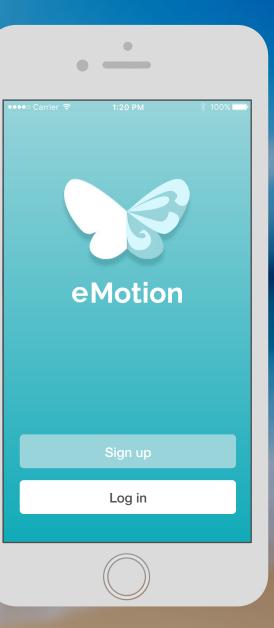
Recovery after emotional and psychological abuse mobile app

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Special thank you to my supervisor -Professor Søren Lauesen for incredible support also during difficult times.

View Interactive Prototype



Digital Media & Interaction Design IT University of Copenhagen | 2018

Table of contents

1. PREFACE AND ABSTRACT	3
2. INTRODUCTION	5
3. INSPIRATION AND IDEATION	6
3.2 TESTING THE CONCEPT	
4. DESIGN PHASE	9
4.1 APP COMPONENTS	
4.2 WIREFRAMES	
4.3 INTERACTIVE PROTOTYPE BUILD	
4.4 USER EXPERIENCE & USER INTERFACE	
4.5 HIGH-FIDELITY FUNCTIONAL PROTOTYPE	

5. METHOD AND FINDINGS	16
5.1 USABILITY TESTING AND RESULTS	
5.2 INTERVIEWS WITH MENTAL HEALTH EXPERTS	
5.3REPETITIVE DATA PATTERNS	
6. REFLECTIONS	23
7. CONCLUSION	25
8. REFERENCES	26
APPENDIX	27

Abstract

Preface

Initially I planned to work on the museum project for Glyptoteket in order to improve their digital presence. Unfortunately, in the initiation phase I discovered that there was no need for the project from the museum's side and therefore I couldn't proceed further with this project. The new topic I have chosen is not a scientific investigation but rather an analysis report for product development and intended for a production team. For this reason, the report is not written in an academic way. The idea for this thesis originated from my own experience of being a survivor.

Abstract

Many women who have been in psychological and emotional abusive romantic relationships do not get professional help due to various factors such as a sense of embarrassment dealing with the topic or high therapy costs. Self-help material has been long available for people who experienced domestic violence but there is no one single self-help solution that incorporates all the best recovery practices. My intention was to create a recovery app for women who have suffered an emotional abuse in romantic relationships. The app would support the victims in their recovery journey, have a step-by-step professional recovery program directed to healing from emotional abuse, recovery journal, mood log

and an internal community forum, that would allow the victims of abuse connect with each other. Here, I developed a functional prototype to investigate whether the app can be used as a self-help tool in a recovery process. I conducted usability tests with the survivors of emotional abuse to see if the app has a potential to become a product. Results showed that the users liked the idea of having a personal app on their phones, which both includes recovery modules but also has a section dedicated to self-work and self-reflection. Furthermore, users loved the self-development features of the app such as the diary, mood log, forum and meditation components of the app. They also emphasized the importance of connecting to other survivors of abuse and read their stories to reduce the feeling of isolation. Interviews with mental health professionals provided insights into what parts of the app can be improved and revealed their thoughts on the potential of a self-help app as a recovery tool. Mental health experts provided an array of suggestions to improve the app and adviced on the best recovery selfhelp practices. The results collected from both usability testing and interviews with medical experts suggest that a recovery after emotional abuse app is promising and has a potential to be a part of the recovery process for survivors of emotional and psychological abuse.

Future research should aim to conduct bigger usability studies and involve more mental health experts over a longer period of time to see what benefits the recovery app has and what aspects of the app are not working and for which population.

2. Introduction

Emotional and psychological abuse

Many women experience emotional and psychological abuse in intimate their relationships. According to Statistics Canada (1988), 35% of woman in romantic relationships experienced an emotional abuse which had great consequences for their mental and physical health. Emotional abuse, also called psychological, is characterized as "the use of verbal and non-verbal acts" which are directed to hurt the other person and impose a mental harm without the use of physical force where individual's inner being is being systematically destroyed (Straus, 1979, p. 77, Gondolf, 1987, Loring, 1994, p. 1 as cited in Mouradian).

Victims do not get help

There are various types of abuse that can emerge in a relationship, however most types of abuse impose emotional and psychological harm to the victims according to Tolman (1992). Emotional abuse by significant others can lead to depression, withdrawal, low selfesteem and self-worth, emotional instability, feeling alone and extreme dependence on the abuser according to the report Education



Figure 1: eMotion app screens displaying various UI screens of the mobile app

Wife Assault (1999). Therefore, it is important to treat the trauma caused by the emotional abuse. Unfortunately, not everyone can get a professional therapy help due to the factors such as having a sense of shame and embarrassment when dealing with this topic, not being able to afford paying high fees for the therapy or having a busy lifestyle (Domestic Violence Training Ltd., 2013). Also, as suggested by Rees (2009) some victims of emotional abuse do not seek help because they are unprotected by law unlike victims of crime.

Problem

I started the project by exploring the literature related to the recovery programmes after emotional and psychological abuse and selfhelp methods of recovery. The studies made on the effects of mobile apps in mental health field show that utilizing mobile technology is an effective treatment option for depression (Firth et.al. 2017). After looking into the selfhelp material, I discovered that there was no one single solution that approached this problem in all-in-one solution. There were books, audios, online forums and support groups, but there was no one place where a survivor of the abuse could turn to for recovery. This meant that many survivors who can't afford therapy or for other reasons did not get professional help, were left alone without an opportunity to heal from the effects of the abuse. I saw an opportunity to fill in the gap by designing a tool that can relief the emotional pain and potentially serve as a personal recovery assistant. Please refer to Figure 1 for a few screens of the app that represent the main components.

3. Inspiration and ideation

Aim

The aim of the project was to create a recovery app for women, who suffered from an emotional abuse in romantic relationships. The app should support the victims of the abuse in their recovery journey, have a step-by-step professional recovery program directed to healing from emotional abuse and an internal community forum, which would allow the victims of domestic emotional violence connect with each other. The app was based on a recovery approach that is developed by Evans M.T. and supported by psychologists and therapists.

Evaluation

To see how the survivors of emotional abuse and mental health experts would respond to the idea, I conducted usability testings and interviews with mental health professionals. Results showed that the eMotion app has a potential to help survivors of emotional abuse on their recovery journey. According to one of the mental health experts, eMotion creates "a good environment to believe in yourself". General secretary for Bryd Tavsheden was also positive towards the idea of developing such an app. Usability tests conducted with the survivors of domestic violence showed that the users felt a sense of connection with the app, expressing thoughts such as "this app treats me with care" and "I feel like am going a place where someone holds my hand".

Conclusion

Based on the collected evidence, this solution has a potential for making a product and become a part of the recovery process for survivors of emotional abuse. However, more studies have to be conducted over a longer period of time to be able to see how exactly is the app influences survivor's daily life and to which degree it assists the recovery process.

It is important to emphasize that project's focus was to see whether eMotion app can be helpful in a recovery process rather than be a replacement of a professional help.

3.1 Methodology

I started this project by exploring the literature related to the recovery and healing programmes from emotional abuse and selfhelp methods of recovery. Karakurt and Silver (2013) state that "the effects of emotional abuse are just as detrimental as the effects of physical abuse". I studied people who will be the core users of the app to understand their needs and behavior. I chose the target audience for the app to be women because majority of domestic violence cases concerns women. Catalano (2012) suggests that "From 1994 to 2010, about 4 in 5 victims of intimate partner violence were female." Also, a recovery program for men would have a different approach to both the contents of the app and the design itself. According to Karakurt and Silver "...younger women experienced higher rates of isolation, and women's overall experience of property damage was higher than that of men and increased with age." In this report I will refer to people who have experienced emotional abuse as victims or survivors. In relationship to the usability testings, I will refer to them as users.

I used a human-centered design approach at each stage of the design process. "Human-centered design offers problem solvers of any stripe a chance to design with communities, to deeply understand the people they're looking to serve, to dream up scores of ideas, and to create innovative new solutions rooted in people's actual needs" (IDEO, 2015, p. 9).

Human-centered design consist of the three main phases: Inspiration, Ideation, and Implementation (Figure 2).

Inspiration

This phase consist of learning the target audience, their needs and hopes.

Ideation

This phase consists of generating ideas based on the knowledge gathered in the inspiration phase and testing and refining the solution.

Implementation

This phase consist of bringing the solution to life.

Please note that in this project I am only using the first two stages of design thinking process.

Figure 2: Phases of human-centered design

3.2 Testing the concept **Interview with psychotherapist**

Before developing a low fidelity prototype, I conducted two interviews about the potential effects of the app on healing from psychological trauma caused by emotional abuse. In preparation for the interview, I used best practices of conducting effective interviews by Merriam & Tisdell (2016, pp.107-136). It is important to point out that all of the interviews in this project were audio recorded to analyse the data and identify trends and patterns. All of the participants except of Bryd Tavsheden's interviewees asked to remain anonymous. The first interview was conducted on a person-to-person encounter with a psychotherapist. This interview was an informal open-ended interview in a form of conversation. The aim was to see whether the app could be a potential solution for recovery and whether the self-help techniques utilized by mobile technology could be effective in recovery.

If my assumptions were incorrect, the concept would be iterated until proved worthy. According to the psychiatrist, "you can't claim that the app can solve the cause,

but you could claim the app can elevate the symptoms of distress." Among other things, he also mentioned that people after abusive relationships look for answers such as why does it hurt so much, why am I here again, why am I angry and I need a way to release the pain. This data helped me understand the perspective of a mental health expert on the needs of the survivors of emotional abuse and what potential hopes and desires they have after a psychologically abusive relationship.

Interview with Bryd Tavsheden

At an early stage of the project, I also conducted an interview with Isabella Wedendahl, who is a general secretary for Bryd Tavsheden. Bryd tavsheden is a nongovernmental organization for children and youth exposed to domestic violence. Isabella proved many of my assumptions about women suffering emotional abuse and the need of providing them help and support after the abusive relationship is over. She agreed that victims of domestic violence often either can't afford to go into the therapy or feel uncomfortable and afraid to visit a health professional. According to Isabella, in Denmark among a group of people, age 13-24, 78% experience either emotional or/and

physical abuse, while 75-80% in this group are women. She emphasized that, "many victims isolate themselves and it becomes increasingly difficult to talk to friends, because they (friends) don't understand what the victim is going through". At the time I was conducting the interview, I sketched the basic structure of the app (can be seen on Figure 3) to ask her opinion on the main elements of the app. What I discovered is that she thought the forum section can be very helpful. However, she warned that it is important to have rules in the forum and remove bad comments to protect the users.

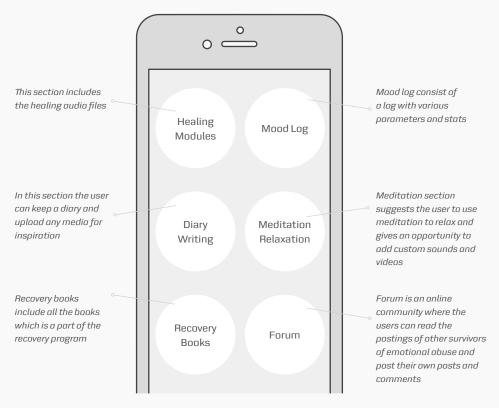


Figure 3: Main elements of the app

important findings I discovered Other analysing audio recording include when the following: she doesn't think the app can completely recover a victim of abuse, but rather could be a helpful tool to start a process towards the recovery, get some good strategies to move on and eventually, get professional help at a later stage.

She also suggested to include a list of contacts where the users can go to if they experience difficulties and can't move on with their lives. Isabella saw an opportunity for eMotion to be a helpful tool that can fill in the time gap in the period when the victims stop contacting Bryd Tavsheden (according to the rules they can't call to the organization more than 3 times) but at the same time not ready, can't or don't want to seek professional help.

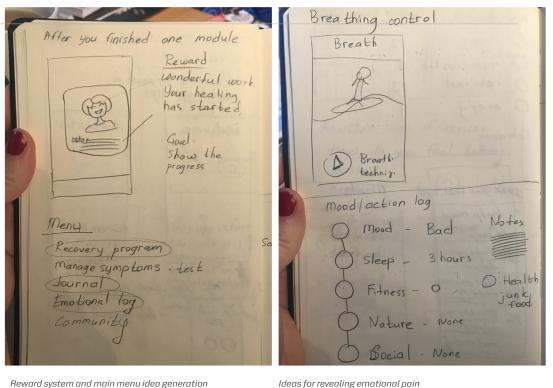
According to Isabella, this gap presents a problem because at this stage Bryd Tavsheden does not know what is happening to the victims. Whether they are back in the abusive relationships or if they need more help. Therefore, she saw an opportunity to use the app in this period. She finished the interview by saying "yes, we will use the app and advice it if it will be qualified."

Sketching

The data from the two interviews described above provided some insights on what the victims of emotional abuse currently do to improve their situation, and what their needs and concerns potentially are. Also, how serious the problem is and what kind of help such an app can potentially provide in the recovery process. Based on this data, I sketched some ideas to develop a concept for a mobile application as a suggestion for solving the problem. Figure 4 shows the initial sketching process of the ideas and potential functions of the app. Refer to Appendix 1 for more sketches.

Personas

In order to sketch the potential app design, I created personas. They helped me better understand the users and their needs. Each of the personas represented a woman who has been in an emotionally abusive relationship. Refer to Figure 5 to see the personas and what they are concerned with. The next step was to define requirements, define app components and sketch a low-fidelity prototype.



Reward system and main menu idea generation

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Tracking your emotional scene

Ideas for revealing emotional pain

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Assess, emotional log

sleep

How relaxed do you

How do you feel today?

Amazing

things you care about

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Initial sketching process of the ideas and potential functions of the app Figure 4:

4. Design phase

Jane, 25 y.o.

She wants to have contact with her family again, after she has isolated herself from her network because of her previous partner.

Louise, 37 y.o.

Louise have been in a 3-year relationship with an emotional abuser. She is struggling to move on and has a fear that she would never recover.

Cathy, 61 y.o.

Cathy has been in an abusive relationship for over 30 years. Today she is struggling with the fear of being left alone and wants to find herself.

Lin, 28 y.o.

Lin has been struggling with moving on with her life. She has a very low selfesteem and doesn't know anymore who she is. She has also isolated herself.

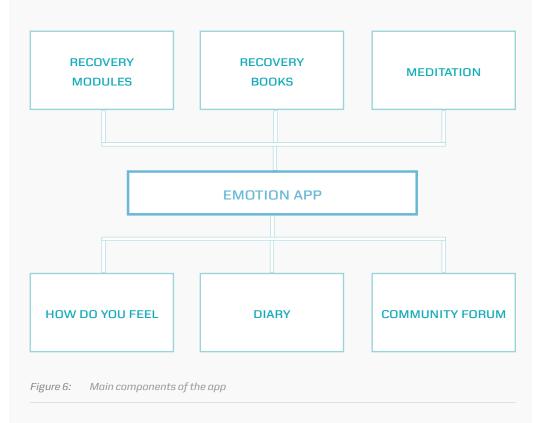
Figure 5: Personas that represent the users

4.1 App components

Before constructing the app layout, I sketched the main elements of the product. The content inventory consists of the following healing components: recovery modules, meditation and books. The other components that I have added to the app are: mood log, diary, and community forum. Refer to Figure 6 for the IA of the product. See Appendix 2 for the entire app structure.

Healing modules, books and meditation are the active healing components of the app. These are the sections where the users would be working on their recovery. The source of the contents is used from an abusive recovery program (Evans T.M.) and approved by the following health experts: Psychotherapist Schuldner K., Dr. Coetzee T. PhD, and Licensed Professional Counselor LeFlore F.

Recovery modules consist of audio files accompanied by worksheets to do healing exercises. The books have each different topic and can be red in any sequence depending on the current mental state of the survivor. The meditation component of the app should provide relaxation and have positive effects



when the user is in distress. A study done by Harvard researchers (Hölzel et.al., 2010) suggests, that meditation has a measurable effect on the brain regions and increases our wellbeing and quality of life.

It is important to note, that there are many recovery programs that could have been used for this app. I am not claiming that Evans' abusive recovery program is better than other programs. Potentially, one could develop a framework for an app that could be used by different health professionals each using their own recovery techniques. As I am not a mental health professional, in this project I am focusing on the design of the app and the practices that are proven to be beneficial in the recovery process.

Other components of the design have been selected based on the research and studies of the practices that are known to be beneficial in the recovery from emotional traumas. Mood Log was used as one of the central components of the app to help the users reflect on their daily thoughts and discover what makes them sad on some days and happy on others. According to Wadlinger and Isaacowitz (2006), purposeful act of keeping a track of thoughts and mood is proven to be helpful in discovering the positive motivation that one can refer back to in order to achieve a positive effect.

Another essential element of the app is a diary section, which is meant to give the user an opportunity to keep a daily writing practise to release the emotional distress. As suggested by Pennebaker (1997), writing of what one feels on a daily basis creates a structure and organization to the unpleasant and negative feelings, and helps overcome them.

Lastly, there is a forum component. Forum creates a space for the victims to open up, maybe for the first time, about the abuse and let others relate to it. According to Poole (2015), victims are increasingly using online groups and forums to seek emotional support. She suggested that such online communities "validate victims experiences and empowers them".

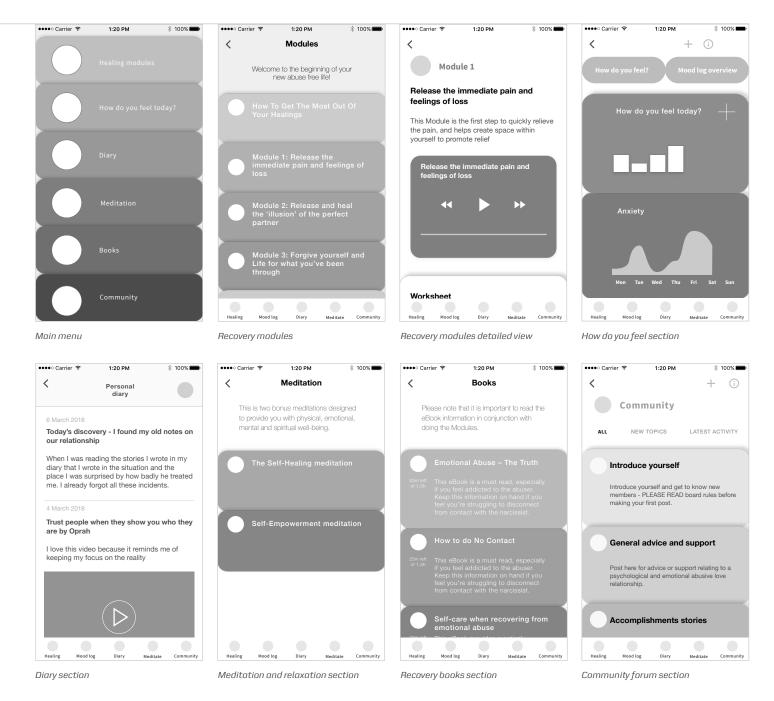


Figure 7: Wireframes

4.2 Wireframes

To visualize and demonstrate the layout of the app, I used a wireframing technique (Interaction Design Foundation, Caddick and Cable, 2011). Wireframing resulted in a clearer vision of the app structure and the connections between the various elements. Refer to Figure 7 on the previous page to see an overview of the main sections of the app. Thanks to wireframes I developed a visual hierarchy and product's IA, planned transitions between the screens and started thinking of the visual layout that would communicate with my target audience. With other words wireframing transformed the abstract concept into a visual representation. You can see all the wireframes in Appendix 3.

4.3 Interactive prototype build

In the next step I designed and developed a functional prototype using Adobe XD, Illustrator and Photoshop software. See Table 8 for a screenshot of the design process in Adobe XD. The aim of an interactive prototype was to let the users interact with the app in order to gather valuable feedback and discover potential problems or suggestions to

improve the product.

I used an agile development method taking Design Thinking approach as mentioned above, so I could iterate the prototype based on the feedback I collected from the users of the technology. Design thinking ensures that the application creates an intended user experience by fostering an iterative user-cantered approach during the entire design lifecycle (IDEO, 2015). Well-structured information architecture is essential for the users to adjust to the functionality of the app and use the application without effort (Spencer, 2010). Therefore, when designing mobile application, I had to keep focus on both the user interface and the information architecture. See Appendix 4 for an overview of all the screens in Adobe XD.

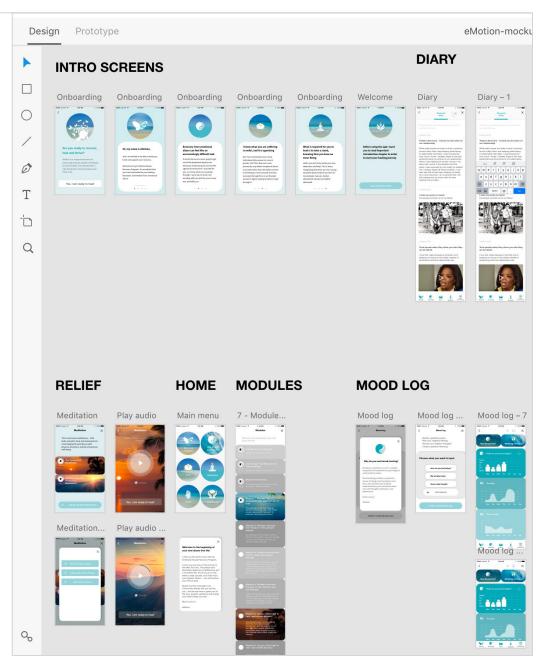


Figure 8: Designing an interactive prototype in Adobe XD

4.4 User experience and user interface

Atheory of human-computer interaction (HCI), user interface and user behavior was used to build a user interface that would resonate with the end-users and create a desirable outcome. A big part of this knowledge I acquired from my previous education as Multimedia Design and Communication professional where I studies web-design with specialisation in design for mobile devices. For example, the information architecture hierarchy was built in a way so that the user would use minimum amount of taps to reach each portion of the content. People under emotional distress have less mental capacity to process complicated information as it was mentioned in the interview with the psychiatrist. Therefore, defining clear path directions and making the information easy to understand and comprehend was a high priority.

Usability and accessibility

Usability is central in HCI but accessibility has to be in place before usability can perform (Benyon, 2010, pp. 79-88). Accessibility removes the barriers that would ensure people can use the app, while usability looks at the quality of the interaction such as how easy it is to access the desirable functionality, perform various tasks and the time needed to become a competent user. The categories were kept to minimum to keep as few levels as possible. I designed maximum of 3 levels down to complete an action. Figure 9 shows an example of the three levels down the hierarchy in community section of the app.

Displaying minimum amount of links on each page was a challenging task. I used the sub menus on some sections of the app to make the information easy digestible and give the user a sense of control. As I designed multiple navigation sets in some sections of the app, I had to prioritize the placement of the UI components and amount of information displayed about each item. I also kept the same pattern of design to support findability, discoverability and consistency in the app (Cardello, 2014).

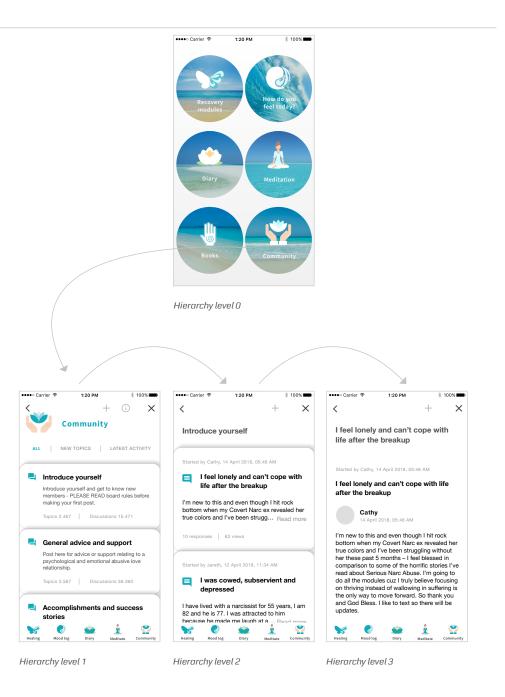


Figure 9: The three levels down the hierarchy

Navigation structure

The navigation structure in the app is tabbased and is a mixture of two IA patterns that include hierarchy and nested menu (Wroblewski, 2011). Hierarchy is used in the following sections: recovery modules, meditation and books, while a mixture of nested menu and tabbed view is used in mood log and community sections, where the user can't navigate between spokes but must return to the tabbed view first. See Figure 10 for navigation patterns. Various shades of the blue color were carefully selected to represent calmness, friendliness and give the survivors of abuse a sense of security. Blue is known to represent piece and spiritual meaning in many countries.

4.5 High-fidelity functional

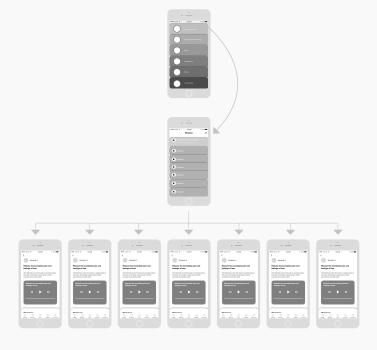
Finally after a round of iterations, I built a final high-fidelity prototype that was ready to be

tested in order to evaluate the solution. Please

see the Figure 11 on the next two pages for a

few screens of the final prototype.

prototype



An example of recovery modules hierarchy pattern

Figure 10: Mobile information architecture patterns

Click on the following link to access the functional prototype in your browser.

Link to functional prototype

See Appendix 5 for the entire mock up including all of the non-repetitive screens.



An example of Community section hierarchy patterns. Here is displayed a nested menu with the tabbed view at the bottom of the last three screens

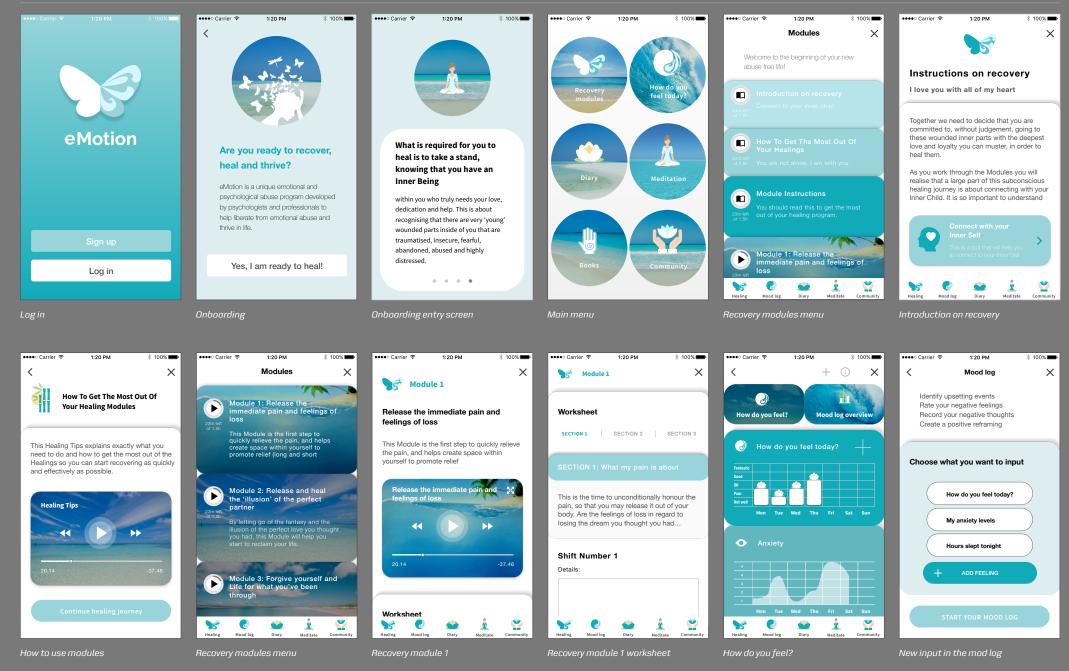
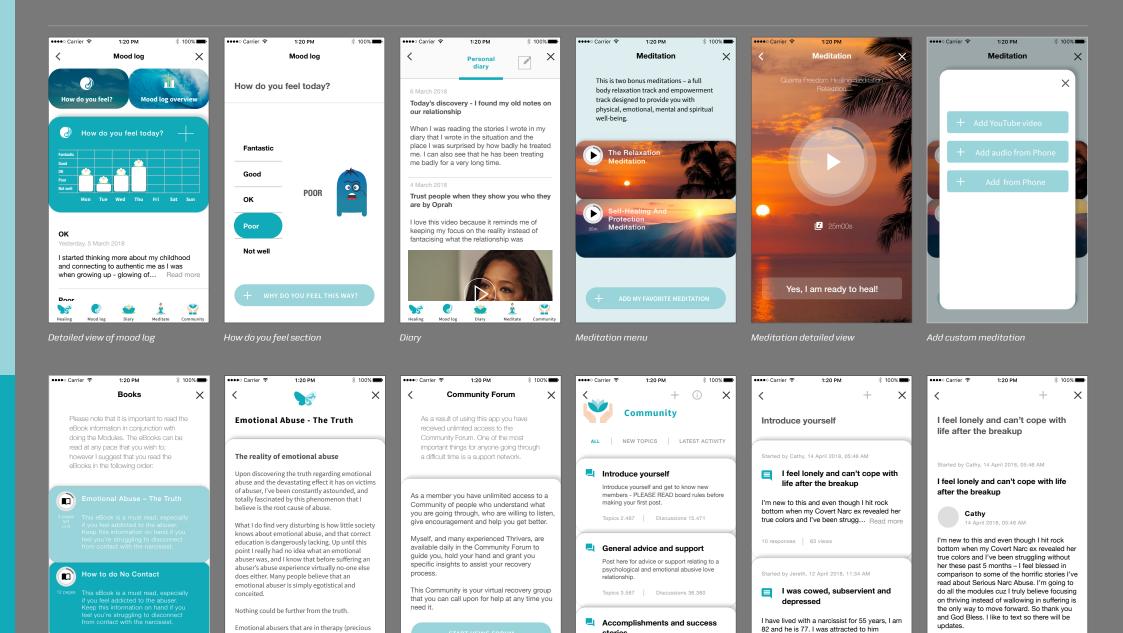


Figure 11a: Mock up of the eMotion app designed in Adobe XD.

Please note, due to the limited screen space I could not display the entire screens of the prototype. To see the entire screens please use the link to the interactive prototype of the app.



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Figure 11b: Mock up of the eMotion app designed in Adobe XD.

1 of 6

Book detailed view

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9

Books menu

5. Method and findings

5.1 Usability testing and results

Usability tests were conducted to evaluate the app and identify potential problems and usability issues. Testing participants were women, who at some point of their lives were in emotionally abusive relationships for a period of at least 3 years. A total of 3 usability tests were performed. The testings were conducted anonymously and only recorded for analysis purposes.

The first usability test was conducted with two participants at the same time being present in the same physical location. The planned time frame was set to 1 hour, however the first test lasted 3 hours. They both knew each other beforehand. This way of conducting usability test is unusual, and in my case I should define it as a new experiment. As it was not easy to find and recruit victims of emotional abuse I had to accept some unusual requirements.

I chose to conduct a field usability study that took place in real environment. The testings took place in a comfortable environment of my living room to mirror the usual atmosphere, where the users would typically use the app. The participants were sitting on the sofa each interacting with the functional prototype installed on their mobile phones. I was sitting behind them, so I could see where they were on their screens and to observe potential issues during interaction.

The usability test with the third user was conducted via Skype. The user interacted with the prototype via a browser on her computer. I asked her to share the screen with me so I could observe what she was doing and where she was pointing the mouse on her screen.

In the following paragraph I will describe the data that I collected during the tests. To see a table with all the collected data on the spotted problems and issues refer to Appendix 6.

Please note, that the repetitive data collected from both mental health professionals and survivors of the abuse will be described at the end of the findings section.

I have collected a large amount of data from the audio recordings. The data was prioritised when the issues were observed more than once by multiple participants of the testings.

Problems observed by users

The following are the repetitive problems and potential solutions extracted from the data.

- 1. The findings show, that the users were concerned with the amount of pages they had to read without being prepared to read so much. Some of the comments the users expressed were "show how many pages each book has so the reader doesn't get scared" and "how long time does each module take".
- 2. In the modules section, the users were confused where the modules start and why there are three menu items which represent the instructions of how to use the app instead of dividing them into purely modules and instructions. The solution that I suggested was to divide these two sections in two parts.
- **3.** The users commented that it would be nice to have a back button on all the screens. Currently, some screens do not have a back button due to its hierarchy structure. However, based on the feedback, I implemented the back buttons on all the screens so the users have a feel of consistency when interacting with the application and to make sure it doesn't prevent them using the app or doesn't create obstacles.

4. The users also wanted to be able to change the font size of the text when reading written material. The solution was to implement an icon that will let the users change text size.

5. Among other things, the users observed consistency in the way the "action button" and "go to the next step button" look. Because of the exact same visual look of the buttons, the users didn't realise that one button represented an action such as for example, upload an image from your phone while the next step button signified a link to the next page of the book. Therefore, it was necessary to redesign the buttons so they are interpreted according to the function they provide. Refer to Figure 12 to see the repetitive data collected during usability testings.

Suggestions given by users

The rest of the comments I received during the usability test were suggestions to improve the user experience and were based on participant's personal ideas of what could be done better. Many of the suggested changes were pointed out by all the participants of the usability testings and

expert interviews.

6. It was proposed to implement a little overview graph of each day in the diary section to give a better overview of what happened on a particular day. In this way the user won't have to go to the general graph but can see the recorded data for each specific day.

7. When the users were looking at the diary section, they wanted to "be able to go to a specific day in a diary". This could be easily achieved by designing two calendar views, one in a form of a calendar and another as a written sequential text.

8. In the module section, the users proposed implementing a link to all the session files. They wanted to be able to access the files at any time in a history view. Currently the user has to open each individual module to access the exercise files for that module.

9. Besides these suggestions, users also wanted to have "regular appointments like reminders to do the modules. For example, it has been two days since you logged in last time". They were concerned that they might get too busy and won't use the app enough times to benefit from it.

No	Log of repetitive comments and observations	Problem	Potential solution
1	In the books section, the navigation shows how many pages each book has so the reader doesn't get scared. In the modules section on main navigation, mark how many audio files there are and amount of books to read. Show how long time each module takes so the user knows how much time it will take to complete it	Users are worried if they will read the entire unit of text if they won't know beforehand how much time it will take to read it all. They are afraid that they will drop the reading if not prepared for reading bigger texts.	Create an icon next to each item that will show how many pages there is to read or how long the audio files are
2	In the modules section, differentiate between the intro- duction (three first container) and the modules	Users want to differentiate between the recovery mod- ules and the information on how to use the modules	Incorporate instructions into one link instead of three
3	The user comments that it would be nice to have a back button on intro screens. Other users wanted to see a back button on all the screens	Back buttons are not present on all the screens, which creates confusion and inconsistency	Implement back buttons on all the screens
4	Would be nice to make the size of the text bigger or smaller	Users struggle to read the text with bad sight	Implement an icon that will let the users make text bigger or smaller
5	Have differentiate look of the buttons where you take an action like upload a picture and where you just go to next step	The buttons of taking an action and going to the next step are having the same visual , which confuses the us- ers and miscommunicates the information	Design a different look for the ac- tion buttons and go to the next step buttons
No	Log of repetitive suggestions	Potential problem	Potential solution
6	See a little graph in a diary for each day and details about each day	Users can't see the recorded data about specific day in the diary section	Implement a little graph with a summary of the data recorded on a specific day
7	Would be nice to be able to go to a specific day in the diary	Diary doesn't support two views: days and calendar	Create two views: one in a form of calendar and the other as a written sequential text.
8	Would be nice to access the history of the session/heal- ing files that I worked on over time	Users can't access all the worksheets that they worked on previously	Make a link to worksheets so the user can access all of them at all times
9	Would be nice to have regular appointments like re- minders to do the modules. For example "It has been 2 days since you logged in last time".	Users might not use the app regularly and might not feel committed to the app on a daily basis	Implement a pop-up window when logging in or/and notifica- tions to do the modules
10	In the "How do you feel section", the user suggests to have stats on the day you choose when you feel bad	Users want to have an overview of what has been re- corded on a particular day to understand what can be improved or what was good	Have a statistic overview of a particular day in the day detailed view

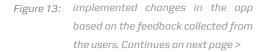
Figure 12: This table that represent patterns in observed problems, log of comments and potential solutions.

10. In the how do you feel section, the users suggested having visual statistics representation on the detailed view of a particular day.

Please refer to Figure 13 to see the implemented changes in the app based on the feedback collected from the users. Generally, many comments in the app were observed due to inconsistency of the app design.

Concerns from the users

The users expressed a few questions and concerns such as why would they choose this app compared to others. They said that since they have to spend a lot of time using the app, they would want to see the app to be as personal as possible so that "you feel as you are talking to a person".



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Problem 10: The users don't have an overview of what has been recorded on a particular day Solution: Have a statistic overview of a particular day in the day detailed view

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		ny you think
6 March 2018		
Today's disco our relationsl	overy - I found my hip	old notes on
	roke me today is tl that I was keeping	

Problem 7: Diary doesn't support multiple views: list of days and calendar

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. Ca	nnect to your Inner S	Self
people. Find	g suggestion has he a photo of yourself ung. Hold this pictu	when you
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people also, v	stions have helped ma who either had trouble otions, or were extren n.	e connecting
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Problem 5: The buttons of taking an action and going to the next step are having the same visual expression

AFTER

Today's discovery - I found my old notes on our relationship

What really stroke me today is that I randomly found a diary that I was keeping while being

Solution: Implement a little graph with a summary of the data recorded on a specific day

Solution: Create two views: one in a form of calendar and the other as a written sequential text

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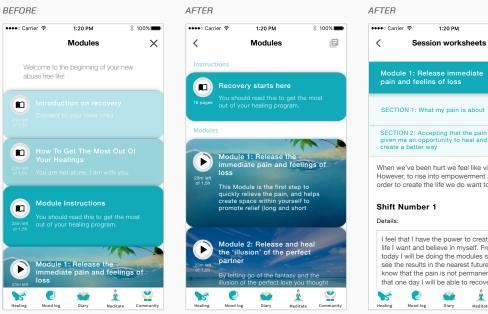
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pe	ne following suggestion has helped many eople. Find a photo of yourself when you ere very young. Hold this picture, connect a
	Upload digital picture When you upload the picture it will be stored in your journal that you can alwasya access
of pi th	can be very beneficial to sleep with this picturn yourself next to your chest, or under your llow, and make some time daily to meditate wi is picture in order to connect to him or her with ve and acceptance.
pe w	nese suggestions have helped many other sople also, who either had trouble connecting th their emotions, or were extremely fearful of ping to them.

Solution: Design a different look for the two buttons to differentiate different actions



Problem 2: Difficult to see where the modules start and why there are three menu items that represent the app instructions

Solution: Divide these two sections in two clear parts: Instructions and Modules

Module 1: Release immediate pain and feelins of loss SECTION 1: What my pain is about SECTION 2: Accepting that the pain has given me an opportunity to heal and When we've been hurt we feel like victims. However, to rise into empowerment and in order to create the life we do want to live... I feel that I have the power to create the life I want and believe in myself. From today I will be doing the modules so I can see the results in the nearest future. I know that the pain is not permanent and that one day I will be able to recover after Ÿ Å

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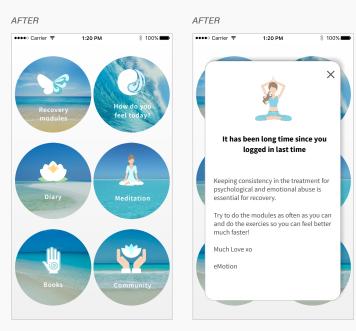
X

Problem 8: Users can't access all the worksheets in one place

Meditate

Community

Solution: Make a link to worksheets so the user can access all the worksheets at all times in one single place



Problem 9: Users might not use the app regularly and might not feel committed to the app on a daily basis

Solution: Implement a pop-up window when logging in at all times

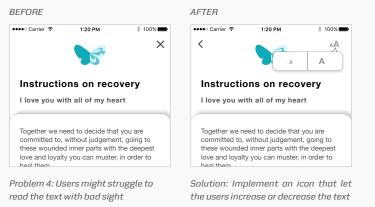


Figure 13: implemented changes in the app based on the feedback collected from the users

5.2 Interviews with mental health experts

I conducted a range of interviews with the holders of knowledge in the mental health area that I wanted to investigate. The interviewees were selected from different mental health areas. The total amount of 4 interviews were conducted. I started by interviewing key informant – a psychiatrist. Then, after I analysed the data, I selected other participants iteratively from other mental health areas. The other three participants had the following titles: psychologist, psychotherapist and social psychologist.

I reached the data saturation after the four interviews, where I took a decision to stop in regards of available time and to make sure that I have enough time to iterate the prototype. I could see in my data similar occurrences over and over again that made me confident that I could stop sampling. All of the interview participants were situated in different cities in Denmark. Therefore, all of the interviews were conducted via Skype, where I shared a link to the prototype so it could be viewed through a browser on their computer.

In this section I will describe the problems

discovered when analysing the recordings and potential solutions that could solve these problems. Refer to Appendix 7 to see the table of all the comments and identified problems.

Suggestions given by experts

Most experts thought it is a great idea to have a mood log, because as expressed by the social psychologist "when you feel emotionally down, the helicopter view is essential to be able to rise away from that mental state".

According to all the mental health professionals, community section can have a positive effect in a recovery process. Both users and experts saw the forum as being "important for the feedback where people share their experience of recovery."

1. A clinical psychologist suggested to change the information architecture of the main home menu. She proposed to move the meditation menu item to the top of the screen and place mood log down beneath it. "Maybe even divide physically therapeutic work and the personal part... to place mood log right and diary left." She pointed out that when a person is in crisis, she needs an intuitive and simple design to easily identify important parts of the app that she can benefit from.

2. A psychiatrist and clinical psychologist suggested to add an advice on how to better write a recovery diary. According to them a journal can help a person in distress to release painful thoughts and get rid of the negative emotions. They suggested adding an instruction that suggests the users to write their feelings and emotions without judgment or baling, and without analysis or self-judgment. "The point is to come to a place where you can release the negative thoughts" said the clinical psychologist.

3. Most of mental health experts suggested to show tips on how to use meditation. The psychiatrist recommended to have "main basis knowledge on what is relaxation and why you need it. It depends on the audience. It is important to have instructions on how to use meditation and whether the person is ready for it."

5.3 Repetitive data patterns

At this point in my analysis of data I could see that sampling more data will probably not lead to more information related to my research area within the time frame I have (Seale, 1999, p.87-105). Some problems, ideas and suggestions appeared multiple times in the interviews and usability tests by majority of participants. I considered these sets of data as most significant because they came out repeatedly. I summarized these patterns from all the respondent's quotes and comments in this paragraph.

Please refer to Figure 14 to see the most repetitive patterns collected both during the interviews with the mental health professionals and the usability testings with the victims of emotional abuse.

4. When interacting with the app, all the users and mental health professionals expressed a desire to search the app for specific information. I suggested implement ing a simple search function so the users can search the entire app for desired piece of information that they need in a moment. For example, they could feel lonely and search for "feeling alone". The result should display the relevant topics the user can go to.

5. The other issue that was observed in the data across the users and mental health professionals is that they were wondering if they could resume using the app same place where they hypothetically left off. This function seems to be essential to add to the app and can be easily implemented

by adding a resume button and continue working on the module where the user left off. Also, they expressed a need to see a visual progress bar to know where they are in the recovery process. The solution was to implement a visual signifier telling the user the module progression eventually in percentage.

6. Both users and mental health professionals were concerned with the long introduction text. They suggested to add a short intro text before the introduction section so that the users would prepare d to read a bigger amount of text. One of the mental health professionals proposed to "prepare the person to read a lot and be able to come back and read it again, so people don't get scared". Experts proposed to write "You have to invest your time to help yourself recover. You need to take time."

Refer to Figure 15 for implemented changes based on the collected repetitive data across the usability tests and interviews with metal health professionals.

Repetitive positive feedback

There was also collected a lot of positive feedback from the participants. Both

No	Log of repetitive comments and observations	Problem	Potential solution
1	Mental health professionals: I would suggest to change the medita- tion to top and place mood log down. Maybe even divide graphical- ly therapeutic work and the personal part. I would suggest to place mood log right and diary left. When the person is in crisis, they need a simple design that is easy to understand to clearly being able to iden- tify important parts in the app		Implement the suggestions proposed by the mental health expert. Implement a vi- sual design that will emphasize the recovery modules.
2	Mental health professionals: Add an advice on how to better write a diary. Diary helps a person in such situation to write until there is no more. Make an instruction on how to write a diary. Write the way you feel to release from emotions and bad thoughts. Write until it gets easier. Write without judgment or blaming, without analysing or self-judgment. The point is to come to a place where you can release the negative thoughts.		Implement an icon and a pop-up text where the user can get information how to keep a recovery journal
3	Mental health professionals: For meditation section, I would sug- gest maybe tips on how to use it and how it works. Main basis knowl- edge on what is relaxation and why you need it. It is important to have instructions on how to use it and whether the person is ready for it.		Implement guides on how and when to use meditation section
4	Mental health professionals: Have a search bar where the you can find what you need at a time. For example "feeling alone" search to find relevant topics. Users: Have a search to find what I am looking for	Users can't search the app	Implement the search function
5	Mental health professionals: It is easy to use the app but the pro- gram should be made so the user can continue where he left off. Be able to resume back to where the user left. Can I see what I passed? Users: I want to go back to the module I left last time. Have a resume button when opening the app. Have a progress bar to know where I am in the modules and what is complete	The user doesn't know where she left the mod- ule last time. Users don't know where they are in the recovery pro- cess and where they fin- ished last time	Implement a button to resume the recovery modules when the user enters the recovery section of the app. Implement a bar on the side – a tracker (for example, 20% done). Write "complete" when the user is done with the module and how many times the user re- peated this module
6	Mental health professionals: Before read introduction section, pre- pare the person to read a lot and be able to come back and read it again, so people don't get scared. Add something saying "You have to invest your time to help yourself recover. You need to take time" Users: After reading the long introduction text would be good to have a welcome message saying motivating the user to start	The user might get scared of the long intro- duction and the amount of the time has to be in- vested.	Prepare the user to use time in order to achieve the benefits. Implement a welcome message "Welcome – you are ready to start!" The solution to this issue is to have an intro text that prepares the user to work hard and invest into the re- covery

Figure 14: Repetitive patterns that were observed by most participants both in usability testings and mental health expert interviews

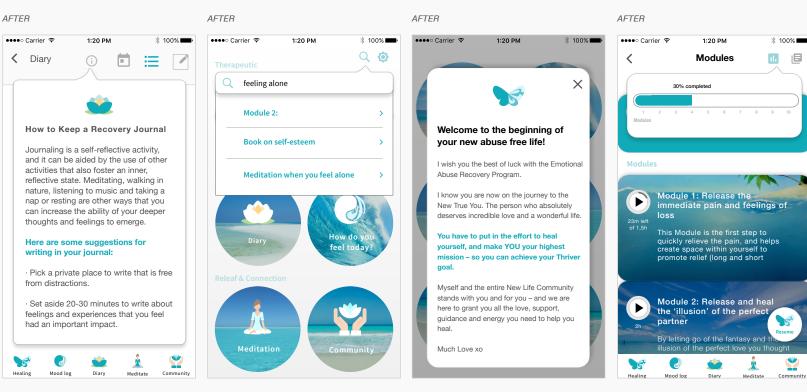
mental health professionals and users felt that the app had a good environment to believe in yourself. As expressed by the social psychologist, "you are not alone is a very important concept to understand."

Also, the users liked the colors and the happy feeling they help to create in the users mind. One of the user said "I feel like I am going a place where someone holds my hand".

Both users and experts thought the text is very well written. One of the users commented "it meant a lot to read I love you with all my heart and never abandon you again." The psychiatrist, when reading through the introduction text, said that the app creates good feelings and the writing style is highly positive. She pointed out that positive affirmations such as "I am standing by you" are important in the recovery process and make the patients believe in themselves.

All of the participants thought it was a good idea to have a mood log. Mental health professionals saw this section as important part of the recovery process, which always gives results if the user chooses to works on it consistently.

Diary has been clearly emphasized to be a



Suggestion 2 and 3: Add an advice on how to better write a diary

Suggested change: Implement an icon and a pop-up text where the user can get information how to write a diary. The same solution is implemented suggestion 3 for meditation section

> Changes implemented based on the collected Figure 15: repetitive data across the usability tests and metal health expert interviews.

function

Suggestion 4: Have a search icon to search information across the app Suggested change: Implement a search

Suggestion 6: Prepare the users to invest their time in the recovery Suggested change: Prepare users to use time in order to achieve the benefits

Suggested change: Implement a button to resume the recovery modules. Implement a bar – a tracker (for example, 20% done). Write "complete" when the user is done with

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Suggestion 5: The user can't resume back where she left off. There is no progress bar that let the user know where she is in the recovery

great tool to have in the recovery toolbox. The clinical psychologist indicated that "keeping something inspirational can be very helpful. You can read the writings when you feel bad and receive inspiration from yourself."

Also, she liked the idea of developing such an app, because she said "we are more isolated, spending more time in front of the screen. The app can give orientation, can be useful in a moment, when the person feels down."

Moreover, all the experts believed that, those who are seeking help, will benefit from the app. Lastly, it was expressed that using the forum and write the thoughts in a diary is easier than seeking professional help and is a good first step in a recovery process before the person could be ready for professional help. Please see the entire positive feedback table in Appendix 8.

Concerns from mental health professionals

Some of the concerns that have been expressed is that "the app is a very good idea and I believe it can help people, but to achieve results one needs to invest in it and it takes time. Self-help is possible but one should be investing in it." Another concern that was expressed "potentially it can work if one can hold a direction and not to go too deep or too surface"



Suggestion 1: Divide graphically therapeutic work and the personal part. Suggested change: Implemented a visual design that will emphasize the recovery modules

Reflection

It has been a very exciting but also a tough project. I had to work on many levels at the same time looking at the psychological side of the concept, the recovery practices, self-help, as well as mobile technologies in recovery practices. I had to make sure that the self-help app could become a real solution for women who have been in an emotionally abusive relationships. On the other side, I had to study what other tools could be used in the app that are not to be found in the traditional self-help materials such as books and videos. Also, not being a mental health specialist, I had to keep focus on separating myself from doing too much research into the mental health area and concentrating on the design process making sure I design an app that could potentially become a real product.

Challenging parts

I thought it won't take long time to develop a concept, but throughout the design phases of research, concept development, the first two interviews with the psychiatrist and Bryd Tavsheden, I leaned that there is a lot of complexity in the field of self-recovery especially trying to create a product that no one developed before. Currently, there are a few apps withing mental health area but all of them are within very specific areas and have specific target audiences. At some point of time I had to take a decision on what sections I should include in the app and what I should leave out. Of course, at a later stage when I developed the prototype I had a chance to get feedback on this.

When conducting usability testing, it was important to remember that mobile devices differ from desktop computers. I had to take these differences into consideration when evaluating results. For example, the size of the mobile device is small and therefore, observing mobile device can be difficult. I had to rely for a big part on the thinking aloud method that I asked the participants to use when interacting with the prototype.

Both users and mental health professionals were concerned with the big amount of text and expressed a need to prepare the users to it. I think it was a challenging part, because the recovery does take time and this app can't be a quick fix. Recovery takes investment and daily hard work on yourself as many mental health professionals pointed out. The challenge here is that majority of users expected the app to do things quick and to fix their problems quick. Also, it could be because of a popular internet culture where many sites claim to be able to recover a patient if he does these 12 steps or answer these 12 questions. The reality is quite different . Recovery takes time and investment which I leaned. Therefore, the app either should clearly communicate this or the users have to be themselves aware that they need to invest their time in it.

Things done differently

I must also point out that the usability testings for eMotion prototype were different to a traditional usability testings where the user should complete a task going from point A to B. The success criteria for usability testing was the positive feedback I received during the tests and the suggestions of how to improve the app.

Also, it is important to mention that the first two tests differ from a traditional way of doing usability test. Although, I think it brought another level of interaction as the participants both knew each other and were more open to discuss the app. Two interesting things happened when conducting usability

tests with them. First, they had so much interest in the app that they were completely and entirely consumed it. We ended up spending 3 hours instead of one on the test and the participants were happy to continue until I eventually interrupted the test as it was getting late. The second things is that test subjects used me occasionally as a therapist. For example, when they red something they could relate to, they gave examples from their personal life stories to explain why that piece of information mattered to them. Concluding this, from a testing point of view I can't differentiate whether the app worked due to my presence as a listener or was it purely due to the effects interacting with the app. My guess however is that the tool had a good effect. Also, both participants cried when reading some parts of the app and were touched by the caring attitude and environment created in the app.

What did not go according to the plan

Initially I had more tests planned, but some of the participants canceled out and couldn't participate. Being in a relationship with a psychological and mental abuser is painful and for some people could be embarrassing opening up about it. Being able to test the application on three people was already an achievement for me in the short time I had to both develop the functional prototype and perform the usability tests and expert interviews.

Some of the functionalities that were included in my initial concept couldn't be implemented into the prototype due to the limitation of Adobe XD capabilities. For example, the users were wondering why they couldn't swipe between the screens. While the functionality was there according to my concept, I couldn't demonstrate it in the prototype and I couldn't have mentioned every little detail of the functionalities that can't be shown in the prototype because it would take away the focus.

Things that surprised me

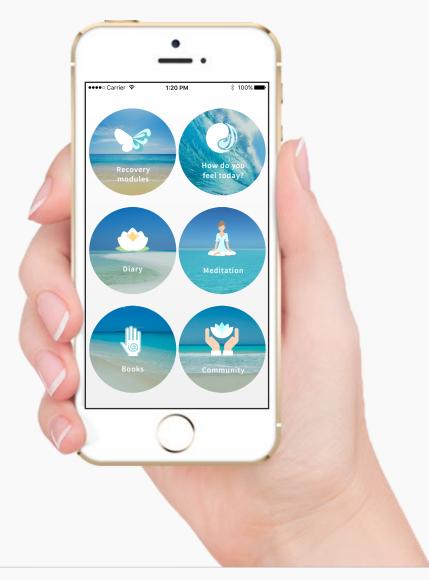
When analysing the data collected from the users and health professionals, I was surprised by the huge amount of feedback I received. Some issues and usability problems were observed in almost all of the participants and it was clear that this issues have to be solved and the app has to be iterated. While other issues were only observed by a few participants, I felt that they had a very good point and I was struggling with as a designer to make a decision what would be right to implement even in cases where the data was not repeated multiple times. Also, I believe the duration of the usability test, participant's mental state, their location (whether they were sitting with me using the app on a phone or in front of their computer and using the app in a browser while talking to me over Skype), might have influenced their experience of interacting with eMotion.

What surprised me is that some experts thought that the app can be used as a universal app also for people who just want to work on themselves. I was also surprised how touched the users were when interacting with an app which made me realise that such an app would most certainly benefit the survivors of emotional abuse because none of them received professional help after the abuse happened. Also, they could afford it but were uncomfortable going to a psychologist. Also, some users don't think psychologist can help. They really liked the idea the diary, mood log and forum. These are probably the things that they saw as most helpful tools that they were willing to use time on everyday basis.

Conclusion

Concluding this project, a recovery after emotional abuse app is promising and has a potential to be a part of the recovery process for survivors of emotional and psychological abuse. The findings, revealed in this project, support the studies on selfhelp techniques and its positive effects. Therefore, I can conclude that this solution has a potential for making a product paving the way for accessible involvement for the millions of people around the world suffered consequences of emotional abuse.

However, more studies have to be conducted over a longer period of time to be able to see how exactly is the app influencing survivors daily life in their recovery process and to which degree it assist the recovery process.



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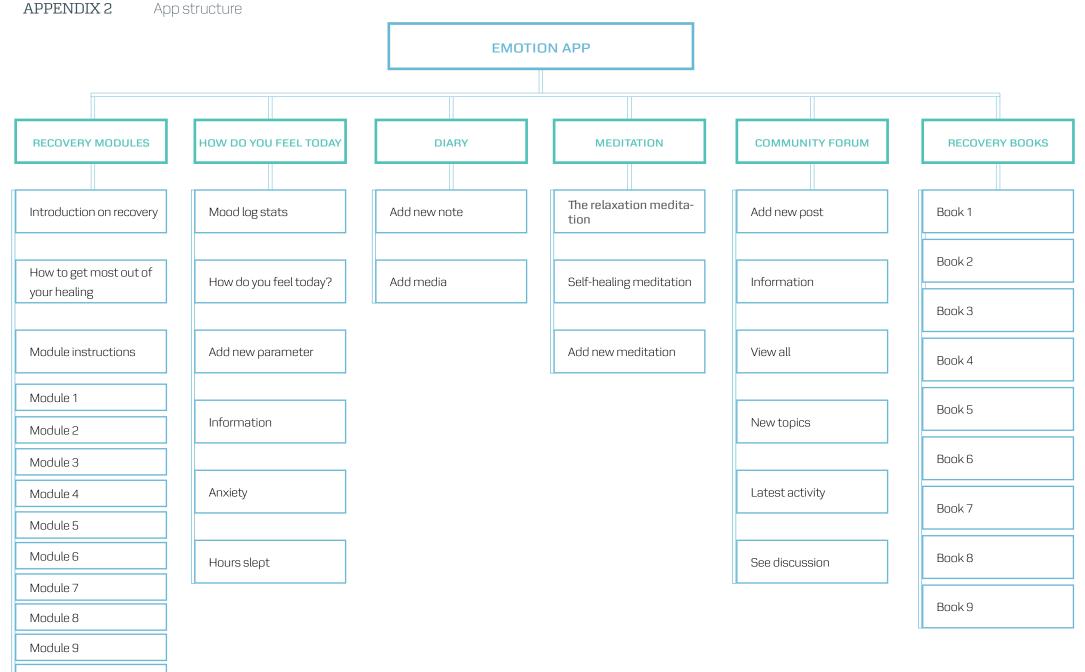
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Your overall rating Activity log Average Ano ther way of assessing How do you feel to day excited happy relaxed indifferent exhausted stressed sad depressed angr

March Happy enthusiastic relaxed 12 5 13 angry Febraary Moods Fohen you feel bad < Help now It's or, you are safe here. How do you Feel Take a min to calm down Get ground. I Game to 9000 help you h Breathing to help you calm down V de Start module rad Continue

Reflecting on your inputs of emotional log

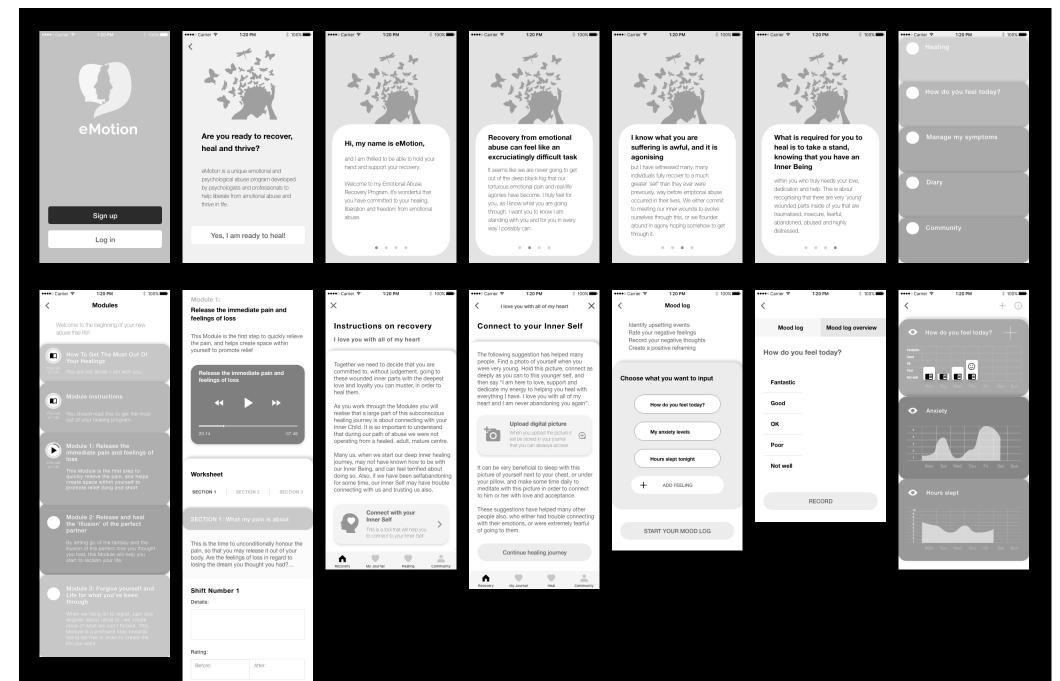
Assessing emotions



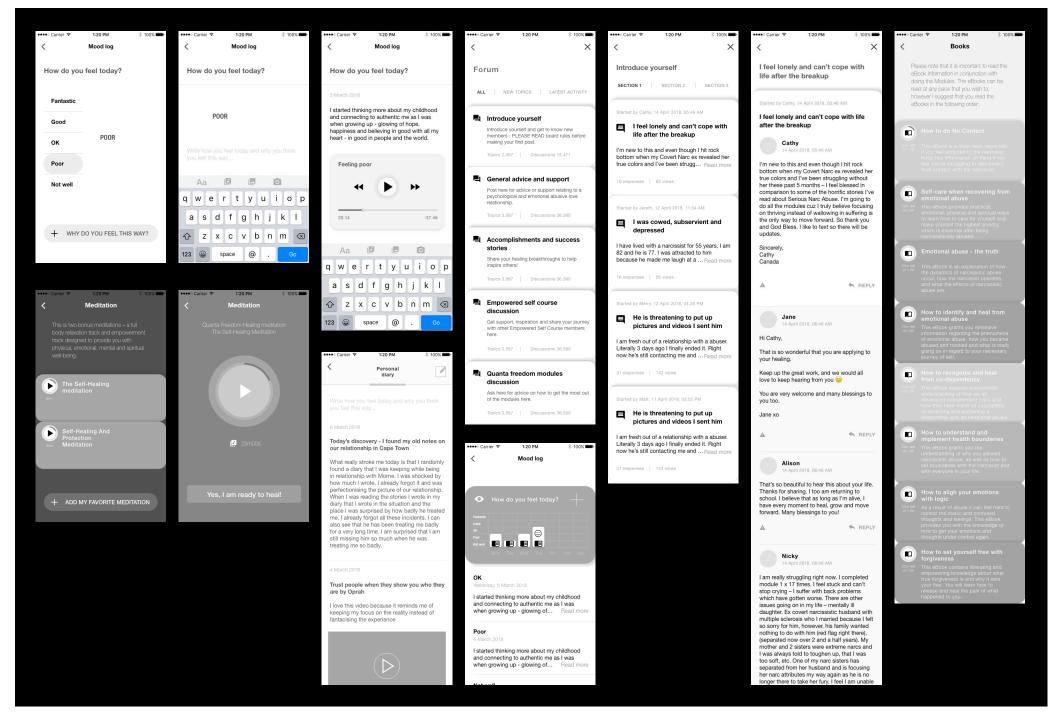
Module 10

Module 11

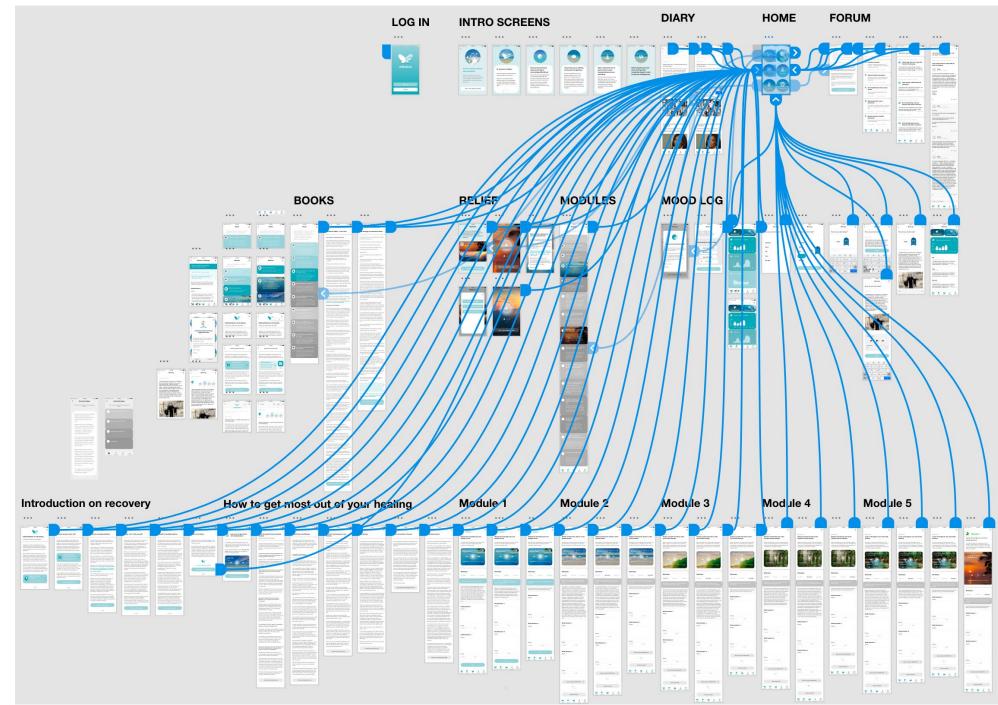
APPENDIX 3 Wireframes

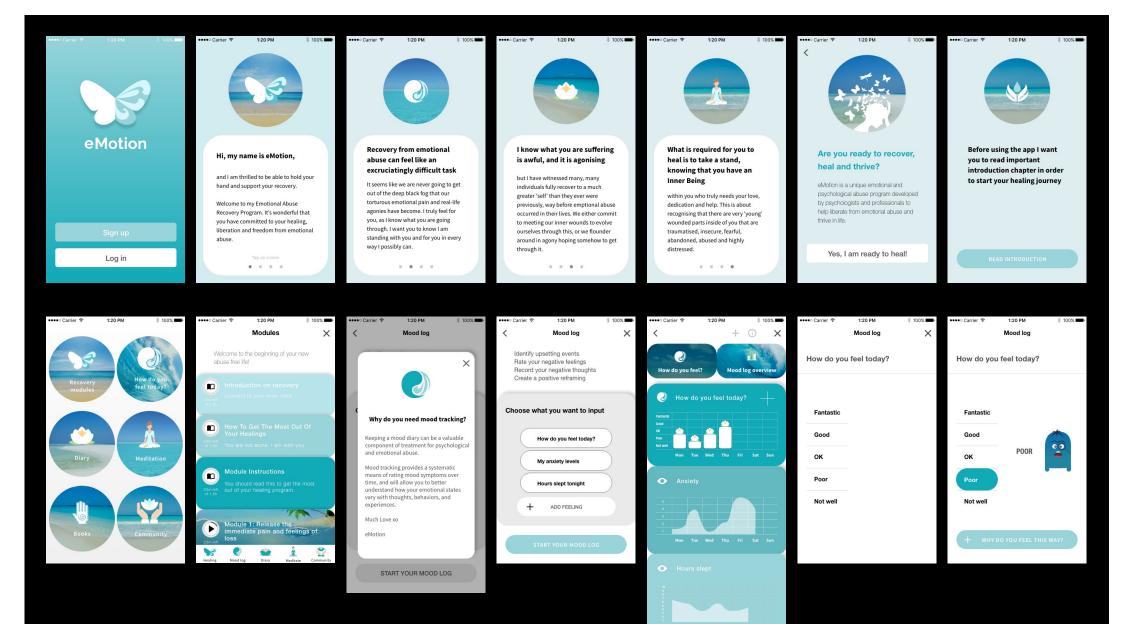


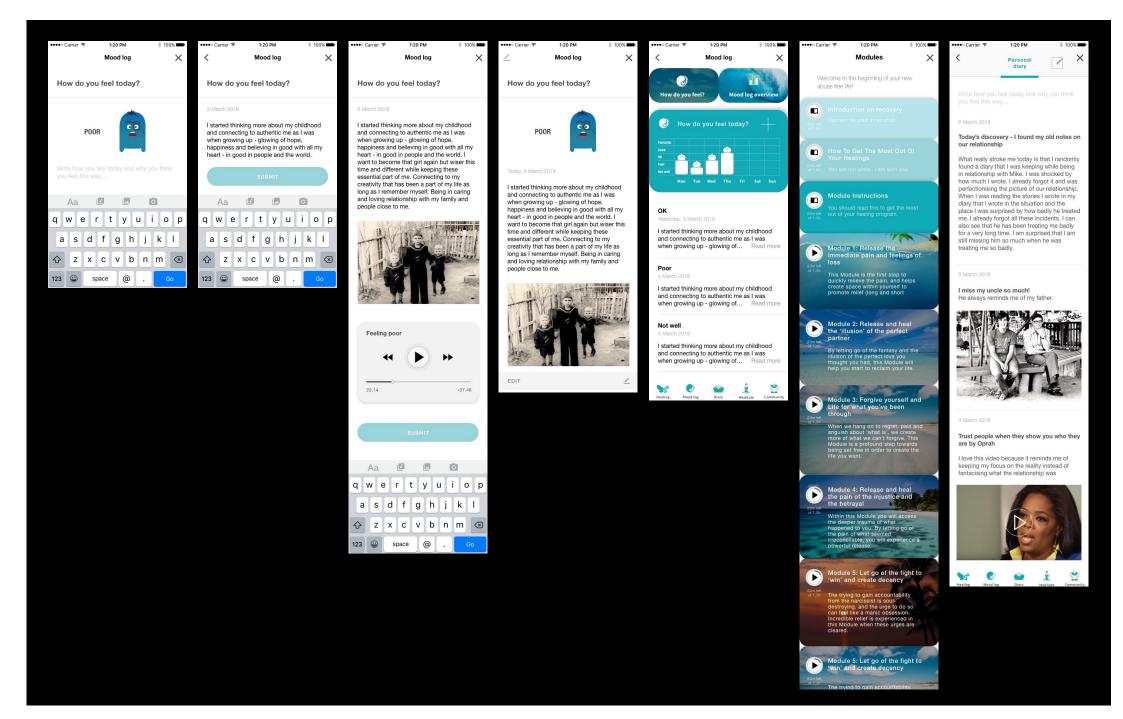
APPENDIX 3 Wireframes

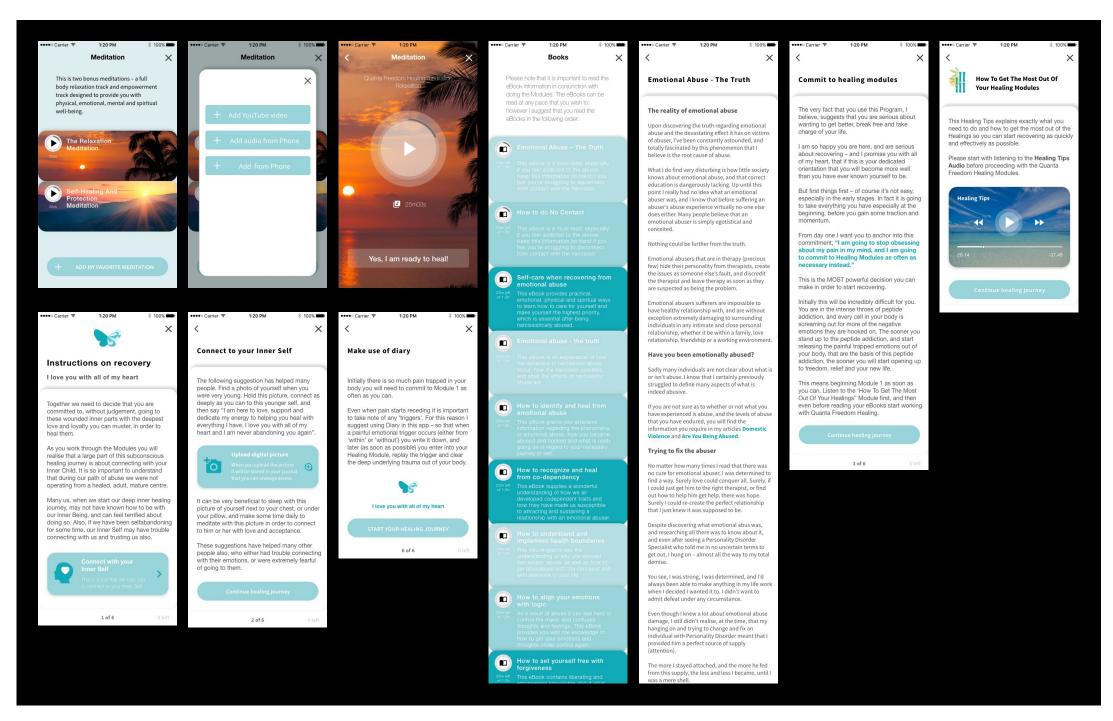


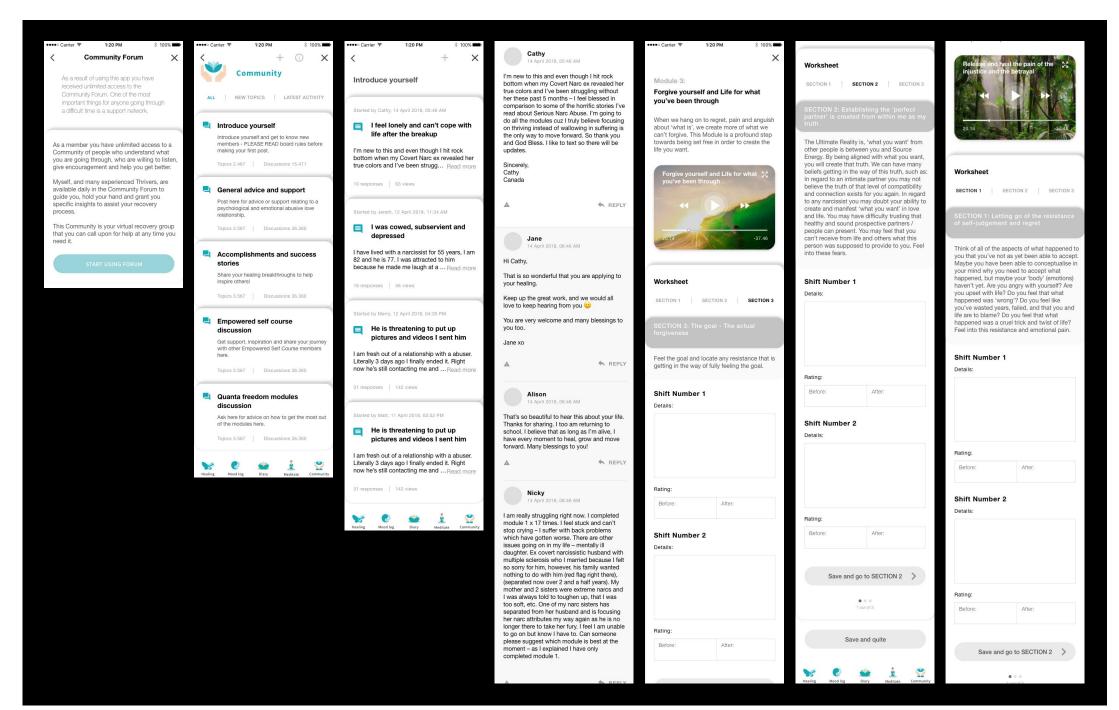
APPENDIX 4 Overview of all the connected interactive screens in Adobe XD











APPENDIX 6 Log of comments, problems and potential solutions collected from usability tests

No	Log of repetitive comments and observations	Problem	Potential solution	Repetitive data
1	After reading the introduction text, the user suggests to make ten most important rules to go through the recovery modules – best practices	User is afraid not to be able to remember how to go through the modules	Implement a menu with the most im- portant rules to use the app	
2	The user comments that it would be nice to have a back button on intro screens. Other users wanted to see a back button on all the screens	Back buttons are not present on all the screens which creates confusion and inconsistency	Implement back buttons on all the screens	The same problem was observed by participants of the usability test.
3	Would be nice to make the size of the text bigger or smaller	The user might struggle to read the text with bad sight	Implement an icon that will let the user to make text bigger or smaller	
4	Make a chapter overview maybe for the introduction text	The need of having an overview of the sections that seem to be long	Implement a chapter overview	
5	I want to go back to the module I left last time. Have a resume but- ton when opening the app.	The user doesn't know where she left the module last time	Implement a button to resume the re- covery modules when the user enters the recovery section of the app	The same problem was observed by participants of the usability test and other mental health professionals
6	Have differentiate look of the buttons where you take an action like upload a picture and where you just go to next step	The buttons of taking an action and going to the next step are having the same visual look which confuses the users and miscommunicates the information.	Design a different look for the action buttons and go to the next step buttons.	
7	Would be nice to have introduction about the author	The user has a need to know who stands behind the writing	Add the name and the picture of the au- thor on the entry screens	
8	Align text to both sides so it is aligned proportionally	Difficulties reading the text when it is not aestheti- cally aligned	Adjust proportionally align the text	
9	Would be nice to have regular appointments like reminders to do the modules. For example "It has been 2 days since you logged in last time".	The user might not use the app regularly and might not feel commitment on a daily basis	Implement notifications to do the mod- ules in a settings menu	The same problem was observed by participants of the usability test and other mental health professionals.
10	After reading the long introduction text would be good to have a welcome message saying motivating the user to start	The user might get scared of the long introduction and the amount of the time has to be invested.	Prepare the user to use time in order to achieve the benefits. Implement wel- come message "Welcome – you are ready to start!"	The same problem was observed by participants of the usability test and other mental health professionals.
11	In the "How do you feel section", the user suggests to have stats on the day you choose when you feel bad	The user needs an overview of what has been record- ed on a particular day to understand what can be im- proved or what was good.	Have a statistic overview of a particular day in the day detailed view	The same problem was observed by participants of the usability test and other mental health professionals.

APPENDIX 6 Log of comments, problems and potential solutions collected from usability tests

No	Log of repetitive comments and observations	Problem	Potential solution	Repetitive data
12	I want to track how did I do the last two weeks	The user doesn't have an overview of the desired timeframe	Show the weeks so the users can swipe between the calendar view	
13	Make clear distinct between links and just titles	The user gets confused whether it is a link or just text	Change the design of titles so it doesn't get interpreted as a link	
14	The worksheet text containers do not look modern. Maybe replace it with a button so when you click you come to a new screen where you can type in the text.	The design of the worksheets is boring for the users and doesn't look modern	Design the worksheets in a more mod- ern way	
15	Would be nice to access the history of the session/healing files that I worked on over time	The users can't access all the worksheets they worked on previously	Make a link to worksheets so the user can access all the worksheets at all times	
16	Would be nice to be able to go to a specific day in the diary	Diary doesn't support two views: days and calendar	Create two views: one in a form of calen- dar and the other as a written sequential text.	
17	In the books section, would be nice to have the cover of the books shown with pictures	Users want to relate to the books	Redesign the books section so the user can see the covers of the books in the navigation menu	
18	In the books section, there is no need to have a text that describes each of the books.	Too much text in the books section	Create a book overview where the de- scription shows up or hides when the user clicks on it	
19	Have a search to find what I am looking for	Users can't search the app	Implement the search functionality	The same problem was observed by participants of the usability test and other mental health professionals.
20	In the community section, highlight where you enter your inputs so you can see what you wrote	Users can't track of what they wrote in the forum	Implement notifications and create in- box folder of what the user wrote and what people commented.	
21	Have a progress bar to know where I am in the modules and what is complete	Users don't know where they are in the recovery pro- cess and where they finished last time	Implement a bar on the side – a tracker (for example, 20% done). Write "com- plete" when the user is done with the module and how many times the user repeated the modules.	The same problem was observed by participants of the usability test and other mental health professionals.
22	When user logs in, give a feedback on how often the users uses the app, how much text the user wrote with other words how good the user is doing this	Users want to know how well they are doing	Implement a pop-ups or stats overview to give a feedback on how well the user is doing	The same problem was observed by participants of the usability test and other mental health professionals.

APPENDIX 6 Log of comments, problems and potential solutions collected from usability tests

No	Log of repetitive comments and observations	Problem	Potential solution	Repetitive data
23	I want to see this app to be as personal as possible so I almost feel like I am talking to a person. Make it as human as possible. How would you cover this gap?	The user wants the app to feel as human as possible	Have a personal assistant that will guide you or have more feedback features on how it is going	
24	How can I see the instructions if I want to see them later?	The user is not sure where to find the module instruc- tions after the first time using the app	The instructions are in the modules currently	
25	Would be nice to both swipe and click between the screens when reading e-books modules	The user is confused that it is not possible to swipe between the pages	Implement swiping feature	
26	The button to continue to the next page when reading an intro should be consistent to all the pages.	The first button of introduction text is not consistent to other pages	Distinguish between the two types of the links: the buttons and action links	The same problem was observed by participants of the usability test.
27	Have a button to be able to come forward and backward between pages when reading long texts	User wants to be able to click on the buttons to go forward and backwards	Implement forward and backward but- tons	
28	In diary, add the test from the mood log into diary	The user can't see the mood log entries in the diary but has a need to be able to read everything recorded during the day one place	Implement the mood log entries in the diary	
29	See a little graph in a diary for each day and details about each day	The same problem was observed by participants of the usability test and other mental health profes- sionals. The user can't see the recorded data about specific day in the diary	Implement a little graph with a summa- ry of the data recorded on that specific day	
30	In books section navigation, show how many pages each book has so the reader doesn't get scared. In the modules section on main navigation, mark how many audio files is there and books to read. Show how long time is each module on the overview page so the user knows how much time it will take to do the module	Users are worried if they will read the entire units of text if they won't know how long they are. They are afraid that they will drop the reading if not prepared.	Create an icon next to each item that will show how many pages there is to read or how long are the audio files	The same problem was observed by participants of the usability test and other mental health professionals.
31	In the modules section, differentiate between the introduction (three first container) and the modules	Users want to differentiate between the recovery modules and the information on how to use the modules	Make instructions as one link instead of three	The same problem was observed by participants of the usability test and other mental health professionals.

APPENDIX 7 Log of comments and potential solutions collected from interviews conducted with the mental health professionals

No	Log of repetitive comments and observations	Potential solution	Repetitive data
1	Before read introduction section, prepare the person to read a lot and be able to come back and read it again, so people don't get scared. Add something saying "You have to invest your time to help yourself recover. You need to take time"	The solution to this issue is to have an intro text that pre- pares the user to work hard and invest into the recovery	The same problem was observed by participants of the usability test and other mental health pro- fessionals.
2	It is easy to use the app but the program should be made so the user can continue where he left off. Be able to resume back to where the user left. Can I see what I passed?	Implement a link to resume the class	The same problem was observed by participants of the usability test and other mental health pro- fessionals.
3	Would be more interesting to see in the Mood log what did you work with that day, how much did I use on that program so the user can see if it fits with emotions observed that day. Maybe suggest a user to make a pause and then notify to come back again.	Could be dangerous to do because if the user didn't use the app some time she might get not motivated. Merge the data on how much the user uses the app with personal diary and mood log writings	The same problem was observed by participants of the usability test and other mental health pro- fessionals.
4	Maybe make a test before the user starts using the app to make sure that the person can take all the modules (for example, there are people who can't handle meditation)	Implement a test when the user logs into the app first time to customise the app based on the user	
5	I would advise to use classic literature stories to make you feel better and increase your self-worth and self-esteem	Implement classic literature stories for recovery	
6	Maybe have more authors in the part where you have literature	Add more books on recovery from other authors	
7	I would suggest to change the meditation to top and place mood log down. Maybe even divide graphically therapeutical work and the personal part. I would suggest to place mood log right and diary left	Implement the suggestions proposed by mental health expert	
8	When the person is in crisis, they need a simple design that is easy to understand to clearly being able to identify important parts in the app	Implement a visual design that will emphasize the recovery modules	
9	Add an advice on how to better write a diary. Diary helps a person in such situation to write until there is no more. Make an instruction on how to write a diary. Write the way you feel to release from emotions and bad thoughts. Write until it gets easier. Write without judge- ment or blaming, without analysing or self-judgement. The point is to come to a place where you can release the negative thoughts.	Implement an icon where the user can get information how to write a diary	
10	I would suggest to make more tests and get more feedback to make sure that the app works	Conduct more usability tests to gather more feedback	
11	I would suggest to have a feedback button in the app to improve the product	Implement a feedback button	
12	Have a search bar where the you can find what you need at a time. For example "feeling alone" search to find relevant topics.		The same problem was observed by participants of the usability test
13	The way to start a recovery is to acknowledge that I have a problem and then you can decide how to recover and how to get help. Does the app offer this information? I can see this app is for people who are out of relationships. What about people who are still in relationships?	A potential solution could be to implement a questionnaire when the user enters the app. Depending on whether the person is relationship or not, the user interface will provide relevant information	

APPENDIX 7 Log of comments and potential solutions collected from interviews conducted with the mental health professionals

No	Log of repetitive comments and observations	Potential solution	Repetitive data
14	For meditation section, I would suggest maybe tips on how to use it and how it works. Main basis knowledge on what is relaxation and why you need it. It depends on the audience. It is important to have instructions on how to use it and whether the person is ready for it.	Implement guides on how to use meditation	
15	The app is a very good idea and I believe it can help people, but to achieve results one needs to invest in it and it takes time. Self-help is possible but one should be investing in it.	Implement an entry text that the recovery can only work if one invests a lot of time into it.	
16	One needs a lot of energy to read books. Maybe have a short summary of every book. Have a sentence saying "Investment is always pays of but you need to take time. There is light at the end of the tunnel." Motivation might be important to keep people continue recovery modules. There is always light period after a dark period.	Create a summary of each book so the user can have a quick read before going in depth with it	

APPENDIX 8 Positive feedback collected from usability tests and interviews conducted with mental health experts

No	Log of comments and observations by victims of abuse	Repetitive data
1	"Nice relaxing pictures, good picture on the entry screen" were commented by all the participants. I love the colors be- cause the colors make you happy and I love to see light and relaxing colors (login screen)	The same positive feedback was observed by participants of the usability test and other mental health professionals. Good visual imagery
2	I like "my name is eMotion". It makes me feel relaxed and I feel like I am going a place where someone holds my hand (login screen). The name of the app is good	The same positive feedback was observed by participants of the usability test and other mental health professionals.
3	As participant was reading the introduction text, she was crying and said "very touching what is written" (login screen)	
4	Very relaxing introduction. The app treats me with care. Images are very relaxing. (login screen)	
5	When reading the section about inner child, the participant could relate to it. (introduction)	
6	It meant a lot to read I love you with all my heart and I never abandon you again. (introduction)	
7	The user comments on introduction text saying that 'make sure to take time and commit to the modules' is serious. She says she likes it (introduction)	The same positive feedback was observed by participants of the usability test and other mental health professionals. The user can see that this is a serious work that has to be done to recover
8	I really like the part 'how do you feel today' (main navigation)	The same positive feedback was observed by participants of the usability test and other mental health professionals.
9	The forum is important for the feedback. People should be able to share experience of their recovery. (forum)	The same positive feedback was observed by participants of the usability test and other mental health professionals.
No	Log of comments and observations by mental health professionals	Repetitive data
10	Good environment to believe in yourself. "You are not alone" – this is very important to understand.	The same positive feedback was observed by participants of the usability test.
11	Beautiful design. The color is very good and relaxing.	The same positive feedback was observed by participants of the usability test and other mental health professionals.
12	Good text, great feeling and well written. Each piece and paragraph has understanding. Positive writing. Good positive affirmations such as "I am standing by you".	The same positive feedback was observed by participants of the usability test and other mental health professionals.
13	I like the log section of the app and especially how many hours slept	I like the log section of the app and especially how many hours slept
14	Very good idea to have a mood log. When you feel emotionally bad the helicopter view is a big help to rise away from it. The person though has to work hard on it every day but this work always gives results.	The same positive feedback was observed by participants of the usability test and other mental health professionals.
15	Community is very positive section to have	The same positive feedback was observed by participants of the usability test and other mental health professionals.
16	Meditation is a very good idea to have because you can feel more relaxed and customize what you like to listen to your needs	The same positive feedback was observed by participants of the usability test and other mental health professionals.

APPENDIX 8 Positive feedback collected from usability tests and interviews conducted with mental health experts

No	Log of comments and observations by mental health professionals	Repetitive data
17	Diary is great to have because when people are in that situation try to find a way out, keeping something inspirational can be very helpful. You to read the writings when you feel bad and receive inspiration from yourself.	The same positive feedback was observed by participants of the usability test and other mental health professionals.
18	The app seem to be for women. Also, I would suggest that you should have a very different approach to men. You might even want to create a different app for men.	The same positive feedback was observed by participants of the usability test and other mental health professionals.
19	A great idea with the app. We are more isolated, spending more time in front of the screen. The app can give orientation, can be useful in a moment, when the person is sad	
20	I can see this app being used as a universal app also for people who just want to work on themselves	The same positive feedback was observed by participants of the usability test and other mental health professionals.
21	Those who are seeking help will definitely benefit from the app	The same positive feedback was observed by participants of the usability test and other mental health professionals.
22	To use the forum and write thoughts in a diary is easier then seeking professional help and is a good first step for recovery before the person will be ready for professional contact	The same positive feedback was observed by participants of the usability test and other mental health professionals

eMotion - recovery app

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URL to the prototype	 Interactive prototype: https://xd.adobe.com/view/393424f3-bebf- 4293-a0db-8919c2ac560b/?fullscreen This link can be used to see the functional prototype in your browser. 	
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