durchzug

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Imprint

Abstract

In this project it was established that providing words for emotions, as well as for different coping strategies, helps people in their active personal reflection process. Those words — printed on physical cards — help to create a link to past experiences and shape a clearer understanding of one's state of being. The additional stand for the cards serves as a base for a recurring and conscious self reflection. The insights were gathered by interviewing and working closely together with multiple cancer patients.

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Acknowledgments

1   Introduction

We are Sonia Tao and David Wollschlegel, two interaction design students. Both of us are interested in the field of healthcare, and therefore we have decided to work together on our final project — the bachelor thesis with the goal to ease the journey of a cancer patient.

First, we started off researching the topic of cancer. We wanted to know what it means for those affected and what their biggest pain points are. Furthermore, we researched on the existing supporting strategies and what leverage points for improvements there are.

Later, after analyzing related projects and conducting expert interviews, we started building prototypes. We had the chance to work together with the radio oncology department at the canton hospital in Aarau, where we were able to test those prototypes during several sessions with cancer patients.

2 Research Field
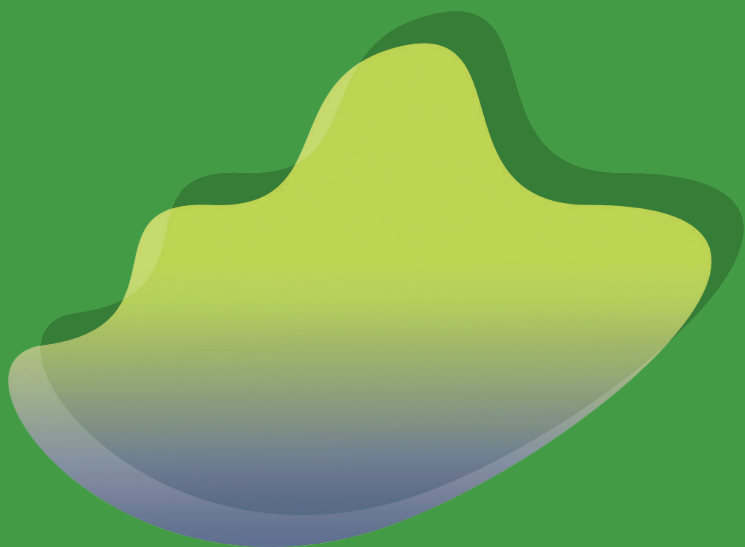
2.1 Background and Context

From the point on when the diagnosis of a cancer related disease gets confirmed, many new problems and challenges emerge for the patient. Through experiencing a diagnosis like this, new kinds of decisions have to be done. In this phase —— which we have experienced in our own surroundings as well —— the patient has to deal with lots of different life and cancer related thoughts and questions. This often happens in a short timeframe and as probably most of us know, it is not easy to keep an overview and structure with such an overload of new life aspects especially not, when a lot of changing emotions are suddenly involved. At the end they are intertwined in a loop and nothing really improves, which then could result in an even more exhausting situation. But not only on the side of the patient does this phenomenon occur. Also friends and relatives suffer from the overburdening of new life aspects, such as a shift of responsibilities in family structures.

In our bachelor thesis we want to put the focus on the aspect of emotions. We think that being able to name and communicate what exactly is felt —— either to yourself or to the close social environment —— can support the whole psychic process of a cancer diagnosis and ease the journey to recovery. In our research we therefore aspire to speak to cancer patients and their relatives, with the aim to find out what their relationship to emotions are and how big their relevance of this topic is for them, before and after their diagnosis.

2.2   Thematic Delimitation

Since it is easy to fall into the rabbit hole in the thematic itself, it occurs to be important to us to set a thematic frame and define our delimitation. Our bachelor project should address acute problems and needs, and not chronic diseases such as depressive disorders. The concept behind our project should assist for a period of time to learn how to cope with their own emotions and not as a medium which leads to a certain dependence on it. Even though it's clearly readable from our concept, we still want to declare that our tool is not used by or for the medical staff, neither is it financially and politically clarified. We aspire to design with and for the patients, in terms of easing their process of their diagnosis with the focus on their handling of emotions and coping strategies.

2.3 Origin of Occuring Problems

The diagnosis shock is often one of the first emotions cancer patients experience *(Shock and Denial | Coping with Cancer | Cancer Research UK, 2017)*. They feel numb and are not able to grasp the situation. But a lot of different challenges emerge from there *(Leu, 2021)*. Affected people experience fears of dying, loss of relationships, existential fears, et cetera. They struggle with symptoms like cancer related fatigue or hair loss. Furthermore, they have to conduct difficult conversations with relatives and decide on a lot of possibilities regarding the treatment. Although those affected have support from different counselors, doctors, institutions like "Krebsliga" (Swiss Cancer League) or relatives, there is no one that accompanies them through all phases. Furthermore, all participants of the affected have a different impression of the situation.

In all these experiences, having a clear thought and communicating understandable messages can be challenging. Additionally, emotional health is an important key in the processing of a cancer diagnosis. If not treated correctly a post traumatic stress disorder could evolve *(Could You Have Cancer-Related PTSD? | Breakthroughs | City of Hope, 2018)*.

2.3.1 Friends and Relatives

Beside putting the focus on the cancer patients themselves, we also looked further into the side of the friends and relatives. We asked ourselves how they are handling the whole process of the cancer diagnosis and the treatment of their loved one. What kind of problematics and issues occur on their side?

It seems to be a big challenge, not only for the cancer patient, but also their friends and relatives. In many cases these challenges and their needs aren't necessarily considered as important or worth

mentioning. According to the text from G. Preisler and U. Goerling "Angehörige von an Krebs Erkrankten" the amount of psychic pressure of friends and relatives is in fact similar to the patients. According to a study, problems and symptoms such as uneasiness and pondering arise by 50% of the friends and relatives *(Preisler and Goerling, 2016)*.

Roles of the Friends and Relatives

Friends and relatives want to, next to their everyday life duties, support the patient with stationary stays by visiting as often as possible, emotional encouragement, execution of everyday life tasks such as doing their laundry, emptying their letterboxes, being the counterpart for the doctors, et cetera. Many times the partner of a cancer patient puts themselves in the role of a "nurse". They feel obliged to be the main helping hand and try to understand the whole process, which in many times they don't succeed *(Preisler and Goerling, 2016)*.

The well-being and the life quality of friends and relatives have a huge impact on the life quality of the patient and vice versa. Just like the patients, their friends and relatives go through a similar process of handling. The experience of being powerless and helpless, the uncertainty with the interaction and communication with the patient and the balancing act of welfare and self care requires quite an amount of emotional energy *(Preisler and Goerling, 2016)*.

Changing the Structures

For the patients, as well as their friends and relatives, it's important for them to keep their previous roles as husband, wife, girlfriend, boyfriend, friend, mother, et cetera, as good as possible. The communication of new desires and needs on both sides are often difficult, because neither side wants to be a burden. The friends and relatives often see their own sorrows as a banality. But seen in a long

term context, this isn't helpful for themselves nor for the patient. They need support and self-help to increase their mental health. Information and support which helps them to obtain their control and security are very important to keep the relationship to the process and the patient upright. Helplessness, fear and sorrows trigger a strong need to talk which demands a lot of time and devotion. Not the amount of time, but the way of listening and gratuity is essential *(Preisler and Goerling, 2016)*.

2.4   The Emotion Itself

Emotions, whether we're conscious of them or not, are the driving force behind most of the things we take action to. If you want to find out what motivates, annoys or disturbs you, you need to find out what you're feeling exactly. We, as human beings, are much better at analyzing our feelings and the feelings of our social environment, than actually feeling and expressing what's going on inside us *(Brenner and Letich, 2022)*. According to Brenner and Letich, neuroscientists use the term emotions to refer to our body's unconscious responses and reactions like laughing or crying, and feelings to refer to what we consciously experience. The term emotion contains feelings, body reactions and cognitive processes, like remembering, comparing and deciding. Either way, our emotions and feelings exist to guide us. They're meant to move and change within us.

There are occasions, where we get stuck, when we think about why we feel the way we do. Sometimes we don't like the way we feel or don't think we should feel like that. In many cases it can lead to a point that we have strayed from our initial feelings.

According to Brenner and Letich there are six points which can help you to cut through all that to discover what you feel deep down.

- Feelings are something you feel.
  Feelings aren't static and stable aspects, they are a process occuring in our nervous system, which are continually generated and re-generated.
- Original feelings are experienced in the body, and they start below the level of words.
  Feelings start out below the level of words. More like bodily sensations of varying intensities whose purpose is to signal you about something important happening internally. Therefore it is something you experience in your body.

- Feeling is slower than thinking.
  Our ordinary state of mind, the process of experiencing and identifying deeper feelings is slower than the process of thinking. To feel ourselves, and to actually talk from our feelings, requires us to pay attention, less to our fast thoughts, and more to our internal sensations which are felt. It's important to pause, slow down and to feel.
- Feelings often originate as bodily sensations in the center of your body, or images attached to those sensations.
- The words for original feelings are simple. There are more than just six of them.
- Your true emotions feel true in your body — so check in there
  We as human beings have a built-in feedback loop. Constant reflection on the things which are felt need to be done in order to feel relieved. That feeling of something inside you saying "yes, that's exactly how I feel", can feel very fulfilling. The body starts to relax and you feel aligned with yourself (Brenner and Letich, 2022). In other words, you feel emotionally connected with yourself. There are feelings that aren't in sync with our internal bodily signals. They are mostly produced by ruminating thoughts, which are defined as thought-driven emotions.

2.4.1 The Term of Emotional Intelligence

The term Emotional Intelligence (EI) is defined as the ability to perceive, control and evaluate emotions *(Cherry, 2020)*. Researchers have stated this can be learned and strengthened throughout life. This ability to express and control emotions is essential, but so is the ability to understand, interpret and respond to the emotions of others.

Components of Emotional Intelligence

There are four different levels of emotional intelligence including emotional perception, the ability to reason using emotions, the ability to understand emotions and lastly, the ability to manage emotions *(Salovey and Mayer, 1990)*.

- Perceiving emotions: The understanding of nonverbal signals such as body language and facial expressions
- Reasoning with emotions: The usage of emotions to promote thinking and cognitive activity. Emotions help prioritize what we pay attention and react to.
- Understanding emotions: Emotions that we perceive can carry a wide variety of meanings and interpretations.
- Managing emotions: Regulating emotions and responding appropriately as well as responding to the emotions of others are the main aspects of emotional management.

Impact of Emotional Intelligence

Through the ability of emotional intelligence it allows people to calm their emotions and think more rationally about the factors surrounding the argument. Additionally, the aspect of self-awareness helps people to consider the many different factors that contribute to their emotions. "People who have strong emotional intelligence are able to consider the perspectives, experiences, and emotions of other people and use this information to explain why people behave the way that they do.", according to K. Cherry. The ability of emotional intelligence can improve better relationships and stronger communication skills.

2.5 Solution Strategies

In today's cancer treatment psychological support by psycho oncologists is integrated from the beginning *(Goeckenjan et al., 2010)*. Not only for the patient himself but also for their relatives. But this is not the only way, support can be given to the ones in need.

2.5.1 Health, Stress and Coping

A theoretic approach to well-being is provided by the research of Aaron Antonovsky. Aaron Antonovsky is a sociologist who researched the relationship between well-being, stress and health, which he named salutogenesis. He was wondering, when he was studying holocaust survivors, why some of them were not emotionally impaired.

Salutogenesis and Source of Coherence

The model of salutogenesis does not see health as an absolute state, but more on a continuum — a goal with a process. Humans are not healthy or sick, but more or less healthy and more or less sick. A central aspect of the salutogenesis model is the sense of coherence, which reveals how well someone can cope with life and its challenges.

Aaron Antonovsky *(1979, p. 124)* defined the sense of coherence as a "generalized, long lasting way of seeing the world and one's life in it. It is perceptual [...]. Its referent is not this or that area of life, this or that problem or situation, this or that time, or in our terms, this or that stressor". The defined sense of coherence consists of three components:

- Meaningfulness (motivational component): Seeing a good reason or purpose to care about what is happening. An attitude that life is interesting and things are worthwhile.
- Manageability (instrumental or behavioral component):

Key to figure one

Arrow A: **life experiences shape the sense of coherence.**

Arrow B: stressors affect the generalized resistance resources at one's disposal.

Arrow C: **by definition, a GRR provides one with sets of meaningful, coherent life experiences.**

Arrow D: **a strong sense of coherence mobilizes the GRRs and SRRs at one's disposal.**

Arrow E: child rearing patterns, social role complexes, idiosyncratic factors, and chance build up GRRs.

Arrow F: **the sources of GRRs also create stressors.**

Arrow G: traumatic physical and biochemical stressors affect health status directly: health status affects extent of exposure to psychosocial stressors.

Arrow H: physical and biochemical stressors interact with endogenic pathogens and "weak links" and interact with stress to affect health status.

Arrow I: public and private health measure avoid or neutralize stressors.

Line J: a strong sense of coherence, mobilizing GRRs and SRRs, avoids stressors.

Line K: a strong sense of coherence, mobilizing GRRs and SRRs, defines stimuli as non-stressors.

Arrow L: **ubiquitous stressors create a state of tension.**

Arrow M: **the mobilized GRRs and SRRs interact with the state of tension and manage a holding action and the overcoming of stressors.**

Arrow N: **successful tension management strengthens the sense of coherence.**

Arrow O: **successful tension management maintains one's place on the health ease/disease continuum.**

Arrow P: interaction between the state of stress and pathogens and "weak links" negatively affects health status.

Arrow Q: stress is a general precursor that interacts with the existing potential endogenic and exogenic pathogens and "weak links."

Arrow R: good health status facilitates the acquisition of other GRRs.

Source of GRRs

The Socio Cultural and Historical Context

- child rearing patterns
- social role complexes
- idiosyncratic factors
- chance

Major Psychological Generalized Resistance Resources
1. material
2. knowledge, intelligence
3. ego identity
4. coping strategy: rational, flexible, farsighted
5. social supports, ties
6. commitment, continuance, cohesion, control
7. cultural stability
8. magic
9. religion, philosophy, art: a stable set of answers
10. preventive health orientation

Genetic and Constitutional Generalized Resistance Resources

Life Experiences Characterized by
1. consistency
2. participation
3. underload-overload balance

Sense of Coherence: a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feel of confidence that one's internal and external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected.

Potential Endogenic and Exogenic Stressors

A. Psychosocial Stressors
1. accidents and survivors
2. others' experiences
3. horros of history, direct and vicarious
4. intrapsychic conflicts
5. fear of agression
6. immediate world change
7. phase-specific crises
8. other normative crises
9. conflicts in social relationships
10. goal-means gap

B. Physical and Biochemical Stressors

Public and Private Health Measures

Sense of Coherence

(1) Avoid
(2) Define as non-stressors
(3) Manage: a) holding action b)overcome stressors

State of Tension

Successful Tension Management

Unsuccessful Tension Management

State of Stress

Health Ease/Dis-ease Continuum

Other Ease/Dis-ease Continua
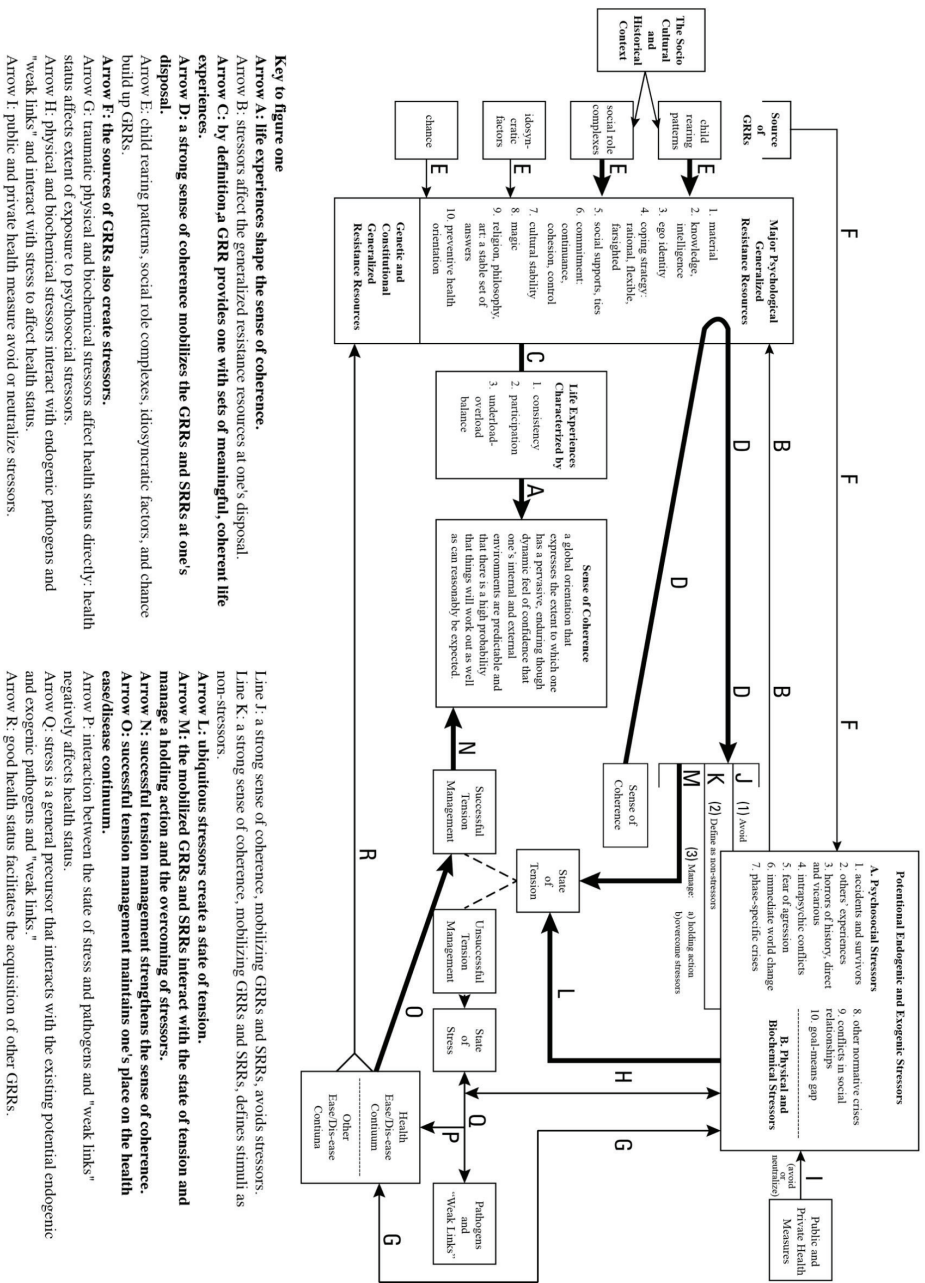
Pathogens and "Weak Links"

Figure 1: Antonovsky's Salutogenesis Model.

The trust in one's skills and ability that things are manageable and controllable. Also including external support, help or other necessary resources.

- Comprehensibility (cognitive component): The ability to understand events in your own life and being able to explain to yourself why certain things happen. Also the ability to predict possible future scenarios.

A strong sense of coherence enhances the ability to recognize what General or specific resistance resources are available to one.

The following model gives a good overview of the complex relationships in stress management. Resistance resources need to be mobilized to manage tension. For that, one needs access to those resources. If someone is in an already bad health status access to those resources is harder.

Generalized and Specific Resistance Resources

In Antonovsky's Salutogenesis model generalized resistance resources (GRR) play a major role in the successful coping of stressful events. He summarizes its meaning as: "any characteristic of the person, the group, or the environment that can facilitate effective tension management" *(Antonovsky, 1979, p. 99)*. GRR can be assigned to four categories:

- **On the individium:** Knowledge and intelligence, experience, self-esteem, ego/identity, healthy behavior, genetic factory
- **Social network:** social support, belonging
- **Society:** Money, social recognition, preventive health orientation
- **Cultural:** Cultural Stability, Ritualistic Activities, Religion and Philosophy (e.g. Stable set of answers to life's perplexities)

Specific Resistance Resources (SRR) on the other hand are resources or interventions like a certain drug or telephone lifelines of suicide prevention agencies. In contrast to GRR, SRR are often useful in par-

ticular situations of tension. Antonovsky argues that the GRR especially determines whether some SSR are available to us or not.

Coping strategies

Like for emotional regulation there are several coping strategies *(Carver, 1997)*. They can be categorized in three different containers *(Su et al., 2015)*:
- Emotion-focused strategies:
    - use of emotional support
    - positive reframing
    - acceptance
    - religion
    - humor
- Problem-focused strategies:
    - active coping
    - planning
    - use of instrumental support
- Dysfunctional coping strategies:
    - venting
    - denial
    - substance use
    - behavioral disengagement
    - self distraction
    - self blame

Dysfunctional coping strategies often result in a lower quality of life (QOL) and mood.

2.5.2 Emotional Regulation

"Emotional regulation refers to the process by which individuals influence which emotions they have, when they have them, and how they experience and express their feelings. Emotional regulation can be automatic or controlled, conscious or unconscious, and may have effects at one or more points in the emotion producing process." *(Gross, 1998, p. 275)*.

For emotional regulation there are several techniques that can help. For example breathing exercises as well as observing when emotions occur and what they trigger (cognitive labeling). Further, it is important to acknowledge that we are not our emotions. They are a state of mind. To do so, naming and talking about is suggested. Those self-awareness exercises can be carried out by the following question set *(Chowdhury, 2021)*:

- What am I feeling right now?
- What person/situation caused it?
- How I responded to the situation/person?
- What emotion/s did I feel at that point of time?

Other strategies from cognitive therapy are cognitive distraction, cognitive reappraisal and acceptance. Regulation processes of stress are often referred to as coping. Stress is one of the reactions humans feel in difficult situations like the death of a near one, fear of failure or diseases.

In general stress is positive. It raises the attention and the performance. After successful coping or another reason for the flattening of stress, the result can be a moment of happiness. Stress becomes only negative when it arises regularly and permanently. This happens when the individual person does not see a possibility to cope with the stressors. For example exams without time or skills to learn or an unknown disease despite a doctor's visit. Continuous negative stress is also called distress.

2.5.3 Benefit of Journaling and Mapping out Thoughts

Journaling has many benefits. First, it can clarify your thoughts and feelings when one has trouble differentiating those. Also journaling routinely reveals positive and negative people, habits or recurring situations in the writer's life. Furthermore, writing down negative emotions like anger or sadness can reduce stress. Finally, writing down experiences with others makes you reflect more on their point of view. This can strengthen relationships.

However, it plays a role, what you are writing about, respectively what you focus on. In a study by Ulrich and Lutgendorf (2002), where participants journaled about personal stressful or traumatic experiences in a "focus on negative emotional expression" and "focus on emotional expression and cognitive processing", it showed that focusing on the latter offers greater benefits. Generally said, trying to understand, reflect and make sense of traumatic events have a positive impact.

Journaling in Everyday Life

Including journaling in everyday life helps you to meet your goals and improve the quality of life. Many people use it as a tool to clear one's head, make important connections between thoughts, feelings and behaviors. Sometimes even the reduction of mental illness effects *(Ackerman, 2022)*.

It is said that writing regularly helps one to enhance mental health through guiding oneself towards past-confronted emotions. It helps to process difficult events and compose a coherent narrative about past experiences *(Baikie and Wilhelm, 2005)*. Writing can make us more aware, especially self-aware, and help us to detect unhealthy and unseen patterns in our way of thinking and behaving. It allows us to take more control over our lives and put things in a different

perspective *(Ackerman, 2022)*. Additionally, it can help us shift our negative mindset to a more positive one, especially about ourselves *(Robinson, 2017)*.

Existing Guidelines in Journaling

Baikie and Wilhelm (2005) offer these following tips to ensure that journaling becomes constructive:

- Write in a private and personalized space that is free from any distractions
- Write at least three or four times, and aim for writing consecutively
- Give yourself some time to reflect and balance yourself after writing
- If you're writing to overcome trauma, don't feel obligated to write about a specific traumatic event. Write about what feels right at the moment
- Structure the writing however it feels right to you
- Keep your journal private

Another set of guidelines on effective journaling can be found on the Center of Journal Therapy website. They explain the guidelines with an acronym: WRITE.

- W — What do you want to write about? Think about what is going on in your life, your current thoughts and feelings, what you're striving towards or trying to avoid right now. Give it a name and put it all on paper.
- R — Review and reflect on it. Take a few moments to be still, calm your breath, and focus. Sentences like "I feel…", "I want…", "I think…" can help to do so.
- I — Investigate your thoughts and feelings through writing. If you feel you have run out of things to write or your mind starts to wander, take a moment to re-focus.
- T — Time yourself to ensure that you write at least for five

minutes. Write down your start time and the projected end time based on your goal at the top of your page.
- E —— Exit strategically and with introspection. Read what you have written and take a moment to reflect on it. Sum up your takeaway in one or two sentences, starting with statements like "As I read this, I notice...", "I'm aware of...", or "I feel...".

Scientific Research on Journaling

The evidence on the outcomes of journaling points to its effectiveness in helping people identify and accept their emotions, manageability of stress and the ease of mental illness symptoms *(Ackerman, 2022)*. It even has been shown that there's an impact on physical well-being. According to journal writer and journalist Michael Grothaus, there are studies suggesting journaling as a strengthening of the immune system, drop blood pressure and better sleep (2015). It's important to keep in mind though, that journaling isn't a substitute for professional guidance, particularly when the depression is severe. But on the other hand, it can complement other forms of treatments.

Writing in a journal is said to be as effective as cognitive-behavioral therapy (CBT) for reducing symptoms of depression *(Stice et al., 2006)*. It may not reduce the frequency of intrusive thoughts, but it moderates their impact on depressive symptoms *(Lepore, 1997)*. It gives people the opportunity to release pent-up negative emotions, keep them in a more positive frame of mind, and help them build a buffer between their negative thoughts and their sense of well-being *(Ackerman, 2022)*.

In terms of stress management, is journaling also a suitable method. Keeping a journal can help to fully explore the emotions, release tension and fully integrate one's experiences into one's mind *(Scott, 2018)*.

If we project this onto patients with specific diagnosis, journaling can also help manage the stress level by decreasing symptoms of various health conditions, examining the thoughts and shifting the perspective and planning options and thus the consideration of multiple outcomes of a situation *(Scott, 2018)*. Keeping a journal can help you stop distancing yourself from your issues, encourage you to confront your problems head-on, and reduce the obsessive component of your disorder *(Rabinor, 1991)*.

Patient Diary

Patient Diaries are often distributed in Intensive Care Unit (ICU) where patients are in critical condition. There, similar to a cancer disease, the fear of death is present in patients, their relatives, critical care nurses (CCN's) and doctors. Today, the diary is used for individual needs. It is recommended to write it so patients can reread experiences and cope with memory loss. But it is also used to structure the journey of a patient in the treatment process. Some write down questions, names of doctors or any other relevant information *(Mickelson et al., 2021)*. It can also be used to write down thoughts, feelings and emotions.

People tend to have difficulties starting a diary. This was reported by CCN's *(Ednell et al., 2017)* as well as relatives *(Mickelson et al., 2021)*. Writing in a diary is not the number one priority task in a CCN's work day. When several days pass without writing it is often not continued or started. A strategy to start a diary for them is to write about the facts of what happened to the patient.

For relatives it can be helpful to have a structured diary. The structured version helps people start writing by providing clear areas for certain thoughts *(Mickelson et al., 2021)*. Nevertheless, the unstructured diary leaves writers complete freedom and they can adapt to their individual needs. For example adding photos and drawings.

The tension in this contrast is a challenge in the design of a useful patient diary.

Not only patients profit from the creation of a diary. The diary can be written by several people in different roles. Relatives that write during a health journey stated that they have a medium to show support *(Ednell et al., 2017)*. Also relatives consider the written information as more comprehensive and reliable compared to the verbal information. Mainly because it is written in everyday language.

On the other hand, critical care nurses (CCN's) are able to comment on medical treatment on a more personal and emotional level. Because every entry is available to all participants, they get to know each other better and understand their different backgrounds. When a nurse is observing the expressions and needs of a patient and reflects more deliberately on that, this increases the awareness of possible necessary nursing actions.

Finally the most important task of a diary for ICU patients is to help them understand how sick they were, why the process was how it was and that people were there to support them in this phase. This helps them to understand the situation *(Mickelson et al., 2021)*.

2.5.4 Cognitive Behavioral Intervention (CBI)

Cognitive Behavioral Intervention (CBI) is the theory that people can learn to better understand their thoughts and emotions. With that knowledge and some strategies and exercises they can alter them. The goal lies in providing them a toolkit for changing undesirable emotions *(Applied Behavioral Analysis Edu, n. d.)*.

"The key principle behind CBT is that your thought patterns affect your emotions, which, in turn, can affect your behaviors." (Pietrangelo, 2019)

CBI techniques mentioned in the article of Pietrangelo (2019) are:
- Cognitive restructuring or reframing
- Guided discovery
- Exposure therapy
- Journaling and thought records
- Activity scheduling and behavior activation
- Behavioral experiments
- Relaxation and stress reduction techniques
- Role playing
- Successive approximation

All of those strategies help to identify specific problems, reflect on unproductive or negative thought patterns and introduce new behaviors to cope with them. According to Chi (2016) the sorts of thoughts can be seeing things in extremes or view single experiences as life defining. Furthermore, affected persons tend to discard positive experiences or assume others' thoughts and intentions. At last but not least, they think in "should" statements or personalizing external events.

These techniques are not only used with cancer patients and affected but also to treat depression, anxiety, post-traumatic stress disorder, etc *(Applied Behavioral Analysis Edu, n. d.).*

2.5.5 Art Therapy

One form of art therapy, according to Sarid and Huss, (2010) consists of three main parts. First the senses and body are engaged by observing and forming art materials. Then autobiographical traumatic memories are described by choosing different shapes, textures and colors. So the art process and product are sort of a container for traumatic memory. In the end the result gets analyzed and reexplained by the client and therapist.

Although the scientific evidence of art therapy is still limited, it can help people with their expression of confusing thoughts or feelings *(Art Therapy | Cancer Research UK, 2018)*. Especially those who are uncomfortable talking to counselors.

2.6   Things to Keep in Mind in Digital Health

In terms of the end product, we considered whether we want to go in the analog or digital direction. For that it was important to us to research a bit more concerning the pro's and con's of digital health, and especially which aspects need to be kept in mind when designing in digital health.

Digital health is defined as the use of information and communications technologies to improve human health, health care services, and wellness for individuals *(Kostkova, 2015, Grand challenges in digital health)*. Digital Health applications have risen dramatically in the last decade. Fuelled by the access to smartphones and connectivity to apps, it has resulted in a plethora of numerous technology-based innovations. Therefore, it leads to a difficulty for the patients (and also clinicians) to pick the most suitable apps because of evolving evidence, emerging privacy risks, usability concerns, and the fact that applications constantly change and new iterations get launched *(Henson et al, 2019, Deriving a practical framework for the evaluation of health apps)*.

There exists a fair amount of digital health innovations which show potential to improve health outcomes, reduce health system costs, and also improve the patients' experience, but their impact remains variable and limited in scope *(Shaw et al., Beyond "implementation": digital health innovation and service design)*. According to Shaw et al., Service design can promote a more sustainable deployment of digital tools in health care. From the service design perspective, the technology is not fixed. Instead, they are always subject to revision and refinement based on emerging insights about their usability and effectiveness, and the evolving needs of certain implemented settings *(Shaw et al., 2018, Beyond "implementation": digital health innovation and service design)*.

Digital health needs to be responsible, since the ethical implications of digital technology (used for health especially) has shown a growing concern in society. Therefore, the necessity of attention to ethical impacts and value fulfillment has increased a lot. According to Ahmadpour et al. in "Editorial: Responsible Digital Health", digital health needs to be approached in a more systematic way, which includes more research into the ethical implications of digital technology use for health purposes. There are three main questions/terms which lead to responsible digital health *(Ahmadpour et al., 2022)*:

- Issues of equity (who gets to be healthy?)
- The impact of modality (the unique promises and risks of particular technologies, such as chatbots)
- The need for process (including frameworks, guidelines and approaches that can contribute to systematic and replicable best practice).

2.7 Research Question and Hypothesis

During our research phase in the semester break we formulated different iterations of our research question. The status quo of our "how might we-question" emphasizes the aspect of different coping strategies and the handling of emotions of cancer patients, their friends and relatives. Our research question:

„How might we create a service that helps cancer affected people* to reflect their emotions, thoughts, fears and needs to support their coping strategies?" *cancer patients and their close social environment

We figured that every process of handling emotions, thoughts and fears is handled differently. Additionally, the length of this process varies from person to person, because each individual has its own way to process. Throughout our bachelor thesis we want to find out a way to respond to different approaches of coping strategies to address and include as many individuals as possible to assist them in their reflection of their emotions.

In the beginning of our research phase we were putting our focus more towards the problem of communication and the issues which the cancer diagnosis causes. The cause of the shift of the thematic emphasis was the realization that the aspect of communication opens up a huge tank in which we need to go deeper in definition and inspect the origin which leads to a clear communication.

By reading papers and constantly being in discussion with each other, we assume that the communication is then at hand, when the individual by itself knows what goes through their head and is able to reflect by themselves primarily. If this case applies, we think that the communication to their peers is enabled and they can carry their thoughts, fears and needs to the outside. So basically to sum it up, the process divides into two parts, the individual process and the communication outwards. With our current research question we want to inspect the first part further — the individual process of emotional handling and their subjective coping strategies in relation to their cancer diagnosis.

2.8 Principle and Methodology

2.8.1 Principle

The main principle behind our investigation will be the concept of human-centered design and co-design. According to the book "Health Design Thinking" by Bon Ku and Ellen Lupton, Human-centered design asks how new approaches to a problem might improve people's lives. It should be inclusive and collaborative, approaching members of a community as experts in their own life challenges. "Users are active participants and creators of knowledge, not passive subjects to be measured and manipulated. Human-centered health care sees people not as patients defined by illness or impairment but as individuals on the journey of life", as Ku and Lupton stated in their book. A human-centered based project should include the different stakeholders throughout the process, which leads to new insights and new methods to better study the research questions.

Another important principle of our bachelor thesis is empathy. The act of becoming the user itself, allows us to identify challenges and experiences that wouldn't have been mentioned or consciously known by the user. We have to keep in mind though, that this concept has its limitations. We will perceive and evaluate our prototype based on our own values, biases, experiences and also our own state of health. However, when our target group uses our service, they are feeling unwell. It's important for us to be aware of the fact that we need to be mindful of our users' values, biases and states, and keep in mind that we are never really able to wear another person's shoes.

But we need to keep in mind the danger of being too empathic. As stated in "Health Design Thinking", focusing exclusively on empathy can lead to separating "us" (designers and health care professionals) from "them" (the target group). Ku and Lupton suggest

that patients and other stakeholders should be active participants in the design process, not just objects of empathic feeling. Another important aspect is that we must be aware of the danger of falling into familiar power structures or exploiting the experiences of people who are vulnerable.

Our project participants (patients) are humans with different backgrounds and therefore different needs. Because of that we have to make sure that found insights are not a personal thing, but a shared fact of multiple participants. The situation that the participants are facing difficult challenges does not make that an easy task.

2.8.2 Methodology

To follow our principles that we've set for our bachelor thesis, we have chosen a few methodologies to fulfill our research part. Because this research project takes place in the sensitive healthcare environment a clear communication of ethical guidelines has to be developed. This includes that the collected data is anonymised, only used for evaluation if participants agree, only stored for a certain timeframe and only published with their consent.

Interviews

Through having interviews, our aim is to yield insights into the different habits, motivations, goals, fears, issues, biases, et cetera of our target group. It is extremely important to talk with the patients, because of their "unique" experience in their disease journey, which we have not experienced. This allows us to perceive and understand their situation better.

For our bachelor thesis, we intend to do interviews with experts, for example from the Krebsliga or different psycho-oncologists. These insights give us a few important methods on how professionals treat their patients.

Additionally, we talk to people who have experienced a cancer diagnosis. The aim is to find out how they were handling this whole process, with what kind of coping strategies they tried to process the whole experience and how high their significant value towards emotions is. They will be the core component of our interviews, since we're planning on co-designing with them. It's key to get them to reflect on their experience from that relevant time.

A benefit of interviews is that they can be adapted easily to a participant's situation. For example if one is feeling tired or not in the mood for answering our questions we can immediately stop or shorten the interview.

Cultural Probes

Throughout our design process we are also planning on implementing cultural probes into our set of design methodologies. With these probes we want to analyze their daily challenges and also to understand their aims and needs of the patients. The participants — in our case the patients — document and reflect certain aspects of their daily life for a few weeks. This research method helps us to generate their real behavior and uninfluenced insights from their own perspective, which makes the Cultural Probes very valuable for the initial research phase.

Further, cultural probes will be useful for documenting the existing coping strategies cancer affected use. Through the flexibility of cultural probes participants are not forced in a certain direction (compared to interviews) and can share an individual and personal reflection of their coping.

Observations / Fly On the Wall

Another methodology for our research phase will be observations or fly on the wall sessions, primarily in psycho-oncologist sessions or counseling interviews from the Krebsliga, because we want to observe the different applied methods from the professional side while treating a patient. We think that it will be very insightful to see how such a sequence is being executed which could help us in iterating our prototype.

To keep on iterating our prototype, we are also planning on observing the patients while they are using it. This will help us to evaluate and develop our service tool. The downside of this methodology is that it could influence the behavior of the participants. For example our presence could change the setting of trust in a therapy session leading to a less open and honest communication between the observed.

Prototypes & Testing

To constantly review our research outcomes, we keep on iterating on our prototypes by testing it with our target group. Our prototype should be distributed to different affected people and then afterwards be evaluated with interviews, questionnaires or usage observations. The prototypes can look completely different from the proposed end result. Our prototypes could be developed to find out a specific thing.

Workshops

Workshops can be a very helpful method to co-design with our target group. It allows us to work together and also get inspired from each other. Working directly with the source can prevent us from being biased and therefore respond to the patient's needs.

2.9   Motivation and Intended Contribution

The healthcare industry is under constant financial pressure. All processes must become more and more efficient and cost saving. This stays in contrast with that medical interventions evolve more towards a higher complexity. The demand and load for the staff always increases. Personal conversations with patients about life related needs or general questions get forgotten. Patients are missing a reference person in their treatment process, which could then increase the feeling of being overburdened with their own thoughts and emotions.

It needs to be noted though, that the communication part isn't the focus on our bachelor thesis. We think that the communication ideally should be generated by being able to understand one's emotions in order to be able to communicate it outwards. This means that we start before the communication — in terms of our bachelor thesis — we aspire to enable their understanding of themselves and the realization of what is felt by an active reflection once in a while, which we propose with our bachelor project. By being able to reflect with our tool, it makes it possible for the patient to better react to different situations and to be able to better communicate outwards of what their needs are or what's on their mind.

Additionally, we want to pinpoint the fact that each sensation which is felt, is being processed by a certain coping strategy. With our bachelor thesis we also aspire to distinguish these strategies which then again, leads to a reflection.

We see that our tool has the potential to be an approach to counteract this problem. Besides communicating and reflecting one's needs, thoughts and fears, and helping with the expression outwards, it therefore could be a tool that reaches beyond the medical aspect of treatment. Friends, relatives and the medical staff could see the effects

of their actions on the patients' personal life, and potentially also vice versa.

In the long term we therefore hope that it helps cancer patients and their close social environment to develop a more understanding relationship between each other and particularly themselves. With this approach we hope to create a way of easing their cancer disease journey and the ability to open up and process emotions, fears and thoughts which are experienced during the disease.

Another reason why we are motivated is the whole design process which is waiting ahead of us. It allows us to work very closely with our target group – cancer patients — and to be able to design the end-product on the basis of the interviews and user testings which we are doing. Additionally, the field of health care is one of our main interests. Therefore having the very first possibility to design something in this field is very exciting for the both of us.

2.10 Defending the Decision for Cancer Patients

During the process of concepting and developing our project we more and more realized that our initial idea was shifting towards something that is not only relevant for cancer patients but for everybody else, who haven't experienced a diagnosis. Nevertheless, we decided to stick to cancer patients as our target group because of coherence. The topic of emotions and coping strategies is already so diverse and subjective, that widening up the target group would have led to an even more complex design process as it already is.

The decision behind working specifically with cancer patients yielded from the desk research about the emotional state of the patients and the already existing treatment of it by professionals. Through this research, it led us to the thematic area of psycho oncology and its relevance for cancer patients. Through this discovery we decided to dive into this field, since there was an already existing pool of case studies and experiences which we were able to investigate and analyze further in our research phase. Additionally, having people that have experienced a more or less similar process and are facing alike challenges, could reveal things that otherwise go under and also certain patterns which they have in common.

Furthermore, working with the hospital is also giving us a possible customer for our end product. Emotions and stress are an ongoing topic in the everyday life of hospitals. Nevertheless, the existing tools for reflection on that are very rudimentary, as shown on the following "stress thermometer".
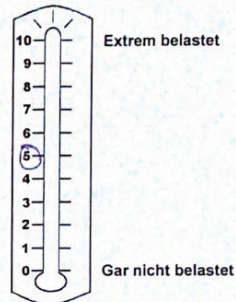
Datum: .... Visum Arzt: ....

Belastungsthermometer*

1. Bitte kreisen Sie beim Thermometer rechts die Zahl ein (0-10), die am besten beschreibt, wie belastet Sie sich in der letzten Woche einschliesslich heute gefühlt haben.

10 — Extrem belastet
9 —
8 —
7 —
6 —
⑤ —
4 —
3 —
2 —
1 —
0 — Gar nicht belastet

2. Bitte kreuzen Sie an, ob Sie in einem der nachfolgenden Bereiche in der letzten Woche einschliesslich heute Probleme hatten.

ja nein

Praktische Probleme
Wohnsituation
Versicherung / Finanzen / *Regelung*
Arbeit / Schule
Beförderung (Transport)
Kinderbetreuung

Emotionale Probleme
Sorgen
Ängste
Nervosität
Traurigkeit / Trauer
Interessenverlust / Rückzug
Depression

Sinn- / Glaubensfragen / Spiritualität

Fragen zur Behandlung

Fragen zur Patientenverfügung

ja nein

Körperliche Probleme
Schmerzen
Schlaf
Müdigkeit / Erschöpfung
Bewegung / Mobilität
Atmung
Übelkeit
Essen / Appetit
Verdauungsstörungen
Sexualität
Äusseres Erscheinungsbild
Gedächtnis / Konzentration

Familiäre Probleme / Umfeld
Belastung der Familie
im Umgang / Informieren des Partners *Paines*
im Umgang / Informieren der Kinder / des Umfeldes
...gen / Probleme: ....
....

* Adaptiert nach NCCN Guidelines Distress Management, 2016 © National Comprehensive Cancer Network

Datei Belastungsthermometer	Autor	Genehmigt von:	Datum	Version	Seite 1 von 1

Figure 2: Stress Barometer, personal material of an affected cancer patient

2.11 Chapter Overview

In the research chapter we explored the diversity of a cancer disease. We learned how diverse the different needs of affected people are and that the symptoms can be very diverse. Nevertheless, it seems that a lot of them struggle with emotional stress. Therefore, we explored in what ways support can be given. There are a lot of different approaches, but it seems that a tool for reflection is the most promising one. Especially diaries, because they are adaptable to the different needs one has.

In the concept chapter we want to explore further, what already existing "resistance resources" provide before focusing too much on diaries. We do this by analyzing existing work, conducting interviews with experts and doing prototype testings with cancer patients.

From the gathered data we will develop prototypes that help cancer affected patients in their coping strategy. The feedback from users will then be used in the improvement of those prototypes.

In the end we will explain the design of the end product and do a final test with the patients.

3   Concept

In the research phase we learned that a cancer diagnosis is an enormously diverse illness. There is no identical case. Even the same diagnosis can result in different needs and problems. Nevertheless, we realized the only common overlap is the psychological load one has to cope with. Even though the cancer patient is supported by psycho oncologists in today's hospital environment, the time and resources of the psycho oncologists are limited. Therefore it makes sense to develop a tool that the patients can use anytime by themselves when they need it and support them without being dependent one hundred percent on professionals.

3.1   Iterated Research Question

After our research phase we have iterated on our research question. We now are sure to focus on cancer patients in our research phase and not additionally their close social environment. Otherwise, as stated already, the rabbit hole of the process would become very deep.

„How might we create a tool that helps cancer patients to better understand their emotions and to comprehend their coherent coping strategies?"

The aim behind the iterated research question focuses simply on the cancer patient themself. We want to start at the core of the origin of the emotions and lead them to the ability to name what is felt and then make them realize how they are handling it on the basis of their coherent coping strategy.

3.2   Concept and Angle

Emotions, feelings and moods are an essential part of interpersonal communication. They show us how we feel in certain situations or how we feel with certain people. Emotions, feelings and moods help us to experience our physical and mental boundaries.

We, as humans, constantly have these emotions and feelings because they tell us what is important to us and what we need or want. In many cases feelings and emotions can help us to find out how we should handle different kinds of situations in life. Problems trigger emotions, when the intensity isn't convenient for the human being *(Dehner-Rau and Reddemann, 2019)*. Therefore, it's important to bring these feelings and emotions to a suitable intensity or distance, to be able to handle them accordingly. We can get stuck with a certain emotion because we don't know where this emotion is coming from, how this emotion is feeling in the body or when we don't know how to put these emotions into words. According to Dehner-Rau and Reddemann, in many cases people don't know how to find the context of their emotions. Then it's important to find this missing element to bring the thoughts, feelings and actions together which enables us to fill this gap in the mind *(Dehner-Rau and Reddemann, 2019)*.

In our bachelor thesis, we are particularly interested in the coping strategies and their perception of emotions of patients, who have experienced a cancer diagnosis. Having heard and read from friends, relatives and articles about experiencing a cancer diagnosis —which goes from the moment of getting the diagnosis till an indefinite time — can feel like a huge wave of new information and feelings hitting one's life, since it hasn't been experienced before in the relation of an illness.

Based on our literary and field research, we see the value in providing a tool to support the patients to cope with their emotions. We wish to enable them to understand themselves better and there-

fore hope to ease the communication which can be carried outwards to the close social environment. To be more specific, we hope that it enables the patients to better react to different situations in life and to be able to better communicate to their close social environment what their sorrows, fears, needs, et cetera are.

3.3   Name of the Project

For the name of our bachelor project we have decided on the german word "Durchzug" which translates into "air draft". An air draft occurs when two windows, or doors, which are facing each other, are open.

When we're overwhelmed with our own thoughts, problems or feelings, we mostly go outside and try to air our heads to sort out our issues and sorrows. Back in the time when we went to school, we always had to open the windows in our classroom during the breaks, since the fresh air enhanced the concentration. The decision when the windows are being opened or not lies in our own hands.

In relation to our bachelor project, we think that once in a while having a "Durchzug" through your head can help you to cope with your emotions. By actively deciding to open up your own thoughts and feelings it can help oneself to reflect and question what is felt. This window of reflection can be closed anytime and re-opened when the need for headspace appears. In terms of the tool we've designed, it only needs to be used when the need and desire is there. Just like the need to "durchlüften" the room once in a while, when the air is getting worse.

3.4   Related Projects

For the related projects we have looked into different kinds of inspirations of what already exists. Either we chose the project because of the topic, which relates to our research field, or the chosen methodology of the project, which gives us a good guidance principle in terms of the design process. Additionally we included projects which also inspired us in terms of the form of the end product.

3.4.1 Aepsy

Aepsy is a platform for psychologists and patients that brings them together. Patients can answer a questionnaire to better understand their needs and then get recommended to a matching therapist. Furthermore, Aepsy provides knowledge resources about different mental health topics like symptoms of burnouts, panic attacks or depression. Or they explain the forms of therapy and how they work.

We chose this service because we like the visual and communication aspect of it. It handles the difficult topic in a professional, positive and neutral way.

https://aepsy.com

Figure 3: Aepsy Website Screenshot.

3.4.2 Mika

Mika is an interactive cancer assistent. It accompanies cancer patients by giving them information, advice on how to reduce stress or allows them to track symptoms This reduces psychological load for the patients. It is accepted as a medical product by health insurance companies. We chose this project because it shows the importance of a good companion and self monitoring during cancer treatment. Furthermore it gives affected something they can do and regain some sort of control, when they feel lost after a diagnosis. According to their study, psychological stress was reduced by 41% after being accompanied for 12 weeks.

https://www.mitmika.de/

Verschaffe Dir Klarheit über Dein Befinden
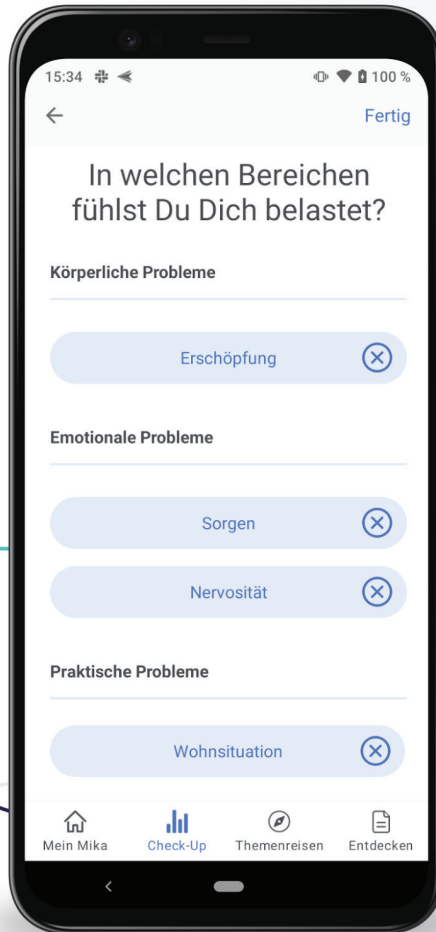
Figure 4: Mit Mika.

3.4.3 Roundabout.

Year: 2021
Author: Corvin Springer, Alec Nikolov,
            Alessia Wiss, Sonia Tao

Roundabout. is a project which was done during an interaction design process module at the Zurich University of Arts and Design. It's a tool which enhances one's empathy and communication. The project is a service in the form of a game, suited for households, such as shared apartments, that want to get to know each other further and to build

Figure 5: Roundabout.

trust and closeness, so as to be able to handle conflict with each other better. Once a month, the household receives a set of questions with instructions, which further their connection, vulnerability and empathy to and with each other.

The game "Roundabout." consists of a set of cards which have different questions on it, concerning all aspects that flow together within the frame of living together in one household. In each round one question-card is selected by one participant. The selected question is being answered by everyone in the round. The answers are written down on a piece of paper. After everyone has answered the question, the set of answers are being mixed and then randomly distributed to each participant. The goal is to try to understand and put yourself in that position of the person who has written down the answer. This is done via a "play" —— basically you try to explain yourself why you have written down the answer. Therefore you need to show empathy and put yourself in the person's shoes who has originally written down the answer. After everyone has "played out" the answer, the whole round needs to guess who originally wrote down the answer.

We chose to put this project into our related projects, because it's a systemic approach of changing one's way of thinking and handling specific co-living situations. The game slowly raises the action of empathy and communication by putting emphasis in changing the way of perception and interpretation. By bringing a group of people together, the game has a social aspect to it, which is an aspect we also want to address in our bachelor thesis.
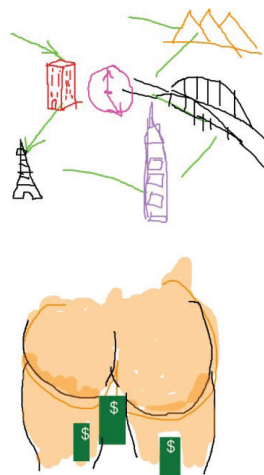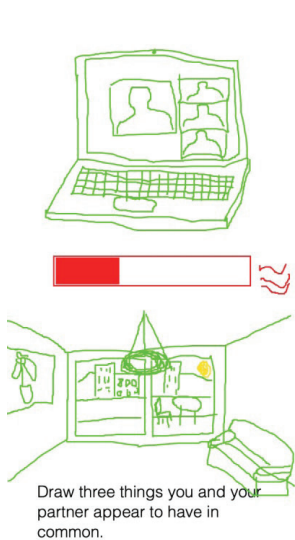
Draw three things you and your partner appear to have in common.

What was the most difficult situation in your life?

If you could wake up tomorrow having a superpower or ability what would it be? Why?

Figure 6: u-see.

3.4.4 U See

Year: 2021
Author: Baran Yüksel Güneysel, Ramona Elisabeth Rüttimann,
          David Wollschlegel, Miriam Mai Watanabe

U SEE is a project that emerged from the interaction design process module at Zurich University of the Arts. Two strangers draw answers to questions we posed about their life and things they have in common. Due to the corona pandemic those conversations were held over zoom without the camera turned on and they used the applications whiteboard functionality for drawing. The main goal was to connect the participants, let them be themselves and give them a safe space while talking. It was a playful way to get to know each other on another level and to have a deep conversation with someone they do not know. The conclusion of the project was that strangers are generally open to communicating about intimate things. If they feel uncomfortable talking about something they avoid it by changing the topic or describing something less intimate. Furthermore, they expressed more details about certain situations by not only using verbal communication but also drawing. The other person could then react not only to spoken words but also what was seen on the whiteboard.

We chose this project because in our process the number one strategy for people to process their emotions are conversations with other people, often partners or friends. Therefore, we think another human being plays an important role in the emotion handling process.

https://u-see.ch

3.4.5 Hello Game

The "Hello Game" is a conversation game about living, dying and what matters most to one. Each player gets a question set in the form of a small booklet. There are basically no rules. You can fill out the questions set alone in advance, during the game with others or also change answers after a session. During the game you talk about your answers and share your opinion. If you do not want to share an answer to a question, this is also okay. In this process you can give credit or show gratitude to others at any time by giving other players so-called thank you chips.

We like the aspect of this conversation generating artifact. It does it in a positive way and especially the non verbal "thank you chips". We believe this non verbal communication can be easier to do than speaking it out loud.

https://commonpractice.com/products/hello-game

Figure 7: Hello Game.

3.4.6 The Loser Game

The loser game is a game you can win not by succeeding and outplaying others. It is different because the people who win are great at losing. They can talk about their negative sides and challenges they have faced. The game rewards players that can speak about their past life with frankness and humor. It tries to change our view on failure by framing it as a normal part of human beings. The questions come in several categories like work, relationships or body and mind.

Some example questions are:

- How have you blamed someone for an issue that was, if you're truly honest, largely your fault?
- A novel is written about your love life: what should it be called?
- What important moves do you keep delaying in relation to your career?
- Name a surprising, basic and embarrassing gap in your knowledge.
- What three rude words would you apply to your character?

Depending on your life situation and weaknesses the game demands a lot of trust and courage to play the game. Nevertheless, it poses interesting questions and can strengthen relationships by building trust.

https://www.theschooloflife.com/shop/eu/the-loser-game/

3.4.7 T–Kit

Year: 2018
Author: Colin Lüond, Fabrice Spahn

The T-Kit is a set of three objects which shall create a discourse about three existing problems within the space of work — noise, communication and sense of time.

We like the representation of those abstract and hard to grasp topics in a physical and tangible way. For our end product we could imagine that through an object one becomes more aware of his emotions.

https://interactiondesign.zhdk.ch/projekte/tkit/

Figure 8: T-Kit.

3.4.8 Cycle Apps

Cycle Apps, such as Flo, are apps for women who are experiencing their monthly menstruation. Flo gives the precise AI-based period and ovulation predictions by tracking 70+ body signals like cramps, discharge, headaches and more. You also get access to personalized health insights, virtual dialogs and dozens of courses to learn how your cycle affects your body and well being.

From several people, Sonia included, we heard that additionally tracking your emotions on this app brings lots of advantages, because it allows them to "blame" their hormones for having a bad mood and it gives them strength when they can see that in the past, most of the time they felt good. This functionality in the app enables the users to daily reflect on how they are doing and by "journaling" these symptoms in the app. In some way it allows the woman to accept the fact that she's not feeling well, since she can understand the origin of it.

We included this project because it's really interesting to see under which circumstances it's an advantage for the user to daily get your emotions and the body conditions tracked by AI, to benefit from an analysis of yourself. Additionally, it also shows how the acceptance of the emotions can be done more easily, if the origin and the exact reason behind it is known.

https://flo.health/product-tour

3.4.9 Journaling Books

Since we did quite a bit of research about journaling, we wanted to find out if there are already existing journals which are a bit more guided, than just plain white pages. We have observed through our interviews and testings, that white plain pages to write into, can be very overwhelming. We therefore see the advantage of these books

especially for people who haven't really got experience in writing journals, but are motivated to get into it.

We have found two journals in the bookstore which we were able to test for ourselves. We wanted to find out how it feels to have a book, which is partially guided, and should engage you to reflect on certain life related aspects.

Five Minutes in the Morning by Aster

"Five Minutes in the Morning" is a journal to help people focus on what's important and then go ahead and do it. Questions like "what if five minutes could change your routine and change your day?" or "what if you checked in with how you are feeling for just those few minutes, maybe sitting down over that cup of coffee or tea, or quietly sitting by the window before you head towards the shower?", are being asked to the user.

They claim that writing things down has been shown to help people more successfully achieve their dreams and goals. It is a way to help us focus on what matters, prioritize what we are going to do for the day ahead and track our progress. "Five Minutes in the Morning" offers a nicely designed space and creative exercises to encourage reflection and intention setting at the start of the day.

The book was visually quite alright. Maybe for some tastes a bit too corny, since there were quotes on every few pages which should engage the user. Nevertheless, we think the questions they propose indeed lead to a reflection of our own goals and help to focus on what really matters.

Do It For Yourself by Kara Cutruzzula

"Do It For Yourself" is a bold motivational journal for anyone seeking to boost their productivity. Whether you're embarking on a new project or planning your future, understanding what makes you tick is the crucial first step in making things happen.

"Do It For Yourself" combines the pop-art-inspired graphics with 75 thought-provoking prompts by creativity and productivity expert Kara Cutruzzula. You can choose any goal and work through the five stages of the journal — getting going, building momentum, overcoming setbacks, following through, and seeking closure — or just open it to the phase you're in now. Each exercise is designed to help reorient your outlook, overcome roadblocks, and encourage mindfulness, with typographic quotes which should inspire oneself. The aim of this journal is to find the much-needed space to focus on energy, clear up mental clutter, and set yourself up for success.

The illustrations are very graphic, large and bright with, occasionally, quite difficult to read fonts — not suitable, perhaps, for anyone with a color-blindness issue. Unlike some other journals where the reader is prompted by the same questions every day, each double-page spread covers a different exercise, idea or topic which the reader works through and makes notes-to-self on. Almost all of these spreads consist of a whole page of a brilliantly-coloured, one could say psychedelic graphic consisting of words in peculiar fonts. The exercises and the questions are also well written and really do encourage to reflect and to keep being motivated.

Conclusion of Journaling Books

As a conclusion of these two books, we would say that these guided journaling books work for people who are very motivated to get into adding journaling into their daily routine. Otherwise, it's really difficult to motivate someone over words and pages. But we still think that writing down your own thoughts is a big advantage in terms of inner reflection. Therefore, in terms of our research, we want to find out if the patients which we're going to interview find the approach of journaling appealing or not.

THE POWER
OF WRITING

The very act of writing something down gives shape
to our thoughts. Seeing an idea or feeling set out on
paper gives us a new perspective and can help us
to be more objective. Perhaps that idea we've been
pondering really does have potential, or the worry
we've been carrying is not so serious after all.

Writing helps us to clear our minds. If we get the list
of things we have to do out of our heads and onto
paper, then our brains will have space for more
important thoughts.

Words bring our thoughts to life, so committing our
goals to paper makes it more likely that we will achieve
them. The same is true for our hopes and desires.

So grab a pen and remember, what you write is for
your eyes only.

Figure 9: Example Page 1 "Five Minutes in the Morning".

I AM THE PROBLEM, I AM THE SOLUTION

Sometimes it feels as though life is controlling us, rather than the other way around. When that happens, it's useful to remind ourselves that, while we may not be able to control everything that happens to us, we can control our reactions and responses.

Begin by writing down the thing that's causing you to feel out of control – "I am putting on weight" or "I have too much to do at work", for example.

Now make a list of ways you could resolve the situation, beginning each possible solution with the phrase "I can choose". "I can choose to walk home rather than take the bus"; "I can choose to speak to my boss about my workload"; "I can choose to make healthy choices in the supermarket." Say each sentence aloud.

Figure 10: Example Page 2 "Five Minutes in the Morning".

WHO IS IMPORTANT TO YOU?

"You just stay here in this one corner of the Forest waiting for the others to come to you. Why don't you go to them sometimes."

A A MILNE, *THE HOUSE AT POOH CORNER*

Spend five minutes this morning making a list of all the people you would go to when you need a shoulder to cry on or someone to share your joy.

Figure 11: Example Page 3 "Five Minutes in the Morning".

3.5   Desk Research

3.5.1   Cognitive Behavior Therapy

"CBT is based on the concept that your thoughts, feelings, physical sensations and actions are interconnected, and that negative thoughts and feelings can trap you in a vicious cycle." (NHS website, 2021)

Although Cognitive Behavior Therapy (CBT) can not reduce physical symptoms it is a promising form of therapy for all sorts of mental health conditions. Normally, a therapist helps the clients to reveal distortions in the thinking pattern that create problems and suffer. Instead of focusing on what has led to a certain problematic situation or difficulties, CTB focuses on what is going on in the clients life at the moment and tries to introduce positive change from there.

To do so it is important for the therapist to know the current behavior of the client. Self-monitoring is therefore an essential part of CBT.

A process one goes through is visualized by Schelp et al in the book "Rational-Emotive Therapie als Gruppentraining gegen Stress: Seminarkonzepte und Materialien". One has to retrain automatic behavior, by becoming aware of it.Afterwards a reflection on it is important and try out new behaviors. This can happen in discussion with others. The subject has to be reasonable about his behavior.
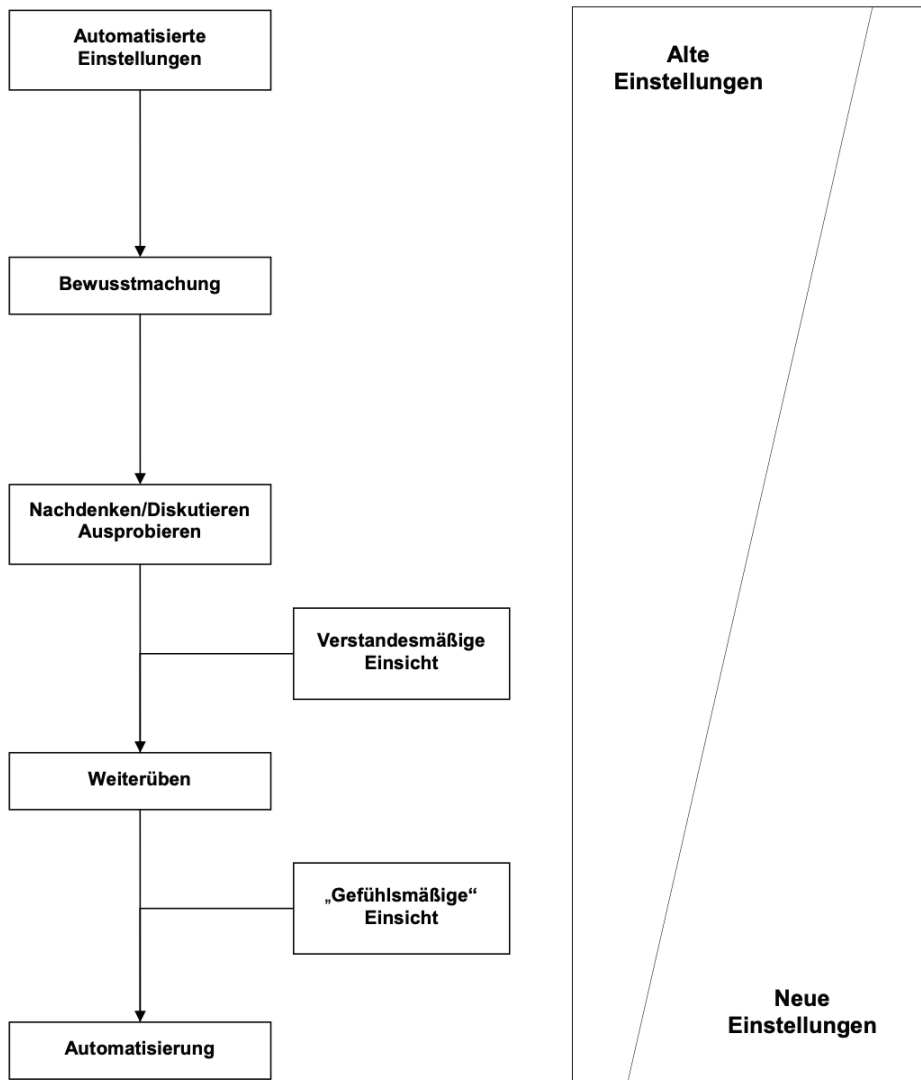
Figure 12: CBT Schema.

After that it is important to train the new way until it becomes reasonable on an emotional basis. Afterwards it gets automated.

3.5.2 Coping Strategies

Coping Strategies can help to tolerate, minimize and deal with different stress-related or overwhelming sensations of emotions in life. Managing these aspects can help one to feel better psychologically and physically. But not all coping skills are created equal. There are times where it's tempting to engage in strategies that will give you quick relief but might create bigger problems in the future *(Morin, 2021)*. It is crucial to establish healthy coping strategies that will help to reduce the overwhelming sensation of emotional stress. Generally there are two main types of coping skills *(Morin, 2021)*:

-   problem-based:
    This can help when you need to change a certain situation.
    E.g., if you're in an unhealthy relationship, your anxiety and
    sadness might be best resolved by either talking to the person
    or ending the relationship.
-   emotion-based:
    This can help when you need to take care of your feelings when
    you either don't want to change the existing situation or when
    the circumstances are out of your control. E.g., an event of death
    in the family leads to grief, and then it would be important to
    take care of these emotions with a healthy coping strategy.

Emotion–focused coping skills can help to deal with your feelings in a healthy way. Healthy coping strategies are able to soothe (mostly only temporarily distract you from the (overwhelming) sensations you feel. In other times, they can also help you to change your current state of emotions. There are a few healthy strategies, here some examples:

-   Taking time to care for yourself (take a walk in nature, take a

bath, go to the spa, etc.)
- Doing what you like to do in your free time (can be anything you would call a hobby)
- Exercising (doing different kinds of sports can help you to produce dopamine and endorphins)
- Focus on a task (e.g. cleaning, gardening, reading, etc.)
- Practicing mindfulness (meditation, writing into a journal, breathing techniques, smelling certain smells which remind you of certain joyful situations, etc.)

But of course there aren't just healthy coping strategies. Some coping skills could also create bigger problems, even though it might help you to endure emotional pain for a moment. Some unhealthy coping skills are for example using drugs, drinking alcohol, overeating, overspending on money or simply the avoidance of the problematic by distracting and distancing yourself from it *(Morin, 2021)*.

There is a huge variety of different kinds of coping strategies. Some of them work for others, while others don't work at all for other people. It is important to find coping strategies for yourself. Everyone's needs and abilities are different, therefore you need to find what works for yourself and your situation.

There are certain coping strategies that work best for specific issues or emotions. Finding and adapting your coping strategy is therefore a never ending process. The toolbox of strategies is constantly changing throughout life.

Proactive Coping

Proactive coping strategies can be an effective way to manage the future obstacles you're likely to face *(Drummond and Brough, 2016)*. It can be used to help people deal with unexpected life changes, for example a major cut in life by getting a health-related diagnosis. In 2014 there was a study which found out that people who were

engaged with proactive coping strategies were better able to deal with the changes they have encountered after having a stroke *(Tielemans et al, 2014)*. Another study showed that people who engaged in proactive coping were better equipped to manage their type 2 diabetes *(Tielemans et al, 2014)*.

So if one is facing a stressful life related situation or experiencing a major change, planning ahead can help you to cope with it. You should consider the skills you can use to cope with the challenges you're likely to face *(Morin, 2021)*. Basically, you can see it as a toolbox, which you can carry around with you and use whenever you need it.

Distress Tolerance

Distress tolerance is an ability to manage actual or perceived emotional distress. This involves the ability to make it through emotional incidents without making it even more stressful. People who have a lower distress tolerance tend to experience more stressful situations which would result in a rather unhealthy way of coping strategy *(Tull, 2020)*.

There are different kinds of distress tolerance techniques. Such as distraction, which can be a very effective way of taking action to increase your distress tolerance. This would involve different methods to take your mind off of your overwhelming feelings. Another way would be to use a strategy to help make the stressful situation more tolerable by, for example, looking for the silver lining or actively taking a mental break to do something pleasant. As well as thinking about the potential pros and cons of either tolerating it or not. This is a good reflection technique to think through the short- and long term consequences of an action *(Tull, 2020)*. Another more radical technique would be simply the acceptance of things as they are and trying to let go of feelings.

The goal of distress tolerance is basically to become more aware of how your emotions influence how you respond to distressing situations.

Emotional Acceptance

Emotional pain is something no one wants to experience all the time. But when you try to reject your emotions, it might get even worse. "Emotions serve various purposes, including providing helpful information about the world.", proclaims Salters-Pedneault. By that she wants to say that getting rid of or pushing away emotions should not be done. The key is to accept the emotional status, which is known as emotional acceptance. Accepting means that you practice allowing your feelings to be what they are without wanting to change them *(Lindsay and Creswell, 2019)*.

It is important to note that accepting emotions does not mean that you resign yourself to constantly feeling negative emotions. "As a metaphor for acceptance, imagine that you are a soldier who has fought a long battle with your emotions. Acceptance is the act of putting down your weapons and walking away from the fight." *(Salters-Pedneault, 2022)*.

Emotions are part of a complex system which help you decide what you should stay away from or what you should approach more. They are signs for you which gives you the opportunity to learn important information about yourself. If you ignore those it can lead to poor decision-making.

3.6   Field Research

3.6.1 Interviews

Early on in the process, we wanted to better understand how people with cancer and their relatives are helped today. For that we have conducted several interviews with professionals. A psycho oncologist, a consultant from Krebsliga (Swiss Cancer League) and an art therapist.

Barbara Leu, Psycho–Oncologist

Barbara Leu is a Psycho-Oncologist. She wrote the Book "Diagnose Krebs: Existenzielle Fragen zwischen Leben und Tod. Ein Ratgeber" (eng. "Diagnosis Cancer: Existential Questions between Life and Death. A guide". In her daily life she gives consultations to cancer patients in palliative care. From the interview with her we wanted to have a better picture of a psycho oncologist's work.

A psycho-oncologist's work differs from a psychologist in that they are specialized for cancer patients. This results in an increased knowledge about griefing models, shock moments, giving someone hold or creating a narrative for their life. We talked a lot about what problems cancer patients are facing and realized that they are extremely diverse, depending on the form of cancer and the patient himself. Everybody struggles with something different. For example the loss of autonomy, fear of pain or loss of social relationships.

We also asked, whether aids are used in the therapy sessions. Barbara is not using any because she has to be comfortable with the medium. Otherwise there is not a good flow in the session. The only medium she is comfortable with are spoken words. Nevertheless, there are plenty for other therapy forms like sound therapy, art therapy or scent therapy.

We also learnt from her that not only cancer patients are looking for support and advice, but also relatives of cancer patients. Something that can be a burden for them is the change of roles. Some cancer patients need care in the form of helping showering or changing clothes. Often a close person, like a partner, is performing this task. But by doing so they lose the important role of mental support. This creates tension.

Last but not least, we wanted to know how we should deal with the cancer affected people. The most important lesson is to stay honest. We should not try to avoid the topic of cancer. Because even when we would try to, it would be alien for them. A natural conversation at eye level is probably the best option.

Anna Zahno, Krebsliga (Swiss Cancer League) Consultant

Krebsliga (Swiss Cancer League) is an organization that is mainly funded by donations. Their help ranges from information events, detailed brochures for specific situations and phone consultations. Furthermore, they are also politically active and try to introduce change, like a colon cancer early detection programme. They are structured in several "leagues" and some of them also provide additional help by social workers. Those support by doing more practical things. For example filling out invalid registration forms.

Our interview partner Anna Zahno is a telephone consultant. She mainly answers one time questions that cancer affected are bothered with. Most of these telephone consultants have a background in nursing with oncology experience. Therefore, they are capable of answering medical questions and explaining medical terms. The ratio of cancer patients and relatives is pretty much half - half.

What was interesting is that according to her experience most people do not change their coping strategies in their life. She gets a lot of phone calls from frustrated relatives who are clueless that their partner, friend or family member is not talking about the disease.

When she asks them how they handled difficult situations before, most of them answer that the affected person pursued an introverted approach of handling feelings and emotions beforehand. In her opinion one way is not better than the other. In situations where someone is clueless how to support, one should not underestimate the value of just being present and available to someone else.

Michaela Hellenthal, Art Therapy

Michaele Hellenthal is an art therapist in several palliative care stations. In the interview with her, we wanted to understand what the differences to common therapy is.

The main difference is that this form of therapy is not active. When a client comes to one of her sessions, she waits-and-sees and has a supportive role. This means that she is not actively creating a conversation. The beauty of art therapy is that the patient is in full control. He is the one that controls how personal the conversation gets. Everything that happens is from the patient's motivation. He decides what he wants to create and what it is going to be about. It is not primarily about speaking but the doing. It is not about finding answers but seeing things from a different perspective. If people see something visually they get a new approach to it.

Michaele Hellenthal said that there was one patient, who tried to draw her pain. In the end it looked like a cristall. This helped her cope with the pain, because it changed the image she had before of it.

The patient has several material options in her sessions. There are painting utensils, mosaic pieces, stuff for accessories, clay or fabric. Some people create their own urn. The role of the therapist is reserved. She tries to not bring in her opinion. Also when patients ask.

The created artifacts stay always in the therapy workshop. Because it is a therapeutic environment and the patient should not continue working alone on his creation.

When we asked her what in her opinion newly diagnosed people help the most, we got routine and mindfulness as an answer. The most important step as a patient is to recover from the shock paralysis when receiving a diagnosis. After a diagnosis a lot of things become insignificant. The newest released movie is not relevant anymore. It is important to keep or create new routines. Furthermore, it is important to keep your own personality and wishes. Often patients become a diagnosis, because that is the only thing their life revolves around. It is important that people stay aware of who they are, what they feel and what they wish.

She suggested creating mini art works, for example collages from found material. Or writing down three things one is grateful for, every evening.

Generally we think creating something helps reflecting. It is nice to see something visually. Also when it is just a fraction of the thoughts.

3.6.2 User Studies

Survey

For getting a first major insight in how people handle their emotions and to what extent they are aware of their own experience with it, we have conducted a survey and have spreaded it on our private Instagram accounts and physically in the Toni Areal. For that we have designed and printed out A3 flyers to catch people's attention. Through scanning the QR code, the people were able to participate in our survey. In total 102 people have filled out our questionnaire.

Figure 13: Hanging up our posters @Toni Areal.

Due to the fact we distributed the survey in our University and among our instagram followers, because it is forbidden to hang up posters in public, the average age of the participants is between 22 and 28. Although this is not the same age group as the average cancer patient, it gave us a quick impression whether our headed direction is worth continuing or more like a dead end. We wanted to awaken the interest to participate by already provoking a question to the viewer. The poster asks "Don't you like talking about your emotions and feelings?". We have formulated these following questions, which could be answered with 1 (not applicable at all) to 5 (applicable):

- It's often unclear to me what feelings I'm having right now.
- I have a hard time finding the right words for my feelings.
- I prefer to get to the bottom of emotions than just describe them.
- I think dealing with feelings is very important.
- I prefer to just let things happen and not try to figure out why they happened the way they did.
- I find it difficult to understand my feelings.
- I often let my emotions control my actions.
- I try to understand my feelings and emotions regularly and to find their origin.
- I don't really like talking to people about feelings, I prefer to talk about what they deal with on a daily basis.

The main findings of our survey is that people who have participated tend to know their emotions but have more struggle in naming or finding the right words for them. The majority of people want to understand their emotions and generally consider it as an important topic. For 70% of the participants the understanding of their emotions is something they consider as stressful, exhausting or demanding.

Emotional Wheel

When working with feelings and emotions, it is hard to not discover the emotion wheel by Robert Plutchick. There are several adaptations of the wheel. For our research we chose one that provided as much distinctive vocabulary as possible. The wheel was used as an ice breaker to start conversations with people about their emotions. Often people answer the question, "how do you feel?" with broad words like "good" or "bad". This wheel should help to make people think more clearly. The possible choice of answers is larger and therefore they have to think deeper about their state. Furthermore, we modified the wheel in such a way that it is possible to select more than one feeling or emotion by spanning a robe around nails.

In the first user tests people liked the wheel. It helped them to think about their current state more easily and find the right words. They also appreciate the possibility to select several emotions.

Nevertheless, the testers had some improvement suggestions. First, they think it should be possible to weigh certain emotions more than others. For them it was disturbing that they had to select emotions that they felt just a little. This could be improved when the emotion wheel supports different levels, weak, medium and strong. The longer the spike of the thread, the stronger the emotion. This would allow the user to further improve a correct picture of his state. In a digital interface a solution could also be to scale different emotions, like Apple Music is doing this with genres.

Another thing people were not agreeing with, is the categorisation of the emotions. A comment was that "withdrawn" should not belong to the category "angry". Similar to this insight, was the lack of guidance the wheel gives. The most upper category of emotions is on the inside and then it gets more concrete towards the outside. This is confusing as most test users read it from the outside to the inside. They suggested some sort of tree structure. This would also allow a more guided step by step process, for example with questions.

Figure 14: Emotion Wheel by Robert Plutchik.
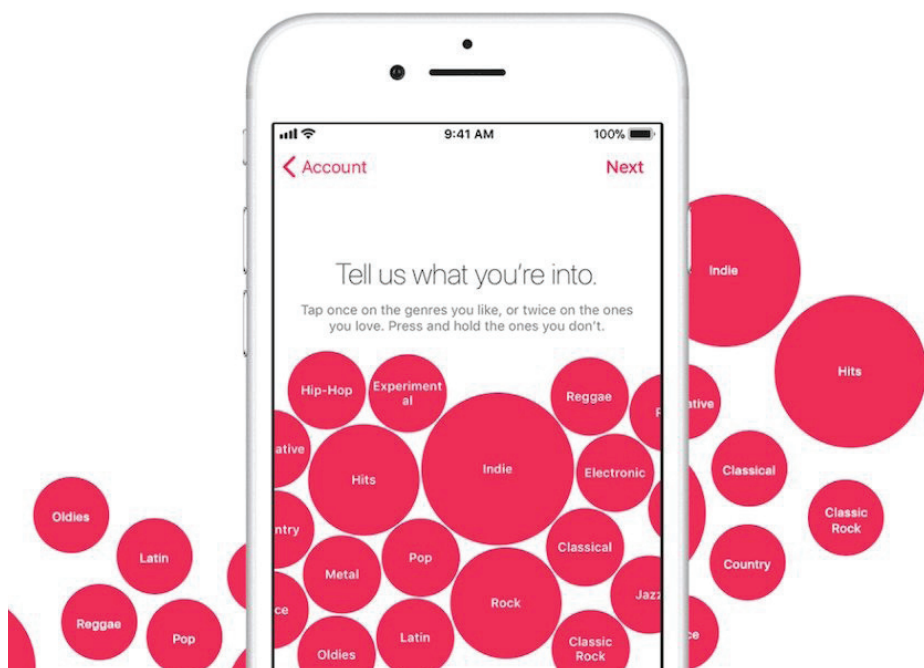
Figure 15: Apple Music Genres.

We still think the emotion wheel is a great tool to start processing emotions. A correct understanding of your emotion is key to successfully improving on it.

Emotional Table

To get in touch with people who aren't experiencing the handling of a diagnosis at the moment, we set up the "interactive emotional table at Lindenhof, located in the heart of Zurich. We chose this place because there is a wide diversity of age groups and the people who are there in the afternoon — in the middle of the week, most probably have time to participate in our interview.

The emotional table is a board with ten different questions regarding the handling and perception of emotions. The participants can physically answer these questions by spanning their way through the questions with a thread. The result therefore is a visual statistic of all the spanned threads. Our main motivation behind this "interactive emotional table" was primarily to get in touch with strangers and try to find out how open and aware they are concerning their coping strategies of their own emotions. It enabled us to find out about their own personal stories and an insight into the way they cope with emotions and feelings. We set up our table for approximately one whole afternoon and had ten really interesting outputs from the people we were able to interview further and get into a really interesting conversation. Both of us were really surprised by the openness many participants have shown in terms of talking about something rather personal. Another observation we have made is one couple *(one woman and one man, who were about 50 years old)* that we wanted to talk to. In the beginning they seemed interested in participating, but right after mentioning the topic of our bachelor thesis, the man instantly proclaimed that he definitely doesn't want to talk about this and walked right away. On the other hand was his wife, who was still interested in answering our questions. After having experienced this phenome-

non several times that day, we realized that exactly these kinds of people who chose not to talk to us about emotions, were the ones we were actually more interested in. At the end of the day we asked ourselves how we can get in touch with people who prefer not talking about it, and get them to open up to us and reveal the reasons behind it.

"Close friendships have decreased during the age, therefore the seek for psychotherapists has increased."
Woman, approx. 50+ years old

One of the main takeaways of this afternoon session was that having a partner to talk with is essential for the handling of their own emotions. Having the trust and the safe space gives the person the platform to open up and to show their vulnerability and honesty in terms of expressing the emotions which are felt. Other participants reach out to coping strategies such as conscious breathing exercises to help them to wind back and reflect on themselves, or walking in nature helps some participants to get some time to think and take a distance from the emotions and feelings which are felt.

A majority of the participants (>40 years old) proclaimed that age, and therefore the resulting experience, is a big aspect of the competence of coping with their own emotions. Another statement, concerning the age *(woman, approx. 50+ years old)*, was that in the course of getting older, the amount of (close) friendships have decreased, and therefore the seek for psychotherapists have increased. About 90% of the participants (all age groups) mostly internalize the felt emotions and try to carry them outside by talking with a trusted counterpart.

Figure 16: Emotion Table.

Figure 17: Emotion Table 2.

In the conversations with the participants we have asked them if they have tried journaling before. The majority of them said that they would like to start journaling, but the time aspect prevents them from doing so. One participant told us that journaling is something he likes to do when he's on vacation or wandering around in the mountains. It's kind of like a vacation thing, where he is able to write down his experiences and emotions, so one day he can read them through to reminiscence the things he felt in that time.

Overall it has been a good kick starter to start getting in touch with people outside of our bubble to find out how they handle and cope with emotions. As well as for us, it has been quite exhausting at the end of the day. Talking to strangers about heavy topics such as their own coping strategies and to actively try to engage with the things they said, was something we haven't done before. After the session we reflected on the things that we have encountered and tried to brainstorm about possible questions concerning the iterated prototype. We came to the point where we asked ourselves if there is a tool that helps to communicate about coping strategies, or a tool which helps to tell me how one can cope with feelings and emotions. Even though most people learn these skills by the school of life, there is no explicit tool book on what you can do in situations where things are just getting too much for the head. We are interaction designers and want to give them a medium to help them be active in coping with their emotions. We are not psycho- or oncologists, neither are we designing a tool which should replace therapy sessions. We want to highlight the importance of being not only aware, but active, in terms of coping with your own emotions.

Last but not least we want to recommend the creation of a table like ours. A lot of people were interested because of the table's appearance. Also we liked the survey as an ice breaker before we asked more in depth questions.

Patient Interviews at Kantonsspital Aarau (KSA)

Through the connection of Dr. Ulrike Fröhwein, we were able to get in touch with the deputy of the radio-oncology center in the hospital of Aarau, Dr. Thomas Kern. He was kind enough to invite us over to the hospital for a discussion about the bachelor concept, our plan and intention of having interviews with patients who have received a cancer related diagnosis. Dr. Thomas Kern has reached out to his patients and managed to get several patients, who are motivated to participate on our bachelor project.

The nine out of ten people we interviewed were women. All of them had breast cancer, but one with lung cancer, one with eye cancer and one with stomach cancer. The 10th person was a husband who accompanied his wife to the session.

Each interview lasted about one and a half hours. Before each interview, it was important for us to find a room which was a bit more light flooded and didn't necessarily give them too much of an examination room mood. We wanted to create an atmosphere which allowed the interview participants to feel comfortable.

In the introduction part of the interview, we always first introduced each other and also our current project concept. We let the participants know why they are a help for us and what they could benefit from us and vice versa. Additionally, the patients could decide to quit the interview or decide not to answer certain questions anytime. All the information that we got from our interview participants was documented by analogue notes and no pictures, video, nor audio was recorded. On the first day of our interviews, we asked the patients about their opinion and also their way of perception of emotions and feelings.

Figure 18: KSA Interview Room.

Figure 19: KSA Patient Interview.

3.6.3 Prototype 1

For our first sessions of interviews we handed over an interactive journaling tool for coping strategies of emotions. We gave them the task to look at the tool and try to do some of the "exercises". They had about one week to test it and afterwards we asked them to give us feedback, either via mail or in person. The prototype consists of six different actions. Each action is a different exercise which proposes a coping strategy.

–durchzug

Ein interaktives Journaling Tool für
Bewältigungsstrategien von Emotionen
Prototyp von David Wollschlegel und Sonia Tao

Figure 20: Prototype 1.

S
CH   R
EI
B
EN

Schreiben hilft uns unseren Kopf frei zu bekommen.
Wenn wir die Liste der Dinge, die wir erledigen müssen,
aus unseren Köpfen, auf Papier bekommen, dann hat
unser Gehirn mehr Kapazität für wichtigere Gedanken.
Also, schnapp dir einen Stift und versuche deine Gedanken
durch deinen Kopf, zu deinen Händen, auf das Papier
wandern zu lassen.

Eine leere Seite kann einschüchtern. Fange also vielleicht
ganz einfach an, indem du *dich in der dritten Person
vorstellst und dann aufschreibst*, was durch deinen Kopf
geht.

*Denk nicht zu viel nach. Korrigier nichts. Es muss
nicht perfekt sein. Hör auf, wenn du nichts mehr
zu sagen hast.*

schreiben

Figure 21: Prototype 1 – Write.

Writing

In the first exercise we proposed was writing to clear the mind. The goal was to put on paper what is occupying one and doing the first step to start coping with it.

Z

E   I

CH

N

EN

Eine leere Seite eignet sich perfekt um etwas zu *zeichnen.*
Lass dich nicht einschüchtern, wenn du das Gefühl hast nicht
zeichnen zu können. Es geht nicht um das Ergebnis, sondern
um den *Prozess des Zeichnens selbst.*

Versuche dir vorzustellen, wie sich deine aktuellen Emotionen
anfühlen oder aussehen, und versuche nicht, die Art und
Weise in Frage zu stellen wie sie in deinem Kopf erscheinen.
    Schnapp dir einen Stift und zeichne, was in dir vorgeht.
Zeichnen kann dir helfen Gefühle oder Emotionen auszudrü-
cken, wenn du Schwierigkeiten hast sie in Worte zu fassen.

*Wenn erwünscht, zeige es einem geliebten Menschen und
versuche zu erklären, warum du es so gezeichnet hast.*

zeichen

Figure 22: Prototype 1 – Draw.

Drawing

The drawing exercise is about imagining how the emotions inside one look like.

P

L

A

N

EN

emotion

Setze dir ein Ziel. *Mit welcher Emotion hast du Schwierig-keiten umzugehen?* Versuche diese Emotion aufzuschreiben und die Ziele aufzuschreiben, die du im Hinblick auf die Bewältigung der aufgeschriebenen Emotion, erreichen möchtest. *Wie möchtest du vorgehen um diese Emotion besser bewältigen zu können?*

ziele

planen

Figure 23: Prototype 1 – Plan.

Planning

The planning exercise is about defining an emotion that the user is struggling with. After one is asked to define goals how the defined emotions can be coped with and how this could be improved.

A

US

M

AL

E

EN

Versuche die letzten zwei Tage zu reflektieren, indem du die
Emotionen, die du durchgemacht hast, auszumalen.
Nimm hierfür das *Emotionsrad* und versuche dich zu erinnern.

*War es dir vorher schon bewusst diese Emotionen verpürt
zu haben? Oder bist du auf Überraschungen gestossen?*

ausmalen

Figure 24: Prototype 1 – Paint.

Coloring

The coloring task was a combination of the emotion wheel
and our exercise. The task was to reflect the past two days and color
the experienced emotions. The goal for the user was to realize that we
experience much more emotions that we initially think off.

Z U H ÖR E EN

Musik ist effektiv zur Entspannung oder Stressbewältigung. Suche nach einem Lied oder einer Musikrichtung, welches du gerade hören möchtest. *Notiere den Namen des Songs und den Interpreten auf die Rückseite.*

Warum hast du genau diesen Song ausgewählt? Welche Erinnerungen oder Gedanken löst es in dir aus?

playlist

zuhören

Figure 25: Prototype 1 – Listen.

Listen

For the listening part, people had to pick a song they wanted to hear right now. Then they had to answer questions. What memories and thoughts they have while listening and why they picked this song.

BE
O

B

AC
H

TEN

Versuchen die *Geräusche* zu beobachten die dich gerade
umgeben. Beschreibe diese in Stichworten.

*Welche Art von Emotion(en) würdest du den einzelnen
Beobachtungen zuordnen? Und hängen diese mit deiner aktu-
ellen Emotion zusammen? Nimm zur Hilfe das Emotionsrad.*

beobachten

Figure 26: Prototype 1 – Observe.

Observe

For this exercise the user has to be aware and observe the
sounds that surround him. For each observation one or more emo-
tions has to be linked. Then one is asked, whether those emotions are
overlapping with the ones the person feels.

Interviews

Patient 1 and Husband / 31-03-2021

Patient 1 was accompanied by her husband. She was diagnosed with lung cancer and already had the necessary operation done. Now, a few radiotherapy sessions are needed. That's why she is in hospital.

We started by asking her about the diagnosis and how it changed her life. She told us before the diagnosis she often read something and smoked a cigarette in stressful situations. Due to the diagnosis she stopped smoking and when she tries to read now to relax, she often becomes restless. In this moment it helps her to go to her husband or daughter to talk and distract herself from the nicotine withdrawal. Furthermore, she has trouble falling asleep. Because of that, she started consuming sleep medication, but only a fraction of a normal dosis. Something else that changed is her ability to accept help, mentioned by her husband. Since the operation she often refuses help, for example when cooking. She explained that this is to prove that she is independent again.

When she just got the diagnosis, the first six weeks were the hardest. She tried to push away the thoughts. She barely talked about it and when she did only to her husband. Although she knew she was feared, she had difficulties naming them and concluding where they were coming from. This resulted in a situation after an operation when she stayed in hospital. Due to the small room, bad light situation and breathing problems, she suffered from claustrophobia and one day she even collapsed. After that moment her husband took her home.

Emotions are a positive thing for her. And when emotions happen, they do well afterwards. She has no problems naming the emotions and finding out what triggers them. Regarding coping strategies, she often curses. This helps her release some pressure. She also

goes on walks with her husband, but it needs a lot of motivation to start them. Nevertheless, she feels good after them. For her, talking to other people also helps, especially to her husband. We also asked her husband how he copes with different emotions. He told us that he likes building model boats and that the success moments, like pulling a thread through a narrow hole, give him a deep pleasure and make him happy.

She went to therapy, but only had negative experiences. The first time she made an appointment with a therapeut in the hospital. Unfortunately, he barely had time and released her after 10 minutes. The second time, she consulted a pastor with additional training. He was only listening and nodding.

In the end we handed over the emotion wheel for feedback. The patient was not really impressed. But the husband found it interesting. According to him, the tool enabled him to have more time to think.

Patient 2 / 31-03-2021

Patient 2 was diagnosed with breast cancer as well and is in the middle of her chemotherapy. She's working as a physiotherapist in her own doctor's office, which means that she's self-employed. Patient 2 is about 50 years old.

In the beginning of the interview, we observed that overall she had a very optimistic way of perceiving her attitude towards life. For her, the diagnosis was a way to slow down her everyday life since she was constantly working before. What helped her in situations where she was overwhelmed was to visualize her problems. It's important for her to be able to deduce her emotions and feelings she has, so she can understand herself. Having this structure in her head relieves her. She has tried one psycho-oncology session, but she rather prefers to sort her thoughts and feelings for herself. To constantly keep a positive attitude, the sense of achievement in terms of her ther-

apy, gives her hope. Writing has helped her in some situations to sort out her thoughts. This technique is used irregularly by her. One of the main aspects for her is to see and understand the connection of the things that are felt. She mostly tries to sort her thoughts and emotions so it's comfortable for her mind through relativizing the situation and seeing it from an optimistic perspective. As a routine she takes five minutes in a day to look into herself, which in most times is achieved by doing yoga. Emotions are very important to her to be able to not only understand yourself, but also to understand other people. Without emotions, one isn't authentic.

Feedback of Prototype 1: "At first I thought this tool wasn't for me because it contradicted my personal problem solving strategy. For me, this usually takes place "by the way", without me making any space for my thoughts and feelings. So I'm more of a dual task-person in my everyday life. So your tool "forces" the user, so to speak, to free up space. I have now practiced this and experienced that the emotions were perceived more intensively and in a more differentiated way. For me, an intensification of feelings also means greater vulnerability, reduced resistance to what moves you. People process in different ways, depending on their character, age and gender. The tool is suitable for me to be able to pick up a lost thread again, to become aware of my own reticence or to get a suggestion about which topic is slumbering in myself today.... My purely factual interest in the approach you are pursuing, has turned into sympathy. I just googled the definition of sympathy because I wanted to know if it expresses what I want to say: yes, fits perfectly, is defined as: positive emotional attitude towards someone or something. I think it's great that the user can decide for themselves how far, where, and whether they want to go at all today."

Patient 3 / 31-03-2021

Patient 3 was the least communicative about her emotions. She was also diagnosed with breast cancer, but compared to the others, she had this form of cancer already several years ago. She told us the new diagnosis kept her cold. One reason she named was that, as already said, she experienced it before and secondly that she is used to illness due to her past work experience as a nurse. Like the others, she talked about her emotions with her family. Nevertheless, she was not really comfortable to tell any details and we would have to drill deep to reveal anything. It was the last interview of the day. So we did not really have the energy to do that.

Conclusion Patient 1 – 3

Our prototype which we distributed to them, did not really work out. We realized that the tasks in the booklet did not really support them in their current coping strategies. We found out that all of them have a working strategy and it does not make sense to force them into a certain technique, like writing. At the end of the interview, we always asked how they liked talking about emotions and the handling of it. All of them said it is refreshing, interesting and something they liked.

For the next prototype we want to dive deeper into the techniques they use for certain emotions. We found out that the reactions to different emotions variates. Therefore, we want to analyze whether people lack coping strategies for certain emotions and if they want to change that or work on that.

For the next interview prototype we therefore defined several emotions and printed them on cards. We choose emotions from the emotion wheel and focus on those on which we think one experiences particularly strong. Next to that, we printed different coping strategies on cards and we hope people can then pair those together.

With that we hope to discover certain emotions one does not have a good strategy for.

Because the interviews transition more into a conversation, where they test our prototype, we decided to move the next prototype and transcription to the project development phase.

3.7 Reflection of Chosen Methodologies

All in all, we were quite motivated to do workshops, cultural probes and fly on the wall as additional research methodologies. During the research process we realized though, that doing workshops with the cancer patients would have required a bit more time. It was important to us to first meet up 1:1, and to get to know each other a bit to build up a bit of trust. We luckily achieved this relationship with our participants, by having interviews and discussions about their own personal connection to the topic of emotions. Additionally, we think that people feel a bit more comfortable talking about such a heavy topic, when not a lot of people (who don't know each other) are assembled. Even so, it probably would have been interesting to see how all cancer patients exchange their own experiences and opinions about this topic, since we found out in the interviews that it can be beneficial as well to share their own stories to help others.

The information from the interviews was already so diverse and overwhelming that those two exploratory methods would go beyond the scope. Focus on qualitative research makes sense in this very personal topic. Also it would be hard for the user to ask them to express their emotions and coping strategies and expect some useful results, when this is exactly what we are working on to improve.

4 Project Development

4.1 Prototypes

The first prototype was already developed before the first interviews with cancer patients. We did this, so that we were able to distribute it to them, that they could work with it at home and then after one week give feedback to us.

As our interview sessions at the canton hospital of Aarau continued the concept phase moved further into the product development phase. After each day at the hospital we had one or two days to improve the existing prototypes.

4.1.1 Prototype 2

For the second prototype we wanted to test during the interviews, we decided to move away from the task based prototype. We learned from the first three interviews that everyone thinks completely differently. Therefore we do not want to give our users a clear instruction to cope with their emotions but try to strengthen the self-reflection of their own strategies. We compared it to food. Instead of giving a recipe that results in a tasty meal, we want to let people reflect on what they like and then cook their own meal out of those things.

In the end we printed around 40 cards with emotions (blue) and with coping strategies (orange). The instructions during the interviews were easy. The interview partner had to define what the following reflection was about. Either it was about their cancer diagnosis, an other specific life situation or generally their life respectively their character. Then they had to connect emotions they perceive in the framing with the matching coping strategies they use.
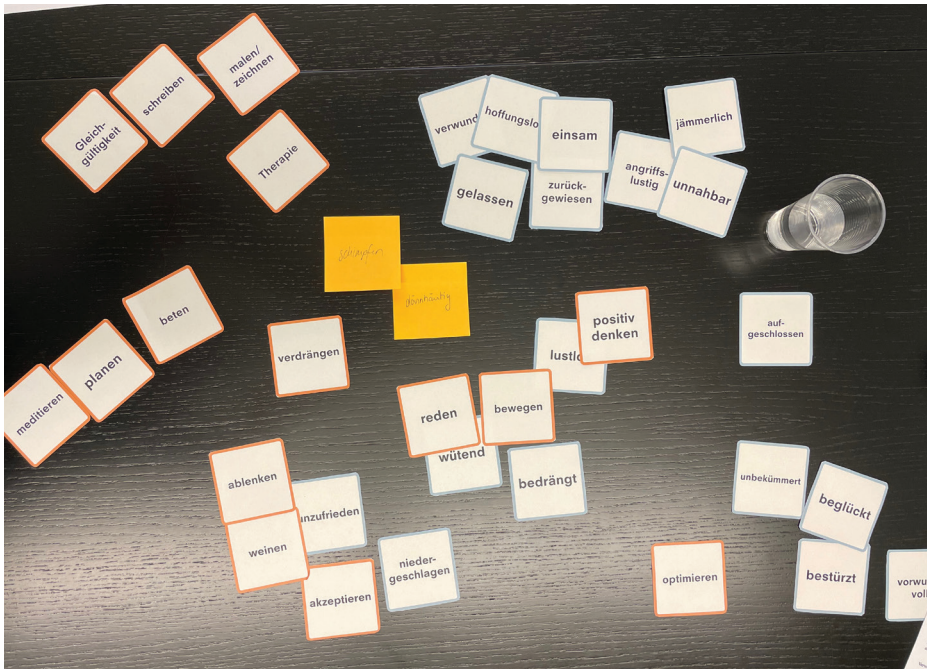
Figure 27: Prototype 2.

4.1.2 Prototype 3

The third prototype was similar to the second one in terms of flexibility. We increased the amount of words for emotions. Instead of letting the user place the emotions freely we decided to try out graphs for them. There are two graphs. One for emotion tokens and one for coping strategy tokens. The emotion graph has the scale of strength (how strong do you experience the emotion) and the scale of time (how often do you experience the emotion). For the copying strategy graph there is an "useful — not useful" axis and one a "do more often — do less" one. With those graphs we hope to get another dimension in the reflection process. They should help order the elements, understand them better and also see how they could change over time.

   The last layout we proposed to the interview partner was more goal oriented. The user starts with emotions and tries to figure out what triggers them. He then defines how he handles the situation now and how he copes with it. From those three steps goals are defined that bring a positive change.

EMOTIONEN
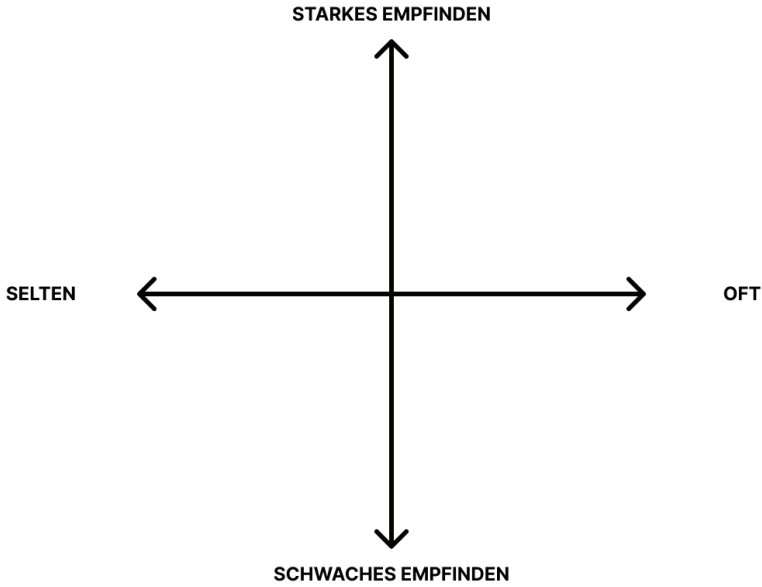
Figure 28: Prototype 3 – Graph 1 Emotions.

UMGANG

MEHR MACHEN

HINDERLICH ← → HILFREICH

WENIGER MACHEN
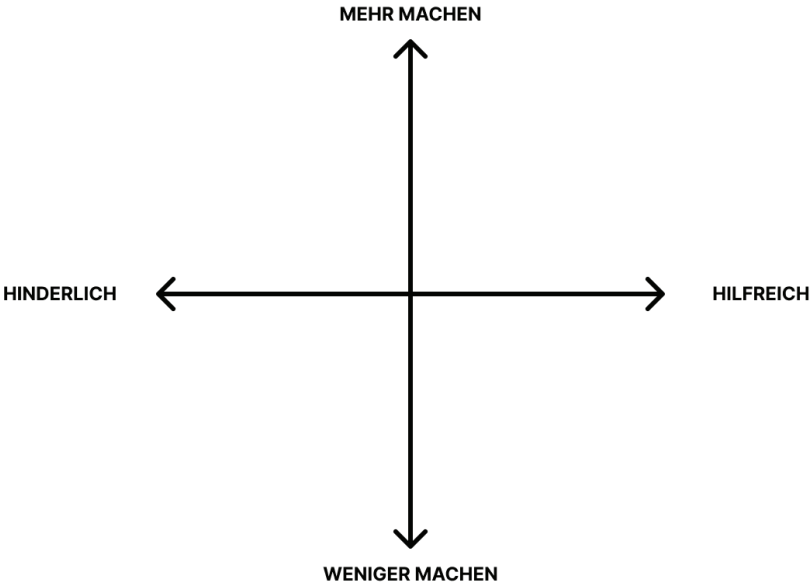
Figure 29: Prototype 3 – Graph 2 Coping Strategies.
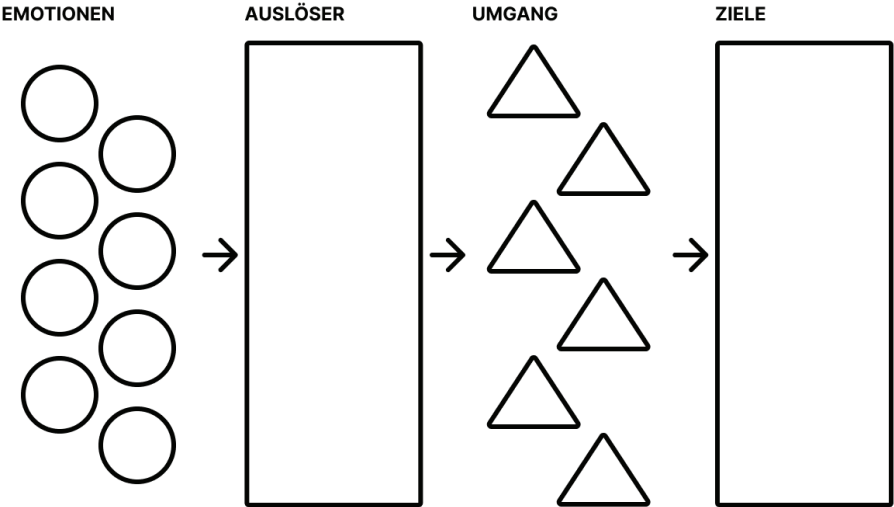
Figure 30: Prototype 3 – Graph 3 Plan.

4.2 Results

Patient 4 / 06-04-2022 / Prototype 2

Our fourth interview partner was very motivated to tell her story and how she experienced it. She explained her breast cancer diagnosis very detailed from the start to today. At the beginning she feared a lot and was thankful for her partner to support her during this time. For her it was extremely difficult to not be pessimistic about everything. Especially when there was missing information, for example an open report. Another interesting fact was that she tried to hide her fears from her eleven years old son. She wanted to play the strong parent in front of him. Nevertheless, the son once asked her, whether she has to die now or not. Regarding coping strategies, she was happy to be able to continue working. It gave her some kind of routine and distraction. Also talking with friends was something she liked. It was not always about the cancer disease. She clearly told the conversation partner, when she was not in the mood to talk about it. Furthermore she has gotten a stuffed animal from a friend. She took this animal with her different doctors appointments and sometimes even talked to it with sentences like: "Okay, today we got this". She also watches nice movies to cope with her emotions. Last but not least, writing things down before going to sleep helps her clear her mind. Often she does this in the form of a to-do list for tomorrow.

For her motivation, she booked vacations with her family. She told us that even though it is not clear she will be able to go there, it gives her some kind of goal to work towards.

The biggest enemy for her handling of emotions is the time and the feeling of being responsible towards others. Often her son, the household and the work comes first, before she is willing to spend time for her. In addition to having a rather perfectionist character this is a stress generating behavior.

Patient 5 / 06–04–2022 / Prototype 2

This patient had a form of eye cancer and therefore her eyesight was restricted. Because of that, she is not able to read small things and is not allowed to drive her car. This leads to a nerve-racking restriction in mobility. She can for example not drive to her sister and is always dependent on her husband.

She sees herself as a realist. Meaning that if she is distrubed by something that she can change, she tries to change it and if not she has to accept it. Therefore, she started reading with a magnifying glass or is now listening more to audio books.

Deeper in the conversation about coping strategies, she said that everyone has their own experience in dealing with emotions. She tried yoga, which a friend of hers recommended. But it was not for her. She prefers listening to classical music. When she lost her son several years ago it helped her to look into the distance and just think. She also used to write diaries when she was younger. Lately, she read them again and decided to discard them, because it was too personal for her and she did not want her kids or relatives to read them, once she passes away. For her, talking to others is not the prefered way to handle emotions. Most of her conversations are shallow and more on a discussion base.

Patient 6 / 07–04–2022 / Prototype 2

Patient 6 was also diagnosed with breast cancer. She explained the moment of diagnosis as being thrown into a completely new world. All the other problems in life become small. You become aware of the here and now. She started accepting the situation and acknowledged that she did not do something wrong. Nevertheless, she started being more careful of her body. It helps her to move the body and feel it to get a positive feeling. Furthermore it is helpful to talk with someone strange about the disease. According to her, friends and relatives are also suffering and therefore not always the

ideal conversation partner. Time management, responsibilities and self-sacrifice are the biggest enemy of her own emotional health and well-being.

"If you always try to never let anyone down, risks are high that you let yourself down."

A difficult diagnosis is always also a chance. It forces one to change certain things. Since the diagnosis she sees every year of her life as a gift. Some people get a few hours and some people get over a hundred years. For her it is now important to live life step by step.

Regarding emotions and the coping of it she finds it important to not close them up, but find its origin. Crying and being sad is a good ventil. It helps open locked doors to feel your-self better. To get herself into an emotional state she sometimes also listens to music. It is important to not fear your own emotions. For her, talking to others helps when your own thoughts turn in circles. When you are stuck in an endless loop. It can help to break this loop by hearing someone else's opinion. Furthermore, it is motivating and nice if someone else is participating and supporting in the process. The interviewed patient also used to write in sad and lonely moments. She wrote down everything that wandered through her head. Nevertheless, she also destroyed the diaries because she did not want to live in the past. If she is not in the mood of handling her emotions or does not have time or the willpower, she distracts herself from it.

When using the emotion - coping strategy cards she was very confident in laying them down. For her it was interesting how much of her emotions she is handling with talking to others.

Patient 7 / 07–04–2022 / Prototype 2

The last patient of that day was considering herself also as a realistic character. She told us she can accept things well. The only time she is struggling is around Christmas, when she has a lot to do. Then she takes a small dose of a medication her doctor prescribed for her. To talk about emotions is difficult for her. Especially since her friend passed away, she used to talk to. The main thing that is burdening her is her husband and his emotions. According to her he starts having dementia symptoms and is struggling with the fact that life is about to end. He starts seeing everything very pessimistically and negatively. Because she is often occupied with his well-being she tends to ignore her well-being. The same situation was earlier in life when her daughter passed away. She was then busy handling the other four children and barely had time for her own. If she has time, she likes to read books.

Patient 8 / 07–04–2022

With the breast cancer diagnosis she realized that she's going to die some day. Before having experienced the diagnosis, the awareness of death hasn't been quite as present as it is now. Through that she has experienced an inner blockage.

Luckily, she has a quite big social environment. She often talks with her friends on the phone or invites their friends over for brunch, dinner or a glass of wine. Since she has practiced gymnastics for over 40 years, she also prefers to cope with movement, which in her case is either by walking or light jogging. Being in nature or working in her own garden also helps her to sort her thoughts.

Overall, she has a very positive attitude towards the importance of emotions. It's important for her to listen to herself and her counterpart and to create a safe space for an intimate conversation. Regarding her diagnosis, it really helped her to talk to one of her

friends, who has also experienced breast cancer. Sharing each other's experiences eases the handling of the whole process for her.

Another strategy she also uses when she's feeling anxious or overwhelmed is to do breathing exercises as a reassurance or aromatherapy. According to her it "cleans" and clears her mind and raises the awareness of the things which are felt. As a routine she takes the time every evening to walk up the hill near her home, and sits on a bank to reflect on the day. This also helps her to sort out her feelings and thoughts.

Patient 8 has used to write into her diary, but didn't really include it into her routine. But she could imagine herself getting back into it, because she does see the advantage of it. From a past homeopathy session, she experienced that writing something down and then tearing it apart or burning it down, can help to process a certain emotion. It leads to a certain catharsis.

For her it's easy to open up to people and to talk about such personal things. The reason for this has been the way she has grown up. She has always had a good relationship with her parents, especially with her mother. It has never been a topic which wasn't discussed in their family. She has learned in her early years to open up and that showing its vulnerable side is not negative. According to her, communication and the ability to listen to others has to be teached and experienced.

Conclusion Patient 4 – 8

A recurring reason for people not reflecting on their emotions was the lack of time. Often discomfort was a result that the affected person did not have time to cope with it. Other responsibilities often consume the time and space for a reflection and coping of one's own emotional wellbeing.

During the testing with the emotion cards and coping strategies people were most of the time pretty aware of what and why they feel certain emotions and what they do to cope with them. The collection of words helped them to remember certain emotions and strategies. Therefore the cards supported the reflection.

We think it is easier to choose answers from a set of words, than finding your own phrases to describe how you really feel. Most words for emotions are probably not in the active vocabulary. We only selected 20 emotions from the emotion wheel by Robert Plutchik, because we thought it would be too overwhelming for the patients having over 80 to choose from. But the process of actually deciding what you feel goes extremely fast. It is just a yes or no question. In the next iteration we have to add more again.

It was also interesting to see how our participants structured the cards. Some of them grouped the cards according to situations and experiences. Others created a set of coping strategies they want to do more and put away things that do not match at all to them. Furthermore, the cards also had a positive effect on the conversation itself. Laying out a map of emotions helped by providing a visual reference of the spoken words. It was easier to pose questions or to refer back to something that was said earlier.

Interview 9 (Patient 3) / 21–07–2022

Patient 3 visited us the second time. She was already interviewed in the first round and therefore also received our first prototype. Therefore, the first questions were about that first prototype, which she kindly returned to us. She told us that most tasks were not executed properly. More on this later in the evaluation. She liked the emotion wheel, which by the way she wanted to keep. But she mentioned that there should be more words for positive emotions — explicitly "thankful". Then we digressed relatively fast and talked about how much and what support individuals should receive in

ich sehe ein halbvolles glas, ich freue mich, dieses genüsslich zu leeren 😊

zeichen

Figure 31: Prototype 1 – Result 1.

difficult situations. In her opinion, there are thousands of advisory books but humans do not get happier from them. It annoys her that everybody thinks good things have to be improved even further and that one always receives suggestions of things that should be done. She quoted Oscar Wilde, who said: "Leisure, not work, is the goal of man." She likes this quote because according to her she needs nothing but just to give herself over to idleness.

After this short feedback we thought our prototype failed and was triggering her. But when going through the returned booklet, we realized that most of her feedback was also written down as answers for the tasks. Of course more detailed and justified. What follows is a summarized overview of her answers.

- Colouring Task
  For that task she realized that an important emotion was missing in the wheel. This was "thankful". She then reflected on why she is thankful and justified her choice.
- Observe
  Not done
- Drawing
  Here she drawed a half full (or half empty?) glass. It is not the first time we hear this reference. It seems that this very simple visual analogy and message is something that a lot of people recall then and now.
- Writing
  She wrote that she is questioning the fact that everybody thinks people experiencing a difficult situation are always in need of support. In her opinion there are thousands of Guidebooks and nevertheless people do not get happier.
- Listen
  She wrote that music is an indulgence and happiness and therefore does not have to fulfill a task.
- Plan

She wrote about the fact that she is annoyed by all the suggestions people give and the improvement society endlessly works towards. For her one should start accepting the good and now. After the feedback we tested the 3rd prototype with her. She found it valuable that we moved away from giving specific tasks. She liked laying out emotions. The emotions were the same as on the emotion wheel. But this time not fixed in a given structure (the wheel). Therefore she was able to pick matching words and lay them down in a way that satisfied her.

For the coping strategies it was similar, it helps to think about one self and reflect. Regarding the provided graphs it worked well for the emotion graph. The coping graph was not very well thought out. A coping that is helpful you automatically want to do more often and something that is obstructive you want to do less. Therefore all the elements were positioned on a line.

Once more we experienced an easy conversation with the help of the given words. The graphs could be improved and maybe it would make sense to even give the freedom to the user to create their own graphs or structure.

Patient 9 / 21–07–2022

The last interview was conducted a little differently. Instead of using our interview questions to get to know each other we started directly with our prototype. We began laying down emotions on the chart. The patient, a woman with a breast cancer diagnosis, set the framing around her diagnosis. It is not the first time she has had a cancer diagnosis. A few years ago she already had womb (uterus) cancer.

She was able to tell a lot by choosing the different emotions. She also remembered details when she was discovering certain emotions in the pile. For example she remembered being apprehen-
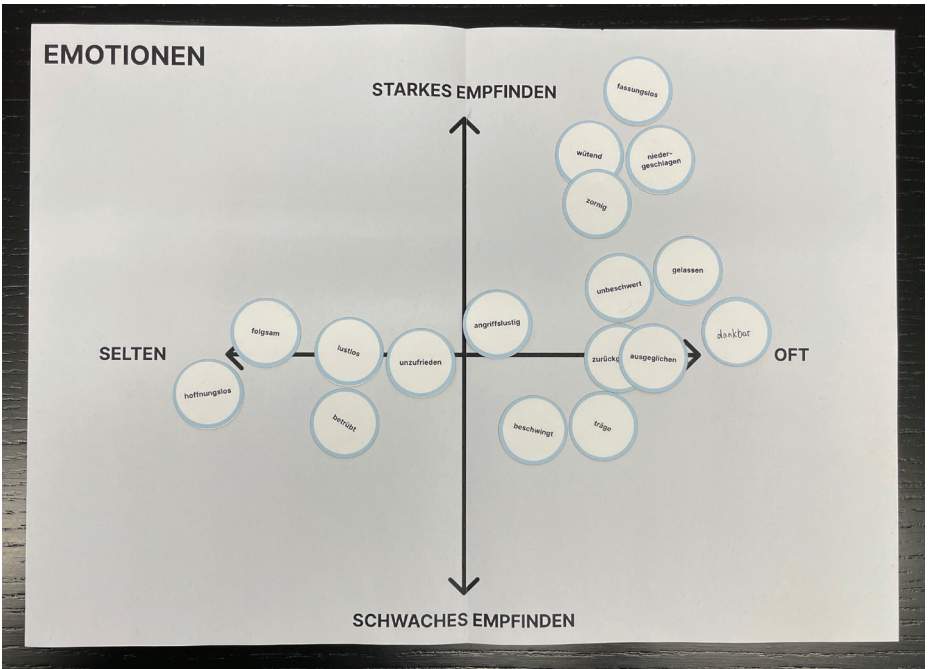
Figure 32: Prototype 3 – Result 1.
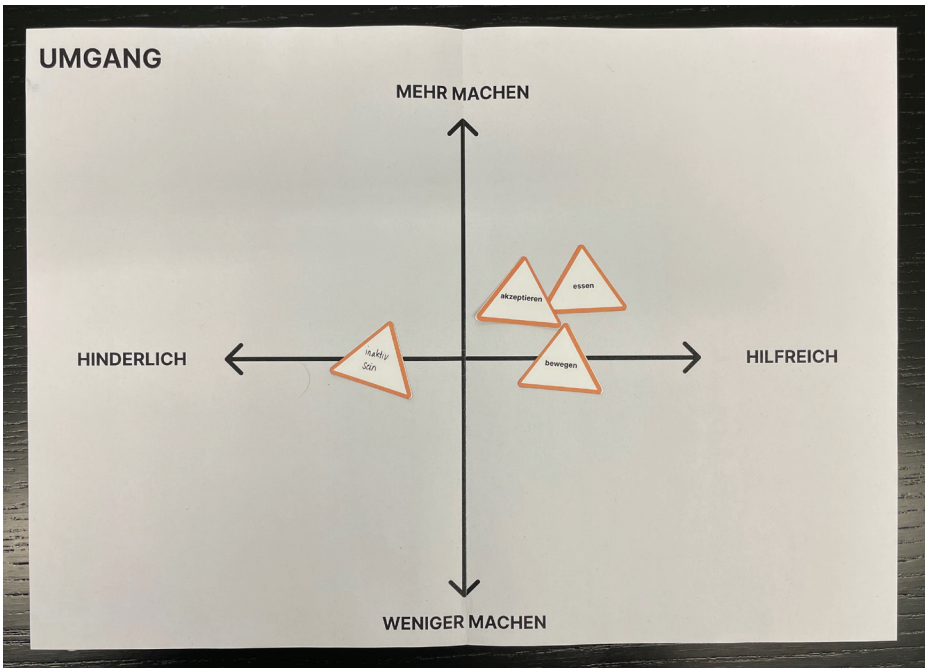
Figure 33: Prototype 3 – Result 2.
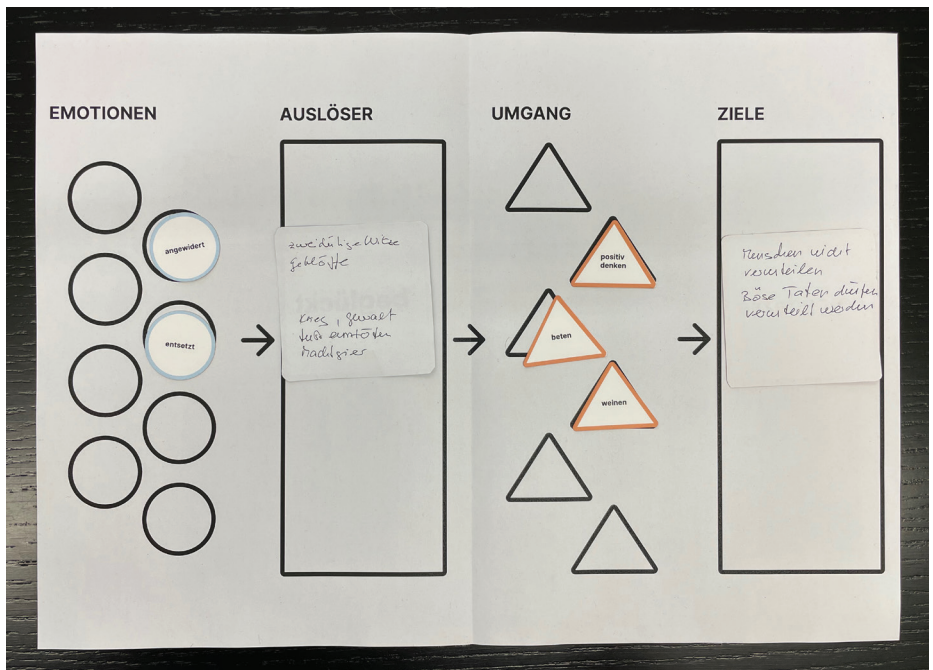
Figure 34: Prototype 3 – Result 3.

sive — not anxious — about certain things. Because she had bad experiences with her first cancer treatment.

Regarding coping strategies she was pretty aware of what helped her and what not. She added a lot of custom strategies. Nevertheless, she said it was and still is useful to think about it. She explained that earlier in the treatment she had trouble eating and holding the needed bodyweight doctors recommended.. This was because she simply had no appetite. Once she realized that when she was in company with others she could eat. Due to that she started meeting people for lunch and dinner more often.

The last part of the toolkit, analyzing where emotions are coming from, how one reacts to them and what goals could be set to handle them was not done. In the interview nothing came up that could be placed into the form. Therefore we skipped that part.

After the usage of our prototypes I wanted to turn back to our normal interview questions. But I realized that most of the questions were already answered from using the toolkit.

Conclusion Prototype 3

Valuing, respectively categorizing, the emotions and coping strategy elements brings some sort of goal to the process of reflection with the elements. Instead of just laying them down on an empty canvas, some structure is given to the user. Nevertheless, it also restricts the user's ability to think freely. A possible solution would be to offer the construction elements — arrows and labels — for such graphs. Or let the user in complete freedom by letting him draw clusters, frames or forms. The amount of emotions was okay. Of course it takes some time to go through them and find the right ones that match your state. This time the size of the circles was too small. Both of the interview partners had to put on their reading glasses.

4.3 Findings and Next Steps

From the prototypes and interviews we had three main findings. People are mostly aware of their emotions as soon as they take the time and think about them. When using the cards it happens automatically that they start bringing in a structure that suits best. It is not that helpful to provide a clearly defined structure. Often it does not match the internal processing. If we forced people to work according to the structure, it was not as fulfilling, discoverable and therefore also less interesting as working without.

In the interviews we realized that especially people who are not yet retired, and/or still have family responsibilities are struggling the most with taking time to reflect, question and think about their emotions. Mostly because they have other things in life that keeps them busy and distracted.

In the interviews, where they finally had a moment to reflect and think, most of them had no troubles speaking about emotions. They were able to tell us what they felt and what the reason for it was. Nevertheless, the words provided from the emotion wheel or our set of coping strategies helped them to specify their thoughts and remember details that were more subconsciously.

Furthermore, we learned that emotions and especially the coping strategies are extremely individual. Everyone has a different coping strategy.

Last but not least, everybody enjoyed defining their emotions and coping strategies they like. We believe everybody enjoys understanding themself better and maybe learning something new about themselves

4.4   End Product

For our end product we decided to create a tool kit that supports people in the naming of the emotions, and reflection and coping with emotions. It should increase the general interest in the topic of emotions and coping, as well as make the user aware that this is something valuable and legitimate to spend time on.

Due to the individual handling all humans have, the tool kit has to be adaptable and flexible to the different needs and strategies. This is also the reason why we use cards as the end media. They have the ability to be used in a personal way. One can sort them to their preferences, divide them, select a few, remove some or add more. Booklets or palettes do not have this functionality.

4.4.1 Emotion Cards

We decided to include the emotion cards since our interviews proved that they help them to reflect tremendously. The words of emotions act as a link to forgotten memories or lost details. It helps the user to construct a mental model of his thoughts and feelings. The amount of cards is secondary. One can go through them very fast. It is like answering yes or no questions — do I or do I not feel like this? We have around 100 words for emotions. The chosen words are from multiple sources. First the emotion wheel of Robert Plutchik will be the base. But we have to definitely add more words for positive emotions. Additionally, we also add empty cards. People will come up with different, very specific words that describe their emotion the best.

The cards do not only contain a word, but also a definition. A lot of emotions are not clearly defined in our society. The definition will be short and concise, like traditional word dictionaries.

Figure 35: Final Product – Teaser Image.

4.4.2 Coping Strategy Cards

The second card set is a collection of coping strategies we have collected in the process. In this process we observed that it is interesting for people to better understand what they do and how they work. It can further inspire them to start again with certain strategies. During the interviews we have experienced that it is easier for people to sort out cards that do not match their own personality, compared to coming up with as many strategies by themself. By providing the coping strategy cards, the user does not only reflect on what they feel, but also question how they react to it.

4.4.3 Card Cluster

A card cluster is a central element of the way our tool works. The reflecting person is pairing emotions with coping strategies. From the prototype testing we realized that most people group them together in specific framings. Often experiences, events or social groups. In doing so we want the user to question himself, how he reacts to different emotions.

4.4.4 The Stand

The interaction with our product happens sequentially over a longer period of time. Once the user created his structure with the cards (card cluster), it can be stored until the next reflection happens. Because the cards themselves can not be stored in a practical manner, we create a stand for them. This gives them a specific place to store, compared to if they would just be put on a table. The stand is made out of wood and has three carvings like shown in the picture below. It is around 30cm wide.

Figure 36: Final Product – Interaction.

The stand comes with a nice side effect. We learned that most people do not take a pause in life and actively think about how they feel. If the cards are displayed in the stand, chances are higher that one remembers from time to time to reflect again. Of course this will not solve the problem that at some point in the future the object blends into everyday life. But at the latest when the user has to dust it off, it will be remembered and hopefully used.

The stand also provides five tubes where marbles can be inserted. This gives the user another measurement tool.

4.4.5 Interaction

Now to the most important part of the end product. What is its interaction, respectively its goal? Our tool is the foundation for an in depth reflection process. It should help recognize recurring emotion clusters (situations) and make one think whether a change is needed or not.

In the self experiments and interview we found out that giving a well defined structure is not well suited. But it also showed that most people automatically bring in their own structure, when working with cards. Our stand supports two ways of structuring. The cards can be placed left or right, as well as in the front or back. Groups of cards can be placed together. Three emotions can be paired with two coping strategies for example. What the structure means is left to the user. Some suggestions and possible starting points are given.

Besides the placement of the cards, the user also has five tubes with marbles to measure or value certain aspects. For example how often his mind was bothered by a defined cluster of emotions or how often he copes with a specific strategy. Similar to the placement of the cards, also here we tend to avoid a clear usage instruction. It is something very personal and everyone has to find its own adaptation of the tool.

Figure 37: Final Product – Interaction.

Through the measurement or counting the abstract thoughts receive a valuation. People can count how often they encountered a specific emotion cluster with a coping strategy. For example they can count how many times they smoked after experiencing stress. This valuation over a time period can create another picture for the affected. It can show that some emotion clusters are recurring and that maybe the coping strategy is not suitable for a certain situation.

4.4.6 Guidance

Although we try to give as few instructions as possible, it does not go without them. During the interviews, people often asked, whether they use the prototype right, when they were left with complete freedom. Somehow the fear of doing something wrong is always within us.

Therefore, we added a source of inspiration to our toolkit. For example regarding positioning *(left or right, front or back)* it could stand for positive - negative, internal - external, strong - weak, seldom - often or disturbing - pleasing.

The measurement tubes can be used to count how often an emotion, respectively a mixture of emotions is felt. Or how often a coping strategy is executed. The toolkit should be placed in a frequently visited space. For example the office desk, kitchen or living room.

4.4.7 Packaging and Storing

During the interviews we found out that most people need some sort of guidelines. It is difficult for them to come up with their own way of using the cards. Therefore a suggested instruction is given to the user. Nevertheless, we encourage an adaptation of those. The instruction is printed on the lid, which covers the containers in the wooden

base of the product. These containers contain the cards and marbles to work with.

4.4.8 Visual Design

The visual design of the card is kept rather simple and decent. We also have considered to create a more visual complex and maybe a more interesting design. But we decided against it, since it is distracting from the actual words and thoughts. For each of the 90 emotions we have designed 90 different forms. Each form has it's own appeareance and should show the uniqueness of each emotion. With this design approach we want to highlight the fact that even though the definitions of the emotions are sometimes similar, they still are different in some extends. For the colors we went with a more refreshing and vivid theme.

Figure 38: Final Product – Cards.

4.5   Storyboard

For our storyboard we intend to tell the story via three personal stories of patients in their own "comfort zones". These comfort zones should represent their safe space, where they can open up and reflect on their emotions, without feeling observed or judged. Each of these three stories should represent one personality. One of the main ways of the narrative in our video is going to be the voice over of the three patients. In these audio recordings they are talking about how they are dealing with emotions and coping strategies and to which extent our tool has supported them in their process of their diagnosis. The language is going to be swiss german with english subtitles. We are not planning on showing the face of these people, since it's quite a personal story which we want to keep anonymous. The style of the video is going to be a mixture between documentary and also static images.

In the introduction part we are going to start off with static images to introduce the three personalities by choosing three different living settings. In this part, one of the main elements is going to be the "Durchzug". This "Durchzug" is perceived as a wind which triggers movement, for example, in the curtain of the bedroom or the plant in the living room. With this approach we want to show that in these rooms of the patients, a reflection of their own emotions takes place since the concept behind the name "Durchzug" comes from this action of reflection.

In the second part, the images are going to be less static and bring a little more liveliness into the video by filming the whole scenes in a documentary style. The main narrative will be the audio telling their personal story about their handling of emotions and their coping strategies, and the video is showing the interaction with our end-product in their own living space. In this part of the video our aim is to

give the whole video a more personal touch by bringing the topic closer to the viewer.

For the third and last part of the video we are going to do it in a similar way like in the introduction part. Additionally, we're going to show the used product in their living space — without the person — through a static image. Just like the introduction part, the "Durchzug" is going to be the only action happening in these sequences. The video ends with a simple sound of a "Durchzug".

4.6 Exhibition

Like for our product video we try to bring in the personality of emotions and coping strategies. We do this by audio recordings of people we will distribute our toolkit to. There are three or four plinths. Each of them has a headphone telling the story of someone. More about the story can be read further down. Because the stories will be told in Swiss German — respectively in their mother tongue — a German and English transcript has to be provided as well. We do this on a printing hanging above the plinths, next to the headphones. On the plinth itself we exhibit a reference product of the coping strategy the interview partner describes.

      Next to the pinths, a table with our printed thesis and the finished end product can be found. The goal of the exhibition is to awaken the interest in oneself regarding emotions and coping strategies. Then the visitor can try out the toolkit themself. The arrangement of the plinths will be more playful and not as structured as shown on the visualization. On the wall we think of hanging up all the emotion cards and coping strategies. This will give the user an overall impression of the toolkit.

4.6.1 The story

The story will be kept short and follows the same structure. We will ask the recorded person a set of questions, which are similar to the ones we asked during the interviews with patients.
-   What is their framing, respectively situation about?
-   What do they feel?
-   How do they cope with it?
-   How did the cards help them?
-   What reminder did they create according to our instructions?
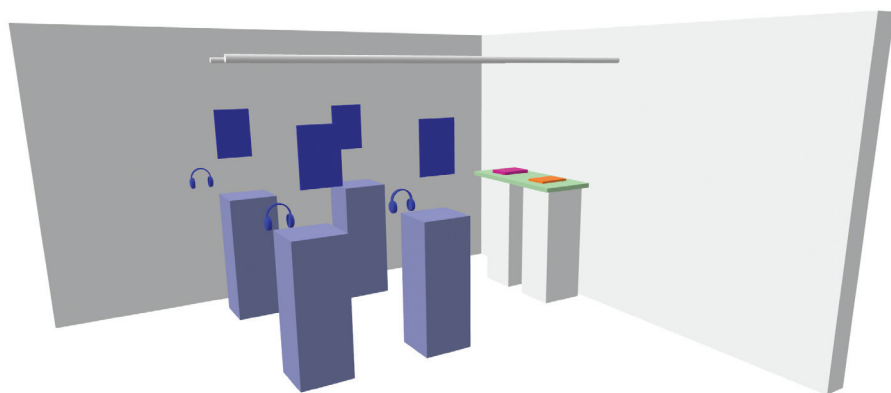
Figure 39: Exhibition Concept.

5   Conclusion

In this chapter we want to conclude our final project. We highlight important key development points from the last few months. We also reflect on the process and what we would do differently in the next project.

We want to point out what learnings we had during this time and where we see our project contributing to the field of healthcare, mental health and design. Last but not least, we show some possible future steps for this project.

We both found each other because of our interest in healthcare and therefore decided to work together on our bachelor project. While brainstorming ideas, we quickly realized that we do not want to create an informational or awareness project. We wanted to create something that has an instant value and impact on the personal situation and perception.

At the beginning we were worried that getting into contact with cancer patients would be hard, that they are not willing to share their personal experience and support us in our project. But we were proven wrong and our worries were neglected. The support from the canton hospital of Aarau, as well as the patient themself was above our expectations. Both parties were very courteous and always offered more help than we could have handled and processed. Because of that our work felt appreciated and useful.

The hospital was not demanding anything or pushing us into a certain direction. We had full freedom in our process and the way we conducted the interviews. The support encouraged us further, that the topic we are tackling is an important one and needs improvement. We loved conducting the interviews and hearing the personal stories of the affected. It was very touching, interesting and inspiring. It gave us a very clear impression of the situation the people are in. In the conversations we were able to understand the problem by its core.

5.1 Learnings

During our bachelor thesis we learnt a lot. The learnings in this chapter focus on the topic of emotions and coping strategies, as well as our role as designers.

Early on we realized that there is no superior coping strategy for emotions. In the beginning we somehow believed we could create such a strategy that is a solution for most of the people. But immediately after the first interviews it became clear that everybody has a different approach to emotions and the coping of it. It is astonishing just how diverse people handle their emotions and it is hard to find patterns and communalities. We believe this is also why so many forms of therapy exist.

Furthermore, the quality of reflection increases by providing mental models like our cards. It is easier to remember things and find the right words for them. A physical object can help to consciously spend time with reflecting. Instead of just doing it by the way, the object forces one to step out of the everyday life and reserve a moment to rest and think about it.

Due to the many individual strategies people have it is important for us as designers to know that we do not always have to design and develop a service or object that has a specific function or serves as a clear guideline. We can also design more abstract things like mental models, thought patterns or ideas. Or like we did in the intersection of a product and an abstract thing, to act as some sort of bridge that helps visualizing complex thoughts.

People are willing to help when they see a value for themself. This also applies to corporations. If you want to have them on board on your project, it is important to show them why exactly this is relevant for them and where their pain points are at the moment.

5.2 Process Reflection

Generally we are happy how our process went, regarding it is the first time for both of us, to work on a design project over such a period of time and the given requirements.

In the beginning we needed a lot of time to get on the same page. It was very hard to grasp this abstract topic, formulating it into words and transferring the thoughts to the other person. From there it was also hard to define a clear process path, because often the next steps depend on or are influenced by the results of another one. For example the first interviews changed our opinion of journals dramatically and pushed us into a totally different direction.

We probably should have been more confident to plan, do and execute steps in advance, even when it was unclear if the results will be useful. In the end there is always a useful piece in the results. Simply stop overthinking everything, experiment and try out. We did this well with the prototypes. Although we only had one or two days between the interviews, we were able to iterate fast on the prototype. Often an unpolished prototype leads to different interpretations and therefore to more diverse insights.

One thing we would make more clear is when we work together and when independently on something. Although a level of trust is needed in each other, it makes sense to split apart, so that each individual can elaborate an independent strategy or pursue his own ideas. After some time, an exchange of results can happen. But this dance of exchange needs some time to establish. It is hard to divide tasks and still be informed about what the other person is doing.

We also learned that it is useful to spread seeds in the process. Instead of doing everything yourself it can be useful to ask others for advice or help. This is in fact how we came into contact with the canton hospital of Aarau. Instead of contacting hundreds of radio oncology departments directly and explaining to them what we want to

create, we only contacted a few people we know who work in this sector. Later, when we already forgot we contacted them, they then provided us with a list of possible matching contacts. It is very interesting what echoes back, if you yell into the unknown.

Later in the process it was difficult for us to keep the focus on something due to the other side projects that came up, like the video and exhibition. Our project could have benefited from more experiments during the concept phase. We spent a lot of time evaluating the right direction, instead of just trying different things out. Furthermore, some exploratory design methods are missing. Although, workshops and cultural probes need a lot of time to plan and execute they provide a vast result of information.

5.3 Contribution

Although our project is not deeply interconnected to the healthcare sector, we think our project could stand for a "personalized medical intervention". The healthcare sector is moving away from generalized treatments towards personalized medicine. Besides the challenges of processing and evaluating data or human medicine, this also brings new difficult problems to the field of design.

- How do you design a service or product that does not restrict the personality of the patient?
- How to design for freedom of choice and individual needs?
- How can the user bring in their will and opinion to the process or product?

We see our design as something that respects the individual needs. It provides a framework which is adaptable to the different needs the user has, instead of a ready-made solution with a fixed structure. Having a personalized service also requires that the user knows himself.

The developed tool provides the possibility that interested people can explore their inner self — without the mandatory need of someone else. We hope by providing this kind of reflection, it increases the interest in emotions and the coping of them. Through a regular reflection one can realize that change is needed, whether it is in the form of therapy or a change in personal behavior.

Additionally, we hope that by our project, we can deepen the communication basis a bit between the doctor and the patient. By giving the doctor the opportunity to hand out our tools to their patients, it could tighten the relationship between them a bit more in regards to their upcoming sessions. It gives them an opportunity to start their sessions about reflecting how it went so far, or how the patient has felt after using our tool. Through this the doctor can get to know the emotional state a bit better and optimize the relation with

their patient. We have experienced a huge interest by our collaboration partner, Dr. Thomas Kern, that it's really interesting to get such an insight from their patients. It allows them to get a better picture of the patient.

Last but not least, our human centered design process as interaction designers is a contribution itself. The conducted interviews with the target group and exploration of the topic brought new and different insights to the field.

5.4   Future Steps

Until now we were not able to test the long term effects our product has on the user. We would be interested if certain things change in the life of the user. Whether the coping with emotions is changed and in what manner.

Something we are wondering about is the role of the physical object after a certain time. For how long does it work as a reminder and at what point does it fade into the background of the user's life? Also we are interested if the physical mental model is still used to reflect on one's situation after a certain time period? We could imagine that the words get memorized and the user does not need physical reference anymore.

What we also neglected is the aspect of motivation. So far we did not spend time researching how we can increase and hold the motivation of the user. Because our tool is something that should support the user over a longer period of time, motivation is an important aspect.

Furthermore, we are interested in what other ways people use the object. If new, from our side undiscovered, strategies emerge. It would be great to collect these strategies and make them accessible to others. For example over a website.

Last but not least, we would further research the influence on communication our tool has. During the interviews we not only observed an improvement on the narrator's side, but also on our side as a listener. It is much easier to follow if a physical representation of the told words is present. It helps connect the narrator's thoughts and ask follow-up questions.

We would also like to explore the possibilities in asynchronous communication. How it changes, if not only words are used, but also an arrangement of words. We could imagine that having a second

layer of communication could sharpen and improve the understanding of each other.

So far we only took cancer patients into our process, although the topic is relevant for all individuals. Before opening up the tool for everybody, we would need to countercheck, whether the challenges in reflection are the same as with cancer patients. Namely, time reservation and word finding.

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Figures

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