



# Designing for the bereaved

Sebastian Nilsson

Interaction Design  
Bachelor  
22.5 ECTS  
Spring 2018  
Supervisor: Anuradha Venugopal Reddy



# Contact information

## *Author:*

Sebastian Nilsson

E-mail: csebastiannilsson@hotmail.com

## *Supervisor:*

Anuradha Venugopal Reddy

E-mail: anuradha.reddy@mau.se

Malmö University, Faculty of Culture and Society (K3).

## *Examinator:*

Anne-Marie Hansen

E-mail: anne-marie.hansen@mau.se

Malmö University, Faculty of Culture and Society (K3).

# Abstract

The aim with this thesis has been to explore how efterlevandeguiden (EG) can be transformed from being static - i.e., non-interactive - to become a pragmatic tool for bereaved. To investigate the phenomenon of death, a heterophenomenological approach, together with methods from the field of interaction design have been applied. By analysing research conducted by EG, as well as conducting interviews with bereaved, a new target group of young bereaved who prefer to work digitally could be identified. Interviews with bereaved identified the checklist currently presented in EG as a design space. The current checklist provided by EG showed a need for re-design in terms of individual preferences related to the phenomenon of death. A proposed design solution, i.e. the new checklist, includes several interactive elements and emphasizes a practical approach. The checklist also highlights the important of separating the emotional and practical process of bereavement. Designing for a young target group has also resulted in exploring mobile workflows throughout the practical process of bereavement.

**Key words:** bereavement; death; digital death; design for emotion; efterlevandeguiden; digital checklist

# Acknowledgments

I would like to thank all bereaved who took the time to participate in this project, the company InUse for support and inspiration throughout the design process, and my supervisor Anuradha Reddy for guiding me throughout this project. I especially want to thank my father Håkan for the countless hours he has spent on supporting me throughout my schoolyears.

Thank You!

## Table of contents

<b>1</b>	<b>Introduction .....</b>	<b>9</b>
1.1	<i>Target Group .....</i>	9
1.2	<i>Aim and Research Questions .....</i>	10
<b>2</b>	<b>Theory .....</b>	<b>10</b>
2.1	<i>Death as a Phenomenon .....</i>	10
2.2	<i>Death in the Age of Digitalization .....</i>	11
2.3	<i>Design for Emotion .....</i>	12
2.4	<i>Related Design Examples .....</i>	13
2.5	<i>Funeral Homes .....</i>	13
2.5.1	<i>Lova, Lavendla, and Fenix .....</i>	14
2.5.2	<i>Fonus .....</i>	14
2.5.3	<i>Branells .....</i>	14
2.6	<i>Government Websites for the Bereaved .....</i>	15
2.6.1	<i>Great Britain .....</i>	15
2.6.2	<i>Canada .....</i>	15
<b>3</b>	<b>Methods .....</b>	<b>15</b>
3.1	<i>Design Process Model .....</i>	16
3.2	<i>UX Competitor Analysis .....</i>	17
3.3	<i>Literature Review .....</i>	18
3.4	<i>Interviews .....</i>	19
3.4.1	<i>In-Depth Interviews .....</i>	19
3.4.2	<i>Oral History .....</i>	19
3.5	<i>Phenomenology .....</i>	20
3.5.1	<i>Heterophenomenology .....</i>	20
3.6	<i>The Mental Model Method .....</i>	21
3.7	<i>Business Impact Mapping .....</i>	21
3.8	<i>Prototyping .....</i>	22
3.8.1	<i>Digital Prototyping .....</i>	22
3.9	<i>Usability Testing .....</i>	24
<b>4</b>	<b>Design Process .....</b>	<b>25</b>
4.1	<i>Current Bereavement Process .....</i>	25
4.2	<i>Barriers in Current Bereavement Process .....</i>	26
4.3	<i>Conceptualization .....</i>	28

4.3.1	Concept.....	31
4.4	<i>Digital Lo-Fi Prototype</i> .....	34
4.5	<i>Usability Tests with Lo-Fi Prototype</i> .....	36
4.6	<i>Results from the Usability Tests with Lo-Fi Prototype</i> .....	37
4.7	<i>Digital Hi-Fi Prototype</i> .....	39
4.8	<i>Usability Tests with Hi-Fi Prototype</i> .....	47
4.9	<i>Results from Usability Tests with Hi-Fi Prototype</i> .....	48
<b>5</b>	<b>Discussion</b> .....	<b>50</b>
5.1	<i>Value</i> .....	50
5.2	<i>Ethical Implications</i> .....	51
5.3	<i>Future Direction</i> .....	51
5.4	<i>Self-Critique</i> .....	52
<b>6</b>	<b>Conclusion</b> .....	<b>53</b>
	<b>Appendix</b> .....	<b>56</b>
1.	<i>Mental model</i> .....	56
2.	<i>Business impact map</i> .....	57
	<b>References</b> .....	<b>58</b>

<b>Figure 1.</b> Reinterpretation of Maslow’s hierarchy of needs.....	13
<b>Figure 2.</b> Stanford Design Process.....	16
<b>Figure 3.</b> Model of how the prototypes have been designed according to the main qualities presented by Cao (2018).....	23
<b>Figure 4.</b> Mental Model for EG.....	29
<b>Figure 5.</b> Business Impact Map for EG.....	31
<b>Figure 6.</b> Current Checklist in EG.....	31
<b>Figure 7.</b> Option to create personal checklist and login function.....	32
<b>Figure 8.</b> Checklist interface ideas.....	32
<b>Figure 9.</b> Options for editing items in the checklist.....	33
<b>Figure 10.</b> Option to create a personal checklist within the existing checklist.....	34
<b>Figure 11.</b> Interface of new checklist.....	35
<b>Figure 12.</b> Options for sharing the new checklist.....	35
<b>Figure 13.</b> The editing options in the new checklist.....	35
<b>Figure 14.</b> Option to receive reminders for deadlines.....	36
<b>Figure 15.</b> On-boarding wizard accessed from start page.....	40
<b>Figure 16.</b> Login through BankID.....	41
<b>Figure 17.</b> Overview within new checklist.....	42
<b>Figure 18.</b> Option to add date of departure.....	43
<b>Figure 19.</b> A mandatory task added to the calendar.....	44
<b>Figure 20.</b> Options for sharing new checklist.....	44
<b>Figure 21.</b> Sub-categories in the first category of the checklist.....	45
<b>Figure 22.</b> An opened sub-category which displays editing options and the possibility to read about the sub-category.....	46
<b>Figure 23.</b> The timeline of finished tasks.....	46

# 1 Introduction

Dealing with death has been a topic of great concern throughout human history. Views of death as a phenomenon have gone through many transformations over the centuries. Not so long ago, the only way to announce the death of a loved one was to write an obituary in the newspaper. In our contemporary society, however, we have social media, memorial pages, and many other options for announcing someone's death. The increased complexity brought about by the digitalization of society has many benefits, but it also creates new problems, raising many questions surrounding death, such as digital funerals and online mourning. An invention recently developed in Sweden is Efterlevandeguiden (EG). EG is a website that was created in 2016 by three Swedish government agencies: pensionsmyndigheten, skatteverket, and försäkringskassan. The website contains information to help bereaved persons, ranging from legal questions to psychological issues. The current website only plays the role of an information provider and is not interactive – i.e. it cannot dynamically respond to the changing needs of its users as they deal with bereavement.

Almost everyone will experience bereavement at some point in their life, whether it is the departure of a distant relative or of a close family member. Death affects us all in different ways, but most people have to face both practical implications (the death of a loved one), as well as emotional struggles (the mourning process). With the emergence of the digital society, the nature of bereavement has changed. This change makes room for the advancement of technology that addresses the preference of the younger bereaved to work digitally and mobile. For instance, the bereaved can now find information online on how to process grief, as well as how to manage practical matters that come with the loss of a loved one. EG, as a digital forum, offers this opportunity and has received a lot of attention by bereaved persons, with the number of users constantly increasing. EG has proven to be a successful website, and the government agencies continuously add new elements to the website to meet the new needs of the increased number of users. Needs that other market actors have failed to address.

## 1.1 Target Group

This thesis addresses the practical process following the death of a loved one. Hence, its target groups are those (young) persons who have a close relationship to the deceased. The reason for emphasizing the closeness of the relationship is because it usually is a near relative who is legally responsible for managing the practical issues following the death of a loved one. Grief is still a part of the practical process since it is an emotion that is constantly present and processed alongside the practical matters.

Nevertheless, legal matters and the mourning process will be addressed separately in this thesis. Basically, everyone who has lost someone experiences emotions of some sort and designing for these emotions should therefore take into account all the bereaved and any relation to the departed. Note here, the term “near relative” will not be defined in terms of relation to the departed.

Previous research done by the team behind EG solely focused on bereaved people over the age of 35 and widows and widowers. In this thesis, however, the intention is to complement the previous target group with bereaved people aged 20 to 35 who have experienced the loss of a relative, not necessarily a spouse.

## 1.2 Aim and Research Questions

The aim of this thesis is to explore how EG can be transformed from being static (non-interactive) to more of an interactive tool for the bereaved to use throughout the process of bereavement. It would thus become a tool that users could manage in a dynamic way by interacting with the website. To fulfil this aim, the following research questions are formulated:

*How can results from research of bereavement contribute to new opportunities for interaction design within the website EG?*

*How can the bereavement process be aided through interaction design in comparison to funeral agencies?*

# 2 Theory

## 2.1 Death as a Phenomenon

According to Heidegger (1988), our first experience of death is the death of others. Those persons who have experienced the loss of a loved one are often referred to as bereaved (Massimi, 2013). A bereaved person is faced with many new challenges: both practical, such as loss of income and handling financial accounts, as well as grief - the complex cognitive and emotional response to loss - which underscores all other activities (Massimi, 2013).

Ryback (2017) explains that grief is either anticipated or traumatic, meaning either expected or sudden. There are also factors such as culture, religion, relation to the deceased, and the cause of death, that affect how people react when faced with death. For instance, in cases where death is sudden or violent, people might be in shock, which prevents them from being conscious of their overwhelming feelings.

Even though people react to loss in different ways, they are rarely prepared to deal with the pain and emotional stress that result from losing someone. Some might want to talk about their feelings and share experiences with others, while others mourn by themselves and do not want to be reminded of the death. The emotions that the death of our loved ones provoke could be described as highly subjective.

The death of others also reminds people of their own mortality (Ryback, 2017). Even though the death of a loved one might make people ponder death, they rarely prepare for their own death. Garret (2013) writes that planning for death might include a number of formal decisions, such as advance directives, living wills, hospice and powers of attorney. However, people tend not to manage these formal decisions despite the certain knowledge of their own death. Caregivers of the dying are, according to Garret (2013), twice as likely to have depression symptoms than the dying person themselves. Not planning for death might, for that reason, cause distress in both caregivers and the dying person. In such circumstances, both parties are under stress: the dying person because s/he has not communicated his or her final wishes, and the caregivers because they have to guess and interpret the wishes of the dying person. Garret (2013) states that the topic of planning for one's death might be difficult and uncomfortable.

In summation, death is described in this section as a subjective phenomenon that impacts each individual differently. Thus, the subjective nature of the phenomenon has motivated the research approach, as well as the choice of methods used in this thesis.

## 2.2 Death in the Age of Digitalization

Nobel (2018), a scholar of digital media, reflects about dying in the digital age in A Funeralwise Blog for the Digital Age in the following way:

*“We live our lives online. Baby photos are uploaded, homework is emailed in, long lost friends are found via social media and we meet our future mates through online services. In nearly every field the web has revolutionized how work is done. We are memorialized online too; obituaries are posted, and even funeral services can now be streamed. And we leave behind a digital legacy of all the online accounts we maintained in our lifetimes. We are now in the age of Digital Dying.”*

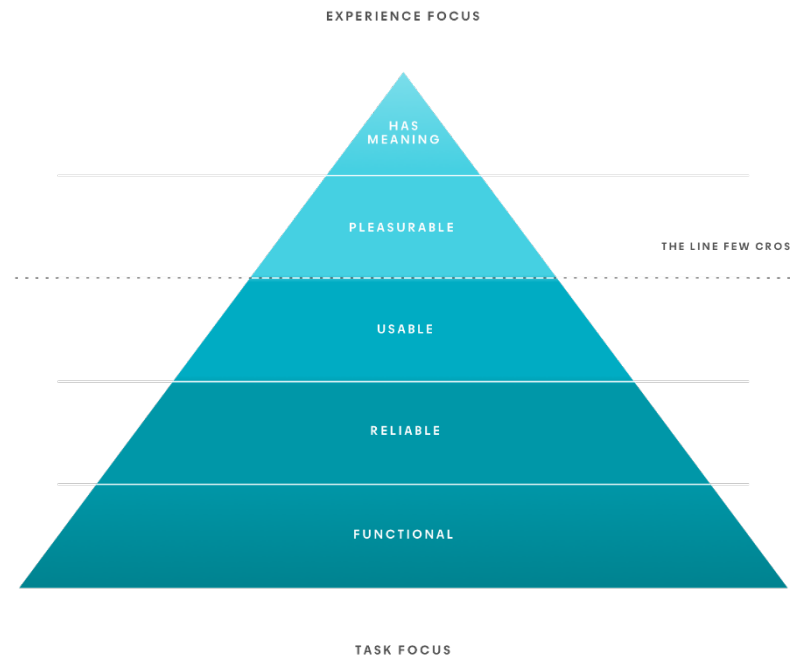
This quotation reveals dying in the digital age to be a multifaceted phenomenon. On the one hand, digital dying is a matter of digital assets, personal artefacts and identities that are managed online and remain after a

person's death. On the other hand, digital dying can also be a matter of access to information and tools that can serve to help the bereaved: a transformation from physical encounters to digital representations. Information and tools for bereavement could further be divided into two subcategories: one that addresses grief and counselling and the other addressing more practical information that follows a death (i.e., wills, documents, and other mandatory tasks). These subcategories suggest particular directions for design intervention. One could argue over whether drawing strict lines is ideal when the two subcategories are so intertwined when one is dealing with death. However, due to the sensitive nature of the phenomenon in question it might be necessary. In this matter, the subjective and practical aspects might be too tightly interwoven to be useful for analysis.

## 2.3 Design for Emotion

Adams and Van Gorp (2012) state that all design is emotional design and even the simplest decisions rely on the emotional feedback provided by one's feelings. Ruston (2017) claims that some of the best apps, sites, and experiences during the past years have been designed for emotion.

Ruston (2017) further argues that designers usually settle for useful experiences, but he encourages designers to reflect over questions such as, "is this experience a pleasure to use, does it offer meaning, does it provoke an emotion?" He uses Maslow's hierarchy of needs (fig 1) to explain how designers often fail in making successful products. Ruston argues that the two top blocks of the pyramid (i.e., pleasurable and has meaning) are closely related to people's emotions and if a designer can make users connect with a certain design on an emotional level, they are more likely to use it. These two needs are also the hardest to fulfil, thus most designers settle for fulfilling the bottom three, referred to by Ruston (2017) as MVP (minimum viable product). Both Van Gorp and Adams, and Ruston, emphasize positive emotions, joyful experiences and suggest that the design should be something that the user wants to use. In this regard, treating 'pleasurable' emotions in design as a success factor might lead to problems within the context of bereavement, due to the sensitive nature of the phenomenon of death. Below are some examples that attempt to analyse related works from these perspectives.



*Figure 1. Reinterpretation of Maslow's hierarchy of needs*

## 2.4 Related Design Examples

So far, bereavement has been discussed in terms of a theoretical framework. In the following sections, we will look at the practical side, discussing both physical and digital resources, including the funeral homes Lova, Lavendla, Fenix, Fonus and Branells as well as government websites for bereavement.

## 2.5 Funeral Homes

Funeral homes can be seen as both stakeholders in and competitors with EG. As stakeholders, funeral homes offer services to inform and console the bereaved, as does EG. Funeral homes can also be viewed as competitors to EG, as they offer similar services to the website and make money through some of the legal services they provide. What follows is a discussion of five funeral homes: (1-3) Lova, Lavendla, and Fenix; (4) Fonus, and (5) Branells. These funeral homes have been evaluated based on how they address emotional and practical needs, and how technology pervades the companies' identity.

### 2.5.1 Lova, Lavendla, and Fenix

Lova, Lavendla, and Fenix are three funeral homes with a digital profile that challenges EG's (see appendix). These three agencies offer modern websites with information similar to what EG offers. In this regard, Lavendla emphasizes the extensive information it offers for the bereaved. Here, however, one has to bear in mind that funeral homes such as Lova, Lavendla and Fenix are driven by commercial interests which sometimes pervade their digital information. Of these three agencies, only Lavendla can challenge EG in terms of the information it offers. Similar to EG, Lavendla also has a checklist to help the bereaved remember what to do after the death of a loved one. The Lavendla checklist is quite similar to EG's in that it also intertwines the emotional and practical needs. The emphasis, however, is put on the practical needs, since they provide a commercial opportunity.

### 2.5.2 Fonus

Fonus is the biggest funeral agency in Sweden and is owned cooperatively by 2300 organizations. Fonus offers a website known as "familjens jurist" in which legal help is provided. In addition, the company provides help through "vita arkivet," a page where people can make preparations prior to their death. Such preparations are sometimes neglected by the bereaved, as earlier discussed in section 2.1. Fonus seems to be addressing the crucial need of preparing for death of a loved one, but only by providing legal help on a practical level. One could argue that preparing for a loved one's death is emotionally intensive and therefore one does not feel like engaging in the practical aspects prior to the death. With this argument, it is possible to notice how a clear (and perhaps necessary) separation is being made between the emotional and practical by the invested family members as well as the funeral agency.

### 2.5.3 Branells

Branells is a minor funeral agency organized in three small villages in central Sweden. Branells does not focus on the digital profile of their website, since they embrace physical communication. This personal (analogue) approach seems to be appropriate since Branells is the only agency in these towns and thus the company's clients know each other very well. Branells is part of the Swedish funeral home association, which has created several digital folders where the bereaved can read about topics ranging from grief to legal matters. These folders, however, are filled with a lot of text, which risks information overload. Branells also provides checklists similar to those other funeral homes offers. Branells does not recognize EG as a competitor but rather is interested in what EG offers on behalf of the bereaved. Branells is much appreciated among its customers since they go the extra mile; they do not just send e-mails with an answer to a question, rather going deeper by meeting

the bereaved face-to-face. Such physical meetings highlight the importance of considering the human voice when designing digital artefacts. However, even though the bereaved might find the human voice reassuring in the planning of a funeral, it might not be appropriate to include it in every element of the practical process.

## 2.6 Government Websites for the Bereaved

The three sections below (3.7.1 - 3.7.3) aim to briefly discuss what other countries offer the bereaved in terms of interface design, information hierarchy and the level of interactivity with the user.

### 2.6.1 Great Britain

The British government website (BGW) differs from EG in many ways. For instance, BGW presents only three tasks (obtain the medical certificate, register the death and arrange the funeral) that need to be done immediately after a death. The site clearly states that everything apart from these three tasks is secondary and can be done later. Such general information provided by the BGW, however, puts the onus on the user to navigate and find further specific information elsewhere on the site. The BGW has a ten-step process with a few tasks included in each step. The BGW uses bureaucratic language and a practical design, and grief and other emotional aspects of bereavement are absent. This practical approach seems to be intentional.

### 2.6.2 Canada

The government website of British Columbia offers users a checklist that can be downloaded. In general, this checklist resembles other checklists that have been discussed so far. However, this checklist differs from those on the other funeral websites in that it offers instructions for how the user might choose to approach the task. For instance, to receive information about pensions, you can choose between calling, clicking, e-mailing, or visiting. Such options offer the bereaved either physical encounters or digital communication. This solution is similar to that of Branells, which supports face-to-face encounters to deal with bereavement. But the difference is that it is partially interactive – offering options to manage one’s bereavement without having to resolve all practical and emotional matters through face-to-face encounters.

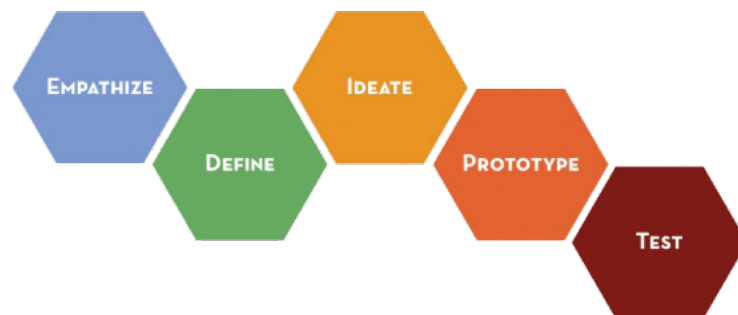
## 3 Methods

Various methods have been used in this project and thesis. They include both analysing literature on the topic of death and entering the field of interaction design. The design process is followed by certain methods that support an inquiry into the analytical questions posed by the theoretical section – thus

suggesting an approach to arrive at a problem space for the topic at hand. The methods section begins with a brief description of the design process model (subsection 3.1) followed by competitor analysis (subsection 3.2), literature review (subsection 3.3), interviews (subsection 3.4), (hetero) phenomenology (subsection 3.5), mental model method (subsection 3.6), business impact mapping (subsection 3.7) and prototyping (subsection 3.8), The method section concludes with a section about usability testing (subsection 3.9).

### 3.1 Design Process Model

The design process model in this thesis has been influenced by the Hasso-Plattner Institute of Design at Stanford (d. school). Stanford d. school is probably the leading university for teaching design thinking. The interaction design foundation describes the process as the following: “Understanding these five stages of Design thinking will empower anyone to apply the Design Thinking methods in order to solve complex problems that occur around us – in our companies, our countries, and even our planet” (interaction design foundation). Figure 2. The Stanford design model.



**Figure 2.** Stanford Design Process

The Stanford design process was chosen for use in this thesis because it covers the important stages in a qualitative design process, which is essential for an interaction design. Furthermore, the process is non-linear, which means that the stages are not sequential, rather they could occur in parallel or they can be repeated iteratively. The design thinking model includes the stages/modes that are expected to be carried out in a design project but could be re-arranged and approached differently depending on the project.

The Stanford design process consists of five stages: empathize, define, ideate, prototype, and test (see figure 3). These stages have been explained in many

ways and interpreted by many researchers. Below follows a description of the process in this thesis and how this thesis has worked with these stages.

During the **Empathize stage**, one must define the problem to be solved. This includes consulting experts to find out more about the area of concern through observing and empathizing with people, as well as immersing oneself in the physical environment. Empathy allows the designer to set aside his or her own assumptions about the world in order to gain insights about the user's needs. In this thesis, this stage includes competitor analysis (3.2), literature review (3.4) and interviews (3.5). The empathize stage is especially important for me due to the sensitive target group. It has been of great importance for me to learn from the bereaved about the phenomenon of death.

**The Define stage** is about analysing and synthesizing the information gathered from the empathize stage to identify core problems. In this thesis, this has been done through business impact mapping (3.7) and creating a mental model of the process (3.6). Synthesizing has been important to visualize the research to the client and to the company InUse. Structuring the research has also served as a way to inform myself in the later stages of the design process.

**The Ideate stage** is the stage when the designer has grown to understand the users and their needs, and is thus ready to generate ideas. The ideate stage in this thesis has consisted of meetings with my supervisor at InUse, and meetings with the customer. However, the empathize and define stages opened up for the possible design solution to work on, which was already a part of EG. Therefore, it has not been necessary to generate new ideas, but rather analyse the existing design solution further.

**The Prototype stage** is when the designer produces a number of scaled-down, inexpensive versions of the concept, so he or she can investigate the solutions generated in the previous stage. In this thesis this stage (see section 3.8) has been achieved by sketching, lo/mid-fi interactive click-through prototypes using Balsamiq, and a hi-fi prototype using Noodl.

**The Test stage** is when the designer finally tests the best solutions identified in the prototyping stage. This is the final step in the five-stage model, but in an iterative process the results generated in the testing phase are usually used to redefine problems in the previous stages. The test stage in this thesis (see section 3.9) has included the making of a test plan to determine what to evaluate and test in the prototypes. Prototyping was crucial in this project because it was a way to see how practical tools would be experienced by a bereaved person who is going through an emotional process.

## 3.2 UX Competitor Analysis

According to the marketing content editor Steven Douglas, a UX competitor analysis helps the designer to gain insight into the market, the product, and

the goals. With an almost limitless number of competitors on the market, the designer has to understand a product in terms of supply and demand (Douglas 2017). According to Douglas (2017) the competitor analysis consists of two steps: first, the designer has to research properly and know what type of information s/he is looking for. Second, the designer has to synthesize that information before acting on the findings.

The competitor analysis works as a tool to inform the design process and to understand where the product or service stands in the market. It can also be used to analyse the strengths and weaknesses of the competitors. Benefits of conducting a competitor analysis might include the discovery of market gaps, which the designer could fill with a new product. Or the designer can further develop an already existing product, where flaws could be analysed to find new and improved features in the designer's product (Douglas 2017).

In this thesis, the UX competitor analysis was conducted by analysing and benchmarking funeral homes which provided online services similar to those provided by EG. Funeral homes have extensive experience interacting with the target group in this thesis, which underscored the importance of analysing how each funeral agency utilizes experience and knowledge in the design of their digital solutions.

### 3.3 Literature Review

Muratovski (2015) writes that the aim of literature review is to describe the theoretical perspectives in the field of one's interest and to help familiarize oneself with the previous research findings that may be of relevance for a research problem. Such a text-based approach means that the designer does not gather any of his or her own data but rather analyses existing data -- books, articles, websites and newspapers. After analysing the existing data, the designer writes his or her comments and reflections on what has been read. The claims from the designer should be reasonable and based on the available evidence (Muratovski, 2015). Hence, it is important for the designer to be critical when analysing existing data. For example, the designer should question assumptions underlying the existing data and for which no evidence has been provided, and s/he should compare findings from different researchers to make sure that the results from the literature review are coherent.

Muratovski (2015) further asserts that the most important thing about literature reviews is that they are meant to provide the researchers and the reader with a picture of the state of knowledge in the field - even though this picture is only temporary since the state of knowledge changes continuously. Accordingly, the designer should consider the timespan of the data that is being reviewed and be aware that it could affect the level of relevance in the results. In the case of EG explored in this thesis, the literature review has been conducted by studying previous material collected by the designers of the EG site.

## 3.4 Interviews

### 3.4.1 In-Depth Interviews

There are several research methods that can be used in phenomenological research. A primary method is the in-depth interview (Muratovski 2015). In-depth interviews are based on a set of predetermined questions. The sequence in which issues are raised does not need to be formally set. Furthermore, Muratovski (2015) claims that the interview should start with a casual dialogue and progress from there. Thus, the participants will be gradually engaged in the discussion rather than experiencing the interview as an interrogation. Transferred to a designer (interviewer) context, this method dictates that the designer should get the users to articulate things that are not part of their daily thoughts, an endeavour which requires skill. According to Muratovski (2015), the designer needs to be as unobtrusive as possible when discussing the phenomenon in question. Even the choice of dress should be considered by the designer, so as not to make the user think s/he is different from the designer.

The interviews conducted for this thesis were with four men (aged 25, 27, 30 and 55) and one women (aged 60). Three of the interviewees were young people who had lost their parents and one was a widow. Of these five interviews, two were conducted by phone and were audio recorded. All subjects participating in the interviews were informed about being recorded and had the choice to decline. Additionally, the subjects were asked if they wanted to remain anonymous in the report. Three of the interviews took place in a location hosted by the company InUse. The interviews each took 60 minutes to conduct. Due to the diversity in how subjects experience the death of a loved one, it was difficult to predetermine questions or how the discussion would play out. It made more sense to have a number of topics and subjects that could be touched upon but could also be laid aside if the discussion took a different turn that would prove more fruitful for the design process.

### 3.4.2 Oral History

Muratovski (2015) states that oral history is a type of interview where a particular event that has occurred in the past is discussed with the eyewitnesses, or people who in some way experienced the event. Muratovski (2015) further claims that oral history interviews need to be well-prepared and organized by the researcher so that the interviewee does not have to constantly clarify and explain things about the event. The oral history interview might inform the researcher about issues and debates surrounding the event (Muraovski 2015).

For this thesis interviews were conducted with two funeral homes: Fonus and Branells. These two interviews were conducted according to the oral history method. Preparation for the interviews included reading interviews,

literature and articles that deal with people's experiences of death, and reviewing information about how the arrangements following a death are managed by funeral homes. The interview with Fonus was conducted in a location hosted by Fonus and the interview with Branells was conducted by phone. Each interview took one hour to conduct.

### 3.5 Phenomenology

Muratovski (2015) writes that phenomenological research is applied when the designer wants to understand how people experience things and events. Phenomenological research is similar to ethnographic research in that they both gather information about other people's lives. However, phenomenological research focuses on individuals rather than groups. The scope of research is limited to experiences related to specific situations or events (Muratovski 2015). It is not my intention to find a person who is currently dealing with the death of a loved one in order to study death as a phenomenon. Instead my interest lies in understanding the process of bereavement based on how the bereaved person sees the world without depending entirely on his or her viewpoint to arrive at insights. In the next section I will discuss the heterophenomenological (HP) approach that has been used in this thesis.

#### 3.5.1 Heterophenomenology

HP is a term coined by Daniel Dennett (2003). HP explicitly describes a third-person scientific approach to the study of consciousness. A combination of the user's own reports on an experience and all other available evidence on the topic together work as a foundation in the research process. By applying HP, the designer can understand how the user sees the world, without taking the accuracy of the subject's view for granted. To quote Dennett (2003, p. 2):

*"The total set of details of heterophenomenology, plus all the data we can gather about concurrent events in the brains of subjects and in the surrounding environment, comprise the total data set for a theory of human consciousness. It leaves out no objective phenomena and no subjective phenomena of consciousness."*

By working with EG, the design process for this thesis has followed an HP approach. The reason for choosing an HP approach instead of an ethnographic approach is that death should be considered as a phenomenon, and a common tool for analysing phenomena in research is phenomenology (Muratovski, 2015)). The research approach in this thesis has focused on the behaviour of individuals rather than groups. Massimi (2011) states in his empirical report on working with the bereaved that gathering groups of

vulnerable populations in the same room might be complicated due to the emotional intensity. If choosing to go through with a group session, one should include a professional grief counsellor, or a psychiatrist. Considering the evidence in previous research, all interviews and user tests with the bereaved have been conducted individually throughout this thesis design process.

Regarding the HP approach, it seemed appropriate to not only trust the subjects' own experiences of bereavement, but also to include experiences from funeral home administrators working with the bereaved. Together with previously conducted research on the bereaved and online behaviour analytics, they all contribute to making the research findings as accurate and true as possible.

### **3.6 The Mental Model Method**

The mental model is a method or a diagram that can be applied after gathering initial information about the users. The mental model contains the reasoning, reactions, and guiding principles that pass through people's minds as they seek to achieve a certain purpose or intent. (Young, 2018). Young (2018) claims that most teams have an abundance of skills for solving problems, but minor experience in understanding the problem space. The problem space, according to Young (2018) is about understanding people and their larger purpose and has nothing to do with the organization, offerings, or the users in general. The mindset of problem space research is characterized by a temporary letting go of thinking of solutions. The outcomes from a mental model might include the identification of gaps between what a service provides and how people actually solve the task. As a result of identifying gaps and finding the problem space the mental model might also help the researcher create solutions that listen and adapt to what the users are trying to achieve. (Young, 2018).

In this thesis, the mental model has been used to visualize the process of bereavement. After mapping out the process, the users' needs and available offerings to these needs have been filled out to find out where the problem space is for EG. The mental model has also worked as a method to prioritize the problem spaces based on the interview findings.

### **3.7 Business Impact Mapping**

The business impact map is a method created by the Swedish company InUse, which is the company where this project was conducted. The business impact map is a model that visualizes and explains the findings from the initial interviews, translates them into needs and outlines how these needs should be addressed. The business impact map should also serve as an explanation of the value to the business of successful use of the product (InUse, 2018).

The business value has not been a primary goal in this project, but it rather served as a way to communicate the research findings to the company and the customer, as well as to translate user needs into design principles that could work as a foundation for the initial concepts of the product.

### 3.8 Prototyping

According to the content strategist Jerry Cao (2018), a prototype is defined as: “A simulation or sample version of a final product, which is used for testing prior to launch” (Cao, 2018, para. 14). Cao (2018) further explains that the goal of a prototype is to test products and ideas before spending time and money on the final product. In addition, Cao (2018) claims that a prototype’s features are characterized by four main qualities:

- **Representation** —the actual form of the prototype, e.g., paper and mobile, or HTML and desktop.
- **Precision** — the fidelity of the prototype, meaning its level of detail, polish, and realism.
- **Interactivity** — the functionality available to the user, e.g., fully functional, partially functional, or view-only.
- **Evolution** — the lifecycle of the prototype. Some are built and then replaced while some may be built and improved upon.

The prototypes in this project have been created with these qualities in mind, which will be further explained in the next section. Cao (2018) furthermore divides prototypes into three general categories: paper, digital and HTML. The choice among these three is less relevant than the fact that the prototype should produce new insights into how people naturally use the product in question. The prototypes for EG have been exclusively digital but very different in the aforementioned qualities.

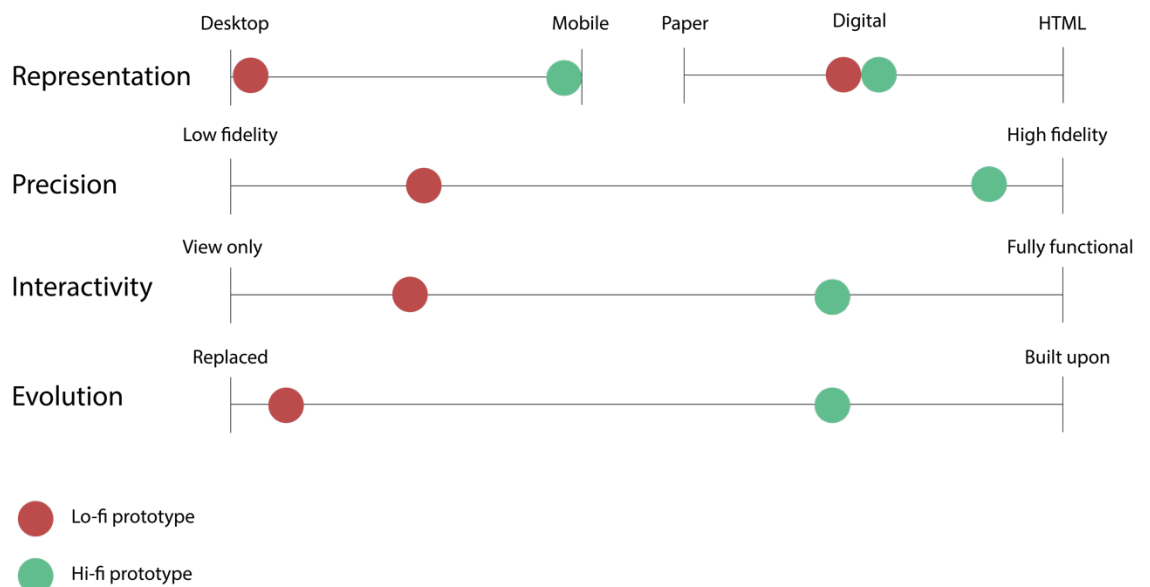
#### 3.8.1 Digital Prototyping

In regard to digital prototypes, Cao (2018) distinguishes between simple (lo-fi), and more elaborate (hi-fi). Digital prototypes are usually more realistic than paper prototypes and less time-consuming to create than HTML prototypes. The digital prototype might also be built upon and developed from lo-fi into hi-fi along the design process.

For this project two digital prototypes were created and iterated. The first prototype was made using a very lo-fi tool similar to sketching on a computer, while the second prototype used a more elaborate tool, which allowed more features and interactions to be tested. The reason for starting digitally was the desire for the interface to mimic the existing website, so that it would be possible to compare how the new concept would stand in contrast to the old one. Still, the interface is lo-fi enough to not make the user accustomed to a certain design but simple enough to be able to quickly iterate and try out different concepts and features.

Moving to a more elaborate tool for the hi-fi design felt necessary and appropriate since the prototype had to be designed for and tested on different devices, which was not possible with the first prototype. It was also a chance to develop key features from the lo-fi prototype and focus on exploring the important aspects of the previous concepts.

Below is a model (fig. 3) of how the prototypes were designed according to the main qualities presented by Cao (2018) in the previous section. These qualities served as inspiration and guidelines for what aspects to consider when creating the prototypes. Since the prototypes serve different evaluative purposes, it seemed appropriate to visualize how the two differ in terms of the main qualities presented by Cao (2018).



**Figure 3.** Model of how the prototypes were designed according to the main qualities presented by Cao (2018).

### 3.9 Usability Testing

Usability testing is a way to see how real users interact with the product a designer develops (Experienceux, 2018). In this process, users are asked to complete tasks, usually while being observed by the researcher (e.g., by looking for problems encountered and confusion experienced). The insights from the user tests can then be used to iterate the design. The main difference between usability testing and user testing is that while user testing will explore the question of whether the users *will* use the solution, usability testing explores whether the users *can* use the solution. The reason for choosing to do usability testing is that many of the initial questions that a user test would answer were explored and documented through the interview phase (blogCanvasflip, 2018). ExperienceUX (2018) highlights three main types of usability testing and suggests when they should be used:

- **Exploratory** - Used to establish what content and functionality a new product should include to meet the users' needs.
- **Comparative** - Used to compare one product with another. Usually pits the products in question against a competitor but can also compare two designs to establish which one provides the best user experience.
- **Usability evaluation** - Used to test a new or updated service either pre- or post-launch. The aim is to ensure any potential issues are highlighted and fixed before the product is launched.

For EG, exploratory and comparative usability tests were conducted. Exploratory testing was conducted since there are no similar products, which made it important to iterate features and interactions that were new to the users in this design context of bereavement. Comparative testing was utilized since it felt appropriate to compare the design in this project with products outside the named design context, as well as comparing different concepts created within this project. However, one could also argue that usability evaluations have been used to some extent when validating the hi-fi prototype.

# 4 Design Process

## 4.1 Current Bereavement Process

After conducting in-depth interviews with the bereaved and oral history interviews with funeral homes, several themes from the current bereavement process could be established. First, one could determine that even though grief is somehow constant throughout the bereavement process, the bereaved prioritize the execution of practical tasks. The reason for this is that the practical process is hectic, time-consuming, and often very unclear for the bereaved, and therefore grief is pushed aside until after practical matters have been handled. However, when people go through the bereavement process, information on how to handle grief, and how to address practical matters is often intertwined, which some of the interviewees said was emotionally difficult.

Furthermore, the amount of practical work is very dependent on how much has been discussed and prepared by both the deceased and the bereaved prior to the death. If there have been extensive preparations for practical matters, the process for the bereaved is shorter and less confusing. What also affects the practical process is the number of bereaved heirs sharing the estate. The more heirs of an estate, the more paperwork and legal questions that have to be dealt with. In the case of multiple heirs of an estate, there is usually one person who takes the major responsibility for structuring the practical process. The responsible person is usually the one who handles the communication among the parties. Communication is usually made by phone or mail, which several interviewees experienced as time-consuming.

Even though some bereaved seem to share similar situations, the complexity of death results in all the bereaved going through somehow different practical processes. Factors such as the type of task, the amount of time the task requires, the level of complexity of the task, and the priority of the task often differ, which makes it hard for the bereaved to find information specific to their individual situation.

Older bereaved people in the age range of 75-90 often need help from another relative or the funeral home to structure the process. The older bereaved person needs to know what happens automatically, and what has to be initiated in the practical process. Older bereaved people also prefer the information in printed form. By comparison, younger bereaved people in the age range of 20-35 were keener on using digital tools to keep track of everything in the practical process.

However, almost all paperwork in the practical process is handled and processed physically, and not digitally. This forces most bereaved to keep folders of papers in their home. The younger bereaved usually transfer some

of the information from the physical documents to digital lists, where the information can be manipulated more easily.

## 4.2 Barriers in Current Bereavement Process

After analysing the initial interviews with the bereaved and funeral homes, it was clear that there were several barriers in the practical bereavement process. These barriers prevented the bereaved from successfully executing the practical process, thereby hindering their ability to move on to grieving the departed relative. The main barriers that were established included the following elements:

- The mixing of practical information with suggestions on how to process grief
- Lack of communication between the deceased and the bereaved prior to the former's death
- Lack of channels to inform the bereaved about practical matters in the process
- Lack of appropriate tools to keep track of the practical process
- Lack of tools to inform and communicate among several heirs of an estate

In the following sections, the five established barriers will be further discussed.

### **The Mixing of Practical Information with Suggestions on how to Process Grief**

When people go through the bereavement process, information on how to handle grief and how to address practical matters often comes intertwined. Having to constantly process both types of information when navigating the practical process is described by several interviewees as emotionally difficult. One of the informants said, "I do not want to tell my story again and again when having to call the government agencies." Similarly, another informant said, "When I am trying to find information on how to solve practical tasks, I do not want to be reminded about grief."

### **Lack of Communication Between the Deceased and the Bereaved, Prior to the Death**

A barrier that most of the informants shared, regardless of age and relation to the departed, was that the lack of preparation prior to the death complicated the practical process for the bereaved. These preparations could include everything from general wishes to e-mail passwords.

As one informant declared, “My father prepared everything, so I knew what to expect, and it was not much work. But with my mother I had to guess a lot, and she had kids with her domestic partner.” This statement is in accordance with what Ryback (2017) explains about preparations prior to death. The reason for not making better preparations prior to a death is explained by one informant thus: “I thought the only hard thing was to prepare the funeral, but I never thought there would be so many practical tasks following the death of my mother.” This implies that both the bereaved and the deceased lack knowledge in what to prepare and how to prepare it.

### **Lack of Channels to Inform the Bereaved about Practical Matters in the Process**

All the informants explained that there are many things to keep track of in the practical process of bereavement. Some things are automatically announced to the bereaved, while some things have to be initiated by the bereaved. To know how to navigate the practical process of bereavement was experienced as confusing, especially for the older bereaved, who did not know where to find information on what to do. Here, one of the informants said, “My husband handled the economy, now I do not know what to do.” However, all the informants seemed to share a general fear of forgetting tasks and missing deadlines. This fear often caused anxiety among the bereaved.

### **Lack of Appropriate Tools to Keep Track of the Practical Process**

The older bereaved generally wanted to use physical checklists and information brochures to carry out the practical process of bereavement. The younger bereaved, on the contrary, preferred to use digital tools such as Word, Excel, Trello, or Google docs when making lists, adding to-do's, and setting reminders. A problem here is that the younger bereaved do not know what information to put on the digital lists. The information about the practical process has to be obtained from somewhere and then added using the digital tool. Hence, the digital tools that are generally used to inform, support and remind the bereaved in the practical process lack features that are specific to the context of bereavement.

### **Lack of Tools to Both Communicate and Inform When There Are Several Heirs of an Estate.**

While the tools mentioned in the previous section are used for keeping track of the practical process, they are generally not used to communicate between the bereaved parties during the process of bereavement. In this regard, one informant explained that, “I was responsible for the practical process, so I had to call my siblings almost every day to inform them on what to do, and what has been done.” Another informant described the process of communication as time-consuming and tiring. According to informants who experienced a process of bereavement alongside several other heirs of an estate, one person is usually responsible for managing the process of bereavement. All the informants experienced communication between the different parties as a source of pressure.

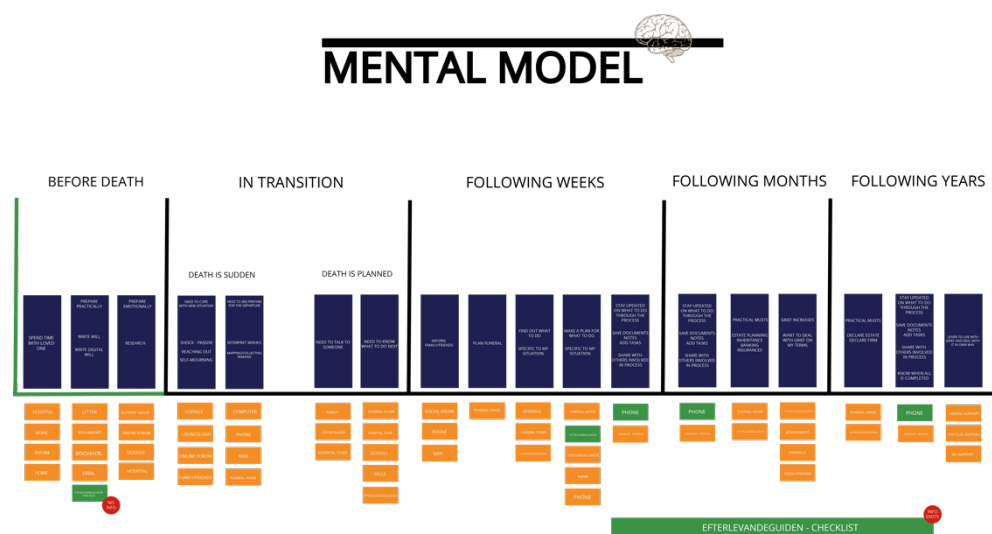
According to the empirical approach used in this thesis, these five barriers in the process of bereavement should be seen as design opportunities, and, as such, they are the foundation for the coming conceptualization. To translate the five barriers in the process of bereavement into user needs, one could describe them as:

- A need to keep grief-related information separate from practical information.
- A need for easier communication between the departed and the bereaved, prior to a death.
- A need for easier communication between the bereaved going through the bereavement process together.
- A need for extensive information covering all aspects of bereavement, available in one place.
- A need for a tool that can be used to keep track of the process, from start to end.

## **4.3 Conceptualization**

To better understand the process of bereavement, a mental model (fig. 4) was created. The mental model visualizes and elucidates both the user needs identified in the previous sections (4.1.5.), and the problem space for these needs. The mental model is built upon the empirical research with the bereaved, together with previous empirical research conducted by EG.

The mental model shows that the checklist already provided in EG possesses some of the solutions to the identified user needs. For example, the checklist includes very comprehensive information about the bereavement process and utilizes a very practical approach that does not refer to grief. However, the checklist fails to address the need for making the information personal to each user. The checklist also fails to give the users the possibility to save, edit, and communicate the information in the checklist as the process progresses. Checklists are commonly found on both funeral home websites (see theory 2.1), as well as government websites (see theory 2.2). None of the checklists in the related design examples or the checklist in EG could be described as tools, due to their static nature.



**Figure 4.** Mental Model for EG

Another area of interest where the checklist could potentially be beneficial is in the “before death” stage. EG does currently not address this stage at all, but rather starts with the following weeks. According to both empirical research, as well as review of previous research done for EG, almost all of the informants explained that the practical process has been more complicated due to poor planning prior to the death. The problem of poor planning prior to a death is also reflected by Ryback (2017), who states that most people tend not to address the formal decisions that have to be made prior to death.

To summarize, the mental model visualizes the previously discovered user needs in relation to the different steps of the bereavement process. Additionally, it shows the available offerings to address each need. The offerings refer both to what EG offers as well as to other tools. Two major insights could be determined here:

*The current checklist in EG possesses qualities that could lay the groundwork for the possible design solution, if further developed to better meet the discovered user needs.*

*The process of bereavement as explained in EG needs to address information on how to prepare for death.*

The mental model helped to establish the current checklist as a potential design space, and also showed that there is a need in EG for a chapter on preparations for death. However, adding more chapters of information in EG would still be considered a static re-design, which is not the aim in this thesis. Changing the static checklist into an interactive checklist for the bereaved to adjust, edit, and save information would, however, make it into a tool, thus addressing the stated aim. What also motivates the choice of re-designing EG's checklist is the fact that several of the bereaved who were interviewed created personal checklists in programs such as Word, Excel, and Google docs to structure the practical process. Thus, checklists prove to be a commonly used tool in the bereavement process.

After defining the design space, a business impact map was created (fig. 5). The business impact map was a way to come up with concrete design principles for the discovered user needs, in relation to the checklist as a defined design space. As shown in the business impact map, these features are closely connected with the initial research question, the personas, and the needs of these personas that were discovered in the empirical research.

The large circle in the middle presents the research question for this thesis, the smaller rings with numbers represent different personas, which are prioritized based on the aim for this thesis. The circle with number one represents the young bereaved, which are the prioritized target group in this thesis. The smaller circles with minus signs on, present the needs that each persona have. The smallest circles are suggestions on how to solve these needs within the design solution, hence, what features the new checklist should include. The features are also prioritized based on how the important the different personas found them. By analysing all the possible checklist features, one could establish certain patterns for how the solution should be designed. These patterns were then translated into five guidelines, or design principles for the concept, which can be seen on the right side in the large circle in the middle.

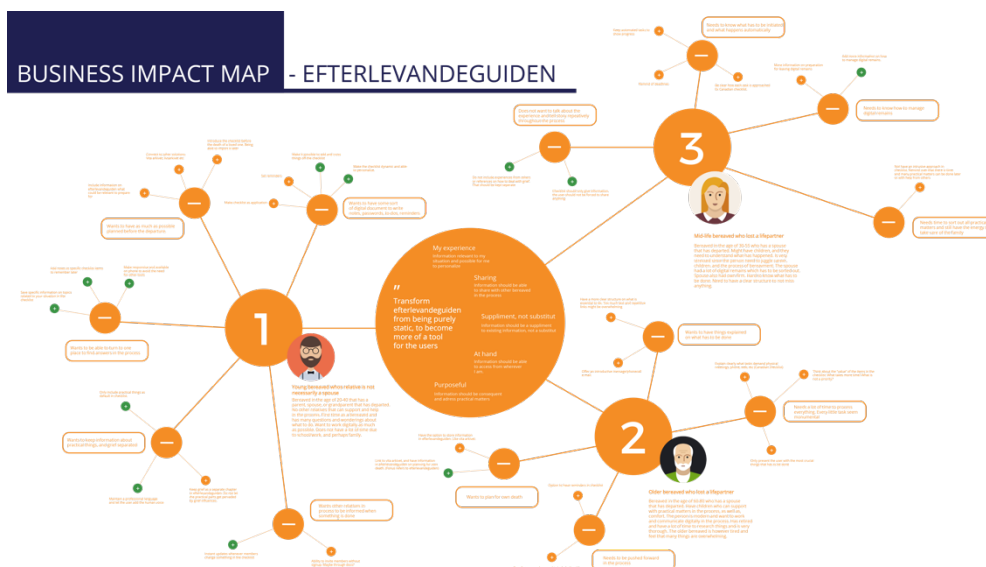


Figure 5. Business Impact Map for EG

### 4.3.1 Concept

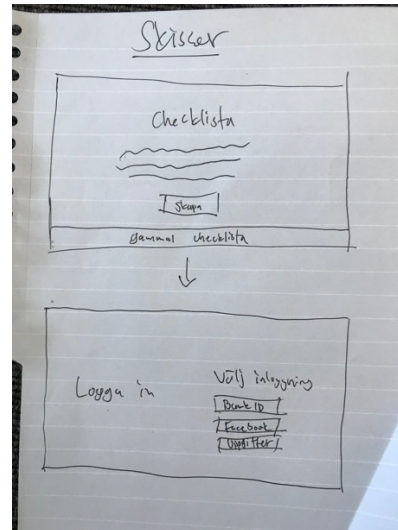
By defining the design space (see mental model 3.2.) and by mapping out the main personas (whom to design for), the main needs (what to design), and the main features (how to design) (see business impact map 3.2.), an initial concept was sketched out. The proposed design solution is a re-design of the checklist that currently exists in EG. The checklist will possess features that meet the discovered user needs, which include digital personalization of the list. Thus, the checklist will be transformed from a static element to a tool.

Below is a screenshot of the current static checklist in EG (fig. 6), which is not possible to edit unless it is printed out.

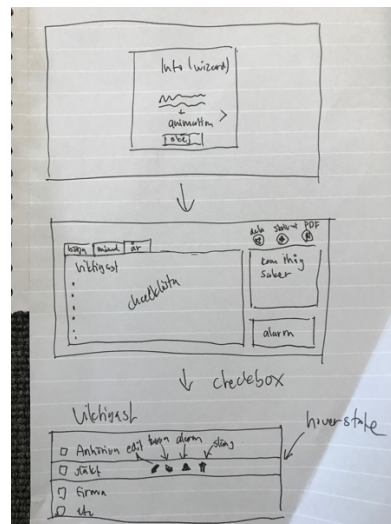


Figure 6. Current Checklist in EG

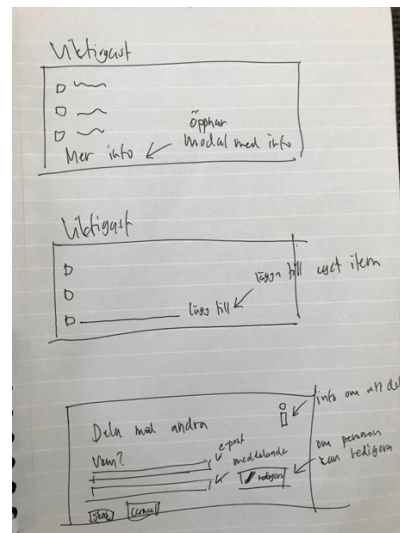
The sketches below (fig. 7-9) display different ways the current checklist of EG could be re-designed to solve the initial research question for this thesis. The sketches have been useful for visualizing how the findings from my research would look when presented in EG's checklist. These findings were the identified features that are necessary to transform EG from static to dynamic.



**Figure 7.** Option to create personal checklist and login function



**Figure 8.** Checklist interface ideas



**Figure 9.** Options for editing items in the checklist

The features included in the sketches are based on the defined design principles from the business impact map. The design principles are:

- **My experience** - Checklist should be relevant to each user's situation and personalize by the user.
- **Sharing** - Checklist should shareable with the other bereaved also involved in the process.
- **Supplement, not substitute** - Information should be a supplement to the existing checklist, not a substitute.
- **At hand** - Information should be accessible from anywhere.
- **Purposeful** - Information should be relevant to addressing practical matters, not grief.

The features include:

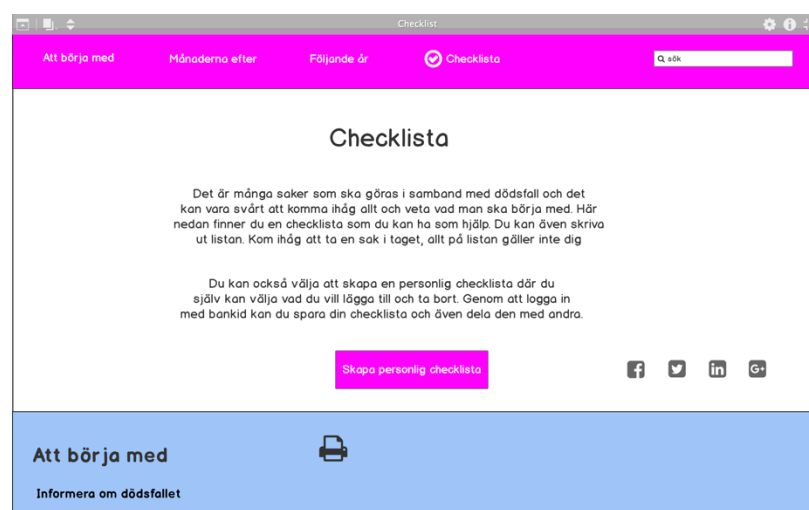
- Login function allowing users to create a personal checklist that can be edited and saved throughout the process of bereavement.
- Function for sharing the checklist between the bereaved going through the same process.
- Practical orientation, meaning no references to grief-related topics.

- Organizing the checklist into categories so as not to expose the bereaved to too much information all at once.
- Reminders and notes.

The sketches have laid the foundation for how the first prototype was designed.

## 4.4 Digital Lo-Fi Prototype

Based on the sketches in the previous section, a lo-fi prototype of the concept was created. The initial prototype was lo-fi in design, click-through, and made for a desktop. The reason for creating a desktop prototype was to mimic the existing checklist while implementing new features that would make it into a tool. The reason for building upon the existing checklist in the prototype was to be able to include the main structure and the information that already existed. The information and the structure were two things that already met the users' needs, as confirmed in the interviews with the bereaved, and in the previous research done by EG. In addition, my empirical investigation suggested that the older bereaved preferred to print out the checklist; therefore the new solution should be a supplement to the existing one, and not a substitute. The features that were mapped out in the business impact map were embedded in the prototype to explore whether they would be relevant and understood by the bereaved. The design of the prototype of the new checklist was also influenced by the previously analysed checklists for bereavement, explored in the related design examples section. What follows are screenshots (fig. 10-14) of a couple of the different steps in the initial prototype.



**Figure 10.** Option to create a personal checklist within the existing checklist



Figure 11. Interface of new checklist

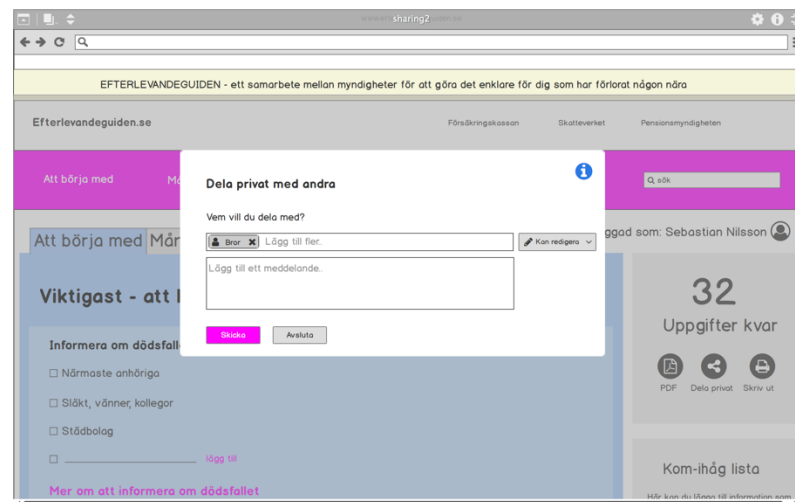
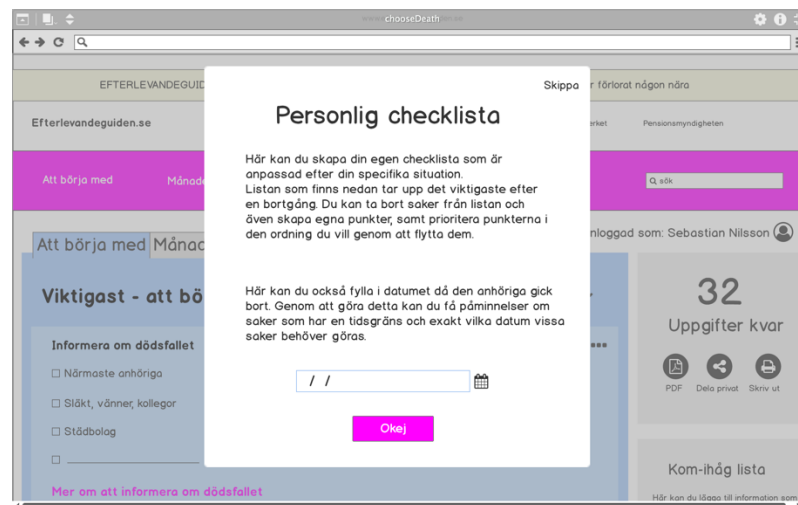


Figure 12. Options for sharing the new checklist



Figure 13. The editing options in the new checklist



**Figure 14.** Option to receive reminders for deadlines

## 4.5 Usability Tests with Lo-Fi Prototype

Two usability tests of the lo-fi prototype were conducted: one with a 26-year-old bereaved man who had lost his mother, and one with a 50-year-old bereaved man who had lost his father. Both tests took place at Malmö University and both were video-recorded with the consent of the subjects.

Prior to the usability test, a test-plan was created. The test-plan included goals, which were the main topics that should be explored and evaluated for the usability test to be fruitful, hence driving the design process forward. The main goals were:

- Find out if the subjects understand what the different features mean, how they work, and if they are relevant for the bereavement process.
- Find out if the information is well presented, or if it needs restructuring.
- Evaluation of the share feature. Does the subject find it, understand what it does, and find it meaningful for the bereavement process?
- Find out how the subjects prefer to login to the checklist.
- Find out how the subjects experience the separation between practical information and grief-related information. Is the new approach too insensitive?

To reach the goals, scenarios were used to guide the subjects through the different steps of the prototype. Each scenario was phrased as a task and explored one or more features in the new checklist. The two subjects were told to verbally explain how they performed the tasks, but also how they felt emotionally whilst performing the tasks. Van Gorp and Adams (2012) argue that all design is emotional design, and that any design will provoke feelings in the user. Furthermore, both Van Gorp and Adams (2012), as well as Ruston (2017) emphasize that the feelings one should provoke in the user should be positive and joyful. While we may agree that any design provokes emotions in the user, one might argue whether design in the context of bereavement should provoke happy and joyful feelings. Drawing from the interview findings in this project, one insight gained was that the users did not want the design to provoke emotions of any kind. Thus, the checklist has been designed in a very practical manner to separate it from any grief-related information. Hence, it was necessary for me to explore what the subjects felt when using the prototype, to establish if the practical design met the user needs that were initially identified.

Furthermore, the design of the checklist in the prototype mimicked the existing design of the checklist in EG, in order to explore how the test subjects felt about the current design. It felt necessary to evaluate to what degree the current design of EG met the users' needs. The choice to make the prototype of the checklist for desktop use was also something that was to be evaluated in the usability tests. According to interview results as well as analytics from the website EG, the preferred device for using EG was split between desktop and mobile phone. Mobile use of EG was slightly more common with the younger bereaved, which is the target group prioritized in this thesis. However, it felt appropriate to start with a desktop version in order to evaluate whether a mobile version would be more useful, and especially to determine what features would be beneficial with mobile use.

## 4.6 Results from the Usability Tests with Lo-Fi Prototype

The main findings from the two tests conducted at Malmö University will be listed and discussed further below.

### **The checklist should be practical in both language and design**

Both test subjects appreciated the practical approach with the new checklist. They had both used tools such as Excel and Google docs to structure the practical work in their respective bereavement processes, and found the prototype to meet their needs for a tool which did not relate to the grieving part of the bereavement process. This validated the non-emotional design approach for the practical part of the bereavement process. The subjects expressed a desire for the new checklist to be even more separated from the context of bereavement in its language and design.

### **BankID should be used for login**

BankID is an e-ID that people use when confirming their identity online. It is the biggest e-ID in Sweden, with twelve banks currently using it. It is also used by the government agencies who created EG.

To be able to make the checklist personal, a personal account is needed. Several options for logging in have been explored, such as Google, Facebook, creating an account with a password, and BankID. However, due to the seriousness of the context of design, and the fact that the website is owned by the government, both subjects said that BankID was the only solution they would use. One of the test subjects said, “As a Swedish citizen using a government website, I would never want to log on through American companies, I would shut down the browser if I had to.” One could argue whether there might be other login solutions appropriate for the EG checklist, but since the other government websites use BankID, it would seem strange to use anything else for this specific website.

### **Mobile first**

Although both test subjects explained that they might use both their desktop and their phone to access the checklist, there were some benefits to a mobile solution. One benefit was being able to instantly cross things off the checklist whilst away from one’s home. Being able to instantly find information on each checklist item would also be beneficial. A third mobile benefit expressed by both subjects was the sharing feature. Both test subjects had siblings who were also a part of the bereavement process, being able to share the checklist and receive instant updates on what each person has done was something they both wished they were able to do during their respective bereavement processes. Usually the updates were made through phone calls, something both subjects experienced as time-consuming.

### **Fewer features**

There were only four things that both test subjects really needed when it came to editing the checklist items. These four elements were:

- Being able to delete the items that were not relevant to their situation. However, in order to avoid missing steps in the process, all items should be presented from the start.
- Adding their own items.
- Editing existing items and adding sub-items or notes to existing items.
- Keeping crossed off items on the list in case the users need to revisit them.

Features such as tagging others in items, and setting alarms for items were confusing, but could perhaps be developed in a later stage. However, the older test subject explained that he would like some kind of chat functionality in the checklist to allow communication between the involved parties.

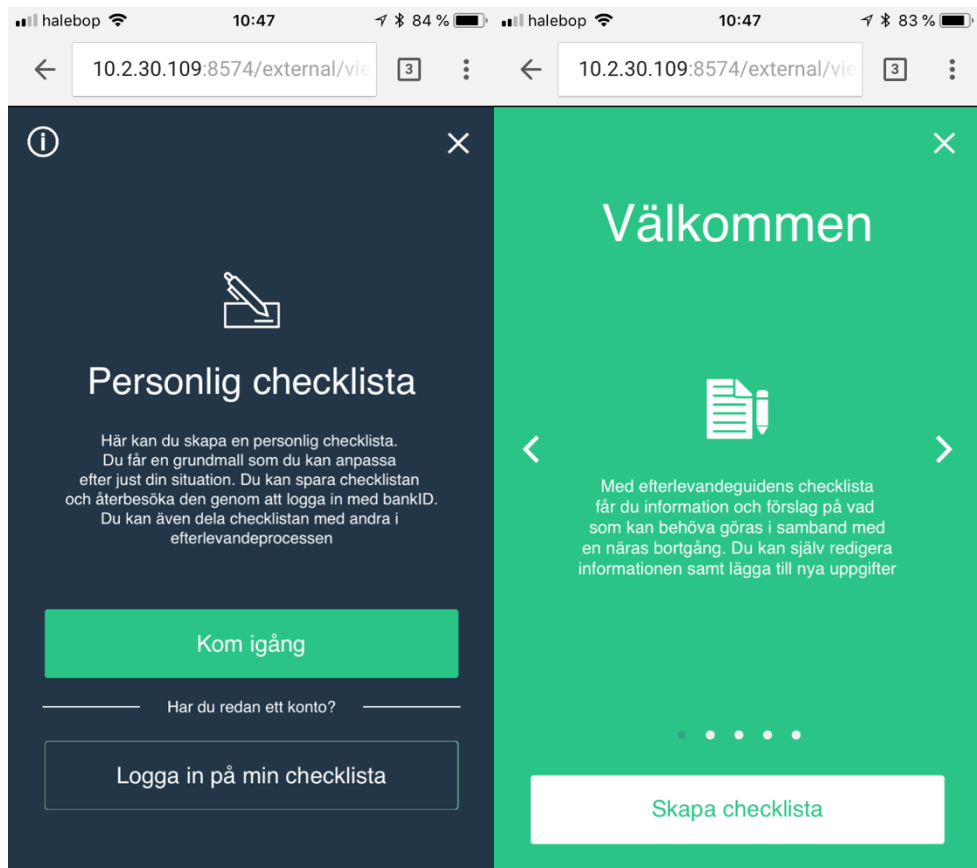
Other desired features mentioned by the test subjects included:

- Progress bar for tracking remaining items
- A separate page for finished items
- An on-boarding guide for the checklist
- Indicator of how time-consuming each item in the checklist is

## 4.7 Digital Hi-Fi Prototype

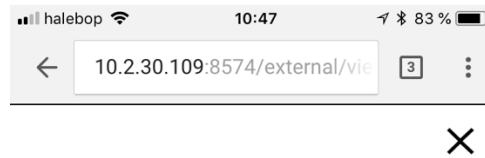
Based on the findings from the initial usability tests, a hi-fi prototype was created. The hi-fi prototype was made for a mobile screen, since the evidence from both analytics on website usage, together with the empirical usability tests, showed that the younger bereaved mainly used their phones to access EG. It was also a chance to re-make the checklist and remove any grief-related information, thus making it more practically oriented. Inspiration for the reworked checklist was taken from other checklist tools, such as Google docs, Trello, and Checkli ([checkli.com](http://checkli.com)). The modifications will now be discussed in more detail.

The figure below (fig. 15) illustrates an on-boarding wizard that is accessed from the start page. The wizard explains how the checklist works and outlines the most crucial features. If the user already has an account, the checklist can be accessed through another button. In the previous tests, the older test subjects evaluated the wizard as “not clear enough, I still do not know how things work,” which this modification aimed to address.



**Figure 15.** On-boarding wizard accessed from start page

When accessing the checklist, the login is through BankID (fig. 16), which was considered crucial by the test subjects in the initial usability tests.



  
 Logga in med mobilt BankID

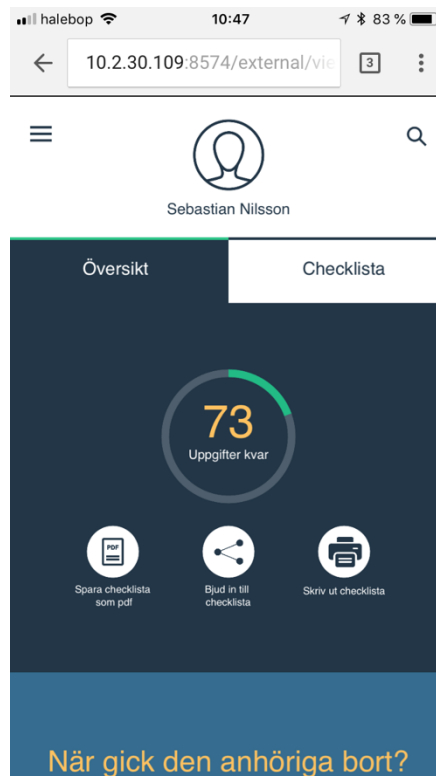
---

**Figure 16.** Login through BankID

When the user has logged on to the checklist, the first view is an overview of the practical bereavement process (fig. 17). The overview presents the user with a dashboard interface of the most important things that were mapped out in the initial usability tests. The most important things here included:

- Visualization of remaining tasks.
- Option to share checklist and view who it is currently shared with.
- Option to type in the day the deceased died, which would automatically generate mandatory deadlines for certain tasks. These tasks could also be connected to the calendar.
- A section for notes.

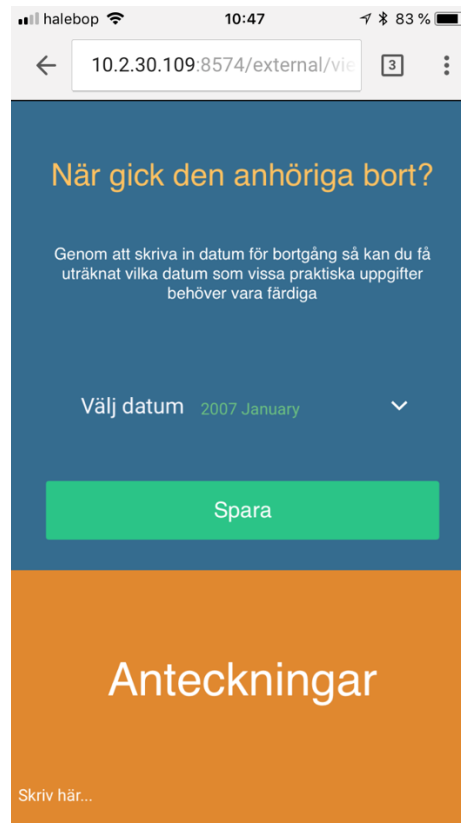
The subjects in the initial test mentioned that they would like to quickly know the status of the process. Since the checklist can be time-consuming to go through, an overview section could be a way to enable the user to avoid going through the different sections in the checklist every time s/he needs to check something.



**Figure 17.** Overview within new checklist

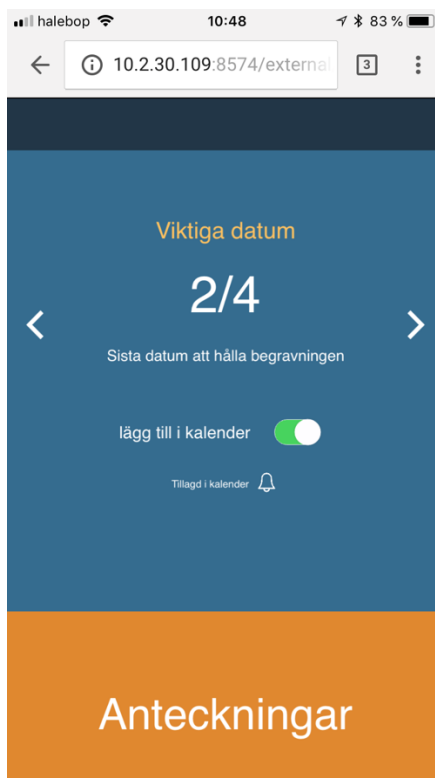
The figures below (fig. 18-19) illustrate the different sections in the overview. Figure 18 illustrates how the user can type in the date the deceased died. Figure 19 shows the next mandatory date that a specific task has to be done, which can also be added to the calendar. Only the mandatory tasks are shown in this overview section. The reason for adding mandatory dates was that both the interviews, as well as the previous usability test, showed that the bereaved shared a general fear of missing important tasks in the practical process. Figure 20 illustrates the sharing window, inspired by the sharing feature in Google docs. The reason for taking inspiration from Google docs is because users had used Google docs when sharing documents in the

bereavement process. Thus, a familiar sharing option lowers the threshold for learning how to start sharing.

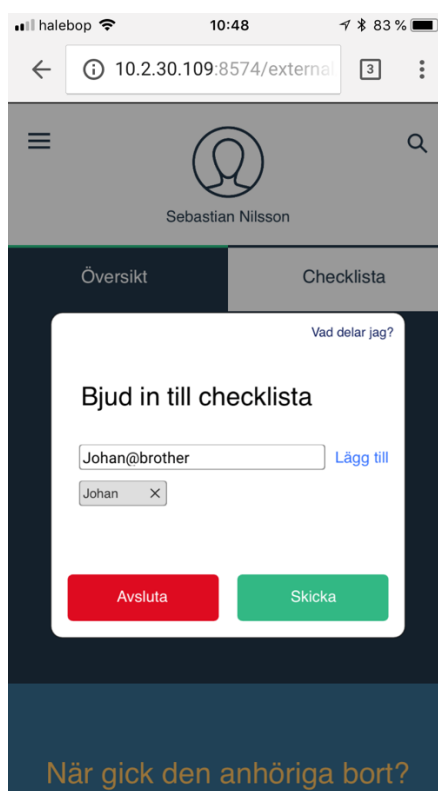


The screenshot shows a mobile application interface. At the top, the status bar displays 'halebop', signal strength, Wi-Fi, time '10:47', and battery level '83%'. Below the status bar is a browser-like address bar with a back arrow, the URL '10.2.30.109:8574/external/vie', a tab indicator with the number '3', and a menu icon. The main content area has a dark blue background. The title 'När gick den anhöriga bort?' is displayed in orange. Below the title, there is a paragraph of text: 'Genom att skriva in datum för bortgång så kan du få uträknat vilka datum som vissa praktiska uppgifter behöver vara färdiga'. Underneath this text is a date selection field labeled 'Välj datum' with the value '2007 January' and a dropdown arrow. A green button labeled 'Spara' is positioned below the date field. The bottom section of the screen has an orange background with the heading 'Anteckningar' in white. Below the heading is a text input field with the placeholder text 'Skriv här...'.

**Figure 18.** Option to add date of departure

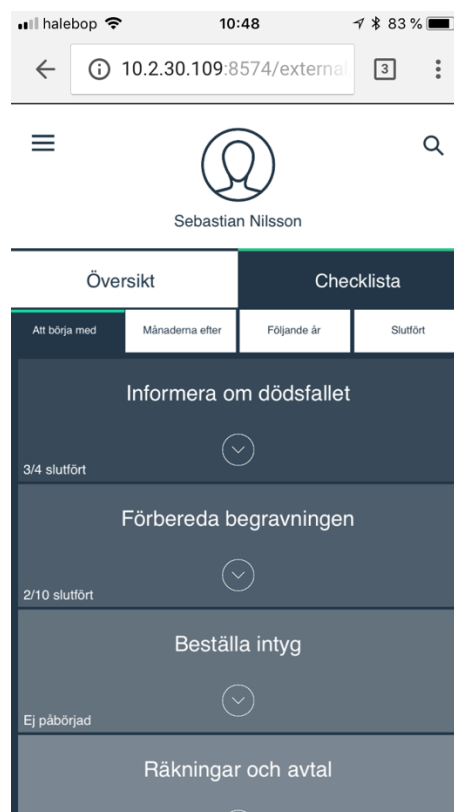


**Figure 19.** A mandatory task added to the calendar

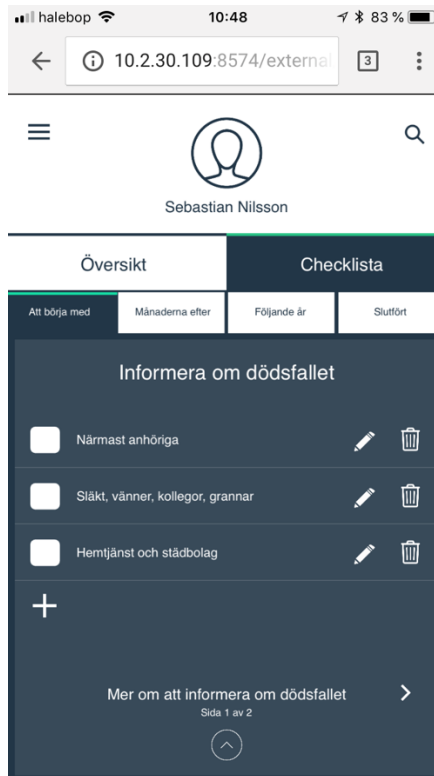


**Figure 20.** Options for sharing new checklist

The figures below (fig. 21-23) show the checklist, which is divided into four main categories. The first three are similar to the ones in the previous prototype, including initial bereavement tasks, tasks to be done in the coming months, and tasks to be done in the coming years. Dividing information into several categories proved successful and was appreciated by the test subjects in the initial usability tests because it decreased the amount of information on each page. The fourth category introduced includes tasks that have been finished. The decision to add finished tasks (fig. 23) was based on the wishes expressed by the test subjects in the previous usability test. Visualizing a timeline for finished tasks might also help decrease time-consuming phone calls among the bereaved.



**Figure 21.** Sub-categories in the first category of the checklist



**Figure 22.** An opened sub-category which displays editing options and the possibility to read about the sub-category



**Figure 23.** The timeline of finished tasks

To address the previously discovered need to prepare for death, a fifth category was also introduced. One of the main findings from the mental model was that many bereaved, regardless of age and relation to the deceased, regretted that they had not prepared better prior to the death. Poor planning prior to a death might cause a very complicated bereavement process, both practically and emotionally (cf. Garret, 2013). The fifth category, titled “prior to death” was placed as the first category in the list.

Furthermore, as seen in figure 21, each category was divided into several sub-categories to further reduce the risk for a cluttered interface. Dividing each category into sub-categories also minimizes the amount of information presented in each page. Figure 22 illustrates an opened sub-category where each item is presented. Features such as tagging and setting alarms have been eliminated since the test subjects in the previous usability tests found them confusing. Instead, the four elements presented in the section “fewer features” (see section 4.5) have been addressed. Another addition to the checklist is the possibility to read more about how to solve each task. Figure 22 shows that there is a second page that includes further information about the sub-category. The reason for adding another page is that the current checklist sends the user to a new page which was experienced as annoying by the test subjects in the previous usability test. Hence, presenting the additional information about each sub-category within the checklist might be a way to address the problem.

## 4.8 Usability Tests with Hi-Fi Prototype

The aim of the hi-fi prototype was not to explore new features, but rather to validate the design decisions that were made based on the findings from the lo-fi tests. The hi-fi prototype was created from scratch and not built upon the lo-fi prototype. Therefore, it might be more appropriate to talk about design changes rather than iterations when addressing the modifications between the first and the second prototype. The test plan that was used to evaluate the lo-fi prototype was also used in the usability tests of the hi-fi prototype, but modified in some ways. The main features remained the same as in the lo-fi prototype, but the prototypes differed substantially in representation and precision (see methods 3.8.1). It was therefore important to focus on the emotional aspects of the hi-fi prototype, as well as to evaluate more detailed interactions with the features. In addition, it was important to evaluate the “prior to death” category in the hi-fi prototype. Introducing the preparation element was a chance to evaluate whether both of the main findings from the mental model could be addressed in the proposed design solution.

Two usability tests of the hi-fi prototype were conducted. One was conducted with the 26-year-old man who had lost his mother, and one with the 50-year-old man who had lost his father. Both tests took place at Malmö University and were video-recorded with the consent of the subjects.

## 4.9 Results from Usability Tests with Hi-Fi Prototype

The main findings from the two tests will now be listed and further discussed.

### **The wizard**

The usability tests with the lo-fi prototype showed that the subjects needed more on-boarding to fully understand what the checklist was and how it worked. According to the two subjects, the wizard presented in the hi-fi prototype solved these on-boarding problems. To include the main features as well as information about their purpose in the wizard seemed necessary in order to emphasize the benefits of using the new checklist. Since the market for interactive checklists appears thin, the proposed design solution might be unfamiliar to many of the users. Hence, introducing users to interactive checklists in the context of bereavement has been of great importance.

### **The overview**

Separating the overview of the practical process from the actual checklist proved to be successful. Since the new checklist is supposed to be a tool that the bereaved use daily, the subjects found it appropriate to arrive at an overview of the process instead of having to scroll through the entire checklist every time they logged on. One of the test subjects found the overview emotionally helpful because most times he would just want to know what has been done and what is next. It would be less emotionally taxing to be presented with limited information, instead of having to scroll through all the painful tasks every time, repeatedly reminding him of the departed.

The implemented feature of having a “finished tasks” category was also very helpful for the test subjects. The older subject expressed how it would have been especially helpful for him since in his case there were four bereaved going through the same process. The subject argued that being able to quickly see what has been done, when it was done, and by whom, would decrease the confusion amongst the involved parties.

### **Practicality**

The hi-fi prototype was designed to be even more practically oriented than the lo-fi prototype. Rather than being similar to a funeral home page, it was designed to look like a checklist created in any digital tool. Both test subjects explained that they found the decision to completely separate the practical and the emotional process of bereavement appropriate. The younger subject explained that early in the practical process he realized that it would take

some time to figure everything out. Thus, he could not manage to mourn in peace until all practical matters were taken care of. This relates back to the discussion (see theory 2.2) of whether one should draw strict lines between the subjective and the practical parts of the bereavement process. The argument to keep them strictly separated is here strengthened.

### **Fear of missing tasks**

According to the interviews with several of the bereaved, one of the main issues with the practical bereavement process today is the fear of missing tasks. As Ryback (2017) explained (see theory 2.1), the bereaved can be in shock, which prevents them from being conscious of their feelings. Hence, driving the practical process forward might be hard to manage when one is feeling overwhelmed. To also worry about missing tasks could fuel the emotional distress even more. Even though the subjects explained that many of the checklist items did not apply to their situation, it felt comforting to know that they had gone through them. The current checklist in EG forces the users to scroll through all items in the list, which one subject found painful. While the proposed solution includes the same information as the old checklist, it spares the bereaved from having to painfully go through all the previous tasks.

### **The “prior to death” category**

Both test subjects appreciated both the “prior to death” category and the main idea of planning for the death in order to decrease confusion in later stages of the process. However, introducing the “prior to death” category amongst the categories that address “after death” information was not a good idea. Both test subjects explained that they would probably start with the checklist after the death of a loved one. If no preparations had been made prior to the death, the user would feel very stressed if potential preparations that had not been made were brought to the users’ attention via the checklist. One test subject mentioned that the website might include a chapter with information on preparations prior to death. However, presenting the information as items in the checklist might cause the users emotional disturbance if they had missed that stage completely.

# 5 Discussion

## 5.1 Value

Losing a loved one is to be forced to go through the practical process that comes with bereavement. To structure the process and plan ahead for what needs to be done, most of the bereaved, and especially those who are younger, create some kind of digital list or document. In this regard, a common problem is that most bereaved might not know what information to put in the digital list or document. They might also not know where to find accurate information. Another problem that came to light through the interviews with the bereaved is the fear of missing practical tasks during the process of bereavement. Such a fear is explained by the bereaved as amplified in the context of death. What might also fuel the fear is the emotional distress surrounding death, which is illuminated by both Massimi (2013), and Ryback (2017). The proposed design solution - i.e., the new checklist for EG, resolves the aforementioned problems by combining comprehensive information about the practical bereavement process with the ability to personalize and save that information. Hence, the fear of missing tasks in the practical process diminishes. The value for the bereaved might therefore be explained as emotional relief, as a result of practical relief. Even though the practical aspects have been separated from the emotional aspects throughout this thesis, one might suggest that both aspects have been attended to by taking a practical approach.

Another way that emotions make themselves present is through the use of the design. According to Adams and Van Gorp (2012), all design is emotional design, and many of the best websites and apps during the past years have been designed for emotion. However, while the aforementioned authors stress that design should provoke positive emotions, one might argue whether this applies in the context of bereavement. From both interviews and usability tests conducted for this thesis, one could determine that the bereaved prefer not to be emotionally affected, positively or negatively, by the design. This suggests that designing for emotion might not be appropriate in all design contexts. From an interaction design perspective, it seems relevant to question the authors' claim, since the focus should always be on the needs of the users, rather than on the design itself.

Checklists are commonly used tools, both in the physical world and in the digital world. In this thesis, new ways to use checklists have been explored. Introducing interactive checklists in the context of bereavement is a way to explore how common tools (such as checklists), can be used in creative ways, and in new domains. One could argue whether developing products that are adapted to fit the context they are designed for might not always be the best solution. Instead, one might look at other domains to find inspiration for new ways to invent.

## 5.2 Ethical Implications

Working with such a sensitive project as EG, so intimately related to people's experiences of death, brings up some ethical questions. First, for the usefulness of the conducted interviews and validity of the usability tests, it is important that the participants have quite recently experienced the death of a loved one, so that they have ready access to the memory of how they managed the practical process, as well as how they felt emotionally when going through mourning. Second, grief is subjective and each bereaved person reacts differently to death, therefore it has been hard to define the appropriate time to wait before asking the bereaved to participate. The participants in this thesis had been going through the bereavement process for at least a year at the time of their participation in the interviews and usability tests

Third, considering checklists that addressed the deceased in a very practical manner seemed disrespectful. After testing the new checklist on the bereaved in this thesis, it has become clear that the practicality of the checklist is appreciated since it brings structure to the process. The new checklist brings clarity to a sometimes fraught process, where emotions and practical implications might be too intertwined for the bereaved to address them individually. Since everyone can potentially become bereaved at some point, and thus a potential user of the new checklist, one cannot know whether some potential future users might be upset by the practical approach of the checklist. Additional qualitative research with the bereaved, as well as analytics from the website after its deployment, could be beneficial to confirm the design decisions that have been made. Furthermore, the substance and articulation of the information presented in the checklist have not been analysed or evaluated in this thesis. It will be EG's responsibility to make sure that the information within the checklist does not unduly strain the bereaved.

## 5.3 Future Direction

The hi-fi prototype included a category about preparations prior to death. However, usability testing showed that it was not appropriate to include that category within the checklist. The aim of this thesis has not been to produce new information for the bereaved, but rather to make the current information provided by EG more interactive. Still, the need for better preparations prior to their loved one's death was common among almost all the bereaved who were interviewed. One might therefore suggest that EG consider developing a chapter with information regarding preparations prior to death. Whether this chapter could be implemented in the new checklist in the future is to be tested and evaluated later on.

In the later usability tests and in some of the interviews, the idea of building an application for the checklist arose. Some of the bereaved explained that

there might be benefits of having the checklist as an application. For example, the application could integrate with other features and tools in a device such as the camera, the list of contacts, or the notebook. It is also possible to receive push-notifications for important dates, and an application is usually faster to log on to. Additionally, the separation between grief and practical matters will be even more evident if an application for the checklist is created. However, even though the target group is primarily the young bereaved, one could argue whether it is a good idea to force users to download an application. Since the number of tasks in the practical bereavement process decreases after a couple of months, the lifespan of the application might not be very long.

A future possibility that I personally find very enticing is the opportunity to connect a digital mailbox to the checklist. In the current bereavement process, all the documents are sent out to the bereaved in hardcopy. Several of the bereaved explained in the interviews that they kept a folder of important papers, which was hard to go through and to transfer to digital format. A vision for the future would be if the bereaved could choose to receive all documents digitally. Thus, the bereaved could import documents from the digital mailbox into the checklist to facilitate synchronization of work. Furthermore, one of the bereaved I interviewed emphasized the importance of being able to sign documents digitally. In the current bereavement process, if there are several heirs of the estate, the documents have to be sent around to all parties for signatures, which slows down the process.

## 5.4 Self-Critique

Overall, the design process presented in this thesis has been executed in accordance to the initial plan and has generally supported the needs for the context of bereavement. However, there are some aspects of the Stanford design process that could have been addressed differently. The ideation stage was not optimal in the context of bereavement due to the sensitive nature of the phenomenon of death. One has to consider peoples emotional state when brainstorming for new design within this context. As a designer to suggest new concepts and ideas might seem scary and cause the bereaved more emotional pain. It might be more appropriate to focus on exploring and developing existing solutions for the context of bereavement. Solutions that the bereaved are somehow familiar with.

The empathize stage, together with the test stage, were probably the most important stages of the design process for this thesis. To interact with bereaved, and to develop design for the context of bereavement, it has been crucial to understand how people emotionally and practically respond to the phenomenon of death. Since death is a sensitive topic, the interviews and usability tests had to be well prepared and follow appropriate methods. One would not want to cause the bereaved any emotional trauma when

conducting research. To conclude, when designing for sensitive contexts one might consider spending more time on the empathize stage, and less time on the ideate stage. For this thesis, the design space was discovered by becoming immersed within the domain of death rather than brainstorming concepts, which makes the proposed design solution very grounded in my empirical research, and not on hypotheses.

Another issue is regarding the hi-fi prototype. Since the users needed to be able to execute more elaborate interactions to provide relevant data, the prototype had to be designed to support these interactions. Building the features that were necessary for the prototype to test was rather time-consuming, which resulted in less time for usability testing. In hindsight, it might have been more appropriate to spend less time on fine-tuning the hi-fi prototype, and instead focus more on identifying possible test subjects.

Furthermore, writing this thesis for a company, which in turn answered to a client, sometimes complicated the design process. At times, the company advised me to do one thing, while the client had other wishes. At the same time, there are academic guidelines for how to conduct the project, which are sometimes forgotten by the stakeholders. As an example, the client was very concerned about the log-in options for the checklist and suggested that a meeting should be held regarding how to build the log-in function. How to technically implement certain features or functions within the checklist might not be a priority for this thesis but was still touched upon at times. As a thesis writer, one has to learn how to say no to the stakeholders, and how to compromise.

## 6 Conclusion

EG has grown to become a much-appreciated website for the bereaved, including information about how to process grief, as well as all practical matters in the bereavement process. However, with the increased digitalization of society, a new generation of bereaved with new needs have to be designed for. Consequently, the question I have aimed to answer in this thesis is the following:

*How can EG be transformed from being static (non-interactive) to become more of an interactive tool for users to utilize throughout the process of bereavement? This transformation would render it a tool that users could manage in a dynamic way by interacting with the website.*

Through investigating previously conducted research done by the team behind EG, together with my own empirical research, I have found that the younger bereaved prefer to work digitally throughout the process of bereavement. Since the information presented in EG is static (non-interactive), the website prevents the young bereaved from customizing the website in accordance with each individual bereavement situation. As a result, in the current bereavement process EG only plays the role of an information provider, not a tool.

Empirical research, with support from theory, suggests that the bereavement process could be split into two categories: emotional process, and practical process. While the two are currently intertwined in EG, empirical research shows that the two should be addressed separately. Since the death of a loved one necessitates mandatory practical tasks, most of the bereaved would prefer to finish these tasks before processing their grief. Even though grief is present throughout the bereavement process, my research has shown that mixing of the two processes – emotional and practical - might cause even more emotional turbulence for the bereaved. Since the emotional process might be too subjective to design for, and since the practical process is executed prior to the emotional one, this thesis addresses the practical process.

By mapping out the needs of the younger bereaved and comparing them with what EG currently offers, it was clear that the checklist provided in EG was a possible design opportunity. The checklist addressed some of the established user needs but lacked the interactive features that would make it a tool that the bereaved could use throughout the practical process. Deriving from the idea of a new checklist, a business impact map was drawn up to establish how the current checklist could be re-designed to meet the user needs; i.e., what functionality and features it should include. As a result, five design principles were defined:

- **My experience** - Checklist should be relevant to each user's situation and customizable for the user.
- **Sharing** - Checklist should be shareable with the other bereaved in the process.
- **Supplement, not substitute** - Information should be a supplement to the existing checklist, not a substitute for it.
- **At hand** - Information should be accessible from anywhere.
- **Purposeful** - Information should be relevant to addressing practical matters, not grief.

Based on these principles, a lo-fi prototype was created together with a test plan for conducting the usability tests. The results from the usability testing with the bereaved showed that there were several main advantages to the new checklist. The most important ones were:

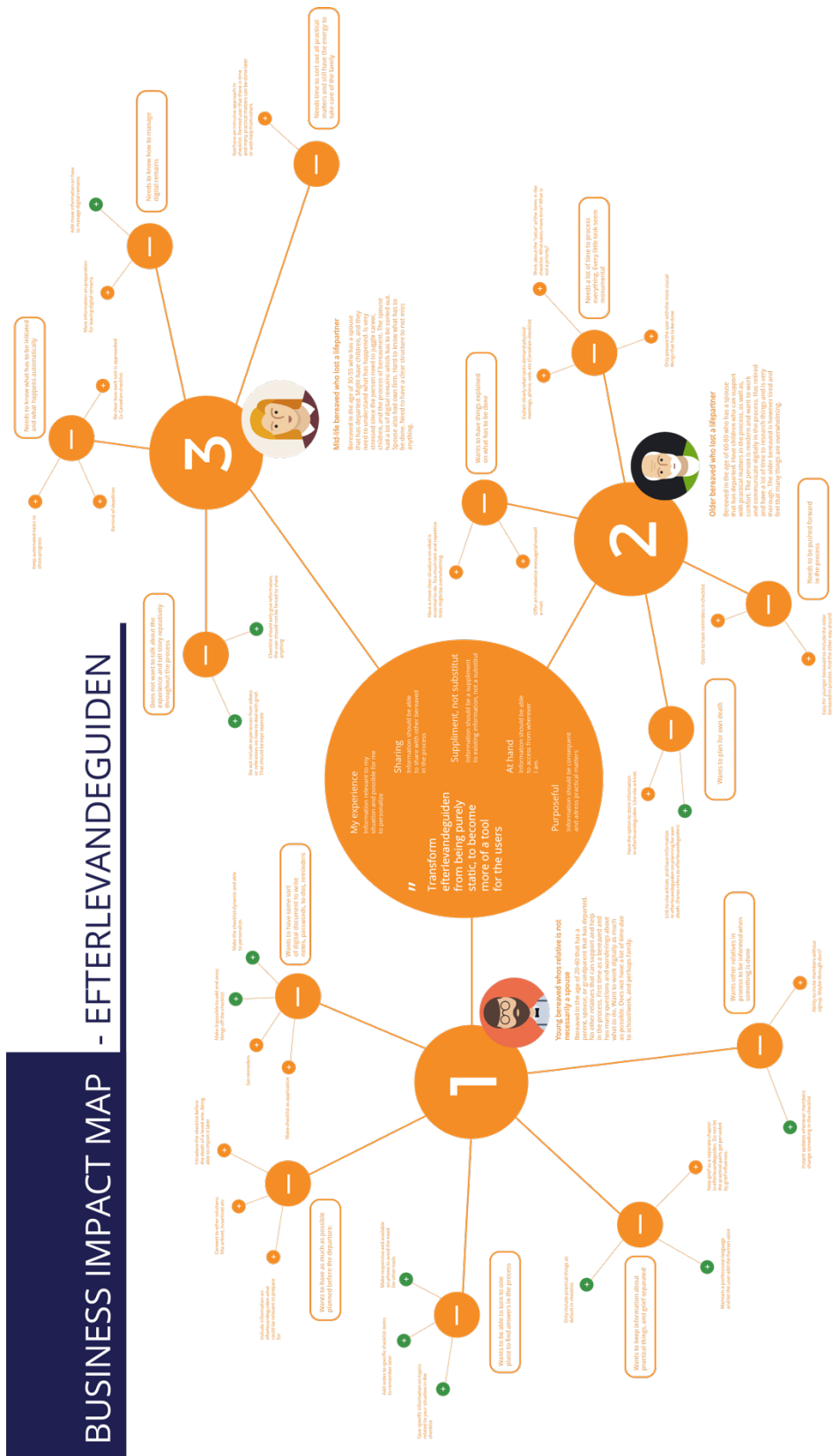
- **The possibility to personalize and save information in the checklist**
- **Sharing the checklist**
- **Not missing deadlines for practical tasks**

However, the tests showed that there was a greater need for separating the emotional and practical parts, as well as for making the solution mobile. These needs were addressed in the hi-fi prototype, which is more reminiscent of a common checklist tool than a bereavement website. The hi-fi prototype was also designed for mobile use, thus addressing the needs of the young bereaved.

The proposed design solution is a re-design of the checklist that currently exists in EG. The new checklist includes several interactive elements, such as personalizing information, saving information, setting alarms, and options for sharing the checklist. The checklist has a practical approach, separating it from any information related to processing grief, and it has been designed for mobile use, which addresses the needs of the target group. According to my empirical research with the bereaved, all the aforementioned elements have proven very useful in the bereavement process. The re-design of the current checklist transforms EG into a tool which answers the initial research question.



## 2. Business impact map



# References

Canvasflip. (2018). User testing vs Usability testing. Retrieved from <http://blog.canvasflip.com/index.php/2016/06/12/user-testing-vs-usability-testing/>

Cao, J. (2018). What is a prototype: A guide to functional UX. Retrieved from <https://www.uxpin.com/studio/blog/what-is-a-prototype-a-guide-to-functional-ux/>.

Carey, S. (2017) Dying in the digital age can be complicated. *The times UK*. Retrieved from <https://www.thetimes.co.uk/article/dying-in-the-digital-age-can-be-complicated-dldnm3wq0>.

Dennett, D. (2003). Who's on first? Heterophenomenology explained. *Journal of Consciousness Studies*, 10(9-10), 19-30.

Douglas, S. (2017) How to Do A UX Competitor Analysis: A Step By Step Guide. Retrieved from <https://usabilitygeek.com/how-to-do-ux-competitor-analysis/>

Experienceux. (2018). What is usability testing? Retrieved from <https://www.experienceux.co.uk/faqs/what-is-usability-testing/>.

Garret, M. (2013, April 30). Preparing for death [Blog post]. Retrieved from <http://https://www.psychologytoday.com/blog/iage/201304/preparing-death>.

Heidegger, M. (1988). *The basic problems of phenomenology* (Vol. 478). Indiana University Press.

Interaction Design Organization. (2018). Minimum Viable Product (MVP) and Design - Balancing Risk to Gain Reward. Retrieved from <https://www.interaction-design.org/literature/article/minimum-viable-product-mvp-and-design-balancing-risk-to-gain-reward>.

InUse. (2018). Effektstyrning och Effektkarta. Retrieved from <http://www.inuse.se/hur/effektstyrning-och-effektkarta/>.

Massimi, M. (2013, February). Exploring remembrance and social support behavior in an online bereavement support group. In Proceedings of the 2013 conference on Computer supported cooperative work (pp. 1169-1180). ACM.

Massimi, M., & Charise, A. (2009, April). Dying, death, and mortality: towards thanatosensitivity in HCI. In CHI'09 Extended Abstracts on Human Factors in Computing Systems (pp. 2459-2468). ACM.

Muratovski, G. (2015). *Research for designers: A guide to methods and practice*. London: Sage.

Nobel, J. (2018). A Funeralwise Blog for the Digital Age. Retrieved from <https://www.funeralwise.com/digital-dying/about/>.

Rando, T. A. (1991). *How to Go on Living When Someone You Love Dies*. New York: Bantam Books.

Ruston, D. (2017). Design for Emotion. Retrieved from <https://medium.com/google-design/design-for-emotion-7ba0cf40e05b>.

Ryback, R. (2017, February 27). The Ways We Grieve [Blog post]. Retrieved from <http://https://https://www.psychologytoday.com/blog/the-truisms-wellness/201702/the-ways-we-grieve>.

Van Gorp, T., & Adams, E. (2012). *Design for emotion*. Waltham MA: Elsevier.

Wright, N. (2014). Death and the Internet: The implications of the digital afterlife. *First Monday*, 19(6).

Young, I. (2008). Definitions. Retrieved from <http://indiyoung.com/definitions/>.

Young, I. (2008). Mental models: aligning design strategy with human behavior. Rosenfeld Media.