Degree project

Use of Social Media by Students in Denmark

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Abstract
The use of social media and its accessibility through smartphones is becoming a more and more researched topic in the field of ICT. In relation to this, the current study attempts to shed light on the general use of social media, Facebook in particular, by youth in Danish context and pays attention to how the accessibility to this media through smartphones affects the interaction between individuals when being together. The research finishes with three conceptual models which goal is to provide future design implications of the studied ICTs in a way that closer meets the user needs and requirements. The models are – one related to Facebook, one general application, and one related to supporting many-to-many communication.

The study is of interpretative nature, based on qualitative research approach with a main method for data collection being qualitative semi-structured interviews. There were 8 interviews performed – 3 with students at a secondary school in Odense, Denmark, and the rest with students at the university in the same town. In this way an understanding of the use patterns and issues experienced by the different age groups was attempted. Furthermore, the study contributes with findings to certain discrepancies identified in the current literature, such as the need for context-aware devices, type of friends on Facebook and others. Finally, due to the limited source for data collection, the thesis does not claim for generalizability, but it should be viewed as a small contribution to the studies related to Facebook, particularly applicable within a Danish context.

Keywords
social media, Facebook, smartphone, youth, qualitative interviews, interaction design
Contents

1 Introduction ........................................................................................................................................ 1

  1.1 Aim of the Study .......................................................................................................................... 2
  1.2 Scope and Limitations .................................................................................................................. 3
  1.3 Structure of the Thesis ................................................................................................................ 4

2. Literature Review ......................................................................................................................... 5

  2.1 Facebook Use ............................................................................................................................. 5
  2.2 Social Media, Smartphones and the Social Situation ............................................................... 8
  2.3 Conceptual Framework ............................................................................................................. 13
    2.3.1 Interaction Design ............................................................................................................... 13
    2.3.2 Domestication .................................................................................................................... 15
    2.3.3 Balkanization ..................................................................................................................... 16
    2.3.4 Technology as not being Neutral ....................................................................................... 16

3 Methodology .................................................................................................................................... 19

  3.1 Research Paradigm .................................................................................................................... 19
  3.2 Philosophical Worldview .......................................................................................................... 21
  3.3 Research Approach ................................................................................................................... 22
  3.4 Reflexivity .................................................................................................................................... 23
  3.5 Methodological Sensibility ....................................................................................................... 23
  3.6 Research Method ....................................................................................................................... 24
    3.6.1 Participants and Participation Criteria ............................................................................... 24
    3.6.2 Data Collection .................................................................................................................. 24
    3.6.2.1 Qualitative Interviews ............................................................................................... 24
    3.6.2.2 Limitations of the Research Method .......................................................................... 26
    3.6.2.3 Document Analysis ..................................................................................................... 26
    3.6.2.4 Role of the Researcher ............................................................................................... 26
    3.6.3 Data Analysis ..................................................................................................................... 27
  3.7 Validity and Reliability ............................................................................................................. 30
  3.8 Ethical Considerations .............................................................................................................. 31

4 Empirical Findings ........................................................................................................................ 33

  4.1 Use of Facebook by Students in Their Everyday Life ............................................................ 33
4.1.1 Social Media being Used ................................................................. 33
4.1.2 Main Purposes for Using Facebook .................................................. 34
4.1.3 Camera Functionality ........................................................................ 35
4.1.4 Skype and the Roles Assigned to Different Communication Platforms ........................................................................ 35
4.1.5 Check-in Service on Facebook .......................................................... 36
4.1.6 Domesticating Social Media .............................................................. 37
4.1.7 Facebook as a Habit ........................................................................ 38
4.2 Impact of the Access to Facebook via Smartphone on Different Social Situations ................................................................. 39
  4.2.1 Accessing Facebook when in a Social Situation ................................. 39
  4.2.2 The Phone as a Way to Hide .......................................................... 39
4.3 Other Findings ......................................................................................... 40
  4.3.1 Need for Bigger Screen .................................................................. 40
4.4 Summary of the Findings ....................................................................... 41
4.5 Conceptual Models .................................................................................. 42
  4.5.1 Facebook Conceptual Model .......................................................... 43
  4.5.2 Simple Interaction Stimulating Conceptual Model ............................. 45
  4.5.3 Complex Conceptual Model .......................................................... 46
5 Discussion .................................................................................................. 49
6 Conclusion .................................................................................................. 55
7 Reflections ................................................................................................... 57
8 Future Research ........................................................................................... 59
References ...................................................................................................... 60
List of figures

Figure 2.1: SpaceGlasses (CNET, 2013)..............................................................................11
Figure 2.2: Samsung Galaxy Beam 2 (Solanki, 2014).........................................................12
Figure 3.1: Data analysis process (Creswell, 2009, p. 185)....................................................28
Figure 4.1: Facebook conceptual model – making a post......................................................41
Figure 4.2: Facebook conceptual model - notifications settings............................................42
Figure 4.3: Interaction stimulating conceptual model............................................................43
Figure 4.4: Complex conceptual model..................................................................................44
Figure 4.5: Conceptual model in a social situation.................................................................46
1 Introduction

Social media is becoming a more and more integrated part of people’s everyday lives. There are different reasons for this, though one of them is as it supports an interactive way for communication between its users under the form of sharing images, video or text, which makes it easy, but also interesting to use. Currently there are different sites that can be characterized as social media, such as Instagram, Snapchat, Twitter and others, though the most widespread and popular one is Facebook (Mander, 2014). In fact, despite that such kind of sites have existed for some time now, this type of communication has gained popularity with the introduction of Facebook and the release of Apple’s iPhone, meaning around year 2007. The reason for this was that just by utilizing their phone people were able to access the site and so were no longer dependent on a computer. Since then this particular social media has contributed for the development of a new way of interaction – namely through images and text people are able to follow with the everyday life of their friends and relatives. Consequently, many questions on the impact this media has on people’s life started to arise and researches attempting to provide answers to them. There have been performed numerous studies with respect to privacy issues related to Facebook (Liu and Gummadi, 2011; Dey, Ding and Ross, 2013), Facebook as part of the education (Hernández, Guettl and Amado-Salvatierra, 2011), but also many studies have focused on the online effects of the use of Facebook (Wang, Komanduri and Leon, 2011; Wang, Burke and Kraut, 2013). Such diverse researches are necessary and support a better understanding of how this media affects people’s lives and way of communication. What is more, according to a study performed by Statista (2015) the primary users of social media are between 16-34 years old. This means that not only studying their habits can be used to identify future trends with respect to communication and design of these sites and the devices enabling access to them, but also they can help with identifying unanticipated behavior or use. Moreover, due to the constantly changing services and functionalities supported by Facebook, it is necessary to continue with contributing with information regarding the way people use it in order to support improved user experience. The reason for this can be found in what Hogan and Quan-Haase (2010, p. 2) write about social networks, namely that “[b]ecause social media are a moving target, it is impossible to provide concrete answers to many research questions and to resolve conclusively existing debates about the long-term trajectory of social media”. Furthermore, Barkhuus and Tashiro (2010, p. 135) suggest that there is a lack of research on how the use of social media sites (Facebook in particular) is moving from one’s desktop to one’s palm. Understanding the impact of this change on the communication between people when they are together is important in order to avoid unanticipated development and use. This is because mobile phones have become an integral part of people’s lives, and with the popularity of social media and its accessibility through phones, new living conditions and understandings are emerging. The way people communicate with each other (in different social situations) is changing. According to Whittaker (2013, p. 42) “[i]n the developed world, we are living more of our lives online, being increasingly affected socially and psychologically by technology”. This brings up questions on what role social media and smartphones will play on users’ everyday
lives, what social consequences they have and others. Therefore the need for more knowledge around these ICTs and the way they affect our living conditions has been identified as necessary to contribute to so that future designs to use this knowledge in a way that supports improved user experience and targets unanticipated effects of their use. What is more, these new forms of communication are necessary to be studied in order to “avoid technically determinist assumption that electronic media necessarily erode social boundaries and the integrity of place” (Ito and Okabe, 2005, p. 28).

That is why this study attempts to provide findings that can add to the research field of youths’ use of social media, how it affects their everyday life and present illustrated ideas of how to improve the user experience when manipulating with this media. One of the reasons for selecting this topic was due to some prior observations the researcher had made, which resulted in willingness to understand more on use patterns related to social media. Moreover, at the time when the interest on this subject began to emerge, a video by deGuzman (2013) appeared about the time spent on one’s phone, as well as discussions on some local televisions were held. Their primary goal was to present the negative effects of this usage, where the main activity performed was being on Facebook or other social media. However, social media is more popular than ever, which suggests that there is also need to identify the positive sides of this media in order to support a design which builds on them and in this way advances the user experience. Therefore it was interesting to understand how youth use their social media accounts, how they evaluate the impact of their accessibility through phones on different social situations and how can their experience with these media be improved and supported.

1.1 Aim of the Study
The aim of the study is to understand the use of social media, Facebook in particular, by students in a Danish context in their everyday life. It also attempts to shed light on how the accessibility to this social media through smartphones impacts different social situations. Finally, based on the findings implications for improved user experience are being developed. In order to achieve these goals, the following research questions are going to be explored:

1. How is Facebook being used by students in their everyday life?

1.1 How does the accessibility to Facebook through smartphones influence the communication between individuals when being together?

The goal with the first question is to understand how students use social media (exemplified by Facebook) in their everyday life. In this way gaining an insight into the students’ social media use-habits is perceived.

The sub-question focuses on understanding how the accessibility to this social media through one’s mobile phone affects the interaction between individuals in different social situations. The purpose is to acquire knowledge regarding the situations in which the students check their
Facebook accounts and why, with the aim of identifying how their communication with the surrounding participants is being influenced by this.

It is necessary to clarify what is meant by social situations in order to avoid any misunderstandings. One definition is provided by Goffman (1961a, cited in Argyle, Furnham and Graham, 1981, p.5) who expresses that a social situation is the full special environment in which an entering person becomes part of. Macmillan Publishers (2014) explain the social situation as any event in which a person talks or meets people. Based on these descriptions, within the context of this thesis, the term social situation is used for referring to the physical being togetherness (situation) which expects communication between the participants (social) – for example a café is considered as a social situation as it is a place where people gather and are normally expected to communicate (not just sit and be quiet).

1.2 Scope and Limitations

The study was performed in Odense, Denmark, as the researcher is situated in Denmark. Furthermore, despite the number of social media available on the market, the focus is on Facebook due to several reasons. One is it being the most widespread social media (Mander, 2014), but also because it has been identified by Bertel (2013, p. 14) as the most popular social site in Denmark. Moreover, a study performed by YouGov (2013) showed that 94% of the people between 15-34 years old use Facebook, making it an interesting subject for investigation.

With respect to the target group selected, as described by Bertel (2013, p. 12) there is the assumption that young people are “typically at the forefront of media adoption and use”. That is why, studying their use of media could provide insights of patterns of usage that later could “become prominent in other user groups” (Bertel, 2013, p. 12). For this reason, the present research aims to focus and limit the study to two groups of young people - Danish university students (young adults) and students in Danish secondary school (youth). Within the context of this thesis the definition of youth is employed by UNESCO and covers the age span between 15 and 24 (UNESCO, 2014), whereas for young adult is considered the age above 24 years old. Having identified specific target groups limits the results of the study and therefore they should be considered only with respect to the particular age groups.

Furthermore, performing the study in Denmark also means that the findings can be used mainly as a reference to the Danish and Scandinavian cultural context at most. The study represents as well the habits of this specific population with their characteristic culture which also has an influence on the way the individuals are being together.

Finally, the main method for data collection – qualitative semi-structured interviews – imposes certain limitations to the results of the study. This is because focusing primarily on one method – the study also performs document analysis, though its goal is identifying the newest trends that enhance the user experience with media – makes triangulation of the data impossible. Moreover, the validity of the answers is based on the assumption that the participants would say what they
mean, combined with several concepts which to ensure their truthfulness, however performing the same study by another researcher might result in different conclusions. That is why, this thesis does not claim for generalizability, but attempts to shed light on the use of social media and its interrelation with smartphones and provide inspiration for further research.

1.3 Structure of the Thesis
The next chapter presents a literature review on previous studies of use of Facebook, current design of mobile communication and solutions for supporting the social situation. Afterwards main concepts underlying the thesis are presented. Then a methodological chapter follows, which describes both the way the data collection and the data analysis have been performed. Afterwards the findings and conceptual models are being presented. Following is a discussion and the thesis ends with a conclusion on the study performed, together with reflections and suggestions for further research. The appendix of the paper contains the interview guide used, both in English and Danish, as well as the informed consent forms, also in English and Danish.
2. Literature Review

The continuous development of the mobile technology and the different social sites which appear provide for many new ways of interaction between people. However, the implications from these new channels of communication are still unclear. This is because they can be viewed as having positive, but also negative effects. The implications can be considered positive, as mobile technology enables people to communicate regardless of place and time, however “it can also intrude in peoples’ private spaces” (Berg, Mörtberg and Jansson, 2005, p. 344), or according to Strömbäck (2014) contribute to a certain degree of exclusion by allowing media users to prefer certain communication channels and sources and ignore others. What is more, scholarly research and publication timelines tend to be slow in relation to the “rapid transformation occurring in social media” (Hogan and Quan-Haase, 2010, p. 1). Consequently, it is important to continue studying the effects of these artefacts not only with respect to the single user, but also in different social situations, in order to improve their design in a way that supports better user experience. Following this line of thought, below are presented studies related to aspects of the use of Facebook, both from online and offline (through one’s phone) perspective. Finally, research done in the area of improving the design of these communication artefacts in a way that better meets the user’s needs and interaction in social situations is being described.

2.1 Facebook Use

As mentioned earlier, Facebook and the way it affects its users’ lives can be studied from different perspectives. Barkhuus and Tashiro (2010, p. 134) performed a study focusing on “offline socializing structures around an online social network (exemplified by Facebook) and how this can facilitate in-person social life for students”, in order to contribute with knowledge around the implications of the use of this media. What they found was that Facebook has become such an integrated form of communication that it was used as a supplement to the students’ social life, “often characterized by being ‘extra’ communication” (Barkhuus and Tashiro, 2010, p. 137). This finding, combined with the widespread usage of Facebook in Danish context, raises the question whether similar conclusion can be drawn for ways of communication among the youth participating in this study. One reason for this is a study which shows that 63% of the mobile-users in Denmark (between 16 and 89 years old) for 2013 use the phone to connect to Facebook (Danmarks Statistik, 2013). Therefore, it is attempted to shed light on how these communication artefacts relate to the interaction practices and social situations within the Danish youth context.

In relation to the role of Facebook as a communication mean, there have been identified certain discrepancies to what type of relations are being supported by the social platform. Barkhuus and Tashiro (2010, p. 140) write that students use Facebook for maintaining contact with different types of relationships from peripheral to closer friendships, but also to school- or organization-related relationships. Similarly, Jensen and Sørensen (2013) performed a study in Denmark with the goal of gaining better understanding of user practices and attitudes on social media sites,
Facebook in particular, and with primary focus on friendship, social relations and privacy. Regarding friendship and social relations the researchers found that Facebook was used for all kinds of relations, though younger people tended to have more weak ties, compared to older users. In addition, the authors write that “users’s “friends” consist of a variety of strong, weak and even latent ties” (Jensen and Sørensen, 2013, p. 1). Contrary to these studies, Joinson (2008, p. 1029) and Lampe, Ellison and Steinfield (2006, p. 169) present that Facebook was used to connect with people who are hard to keep contact with due to distance or lost contact. On the other hand, Wiese et al (2011, p. 2) write that “[m]any studies have shown that the vast majority of interaction on social network sites is with small numbers of strong ties”. Such discrepancies suggest that there is need for further research. The reason for this is as this media is becoming more and more ubiquitous, it is necessary to be aware of what it is used for and how. That is why, the current research attempts to contribute with findings on the type of connections being supported through Facebook among Danish youth.

With respect to main activities performed on Facebook, Joinson (2008, p. 1029) describes contacting friends who are far away or chatting with people with whom the user would otherwise lose contact as the main ones, followed by passive contact (watching the profiles of other users), writing messages and uploading and sharing images. Agosto and Abbas (2010, p. 4) found that the social platform was used for posting photos, sharing information regarding events or gatherings and collecting information about new friends. Finally, Spiliotopoulos and Oakley (2013, p. 3291) present that Facebook was used primarily for connecting with people, checking updates and sharing or looking at pictures. What is more, in a study by Peters, Winschiers-Theophilus and Mennecke (2013, p. 252) a comparison between the use of Facebook by people in Namibia and in US is being made, which shows that “many US participants indicated that they were increasingly ‘disconnecting’ from active participation in posting on Facebook, implying that they were becoming passive followers of others’ activities on Facebook”. These findings suggest a shift from more active use of the social platform to a more passive one in the form of following updates by the users’ friends. Therefore it is attempted to identify the ways in which the media is used in Danish context, as the results could shed light on possible new trends or use practices of Facebook. This is necessary also because as Agosto and Abbas (2010, p. 7) describe there are concerns expressed by the participants related to “communication overload”. The authors write that “a few of the teens described periodically cutting themselves off from selected media as a form of self-protection from communication overload” (Agosto and Abbas, 2010, p. 7). In addition some were concerned about “reduced face-to-face communication and interaction” (Agosto and Abbas, 2010, p. 8) and expressed regret of spending more time on using technology than on talking to friends. This finding presents a contradiction between the way the participants feel about the media and the time spent on it. That is why, the way Facebook is becoming an integrated part of people’s lives is necessary to continue to be studied, in order to be aware of its influence.
An aspect of the use of Facebook interesting to shed light on is related to its check-in service. This is a type of location-aware functionality which enables users to display the place they are currently at. This particular service is paid attention to due to a discrepancy found in several researches. Sutko and de Souza e Silva (2011, p. 818) performed a study in which they suggest that developing location-aware services will “increase the potential for communication and coordination among their users”. Besides, they express the possibility of a technological shift where such services support the connection and building of new contacts. Similarly, a study undertaken by Esbjörnsson and Weilenmann (2005) was focusing on designing mobile phones which to provide users with context information. Although not expressed directly by the authors, their research suggests the need of supporting such devices, though their design should enable a possibility for specifying the appropriateness for conducting a conversation. However, Bertel (2013) performed a study questioning the need for such ICTs (devices or services), by examining students’ use and experience related to the check-in service on Facebook. The result was that this functionality/knowledge was considered as being irrelevant by the students. These different conclusions suggest a need for further research in identifying whether such location-aware services are needed and wanted by the users or not. Moreover, Bertel (2013, p. 108) expresses the need for performing research of ordinary users in a not controlled environment in order “to provide a more nuanced understanding of the potentials of locative media”. Similarly, de Souza e Silva (2013, p. 120) encourages studies on locative media from the perspective of mobile communication, particularly as according to the author “[a]s smartphones become the norm, so will location awareness”. Having identified such different points of view on the need for context-aware services, the current study attempts to contribute with more knowledge on how the users experience them.

Finally, Hart et al (2008) performed a study on exploring social networking sites like Facebook in order to understand the reasons behind their success and popularity. One of their findings was that the participants in the study were not visiting Facebook “once a day for between 5 and 15 minutes; rather, users frequently visited several times a day, browsing Facebook, when doing something else … and then periodically re-visiting Facebook” (Hart et al, 2008, p. 472). Similar finding was presented by Joinson (2008, p. 1035), though he elaborates that the amount of time spent on the site was depending on the purposes the user had. The author continues by suggesting that these results could be used by the designers of the social network with respect to better targeting the needs of the users not only considering different age and gender, but also from demographic perspective. Finally, these studies are representative for the responsibility the ICT designers and developers have when introducing a product for mass consumption, as they should take into account the different forms of communication and way of life of the users, but also the possible implications of its usage.
2.2 Social Media, Smartphones and the Social Situation

Facebook and social media in general have become such a widespread form of communication, not only because they present new possibilities for interacting and connecting with one another, but also due to the existence of the smartphones, which provide for being connected almost whenever and wherever one wants. For example, a study by Adobe Systems (2013, p. 6) describes that 71% of the participants are using their mobile device to access social media. Such result is not surprising as Berg, Mörtberg and Jansson (2005, p. 353) suggest that for some the mobile technology has become “a social prosthetic”, meaning that the participants have become dependent on the technology for supporting their social life. Having in mind this definition and the finding by Barkhuus and Tashiro (2010) about the use of Facebook as an extra form of communication presents the necessity for studying the use of social media in social situations and how it impacts its users. One of the motivations for this can be found in a study performed by Weilenmann and Larsson (2001) in which they present several design challenges of the mobile phone with respect to integrating its use in a situation where more participants are included. The researchers wanted to understand “the local interaction of mobile phones, the ways in which phones are used and shared in the local situation of use” (Weilenmann and Larsson, 2001, p. 2). Their findings show that contrary to the general assumption that the mobile phone is used and perceived as a personal device for remote communication purposes, its use by teenagers is also “as a collaborative interaction tool in the local environment” (Weilenmann and Larsson, 2001, p. 4), where by local environment they refer to a situation in which a group of friends physically together trying to communicate with a person remotely situated via SMS or phone call. In relation to this they develop categories of forms of collaboration which are “minimal forms of sharing and ‘hands-on’ sharing” (Weilenmann and Larsson, 2001, p. 13). The first connected with sharing the screen of the phone in which way the rest of the teenagers in the group are involved in the communication process, where the second is when the phone is given to another member of the group again to enable participation in the communication. Such way of integration of the device into a social situation is identified as necessary to be improved and the authors suggest that:

“[f]or those interested in designing new mobile phones and services, it might be useful to consider that phones are used within the local domain as well. The ways in which teenagers share the phones and their content today, could be drawn upon to add features or services that supports this sharing” (Weilenmann and Larsson, 2001, p. 14).

They imply that having in mind the design of the phone, its use for collaborative purposes causes inconveniences to the users and makes them finding workarounds when in a situation which expects communication between two or more participants. Consequently, an implication following from this is isolating some of the participants from the conversation. That is why future developments of designs for phones should focus not only on supporting improved user experience for the single user, but also a use of multiple participants in different social situations.
This is true especially since the emergence of the social media communication platforms, as they support many-to-many communication. What is more, with the development of the mobile phones to enable accessing such sites, it is considered as a prerequisite that they provide for such form of communication as well in order to meet more adequately the user needs. The reason for this can be found in a study of Ito and Okabe (2005, p. 6) on the relationship between technosocial situations and co-presence which suggests that mobile phones have two sides – one, which has a negative effect on the current social norms, as it is interfering with them, but also a positive side, which creates “new technosocial situations and new boundaries of identity and space” for young mobile phone media users. The authors point out to the social practice of sending emails and text messages between the Japanese teens as a way of affecting the social situation of being in a restaurant together, as instead of communicating with one another they are using their phones. However, such a situational use of phones, the authors argue, augments the experience of physically co-located participants rather than isolating them from one another, as those the teenagers communicate with are brought into the situation as well, in which way the “experience and properties of physically co-located encounters” (Ito and Okabe, 2005, p. 17) are being augmented “rather than simply detracting from them” (Ito and Okabe, 2005, p. 17). A parallel of this conclusion can be made with the findings of Weilenmann and Larsson (2001) in the way that the Swedish students were also using their phones to extend the local situation by connecting the participants physically located with those who were at a distance, in the form of sharing the content of a text message or a phone call. Therefore it is interesting to transpose this finding of augmentation of the social situation into the Danish youth context within the present study with respect to Facebook. This would be useful to understand as the future design of smartphones and social media sites can use the results as an inspiration for improving the user experience in a way that better supports such augmentation and communication.

Thus, it is easy to notice that the current design of the smartphones has some challenges when compared to what kind of communication social media (Facebook in particular) supports and the fact that it is used by people at an everyday bases. What can be concluded from this is that “current online social networking is inherently limited as a communication medium in terms of the kinds of interaction it can support” Izquierdo (2011, p. 1), where one of the reasons is due to the design and functionalities enabled by the mobile technology. Izquierdo (2011, p.11) describes a project called REVERIE which “is based on the assumption that it is time to move social networking towards the next logical step in its evolution: to immersive collaborative environments that support realistic inter-personal communication”. The author argues for recognizing the need for a new technology that provides for more interactive experiences between users when utilizing their smartphones combined with social networking media - because of the development of the technology, but also because of the potential of this media for enabling real-time 3D user experience if combined with the right technology. Similarly, Ferreira and Höök (2009, p. 2) suggest that “studies point to limitations in the ways we think of today’s wearable and mobile technologies and their impact on bodily behaviors and practices. Often
missing out on designing for much richer experiences”. In relation to this they refer to the fact that being in the third wave of HCI, “we are turning back to considering the body in interaction” (Ferreira and Höök, 2009, p. 1), which relates to what Izquierdo (2011, pp 1-2) writes about the need to improve the current communication technology in order to more adequately reflect the users’ needs. That is why they suggest that there is a need to understand how technologies, such as mobile phones, affect people’s way of being in the world, in order to inform a design which fits and improves the user experience.

A study attempting to improve the integration of the phone and social media in social situations was performed by Zhu and Höök (2013, p. 1) where they are “exploring ways of modifying a mobile phone cover, adding sensors and actuators, to allow users to share their emotional processes in and out the micro-blogging platform Twitter”. The authors suggest that sharing emotional experience “with words and contextual information improves the intimacy in the community, as well as it increases the social interaction” (Zhu and Höök, 2013, p. 2). Their solution was integrating two buttons on the cover of the phone with the idea that when the user squeezes the upper button to express positive emotion, the cover of the phone lights with green color and the text box of the Twitter messages becomes green, whereas if the user squeezes the other button to express negative emotion, both turn red respectively. In this way, not only people on the Internet are being notified how a person feels, but also the ones around this person, which can be used for supporting the social situation.

Apart from studies related to improving the design of the communication artefacts in order to support the communication between people when in different social situations, there are also several companies that are working on improving the user experience and contributing for supporting better “3D face-to-face human encounters” (Izquierdo, 2011, p. 2). Some of the concepts they use for achieving these goals are augmented reality and 3D visualization in order to improve the performance of the smartphone to match the growing user demands as well as needs. One solution, used for inspiration in the current study, is related to the use of type of glasses and it comes from a company called Meta. Their product is called "SpaceGlasses," and rather than being immersed in a virtual reality environment, the glasses allow for enhanced, 3D holograms that allow you to touch, move and manipulate images with your hands (Berniker and Lipton, 2014).
The product utilizes augmented reality glasses in order to project a holographic representation of one’s smartphone or computer, in which way the user can have his/her devices no matter where he/she is. Apart from different useful features related with this solution, a very important one is that it provides for supporting the interaction between individuals regardless of the amount of people that are involved. The way this is enabled is by projecting the content instead of sharing the screen with some of the people and then with others, in which way all of the participants are able to see what is being shared instantly (provided that all have glasses on). However, there are several issues with the product. The main one is that all users need to have glasses on, otherwise they are not able to see any kind of activity. Consequently, ethical questions emerge, such as people not knowing if they are being videotaped, or whether facial recognition software is being used, and others. This reminds again for the importance of having in mind how a product will impact its users, but also whether they feel save and want to use it.

Another solution which is utilizing the current functionality and design of the mobile phones is a smartphone developed by Samsung, namely Samsung Galaxy Beam (Samsung Electronics, 2012). The company describes it as having a built-in projector which enables sharing of any kind of content anywhere (Samsung Electronics, 2012).
What is interesting with this phone is that it builds on the current structure of a smartphone, and introduces changes to it, instead of using additional communication forms (glasses).

The products described are not widely used on the market, however, they give a good representation of the possible direction in which the technology could develop and what to expect in the coming years. What can be concluded, is that they are trying to move beyond the small screens of the smartphones, which limit to one or another extend the user experience, but also to keep the flexibility (independence of where the user is) which the smartphones have become so good at supporting. In relation to this there is need to gain more knowledge about how social media is being utilized in general and through one’s smartphone in order to support the development of solutions which adequately meet the needs expressed by their users. This is because such type of communication has come here to stay, and a lot of the activity related to it happens through one’s smartphone. What is more, the flexibility which the phone provides with respect to accessing social media needs to be better understood in order to identify its impact on the interaction in situations where people are together, so that the future implications of smartphone designs or social media to contain solutions to possible unanticipated implications being identified.
2.3 Conceptual Framework

In order the new technologies and artefacts to adequately meet people’s needs, as well as to ensure that they support and improve their living conditions, it is necessary to actively include the users into the development, but also the evaluation of these artefacts. This is because the users know best whether they need a certain product, whether it is useful for them or not since they are the experts of the field in which they operate. That is why, when talking about advancing the user experience related to the use of Facebook (in general and through smartphones in social situations), it is necessary to understand how the social site is being used, for what purposes, what issues the users experience and hear their opinion on how to improve the current situation. To support this goal, as well as the data collection and analysis, several concepts have been incorporated as a guiding reference throughout the study.

2.3.1 Interaction Design

As described earlier, with the development and expansion of the mobile devices, combined with the popularity and the new way of communication enabled by social media, the need for development of products supporting not only single users, but also multiple users interacting with one another in different social situations, has started to emerge as a new field of interest within the ICT. Consequently, challenges appear related to how to design products that support the new ways of communication, combined with better user experience and usability. There are different ways to approach the problem of designing for improved user experience and for the purposes of this study concepts from the interaction design field have been incorporated.

Interaction design is a recent development arising from work in Human-Computer Interaction (HCI) (Gasson, 2003, p.35). It can be located among other disciplines such as information architecture, visual design and others under the umbrella of user experience design (Saffer, 2010, p. 21). Preece, Rogers and Sharp (2002, p. 6), describe its purpose as “designing interactive products to support people in their everyday and working lives”, namely easy to learn, effective and enjoyable. The reason for selecting this particular discipline was due to providing an easy to understand and implement framework for developing ideas based on the collected data of how future design of the studied ICTs could be. It is based on answering several questions, among which finding out who is going to use the product and where, in what situations, as well as to understand the activities being performed when interacting with the product. Another key question is “how do you optimize the users' interactions with a system, environment or product, so that they match the users' activities that are being supported and extended?” (Preece, Rogers and Sharp, 2002, p. 5). In order to ensure the answers to these questions, there are four basic activities that need to be fulfilled - identifying needs and establishing requirements, developing alternative designs that meet these needs and requirements, building interactive versions of the designs so that they can be tested and assessed and finally evaluation of what has been built. The current study makes use of the first two activities, due to the time frame provided for the research, which does not allow for performing an in-depth testing of the developed models with the users. However, the last two steps are strongly encouraged to be performed in future studies.
as they could reveal interesting results for developing new ICT products. The way the first activity is being approached in the thesis is by performing semi-structured qualitative interviews with two target groups in order to identify user experiences related to the use of Facebook, combined with identifying the impact of accessing this social media through smartphones on the communication between people in social situations. In this way it is believed that issues which need to be tackled can be identified, as well as functionalities which the users are satisfied with can be preserved and expanded.

The second step is covered by the development of conceptual models. Preece, Rogers and Sharp (2002, p. 40) identify a conceptual model as “a description of the proposed system in terms of a set of integrated ideas and concepts about what it should do, behave and look like, that will be understandable by the users in the manner intended”. The conceptual model should represent what the designers and users have identified as needed solutions. Having in mind that the study utilizes a generic form of analysis typical for qualitative research, the conceptual models are developed as a result of the interrelation of the findings from the data collection and analysis. A way to help informing the development of the conceptual model/s is by utilizing an interaction paradigm. Preece, Rogers and Sharp (2002, pp 60-61) introduce several paradigms, one of which is tangible bits, augmented reality and physical/virtual integration which was used as inspiration for the development of the conceptual models in the study. It is described as attempting to combine digital information with physical objects in which way to support the people’s daily activities (Preece, Rogers and Sharp, 2002, p. 63). By using this paradigm in the current research, it was attempted to develop models, which not only represent user needs and requirements, but also make use of some of the newest technology presented in the previous chapter.

Finally, by incorporating some of the concepts from interaction design it was made possible to combine the different sources of information into visual prototypes which can be tested further on or simply build on them in order to develop solutions that more adequately meet the users’ needs, expectations and way of communication.
2.3.2 Domestication

In order to support the understanding of what role Facebook plays in students’ everyday life, but also reasons for accessing it when being with other people, the concept of domestication has been used. Generally speaking, it is an approach which helps to understand how information and communication technologies have been incorporated in people’s lives. According to Berker (2006, p. 2):

“[a]t a metaphorical level we can observe domestication process when users, in a variety of environments, are confronted with new technologies. These ‘strange’ and ‘wild’ technologies have to be ‘housetrained’; they have to be integrated into the structures, daily routines and values of users and their environments”.

This means that it helps to clarify what these technological artefacts are for people, how they have been adopted into the everyday life, what roles they have come to play and how the users feel about them. In addition, it builds on the understanding that “[i]t is not just adapting technologies to people, but also about people creating an environment that is increasingly mediated by technology” (Berker, 2006, p. 3). That is why the concept enables the clarification of the role which Facebook, but also its accessibility through smartphones plays in its users lives.

It is necessary to mention that there are several assumptions underlying this approach of understanding the relation between people and technology. The first assumption is that “the appropriation of media and technology is to be understood in terms of ‘consumption’” (Bertel, 2013, p. 19). This implies that the concept looks at the way media and technology are being made part of people’s lives.

Another assumption is that the use of ICT artefacts should be studied in context as it “influences the use of individuals and must be taken into account” (Bertel, 2013, p. 19). In this way understanding the purposes for utilizing Facebook are supported, as well as the impact of this social media in social situations is addressed as well. What is more, it lets clarifying one of the questions underlying interaction design – finding where and who is using the product. Furthermore, an assumption helpful for this particular study is that the domestication of ICT artefacts is a never ending process. The reason for this is as having in mind that the technology and its users are changing each other, in order to satisfy the users’ needs the technology being used is constantly updating its design, services or functionalities, which consequently affects the way the user uses it, from where further improvements are attributed to the ICT artefacts. This presents as well the need for continuously studying how social media is being adopted and used by people in order to support improved user experience.

Therefore the concept of domestication helps addressing the dynamics between the Danish youth use of Facebook with respect to supporting their social relations, but also in the form of whether it has an impact on their face-to-face interactions in different social situations – to understand how the social and the technological have been shaped.
2.3.3 Balkanization
In relation to clarifying the way the Danish youth have domesticated social media in their lives, a concept referred to by Arminen (2007) is being applied. The author writes that mobile devices allow for the emergence of new types of communication which have an impact on the social networks (Arminen, 2007, p. 432) and discusses an interesting idea related to the use of mobile phones, namely a concern about social erosion and refers to the term ‘balkanization’ (Ling, 2004). In its sociological usage, it means social disintegration and the breakdown of cooperation due to the rise of hostile, competitive subunits (Arminen, 2007, p. 435). Ling (2004, p. 19) suggests that this is because the mobile communication allows people to escape the immediate situations into interaction with like-minded people. Therefore, it is attempted to understand the use-practices of the Danish youth related to accessing Facebook through their mobile phones when being together, in order to identify whether such activity can be assigned to them. As it has been described by Wooley (2013, p. 41), students studying abroad might miss to get to know the place where they have spent some years studying, due to the fact that they would be communicating with people from back home on the social media which would prevent them from full cultural immersion. This suggests that Arminen (2007) might have a point in that mobile communication could lead to balkanization. However, according to Castells et al (2007) wireless communication (enabled through mobile devices) provides for communicating with more people. Moreover, Ito and Okabe (2005) describe the mobile devices as enablers for augmenting the experience of physically co-located participants rather than isolating them from one another. What this means is that there is still need to understand whether mobile phones as enablers to connect to social media sites are supporting such kind of balkanization or on the contrary providing for improved social divergence.

2.3.4 Technology as not being Neutral
The concepts of domestication and balkanization are important also for reminding about the responsibility the ICT developers have when a new product is being developed. What this means is that most of the users of the developed ICT artefacts, make them part of their life without reflecting on them, or questioning them - how they limit or expand their way of communication. In this way, new forms of communication are being domesticated (Facebook and the whole concept of social media). However, “these media, rather than serving simply as neutral tools, in fact embed and foster specific cultural values and communicative preferences” (Ess, 2009, p. 116). The reason for this is due to the fact that they have been designed by people who have certain believes, culture and way of looking at the world, which are being reflected and incorporated, intentionally or not, into the artefacts they develop. Consequently they come to represent somebody’s interpretation of how things should be, how they should be manipulated, how people should use the phone, write a text message, etc. According to Erik Stolterman (1991, cited in Berg, Mörtberg and Jansson, 2005, p. 346):

“visions come into view very near the beginning of the design process before the present domain or situation is analyzed. The designers’ ideas, values and
understandings are intertwined with their visions of the choice of a certain functionality, structure or technology of the future system, service or artefact”.

That is why, it is important to remember that the technology developed is not neutral, that it represents somebody’s point of view. This perception has also played main part in the particular study when collecting and analyzing the data, so that the models created represent the users’ activities and attempt to solve the issues they experience. It was important to understand the participants’ experiences as “[m]ost of us do not ask where the technologies come from and why they are designed in a special way” (Berg, Mörtberg and Jansson, 2005, p. 346). What is more, as Whittaker (2013, p. 42) suggests “[w]e need to acknowledge that when we design social media systems, we are manipulating behavior”. Therefore it is necessary to study the ICT artefacts being made and understand their effects in order to be aware of the possible negative implications they might have. And they can be negative as with the pursuit of constantly improving the living conditions people might “not hesitate to sacrifice the quality of communication for seductive convenience and efficiency offered by latest technological means of communication” (Simmel, 1900 cited in Fortunati, 2005, p. 54), which presents even stronger need for being responsible when developing new communication products.

To sum up, in order to understand the use of Facebook by students, the concept of domestication is being implemented in which way it also helps for answering some of the questions underlying interaction design. Furthermore, when analyzing the data collected and making conclusions and developing the conceptual models, it is necessary to remember that the technology being developed is not neutral. Finally, the idea of balkanization helped for understanding the findings regarding the relation between the accessibility to Facebook through smartphones and social situations. However, for supporting the implementation of the concepts described and providing answers to the questions identified, choosing a methodology that supports their incorporation is necessary.
3 Methodology
The current study is of qualitative nature and makes use of interpretivism as a methodological tradition, with hermeneutic direction. The methods used for gathering the necessary data are document analysis and semi-structured qualitative interviews. The goal with the former method was to gain an overview of the recent developments and newest trends in the field of ICT with respect to improving the user experience with media, while the latter supported gaining knowledge around the use of Facebook (both in general and through one’s smartphone in a social situation).

3.1 Research Paradigm
There exist different research paradigms, where the main ones are positivism and interpretivism. In positivism the researcher believes that the reality “is separate from the individual who observes it” (Weber, 2004, p. 5), which means that the reality can be objectively measured. That is why main methods underlying this paradigm are of quantitative nature – statistics, questionnaires and others. Contrary to positivism interpretivism believes that the researcher and the reality which is being observed cannot be separated. This means that the researcher studies the reality out of his/her own lived experience, which has effect on the researched objects and therefore an entirely objective understanding of the reality is not possible. Finally, a research can be identified as interpretive if its purpose is to understand a phenomenon through the meaning given to it by the participants (Klein and Myers, 1999). That is why, interpretivism has been identified as the paradigm which best meets the researcher’s worldview, but also the aim of the thesis, namely to understand what role students ascribe to social media, to hear their experiences and how they assess the impact the accessibility to this media has on the communication between individuals when they are in different social situations.

As part of the interpretivist paradigm a set of principles have been presented by Klein and Myers (1999) which have been incorporated in this study to support the data collection and analysis. The main principle is called ‘The Fundamental Principle of the Hermeneutic Circle’. It suggests that in order to understand a complex whole or situation, the researcher needs first to understand its parts and the way they are connected to each other; what is more in order to understand the individual parts the meaning of the whole needs to be understood. In this way the process of “interpretation moves from a precursory understanding of the parts to the whole and from a global understanding of the whole context back to an improved understanding of each part, i.e., the meanings of the words” (Klein and Myers, 1999, p. 71). When performing interviews, but also in their analysis, this principle played a very important role, as it enabled a better understanding of the meaning ascribed by the interviewee to his/her words. A simple example is when one of the students was asked to elaborate on why he is using Facebook, the answer was “to look at other people’s lives and see what they are doing” (BS1). Here, by “people”, the interviewee means the friends that are on Facebook, and “seeing what they are doing” is not meant literally, but refers to checking what updates they have made. In this way by
asking follow-up questions, it was possible to understand also the reasons for performing this activity. Thus the movement of understanding is constantly from the whole to the part and back to the whole (Gadamer 1976b, p. 117, cited in Klein and Myers, 1999, p. 71). However, in order the interpretation to be successful, there are other principles that needed to be taken into consideration, such as the principle related to the interaction between the researcher and the interviewees. This principle was useful for enabling the participants to express their personal experiences and thoughts which was helpful for when comparing the data collected to identify similar use-patterns. According to interpretivism, the data is not just sitting and waiting to be collected, but emerges from the interaction between the researcher and the participants. That is why performing semi-structured interviews enabled better understanding of the use-practices and issues the interviewees experience, as well as the way they have domesticated Facebook. In addition, the participants were seen as equal to the researcher (meaning they were equally interpreters and analysts), which made possible not only to hear their voice but make them reflect on some of their use practices related to social media and smartphones.

Another useful principle which supported the implementation of the concept of reflexivity described below is related to dialogical reasoning. This principle helped the researcher to confront her presumptions regarding the data collected and reflect on it, instead of declaring the data as wrong or omitting it from the results if it did not match the researcher’s expectations for what should be collected. It supported the validity of the study as well, as in interpretivism it is acknowledged, that researchers approach a study with certain assumptions of what to expect as a result. This is something which cannot be omitted, however it is important to be aware of that, and when analyzing the data collected to be reflexive, in which way to give space for new ideas and conclusions to emerge. Following this idea, the next principle acknowledges the existence of multiple possible interpretations. This has been taken into consideration when analyzing the results and it also admits the possibility for other interpretations different from the researcher’s. That is why, the study as a whole does not claim for generalizability, but it merely attempts to contribute with findings in this constantly changing field of ICT and shed light on some of the discrepancies identified earlier in the paper. The final principle which proved very useful during the interviews was with respect to being suspicious, namely to try to “read” the social world behind the words of the participant. In this way, when performing the interviews the researcher was made aware to be attentive to what is said and question it, which was also supported by incorporating the methodological sensibility concept described below, in which way additional questions were asked to clarify the situation. What is more being sensitive helped the researcher to notice whether there is something that is not being said in order to ask follow-up questions which enabled for better understanding of the user’s practices.
3.2 Philosophical Worldview
According to Hart (2005, p. 321) an interpretive study can have two orientations – empirical or hermeneutic. The philosophical worldview incorporated in this study is hermeneutics. It can be defined as ‘the theory or philosophy of the interpretation of meaning’ (Bleicher, 1980, p1, cited in Myers, 2004, p. 103). The goal of hermeneutics is to understand what people do, say and the motivation behind this. Therefore this philosophical worldview, combined with the principles from interpretivism enabled for understanding not only the use of social media by students, but also some of its effects on certain social situations.

Furthermore, hermeneutics can be used as a philosophical worldview, but also as an approach for performing analysis. In this particular study it is used in both ways, as a way for understanding the data collected, but also as underlying the interpretivist research paradigm being incorporated. Hermeneutics has been selected for supporting the analysis of the data as it aims at constant improvement of the studied subject, through the incorporation of the hermeneutic circle among other principles, but also because it enables for the implementation of the generic form for data analysis used in the study.

This worldview includes as well different principles which support better understanding of the text, regardless of its format – written, spoken, etc. Some of them are similar to those described in the research paradigm, therefore only those which differed and contributed for improved interpretation of the data are presented. Two concepts that played an important role during the analysis are those about autonomization and distanciation. They refer to the difference between spoken and written text, that is, when an interview is transcribed, the text which has been written takes ‘a life of its own’ (Myers, 2004, p. 110). The concepts helped for ensuring the validity of the transcription of the text from audio to written format, but also its translation.

Finally, there exist different types of hermeneutics that can be implemented which claim and support different purposes. The one incorporated in this study is called critical hermeneutics, and it recognizes that “the interpretive act is one that can never be closed as there is always a possible alternative interpretation” (Taylor, 1976, cited in Myers, 2004, p. 113). This kind of hermeneutics has been selected due to the fact that the main method used for collecting data, namely qualitative interviews, provides for possible different interpretations by different researchers.

In this way, the principles from interpretivism and hermeneutics complement each other to support a richer understanding of the data collected in the form of letting new interpretations and conclusions to emerge, different from the researcher’s pre-assumptions, which provides for improved understanding of the subject under study.
3.3 Research Approach
There are three main types of research approach that can be incorporated – quantitative, qualitative and mixed. Being an interpretive study of hermeneutic nature, together with the goal of understanding the use of Facebook, as well as the impact the move of the accessibility to this social media from the desktop to the palm of its users has on different social situations, the strategy of inquiry most suitable for this research was considered to be qualitative. This approach was chosen because in difference from quantitative approaches, qualitative aim at exploring and understanding the meaning individuals or groups ascribe to a social or human problem” (Creswell, 2009, p. 4). In addition, “[i]n the entire qualitative research process, the researcher keeps a focus on learning the meaning that the participants hold about the problem or issue, not the meaning that the researchers bring to the research” (Creswell, 2009, p. 175). Furthermore, in comparison to quantitative methods, the qualitative methods provide for bigger flexibility with respect to collecting data. A good example is the interview method, which enables the interviewer to adapt to the interviewee in a way that supports better collection of data, when compared to a survey for example, which provides fixed answers.

According to Merriam (2002) there are several main characteristics of a qualitative research. The first is “to understand the meaning people have constructed about their world and their experiences” (Merriam, 2002, p.5). In this step the concept of domestication has been applied to support improved comprehension of what role Facebook plays in students’ lives and how it is being incorporated. The second characteristic of a qualitative research is related to the researcher, namely that he/she is “the primary instrument” (Merriam, 2002, p.5) for collecting and analyzing the data. This suggests though that the collection of information would to certain extent represent the worldview and understandings of the researcher. To target this issue the concept of reflexivity was implemented throughout the study. What this means is that the researcher, instead of trying to put aside or eliminate her preconceptions, they were made clear in order to be aware of them in which way to be able to monitor their influence on the collection and interpretation of the data. In this way the understanding the researcher had about the topic improved as well, as when combined with the hermeneutic circle it enabled for changing the view on Facebook, its usage but also impact on different social situations. The third characteristic of a qualitative study is that “the process is inductive” (Merriam, 2002, p.5), that is - the data collected is analyzed in order to identify common patterns which to be used for building concepts or theories.

However, being an interpretive study required for the incorporation of concepts which to ensure the collection of information representing the participants’ experiences. That is why concepts of reflexivity and methodological sensibility have been utilized.
3.4 Reflexivity
When doing a research, the concepts used and incorporated, both during the collection, interpretation and analysis of the data gathered, are directed by the researcher’s theoretical lens. This means, that no matter how objective and unbiased the research is attempted to be, it is still interpreted from the researcher’s perspective. This to certain extend is a necessity, as otherwise it will not be possible to perform a similar study, which will result in not being able to further extend it, to contribute to it or to present different perspectives. However, if the researcher is not aware of the fact that his/her study is directed by his/her own understandings, the results would not represent what has been collected as data, but what the researcher expected to collect and consequently collected. Therefore, it was necessary to incorporate the concept of reflexivity in order “to be aware of the intentionality that lies behind interpretations and translations in addition to the theoretical and methodological aspects” (Mörtberg et al, 2010, p. 106). This means that it helps the researcher to be aware of the “decisions affecting the exclusion and inclusion of perspectives” (Stuedahl et al., 2010, p. 10) which is particularly important when the data collection is performed under the form of taking interviews.

What is more, it reminds about the fact that the technology being developed is not neutral, because “precisely the fact that our vision of the world is a vision from somewhere - that it is based in an embodied, and therefore partial, perspective - that makes us personally responsible for it” (Schuman, 2002, p. 142). That is why it was necessary to be aware how the data was collected and interpreted, in order to provide for identifying what the users needed and wanted, in which way to support the “creation of effective technologies” (Schuman, 2002, p. 142).

3.5 Methodological Sensibility
In relation to the concept of reflexivity Mörtberg et al (2010) discuss the concept of methodological sensibility. As described by the authors, methodological sensibility “directs the attention towards what researchers are hearing, listening, seeing, and understanding during their fieldwork or design work, as well as what they are defining as relevant empirical material when they are doing their research in the field” (Mörtberg et al, 2010, pp. 106-107). In this way the concept helped to pay attention to the communication between the researcher and the participants, so that any controversies or possible unshared experience to be identified and clarified. It also enabled to be attentive to and realize that the “performative parts of communication, the non-verbal parts as bodies, pauses and silence create meanings” (Mörtberg and Stuedahl, 2005, p. 142) as well. Therefore, by combining methodological sensibility and reflexivity, it was possible to perform the interviews in a more open, divergent way; but also while analyzing the data a space for new interpretations and findings was given to emerge.
3.6 Research Method
The following section describes the research method, namely the participants in the study and the criteria by which they were chosen, followed by the data collection and analysis that have been performed.

3.6.1 Participants and Participation Criteria
Two age groups (students at secondary school (18 – 19 years old) and students at university (from 18 years old and above)) have been identified. This was because of the different stage of life in which they are, as well as the setting in which they spend a lot of the day is different, which would help to identify whether there are any differences between the use-patterns of teenagers and university students. According to Barkhuus and Tashiro (2010, p. 133) “[a]s a diverse user group, students possess a broad set of features that make them relevant for studying use of online social networks”. That is why it was interesting to see the use of Facebook from different age-perspectives.

Two different approaches were used when selecting the interviewees. With respect to the students at secondary school, it was arranged to meet 2 female and 2 male representatives during one of their classes. However, the second male did not show up. Regarding the students at university, there was a random selection performed, based on going to people who seemed to be available and asking them whether they would like to participate.

3.6.2 Data Collection
There are different methods which can be used for the collection of the data when performing a qualitative study of interpretative nature. This research makes use of semi-structured qualitative interviews and document analysis. In this way the interviews supported the collection of data on the meanings and contexts in which social media plays a role in students’ lives, while the document analysis helped to support the development of conceptual models in a way which integrates the findings with the newest trends on the market.

It should be noted, that it was attempted to perform observations as well, particularly in order to support better understanding of how the access to Facebook affects the communication between individuals when being together. However, due to no prior experience on performing observations, and the emergence of ethical issues regarding observing people without informing them for this, it was not possible to collect substantial material which to be used as a reliable data source.

3.6.2.1 Qualitative Interviews
There were performed 8 face-to-face interviews, where 7 of them consisted of one participant and the interviewer and in 1 there were two participants and the interviewer. The participants were 2 female students from secondary school (age 18 years old, for readability and anonymity called GE1 and GE2) and 1 male student from secondary school (age 19 years old, for readability and anonymity called BE1); 4 female (between 24 and 26 years old, in the text they
will be referred to as GS1, GS2, GS3 and GS4) and 2 male university students (23 years old (BS1) and 24 years old (BS2)).

A semi-structured form of interview with open-ended questions was chosen. This approach was useful for ensuring that the focus of the interview will be kept on questions that were of interest, as well as it gave the security to the interviewer that if an important question was forgotten, it will be covered in any case. This is because when performing interviews certain challenges emerge, such as limited time available to collect empirical material, interviewees showing impatience and others. This can result in spending time on questions not being relevant to the study, especially if the interview was unstructured. However, utilizing structured format could prevent the collection of useful information. That is why having a semi-structured framework of questions that were guiding the enquiry was very useful.

Regarding the development of the interview guide the steps suggested by Robson (1993, cited in Preece, Rogers and Sharp, 2002, p. 391) were incorporated. Each interview started with an introduction of the researcher, of the topic and the goal of the research and asking whether the person was willing to participate. If he/she agreed, the ethical issues taken into consideration in this study (confidentiality, anonymity and others) were explained and permission for recording the session was asked for. Then a warm up session was started, where more general questions were asked in order to make the interviewee more relaxed. Afterwards the main questions were asked, followed by more relaxing ones which purpose was if the participant seemed or started being impatient to make them relax again, in order to provide for one shorter session where final questions were asked. This approach was very useful as it provided for the gathering of more information. It was also useful not only with respect to gathering the data, but also for the researcher to relax a bit and to prepare for the final session. What is more, follow up questions were developed and asked as well during each of the interviews in order to gain better understanding of what the participant says/means, see the interview guide in Appendix B.

Two to three interviews were performed each day. They were held in Danish, which is the native language of the participants. The interviews were taken in Danish (they could also have been performed in English) in order to make the participants more comfortable by communicating in their own language, which also allowed them to express themselves richer. The interviews lasted around half an hour. The goal was to have the same amount of representatives from each gender; however from the 8 interviews, only 3 of them were with male representatives. It was attempted to have equal number of both genders in order to see whether there were any differences between the way they look at and use Facebook. However, due to the limited number of male representatives, the information collected was considered as not enough to support any form of conclusions in this respect. The sessions with students at university were performed at the university setting, while those with secondary school students were performed at their school. They were all recorded on the voice recorder application on the researcher’s phone after having an approval from the interviewee. Two of the interviewees were not available
at the time they were asked to participate, however an appointment was made for later the same
day or the next day. For one of the appointments the participant, who was a male representative,
did not come.

3.6.2.2 Limitations of the Research Method
The limitations related to the primary method for data collection are several. First and foremost,
the validity of the data collected is relying on the sincerity of the participants apart from
incorporating certain approaches for validating the answers. When performing interviews the
quality of the answers depends as well on how articulated the participant is, among other
psychological conditions – whether they are in a good mood, in a hurry, etc. That is why, it is
necessary the interviewer to be experienced, and if not, to be able to make the participants
comfortable in order to support the data collection. Furthermore, people in part react to the
interview situation, especially if it is with a stranger, they might attempt to present themselves in
a better light– what they do, why they do it, which could mean that they feel the need to justify
their actions and in this way affecting the quality of the replies. Finally, an important aspect is
the way the questions are being formulated as they can point the interviewee to certain answer,
which is a situation that should be avoided. That is why, it is necessary the researcher not only to
be aware of these aspects of an interview, but also of his/her own preconceptions in order not to
let them guide the data collection and analysis, but also to be attentive to what is being said,
analyse it and question it if discrepancies are identified.

3.6.2.3 Document Analysis
A review of some recent industry developments that enhance user experience with respect to
using smartphones and social media was performed. Different types of documents have been
analysed – from documents available on companies’ websites, through studies performed in the
area of improving the user experience related to the use of social media and smartphones, to
articles in newspapers, in order to understand what are the newest trends and studies present on
the market. The aim was to get a general idea of various methods, techniques and approaches
used in order when developing the conceptual models to incorporate some of these ideas or
newest trends in which way to support and make the conceptual models relevant for undertaking
further studies. Despite having identified several interesting trends, only two products were
presented, as the rest were not found applicable for the purposes of this particular thesis.

3.6.2.4 Role of the Researcher
The researcher had no previous scientific experience with studies or observations related to the
use of Facebook or its effect on social situations. However, personal observations when in a
group of friends, at work or family gatherings inspired the interest to understand more on how
people use this media and how others experience its effect on the communication when people
are together. From this perspective the prior assumption for the results of the study was of more
negative nature, meaning that the researcher expected to find students spending lots of time on
the social network and not communicating with each other when in different social situations.
However, during the time spent on performing literature review, taking the interviews and the analysis of the data, these understandings evolved into a more positive look at the media. What is more, new understandings of the whole process of domestication of the social media, mobile communication and social life emerged.

Regarding the relation to the students interviewed, there was no prior knowledge to who the people were. When performing the interviews at the university setting, the students were chosen randomly. With respect to interviewing those at the secondary school, the researcher has an acquaintance who is a teacher at the school through whom there was arranged to perform interviews. The students who were interviewed were volunteers, there was no obligatory participation.

3.6.3 Data Analysis
Due to the exploratory orientation of the study, for analysing the data, a generic form of data analysis was used, which was suggested for when performing a qualitative research by Creswell (2009), see figure 3.1. It is an often used approach which consists of collecting the necessary material, analysing it for themes and then developing a certain number of general themes. This form of analysis was combined with the concepts described above, in order to help for better understanding of the data, consequently richer results. One of the reasons for choosing this approach was as it enabled the incorporation of hermeneutics, which supported the interpretation of the data. This type of analysis consists of several steps – preparing the data, reading through the data to gain an overview, coding of the material, clustering the similar topics identified into themes, interrelating the themes and finally interpreting the results. In order to support the needs for this thesis, there have been performed additional iterations of the data. Furthermore, the interrelation of the themes identified is performed in the form of developing conceptual models, while the interpretation of the results is done in the discussion chapter. Developing such models aims at supporting and inspiring further research, by providing implications for how the technology to be improved in a way that meets closer the users’ needs.

The analysis of the data began already while taking the interviews, which was in the form of reflecting on what the interviewees were saying and asking follow-up questions in order to verify or clarify some of the statements made; or adding questions to the interview guide based on the information gathered. In this way richer data was attempted to be gathered. A good example is when the third interviewee shared that he sometimes uses his phone “to hide” (BS1), this was considered as an activity which was interesting to see whether it was performed by other people as well, in which way it was added as a follow-up question to the rest of the interviews.

After performing the interviews, the recordings were transferred from the researcher’s phone to the researcher’s computer. Then they were transcribed and afterwards translated as they were performed in Danish. By transcribing the interviews the same day they were performed it was possible to reflect on them, on the way they were carried out, what questions were asked and not
asked in order to improve the interview format if it was considered as necessary. During the interviews the methodological sensibility and reflexivity concepts turned out to be very helpful in order to identify discrepancies in what the interviewee were saying or to be aware of not asking questions which could represent the researcher’s understandings. Moreover, when translating the interviews it was important to perform it as close to the original, first in order to avoid the change in the meaning of what the interviewee has shared, but also as the concept of autonomization needed to be taken into consideration.

Having dealt with the raw data – transcribing and translating the interviews, the next step was to read through the material in order to get an overview of the information collected. In this step notes related to interesting observations which were considered useful for the next parts of the analysis were taken as well. Afterwards each interview was coded by creating topics representing the information considered as relevant. For example when an interviewee was asked about how he/she uses Facebook, he/she would answer – for reading updates, communicating with friends, etc. In this way a topic – ‘Facebook use’ was created where the different purposes of this use were written. Having performed this analysis for each interview, this more organized form of data was read through in order to gain an overview of what has been coded. Afterwards, the coded “units” that were similar were clustered together, but also unique or interesting ones were kept for further analysis. Having done that, an iteration of the data was performed again in order to verify that the coding was done correctly and that nothing has been missed out. Then, themes representing the major findings were extracted, which are presented in the findings section. Finally, an interrelation between the findings and results of the document analysis was performed in the form of conceptual models.

It should be mentioned that all the steps were followed by often going back to the transcribed texts, as the more knowledge was gained, the understanding of some of the findings was evolving. In that sense the hermeneutic circle was a very useful approach for improving the comprehension of the data. As mentioned earlier, the interpretation of the findings and models is performed in the discussion chapter of this thesis.

Below the reader is presented with an overview of the data analysis process. The drawing does not include the analysis process performed during the interviews. The arrows on the side describe the iterations performed between each step, but also when additional iteration was considered necessary.
Figure 3.1 Data analysis process (Creswell, 2009, p. 185)
3.7 Validity and Reliability
Creswell (2009) presents different validity strategies related to a qualitative study, one of which is the use of rich and thick description. This approach was attempted to be performed in the chapters throughout the thesis.

Another strategy for ensuring the trustworthiness of the results of the study was by choosing a “random sample of individuals to serve as informants” (Shenton, 2004, p. 65). This approach served several purposes. First in this way the selection of individuals who might give the results the researcher anticipated to be collected was being addressed. What is more according to Bouma and Atkinson (1995, cited in Shenton, 2004, p. 65) “a random sampling procedure provides the greatest assurance that those selected are a representative sample of the larger group”.

In this line of thought, a form of triangulation described by Shenton (2004, p. 66) has been incorporated, namely “triangulation via data sources”. This form of verification was very useful for identifying similarities and discrepancies not only with respect to comparing the results from previous researches being made, but also between the different participants. In this way if only one participant for example had experienced certain issue, this was not taken into consideration in the thesis, as it was assigned to specific preferences of the interviewee.

During the interviews two strategies were used for enabling richer collection of data, namely “tactics to help ensure honesty in informants when contributing data” (Shenton, 2004, p. 66) and “iterative questioning” (Shenton, 2004, p. 67). The former was performed by informing the potential participant that his/her participation is entirely voluntary in which way more reliable data was expected to be collected. When introducing the topic of the research the participant was told that his/her honesty is important for the successful collection of information, in which way the participant was made aware that his/her experience and issues are of value for the research and that there are no right or wrong answers. The latter strategy was attempted to be implemented whenever suspicion immerged in the researcher regarding some of the answers provided. The way it was approached was either by re-formulating the same question in order to identify whether the answers received are the same or not, or after some time coming back to some of the questions and validating the answers provided. In this way some of the data which is considered not reliable due to discrepancies which cannot be verified is being omitted from the findings.
3.8 Ethical Considerations
Several ethical considerations have been made in this study in order to ensure that the participants in it are being treated fairly.

First and foremost the privacy and anonymity of the participants is being guaranteed. The way this has been accomplished is by using naming created by the researcher with respect to improve the readability which cannot be used for identifying the individuals. What is more, any form of identifying information has been omitted or removed from the citations in the paper.

Secondly, the confidentiality of the interviews performed is supported. The audio recordings are available only to the researcher and only fragments of the transcribed text are cited. They will not be uploaded in any format on the Internet or for the public as well as they will be kept by the researcher for 6 months and afterwards deleted. The recordings are being kept in case any additional information is needed, or certain verification of the transcription has to be done, this to be possible.

Finally, whenever there are people involved in a study many precautions and ethical issues need to be addressed in order to insure their well-being. That is why, before performing the interviews, an informed consent form was prepared and given to be signed by each participant before he/she was engaged in an interview, see the informed consent form in Appendix D. The form was written in Danish in order to make it easier for the interviewee to understand the goal of the interview and consisted of description of the purpose of the whole research, the researcher’s contact details were given as well as other information related to the study.

When transcribing the recorded interviews, no additional material or interpretations were inserted. The same is valid for when translating the texts – it was taken into consideration the fact that some of the meaning can be lost during the translation.
4 Empirical Findings
In this chapter the empirical findings will be presented. First the use of Facebook is presented, followed by the findings on the impact of the access to Facebook through smartphone on social situations. Finally, the conceptual models developed are described.

4.1 Use of Facebook by Students in Their Everyday Life
In this section findings related to the general use of Facebook by the interviewed students is presented.

4.1.1 Social Media being Used
In terms of use of social media two conclusions were drawn. First, for the interviewed participants Facebook was the primary social media being used - all of them were using it to one or another extend. Secondly, some of the participants were also using Instagram (GS4 and the participants from the secondary school). There could be different explanations for this. One could be that the students are being affected by their surroundings, meaning that the secondary school students are using another social media due to the fact that they are studying in the same class, whereas for those in the university if their surroundings are not using Instagram could be the reason for not being used by those who were interviewed. However, due to the limited source of information, this conclusion is just a hypothesis, which if it should be verified a larger study needs to be undertaken. Another interpretation for Instagram to be used primarily by the younger students could be due to the different age groups, namely that there are different social media that are of interest. This could be due to the time when these social sites appeared, as according to Wikipedia (n.d.) Instagram was initially released in 2010, whereas Facebook was introduced on the market in 2004 (Facebook, 2014). Nevertheless, what is of interest is that this finding leads to the idea presented by Bertel (2013, p. 11) that young people “are typically at the forefront of media adoption”.

Another finding is related to the reasoning provided by the interviewed for using Instagram. When asked this question, the first thing to reply by two of the students at secondary school was that they did not really know why they were using it. However, after some time of thinking BE1 elaborated that:

“because on Instagram there is more focus on images, while on Facebook it is more on updates, so I guess there is just a variation in it, as you have seen so many updates, and then it comes Instagram where there are images, so it becomes popular.”

Similarly, GE1 said:

“Well, it’s interesting to see the others’ pictures.”

These answers could suggest a tendency of an increased importance and interest in visual communication among this group of users. If this is the case – generalizations are not possible to
be made within the scope of this research – it would provide an insight towards what direction the future ICT products and services should focus their efforts on.

With respect to Facebook, what the research shows, is that the social platform has become an integrated part of the youth’s life (at least for the time being). This conclusion is due to the fact that all of the participants said that they were checking Facebook at least once a day, what is more 6 of the participants where performing this activity several times a day. Furthermore they expressed that most of the invitations for social activities, group work and organization of events were happening through Facebook, where one of the motives for this was because “everybody has Facebook” (GE2). GE1 said the reason for checking Facebook even during classes was because she was “just afraid to miss something”; whereas GS3 said that it “makes my life so much easier”. The last way of formulating the relationship the interviewee has with Facebook is surprising, but also shows what it has become to mean for this user.

### 4.1.2 Main Purposes for Using Facebook

A finding related to how the students use Facebook was that all of them were reading others’ updates, but they were rarely or almost never making updates themselves. When asked why they do not make updates, the main argument was because they did not consider having anything important to say/share and if they make updates it is for ‘big’ things as graduating from school for example.

Another reason for using Facebook was to communicate with people who live abroad or with whom the participants do not communicate very often (weak-ties). This was expressed by the male students and GS4 at university and by GE2. As BS2 said:

“I took my bachelor in Copenhagen, if I didn’t have Facebook I would have lost all my classmates from that time, maybe I would have kept 2-3 of my best friends from there”.

Furthermore, except one of the interviewees, who was using Facebook mainly for group work and communication with her sister, all the rest were having mixed kind of friends, meaning from close friendships to weak-ties. Apart from being used for communicating with different kinds of ties, Facebook was also used for group work with classmates (by GS1, GS3; BS1, BE1, GE1), as well as for group communication for organizing holidays, events and social gatherings. Moreover when the interviewees were asked to elaborate on how their social life has been affected by the use of Facebook, 5 out of 9 answered that it makes it easier to keep contact with others, which they considered as expanding their social life. This suggests a relation to what role this social media has become to play for the Danish youth in their social life and shows again that Facebook is well integrated into their life. Furthermore, it has been expressed by all the participants in the interviews that Facebook or Instagram are being used in order to be updated on the news, regardless if it is with respect to their friends, family or celebrities. This activity, as expressed by GE2, gives also the opportunity to start conversations around certain news that have been read.
Finally, it was identified that the secondary school students use the chat service available on Facebook a lot, while from the students at university only GS4 used it frequently, the rest had a limited usage, and 2 of the female students did not use it at all. What this could mean is that there is a possible connection between the user needs that Instagram meets and the chat service, as those who were using Instagram as another social media site (students at secondary school and GS4) use the chat as well. However, due to the limited data, no conclusions can be made. Therefore, further study identifying possible reasons for this usage would be interesting to be performed. The benefit of which would be gaining more knowledge around different use-patterns that could be useful for the development of future technologies which better meet the user needs of the different user groups.

4.1.3 Camera Functionality
Another finding related to the use of Facebook is with respect to the camera functionality available on the chat. When preparing for the interviews the researcher noticed that it had a camera option. Having in mind that the researcher has used the chat from time to time but have not noticed this, it was interesting to see whether this was true for other users as well. The result was that GS4 and the two male participants from the university did not know about the existence of the camera functionality, the students at the secondary school knew about it, have tried it once or twice for fun, though otherwise do not use it, while GS2 and GS3 is assumed that did not know about its existence because they do not use the chat. This finding suggests that Facebook has developed a functionality that was either not visible enough, not well developed or that the user needs were not studied. This is because when BE1 was asked why he did not use the camera he replied:

“Hm.., I don’t know.. I don’t need to see everybody while I talk”, where by talk is meant typing.

To the same question GE2 answered:

“Because I have Skype. I have tried to use it once, but I don’t think it works well.”

These answers present the importance of including the real user into the development and evaluation of certain artefact. In this way the usefulness and usability of the product is taken care of in order to avoid spending time on working on a functionality which in the end will not be used.

4.1.4 Skype and the Roles Assigned to Different Communication Platforms
Following this line of thought, another finding was that some of the participants (GE2 and GS1) were using Skype to communicate with family members outside the country. This can be interpreted as when the users are presented to a communication platform, they incorporate its initial functionality which makes the introduction of new features (camera in the chat on Facebook) harder. This is because when Facebook first appeared it was based on exchanging text messages under one or another format (through one’s wall, chat and others). The users got used
to this form of communication and then when the web-camera option appeared on the chat, none of the users interviewed expressed willingness to use it, even if they have tried it. Instead, if they wanted to communicate with somebody and be able to see them with the use of camera - they would use Skype (GE2, GE1, GS1). However, another explanation could be that the camera functionality provided by Facebook is not as usable as the one by Skype in which case the users will prefer the one that works better for them.

Regardless of the reason, the finding is important to be kept in mind when developing new communication platforms as it could be that the way they are introduced to the users will be the way they will be accepted, which might make it harder to change their functionalities. Therefore it is important to include the users into the development process in order to ensure their successful implementation.

4.1.5 Check-in Service on Facebook

This importance can be seen also in the following finding. The contradiction identified between the conclusion from Bertel (2013) and from other literature about the need for developing context-aware services or devices was seen as necessary to be addressed in this study. Two questions attempted to target this issue, the first was whether the participant is using the ‘check-in’ service and what s/he thinks about it and the second was what the participant thinks about knowing where his/her friends and family were. Regarding the first question, 5 of the participants (all from the university) said that they do not use it and most of them consider it as irrelevant knowledge. GS4 uses it for when she is traveling, while GE2 and BE1 use it rarely and consider it irrelevant as well. Only GE1 was using it, though mainly to make her friends jealous.

With respect to the second question, GS1 said that this is not relevant knowledge for her, BS2 and BE1 thought it might be relevant with respect to family members but not friends, as they still need some privacy. GE1 also suggested that it was a good idea, but for her there was again the privacy issue. An interesting answer was provided by GE2:

“I guess I wouldn’t really care to know where people are. It is like, then you cannot really answer where are you, what are you doing, because they have already written it, so it is already one thing less to talk about.”

This suggests that, at least in Danish context, the development of context-aware devices might not be met with enthusiasm. However, in order to support this finding a broader study is needed. That is why, it is necessary to remember that when new services, features or products are being developed and set into use, the users who are expected to interact with these artefacts should be included in one or another way into the development or evaluation process in order to ensure not only the usability of the artefact but also that it is not in conflict with ethical issues relevant for the users – such as their privacy.
4.1.6 Domesticating Social Media

The interviews revealed as well that the users are using the artefacts they are provided almost without reflecting on how they affect them. BS2 for example was asked about his opinion on whether he will use the chat functionality on Facebook if there was a camera which was immediately turned on, and his answer was:

“well, then I guess I will use it. It is that is how the things work, so you use them.”

The same question was asked to BE1 and his answer was:

“If it is something you just need to get used to in the beginning, then you are used to it”

These replies can be interpreted as that the users are blindly accepting the technology, without really reflecting on the effects of the use of the social platforms (Facebook in particular) or smartphones on their communication, but also the way it shapes their interaction practices in everyday life. For example when BE1 was asked why he is using Instagram, he had hard time elaborating:

“Hm... this is a good question.. I don’t really know the reason that I use Instagram. It is just more fun that you can see it, see the real, I guess, it is one thing if someone writes it, but if you also have a proof in a picture... “

GE1 was asked the same question and her first response was that she does not know, though afterwards she elaborated that it is because it is interesting to see the pictures.

This shows that IS researchers, as well as ICT developers, have a great responsibility over the products being create and put into use for the population, as they affect in one or another way their users, while they are domesticating them without thinking of the impact these artefacts have on them. Some of the interviewed are using the digital artefacts just because they are there and everybody else is using them. This is important to know and have in mind, as the way the digital artefacts are being developed can influence the way of life in general and if precautions are not taken and studies not performed, the risk of having unanticipated effects related to the use of the technology is increased.

Finally, another interpretation can be related to an emerging new trend – namely more focus on the visual communication, meaning a shift from the textual format of communication typical for Facebook, to more image-oriented one, though, this is a hypothesis which needs further testing.
4.1.7 Facebook as a Habit

An example of such an unanticipated effect, at least according to the researcher, can be seen in the general use of Facebook, namely the habits of checking the interviewees’ Facebook accounts. When GE2 was asked if she considers she is addicted to checking Facebook, her response was positive:

“Yeah, because if there goes one day when I don’t check it, then I fell like there is something missing.”

What is more, GS2 and GS3 mentioned that when being on holiday they did not check their accounts that often, and described it as “relieving”. The use of this word points to the relation with Facebook as being an addiction. Furthermore, GE1 also described going on a holiday and not using the social media that much as being relieving, but also as “weird”.

In addition, the fact that the users are able to receive notifications makes them check Facebook more often. For example, when BE1 was asked how often he is checking Facebook, his answer was:

“Yeah, you know you are always online because you get a notification and you check it fast, so I guess all the time”

When asked the same question, GS3 replied:

“bad habit in the morning. Sporadically, you get updates, so even if you are sitting with friends, you can check it”

She also referred to these notifications as being “crazy” and that “you don’t really need them”.

These answers show that not only has Facebook become an important part of the social life of the students, but they also have domesticated it in such a way that they have almost become addicted to it, which can be regarded as a worrying development. Therefore it is considered as necessary to improve the user experience related to the use of this social media in such a way that makes the users not so dependent on Facebook. This is because, as previously mentioned, some of them have experienced not accessing the social media for some time and found it relieving. And having in mind the finding related to domesticating the social media, it is considered necessary to develop implications which are responsible for the way they are going to be used and affect the users. This is necessary not only in order to minimize the feeling of being addicted to checking Facebook, but also because such checking of notifications, especially if it is frequent, can have an impact on the communication between individuals when being together, as they are frequently interrupted in which way the focus of the conversation moves from the conversation to the phone and back again.
4.2 Impact of the Access to Facebook via Smartphone on Different Social Situations

This section presents the findings related to how the accessibility to social media through one’s phone relates to the communication between individuals in different social situations.

4.2.1 Accessing Facebook when in a Social Situation

Each of the participants was asked whether they have experienced to be in a café for example and some of the people they were with to spend more than couple of minutes on checking their Facebook profiles, instead of communicating with them and how they felt about it. The students from the secondary school expressed that they do experience it a lot and (when answering the question each of them laughed/smiled) and they consider it irritating and sometimes made comments. With respect to the students at university, the general opinion was that checking one’s phone for a short time was considered acceptable, though not if the person is spending more time which can signal that he/she prefers to use the phone instead of communicating with the participant. BS2 was the only one who had not experienced that, GS3 said that she and her friends had established a rule when being together or to an event or gathering, that the phones should not be used as it was not considered very social.

It is worth noticing that the younger students do not consider as appropriate the prolonged usage of one’s phone for being on Facebook, though the study shows that such activity is a common situation. Moreover the difference between the time the older students spend on Facebook when in a social situation compared to the students from secondary school could be representing possible development of the role and effect social media has in the users everyday life.

Finally, when the interviewees were asked how they imagine improving the communication while in a social situation though still preserving the possibility to access social media via ones’ phone, GS1 and GE1 expressed that the only way was simply to put the phone away. The latter participant explained that if it is lying on the table it still signals its presence and automatically keeps reminding the owner of the phone of its existence and of all the information they might be missing out, by not checking it. Whereas GS2 suggested that maybe the phones should be connected with each other in some way in order to share what the others are doing. These different ideas are useful to have in mind when developing the conceptual models as they present how the interviewed relate to the artefacts.

4.2.2 The Phone as a Way to Hide

Another discovery related to the accessibility to social media through one’s phone, is that most of the interviewed had experienced to use their phones as a way with which to hide from/avoid conversations, meaning to avoid awkward situation (for example being in a company where people stop talking and nobody is saying anything) or simply to pretend to be occupied. BS1 explained that there are occasions when he is using his phone as:
“a way to show that I am busy, without really being”

What is more, he describes that sometimes when being with friends or family he might use the phone in order to pretend being active or to “hide me”. The words he uses suggest a negative development of the usage of the phones, which could be interpreted as instead of stimulating conversations, facilitates a way to avoid them.

GS4 when asked if she has experienced to use the phone as a way to hide when being with friends and family, said:

“not really with friends or family, but if you are somewhere with people you don’t know and you are a bit unsure, if you don’t have somebody to talk with, then I can check what is happening on Facebook or what the time is, check the news. I think it is a screen where you can hide yourself sometimes”

This explanation presents how the accessibility to Facebook through one’s phone affects the social situation, as instead of getting to know the people the participant was with, the combination of being insecure and a phone with access to Facebook makes it easy to choose away from interacting, and instead passively observe the activity on the social network.

BS2 when asked if he had used the phone to hide in order to avoid conversation says:

“I suppose I do it, but I don’t think I think about it in reality”.

His statement is a good example of how he has domesticated these digital artefacts in such a way, that he is not even aware of when he uses them and how they affect him.

It is worth noticing that the younger generation has experienced more situations like this, compared to the students in university. This could suggest a possible negative development of the use of social media through smartphones; however, there is a need for further research in order to support such a conclusion, as apart from GS4, the rest of the participants have not been asked for specifying exactly what they do when they use their phones – whether they check Facebook or do something else, meaning it was assumed they did.

4.3 Other Findings
This section presents other findings which have been considered as relevant to the particular study.

4.3.1 Need for Bigger Screen
An issue related to the design of the smartphones has been identified - namely the size of the screen of the phone has been considered as limiting by some of the participants. BS1 said that he is using Facebook from his phone only to check the updates, otherwise for other activities he is accessing it from the computer due to the bigger screen. An issue expressed by GS2 related to the size of the screen, was that because it was small, sometimes when scrolling between the
different updates, she might by mistake press the “like” button on Facebook, which caused her frustration, as it was unintended. What can be concluded from these statements is that there is a need for improving the screen size of the smartphone in order to support better user experience. This serves as a good referencing point when relating to the future implications of the design of the smartphone as described in earlier chapter, namely that the industry has identified as well that in order to support improved user experience, there is a need to change the design of the phone in such a way that it preserves its flexibility, though matches the current ICT developments and therefore the increasing user needs and requirements.

4.4 Summary of the Findings

To sum up, the findings show interesting development in the way students use Facebook, but also the way this social media and smartphones interrelate and affect the social situation. They suggest differences between how younger students utilize these artefacts compared to the older ones, which can be used as a referencing point on the way the technology is going to be used. Furthermore, the results of the study show the importance of the active inclusion of the users of an artefact into its development or evaluation process, not only to support the improved user experience, but also to minimize unanticipated usage of the ICTs.

What was identified was that Facebook is still the predominant social media in the Danish youth context, where the main activities it supports are checking updates, keeping contact with weak ties, but enabling communication with strong ones in the form of organizing events, exchanging messages and others. The participants do not make updates themselves or if they do it is rarely, neither they are using the camera functionality on the chat. Furthermore, in relation to other social medias being utilized, a possible connection between using Instagram and the chat service on Facebook was identified, though further research needs to be performed on finding whether it is a coincidence or not. Regarding the need for context-aware devices, it was clear that the participants would not be satisfied with such a solution, as they find it either irrelevant or in contradiction with their need for privacy. Moreover, it was discovered that some of the participants have developed a kind of addiction to Facebook. With respect to the impact the accessibility to Facebook through one’s smartphone has on the social situation, a difference between the way it was experienced by the students at secondary school in comparison to those at university was found, meaning that the former seem to find it almost as a normal activity, though irritating, while those at university have experienced it in rare occasions with single persons. Finally, it was discovered that in certain occasions the smartphone served as a way to hide, where one of the explanations for this could be due to the easiness of accessing the social media through ones’ phone, however further investigation on this topic is needed.
4.5 Conceptual Models

Following the generic form of analysis, and for the purposes of this thesis, the findings and the results of the document analysis are interrelated by developing conceptual models with the aim of improving the user experience. In order to do this and to ensure the development of usable interactive products it is necessary to identify the user needs and requirements. Based on the results described above, it can be concluded that there is a need to find a way in which to preserve the opportunity of accessing Facebook through one’s phone, though the habit of checking it needs to be minimized – as shared by some of the participants they have become addicted to it. Therefore it is considered as necessary to improve this user experience, though still preserving the ability to connect to Facebook as it has become an important part of the youths’ social life - lots of activities such as invitations to events, group work, quick arrangements and others are performed through this media. Another need which emerged from the findings is to support the communication between individuals in real life, as some of the interviewees would use the phone as a way to pretend they are occupied, or simply to ‘hide’ when for example in a situation where they do not know that many people or do not have people to talk to. This activity of accessing ones’ Facebook account while with others is accepted by the participants as long as the process is not at the expenses of neglecting the communication with the rest. Furthermore, with respect to improving the user experience when accessing social media through ones’ phone, the findings show that there is a need for bigger screen. In addition, the amount of time spent on Facebook by the participants and the activities performed and supported by this social media indicate that there is a need for adjusting the design of the phone in such a way that it supports many-to-many communication as well in order to provide for an improved usability. The chapter finishes by presenting the conceptual models. What should be kept in mind is that the issues identified and the way they have been attempted to be solved is based on a limited data being collected, which means that there could be different conclusions and understandings of how the future implications should look like and be. Finally, as described above the goal with the conceptual models is to inspire and provide material for further analysis.

There have been developed three activity-based conceptual models. The first one is focusing on presenting changes in the way Facebook is designed, primarily in order to minimize the habit of checking one’s notifications and account. The second model is a very simple one, based to some extend on conversing activity with the goal to stimulate the communication between people when being together in real life. The final model relies more on manipulating and navigating activities, and incorporates the tangible bits, augmented reality and physical/virtual interaction. Its purpose is to provide solution to the issue related to the size of the phone, the many-to-many communication support.
4.5.1 Facebook Conceptual Model
As presented above, this model aims at minimizing the habit of checking notifications coming from Facebook. Its goal is to minimize the frequency of receiving notifications, which is expected to support the interaction between individuals in social situations. By minimizing the habit of checking the notifications, it is also attempted to minimize the habit of checking one’s account as well.

The model starts with introducing a new way of making posts on Facebook:

![Facebook Conceptual Model - Making a Post](image)

The drawing above represents the home screen of when a user is logged into his/her account. Currently, when a user wants to make a post, he/she is presented with the input field for writing the text of the post (the empty square with rounded corners on the picture) and a button with the text ‘Post’ which function is to send the post. Having in mind that the findings showed that it could be difficult to make the users use new features or services introduced into the platform, but also the finding that different roles are assigned to different applications, this model builds on the existing features of Facebook, though providing a slight change to them. What is being proposed on the drawing above is to preserve the functionality of making a post currently available, however with the modification of the user having to categorize his/her post at the moment it is being created. It has been estimated that the most often posts are ones which contain a question, which are a form of an announcement and all the other post types which are considered as not that relevant (e.g. playing football). It should be noted, that these categories are based on the researcher’s observations and assumptions and serve as an illustration of the model, in order for them to be representative a thorough analysis of the type of posts should be performed. By creating updates in such a way two main things are attempted. First of all, the user is made aware of the information being posted, in which way the posting of irrelevant information (as described by some of the interviewees) could be minimized. Secondly, the number of notifications received
is considered to be affected, as if the user wants to be kept informed about the relevant information being posted by the user’s friends, this would be enabled, but also the number of so-called irrelevant information being received would be minimized.

Having this new form of making updates servers the purpose of reducing the number of notifications being received:

![Figure 4.2: Facebook conceptual model - notifications settings](image)

As the reader can see, the drawing above represents a screen where the type and frequency of getting updates can be set. The current version of Facebook lets the user define certain types of notifications to be received (e.g. close friends activity, notifications that involve the user and others). What the drawing proposes is based on the type of post being sent to Facebook (question, announcement, other in the current conceptual model), to receive a notification, apart from the current features available. In this way, the users can decide the type of information they want to see/be updated about, which helps for improved user experience and usability of the platform. What is more there are users (the secondary school participants) who might want to receive information about all their friends’ activities. In this way, the second setting can reduce the frequency of checking Facebook to a limited number of times. As the reader can see, the user is able to decide how often he/she would like to receive notifications, in which way, the habit of checking updates whenever they arrive at one’s phone is attempted to be tackled. Moreover, by selecting for example the first option (3 times a day), the user will know that he/she would be
kept updated during the day of what is happening on Facebook, in which way it is considered that their habit of checking one’s account will be minimized as well. However, this model is just a concept of possible design implication; therefore further study testing this model is needed in order to identify its real effects on the habit of checking Facebook and on the influence on the social situations.

4.5.2 Simple Interaction Stimulating Conceptual Model

As described earlier it was necessary to identify how to preserve the access to social media through one’s phone, though to minimize their usage while people are together, in which way to support the interactions in social situations. Reflecting on some of the comments of the interviewees, where when asked about how they felt in a situation where the people they were with were using their phone to be on Facebook - they sometimes made comments like - “maybe we should put the phones down and talk a bit” (GS1), brought the idea of the following model. Instead of the participants to make these remarks, to develop an application or a functionality which to be integrated into the social media platforms, that is a form of timer, which could be set

Figure 4.3: Interaction stimulating conceptual model
to 2 minutes for example, where if it has registered an uninterrupted use during these 2 minutes - to show a popup saying something like - ‘Hey, it’s time to check on your friend’ (this message is very simple, but is used only to illustrate the intention of what the message should do/provoke). In this way, it is considered, that the participant using his/her phone, with the help of such message, would be reminded in a not intrusive and disturbing way that it might be a good idea to start another activity. What this would mean, is that the users are still given the ability to choose themselves what to do next, though they are reminded that they are using their time on the phone/social media. In this way it is assumed that the habit of accessing social medias through ones smartphone could be minimized, which can result in supporting the social situation (interaction between individuals).

Though, here again should be noticed, that this model is based only on the limited data being collected, as well as on the conclusions and ideas that emerged from its analysis. Further evaluation studies in the form of prototypes, should be undertaken in order to identify whether this model could be used and if it can how it affects the social situations.

4.5.3 Complex Conceptual Model

![Complex Conceptual Model](image)

Figure 4.4: Complex conceptual model
The last concept has been inspired by the products two companies (described in an earlier chapter) are working on and the data being collected. The first company is using augmented reality glasses to project a holographic representation of one’s smartphone or computer, in which way the user can have his/her devices no matter where he/she is. The other concept is the phone made by Samsung with integrated projector. It should be reminded that the conceptual model above, is in a very initial phase, meaning that further research is needed to identify whether it is possible to develop first of all a prototype to test the usability of the model and afterwards the production of such phones. Thus, the goal is mainly to inspire new ways of thinking regarding future design implications in the way that by using the current technology to improve its capabilities.

The conceptual model is based on the idea of projecting the content normally displayed on the screen of the phone, though instead of the need for a special surface or environment in which to project, to use the ideas of augmented reality, 3D visualization, as well as holographic representation and project the image right out of the phone. The idea with the model is that the main functionalities of the smartphone - calling and writing text messages are preserved the way they are today. What is more, applications such as paying over the phone, e-banking and other applications dealing with sensitive information should be kept in the way they are currently performed, in order to protect the users’ private information. Apart from that all the rest of the functionalities - accessing gaming applications, social networking sites and the Internet in general, should trigger the augmented/holographic display. In this way the issue regarding constant checking one’s profile on Facebook is believed to be reduced, as with such form of representation, where the background is transparent, the users would be made more aware of their actions, as the people they are surrounded by would be able to see what they are doing in a more direct way than compared with the current functionality of the phone. Furthermore, the need for bigger screen is attempted to be solved in the form of the projected display. With respect to supporting many-to-many communication – for example when a group of people are together and one of them wants to share a video on YouTube, in many cases some of the participants have less visual access due to the limited size of the screen. However, as displayed on the drawing below, the conceptual model presented, provides for equal visual access by all participants. Finally, the issue with using one’s phone as a way to ‘hide’ is believed to be tackled, as people would be more conscious about what they do with their phones when in different social situations.
It is the author’s belief that if this conceptual model is developed into a prototype and tested, it would prove to be a solution to some of the usability and interaction problems identified during the study. However, in order this to become true, research and further studies are needed in the area of interaction design, augmented reality, holographic representations, as well as all the ethical considerations that need to be kept in mind.
5 Discussion

The results of the study support some of the conclusions made by previous research, though there are also findings presenting possible new trends in the way the studied ICTs are being used. With respect to the use of social media, it has been discovered that among the students at secondary school apart from Facebook, Instagram was also being used. The fact that the younger participants were also using the chat service on Facebook, compared to those from university, suggests that there might be a co-relation between what Instagram offers and the use of the chat on Facebook. However, as expressed earlier, further research is needed to identify whether this is true or not. Furthermore, it could be worth studying the reasons for using Instagram more thoroughly, as having in mind that it is based on sharing images, it might suggest that the future technology is going to be more focused on visual communication, as according to Bertel (2013, p. 11) studying the use patterns of the younger generation could “become prominent in other user groups”. Finally, having in mind the newest trends in the industry related to enhancing user experience with media, this conclusion is quite plausible.

With respect to using Facebook the study showed that, at least in Danish context, the social media supported communication with mixed ties, as it is used to communicate with classmates, friends, peripheral friends, and people who leave abroad. This result confirms with the findings by Barkhuus and Tashiro (2010) about the US youth and Bertel (2013) and Jensen and Sørensen (2013) about the Danish youth and the types of relations they have on Facebook. Therefore it can concluded that what Wiese et al (2011, p. 2) write about studies showing that only a small number of strong ties are being supported could be true only for certain type of users, but not in general.

Another finding is that a possible shift towards more passive form of using Facebook has been identified. This is because when the participants were asked what they use Facebook for, the immediate reply for most of them was to check/read the updates posted by other people. However, when compared to the results from Joinson (2008, p. 1029), this activity was ranked lower in his study, whereas contacting or communicating with people on the site was the primary one. Therefore, having in mind that Peters, Winschiers-Theophilus and Mennecke (2013) also suggest that their participants are acquiring more passive form of participation on the platform, it can be concluded that there is a shift from using the media for contacting people to passive surveillance. Another conclusion which could be drawn from these observations, combined with the increased popularity of Instagram among younger users, is that there is a change in the user needs and interest towards more visual representation.

The similarity in the finding of supporting different ties by this study and the one from Bertel (2013) suggests as well that Facebook plays an important role in the Danish youths’ social life. Relating to what some of the interviewees expressed about Facebook, namely that it expands their social life and having in mind that it is used for supporting different social ties, could suggest that it has become to some extend a social prosthetic for this user group, as it seems that
the users have become dependent on this media for supporting their social life. The motivation/explanation for such a conclusion is also found in other activities undertaken such as organizing different social events, group work and other forms of communication. What is more, as GE2 said “everybody has Facebook”, or GS2 expressed that the social platform “makes my life so much easier”. Therefore, it can be concluded that this social site has become an extra form of communication, supporting their social life.

Regarding the use of the chat function in Facebook, the finding from this study shows that there are different use patterns between different age groups, as the students at secondary school used the chat a lot to support their communication with other people, however, those at university rarely used and some even never. The finding about the camera functionality that is not being utilized, combined with the different purpose the users assign to different platforms, suggests the importance of including the users of an artefact into its development and evaluation process in order to ensure not only that it will meet their needs and way of interaction, but also that it will be usable. This conclusion is also visible in the finding regarding developing location-aware services. Similar to what Bertel (2013, pp 92-93) identified, the study showed as well that in Danish context the students find the use of the check-in service by Facebook and the whole idea about knowing where their friends are as irrelevant knowledge. Moreover, the interviewees showed awareness of their privacy, by saying that they want to have a private life as well (BS2, BE1, GE1). These results show that such services might not be needed by all users, as suggested by some researchers (Sutko and de Souza e Silva, 2011; Esbjörnsson and Weilenmann, 2005), which would mean that if developing locative media, it should be targeting specific users, but not to be imposed on everyone. However, developing such products with respect to knowing the placement of family members could be met with positive reactions, as two of the interviewees (BS2, BE1) expressed that such solution might be useful for them. This implies that further research around location aware devices is necessary, performed among different users, as in this way various perspectives, requirements and needs can be collected and compared.

In relation to the importance of including the real users of an artefact in the process of its creation and evaluation, the conclusion on how the interviewees have domesticated the social media is thought provoking. This is because when some of the students at secondary school (GE1, BE1) were asked for the reason for using Instagram, their immediate answer was that they did not know. Attention is paid to this answer as the same question was asked to GE2 and GS4, who were able to argument for this immediately. Therefore, this difference in the answers can be understood in the way that some of the users integrate the technology they are presented without reflecting on it, on why they use it and how it affects their life. This is important to have in mind in order to avoid negative influence of the technology on people’s lives and remind about the responsibility ICT developers have. To support this idea, a reference to what Ess (2009, p. 119) writes can be made, he suggests that:
“diffusing a given communication technology, as it embeds and fosters the specific communicative preferences of its designers, thereby runs the risk of – however inadvertently or unintentionally – thereby imposing those communicative preferences on people in “target” cultures who may thereby be immersed in and deeply shaped by very different communicative preferences”.

The author points out that domesticating communication technology which represents somebody’s understanding of the world can have an impact on the way the users communicate. Therefore, the users need to be included in which way to incorporate their way of communication into the future ICT products. This conclusion leads to a finding related to the way the students have become addicted to checking their Facebook accounts. As described in the findings, some of the interviewed when being on a holiday where they did not check their account so often described the feeling of this as “relieving”. Here an unanticipated development of the use of the social media can be identified but also how the users have domesticated it although feeling ambivalent about it. A relation to what Agosto and Abbas (2010, pp 7-8) found can be done, as some of their participants apart from identifying themselves as addicted as well, could sometimes feel overloaded of all the information being shared on the media in which way they needed to “cut off”. However, despite these feelings the users continue being part of the social network – contradiction also presented by the authors. Such activity can be understood with the help of what Haddon (2011, p.4) describes about domestication, namely that some people might use certain ICT, although they feel ambivalent about it. One of the possible interpretations could be because they are influenced by the others (Haddon, 2011, p.5) What this means is that the social media, Facebook in this study, might be used by some students not because they want it but because they to some extent have to, as their social life depends on that. As expressed by GE2 – “everybody has Facebook”, and having in mind that many of the social activities – invitations to events, group work and others happen through Facebook, the students have to use the platform if they do not want to be excluded, but also if they want to be updated. As Stenros, Paavilainen and Kinnunen (2011, p. 159) wrote – “[f]acebook is not a separate place, but a part of everyday life”. What is more, as two of the interviewed girls (GE1, GS1) at secondary school suggested, if they do not check Facebook, they feel they are missing something out. When asked how they would imagine this to be changed, both of them suggested that the only way would be to put the phone away, “otherwise if it is laying on the table, then you are just checking it”(GE1). As Barkhuus and Tashiro (2010, p. 137) write because Facebook is accessible through ones’ phone, many of the participants in their study “would often just click on the application ‘to see if anything interesting had happened’”. Similar answer was given by BS1 and GS3 regarding when they receive notifications from Facebook on their phones. It is believed that one of the reasons for this state of addiction (the need to check Facebook) is due to certain extend to the option for receiving notifications, as BE1 said – “you get a notification, so you check it quickly”. In addition, Hart et al (2008, p. 472) and Joinson (2008, p. 1035) have identified similar behavior, namely that the users access the media not for a prolonged time, but
more periodically. This suggests that it is not a cultural way of using the platform, but simply a normal form of constant accessing common for wider range of users. Such functionality could have the effect of creating the habit of checking one’s account spontaneously and “in shorter “bursts”” (Barkhuus and Tashiro, 2010, p. 137), which could also lead to the need of cutting off in order to avoid communication overload. That is why the first conceptual model attempts to tackle this behavior and possible negative user experience in a way that it is not removing the ability to access Facebook through one’s phone, but attempts to make the number of notifications less in which way to affect the habit of checking one’s phone and consequently one’s Facebook account.

With respect to the impact of the accessibility to social media through smartphones on social situation two findings were made. First, the secondary school participants have experienced being in a situation where the people they were with were spending time on checking their Facebook profile than communicating with them, and this was considered as irritating. What was interesting to identify was that the older participants – from university, have experienced it only with certain people – one particular friend or relative, and found it as well inappropriate. However, most of the times what they have experienced was referred to as short moments in which the focus was on the phone, which did not disturbed them. Based on the limited results, it is not possible to conclude whether this usage of Facebook through the smartphone complements for augmentation of the physical experience of the participants in a social situation. Though, the finding suggests that it does not, due to the feeling of irritation and the consideration of being inappropriate the prolonged usage of the phone. Apart from that, the result presents the difference in the way the younger generation uses the social media compared to the older. What is more, Stenros, Paavilainen and Kinnunen (2011, p.157) describe the same reaction by their participants, namely that “using Facebook when there are other people physically co-present does not seem to be impolite according to our respondents, but ignoring others who are present by immersing too deeply into Facebook is”. It is thought provoking that the exact same attitude was identified four years later in this research. A possible interpretation could be that there is a change in what is being accepted as appropriate behavior when people are together from being improper to use one’s phone to accepting short intervals in which people would change their focus from the participants to the social media. This suggests that there is need to continue the study of the use of social media and its accessibility through smartphones and the impact this has on the social situation in order to improve our understanding of its effects and to develop solutions that represent the changing needs of the users in a way that also supports their communication practices.

The reason for this is based on the finding that the users tend to use their phones in order to “hide”, that is to avoid conversation in different social situations. It should be noted that the data collected with this respect is limited, meaning that it is assumed that such behavior is caused by the accessibility to Facebook and other social media, though further studies proving this are needed. However, this conclusion was made because as one of the interviewed (GS4) described,
and others confirmed (BE1), if she is in a situation where she is not familiar with the people and does not have somebody to talk to, she could easily check Facebook or do something else on her phone. Such activity is considered as necessary to be tackled and as possible unanticipated result of the accessibility to Facebook as it promotes for avoiding contact with others, which is contrary to the purpose of the social media and the smartphones, namely to connect people and make it easier to communicate with each other. Therefore the conceptual models, especially the third one, aim at supporting the social situation in a way that supports or stimulates interaction. It is necessary to discuss the concept of balkanization and its relation to the current study, as the aforementioned finding relates to what Arminen (2007) and Ling (2004) suggest, namely that mobile communication allows people to escape the immediate situations into interaction with like-minded people. Moreover, if referring to the findings by Wooley (2013, p. 41), this interpretation is plausible, since the students whom she studied chose to spend time on communicating with the online societies from back home, than learning about the place where they were. However, doing this can be considered to some extend technologically deterministic. The reason for this is as described by Jensen and Sørensen (2013, p. 49) social media (Facebook in particular) supports “social divergence” by enabling communication with “weak and even latent ties”. The same was found in this study, participants described the use of social media as expending their social life. That is why, it can be concluded that the accessibility to social media could be looked at as a way for augmenting the social life and relations of the participants, though online. This is because when BS1 was asked to identify how social media has affected his social life:

“It makes me more social on the Internet but it does not make me more social in the daily life.”

This is an interesting answer as it suggests that the social divergence might be true for the virtual world, while the social cohesion to be valid for the real life. What is more, according to Burke and Kraut (2014, p. 4195) “[w]ether social technology brings us closer or provides a false sense of connection has been widely debated”. Therefore, it is necessary to continue studying not only the activities performed on the social media from online aspect, but also from offline – when accessed through smartphones and being in different social situations. In this way unanticipated consequences of this use could be tackled, but also new trends which need to be supported in order to meet the user needs and requirements can be identified.

Finally, with respect to the conceptual models developed one of the objectives was to preserve the positive sides identified from the use of Facebook and to combine them with an attempt to solve some of the issues found in a way that improves the user experience. In this way, the accessibility to Facebook through ones phone is suggested to be preserved, contrary to what some of the participants expressed as a solution to an improved communication when in social situations. However, some changes in the design of the social platform are suggested which target, not only the number of notifications, in order to influence the feeling of being addicted to
checking the platform, but also the number of “irrelevant” posts as identified by some of the interviewees. What is more, the last two models, build on supporting the communication in social situations, by combining some of the newest areas of work in the industry of improving the user experience when manipulating with the media. They attempt as well to solve some of the issues presented in the literature review – the need for many-to-many support (Weilenmann and Larsson, 2001), but also a finding related to the need for bigger screen. What should be paid attention to is that these models have not been tested among real users, as well as some of the categories identified (for making posts, or for applications to be displayed privately) are made based on the researcher’s perceptions, meaning that further studies are needed for supporting more accurate definitions.
6 Conclusion

The study attempted to answer two important questions related to social media (exemplified by Facebook), by incorporating different concepts and ideas from the field of ICT. The purpose of the first question was to identify the way students in secondary school and in university have domesticated Facebook. Finding answer to this question served many purposes among which contributing with more knowledge on the way users utilize this form of communication, as well as gathering information about use patterns and issues which to be reflected later in the study and contribute for developing of a more holistic view of how Facebook influences and facilitates our life. It was identified that the interviewees use the social media for supporting mixed type of relationships, for organizing events, group work and to be updated on the people they follow.

The second sub-question aimed at finding the impact of the accessibility to Facebook via smartphone on social situations (interaction between individuals when being together) as it was concluded that there is a lack of research in this area. What was found was that while students at secondary school experience it often and find it irritating, those at university are witnesses to such disturbance occasionally and by specific people. What is more, the study showed that the smartphone was considered an easy way to avoid unwanted communication by pretending of being busy, while for example checking one’s Facebook profile. Finally, the analysis of the data collected was used to support the development of conceptual models which aim was apart from improving the user experience, to support the social situation in a way that is less disturbed from the ability to access social media through ones’ smartphone. There were three conceptual models developed – one aimed at improving the user experience, in the way of minimizing the frequency of receiving notifications in which way the habit of checking ones’ profile to be minimized. The second model is based on a very simple notification that even though a person is using their phone for being on a social media, to be reminded about the time spent on it in which way again to support the communication when people are being together. The argumentation for this is as the use of Facebook, and other social media, supports the communication between people, as they are able to discuss topics that have been seen on the social sites. The final model is based on a combination of newer technology, the need for bigger screen suggested by some of the interviewees, as well as the need for the phone to support many-to-many communication in which way to support the communication when people are together. What the model offers is an augmentation of the screen in the form of projecting it from the phone. In this way, not only can conversations be improved in the way that sharing some information on the device to more than 3 people is being made easier, but also the users is assumed to be made more aware of what they are using their phones for when in a social situation as their screen is visible.

It should be noted, that these conceptual models, as well as the findings from the study, due to the limited data being collected should be used as a reference and inspiration for further research, but they cannot be used as providing general conclusions. In addition, having in mind that social media is constantly developing, it is necessary to continue studying it and its effects on people’s lives in order to be able to avoid unanticipated use-tendencies. That is why it is important to
remember that the technology is not neutral and especially due to the new ways of communication, it is necessary to include the users in the development and evaluation process of future ICTs in order to enable a domestication which is not limiting the users, but on the contrary extends and supports their needs and way of life.
7 Reflections

Despite of the challenges experienced and the number of participants in the interviews which were undertaken, several interesting results were identified. First and foremost, none of the interviewed was using the camera functionality on the chat in Facebook. Another finding was related to the use of Instagram and the chat on Facebook by all the secondary students and only by one of the university students. This can suggest change towards more visual representation of the communication artefacts. However, a result worth paying attention is the use of the phone to avoid communication with others when in certain social situations. This is paid attention to because both the smartphone and the social media are developed to support communication, however, in some cases they act on the opposite way.

Regarding the primary method for data collection, being the first time for taking interviews of complete strangers, there were many aspects that needed to be considered. An important one was related to the questions, as it was noticed that it was easy by asking certain question to receive certain already nuanced answer. This effect was contrary to what the interviews’ purpose was, namely to hear the real user’s experience, instead of collecting data which was anticipated by the researcher. Furthermore, it was helpful to perform semi-structured interviews, as they provided a basis which to be used in order to avoid omitting questions important for the study. It should be noted that performing interviews between two complete strangers does not necessarily mean that all the information collected is exact representation of the interviewees’ thoughts and experiences, as they are most probably influenced by the fact that they need to talk about some of their habits in front of a person they have never met before. That is why the concepts presented in this paper have been applied in order to support the data collection. An improved approach would be to organize second session with the same participants in order to verify their answers. What is more, with the existence of more time, the interview data collection could be combined with other methods in order to support richer and more valid results. However, other methods (participant observations for example) could bring more ethical issues that need to be tackled, which can result in performing a study in a more regulated environment, where the participants could be affected by the researcher, consequently the validity of the results. This suggests that studying the use and impact of social media and smartphones imposes great challenges to the ICT researchers.
8 Future Research

With respect to future studies, it is encouraged to perform the last two steps of the interaction design activities, in order to identify whether the conceptual models are applicable or not. In this way, the future design implications of smartphones and social media would benefit in the way that the results can be used as an inspiration and knowledge bases for how to create products that more accurately meet their users’ needs and way of life.

Furthermore, the data collected shed light on some of the controversies identified in previous studies – related to the need for context-aware devices, the types or relations youth have on Facebook. However, there is a need for further studies that can support the findings. It would be also interesting to further explore the finding regarding the use of Instagram and chat on Facebook, as it might provide for more innovative and usable solutions. Moreover, an area which would benefit of future research is related to the possible trend of more visually-oriented devices.

Finally, it is encouraged to continue studying the impact of the access to social media through one’s smartphone on different social situations as in this way any unwanted effects, can be identified and improved solutions can be developed. It is considered as important to continue the studies in this area, as not only there is a limited number of such, but also because they have an impact on the way people communicate and live in general, which the ICTs should support and encourage.
References


Bertel, T., 2013. *Mobile Communication In The Age Of Smartphones*. Dissertation. IT University of Copenhagen


deGuzman, C., 2013. *I Forgot My Phone*, [video online] Available at: <https://www.youtube.com/watch?v=OlNa46HeWg8> [Accessed 12 January 2014]


Shenton, A., 2004. Strategies for ensuring trustworthiness in qualitative research projects, Education for Information, 22(2), pp 63-75


Whittaker, S. 2013. Interaction design: What We Know and What We Need to Know. *Interactions*, 20(4), pp 38-42


Appendix A Interview Guide in English

I have provided a set of questions to guide our conversation. I want to understand your experiences, and thoughts about smartphones and social media (Youtube, Facebook, Twitter, Instagram) that you use in your everyday life and how they have affect your social life. I would like you to read through the informed consent paper I have developed, and if you agree to sign it. Furthermore, I would like to ask for your permission to record the session, of course, if you do not want this, but you would like to participate in the interview, it will not be recorded.

1. Would you please introduce yourself (your name/age/education/profession)?

2. Would you please describe what a typical day is for you? Or to put it differently, would you describe a normal day in your life from the time you wake up to when you go to bed?

3. Which social media do you normally use in your everyday life?

   (Follow up question) Can you explain how you use it / them, why, how often do you check it via your mobile (if it is quite often - why)? Which functionalities do you normally use?

   (Follow up question) Are you satisfied with the functionalities (with how they work)? Is there anything you need or want to do but it is not supported?

4. How do you communicate with your friends and family? What kind of communication do you prefer (online (via social media) / offline) and why?

   (Follow up question) In what situations do you use your phone?

5. Do you know someone your age who does not have a cell phone? Do you know why - how do you keep in touch?

6. Do you know someone your age who does not use Facebook? Do you know why - how do you keep in touch with the person? What do you think about this that they do not use it?

7. Do you think it is easy to access social media from your phone? If not, why?

8. Have you experienced being in a group of friends / family, for example, at a cafe where they used their phones for more than, say, 5 minutes to check out their Facebook profile? If so, what was your reaction / how did you feel about that?

   (Follow up question) Are there some unwritten rules among your friends / family about when you are allowed to use your phone?

   (Follow up question) If you could suggest an improvement in the way you use your phone or a social media while you are with your friends or family, what would it be.
Appendix A Interview Guide in English

9. Are you aware that there is a webcam functionality in the chat on Facebook? Have you used it?

10. Are you using the 'check-in' service provided by Facebook? How often do you use it? Why do you use it? What do you think about this functionality?

(Follow up question) Do you think it is practical / good to know where your friends are (the most in terms of when you need to contact someone to know about it is a good time or not) ?

(Follow up question) Can you describe how the use of social media has affected your social life?

11. Is there anything you would like to add?
Appendix B Interview Guide in Danish

Jeg har lavet et sæt af spørgsmål til at guide vores samtale. Jeg ønsker at forstå dine erfaringer og tanker omkring smartphones og sociale medier (YouTube, Facebook, Twitter, Instagram), som du bruger i din hverdag. Jeg vil gerne at du læser igennem den informerede samtykke jeg har lavet, og hvis du accepterer at underskrive det. Desuden vil jeg gerne bede om din tilladelse til at optage sessionen, selvfølgelig, hvis du ikke ønsker dette, men du gerne vil deltte i interviewet, vil det ikke blive optaget.

1. Vil du venligst introducere dig selv (dit navn / alder / uddannelse / erhverv)?

2. Vil du venligst beskrive, hvad en typisk dag er for dig? Eller for at sige det anderledes, vil du beskrive en normal dag i dit liv fra det tidspunkt, du vågner op indtil når du går i seng?

3. Hvilke sociale medier bruger du normalt i din hverdag ?

   (Opfølgning spørgsmål) kan du forklare hvordan du bruger den / dem, hvorfor, hvor ofte tjekker du dem via din mobil (hvis det er ret ofte - hvorfor)? Hvilke funktionaliteter bruger du normalt?

   (Opfølgning spørgsmål) Er du tilfreds med funktionaliteterne (med hvordan de fungere)? Er der noget du mangler eller gerne vil have andrelædes?

4. Howd Vand kommunikerer du med dine venner, familie ? Hvilken form for kommunikation foretrækker du (online (via sociale medier) / offline) og hvorfor?

   (Opfølgning spørgsmål) I hvilke situationer bruger du din telefon?

5. Kender du nogen på din alder , der ikke har en mobiltelefon? Ved du hvorfor - hvordan kan du holde kontakten ?


7. Synes du,at det er nemt at få adgang til de sociale medier fra din telefon? Hvis ikke, hvorfor?

8. Har du oplevet at være i en gruppe af venner / familie for eksempel på en café , hvor de har brugt deres telefon i mere end f.eks 5 minutter for at tjekke deres Facebook-profil? Hvis ja , hvad var din reaktion / hvordan havde du det med det?

   (Opfølgning spørgsmål) Er der nogle uskrevet regler mellem dine venner/familie om hvornår man må bruge ens telefon?

   (Opfølgning spørgsmål) Hvis du kunne foreslå en forbedring i den måde du bruger din telefon eller en social medier , mens du er sammen med dine venner eller familie , hvad ville det være
Appendix B Interview Guide in Danish

9. Er du klar over, at der er et webcam funktionalitet i chatten på facebook? Har du brugt det?


( Opfølgning spørgsmål) Synes du at det er praktisk/godt at vide hvor dine venner er (det er mest med hensyn til når du skal kontakte en at ved om det er et godt tidspunkt eller ej)?

( Opfølgning spørgsmål) Kan du beskrive for mig, hvordan brugen af de sociale medier har påvirket dit sociale liv?

11. Er der noget, du gerne vil tilføje?
Appendix C Informed Consent in English

About the project

Thesis topic (the possibility of changing the title is not waived)

Use of social media by students in Denmark

A short summary

This study intends to qualitatively gain an understanding of the lived experiences of students who make use of social media sites in order to inform the development of implications for future technologies that support and extend the user experience related to using social media and smartphones in different social situations.

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About participation in the project

Data collection methods for this study

The data collection is performed primarily by undertaking semi-structured interviews. The participation in the interviews is voluntary-based. Interviews are going to be done face-to-face and only one participant at a time. Interviews are expected to last between 30 to 45 minutes. The interviews are going to be recorded by the use of voice recorder with the permission of the participants.

Participation rules
Appendix C Informed Consent in English

The participants are 18 years old or more.

English or Danish is the main language of the interview.

Participation in the interviews is voluntary-based.

Participants in the interviews can only have access to their own data at any time.

Participants in the interviews can leave the study at any time and also can ask for removing their provided data at any time without the need to provide any explication.

Collected data will be used for master’s thesis project.

Data is going to be recorded by using a voice recorder with the participant’s permission. If participants refuse the use of voice recorder, note-taking is used instead.

Supervisor and the researcher are the sole persons who will have access to the recorded data.

All the data provided by the participants is going to be deleted after the publication of the master’s thesis.

Scope and limitations of this study

The project will be conducted in Odense, Denmark. The participants are 18 years old or more. This study aims to capture the lived experiences of the participants about the use of social media (Facebook, Youtube, Twitter, Instagram). Other IT-enabled devices and social media sites are excluded from this study.

Ethical issues of the study

The personal information and answers of the participants are kept confidential. Gathered and analyzed data from the interviews is only accessible to the student who carried out the research.

Participants remain anonymous by the use of pseudonyms instead of their real names upon their request.

Consent

I agree with audio recording of data. Yes ☐ No ☐ Conditional ☐

Please indicate:

I understand the above explanations and agree with the statements above. Yes ☐ No ☐
Appendix C Informed Consent in English

Any further condition(s) or explanation(s) from participant:

________________________________________________________________________

I understand that my participation in this research is voluntary-based and I can withdraw from the research anytime I want without the need to provide any explanation.

Yes ☐ No ☐

I understand that I can ask researcher to remove my data any time I want. Yes ☐ No ☐

By signing this document, I consent to participate in this study and the data/information that I share with you can be used in your master thesis “Use of social media by students in Denmark”

Signature of participant:            Date:            Place:
Appendix D Informed Consent in Danish

Om projektet
Speciale emne ( muligheden for at ændre titlen er ikke fraviges )
Brugen af de sociale medier af studerende i Danmark

Et kort resumé
Denne undersøgelse har til hensigt at kvalitativt opnå en forståelse af de levede erfaringer af studerende der bruger de sociale medier med henblik på at komme med forslag for fremtidige teknologier, som vil understøtte og udvide brugerefarningerne relaterede til de sociale medier og mobil telefoner i forskellige sociale situationer.

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Om deltagelse i projektet

Dataindsamlingsmetoder

Deltagelsesregler

Deltagerne er 18 år eller mere.
Dansk eller engelsk vil være hovedsproget i interviewerne.
Appendix D Informed Consent in Danish

Deltagelse i interviewerne er frivillig.

Deltagerne i interviewerne kan kun have adgang til egne data til enhver tid.

Deltagerne i interviewerne kan forlade studiet på ethvert tidspunkt og kan også bede om at fjerne deres fremlagt data til enhver tid uden at det er nødvendigt at give nogen grund til det.

De indsamlede data vil kun blive anvendt til speciale projektet.

Data vil blive registreret ved hjælp af en voice recorder med deltagerens tilladelse. Hvis deltagerne afviser brugen af voice recorder, vil notatskrivning blive brugt i stedet.

Forskeren er den eneste person, der vil have adgang til det indsamlede data.

Alle data fra deltagerne vil blive slettet efter offentliggørelsen af specialet.

**Omfang og begrænsninger af denne undersøgelse**

Specialet vil blive gennemført i Odense, Danmark. Deltagerne skal være 18 år gamle eller mere. Denne undersøgelse har til formål at forstå de levede erfaringer af deltagerne i brugen af de sociale medier (Facebook, Youtube, Twitter, Instagram). Andre IT-kompatible enheder og sociale medier er udelukket fra dette studie.

Etiske spørgsmål i undersøgelsen

De personlige oplysninger, svar og observationer af deltagerne er fortrolige.

Indsamlet og analyseret data fra studiet er kun tilgængelige for vejleder og forskeren, der udfører forskningen.

Deltagerne forbliver anonyme ved brug af pseudonymer i stedet for deres rigtige navne på deres anmodning.

**Samtykke**

Jeg er enig med lydoptagelse af interviewet. Ja ☐ Nej ☐ Betinget ☐

Angiv venligst:

______________________________________________________________________

Jeg forstår ovenstående forklaringer og er enige med ovenstående udsagn.

Ja ☐ Nej ☐

Yderligere betingelser fra deltageren:
Appendix D Informed Consent in Danish

Jeg forstår, at min deltagelse i denne forskning er frivillig - baseret, og jeg kan trække mig fra interviewet når som helst jeg vil, uden at det er nødvendigt at give nogen forklaring.

Ja ☐ Nej ☐

Jeg forstår, at jeg kan have forskeren til at fjerne mine data når som helst jeg ønsker.

Ja ☐ Nej ☐

Ved at underskrive dette dokument, jeg samtykke til at deltte i denne undersøgelse, og data / oplysninger at jeg deler med dig, kan bruges i dit speciale " Brugen af de sociale medier af studerende i Danmark"

Underskrift: ❑ Dato: ❑ Sted: ❑