase values are discussed between the participant in order to surpass the difficulties and differences and come up with some common values that are suitable for all the stakeholders that participate. Future workshop tends to create the emergency of values and then reconstruct the new values through the discussion between the participant (Iversen, Halskov and Leong, 2012).

According to Jungk and Müllert (1987), future workshops are performed in 5 phases:

Preparation - In the preparation phase participants are introduced with the theme and with the designer and warming up games are used for socializing the group.

Critique phase – here participants are asked to make critics the current situation of the theme. Post-it notes can be used to write down keywords, and these can then be pasted on a wall to make them visible for all. When a rich image of the current situation is generated, the keywords are organized into categories followed by a prioritization.

Fantasy phase – in this phase the pints of critique are seen positively and ideas are generated like a brainstorming without restrictions. Post-it notes can be used in a similar way as in the critique phase.

Realization phase – ideas generated are analyzed for implementation

Follow up – in this phase following activities that control the progression of the activities decide in the previous step, are included

Future workshops for technology design produce action plans as outcome, which form the first step in the materialization of requirements (van der Velden and Mörtberg, 2014)

3.6.3 Diary and Walkingthrough

Smith in her book How to Be an Explorer of the World: Portable Life Museum (2008) makes a very interesting connection of how the artists and scientists analyze the world around them. Both of them try to capture all the details of everyday activities and use them as the main input of their work. Observing and documenting the world around you is the best way to pay attention to every detail of the everyday life. Diaries and walkingthrough are ways to focus on people and how they relate to the world around (Smith, 2008). Diaries help in the capture of the moment. It gives the designer the possibility to go through it and have a look of what s/he has documented, the emotions that he/she felt at that moment and see to the actions and activities in a more objective way. This characteristic of diary helps me on the position of a thoughtful designer, to return to notes and rethink about the situations and findings in a more objective way.

The walkingthrough, on the other hand, is more related to the context of everyday life activity. It means going through the day and paying attention to those attitudes that are related to the theme of the research. Nothing can be explored better than its own natural workflow of the day. Buchmüller and Joost (2009) in their work say that this research method is not part of the traditional qualitative research repertoire of the social sciences. It is rather used in the field of design to generate inspiration for the design process. In this way,
people get aware of their routines, tacit needs, feelings and desires and have a possibility to instantly document them. Furthermore, the visual and play-like character of the self-observation considerably motivates the participants to involving themselves in the process. By helping participants get aware of their routines, tacit needs, feelings and desires mean a better expression of values. Through the use of photos participants will have the possibility to better express with words and graphically the values s/he is discussing for.

These creative methods are considered by Smith (2008) as very important for inquiring daily activities that are in focus of my research. The walkthrough can be organized as photos made through the day. The participants are given a camera to make them capture in images some of the moments of their activities. While the diary is something seen from the perspective of me as the designer and my feelings for the study the walkthrough is an experience that shows more feelings and points of view of the participants of the research.

3.6.4 Summary

All the methods presented above will be later used in my research. Cartographic mapping as was described above is suitable for catching local situated knowledge for people daily life. As the scope of my research is to understand people daily life I will start from the usage of cartographic mappings and seniors telling their daily activities.

I will use also the diary and walkingthrough as methods for better catching seniors daily realities, what seniors like to do, with whom they are connecting, how are the relationships in later life.

After analyzing the result of the first methods I will use the future workshop. The intention will be to give with seniors some suggestion for possible social media services which will be suitable for seniors and will help them in having better social relationships.
Chapter 4: Research Methodology

In this chapter I present the methodological framework. First I have given an introduction to what is the methodological tradition, methodological approach and methodological techniques which will be useful in order to reply to the research questions of this thesis. Also the way how data has been gathered and how the participative methods have been conducted is presented. At the end an overview of data analysis method is given and ethical considerations important for this thesis are presented.

4.1 Research Paradigm
In this subsection I will first describe the research paradigm and the worldview for locating my research.

In 1962, Thomas S. Kuhn introduced the notion paradigm in his book *The Structure of Scientific Revolution*. Kuhn (1970) defined paradigm in the following way:

“These I take to be universally recognized scientific achievements that for a time provide model problems and solutions to a community of practitioners.” (Kuhn, 1970, p. viii)

Hart (2005) interprets Kuhn’s notion of paradigm in the following way:

“A paradigm is a way of looking at and understanding the world and is made up of a cluster of values, views, opinions and understandings on what criteria gives worth to something.” (Hart, 2005, p. 213)

The presented definition illustrates how a community of practitioners who shares a specific set of rules and standards for scientific practice are part of a common paradigm. Therefore, by positioning my research within a specific paradigm, I have also clarified the assumptions, beliefs and opinions that my research builds on. I will focus on the classification of paradigms from Myer (1997). Myer has described three main paradigms: positivist, interpretivist and critical. Being part of a specific paradigm can happen in two ways. First the researcher is aware of her epistemological and ontological beliefs about the world and based on those beliefs position the research in one of the paradigms. Second, the researcher chose a specific theory or method which has been addressed / devised by a community in a given paradigm. In this case the research is by default included in the pre deiced paradigm. I have been influence by both ways. First I have chosen the paradigm based on my beliefs as the research and second using the participatory design has influenced in the paradigm choice.

Based on the literature study (Howcroft and Trauth, 2005; Mingers and Willcocks, 2004), I locate my research in the critical interpretivism paradigm. The interpretivism paradigm focuses on subjective interpretation of the reality. It position the research of Information Systems on local bases and emphasize that is the observation of social constructions which influence in the development of ICT (Walsham, 1995). This paradigm is not alone on my research. The aim of the research is to react in confront of the existing reality and try to
design better social media solution with seniors. That is, together with seniors the reality will be explored with critical eyes and we will try to give suggestion for further actions on social media services. Thus, the critical interpretivism paradigm is suitable in my research.

This paper proposes that critical realist ontology allows for one re-interpretation of the activity of science as implicitly predicated upon natural and social realism as well as the concepts of structures and generative mechanisms (Buchanan and Bryman, 2011). The position in the critical interpretivism paradigm is also supported from the research methods that I have chosen, that is participatory design and also from the position as a thoughtful designer (Löwgren and Stolterman, 2005). By choosing the design approach for my research I will focus on exploring social relationship that exist between seniors in a subjective way, by inquiring in actual social relationship. The positioning as a thoughtful designer is related to the critical part of the critical interpretivism paradigm. My intention is to critically explore seniors’ realities and think with them for possible actions of improvement. So my aims is not just interpreting the realities based on local and subjective interpretation but also critique it and try to improve the actual positions.

Suchman (1987, p.5) argues the design of new IT “must take account of everyday rationalities and avoid treating people as “cultural dopes” preprogrammed by the rules, which asks for qualitative methods needed for researches in ICT field. This is important in starting to see the process of design of technologies as a social process related with qualitative methods. Another important factor connected to the design of new technologies with the qualitative researches is the Scandinavian tradition of PD which is rooted in the critical tradition (Kensing and Greenbaum, 2012). What the participants want, their desires and their needs are the main elements that influence the design of new technologies. This needs and desires have to be explored in their context which exclude the numbers form their analysis (ibid.).

My research will have a qualitative nature, which is also in syntony with the paradigm that I have presented above and I have positioned myself. Qualitative research methods are designed to help researchers understand people and the social and cultural contexts within which they live. Kaplan and Maxwell (1994 as cited in Myers, 1997) argue that the goal of understanding a phenomenon from the point of view of the participants and its particular social and institutional context is largely lost when textual data are quantified. The main element which influence on deciding what kind of research to use depend on the research question and the kind of data that is needed for replying to the research question (Silverman, 1998).

The research will be developed by using the Participatory Design approach. As mentioned above the focus will be on understanding the needs of specific target group which are the people 65+ and design social media services which can be useful for them. In order to be able to offer seniors the best solutions possible is to include them in the design process

### 4.2 Why PD in this project?

The target group of the research is senior citizens. This target group is special and need to be treated in accordance with the guiding principles of PD (Kensing and Greenbaum, 2012). Elderly people might suffer of physical cognitive decline but they suffer more not being considered able to represent themselves and their rights (Lindley, Harper and Sallen, 2008).
By using the participatory design not only will make them feel that they have the control of deciding for themselves but at the same time will make them more interested on the new technologies that will be designed. By including them in designing the ICT services that they “fear” (Lindley, Harper and Sallen, 2008) seniors will feel more confident on using them later.

Also Bratteteig et al. (2010, p.19) argue that users provide “(…) knowledge that makes it easier to solve the right problem the right way”. In the point of view of the research PD will give a rich picture and it will also give the possibility to design more user friendly technologies which will be later on used by the target group of the research. Further, Bratteteig and Wagner (2010) in their work speak about the influence of participatory design and the influence it has in promoting creativity. They also argue that using PD approach is appropriate in early phases of the design process. In addition, user involvement early in the design process facilitates the process and enable for more creative solutions as well as increased user satisfaction (Löwgren and Stolterman, 2005).

Another important element which makes PD appropriate in my research is that most of the theories and practices within the PD approach suggest a combining of different perspectives and disciplines, based on a belief that complex, human problems call for multi-disciplinary solutions (Fowles, 2000). In my case I will combine knowledge from gerontology in my study of senior citizens’ and their daily activities and social engagement and participation, ICT field as we have to take in consideration its constrains, social media and its role in promoting socialization and connections and PD because the design is performed with and for seniors.

Hence, Iversen, Halskov and Leong (2012) argue PD is a process of negotiating values. They focus not only on the values of stakeholders but also on the values of the involved designers. Thus, they discuss PD as a value-led approach. In my research I will try to find out the Iversen, Halskov and Leong talk about a recursive process of three steps: emergency of values, development of values and grounding of values. Are these three concepts of viewing the PD process that will be used below during the analysis of each of the techniques of PD chosen for conducting the research?

4.3 Data Gathering

The target group chosen for the research is in itself challenging. It is important to take into consideration the specifications affiliated with this target group by applying the guiding principles of PD (Kensing and Greenbaum, 2012). In the position of a thoughtful designer I have to think and make an analysis for the best techniques that will help in making participants affiliate more with the research and be more willing to participate. It is important for the researcher/facilitator to conduct the workshop toward the information that she want to have. With seniors this gets even more difficult because they are keener on storytelling and sometime can go away from the topic. The role of the facilitator is very important in gathering data. It is important for the facilitator to pay attention to all the ideas that will be generated in the workshops. (Bodker, Kensing and Simonsen, 2004)

In the participative methods I will follow the appreciative judgment of values (Iversen, Halskov and Leong, 2012) that none of the ideas are wrong. This is very important even for the group. Most of seniors fear the technology, social media services because they think that
they cannot use it. Giving them the power to express everything they want without taking care about the fact if it is right or wrong creates a warmer environment and increase creativity.

Working with seniors is different as from working with other target group. They have not the same knowledge as the youngest have about social media but they have the life experience and they have to be respected and valuated for that. This is a core element in PD, that is, to involve persons with their experiences and to give a say in the design process. This is why I will pay attention to seniors’ stories during the workshops.

As expressed in Iversen, Halskov and Leong (2012, p.2) say that:

“Instead, we have an a priori commitment to cultivate the emergence and discovery of local expressions of values whilst being mindful of further expression of values during the course of the design process.”

I had to put the values “on the table” and try to discuss for those values with the participants in order to be able to continue with the next steps in my research toward the social media services suitable for this target group.

Data gathering started from a more general point of view for me as a researcher. In order to better understand seniors I start from investigating their day to day activities. This will give me the possibility to understand what they really wanted and how my research can play an important role in improving their social life and engagement in the society.

4.3.1 Recruitment

The process to involve senior citizens started in the project “Friend Family”. A project organized by Linnaeus University for the international students. In this project a Friend family is assigned to each of the international student at Linnaeus University in Växjö that has applied in this project. The students and the assigned families are supposed to spend some time together and meet in different activities organized by the project coordinator. As an international student I was appointed a family.

The first meeting was held at Tufvan Café on 17th of March 2014 where I discussed with some of involved families for my research project. After the meeting and with the help of the project coordinator I contacted via e-mail each of the participants that were over 65. From this email invitation, I recruited three participants, a man age 75 and two women. The first woman aged 70, from my friend family, and another woman aged 66.

Another way to involve senior citizens was through the public library. An employee at the public library in Växjö, who was working in a project with the aim to train seniors to use new technologies, assisted me with the invitation of participants. The interest at the beginning was high but when the workshop was held none of the participants came.

The third way to invite participants was through the pensioners’ association in Växjö, PRO Pensionärernas Riksorganisation. I contacted their representatives in Växjö through a visit to their office and explained the aim of my research. Based on the fact that the scope of the
research was similar with activities that are organized in this organization we could decide to organize workshop. 7 participants from PRO accepted to participate in the project, five women and two men.

4.3.2 Participant

The target group in the research is seniors who are 65 years and older. Seven women and three man between 65 and 75 participated. They were selected carefully to represent the diversity of senior citizens. The involved seniors were still healthy and taking care of themselves. Two seniors of my friend family - a woman aged 70 and a man aged 75, were invited to the diary activities. One of them participated also in the first workshop held at the library and also in the walkingthrough activity.

Two women, 70 and 66, participated in the first workshop held at the library. Seven seniors, - PRO members, participated in the second and third workshop – 5 women: 75, 82, 70, 70 and 65, and 2 men: 78 and 70.

All the participants were still active by participating actively in the life of their loved ones and also in other social activities of their interest. The choice of these seniors was not unintentional. This category of seniors is physically and psychologically able to participate in the workshops but at the same time they could face the same problems of social isolation and loneliness as other elderly. The participants have almost the same daily activities as other members of their group and at the same time they are able to express their wishes. In general people have the knowledge but sometimes it is difficult to express them explicitly. With seniors and new technologies this is even more challenging because they may have the knowledge but they are not familiar with the technological language.

4.3.3 Location

This research was conducted in Växjö in spring 2014. The research focuses on the residents of Växjö and also the workshops were organized in this city.

- The first workshop was organized in the Public Library in Växjö in the Galaxy Room with two participants – 2 woman
- The second and third workshops were organized in the PRO premises in Sommarvägen 5, Växjö, with 7 participants other than those who participated in the first workshop
- A diary and walking through activities were performed in different areas of Växjö depending on where the participants spent their daily activities.

4.4 Participative Methods

The participative Methods: cartographic mapping, future workshop, walkingthrough and diary, was used to understanding the needs of senior citizens in order to design social media services which will be user friendly for them. How do we include them into an activity that is both enriching for them and for us all at the same time? The challenge that the research faced was to avoid dealing with seniors as our “research objects” but rather as people with
who to share a common path, although coming from a different background and going to different places.

Below the PD methods will be presented. The presentation will be organized as follows:

- Why the methods was chosen
- How it was developed and performed practically

4.4.1 Cartographic Mapping – Workshop A

The focus of the research is to understand better the everyday activities of seniors and with them generate new ideas for future social media services. Based on the literature it is seen that discussing about technology is not part of everyday conversations of seniors (Lindley, Harper and Sallen, 2008). Seniors tend to be more reserved in expression when it comes to the technology.

From the theoretical description of cartographic mapping method in chapter three it is considered to be a method to capture the daily social activities of seniors. A cartographic mapping method was used in the first workshop. The workshop was held 30th March 2014 in the Public Library in Växjö in the Galaxy Room.

The session started with a warming up with cakes and coffee to create an open atmosphere (Elovaara and Mörtberg, 2010). As the number of participants was only two with two design facilitators\(^2\), the introduction was organized as an open discussion. After the introductory part the following was presented:

1. The aim of the research
2. The consent form

The cartographic mapping method, its development, and also the materials that were at the disposal for the participants e.g. images cut from different newspapers and magazines which represented images of different situation and activities, colored pen and papers, sticking tools and also a wide sheets of paper. The participants were asked to create the cartographic maps. The figures below shows the moment were the participants were presented with the method and the materials they had at their disposal.

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\(^2\) The other facilitator was another student from the master program of Information Systems. She had the same experience and academic background with me, so was easy to collaborate and conduct the workshops.
Figure 4-1: During the workshop of “An active day of social engagement and participation”

The theme of the workshop was “An active day of social engagement and participation”. The participants were asked to think about an active day with the following aspects to be included in the mapping.

1) intimate social relationships (visits to or from family and friends);
2) formal organizational involvements outside of work (going to religious services or meetings at voluntary associations);
3) active and relatively social leisure (going to classes or lectures, movies, plays and concerts, playing cards or bingo, eating outside the house, taking part in sports);
4) Passive and relatively solitary leisure activities, such as watching television, listening to the radio, or reading.
5) Activities that they participate in, who they meet, what kind of technologies they use in order to facilitate their communication and engagement in the society etc.

During the session when the participants illustrated an active day with the material maps, I as the facilitator made in-situ question in order to gain a better understanding of the stories the participant were telling through the mapping (Elovaara and Mörtberg, 2010). When the cartographic mappings were finished the participants were invited to share their stories. Even at this stage question were asked in order to clarify the participant’s stories, that is, to get an entire understanding of the created maps.

When people describe their activities they tend to include as much things as possible and tend to think only of the beautiful moments in their life. In order to open the discussion and to better understand which of the activities that generate more positive and negative feelings to seniors in the end of the session I considered it was suitable to put the participant in the
condition to think also about their best and worst scenarios of their daily activities. In this case the question raised was:

- Which is the best moment of a busy day with social engagement and participation and also the worst moment?

All the session was recorded with the use of a mobile phone. The use of the mobile phone was helpful because it didn’t create tension to the participants, which continued discussing without being disturbed by the presence of a camera.

4.4.2 Cartographic mapping – Workshop B

Some insights of how seniors spend their days and what they liked to do were gained in the first workshop. Social relationships were important in their daily life. Iversen, Halskov and Leong (2012) state that when values emerge in PD activities it is important to pay attention to those values and to develop them later in subsequent activities. In my study it was important to use methods which again enhance the discussions and created dialogues to develop the values that emerged in the first workshop, that is, to concentrate on the seniors’ social relationships. Hence, the importance of social relationships in seniors’ life, their willing to keep this relationship even when they will not be active to move from home were transferred to the second workshop with an aim to receive a deeper view on social relationship and the persons seniors want to keep contact with and what they actually are using as ways of communication.

The second workshop was held on 17th of April 2014. It was held in the PRO office in Vaxjo. 7 seniors participated, 5 women and 2 men. 2 design facilitators participated also.

The session started with a warming up game to create an open atmosphere (Elovaara and Mörtberg, 2010). The game had a creative nature and it was chosen to achieve the goals of: warming up the situation between the designers and the participants, to enable the expression of idea between the participants and to enhance their creativity. It was called Candy Introductions. This is a get-to-know-you game which helps people to know each other in a simple way. Each of the participants were asked to select five various pieces of candy from a bag full of candies of different colors. The candies were passed around and after they had chosen the pieces that they liked they were presented to the meaning of each color. The following meanings were associated with the colors:

- Red – Craziest thing in life
- Green - Favorite place on earth
- Blue - Favorite memory
- Yellow – Favorite Hobby
- Orange - Wildcard (tell us anything about yourself!)

Each of the participants presented themselves based on the meaning of the colors of the candies that they had chosen. One of the participants had chosen five Red candies which meant five crazy moments in his life. His wife who was also a participant was very curious to hear his presentation after the meaning of the colors was explained. The warm situation created was very determinant for the continuation of the project.
As the number of participants was seven, with two facilitators, the introduction was organized as an open discussion. After the introductory part the following was presented:

1. The aim of the research
2. The consent form

In the materials used for the workshop different from workshop A was the big white sheet that was used as the platform for creating the maps, replacing the big large pieces of paper used in the first workshop.

Cartographic mapping are a very suitable tool to use while working with seniors because they give them the possibility to express through the usage of photos and it is closer to a narrative way of talking and thinking they are familiar with. So it was seen more suitable to use this alternative way of cartographic mapping to ask everyone to position themselves in the inner cycles and then expand the cycles into the outsider social relationship. This was very helpful also for the participants to better structure their ideas. The theme of this workshop was the same as in the first workshop but the number of participants was higher.

Participants were asked to think about themselves as a center of the social cycles. In the place where they were sited they wrote in the middle ME! I explained that the cartographic mapping would be organized in centric social cycles where they will start talking about themselves and then talking to different kind of relationship from their closed ones to the external social cycles of involvements where they like to participate. Fig. 4.2 is an illustration of the mapping.

![Image of cartographic mapping](image-url)

**Figure 4-2: Cartographic mapping – Sheet based**

The theme of the workshop was again “An active day of social engagement and participation”. Each of the cycles included the following categories of activities:

1. Passive and relatively solitary leisure activities, such as watching television, listening to the radio, or reading, watching for clothes on the Internet, searching for books, music, make payment online, e-banking etc.
• What you like doing at home?
• What kind of technologies do you use and for what?

2. Close social relationships (visits to or from family and friends);
• Who are the people who influence your life the most??
• What are the technological tools that you use in order to communicate with them, or to organize activities?
• What activities do you do with them?
• What feelings do they generate for you?

3. Active and relatively social leisure (going to classes or lectures, movies, plays and concerts, playing cards or bingo, eating outside the house, taking part in sports); and
• Mention activities that you join for fun, that you like to participate in free time that do you meet there?
• Why do you like to participate?
• How technology helps in facilitating this participation? Do you use it? How often?

4. Formal organizational involvements outside of work (going to religious services or meetings at voluntary associations, banking services);
• What organization are you part of and what groups formally do you frequent? Who do you meet there?
• How do you learn for these activities and how do you arrange the meetings with others? Do you use any technology, website etc?

**Figure 4-3: During the development of the workshop**

4.4.3 Diary

Diary is an additional method used in the study.
The research diary is now filled with everything that have made me feel a “twinge of excitement” (Smith, 2008, p. 70) such as events, stories and discussions with the people that I met my impressions and learning’s, misunderstandings, the questions I pose along the way, cut-outs of e-mails, screenshots and photos to support my memory especially from the activities with my Friend Family.

In the process of recruiting participants for my research I had the possibility to meet a number of seniors. While spending time and discussing with them on different aspects of the theme of my research, and not only, I had the opportunity to hear various stories about their lives, experience with technology, family memories, hobbies etc. In order to not loose nothing from their stories I decided to use techniques presented in Smith’s book (2008) for exploring their world. Thus, I decided to document my experiences and observations by writing ‘experience documentation’ to document impressions, stories, overheard conversations, reflections and other statements (ibid.).

Seniors are people who tend to move to storytelling every time that you communicate with them. They tend to explain in details and based on arguments their point of view. It is their accumulated life experience which has given them a lot of stories to tell in every possible theme of discussion.

I used the diary in order keep notes for everything during my research. Diary notes are made by:

- Moments from the process of recruiting participants
- Stories heard during conversation with seniors that I meet in the Friend family project, in PRO and in some other activities in which I participated

Time spent with my friend family, activities that we attended together and all the interesting discussions that I had with them. This method was very useful to remember every detail that I had gone through in my research and try to make the right critical analysis for the data gathered.

### 4.4.4 Walking Through (Self – Observations)

Walking through is another technique suitable to examine daily activities and people’s attitudes. Based on the nature of this research and the interest of understanding seniors’ daily activities, their interaction with the social network and the use of technology the self-observation was considered suitable for applying in my research.

The self-observation was conducted by one participant and went on for five consecutive days between 20 – 25th of May, 2014. The participant was asked to take photos to every activity related to technology, social engagement and participation in them and activities that she performs alone at home. As the participant was very keen on photography it was easier for her to participate in this kind activity. After the period of study was finished I meet the participant and we spend an afternoon in 27th of May, 2014 on reviewing the photos and her telling the story after each of the photos. As the meeting was conducted at her home I chose to not record as in other workshops because home is a private space and it has to be respected. Meanwhile I documented her narrative in my diary. The images gathered also with the material from the first and second workshops lead to the creation of a movie
scenario at the beginning of the next phase, the future workshop held with seniors in PRO Center in Växjö.

4.4.5 Future Workshop – Workshop C

The third workshop held in the study was organized as a future workshop. It was held 4th of June in the PRO center in Växjö. The participants were the seven that participated in the second workshop – workshop B. Two design facilitators participated also. The session was recorded in order to be able to revise to the material later on.

This method is suitable when you want to discuss about a wide phenomenon and want to shape an idea for a better future for this specific phenomenon. In this research the main idea was the social participation and engagement of seniors through the use of technology. While till now they had spoken about daily life and had by themselves mentioned the use and importance of technology in keeping the social engagement and participation it was the right moment to move to the phase of trying to find a better solution through the use of social media. A future workshop consist of five phase; preparation, critique, fantasy, realization, and follow-up (Bodker, Kensing and Simonsen, 2004). The phases were organized in the following way:

Preparation phase – In this phase the participants were presented with the theme of the workshop and they were also prepared for the discussion in the following phases. In order to make a summary of the past workshop the preparation phase was developed in a different manner compared to the traditional way a workshop was conducted. A video scenario was shown to the participants visualizing the key moments and points emphasized form the data gathered especially from workshop B, as the participants were the same. From all the activities that the participants had mentioned in workshop B I presented only those activities considered the most important. I made a content analysis of the data gathered in Workshops A, B, walking through and diary and I come out with some main activities of seniors’ daily life. The video scenario showed some activities that each of them had mentioned as part of their daily activities. This was summary was made to seniors to remember what was in focus in the previous workshop. After the scenario was presented as a brief summary of their social life, seniors were asked to think about social engagement and participation critically. How were their social relationships, what had to be improved, how the technology is influencing their way of communicating with their social groups. These questions were all used to put seniors on the right way of thinking critically.

Critical phase - in this phase the participants were invited to think critically about their daily social engagement and participation. In order to make the participants understand the meaning of the critical phase the example approach were used. Examples mentioned in the previous workshops were used. Some of the question used in this stage to enable the discussion and ideas were:

- What are the difficulties that you face in the today way of socializing?
- What are the things that they consider as uncomfortable in the daily relationship and communication with their closes groups and with their external links?
- What are the struggles you make to keep the social engagement?
- What is something that is not right on them?
In this phase participants were invited to critique the social relationship both in personal level and in technological level. The same for the activities they perform alone at home.

These questions were helpful to understand where the problems were and also to create the basis for the other phase with the intention to create new ideas and solutions which could be useful to improve their daily social life.

This phase was organized in two sub sessions. The first was organized in the form of a brainstorming were participants were invited to write with color papers their critiques. Meanwhile they were let free to discuss with each other and share opinions. My role as the facilitator was to keep them concentrated and focused on the theme and not deviating from it. At the end of the brainstorming they started arguing their ideas.

After writing all the critics in sticking papers and discussing them with each other, I invited them to make a ranking of the most important problems that they were facing in social engagement and participation and with the usage of technology. We started together rearranging the sticking paper in some main categories of critique and we come up with three of them considered as the main problematic.

In the second phase the critique were ranked as shown in the picture below.

![Figure 4-4: Ranking the results of the critique phase](image)

Since the beginning of this phase participant were made aware of the importance of ideas in this phase and that nothing will be considered wrong. Quantity of ideas expressed is needed more than quality of those ideas, because sometimes the craziest ideas can result to be the best solutions for a specific problem.

**Fantasy phase - How to strength social relationship through the use of technology?**

In this phase the generally known solutions should be avoided and non-verbalized and intuitive knowledge should be enhanced. The participants should suggest solutions without
reflecting about restrictions, traditions or other barriers, that is search for unconventional solutions.

Participants were invited to think of a magic tool which could solve their problems and give them the possibility to strengthen their social life. It was used the same technique of brainstorming as in the previous phase. The ideas and solutions found were collected and putted in a bank of ideas, regardless of their practicability. It happens that ideas that are unrealistic today might be implementable in one or two years’ time due to radical changes in the economic, social and political environment.

![Figure 4-5: Activities in the Future workshop](image)

**Figure 4-5: Activities in the Future workshop**

*Realization phase* – the realization phase was not carried out because the main interest of the thesis was not to come up with the design of a particular prototype but toward the shape of needs and wishes that seniors had, so their ideas for a future way of social engagement and participation were exactly what was in focus.

### 4.5 Data Analysis Method

I will use a qualitative approach in this research. In these section methods for analysing the empirical data is presented. Patton (2002) in his work explains that:

> “Qualitative analysis transforms data into findings. No formula exists for that transformation. Guidance yes, but no recipe. Direction can and will be offered, but the final destination remains unique for each inquirer, known only when—and if—arrived at” (p. 432).

The main feature of qualitative data is the text. It is important to work on the analysis of the text. There is a hermeneutic perspective on texts which say that text has not to be judge as true or false. Text is considered as an interpretation among the others for a specific theme. (Patton, 2002)
Qualitative data analysis is considered to be like a “dance” where the dancers are the researcher and the text that s/he is examining. The researcher has to extract the meaning from the unorganised data (Crabtree and Miller, 1999).

Based on Creswell (2008) qualitative data is analysed in five steps: firstly all the data gathered is structured and organized. Secondly, raw data is transcribed. Third, data is put into general themes. Fourth, each theme is explained and a comprehensive analysis is made about what the contribution of the thematic on data analysis. Finally data is interpreted based on the clusters division.

I have used especially an analysis of values in terms the “appreciative judgment system of values” presented by Iversen, Helskov and Leong (2012). The idea was first to create the emergency of values and later on in the next step discuss the values with seniors and reconstruct new value based on what was discussed and proposed in the second step.

Morgan (1997) argues that thematic analysis means evolvement of important and focal themes from the research questions. All the data gathered can be organised in this themes and the themes on a broadly social point of view are interrelated with each other.

It represents a simple way for categorizing the data. Further, the theme in Boyatzis (1998, p. vii) is described as follows:

"A theme is the pattern found in the information that at a minimum describes and organizes the possible observations and at maximum interprets aspects of the phenomenon."

This means that the themes in which the data has to be categorized have to be as much representative as not losing the essence of different aspects that are shown in the data set.

In my research I will use the thematic analysis. As described in Morgan (1997) the main themes will be retrieved from my research questions. Also I tried to make with the participants during the workshops a logical division of themes in order to have a simple flow of the empirical data analysis later. Huge contributions in the part of the analysis were also the video recording.

The thematic analysis will be used to categorize the main daily activities that seniors do. By focusing on main themes mentioned by them I will make a categorization of the activities that seniors perform. Despite the categorization of the daily activities I will also analyse the social relations of seniors. Here as influencers in the thematic categories created will be the ones mentioned in Luong, Charles and Figerman (2011).

Another important element on the analysis of qualitative data, especially in participative methods, is paying attention to body language. Kinesics is the study of body motion and its communicative messages. Birdwhistell (1970) Body movements give an additional meaning to spoken words. In the analysis of data is important to pay attention to the body language and the emotional meaning that they can have. Birdwhistell labels four channels in the communicative process: vocal, visual, olfactory, and tactile.

Another important aspect of body language that I will pay attention during the analysis is the silence. As expressed in Mörtberg and Studedahl (2005) is normally related to deafness
or dumbness, emptiness, nothingness, absence, peace or danger. In communication between people silences can contain the unspoken or the unspeakable.

Differently from youngsters where everything is expressed by words in seniors silence get an important place. They try to express some of their ideas but also chose to not comment in something that they disagree. Due to this it is important to pay attention to what they say and what they don’t. In important to make an analysis of the pauses created in some of the situations. As expressed above people silence can contain the unspoken and unspeakable. Both of them influence the research in general and have to be analysed in details.

4.6 Ethical Considerations

It is important to have a clear idea about the ethical considerations before starting the participatory design workshops. Brandt (2006) argues that there is a considerable agreement around the claim that designing the design process itself within PD is just as important as designing the artifact. The methodology and method decision is in itself an ethical decision. In the article “The Methods, Politics, and Ethics of Representation in Online Ethnography”, Markham (2005) gives a good insight of ethical considerations one should take in consideration when choosing how to collect and present data. Every choice we make about how to represent our self, participants, and the cultural context under study contributes to how these are understood, framed, and responded to by readers, future students, policy makers, and the like (Markham, 2005, p. 811). It is important to make the right choice based on the users characteristics and the characteristic of the research topic itself.

During the participatory design workshops we take some decisions which in itself include ethical consideration. In this research I will choose the methods and tools which I consider are appropriate for getting the right results for the research. What is also mentioned in Löwgren and Stolterman (2005) is that in this way I have influenced in a way the design and I have included some ethical consideration which are influenced by how I see the reality and what I considers as ethical. As I mentioned before I will try to make a reflective design activity which will give me the possibility to make the needed judgment. In Iversen, Halskov and Leong (2012) they call the designers judgment as “appreciative judgment system of value”. Based on their idea of PD as a negotiable process of value, they emphasize that the experience that the designer have, influence on their decisions and the emerging values. In this context what they suggest can be done is to open all the values for a common dialogue which will help everyone to express their idea, understand the others point of view and come up with a common set of values. In this context I as the designer have to be open to renegotiate the previous values that I had in order to make better decisions for the research.

Another ethical consideration that needs the right attention is the position of the interpreter. I have to reflect on my own position in terms of opinions, experiences, and the way I perceived the participants. While not directly useful, this reflection is ethically necessary as I am doing the translation, and that the translation and transcription changes the original data. (Machniak, 2013)

Suchman (1993) also stresses how design of technology is not only design of physical things; “It is the design of practices and possibilities to be realized through artifacts”. By
allowing for certain actions, promoting specific skills and permitting certain outcomes, we are in a way forcing the user to adapt. While designing we have to take in consideration the influence of our work in the future, how the user will see and will use it. It is important to think about the values and ideals of the design itself and to be careful with all the decision taken during the development of the workshops.

Important elements of ethical consideration are even the one related to the choice of users. The best will be to have as many users as possible but this is difficult to be realized that’s why I will try to include as many representative as possible and to give them the same time and respect for expressing their opinions and needs. Also an important element is the privacy. The users have to agree on the registration of the workshops and also to see their selves in the photos. Everything will be set clear since at the beginning of the project in order to avoid later complications. An important element taken in consideration is what is called the informed consent. Participants in the workshop will be informed for everything in the project, how the data will be used and also nothing will be used besides of what is explained to them, see the informed consent form in Appendix A.

An important part of the ethical considerations is the validity and reliability of the study. Reliability is the capability of the study to generalise its results, instead validation has to do with the eases of proving the finding and results of the study even in other researches. These two measures are mostly used in quantitative researches. In the qualitative researches some other criteria of quality measurement are used. The main measures mentioned by the literature are: Credibility, Neutrality or Conformability, Consistency or Dependability and Applicability or Transferability, are the essential criteria for quality (Lincoln and Guba, 1985). In Lincoln and Guba (1985, p. 300) the term “dependability”, which closely corresponds to the notion of “reliability” in quantitative research is used. Another important concept is consistency. The consistency of data will be achieved when the steps of the research are verified through examination of such items as raw data, data reduction products, and process notes (Campbell, 1996). To ensure reliability in qualitative research, examination of trustworthiness is crucial. The notion of Credibility, neutrality, conformability, consistency or dependability, applicability or transferability are supported by the guiding principles of the Participatory Design and the valued led approach of participatory design which has as its main element the discussion of values (Kensing and Greenbaum, 2012; Iversen, Halskov and Leong, 2012).

Choosing the position of a thoughtful designer I have to take in consideration carefully all the ethical implication. I have to make decisions by having in my mind and analysing all the ethical implications that they can have. By knowing the ethical implications and positioning myself on respecting ethics of the design process it will be easier to defend the position of the thoughtful designer.
Chapter 5: The Empirical Findings

I this chapter the empirical findings are presented. In the first section finding from daily activities of seniors are presented. Further an analysis of the technologies already in use from seniors and also new social media services and their usage through the involved participants is presented. Further an analysis of the social relations of seniors is made by detecting the main social groups for seniors and how they use the technology on enhancing the communication with their social network. Finally a presentation of the future workshop outcomes is given. A detailed analysis of the critique phase is made in order to better support the main categories of problems detected by seniors themselves during the workshop. After that outcomes form the fantasy phase are listed. The ideas have been discussed during the workshops and with seniors we have detected a list of main ideas and suggestion for future social media service for seniors.

5.1 Seniors Everyday Life

In this section I will represent the findings of my research on the activities that seniors perform in their daily life. The data gathered in the first two workshops A and B - cartographic mappings, and the Diary and Walkingthrough made it possible to have a full view of seniors’ daily life’s, their most important activities, their loved ones and also to get an understanding how seniors communicate with them.

In workshop A the result were the two cartographic mapping created by the two participants. The maps are shown in Figure 5-1 below. In the maps the two involved women have shown some of their daily activities. They have positioned themselves in the middle of the map and the images, drawings, and text illustrate their activities that they do in a busy day starting from the morning till the evening. The activities shown in the maps will be presented in the next sections, 5.1.1 and 5.1.2 together with the findings from the other participative activities.
5.1.1 Daily Activities

In workshop A and B, the documentation in the diary and the walkingthrough, different scenarios of activities performed at a daily basis from seniors were mentioned. In the daily activities seniors were doing mostly activities for two main reasons: entertainment in the sense that they enjoyed doing these activities because it was interesting to them; and physical activities which they were doing because it helped them to stay active and healthy. The main activities were:

- **Painting** – considered as an activity for relaxing and for expressing their inner world, ideas and feelings. An activity which was preferred to be conducted alone. “It gives me the sense of relax and helps express my feeling in my free time” said one of the workshop participants.

- **Reading books especially in the hard copy form** – was considered as an entertainment activity, which stills continued to attract their interest. They liked to participate in book circles with friends in order to discuss a specific book they had read. They preferred books in hard copy rather than e-books. It can be noticed even from the maps the women created in workshop A that reading was an important element in their daily life, for relaxing alone or for discussing with friends and persons that are interested on a specific book.

- **Going for a walk with the dog** – is also considered as an entertainment and physical activity. The participants explained that pets take an important role in their life when they are growing older. While they were young the busy life didn’t let them take care of a pet, but in later life they become an important part of the family. One participant explained “It is like a small child….you have someone to take care of and you fill important”.

- **Cooking** – is considered an entertainment activity in the sense that seniors enjoy spending time cooking and trying new recipes. Sharing knowledge and also acquiring knowledge for new receipt were one of the main forms of entertainment at home. Another factor for what cooking was considered important was for healthy
matters, in order to have a healthy lifestyle. Both woman and man find this activity relaxing. They like to experiment with the recipes and to invent new tasteful dishes. Cooking for their family members is one of the most joyful activities.

- **Ride with the bike** – considered as a physical activity helpful for health care and also as a psychological relaxing activity. One of the participants mentioned a bike race that she would participate in, looking at this activity not only as a relaxing one but as a form of competition which was giving to her another motivation for the near future.

- **Playing games** – especially crossword, considered an entertainment activity, which make them spend the time by training also their memory and their knowledge on specific fields.

- **Healthy activities like exercise or yoga** – considered as physical activities related to a healthy lifestyle.

- **Listening to music on the radio** – considered as an entertainment activity.

- **Shopping**

- **Taking care of home**

Similar experiences were also included in the data collected with walkthrough method. The collection of photos from the walkthrough is presented below. From the photo collection can be noticed that most of the activities are done at home. This explains the fact that seniors’ life is mostly concentrated at their homes. There they feel safe. Other activities like reading books, cooking, walking with the dog, shopping, are also shown in the photos which reinforces the findings reported above.

![Figure 5-2: Some moments from the walkingthrough of a participant](image)

### 5.1.2 Technology used in daily activities

Seniors are considered to not be involved or to use new technologies however the empirical material gathered in the workshops illustrates that the participants all use the technological tool designed for them. They rely their relationship on the mobile phone and also navigate in the Internet for different kind of activities and to get the information that they want. Further, seniors use technologies in the moment that they need to do so, when the technology becomes important in performing activities and also in communicating with their social networks.
An important finding was the relationship that the participants had with the ICT technologies that they already had learned how to use and were using in performing daily activities. While telling stories about their daily life seniors mention a number of technologies that they already use. The washing machine, vacuum cleaner, microwave, oven, sewing machine and other kind of technological devices that they consider now as a normal part of their life without the whom they don't know how to do those activities. However these technological devices once upon a time when they were launched in the market for the first time were considered the invention of the century and seniors had to learn them, adapt with them and with time make them an integrated part of their life.

Further, TV was considered as the main technological equipment for entertainment. The television and different kind of channels and TV shows get a big part of seniors’ life. This platform still continues to be the most important technological equipment that seniors use. The TV is considered as the main platform of relax and general information. Hence, seniors focus more on channels which transmit documentaries of any kind or scientific information. This is very important and has to be taken in consideration in future studies, because it express on what kind of information are seniors interested.

Internet TV is not something they liked because it was considered as difficult to manage. Participants explained that it was difficult in finding the right programs for them and also one of the participants said:

“you have to search for things and decide what to see, instead the TV is easy...you just have the programs there and you can chose whatever you want”

Despite the technologies in use like TV, radio etc another important technological device that seniors used, were also the personal computer (PC). Most of the participants used the PC for accessing and navigating on the Internet. They identified the computer with the access on the Internet. Some of the activities that seniors preferred to do on the Internet were:

- Searching specific information and keeping informed
- Communication

Searching information related to their hobbies. “Search for clothes, houses, places to visit or read e - magazines” were mentioned by one of the participants. Some participants preferred to shop online, other were interested reading digital newspaper or who has more knowledge on navigating on the net, booked online tickets for traveling. Using the Internet as a source of information was one of the main reason on accessing it. Further, seniors search on the Internet by using mostly the web browser, and from the results of the research they access in specific webpages that they are interested on. “It is easy because you know where to search...In some cases I lose the pages, instead Google or Yahoo find the information for you” said the participants.

Despite the navigation on Internet through the usage of the search engines like Google and Yahoo, seniors had also interest in some specific websites. The main applications mentioned by mostly all seniors were Spotify and Libris. Spotify is an application for listening to music and Libris is an e-library where seniors could find books and also discuss them in book clubs. These applications are so well organized that anyone can find the songs or books s/he likes into its categories. In this context we realize that exactly these kind of easy and
categorized applications are suitable for seniors, because they can easily find there their environment.

A very important technology is also the mobile phone. Seniors said that at the beginning they used mostly the traditional phone, instead now every communication is made through the usage of the mobile. The activities performed through the mobile phone are:

- Call
- SMS
- Photos
- MMS
- Email
- Navigating on the Internet
- Alarms, calendars and sensors
- Social Network like Facebook and Instagram

This services are also what other mobile users use. As explained above in Chapter two seniors almost use the same services as other users group but the time and effort needed for using these services is higher among seniors.

5.1.3 Seniors Vision of the Future

In the cartographic mappings from workshop A there are also some activities that are not done on daily bases. One participant included an image with an old woman, see Fig. 5.1, measuring the blood pressure. When I asked one of the participants why she included it in the cartographic mapping she said “because now this is also part of our daily life”. Seniors face the physical decline while the time passes by. They are aware of the fact that they will not be able to perform in the near future all the activities that they want and this will be conditioned by the physical decline that they will face. In this context they said that they would be interested in every ICT services that will diminish the problems created from physical decline and will help them on continuing with their life routine. Especially they were interested on social media service which could enhance the social engagement and participation even when seniors will not be able to frequent social activities personally.

In workshop A – cartographies, the women were also asked to imagine an active day reflected in the future. Here the discussion changed. One of the participants asked “do I have to think about it positively or do I have to think about the hard part of life at a certain age.” They both mention that at this moment they have to think also about the moment when they will not be so active anymore, and this was the reason why they wanted to live the life now as intensive as possible. This was exemplified by one who wanted to have grandchildren and grow them and another who just wanted to live the life as much as possible with the people that they loved. They talked also about how important it is in their life meeting friends and spending time with them, talking about their hobbies. In addition keeping social relationship especially with friends was considered important but the frequency of meetings was not too high because their health didn't allow doing so many activities in a day. It was noticed the interest in participating in activities with their social network but a lack in possibilities to do so. The lack in possibilities was a consequence of physical and psychological decline which brings also the sociological decline. These findings were useful for conducting the next workshop which has as an aim to critically analyze seniors social relations and the use of technology for communication and
cooperation and finally give some suggestions with seniors for social media services which will promote social engagement and participation of seniors and social media services that they were using in order to keep the relationships with the social networks.

5.1.4 Social Relations

Values that emerge in one participative session should be cultivated in additional activities in a PD process (Iversen, Halskov and Leong, 2012). In workshop-A and the walkingthrough it was noticed the interest of seniors toward the social relationship. The expression in their faces when they talked about friends and family, the groups of interest where they participated and the emphasize on the stories where they were surrounded by people made the topic for my next workshop, that was to understand who were the main social networks for seniors and how seniors communicate with them. In workshop B held in PRO the focus was on social relationships. The participants presented the inner cycles and the outer cycles of seniors social relations.

The involved seniors explained that the most important and close relations are with their children and grandchildren. They are the focus of life for seniors and they try to keep close relationships with them. They expressed also clearly that they try to adapt to new technologies specifically for keeping connection with their children and grandchildren. When it comes to the close relationships again one of the women said “with Facebook it is easy because you do not have to disturb them by calling…they can just sent you a sticker”.

Hence, seniors have realized the importance and benefits of technology and they are trying to keep advantage of it in order to keep contacts. Still each of the participants communicates with their social network mostly by calling them through the mobile phone.

In the outer cycle of the participants’ network they told about the social relationships that they have and the groups they like to keep contact with. It was mentioned that for the organization of meetings with the groups of interest they used the mobile phone call communication or sometime via e-mail’s. They were informed for events through letters or through e-mail and phone calls. This generated the discussion for the need of another tool which could help them get more information about the event that happened around their community, in their neighborhood or at the public library and so on. While discussing about the activities in which they participate one of the women added that “on Facebook there is the most wonderful thing, I participate in two groups a gardening group and one for Växjö in the past….and there you can share your feeling, you photos…and there are people who have the same interest that you have and I can comment and ask whatever I want…and everything sitting on my sofa…”.

The idea was that in daily life it is difficult to have around you all the people that share the same interest with you and even with your own husband you have different interest. This illustrates that seniors need a space where they can group in different categories which represents field of interest. The idea is that seniors are oriented more toward vertical social networks which have more structure groups and are more oriented in small groups. The same analogy is in Spotify and Libris. Seniors find easily there their space and try to get the best out from it. The same is needed from social networks for seniors.
5.1.5 Social Networks as a Communication Tool

The outcome presented above shows that there is an increased interest also in social networks. The social networks mentioned by the participants in the workshops were Facebook, Instagram, Face Time etc. Seniors have started to use these social networks as communication services. Further, they consider social networks as a space dominated by younger generation so subscribing on social networks make seniors feel like having surpassed a big challenge in the generation gap and have approached to youngers. One of the participants said that:

“now I am actively using Facebook, because the mail you get it from shops or other formal sources…but where are your friends?...They are on Facebook...for me Facebook is like playing...you know like a child”.

Another participant added: “And now I am using Facebook...they say it is cool”.

Facebook was also a channel to be updated, a participant said that through Facebook he knows everything about his grandchildren’s. Hence the involved seniors see social network as an important tool for continuing to be part of their children’s and grandchildren’s lives. Through the usage of social network they can get instant notifications of where their children are and are also able to exchange photos with them, all in real time. As it is seen from the quotation above, in Facebook they find also their friends. There they restart the communication with people that they have not seen for years. It is considered from seniors as important for reconstructing relationships by surpassing time and space differences. Thus, the empirical material shows that social networks are becoming important for keeping seniors connected and informed. This is pushing them to use social networks.

As a conclusion on this part I want to emphasize that the technology is not anymore a taboo for the group of seniors that participated in my study. They are using social media tools in different ways filling in this way the day with the things that they like. They are using social media tools for communicating with people and their loved ones. Seniors like structured webpages where they can find the information that they are searching for easily. This is possible as mentioned above with well-organized webpages and applications like Libris and Spotify. Another thing the participants wanted from social media services were services dedicated to the intercommunication with their loved ones.

This phase was only an intermediary phase toward my final goal. I got a deep insight of what seniors do in their daily life and what are their social networks, how they currently communicate and interact with this external environment and also their approach toward new technology e.g. social media.

The findings I presented above gives a whole view of seniors’ daily activity and their social engagement with different actors like family and friends. This was one part of the study. Another was to find out together with seniors what social media services could help them in their daily life and socialization. A future workshop was held to generated idea for new social media service which can enhance social engagement and participation.
5.2 Toward the Design of Social Media

The information about seniors daily life based on social engagement and participation, what they do, who were the most important persons in their life’s and how they communicated with them helped me get an overview of seniors life and activities. The emergence of value was assessed and it was needed to go to the next stage, that is to develop the values (Iversen, Halskov and Leong, 2012) In this viewpoint was needed to make seniors think critically about their daily life and also open their mind and think for future solution to make their social life even better through the use of social media services.

The materials gathered in workshop A and B together with the walkingthrough activity were the foundation that created the basement of discussion in workshop C and helped me as the facilitator to raise the right question during the future workshop.

In the future workshop a range of ideas was generated. The workshop was organized in the form of brainstorming sessions where the participants started to think about their social relations critically. The first reaction in the critique phase was that “we do not have any problem....that’s the problem”. This reaction comes from the fact that for seniors it is difficult to accept the problems that come with their age. They do not accept to be already “there” and think about elderly not for themselves but for their parents.

However, this reaction disappeared when they started brainstorming with each other and by sharing ideas. The idea of communication and the way of socializing with children and grandchildren created the most active debate and discussions.

5.2.1 Critique of the Actual Situation

First all seniors regretted the lack of face to face communication with their loved ones. The participants said that the technology creates itself a gap in communication between them and their children's and grandchildren's. While seniors want to talk and discuss or spend time with children and grandchildren, they instead are more concentrated on playing with the mobile phone, I-pad X-box etc. One of the participants said: “It is good to use the mobile
phone when it is needed ….I like to hear the voice…” Then he added: “I don`t have problem to talk to my grandchildren they have problem talking to me”

Another participants added ironically that “he don`t have problems talking to his grandchildren, they already know how stupid he is.”

Further, one of the participants concluded that: “It`s a big difference between generation…and we are somewhere in between.”

During the workshop was noticed what Brandt et. al. (2010) has told about the situated elderliness. Seniors feel old while they have contact with some specific technologies that they cannot manage or don’t know how to use, facing in this way elderliness in specific situations. The difficulties of adapting to some ICT services which are not customized for seniors make them create a wall of not acceptance toward these services. As I have explained before seniors have started on using social media services, but the services that they are using are those social media services that they have learned how to use and also those services that they percept as important in achieving some goals. Instead for new services seniors tend to have difficulties on accepting them and using them. Instead youngsters are keen on trying and using new social media services of any kind and function. This brings the deepening of the gap in communication with the young generation and seniors` risk to lose the communication with their social network. In the beginning of the workshop the usage of mobile and technology were considered by the involved seniors as something that was ruining the relationships between humans in general there was also a sign that seniors at a first glance tend to refuse the technology but when they are supported and enabled to learn and the use the technology the reaction changes a lot.

One of the participants said:

“First we had like a mail list with all our friends and we could write to them…but then suddenly was like silence in the mail box...instead almost everyone is on Facebook and they regret you if you do not join...like: you are not on Facebook!!!”.

Social network are considered important and that is why seniors are moving from the usage of e-mail toward the use of Facebook. It became obvious in the workshops that social networks were considered as toys for children and not valuable enough to learn and to use, but ones seniors have perceived the value of the social network services in their life they are trying and struggling to adapt to the new services. Despite the problems in the sense of adaption with the technology and situated elderliness one of the participants brought into the discussion an important topic, which is the risk to be lonely. She said:

“it is a little bit in the future for us but a reality for others….there are communication problems…this stand in difference of techniques, you cannot communicate with the others if we don`t use the same tools and you have to use the same language or at least try for it.”

The necessity to use new technologies was also pointed out by another participant, s/he added: “there is a risk that you might return to a hundred.....and there is a risk that you are sitting on your little corner and you have lost contact with the world”.

In order to adapt to children and grandchildren and save the communications with them seniors have to react and start using the same social media services The involved seniors
were aware that the communication with friends and family will get even more difficult in the future and also the use of technology for communicating with them. The difficulty will come as a consequence of cognitive decline in both physical and psychological perspective. Seniors will not be able to move from home to visit their loved ones whenever they want and also having for examples hands tremor will make seniors not even capable to make a call. Seniors will not be able to use the same tools as now and this will let them in “a corner” which in a sense would be a prison for them. They have to react!

Another problem that was mentioned was related to the communication tools and the number of junks and fake e-mails and invitations that they get over the net. Seniors are concerned with the security of the activities on the Internet and this lack of security and lack of information toward the terms of security limit the usage of social media services.

Health problems were also brought up. A participant mentioned health problems that seniors can realize while using the technology. She mentioned the health problems related with the way of sitting and staying in front of the PC or the problems with the eyes created from the radiation. Sometimes it gets difficult for seniors to use the technology even if they will to do so. Hence, to pay attention to special needs elderly person have e.g. the physical incapability’s of seniors is important in design of new services.

Another problem in the usage of the actual technology is the difficulty to read the web pages. Web pages are structured in a manner that only an experienced user can easily find how to read information and navigate through it. Seniors find it very difficult to find what they want because they are not used with the complex structures of webpages. However the participants were also able to see the benefits that technology has brought in daily life in years.

The critical phase ended with a conclusion of the main problems that we face in the way of keeping social relationship in the third age and to support this with the usage of technology. The evaluation of all the arguments was categorized into three main groups of problems such as:

- Face to face communication
- Loneliness
- Technology

Face to face communication is a very important topic for this group of participants. They are now in that part of life in which they want to catch any detail. As it is also notable in their Facebook profile they use mainly picture for expressing their ideas and feelings over Facebook. They mentioned also the usage of FaceTime as something very good which make them have an impression of face to face communication.

Another important topic was that in the future they could suffer loneliness because of the body incapability’s to move and participate in activities. We need to work on new ways of fighting loneliness and bringing this people as near as possible with their loved ones. At the same time the concept of loneliness was connected with the idea that during life you lose the important persons and old friends and it is important to have new ways and groups of interaction with people who can have the same interest as you and can share the same feelings as you.
The third point stand on the technology itself and how much this technology is adapted to seniors. They are willing to use the technology and they like to learn, by using also the idea of age as a way for asking for help but the problem is that still there are difficulties on technologies and only few researches are made toward social relational technologies for elderly people. There are not too many options adapted to their incapability’s and this come as a consequence of lack of studies toward the concept of situated elderliness which on my point of view is a very good point of view for designing the right technologies for this group.

5.2.2 Seniors Wishes and Requirements

The participants had to generate new ideas for the future design depending on their desires and demands. The involved seniors suggested ideas to resolve the identified three main problems. The solutions proposed by the participants were:

1) more support “when this damn thing doesn’t work”. They like to surpass this technological gap and they are ready to struggle for that but they need to have the right support for doing that. One of the option mentioned was the remote control, in some cases it was very useful. With the remote control they can have the support that they need in case they cannot handle something. In order to settle their social relationship on technology they think that is important to have the possibility to master it.

2) Technology has to be adapted to them and to the incapability’s that they can have. So the “magical tool” has to be able to have a user friendly interface designed especially for seniors and their problems, like big letters, low resolution and maybe a new form of computer which can be more comfortable on usage when they are sited in their preferred chair. To give possibility to have a real life sensation of interaction like a life-size, window-like "portal" through which people could see each other in their kitchen or family room.

3) Using social network and social media service for offering their knowledge and experience to younger people. They can have special networking alternatives, like giving consulting for different fields in which they have worked earlier or by trying to be useful in the society. One of the ideas that were later discussed was the idea of helping immigrants to learn their language in the case of Swedish. In this way the elderly have the ability to communicate instead the immigrants can benefit for learning and practicing the language.

4) For the communication with children and grandchildren they focus on idea of photo and video based applications. As they grow older they want to be more present in the daily life of their loved ones and by having technologies which can for example project in a window size the kitchen of their children home can make them feel like they are at the same place.

5) Social small groups which gives to seniors the possibility to share their interest with other persons. The idea of vertical social network is not new but in the case of seniors is very helpful and valuable in order to give them the possibility to integrate better in the wide world of the social networks and share their dedicated interest with the others of all ages.

6) Seniors like to have tools which have the same interface because is easier for them to handle

7) Seniors need applications which are nearer of the real experience and especially when it is related with photos.
8) Application which create the sensation of real journeys ‘could be very interesting for this people.

The concluded remarks from the participative workshop – future workshop, is that the involved seniors stated that they like using the technology and the revolution that social media services and social network has made in the way they communicate with people and loved ones. They see social networks not as something for spending their time but they think to use social media services to empower themselves. They consider these services as a goal in themselves to learn and then try to benefit from them.
Chapter 6: Discussion

In this chapter the findings of the thesis are discussed. Findings are discussed in analogy with the research questions and the data presented in the empirical material chapter. Further, I have also added some discussion and reflections on the methods used for conducting my research and the extent to which they justify and create an important theoretical bases for my research.

The aim of my research was to better understand senior’s daily life, their activities, and their relationships with their family, friends and groups of interest, how they are currently using the technology in enhancing these relationships, and to find out with them possibilities for alternative social media services that can sustain or enhance their social engagement and participation. I used the participatory design approach and its methods for gathering the data for my research. The data was gathered in three different workshops together with walkingthrough activities and documentation of observations with the use of a diary.

6.1 Discussion on Empirical Material

As Hart (2005) suggests, the discussion chapter should provide “a discussion of the degree to which the research has answered the questions” of the research (Hart, 2005, p. 100). Results of each of the research question will be presented and discussed below.

6.1.1 Daily Life Activities

The first research question of this study was to understand Swedish seniors’ daily life by discussing with them through the usage of participative methods. The research shows that the involved seniors are very active. They performed a wide range of activities during a day. Thus, seniors were more attracted by some activities like: entertainment, relaxing, physical and social activities than others. These activities were e.g. reading books especially in the hard copy form, going for a walk with the dog, cooking, ride with the bike, playing games, healthy activities such as exercise or yoga, listening to music on the radio, shopping and taking care about the home. This shows that seniors in Sweden are spending their days actively and are participating in different activities. In the literature the most important activities recognized are those activities that enhance seniors’ mental, physical, and social health during free time. These activities make seniors feel satisfied, happy, and self-enriched in a leisure state (Wang and Wang, 2001). Seniors tend to focus on leisure activities which keep them engaged in life and give them a motivation for the future. Seniors participate in activities that they consider important and can bring them value. This is why they tend to be more relaxed and focus on entertainment activities, which bring more satisfaction while they are growing older. In the empirical material activities that seniors perform in a day are divided mostly in entertainment or sociological activities and physical activities. This can be approached with the perspectives of research of the field of gerontology which is focused on study seniors, their life and behavior. The most important perspective of gerontology for this study is the sociological perspective. This perspective tries to catch the social life of seniors, how they engage in the society, what are the groups that they relate with, what are the social activities that seniors do and how this element influence in their health and wellbeing. I have
used the sociological perspective of gerontology by focusing more on social media services and how they enhance seniors’ social engagement and participation.

Despite the categories of activities it was noticed that seniors divide the activities that they like to perform alone and the activities that they like to do accompanied by their friends and family. The walkingthrough activity reinforced the findings from the workshops. This was noticed when seniors were asked about the best moment of their daily life and almost all described the moments spend accompanied with friend and family. Seniors are aware about the limited time of life left and they want to spend it in the best way possible. Consequently, they like utilizing every special moment with their loved ones. Seniors value the social activities as the most beautiful in their daily activities. The communication and cooperation with loved ones and groups of interest is also supported by previous researches. For example Lindley, Harper and Sallen (2008) explain that seniors are more selective on the people they spend the time with by focusing the interest toward the most important persons in their life. Technological tools and social media service which promote the communication with loved ones are what seniors need.

I have also explored the vision that seniors have about the future. Seniors have difficulties in prospecting their life in the future because they are afraid of the outcomes that the future can bring. What they do is to enjoy as much as possible their life and to take care about their health by making regular controls, eating healthy, making physical activities etc.

Despite the range of activities in the seniors’ daily life included in the first research question, I was also interested on the technologies used by seniors in their daily life. Seniors are actually using different technological devices to support their daily activities. They have understood the role that the technology have and are trying to approach. Technologies like the TV and the mobile phone continue to be the most used devices but it can be noticed an increased interest of the usage of the PC and the unlimited social media services that can be accessed in the Internet toward the screen of a PC. TV continues to be the main device for spending the free time and seniors seem to collaborate very well with the TV. The phone it’s a tool to communicate with and it is also important for seniors in order to make them stay connected. The easiness that characterizes this devices make seniors use more them but at the same time the new social media services that are being offered through the net is attracting the interest of seniors. Seniors have started to see the social media services as value added for their activities and their life. Relating to the concept of situated elderliness of Brandt et. al. (2010) social media services can help in reducing situated elderliness that seniors face in particular situations.

Seniors are also using technological tools that support their daily activities like washing machine, vacuum cleaner, sewing machine, coffee machine, oven etc. We have to notice that these technologies were a revolution when they entered the market for the first time and seniors were the first persons who had to learn how to use them. In years they have mastered those technological tools. Here again it is noticed that seniors use and master the technologies once they perceive that it is helpful for them. They mention in the workshops also a number of technologies developed toward the smart homes and health care sector in order to insure seniors a healthy and autonomous life at their home. The focus of ICT designing toward tool of health care and smart home is notices in many research papers as in the papers of Callén et. al. (2009) and Jansson and Mörtberg (2011). As Iversen, Halskov and Leong (2012) has described in the first phase of a design it is needed the creation of the
emergency of values. This was my intention in the first workshop, to create the emergency of values between the seniors. To make seniors think about their daily lives, activities that they perform, technologies that they use and reflect with them later on the next steps what can be done for improving their lives. This is in syntony with my position as a thoughtful designer. In order for seniors to come up with some social media solutions they have to discuss about their daily reality and from there think progressively on solutions that can improve their lives. The solutions come by discussing and negotiating with each other all the groups of interest that in this case where the seniors and the representative of ICT design solution which will be in the role of the facilitator.

6.1.2 Seniors Social Relations

Despite having a general view of seniors’ daily activities the focus of my second research question was to analyze social relationships of seniors and discuss later with seniors these relationships and how social media can help on improving them.

Social relationships were made explicit in all the participative activities. However, in one workshop – workshop B, the topic was to examine the involved seniors inner and outer cycles of relationships and involvement. From the persons that were classified in the inner cycle of relationships, were children, grandchildren, siblings and close friends. Instead in the out cycle were classified people with whom seniors share the same interest through participating in different groups or organizations. The same social networks were also described in Luong, Charles and Figerman (2011). While growing old seniors loose part of their friends and loved ones and they become more keen on focusing on the main relation and concentrate in keeping contact with children and grandchildren. But while children and grandchildren integrate in their busy routine life seniors find themselves lonely.

Critics toward the intensity, ways and manner of communication with their closed groups brought into attention two main issues rose for the seniors and their lifestyle: social isolation and loneliness (Hall and Havens, 2004). I encountered these phenomena also during my research. Complains about their grandchildren and children concentrating on the phone even on family dinner on special events, where the same description of Hall and Havens. The authors say that loneliness is not perceived only with the fact of living alone. One person can feel lonely even when it is surrounded by a lot of people, that’s why loneliness is perceived as the negatively perceived social isolation. During the workshops seniors were talking about the most important persons in their lives that were children and grandchildren but at the same time how these people are so busy and in their lives. How sometime they are so different in the objectives that they have for the future form the seniors. This fact creates loneliness. Seniors also enhance the social isolation as a consequence of the use of technology from youngsters and their incapability to use that technology for adapting to their children and grandchildren.

The communication with social groups is made through meeting personally or by using other tools. The most used tool in the lack of face to face communication was considered the phone call and also previously the emails. This category was specified from the literature too (Statistics Sweden, 2014). Social media tools are lately becoming an important source of communication. This has come due to the fact that seniors have noticed the increase in the usage of these social media services and have also realized that they can benefits from these
services. Senior had mentioned social networks like Facebook and Instagram. For seniors that had children which lived far away Skype was the most important tool to use. What was not considered yet in the literature but was one of the most applied and liked social media service was Face Time. It was considered easy to use and also easy for communicating.

From the seniors usage of social network two moments are important, communicating with children and grandchildren and also communication with groups of interest. The reduction in number of friends in years due to the fact that they are not able to move from home to visit them or they have died earlier, make seniors have limited person with whom they share the same interest. In social network the barriers of space are reduces and also those of time. Seniors can find new friend and discuss on common interest topics or reconnect with old friends with whom they have in come pieces of their life’s and memories.

In Gatto and Sunghee (2008) keeping family relationship was considered as the most important motivation to convince seniors to use the technology. This is also an outcome in my study. The discussion of social media tools as a communication service basically to enhance communication with children and grandchildren in in syntony with what Gatto and Sunghee (2008) have concluded in their paper.

Despite the motives which push seniors on using social media services there are also some factors which do the contrary. It was important to analyze even these factors in order to surpass these barriers while proposing new social media services for seniors. One of the main phenomena recognized by the literature is the “cognitive decline” (Phiriypakanon 2011). Cognitive decline is related with seniors’ ability to learn and to adapt to new technologies. They cannot have the same speed of learning technologies like the youngest. This idea of incapability to adapt to the new technology makes seniors to negatively respond to new ICT tools. This was noticed also during the workshop. They mentioned that they had a sense of auto protection in confront of new technological tools that they couldn’t use.

Seniors have started using social network e.g. Facebook because they have realise how social networks can be an important real time communication tool. This is also what Selwyn et al. (2003) emphasizes, the importance of meaning of technological tools in order to make seniors use them. The factor of Chou, Lai and Liu (2013) of the difficulties of seniors to use the social media services can be said that are less notable in the Swedish society. The involved seniors have the sense of privacy and security over the net but they are currently using e-banking service for making all the payments. Most of the seniors use the smart phones and has navigated on the Internet once in their life which makes them more comfortable on searching on the Internet and finding the information that they want. They are now talking for a more difficult level of mastering the technology that just searching on the Internet, they are searching for clothes, songs, houses and even booking tickets.

Despite the factors which influence negatively on the adaption of technology in my research, by going through seniors daily life activities I have tried to understand why they use the social media and what can motivate them on using new social media service. Despite for communicating with their loved ones which was also mentioned in the literature as the main influencer of making seniors use the technology, there are also other factors which influence. Self-efficacy and entertainment are also a source of motivation for using the social media service (Selwyn, 2004, Czaja et. al., 2006,). All this factors are related with the perceptions of the benefits of the technology. For making seniors surpass the anxiety and
unfamiliarity and to make them think for the motivation for using the technology a main factors is to pay more attention on educating the seniors on how to use social media and to explain to them how social media can be used for empowering them and their social relationships. If they take the information in this point of view the interest toward the social media will grow.

The fact that the technology can diminish the gap in communication created between seniors and their children, grandchildren and old friends make seniors see the technology as something positive and willing to use. During the future workshop I found out a turning point in the way how seniors can see the technology. They initially had a natural negative reaction to the extent that the technology is influencing in diminishing face to face communication. The turning point of viewing the technology not as something negative but as a very important invention which can enhance communication rather than destroy them, was only a matter of giving to seniors the possibility to see the technology as their friend as something understandable and helpful, to make them willing to know better about it. So the main enabler was to explain to seniors the technology, learn and educate them about the technology. Seniors do not have the same speed of understanding as the youngster do but they have the wisdom and life experience which can be a key of success for adapting to new technologies developed.

In this context describing their daily lives seniors mentioned a number of technologies that they use on performing different activities. There are a number of technologies that they use for having the possibility to perform activities at home without having the necessity to move to elderly houses. Seniors wants autonomy (Lindley, Harper and Sallen, 2008) and they realize that the technology can support them in activities and also give the sense of autonomy to seniors.

Social media promotes communication and socialization and that is why it becomes an important candidate for usage from the seniors. Social media help in increasing the ability to share and to cooperate with each other which serve also as a tool for collective actions (Fuschs, 2014). This aspect described by Fuschs makes social media the desirable tool from seniors. This fact was also noticed in the workshops. Seniors by focusing on the importance of keeping relationships with family and friends even when they could be too old and without having the possibility to move from home, they were actually searching for a tool that could help them keep the communication. The nature of social media, it characteristics of openness, communication, collaboration make them the ICT services of future for seniors.

6.1.3 Social Media Services – Desires and Requirements

The third research question of this study was to generate desires and requirements together with the involved seniors as co-designers for future social media services. This was performed through a future workshop where we first made critiques on the nature of social relationships of seniors and the technologies actually in use. How they were actually communicating and if something could be still improved. In this conditions as described also in the part of the empirical finding three main themes raised:

- Loneliness
Seniors suffer the loneliness in later age. The loneliness is not related to the fact that they live alone but to the diminishment of communication with family and friends. Another critique was in the direction of lack of face to face communication which enhanced later the loneliness. Another factor which influenced negatively in the communication through the technology is the design of the technology itself.

The results of the research presented in the empirical material were almost the same as presented in the literature in Statistic of Sweden (2014). Seniors are now using computers and mobile phones for different activities. They tend to be more willing on using a social media services once they have realised the importance of those services. Among the main social networks described in the literature were Facebook and Instagram but also other specific service was described in the workshops. As additional tools mentioned in the workshops can be mentioned the Face Time, Libris, Spotify.

The social media service suggested from the seniors are all new features that can help seniors in empowering their social relationships and also in making seniors actively participate in the society even if they are not physically capable of doing so. The role that social media services can play in empowering seniors by giving them the possibility to be active in social activities even from remote is an important enabler for seniors to believe in the potential of social media services and be willing to use them.

The role of social media in a good information society as mentioned by Bradly makes social media services important for seniors. In order to feel part of the social activities seniors have to be informed based on the themes of their interest. It was noted also from the workshop that one of the main reason why seniors use social media services was for getting the information that they want. In good information society people have more power on performing the activities that they want and take the right decision based on the objectives that they have.

6.1.4 Reflections on The Design Process - Designing with and for Seniors

Designing with seniors had in itself challenges for me in the role of the facilitator but it also learned me a lot on both social and academic perspective. Both me and the participants learned from each other by sitting and discussing viewpoints, ideas and values. One of the guiding principles of PD was mutual learning, where both the designer and the participants learned from each other and this is what I as a thoughtful designer did along the research. Here I will discuss some general characteristic of the design process that I as a facilitator faced during the design process with seniors.

As the scope of my research was to design with seniors and for seniors social media services I can say based on the finding of Schuman (2002) that my design is positioned on designing from somewhere. Designing from somewhere means that the designer starts from an earlier idea and then gave shape to this idea during the workshop. Having a clear view of
the aim of my research I chose the themes of the workshops in syntony with that aim. This explains that I start from somewhere for achieving the results that I want.

The design is a social process where a number of people are included and a number of decisions are taken. My role as a thoughtful designer was to make reflective decisions and to lead the design process. These dialectics of design do not stop in one cycle. The design itself goes up and down of this dialectics while it is developed. As the designer I had to be flexible and go up and down during the design process.

Schön (1987) describes the terms of reflection in action and reflection on action to illustrate how decisions are made depending on practitioner skills and knowledge. Both types of reflections were necessary during the design process on my research. The thoughtful designer have to react in place during the workshop and also later based on the data gathered in the workshop think about the next step of the design critically. I invited seniors to make with them part of the reflections on the ideas generated during the workshop and later having a more holistic view of all the materials gathered in different workshop I as the facilitator and researcher had to make decision and structure the results of my research.

It is important to emphasize that the design process is a fully dynamic dialectical process as has stated also Löwgren and Stolterman (2005). The vision, the operative image, and the specification influence each other continuously. The enhancing of visions, operative images and specifications are all very important for the designer and also for the participants involved in the design process. The designer has to implement the right techniques, like brainstorming, games, warm-ups etc. in order to enable all the participants’ visions possible. Are the visions that come in participants mind when they are presented with the theme of the research that will lead them in creating as many operative images as possible? The way how Löwgren and Stolterman (2005) have described the design process is important to catch the holistic view of how the design will develop. The design process starts with a divergent approach and then converges into a single image with its own specification. In the role of the thoughtful designer I chose those methods which could enhance the vision, operative images and specification in each of the phases of the research. The usage of cartographic mapping and diary and walking through was to push more on vision and operative images. Seniors by exploring their daily activities more carefully would be able to give more feedback in the research and also be more prepared in the part of specifications generated during the future workshop. I started the design process with a divergent approach and then step by step ideas were structured and the research took its form and generated the feedback needed.

An important influencer during the design process had the difference in cultures. Coming from another country, I was raised with different cultural values, worldviews, and another image of seniors and the way they live their life. Culture is a broad and comprehensive concept that includes all the ways of being. Culture is learned throughout life as one participates in family and social networks (Gollnick and Chin, 2006). Based on this I had in my cultural background the image of seniors in Albania. During my research, I had to “explore” the worldview, lifestyle, activities, values and norms of seniors in Sweden. I had to build the image of Swedish seniors by paying attention to everything during the workshops and getting to know seniors while interacting with them directly. Thus, not taking things from granted as could happen when you come from a similar cultural background was at the same time a positive point of the research and made it even more
reliable because the results of the research were not influenced by my previous beliefs, but were totally original ideas of seniors.

Despite the characteristic of the design process there are also elements which are important to notice while designing with seniors. One of things that I noticed during the workshop and was supported also by the work of Brand et. al. (2010) was that seniors mostly do not define themselves as elderly, for them “they are never there”. In this context during the workshops I had to be careful on how formulating the questions, and for asking questions about elderly people I had to refere to them in a future time for example: “try to think about yourself 10 years to fifteen years above when maybe you will not be as active as now”. Only in this way they will think more actively and objectively about the solutions without putting the emotional side that can come up while they think that they are old.

Culén and Bratteteig (2013) emphasize that elderly citizens constitute a challenging and vulnerable using group with whom to design with. I could notice this during all my research. I had to study seniors’ nature in order to find the right ways of interaction during the workshops. The strategy used was to start talking about daily life and then slow uncover the topics of importance that could lead to the desired result of the thesis.

Bodily mastering mentioned in Culén’s, Finken’s and Bratteteig’s (2013) is also another element that has to be taken in consideration when designing with seniors. The designer has to focus on exploring where seniors face cognitive decline and how the new ICT services can enhance bodily mastering in seniors.

Another important tip was that while designing for seniors with seniors is important to not see them as research subjects but as research collaborators (Parra, D’Andrea and Giacomini, 2012). This concept is crucial in participatory design projects but what I realized was that with seniors it was the key of success. Seniors have to know the importance of the study in their life in order to participate. Once you give them the sense of collaborator toward a better future for them and other seniors they accept to participate. Even during the workshops treating them as collaborator has to do with the fact that sometimes you have to discuss some important topics for them even if they are not the main focus of your research. Once you find a way return their attention to the focus of your research.

6.2 Reflection on the Methods

At the end of the workshop the representative of PRO told me his impression was that everyone has had a great time. In addition, he stated they have to adapt this method of conducting workshops also in their activities. I consider this as a kind of evaluation of the method chosen. The methods were very suitable because they generated a lot of ideas and they enabled participants to express their experiences and ideas freely.

Robertson and Simonsen (2012) define PD as:

“a process of investigating, understanding, reflecting upon, establishing, developing and supporting mutual learning participants in collective “reflection-in-action”. The participants typically undertake the two principal
roles of users and designers where the designer strives to learn the realities of users’ situation while the users strive to articulate their desired aims and learn appropriate technological means to obtain them.”

As it is noticed by the definition PD has to do with a collective reflection in action and it is based in the exchange of values and knowledge between the designers and users that make the core domains participants in PD projects. This characteristic of PD makes it suitable for the scope of my research. The idea was to focus on seniors, on their daily life in terms of social engagement and participation, so reflecting in action with seniors. The only way for designing the right solutions was by the usage of participatory design.

The cartographic mapping as was expressed in the literature is the method which enhance creativity and is suitable for detecting daily activities. Elovaara and Mörtberg (2010) argue that cartographic mapping method is suitable for making visible people’s daily life and activities. Also van der Velden and Mörtberg (2014) argue that mapping methods are used mostly on local knowledge and plays an important role in exploring life histories, connections etc. It has resulted to be the best way for seniors on expressing themselves.

In the future workshop seniors had the possibility to criticize everything about the social engagement and participation in later life and the free stile of conducting the discussion in the form of a round table brainstorming was very helpful to better understand their point of views. Future workshop is a technique which tend to find out the problem of a target group and also to work with them on generating some visions for the solution of the problems. They usually conclude with a plan for future work and this is part of the scope of my study. As mentioned in Löwgren and Stolterman (2005) in information system this technique is seen as initiating a process of change among the future users. The designer here places the role of the participator and Löwgren and Stolterman (2005) find it suitable to use in a product development where the audience is not totally well defined in term of workplace. It is similar with the system transformation method (Jones 1992 as cited in Löwgren and Stolterman 2005) where the users identify a problem, create a goal state and then construct a chain of transformation toward the goal. This was factors made the method suitable for the usage on my research and turned to give up the expected results.

I used the mobile phone for video recording and also in some cases I used the camera of the laptop. This was a very good technique because it gave the participant the freedom to express better without feeling as they were monitored. The video recording was very helpful for later evaluation of the data. Blomberg et.al (2013 as cited in Machniak) argue that human actions enfold themselves so quickly that it is impossible to capture that complexity by observation alone. Especially during interviews and other methods for data-gathering when the researches have to take notes and lead the interview situation. Also a good recording and data gathering will be if the material could be later analyzed without the presence of the person who recorded it. This opens for more interpretations of the material.

An important element mentioned by Löwgren and Stolterman (2005) is the fact that during the design process is important to think also about the aesthetical part of the solution proposed. Is important to think at what will be designed as something that will be inserted in the reality and will have its own place by creating a kind of uniqueness.
Chapter 7: Conclusion

In this chapter, I walk briefly through all the steps that I took to conduct this study. Therefore, research problem, research questions, research approach, and findings are revisited. Finally, this chapter ends by the discussion of further research.

As it can be noticed from the statistics the number of seniors has increased in the last years, and it will continue to grow. The changes has not happened only in the longevity but also in the quality of life and how seniors tend to spend their days. These new trends made me focus my research on this target group as a group which still can benefit a lot from the ICT services developed continuously in the information society.

In this condition the focus of this research was to be able to have a deeper view on seniors daily life, understand their social relations and the approach with technology, and be able with them to suggest some new social media services that can be useful to enhance seniors social engagement and participation. The research questions were:

- What are the main activities that seniors perform in their daily life and what kind of ICT or social media do they use to support these activities?
- Who are the most important social groups in seniors’ lives and how do seniors sustain these relationships/communicate with these persons? Is social media an important tool for enhancing social relationships of seniors?
- What kind of social media services do they require and wish for to enhance communication with the social networks and to support active lives?

The methodology chosen for gathering data was the participatory design. Through the techniques of participatory design it was possible to have a look at seniors daily life through their eyes, discuss about their social relation and how technology influences on it and to create step by step ideas of how social medi can help them in enhancing their social life.

The techniques of participatory design chosen to gather the data where cartographic mapping, future workshop, diary and walkthrough.

Each research question was alienated with a workshop. The data analysed from the previous workshops leaded to new questions, ideas and new manners to better manage the next workshop. The creative way of the cartographic mapping and future workshop was appreciated by the seniors, who felt comfortable and tried to participate as much as possible in the discussion.

For analysing data different methods were used. Mostly I used the thematic analysis in order to be able to create some main categories of requirements or ideas of new social media services for seniors. Below in the conclusions I will describe the conclusions of this thesis based on the data gathered.

7.1 Conclusions

Working with seniors has not been easy, starting from the recruiting to being able to analyse their way of thinking and the answer that they give. It served me as a wonderful and helpful
experience for conducting future researches. In chapter 5 and 6 I have introduced and explained the results of my research. Here I will describe in short terms the main results that I noticed during this thesis.

Seniors now “live more”. When I say “live” I refer to the dynamics of life, to participating and engaging in the society in which you live. What I first concluded in this study was that seniors are performing a number of activities in their daily life. Seniors like computer games, listening to music, visiting fashion websites or using Google maps. The activities that they do, can be leisure activities performed because they like to do them, health care activities, they have to do them to stay healthy and other social activities which they perform in their social groups.

Seniors need more customized ICT services, designed for them and technologies that can be suitable to adapt to the diversity of their groups, where different seniors face different situated elderliness cases in their daily life.

Training and support are the main elements that seniors require in order to have a positive approach with technology.

They especially use the Google browser to navigate in the Internet so a special browser which can be dedicated and have a searching algorithm focused on seniors’ webpages and stuffs they like can be a solution. Also seniors have a deep concern with the issues of privacy and transparency of data because as we told they pay attention to their action and to what they post in social networks.

Another important fact that I concluded from the research are the well-structured webpages where seniors easily can find the information that they want and their space, like Spotify and Libris. If we offer to them this kind of webpages even for cooking or for magazines and news, by making analysis of what seniors like to read in newspaper or what news they want to listen we can create some social media applications which can be very useful and entertaining for this category.

Everything mentioned above was what they liked to perform alone but when it comes to seniors, with years they increase the need and desire to keep connection with other. At the beginning they like to connect only with their close group like children and grandchildren but while the years pass by and the children and grandchildren get involved in their busy daily life seniors need some ways of communication with the external world. While they are still active they try to keep connections with friends and try to fill their day but once they will be at home not able to be so active anymore is time of technology to help them.

One of the main things proposed by them were the small social groups or local champions which try to promote groups in the same region to gather for the same activities that are developed in their area, or other groups with people from around the world with whom seniors share the same interest.

This are the conclusion of data gathered during the workshops. The contribution of this thesis will be discussed in the next subsection.
7.2 Research Contribution

Thinking to work with seniors seems to be not easy at all and in fact it is not, but once you are inside you realize that it is the best experience ever. Being younger makes us curious about life and try to run toward our goals all the time and be always in hurry, instead this people in a way have done their marathon and it is an honor to listen to their stories which can be considered as life lessons. They are not in hurry as younger do and they think about everything in detail by making the proper analysis.

These categories of users are persons who have a life experience so they have to be treated even by the technology with the same respect. It’s time to listen to their voice and design for them. Till now this category has mostly been considered by technology designers as people who need support in order to perform their daily activities and this is right from a point of view. This has resulted useful for those who want to spend their last years at the house where they grew up their children and know every centimeter of it. The new technologies like alarms and clocks and other devices have increased the possibility to live alone at home by reducing the risk of accidents. Despite the new technologies for Smart Home and the new medical treatments which has improved the quality of life of seniors they are now searching for something new and more entertaining in their life. They are aware about the fact that while the years pass by they will not be able to make the same social life, to keep the same relationships as before and in the worst scenario they will miss those persons with whom they have shared their common interest during the whole life. In this conditions technology designers see social media as a focal point on full filling this gap that the age creates.

Many projects and groups of research are working toward the design of specific social media tools for helping seniors to keep their social relationships with the world through the use of Internet services, but the scope of the research above was wider, it was to understand seniors and try to design with them their needs and their desires toward the social engagement and participation by the usage of social media tools.

The importance of my research was the broadly viewpoint of daily activities and social relationships for seniors. While different researches and projects as mentioned above in the literature has focused on specific design of social media services, this research give a whole framework.

The research gives contribution in the field of ICT designing and development by suggesting a number of new ideas and pinpoint for social media for seniors. It also has an important role on describing seniors daily life, their viewpoint about life, what they value most and how the technology can help on facilitating their life.

The benefits can be even for other studying fields like gerontology which focus on studying seniors life in general.

Another contribution is in Participatory Design. The methodology of inquiry chosen was participatory design and designing with seniors is not new. As I have also mentioned in the literature also previous authors has been working on designing with seniors. This thesis emphasize their work and also add some contributions based on the analysis of personal experience and perception during the workshops.
In general the thesis gives an overview of seniors, their relationship with the technology, what is actually designed and especially what can be designed and implemented in the future. The study finishes with a low profile prototype. In the next chapter a future perspective is presented.

7.3 Future Research
This research ended with some suggestions for social media services which could enhance seniors’ engagement and participation in the society but this is only the begging. The ideas and suggestions formulated in this thesis in the form of low prototype should be elaborated in future research in order to create a high prototype of social media service to offer to seniors.

Seniors’ daily life and environments has to be the center of every future research because it is from there where can come the most important and interesting ideas which will help seniors on having a better living. In future researches also new techniques of participatory design can be explored with the aim of engaging seniors always more in the discussions.
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APENDIX A - Consent Form

Request for participation in research project "Master Thesis in Information System"

*Topic:* Toward the design of new social media service for Senior Citizens

Name____________________________________

Age______________________________________

E-mail____________________________________

What was your motivation on participating on this workshop?

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

Background and Purpose

This project will be part of the master thesis research in Information System, fall 2014 at Linnaeus University. The project intend to understand better an active day of senior citizen, how they interact with the society and how they enjoy their day in the community. The topic will be on understanding the relationship that seniors have with social media technologies and also to propose with them and for the further social media solutions.

In this research I wanted to include active seniors who make an active life and can better represent their group. Swedish stile of living after retirement is very attractive and interesting. People enter in other phase of their life without losing energies and desire to interact with the community. The participant in the workshop will be this category of people. People who do not have serious problems and have interaction via the usage of technology with their world.

What does participation in the project imply?

The project consist in the Participatory Design method, where users and designer are intended to work together on designing the desired output. The techniques that will be use are:

- Cartographic mapping: This is an ethnographic technique in which base on the theme “An active day of participation and engagement” in which the participants are
expected to show an active day in a piece of paper, all their connection and activities which fulfill their day.

- Future workshop: After the first part we will discuss about the problem of the current situation and how can we improve it if we prospect this situation in the future.

At any time it is needed an active participation and discussion form the part of the participants. All the ideas and stories are worthy and are welcomed to be discussed.

**What will happen to the information about you?**

All personal data will be treated confidentially. All the information gathered in the workshop will be accessed only by the project group, student and supervisor. Personal data about the participants will be taken confidential. No names will be presented in the report if no consent is given by the participants. If the participants agree the séances will be recorded and the video will be used only for analytical review from the researcher. Photos that include the image of the participants will be modified in order to not show the identity.

**Voluntary participation**

It is voluntary to participate in the project, and you can at any time choose to withdraw your consent without stating any reason. If you decide to withdraw, all your personal data will be made anonymous.

If you would like to participate or if you have any questions concerning the project, please contact: Klaudia Carcani, Tel: 0733 98 99 33, E-mail: kc222bp@student.lnu.se

**Consent for participation in the study**

I have received information about the project and am willing to participate

________________________________________________________________________________________________________________________
(Signed by participant, date)

☐ I agree to participate in the interview

☐ I agree that information about me may be obtained from teacher/doctor/register

☐ I agree that my personal information may be published/saved after project completion as described in the above section of confidentiality of the information.