Designing for fearful experiences within an interactive narrative

Sebastian Thorén
Sebastian.thoren9@gmail.com
Abstract

This thesis is focusing on the emotion of fear in conjunction with an interactive narrative experience. It analyses the emotional scope fear entails as well as discusses different narrative formats and interactivity in terms of agency. Through extensive research on the topic at hand, multiple prototypes are developed focusing on expressing different variations of fear while experimenting with the narrative structure and interactive elements available through the software Twine. Based on this, conclusions were made on the complexity of designing for an emotion and the difficulty in reaching more intense feelings of fear. There was also a struggle of balancing interactivity with narrative while also designing for a frightening experience. Lastly, final conclusions were made on the prototypes abilities to produce frightening responses, which ultimately showed signs towards lesser feelings of fear, such as nervousness, anxiety and trepidation.

Keywords

Fear, Terror, Horror, Designing for emotions, Narrative design, Interactivity
Acknowledgements

I would like to thank my supervisor Simon Niedenthal for assisting me throughout this thesis. I would also say thanks to Jens Hedbjörk for helping me producing much of the audio as well as to all the participants that were willing to playtest my prototypes.
Contents
1 Introduction ........................................................................................................... 6
  1.1 Relevance for interaction design ................................................................. 6
  1.2 Research question ...................................................................................... 6
  1.3 Aim ............................................................................................................... 7
  1.4 Structure .................................................................................................... 7
2 Methods ............................................................................................................ 8
  2.1 Literature studies ..................................................................................... 8
  2.2 Double-diamond ....................................................................................... 8
  2.3 Observations ............................................................................................ 10
    2.3.1 Ethics .................................................................................................. 10
    2.3.2 Playtesting ......................................................................................... 10
    2.3.3 Procedure ......................................................................................... 12
    2.3.4 Setting .............................................................................................. 13
  2.4 Case studies .............................................................................................. 13
  2.5 Prototyping ............................................................................................... 14
3 Theory ................................................................................................................ 15
  3.1 Emotional mapping .................................................................................. 15
  3.2 What is fear? ............................................................................................ 16
  3.3 Horror vs. Terror ...................................................................................... 17
    3.3.1 Terror ................................................................................................ 17
    3.3.2 Horror .............................................................................................. 18
4 Media incorporating fear ..................................................................................... 18
  4.1 Film media ................................................................................................ 19
  4.2 Miscellaneous media ............................................................................... 19
  4.3 Hypertext media ...................................................................................... 19
  4.4 Literary fiction ......................................................................................... 20
  4.5 Interactive media .................................................................................... 21
5 Narrative ........................................................................................................... 22
  5.1 Narrative design ...................................................................................... 23
  5.2 Interactive narrative versus linear narrative ............................................ 23
6 Principles of fearful experiences ..................................................................... 24
  6.1 Tension ...................................................................................................... 24
  6.2 Relevance .................................................................................................. 25
6.3 Unrealism/Fiction ................................................................. 25

7 Related titles ........................................................................ 25

7.1 Bloodborne ........................................................................ 26

7.2 Hypertext horror games ....................................................... 27

7.2.1 Beneath floes ................................................................. 27

7.2.2 Howling dogs ................................................................. 27

7.2.3 Cyberqueen ................................................................. 27

7.2.4 The Wattson Scott test .................................................. 28

7.4 The Wattson Scott test ....................................................... 28

8 Prototyping ........................................................................... 28

8.1 Twine ................................................................................. 28

8.2 Purpose ............................................................................... 29

8.2.1 Abducted ....................................................................... 29

8.2.2 Suntown ....................................................................... 32

8.2.3 Surgical intervention ....................................................... 35

8.2.4 Reality check ................................................................. 39

8.3 Final thoughts on prototyping ............................................... 43

9 Discussion/Conclusion .......................................................... 43

9.1 Discussion ......................................................................... 43

9.2 Conclusion ......................................................................... 45

10 Bibliography .......................................................................... 47

10.1 Game bibliography ............................................................ 50
1 Introduction

The goal of this thesis is to explore fear with an interactive narrative in mind. A vast array of media revolves around the notion of eliciting fear into the user or participant, which might raise the question as to why fear can in many cases be regarded as a coveted feeling even if it’s generally considered as a negative emotion.

We are going to explore this question through the use of different media that incorporates fear, such as movies, video games, podcasts, literature and social platforms. We will analyse fear from multiple angles, such as its psychological impact and its effect on an ever-growing industry. Based on the research that is being conducted, principles on fear will be discovered and explored further.

Since this thesis main focus is on creating an interactive narrative, it’s also of interest to elaborate on different types of narrative and what they are comprised of. We will also explore terms that might be of relevance to this, such as hypertext and literary fiction.

Through extensive playtests and observations, we will discover if fear, interactivity and narrative can collaborate in creating a scary story with elements of agency. This thesis serves as a journey into one of the darkest emotions we are capable of feeling and will take advantage of this through the development of a narrative experience with interactive elements.

1.1 Relevance for interaction design

The notion of designing for emotions is an interesting design area that keeps growing. We constantly strive at designing experiences and artefacts that has a core value in making the user feel a certain way (Zeitlhuber, 2017).

With this in mind I found it particularly fascinating to investigate and explore how fear is used throughout different media today, and more specifically how it is being used interactively. I propose that this thesis will serve to guide the reader into what fear might include and how it can be incorporated into a narratively driven interactive experience. I will explore fear focusing on the user interaction and narrative, thus aiming at providing relevance into the field of interaction design. This thesis will serve to display a design process aimed at following well-established formats within the interaction design practice, such as for example using the double-diamond matrix to establish structure to a project, as well as to iterate on different levels of fidelity in terms of prototyping.

1.2 Research question

This thesis will serve to explore, analyse and discuss principles and media of fear used when developing a narrative-driven interactive experience, thus
aiming at answering the question: *How might we design a fear-inducing experience driven by the interactive narrative?*

1.3 Aim

This thesis aims at diving deeper into the emotional scope of fear. The focus will be on analysing how a narrative-driven interactive experience could incorporate fear as a main attraction. This will be done through various iterations and prototyped using the software Twine.

1.4 Structure

This section serves to lead the reader through the structure of the thesis to get an overview of the different subject matters discussed and analysed.

The first section will inform on methods used in investigating fear from a research standpoint, such as through the use of literature and case studies, but also observations from playtests and different methods for structuring the design process, such as using the double-diamond matrix.

Following this is a section dedicated to fear, and the emotional scope it entails. This is done to create an understanding of the emotions that fear might include as well as different coping-mechanisms and reactions to it.

The two terms terror and horror are closely linked to fear, which is why they are defined and analysed in this section as well. They are terms incorporating fear as a primal foundation, however, the definition of the two are vastly different.

The next part will serve to inform the reader on different media incorporating fear, and how they impact each other. This is done to establish the scope at which fear operates, as well as a way to approach the focus of the thesis, which is the interactive narrative.

In order for us to understand what an interactive narrative means the next section explores the terms nonlinear and interactive narrative deeper and explain the differences between the two.

The thesis then proceeds with a discussion on different principles of fear, which is included to explain the appeal of fear.

Before the prototyping-phase, we provide examples of prior projects done within the field, such as modern horror games and what they are comprised of, but also interactive experiences created through the use of hypertext. A variety of case studies are then presented, each with relevance to the subject matter.

This will serve as a segue into the next part of the thesis, which is the prototyping stage. Starting off by explaining Twine and the purpose with the prototypes, different iterations will follow, guiding the reader into the design process. Here the results will also be presented. Following this is the final
section of the thesis: the conclusion. Here we will discuss the outcome and key insight throughout this project as well as a general conclusion on the thesis as a whole.

2 Methods

In this section I will explain the methodology throughout my thesis and the reasoning behind it. Extensive research has already been made involving users, which will be of benefit to this thesis, since it allows me to extract valuable empirical data and information from prior research in regard to fearful experiences. One method that will be of focus throughout this thesis will be literature studies, because of the vast amount of prior research on the topic. This will consist of narrative frameworks, storytelling, psychology and media involving fear. I am also planning on analysing case studies of games that fit into the scope of my intended research area, to get a greater sense of how to proceed with the prototyping-phase successfully. Another method I will use for determining the success-rate of my prototypes will be observations of participants experiences with them, to get an idea of implementations needed for future iterations.

2.1 Literature studies

This method is used to get a greater sense as to what has been done prior to this thesis as well as to get an understanding of my chosen topic. I will conduct research on areas involving fear, both from a psychological perspective as well as its usage in different forms of media. I will also explore different ways of structuring a narrative and how it is done interactively. Based on the research, I will try to find patterns and principles that relates to fear, which can then be incorporated into my prototypes. I will analyse differences in forms of media and how they take advantage of fear in various ways. It will also be useful for me to look into the world of video games involving fear, since the focus is on an interactive experience.

2.2 Double-diamond

The double-diamond matrix is a well-used tool throughout the interaction design practice as a whole and serves in some ways as a foundation in many design projects (see Figure 1). It is made to get a better understanding of the user problem and explore innovative and creative ways of solving it.

The problem is approached by using two different ways of thinking: divergent and convergent. Divergent is when we are very open in our design process, we think on a broad level and consider all possibilities. This part is also where
we gather and document as much data as possible. The convergent thinking happens when we define all this data, by finding themes, trends or patterns that might even force us to revise our problem statement or research questions for the second design phase.

The second design phase also consists of divergent and convergent thinking. Here is where we start our design work by means such as brainstorming sessions, prototyping and iterations through user testing.

The goal of this process is to finally deliver an MVP, a minimum viable product. Using the double-diamond matrix allows us as designers to structure our project. We start by opening the design space, then narrow it down by defining our problem space, which is then further opened through our design process and finally a viable product idea can be delivered (Schicker, 2018). Using this matrix, I will get a good sense of where I am in the design process and it gives me the opportunity to explore and investigate multiple angles and help me refine and define my final research question.

![Double Diamond Matrix](image)

*Figure 1. The double-diamond matrix modified according to my design process. (Schicker, 2018).*

This matrix will serve to keep the project open at the start and discover different design possibilities. Through means such as literature studies and analysing cases I will be able to narrow down my design space and by doing so revise my research question. Once this is accomplished, I will start finding design opportunities by means such as sketching and iterations of varying fidelity. Twine serves as the prototyping-tool of choice, and also as a way of sketching, since it allows for quick iterations and easily manageable flowcharts.
2.3 Observations

Observations will also be a vital part of my methodology, since it allows me to study participants’ reactions when exposed to fearful experiences involving interactivity. It will mainly be done by using prototypes developed throughout my thesis and having participants experience them. Gathering feedback from the participants after their experiences will give me insights as to what modifications and changes need to be done for future iterations. This is also why the prototyping-phase starts relatively early in my process, in order for me to be able to develop it in sync with my research as well as through observations and user testing.

2.3.1 Ethics

This thesis aims at following the ethical standards formulated in Codex rules and guidelines for Artistic sciences (The Swedish Research Council, 2017). The participants of the observations will be informed about the research project prior to participating and will freely be able to accept the participation. They will be informed that all the information gathered will only be used for research purposes. The participants’ identities will remain hidden. This information will be obtained by the participants in oral form, and by participating they confirm this.

Participants that may appear on pictures, will have to approve the use of them beforehand. All data material will be stored in a secure place and will not be used for any other purposes than to support this research.

Another ethical question worth mentioning for this specific topic is to openly communicate what the experience might entail to the participants. This means that I need to be clear that the experience might include negative emotions related to fear, and that they at any point during the playtesting may choose to end it. It is a completely voluntary experience and the participants should not be afraid to voice their opinion if they should feel unable to continue with the playtest.

2.3.2 Playtesting

Playtesting can be regarded as one of the most crucial methods within a design project. The main purpose of conducting playtests is to see if the designer, in this case me, has achieved the intended goal with the prototypes (Fullerton, 2008). In my case it revolves around eliciting fear into the participant through the use of an interactive narrative.

Also, when referring to playtesting, there is an importance in understanding the differences between usability testing and user experience. Usability testing is when we test the functionality of a certain prototype, by that meaning to test the efficiency of the prototype but also evaluate the user comfort and satisfactory degree. While user experience is when we analyse
the emotional resonance with a certain prototype and how the user initiate and end the interactivity with the prototype (Liu, 2018).

Both of these terms are of importance when we talk about playtesting, since it is crucial to both generate feedback and implement improvements on the prototypes functionality but also explore the participants emotional reactions to the prototype, since fear is the emotional state which we are focusing on. From now on when we talk about playtesting, we are including usability and user experience into the term to explain the scope at which the playtests are conducted.

The ultimate aim for me with doing playtests is of course to generate valuable insights as to how the experience is perceived, but also to find areas of improvement for future iterations. My intentions are to start the playtesting-phase by recruiting confidants. This can include friends and family. However, as the prototyping-phase continues, I plan on recruiting strangers as well. This is mainly because of my personal relationship with the confidants, which might impact the playtests by obscuring objectivity and stand in the way for a broader range of criticism (Fullerton, 2014).

The procedure at which the playtests will be conducted will be in line with Fullerton’s proposed structure in “Game design workshop”, which consists of the following:

An introduction where I introduce myself and the design project. Here I will also present the intended goal with the prototypes. This is also where I will clarify and explain ethical dilemmas tied to the playtests such as integrity and storing of personal data.

A warm-up session including questions on related interactive experiences involving fear. Here I will also include questions on their emotional state to be put into relation to the affect circumplex later.

A play-session where the participants are free to explore the prototypes for as long as they like. I will be present but will not intervene.

A discussion-session where questions will be asked regarding their experience and perception of the prototype. Here I will use the affect circumplex in combination with fear-related terms, to see how their emotional scope has changed.

Finally, I will wrap it up by thanking the participants and providing my contact information should they have any questions (Fullerton, 2014).

Observations of their experiences will be done while the participants are exposed to playtests. The participants will try one or more interactive prototypes and will then be questioned regarding their experience.
2.3.3 Procedure

I am planning on using the affect circumplex to extract valuable information and feedback from the observations (see Figure 2). This is done to establish structure as well as find emotional patterns between participants and different prototypes. A very important note to be made here though is that the method used including the affect circumplex will not be purely scientific, meaning that it is merely being used as a tool in describing the participants emotional states throughout the experience. This meaning that I will not use any renowned scientific methods incorporating the affect circumplex while conducting playtests, since it won’t necessarily serve to generate any important insights related to their emotional state. Instead, I am using it as a way for the participants to explain their emotional state prior to the experience by having them relate emotions to dimensions such as activation and pleasure. This will hopefully allow me to discover emotional changes prior to and after their experience, which might serve as useful information when generating conclusions on their experiences. To clarify, it is not supposed to be regarded as a scientifically accurate method of extracting information, but more a rather informal way of discovering changes in the participants emotional range.

The affect circumplex, or the “circumplex model of affect”, was created by Jim Russell, professor of psychology at Boston college. A circumplex can be explained as a mathematical representation of different variables and how they relate to each other. In this case, emotions are positioned on a circular table, in relation to dimensions on one axle going from displeasure to pleasure and activation to deactivation on the other. By asking participants to which degree they feel a certain emotion on the affect circumplex, it allows us to map out emotional responses to a certain experience (Scarantino, 2016).

In this case it serves as a method of extracting insights of the emotional responses the participants experience in relation to fear when interacting with the different prototypes. It is also of interest to me to see if more intense feelings of fear, such as horror or terror, is conveyed through the prototypes.
2.3.4 Setting

A final important factor during observations will be the setting. Since my intentions are to evoke frightening reactions into the participants, I propose that observations and playtests would preferably take place in a darker environment. Perhaps a room with blinds in front of the windows at a later time of day will suffice. I will also provide headphones to be used with the interactive experience. This is to heighten immersion and enable the participants to focus on the experience at hand.

2.4 Case studies

The case studies will be made to get a sense of previous projects covering the topic that might serve as forms of inspiration and guidance to my own process. The case studies are also chosen because of their alignment with discoveries made through the research, as well as their relationship with terms such as terror and horror, but also based on their technological capability and narrative features. There is also an understanding within me that the choices made of the various cases that are being studied can affect the direction this thesis takes. There is an endless pool of interactive experiences made to elicit fear into the users, which is also why it might be hard to sort through relevant experiences and use them within this thesis. The grounds at which I have chosen these specific cases to study closer is based on their alignment with narrative and interactivity, as well as their focus on fear, the three main pillars of this thesis.
For example, *Beneath Floes* is chosen because of its development platform, which is the same as the one I am planning on using, Twine, as well as its focus on horror and atmosphere. *The Wattson Scott test*, on the other hand, is chosen for its build-up of tension and unusual narrative structure. *Bloodborne* is a more high-budget alternative, mainly chosen because of its gothic-themed atmosphere and narrative-driven gameplay. I have also chosen to incorporate a couple of interactive games done in Twine, since this is my chosen prototyping-tool, and will give me valuable insights regarding narrative structure and feature implementations.

### 2.5 Prototyping

Let us start by evaluating why prototyping can be considered a crucial part in the design process. Prototyping can be regarded as part of the design thinking, in which we establish the groundwork through extensive research and find multiple perspectives on a problem, but also ideate on multiple solutions and iterate on these solutions with varying fidelity (Zimmerman, Forlizzi & Evenson, 2017). Prototypes fits into the latter part of this notion, where we have already established an idea of a solution to the problem area but iterate on it to be able to refine it more within each iteration. When the prototyping-phase is then put into the design thinking and process as a whole, it gives us meaning of its importance to the project and its relevance and necessity.

Prototyping is done throughout this thesis mainly to reconfirm research-based theories, but also serves as a design project oriented towards the field of interaction design. What I mean by reconfirmation of research-based theories is that part of the purpose for me with developing prototypes is to confirm the relevant theories presented prior. It can prove dangerous to simply rely on research as the sole way of retrieving insights, which is why it is of importance to test these theories in practice and evaluate the results. Prototypes of different levels of fidelity will be presented, analysed, user-tested, and iterated on in tandem with literature and case studies. This is done to enable me to learn and implement changes as I go, which means that it allows me to develop several quick iterations of low-fidelity prototypes, that can be tweaked according to relevant findings on the topic. I will continue with multiple iterations on these prototypes, incorporating elements, features and changes extracted from the observations and reactionary feedback from the participants. These will in turn yield more refined prototypes that will help me form valuable conclusions and findings on the topic of narrative, fear and interactivity.
3 Theory

3.1 Emotional mapping

In order for us to understand the emotion of fear, we need to look at what fear can be comprised of according to certain theories. I have chosen to explore Ekman’s notion of the atlas of emotions, where he explains the scope of each emotion and what they are comprised of (Ekman, 2015). The reasoning behind this choice of theory is that it puts each emotional state within fear in relation to intensity (see figure 3) which creates a good overview of the scope at which fear operates. This allows me to get a deeper understanding of the underlaying structure of fear and what it entails.

Trepidation, Nervousness, anxiety, dread, desperation, panic, horror and terror can be included into the fear spectrum. These can be put on a scale from least intense to most intense (see Figure 3). For example, anxiety can be mild or strong, however, feelings of terror can be nothing but intense (Ekman, 2015).

![Figure 3. The spectrum of the emotion of fear according to Ekman (Ekman, 2015).](image)

To understand the emotional spectrum of fear even better, we can place these terms into the affect circumplex mentioned earlier (see Figure 4). This gives each term a relation between the dimension’s unpleasantness and activation. This will also prove valuable as part of the playtesting, as it allows participants to make sense of these terms and contextualize them according to the relevant prototype experienced.
3.2 What is fear?

Fear can generally be regarded as a deeply hardwired reaction that evolves over time and serves as a way to protect ourselves from various threats or dangers (Javanbakht & Saab, 2017). This means that fear works as a means for us to react appropriately to incoming dangers that could jeopardize our way of life.

The response to fear is often referred to as a fight or flight-response. This is a response in which the brain sends signals to different parts, each involved in their own way in interpreting the supposed threat, putting it into context and prepare the body for various motor functions. Using these parts, the brain triggers this fight or flight-response, in which as the name suggests, we make an assessment as if to confront the threat or flee from it. Triggering a fear response is autonomic, meaning that we don’t consciously know what is happening to us. A fear reaction starts in the brain and spreads throughout our body in order to adjust for defensive actions or flight responses (Javanbakht & Saab, 2017).

In our modern world, and as human beings, however, we often fear situations where the stakes are much lower, sometimes resulting in unnecessary fight or flight-responses, which could lead us to the conclusion that fear today often is irrational and dependent on the situational context (Alben, 2017). Once the brain can interpret the threat as non-lethal, and we are assured that
we are in a safe space away from the dangers we are perceiving, the experience might then be turned into fearful enjoyment.

3.3 Horror vs. Terror

Fear, as we have discussed, is an emotional chain-reaction starting in our brain, but the ways in which to achieve it can be vastly different. There are two terms on which fear builds upon that are of interest to us when discussing frightful reactions and experiences: terror and horror. The reasoning behind this is that we need to establish what these terms might include in order to fully understand them in their right context. The gothic writer Ann Radcliffe’s quote on terror versus horror still upholds to this day and serves to explain the general distinctions between the two:

“Terror and horror are so far opposite, that the first expands the soul, and awakens the faculties to a higher degree of life; the other contracts, freezes and nearly annihilates them... and where lies the great difference between horror and terror...but in ... uncertainty and obscurity” [Radcliffe, 1826: 6].

3.3.1 Terror

When looking at the general definition of terror, we can see that it is a feeling of intense fear (Merriam-Webster, 2019). However, terror can be further explained by looking at it from a psychological perspective. It is not merely an intense form of fear, but also feelings of dread, anticipation and anxiety at the possibility of something frightening happening. For example, the sound of an unknown creature or entity behind a door lets us use our own imagination to depict what horror lies behind. Notice the use of the word horror here, which will make sense after its explanation in the next section. Terror is in that sense the fear of the sublime and allows us to let our minds wander and our imagination run wild (Michel, 2018).

A way of evoking terror into the user then is by using obscurity: meaning not revealing the threat at hand and letting tension build gradually. The obscurity will also enhance the sense of vulnerability and uncertainty, making the terror indistinct and intangible. Obscurity serves to obstruct our perception, which can be done in a variety of ways such as through the use of darkness, atmospheric boundaries and tension building (Niedenthal, 2006 as cited in Perron, 2009).

Based on this, and my own intentions with this thesis, I plan on using terror as defined here as a main way of eliciting fear into the user. This is primarily because of what the prototyping tool enables me to do, and the creative spectrum it opens up. It allows me to build an interactive narrative not particularly focusing on what the threat is, but more on the tension that it creates.
3.3.2 Horror

Horror is a term often used in describing the genre of different media such as movies and video games. However, this definition of genre is relatively vague and can include an array of various types of fear, which is why I feel the need to expand on its definition further.

Horror can be described as the general sense of shock, repulsion or fear we experience when seeing something frightening. It is when we get in actual contact with the supernatural (Michel, 2018). Meaning that we can perceive the actual threat or danger that is present, which could further lead to feelings of immediate shock and fear. The problem with horror is that it risks deflating the tension that terror builds up, which is another reason why focus will be on the usage of terror in different ways throughout this thesis. However, horror will undoubtedly be present in the design process, since it might be necessary when describing areas, creatures and atmospheres within the interactive narrative.

4 Media incorporating fear

There is a vast majority of media incorporating fearful experiences. From movies to social media, podcasts and videogames, there are various ways in which to instil fear into a user. Why is it that media can evoke these intense feelings of fear when we know that it isn’t a real threat or that it can’t hurt us in any way?

One answer could be the notion of the media equation, where it has been proven that responses to media can be remarkably similar to responses in the real world, although not as intense. This process is also known as stimulus generalization (Lynch & Martins, 2015).

Another interesting aspect is that we all cope with fear experiences differently, and through our experiences we learn to react to fear on a more effective level. Being able to deal with these fright responses can in many cases be thrilling, which might explain why we consume frightening media on such a large scale.

Fear is represented in a multitude of ways through media, and since fear can be highly individual, everyone has a different reaction to what is presented. For example, if a person recently has experienced a traumatic event, such as being robbed, seeing a similar event on screen might trigger a fear response in that person (Lynch & Martins, 2015). This is yet another reason why frightening media can have such a strong effect on us on individual levels, and why we often consciously seek it out. Let’s look at some of the different forms of media available today involving fearful experiences.
### 4.1 Film media

The key word for this type of medium is viewer. As supposed to interactive media, horror movies lack the notion of control, which allows the viewer to distance themselves on another level as opposed to interactive experiences involving fear (Carpenter, 2016). This means that the viewer can look away from a horror movie anytime they want, and it won’t affect the outcome. In turn that means that it doesn’t matter how much the viewer want to see the protagonist make it out alive from that creepy serial killers’ basement, if its scripted that he or she is going to die at the end of the movie, it will happen, every single time, and with the exact same outcome.

### 4.2 Miscellaneous media

Technology today provides total accessibility to most web-based content available. Whether it’s through applications on our smartphones or websites on our laptops, we can reach information that are of interest to us within an instant. This has led to the creation of fearful experiences using alternative media, such as social media, podcasts and viral urban legends.

Let us demonstrate this by issuing an example on what might be regarded as an unconventional way of eliciting fear into the user. Twitter is an easy tool that allows people to distribute information on their day to day life. It can be comprised of posts on a person’s thoughts and reflections, daily activities or events. Basically, anything you want to share with the world in written format with the addition to add visual or audial media. Some users have found an additional way of telling a compelling story through Twitter, by evoking fear into the reader. The story of Dear David and a series of interlinked Twitter-posts by user Greg (gr3gory88) has shined a light on the narrative capabilities these type of social media can produce. The story that Greg presented spanned over multiple months and captivated the audience with immense suspense (O’Reilly, 2019). It was, at its core, a ghost-story, but made all the more real by having Greg as the main character with real locations and visual proof of certain events. This creative way of presenting a narrative is a testament to the innovative sources in which to use fear, narrative and social media as a driving force. This is also why I have chosen to include this passage, since every media has its own way of eliciting specific emotions in us. This means that it can be of great benefit to mention these types of media in order to understand how an interactive narrative can be constructed and how fear can be incorporated into the design itself.

### 4.3 Hypertext media

I have also chosen to include the media of hypertext, since it resonates with my intended prototyping method of choice. Focusing on the narrative aspect
of horror games developed through the use of hypertext will give me insights as to features and elements relevant for my prototyping purposes. However, an explanation is needed prior to this to account for what hypertext entails and how it is of relevance to the topic of choice.

Hypertext is at its core a term that describes the use of a word, phrase or chunk of text that is linked to another document or text. Today it serves as one of the key components for the world wide web and is one of the primary ways of navigating it (Christensson, 2006).

Hypertext has also been used extensively as a way of developing games. Since sequences of a game can be redirected through hypertext, it is an easy way of creating an interactive experience for the user. Today, most hypertext-related games are done using the software Twine, which will be discussed further later in the thesis. The importance that hypertext has on media is that this hyperlinked form of fiction possibly serves to change conventions around multiple aspects, such as narrative, characterization, plot and sense of reality.

Twine and other text-based software intended for creative writing and interactive experiences allows the developer to be innovative and independent, which in turn has led to the creation of a large community where creativity thrives (Douglass, 2013).

The accessibility of hypertext-software allows for independent developers to construct creative interactive narratives without too much difficulty. This is also why it is an important medium to discuss since it correlates to the thesis-topic and serve as a main foundation for the prototyping-phase.

4.4 Literary fiction

Since this thesis focuses on the interactive narrative, literary fiction also serves as a valuable source of discussion. Since the experience and prototyping is proposed to be done using the software Twine, it can be of benefit to analyse how fictional writing can influence and enhance the interactive experience.

There are a couple of reasons why literary fiction is what I have chosen to discuss as opposed to, for example, genre fiction. Genre fiction is more focused on entertaining and usually confines itself into a certain genre (Mitchell, 2015). I realize this statements contradiction as this thesis intended genre is fear, however, literary fiction can prove to give more valuable insights, which I will discuss below.

Literary fiction isn’t confined to a certain sub-genre, which means that the authors themselves can make up the rules as they go. This means that it allows the writer to push the boundaries of acceptance and it might possibly lead to a more creative storytelling (Mitchell, 2015). Since I am focusing on the interactive part of a narrative, the storytelling doesn’t have to be
constricted to a certain path and outcome, since there are multiple choices with multiple consequences.

The ending of literary fiction is often unresolved, which might in some cases leads to an unsatisfied reaction from the reader (Mitchell, 2015). However, this is worth exploring further and testing through prototyping, since life isn’t always a fairy-tale and sometimes the end of a story can be sad or abrupt. The narratives I am presenting is supposed to represent fear, anxiety, terror and horror. They aren’t supposed to comfort the participants, on the contrary, they are supposed to frighten them and make them contemplate and reflect on the various horrible situations they might be found in.

Literary fiction is of importance to explore here, since it can be regarded as a certain form of narrative and in that way is its own type of media. This is worth mentioning, so it will be made clear that there is a distinction between literary fiction and narrative, which is discussed later.

4.5 Interactive media

The key component that separates the medium of horror movies from interactive media such as horror video games is the sense of agency a video game provides. Brenda Laurel explains agency as “the power to take action, whether the context includes agents or not” (1991:117). To be able to act in a situation can then be consider the heart of an interactive experience. However, Bernard Perron suggests that agency isn’t sufficient when trying to create fearful interactive experiences. In order for a horror video games to work as intended, the player also needs to feel a sense of presence. They need to be sensory immersed into the experience, as if they were there. This is often done through the use of different perspectives when it comes to controlling the character within a game, where a first-person perspective often immerses the player more on a psychological level than for example a third-person perspective (Perron, 2018).

Another notion that supports this is that videogames ease the imaginative transportation through the illusion of agency, meaning that the player is the one interacting with the game world. This is often made apparent when people describe their videogame-experience. They almost always describe their experience in first-person (“I killed the zombie, I opened the door with the key” etc.), unlike when you have watched a movie, which is another reason why videogames might generally be regarded as more immersive than movies (Clasen, 2015).

However, Perron also argues that videogames might lean more towards inter(re)activity than interactivity. By inter(re)activity he means that videogames often are comprised of a chain of reactions, where the player has more of a reaction than action to what the game presents, and at the same time, the game reacts to the players input (Arsenault & Perron, 2009 as cited
in Perron, 2018). This could in turn be related to fear itself, since as mentioned earlier it is an involuntary reaction based on incoming threats or dangers. Perhaps this is one explanation as to why fear-based video games are considered such a success.

5 Narrative

Since the intended focus of this thesis relies on the narrative aspect of an interactive experience, it is beneficial to analyse what a narrative is composed of, as well as its definition. This is done in order to establish the differences between a linear narrative and an interactive narrative, but also to define the term and clarify its importance within this thesis.

“A narrative is a chain of events linked by cause and effect and occurring in space and time” [Bordwell & Thompson, 2010]

This definition is crucial to the understanding of what a narrative really is and how it is being used throughout various media today. Another term closely related to narrative is story, and stories are what comprises most of our lives. If you think about it, stories are present in a vast amount of aspects within our daily lives: Novels, history books, biographies, all comprised of stories. However, narratives are present in a multitude of other media as well, such as films, games, television series, comic books and paintings. Even when conversing with our fellow man/woman we often end up telling a story of either a fictional or realistic event that took place in our lives. This is why the narrative is such an interesting topic, it envelops a great deal of our society and in a way serves as a fundamental way for us humans to make sense of the world (Bordwell & Thompson, 2010).

We can look closer into the term by using the media of film as an example, since in most cases films are centred around a narrative. When we are approaching a film, we always have expectations and anticipation going into the experience. We assume that there will be certain characters connected to the storyline and each other through various actions, but also incidents that will unfold certain events. We serve as spectators in this regard, and we come prepared to make sense of a narrative film (Bordwell & Thompson, 2010).

Then, how do we engage ourselves into a story unfolding on a screen? The answer might be that we need to understand patterns within certain factors such as time and space, cause and effect, change and stability. Three of these factors stand out as particularly important when discussing narrative media: causality, time and space. The reasoning behind this is that in order for us to make sense of the events unfolding before our eyes, we need to be able to determine the causal or temporal relations among these events. Otherwise it
will just become a random string of events of which we will have a hard time grasping the context (Boldwell & Thompson, 2010).

Since we have established a well-rounded definition of the term narrative and how it relates to certain media, we can now dig deeper into how we might design with the narrative in mind and the distinction between a linear and interactive narrative.

5.1 Narrative design

Narrative design is when we try to scope out the entire story flow and include everything that the user or audience will experience from start to finish. It can almost be described as beats that rise and fall depending on the tempo of the story you are creating. Taking the audience or the user through these beats is the main objective for the narrative designer, and it is here where we establish the flow of a story, with slower parts building up to moments of crucial story-events. When thinking about a narrative as a composition of beats, it allows us to structure the narrative in terms of tempo, character introductions, action-sequences and lore explanation.

Narrative design is when we consider all the connections that take place between elements such as characters, places and artefacts to create a thread that can be traced throughout the whole story (Pixel PHD, 2016).

In conclusion, designing for a narrative is to design for a whole experience, including all constellations of aspects and elements vital to the story as a whole.

5.2 Interactive narrative versus linear narrative

Since we have established a clear definition of what a narrative entail, as well as how we might design for a narrative, we can now form distinctions between a linear narrative versus an interactive narrative.

Let us start by analysing the term linear narrative. A linear narrative strives to tell a story, from start to finish, with no possibility for the spectator to affect the outcomes. The story is already predetermined and can’t be altered. Films are mostly comprised of linear narratives, since the story usually follows a straight path from a beginning to an end (Boldwell & Thompson, 2010).

An interactive narrative is where a person can interact with the story and affect its outcome. You are a participant that actively make choices and alter the narrative in regard to your decisions. The narrative will thus branch out and change depending on your actions (Pixel PHD, 2016).

I found it important to make distinctions between these two terms as the focus of the thesis is on creating an interactive narrative. It is also vital because of its relation and relevance to the interaction design practice.
6 Principles of fearful experiences

Since we now have a clear definition of what might constitute as fear, as well as a distinction between the terms fear, horror and terror, I propose the importance of elaborating on principles that can contribute to fear-inducing experiences. This is to get an understanding as to why we might find fearful experiences enjoyable, and how it can relate to interactivity.

Fear is generally perceived as a negative emotion that appears when people are under threat or find themselves in dangerous situations (Hussung, 2016). However, media incorporating fear are constantly growing. Why is this? (Murphy, 2017).

One answer could be that in order to extract some form of enjoyable experience from a scary situation, the user needs to be aware that they are in a safe environment. By triggering the previously mentioned fight or flight-responses, the body releases adrenaline, dopamine and endorphins, all substances in our body related to well-being. This is also why the term excitation transfer could be of relevance to us. What this means is that after the physical reactions associated with fear wears off (for example an increase in heart rate and muscle tensions), they are replaced with feelings of intense relief (Hussung, 2016). This is when our brain releases previously mentioned substances, leading to feelings of satisfaction.

In the study “Nothing to fear? An analysis of college students’ fear experiences with video games”, Lynch & Martins (2015) recognizes three main themes based on a survey on fearful experiences in videogames: darkness, the unknown and monsters. Naturally, there are a vast number of other themes or features that causes fearful reactions, but these three, according to the authors, makes sense psychologically since they target our evolved defence mechanisms (Lynch & Martins, 2015). They also fit into the primary principles of fear attraction mentioned below.

Psychologist Glenn D. Walker proposes that there are three primary principles that could explain why we are attracted to fearful experiences: Tension, relevance and unrealism (Lynch & Martins, 2015). Let’s investigate these more thoroughly to get a deeper understanding as to why we might find scary situations enjoyable and even coveted at times.

6.1 Tension

Tension can be closely related to the term terror defined in the previous section. It is the initial feeling of uncertainty and mystique present when we don’t know what is going on. Lynch & Martins (2015) mentions fear of the unknown as one of the main fearful features, based on their empirical study. Not knowing what the threat is leaves it to our imagination, which can often render feelings of anxiety, nervousness and tension. This could for example
be the use of locked doors in movies or video games. The sounds present behind the doors lets us know of a possible threat and it becomes almost an obsession to know what is behind a certain door (Carpenter, 2016). Other elements that can be part of the tension-principle are suspense, gore & terror (Hussung, 2016).

6.2 Relevance

When discussing relevance, we talk about elements that the user will be able to identify with. This factor is clearly highly individual, as we all have been through different experiences throughout our lives. This factor could incorporate elements such as phobias, fear of the dark, fear of dying or social issues (Hussung, 2016). This might also explain as to why darkness is one of the key features that are being used consistently throughout horror movies and video games, and why it causes fearful reactions (Lynch & Martins, 2015).

6.3 Unrealism/Fiction

For horror to work as an attraction, Walker proposes that a factor of unrealism often is involved. When the user realizes that the medium that they are consuming is fake and is meant as a form of entertainment, they can enjoy it. This also relates to the notion of being in a safe space mentioned earlier, where the user can get a sense of relief in knowing there aren’t any real threat or danger present.

Unrealism is often depicted in different media as some form of monster, whether it be zombies, vampires, werewolves or creatures from other dimensions. So why is it that these unrealistic features are being used constantly, since our fearful instincts has evolved to protect us from existing dangers in the real world? One answer to this could be that creating a perceived realism in the form of visual graphics or descriptions is important and needed in order to produce fright responses (Clasen, 2015). However, since the user is aware of their non-existence, the threat never feels real, which could then render the experience to be enjoyable (Hussung, 2016).

7 Related titles

This chapter will serve to study various titles which in one way or another displays the elements of fear, interactivity or narrative that we have been discussing earlier. I understand the limitations that comes with solely focusing on these games, however, I made the conscious choice to include these titles either because of their narrative nature, the way they include elements of fear or the specific platform they were developed for.
7.1 Bloodborne

Following is an example of a high-quality game produced for the current generation of consoles.

I have chosen to discuss the following title deeper since it touches upon many of the various terms related to fear mentioned earlier. It also uses its narrative in an innovative, unorthodox way, as proven below.

Bloodborne is an action/roleplaying-game with heavy influences of gothic horror developed by Japanese game studio FROM software.

The story begins in the fictional town of Yharnam, a place bursting with dark alleyways, gothic cathedrals and blood-drunk inhabitants (see Figure 5). The focus of the narrative is within the title, it all revolves around blood. It is used extensively in more than one way and serves as a driving force story-wise. However, the story might not be unfolded at all, should the player wish not to. It is up to the player to find clues and gain information through the use of NPC’s (Non-Playable Characters), item descriptions and enemy encounters (Tyrrel, 2015). This is also why I have chosen to include it as an example, since the narrative is done in such an unconventional way, where it functions almost like a puzzle and the player has to put together the pieces to unfold it.

![Figure 5. A promotional poster for the game Bloodborne. This image captures the environment and overall tone of the game (All HD wallpapers, 2015).](image)

The remarkable thing that Bloodborne does so well is that the gameplay reflects the narrative. By this I mean that every element of the game is connected to the narrative. Every enemy-type, boss battle, environment and item can be explained through the narrative. For example, one boss that you encounter is called Father Gascoigne, and you could assume that he is just another evil enemy that needs to be dealt with. However, should you visit a certain window prior to this fight, you will encounter the voice of a little girl
who is in search of her parents. She tells you that her mother is wearing a red brooch and then gives you a tiny music box that is supposed to calm her father down, should you find him. Turns out, her father is Gascoigne who originally was on the hunt for blood-drunk beasts, but now has turned into one himself. You also find a dead woman in the same area as him, with, you guessed it, a red brooch on her (Luke Stevens, 2019, 6:00). This is a feature that I was heavily influenced by since it drives the narrative in more than just one way. It allows the player to discover almost hidden aspects to the story and could further serve to enhance the experience.

### 7.2 Hypertext horror games

Since my intended prototyping-tool is Twine, it felt natural to discuss a couple of games made through the use of hypertext, which is the main mechanic used in Twine. The ones that are described below have been chosen because of their innovative approach to storytelling and their reliance on a variety of fearful elements.

#### 7.2.1 Beneath floes

Beneath Floes is a horror game made through Twine. It heavily focuses on atmosphere and minimalism. There are possibilities to personalize the experience through various choices and the game relies on little to no visual or audial assistance, instead focusing on describing environments, character and events in detail through text.

#### 7.2.2 Howling dogs

Howling dogs is a Twine game made by a user known as Porpentine. It is highly descriptive and text heavy. The game focuses on forcing the player to do mundane tasks such as eating, sleeping and drinking in order to progress the story (Robertson, 2015). Each “chapter” is a different story that you decide the outcome of. The game limits the user's possibility of interaction, but at the same time steers them into a certain path in order to progress the narrative. Once the story starts unfolding, it is up to the player to choose how it will progress. As opposed to previously mentioned games, this one serves to guide the user through some parts of the narrative by force of choice.

#### 7.2.3 Cyberqueen

Another Twine game by Porpentine. This one incorporates themes of science fiction, body horror, gore, erotica and suspense. The narrative is what drives the game and there are multiple outcomes/endings. It is a very strange, intricately described experience that leaves you with feelings of shock and anxiety.
The reasoning behind analysing this game is that it is developed using Twine, which can serve to both limit and expand creativity and storytelling. Since Twine is based on hypertext games, it allows for text-based interactions with some support for visuals and audio. Cyberqueen, however, embraces the limitations of the software and focuses on telling a compelling, suspenseful narrative full of gore and terror using only text. The descriptive elements of gore allow the user to imagine the horror in full detail.

7.2.4 The Wattson Scott test

This game is made in the form of a personality test, where the one taking it will answer 30 different questions. These questions will explore themes such as phobias, moral scenarios and ethical choices. Depending on what the participant will answer, the test will end with an analysis of your mental health and a certificate of participation. Through the use of unexpected sounds and glitching graphics, the test is created to rely on tension and anticipation. The unpredictability of the questions that are being presented plays on the notion of the unknown and a progressing sense of anxiety.

I decided to explore this title more since it provided the user with such a different approach story wise. You are the main character of the story that is unfolding, and your choices will affect in what direction the game progresses.

8 Prototyping

8.1 Twine

Twine is an open source platform made for developing nonlinear interactive stories. It enables you to structure and write branching storylines which the user can interact with, rendering game-like qualities to the software. It uses HTML, CSS and JavaScript to enable users to create their own adventure games, with the ability to add multimedia in various forms (Kenlon, 2018).

I have chosen to develop prototypes through Twine because of the software’s quick learning curve and the possibilities it allows. Since my intended topic is within the interactive narrative, Twine seems like a good match, allowing me to develop multiple iterations in a short period of time. Also, since my prototyping-phase is done in parallel with the research phase, Twine allows me to implement changes as I go.
8.2 Purpose

The purpose of developing different prototypes on the topic of narrative-driven interactive fear through Twine is to ultimately create frightful responses through these experiences. It is also done to explore various themes surrounding fear and see the emotional reaction each theme has on the participants. This will serve as valuable insights regarding elements and features that may prove to elicit fear into the participant. My intentions are not to provide set templates on how fear is achieved through an interactive experience, merely present research-based suggestions on different approaches of doing so.

I have chosen to focus on different themes of fear for each prototype, to extract as much findings as possible on the topic. Put briefly, multiple prototypes will be developed based on emotions within the fear spectrum, the software limitations or the narrative structuring. This will allow me to form insights based on multiple dimensions within fear, narrative and interactivity, hopefully rendering a more fulfilling conclusion.

The low fidelity prototypes were made through various iterations with multiple takes on narrative structure. Producing a variety of low-fidelity prototypes allowed me to find various elements within each prototype, and with the help of user feedback through playtests, incorporate changes into future iterations. The prototypes are based on an interactive narrative focusing on creating fearful experiences. The research-phase has enabled me to find key elements and principles I could use for my own prototypes and the prototyping-phase was initiated relatively early, in order for me to be able to learn as I go. Developing these prototypes and observing users interacting with them enabled me to confirm research-based theories as I was writing the thesis as well as to form my own insights on implementations that could prove beneficial.

Following are short descriptions of the multiple low-fidelity prototypes developed and the results from the playtests and observations:

8.2.1 Abducted

**Iteration 1:**

This prototype revolves around a game where the player wakes up trapped in a cellar. Something or someone has put them there and it is up to the player to confront the threat and try to make it out alive.

**Intention:**

This section will serve to inform on the intended themes and functionality of this prototype.

**Limitations**—I tried to limit myself by creating sentences that were as short as possible, but still incorporated core values of fear. It served as a way for me to force myself into using key elements of fear (see Figure 6).
The unknown - As discussed earlier, the unknown can be a powerful instigator to fear. Not knowing where you are located and the story behind how you got there all serves to add to the mystique and tension.

Disgust - The feeling of disgust can be included into horror, and in this prototype, it is present through descriptive texts involving gore, blood, violence and death.

Figure 6. An example of interactions that can be made in Abducted. Notice the intentional usage of short sentences.

Observations:

I observed three participants experiencing this prototype. There was an option to start over once they had lost, which each of the three participants did until they managed to get out and by doing so finish the experience. Questions relevant to their experiences were asked after playing the game, involving their perceived feelings of fear connected to the game.

The observations started by asking the participants questions regarding their emotional state at the time. This was not intended as a scientific approach but instead as a way for me, as an observer, to be able to see if their emotional state differed prior to and after the experience. I started by asking them to describe their general mood and how they were feeling at the time, which was then put into relation to the affect circumplex, where multiple emotional states were displayed on a scale based on activation and pleasure. Calm, for example, is placed relatively high on the pleasure scale, but low on the activation. The circumplex was in that regards also an aid towards the participants, for them to be able to relate a state to a certain emotion. After the experience they were once again asked on their emotional state in relation to the circumplex, which could then serve to give an indication of emotional changes that occurred throughout the experience (see figure 7). This would then serve to give me further knowledge as to in which direction the prototype should take, and where it could go. In other words, the circumplex was an aid for me to get a sense of which fearful characteristics the prototype was displaying (if any at all), furthermore enabling me to compare the resulted emotional outcome with the intended one. These questions in combination with the circumplex were used throughout all of the prototypes and served as a beneficial initial way for me to compare my intentions with reality while at
the same time discover if there were any emotional changes in the participants based on their experiences.

**Setting:**

As this was my first, initial prototype it also served as a test of environment and method procedures. Since this prototype didn’t contain any audial representation, I chose to not include headphones into the playtests. The locations of the playtests weren’t specified either with this prototype, which could have affected the results.

**Feedback:**

A common denominator was that all participants felt that there was a lack of visual and auditory support throughout. My intentions were to make this iteration purely text-based, however, they all felt as if the experience was lacking because of it. They felt that if these features had been available, heightened feelings of fear might have been experienced. This led me to the conclusion that visuals and audio could possibly be crucial features and should be explored further.

At best, participants experienced mild forms of anxiety while playing the game, which meant that my intended levels of fear reactions weren’t met. The next prototype would then serve as a way of exploring visuals and audio as well as test other themes within fear.

**Abducted**

**Emotional scope prior to experience:**

![Emotional scope prior to experience](image1)

**Emotional scope after experience:**

![Emotional scope after experience](image2)

*Figure 7. Using the affect circumplex, the emotional scope of all participant is displayed prior to and after the experience.*

Iterating more on this prototype seemed discouraging, since the focus of it was on the text itself and it didn’t seem to create a fearful experience without visuals or audio as support. Therefore, I made a conscious choice to proceed with other prototypes more in tune with this. In this regard, this prototype served more as a steppingstone towards discovering the importance of different types of feedback as well as expand on the functionality of the tool.
8.2.2 Suntown

As opposed to Abducted, I proceeded with developing a more refined prototype, incorporating some of the more successful mechanics from Abducted, while also relying on visuals and audio as ways of enhancing the experience.

**Iteration 1:**

The story takes place in a small town, where you, the player, wakes up in your own house on what you think will be an ordinary day. However, things quickly take a turn for the worse as you discover that an unwelcomed guest is more than keen on pursuing, and possibly hurting you, no matter what (see Figure 8).

**Intentions:**

Themes that were to be explored through this prototype were the following:

*Horror*- The intentions with this prototype was to shock the participants by means such as intricate descriptions on bodily traumas, violence, blood and gore.

*Danger*- My intentions were also to establish that the threat was dangerous. This was done so that the participants would feel that there is a lot at stake. Every decision they make should have an impact and, should they pick the wrong choice, consequences.

*Pursuit*- Finally- a reoccurring theme within this prototype is the relentless pursuit that occurs. This was to convey feelings of anxiety over the fact that the threat won’t leave you alone, no matter what you do.

Figure 8. A passage in Suntown. Notice the addition of visual material as a way of enhancing the fearful experience.
**Observations:**

Observations were made on four participants, where two of them previously had tried Abducted. This allowed me to ask comparative questions after observations and form insights based on preferred differences within each game.

Aside from the additional questions on differences between the two prototypes I also took use of the affect circumplex throughout this observation, with the same intentions as before (see Figure 9).

**Setting:**

In order to try to enhance feelings of fear when experiencing the prototype, I chose to conduct the playtests during evenings. I also wanted the participants to be able to immerse themselves into the experience and fully focus on the prototype at hand, which meant that I chose a location in which it could be experienced in private. To further enhance a sense of presence and immersion into the participants, I offered them headphones, in order to block out other sounds from their environment and focus on the audio presented through the prototype.

**Feedback:**

One observation that two of the participants made was that the sounds were almost anticipated, since they weren’t accompanied by any background-music. This could possibly be solved by adding ambient sounds in the background throughout the game, thus aiming at prolonging the tension and overall experience.

All of the participants felt that the visuals didn’t add too much to the experience itself. Since the characters, actions and locations were described by text, they felt as if the visual representations took away their ability to imagine it themselves. In that regard, they felt that the interactive experience should have a resemblance with that of reading a book.

Another point brought up during discussions with the participants was the coherence of the story itself. Two of the participants stated that because the pictures had different filters and colour hues, it created a disconnect with the storyline and hence hindered the experience itself.

Finally, a majority of the participants found the experience to lean more towards storytelling than interactivity. This was partly due to the limited choices and short storyline. Since the main topic of the thesis is the interactive narrative, I would have to find ways of balancing the story and interactivity so that the experience won’t lean too much on either one.
Figure 9. Using the affect circumplex, the emotional scope of all participants is displayed prior to and after the experience.

**Iteration 2:**

The first implementation I did was to add a dark, unnerving music-track in the background. The reason behind it was to further enable the participants to immerse themselves into the experience and feel a heightened sense of presence.

I also made a choice to redesign all the pictures, so that they’d have the same theme throughout (see Figure 10). This was done to establish a more visually coherent style to the story, and thus aiming at making the experience more frightful.

![Image showing the visual implementations made for the second iteration of Suntown. In order to make the experience more coherent, all the visual material was designed with the same theme in mind.](image)

As you open the door you find that the man turns to look at you.
It almost seems as if he has no eyes, but it can’t be.
He has a big grin on his face, but the sound he is making is more reminiscent of crying or sobbing.

Are you okay, sir?
Walk back inside and lock your door
Feedback 2:

After implementing these changes to the prototype, I reassembled the four participants that tried the first version, to establish how the changes might have affected the overall experience.

They all experienced the story as more coherent, since all the visual imagery had the same theme to it and made sense story wise. They still felt a lack of interactivity, which is something I didn’t focus on implementing through this prototype. Instead, I decided to explore this further in an upcoming prototype. Three of the participants felt that the sounds served as key elements as instigators of fearful reactions, since they appeared sporadically throughout the narrative. The addition of a musical track playing in the background was proven to be of benefit to the experience as well, as the participants felt more involved in the story and immersed in the experience.

As a conclusion, this prototype served to test certain elements of fear involving terror, danger, horror and dread. The interactivity in relation to the narrative were underwhelming, an insight that I decided to bring with me to the next prototypes. Also, the importance of audio seemed to outweigh that of visuals, as the audio proved to create a more frightful experience and add to the fearful elements. As visuals weren’t that prioritized and sought after, I decided to focus more on sound and interactivity within the upcoming prototypes.

8.2.3 Surgical intervention

Iteration 1:

This prototype was made to explore horror and terror from a different angle. Here we are presented with a scenario in which the main character is trapped on an operating room table. A mysterious man approaches the table and it is up to the participant to figure out how to make it out alive.

Intentions:

The main intentions with this prototype are presented below:

Captivity- An exploration of being constricted to something is a potent way of invoking fear. Through the use of sounds resembling materials and the inability to act, the intention is to evoke feelings of despair, panic and anxiety.

Disgust- This prototype returns to the notion of disgust as an instigator to fear. However, here it is turned up to 11 by adding gut-wrenching sounds as you are being picked apart, piece by piece (see Figure 11).

Audio- There is a greater reliance on sounds throughout this prototype compared to previous ones. This is mainly because of its ability to previously cause fearful reactions. The sounds are also exaggerated, to further express the disturbing ways in which your body can be mutilated.
Relevance- This was one of the principles of fear discussed earlier and it was incorporated here by introducing familiar surroundings. In this case the experience took place within an operating room, which is usually placed in a hospital. We all have a relationship to hospitals and in most cases, it is not a positive one. Enabling the participant to relate to their environment can possibly be another way of instilling fear into them.

![Figure 11. A screenshot from Surgical Intervention. Notice the addition of highly descriptive test and focus on gore as a core mechanic.](image)

Observations:

Observations were made on five participants. Two of the participants had tried Suntown and Abducted prior to this prototype. The reasoning behind only including two known participants was that this prototype had a completely different theme, thus not being that relevant as comparative material to Suntown or Abducted.

Since the affect circumplex had been beneficial in prior prototypes in terms of seeing emotional changes in the participants as well as map out the prototype on the emotional scope of fear, I decided to keep using it on this prototype as well (See figure 12). It turned out to yield some satisfactory results since it clearly displayed a shift in emotional states for all participants, and they were all located within the fear spectrum of the affect circumplex after completing the playtest (Activation-Displeasure).

Setting:

As with prior prototype, I chose to use darkness to my advantage. A dark room with little to no light source other than the computer screen seemed like a beneficial way of setting the scene. I also chose to include headphones, as an ambient, chilling soundtrack was playing in the background.
Feedback:

Three of the participants felt a disconnect with the main protagonist. This was mainly due to the lack of certain sounds they expected the character to react with when faced with specific situations. Examples of these could be heavy breathing when the man is approaching you or increasing heartbeats as the character experiences pain. They felt as if adding such audial elements of relevance could enable them to relate more to the situation at hand. All in all, the importance of audio seemed to be a common theme throughout all of the prototypes.

They did, however, express that most of the involuntary bodily reactions described served to humanize the protagonist and added a certain richness and relatedness to the experience.

Four out of five participants described the narrative in terms such as enticing, thrilling and suspenseful. All of the participants decided to keep playing the game until they managed to finish it. It was clearly stated prior the playtests that their participation was voluntary and that they had the option to end the playtest at any time.

They were also asked about their emotional state prior to and after the playtests, revealing that three participants experienced feelings of disgust and repulsiveness due to the graphical nature of the texts, while one participant felt almost a sense of panic due to the inability to “finish” the experience, but also irritation due to lack of game progression.

One of the participants felt that the prototype was too text-heavy, meaning that some parts were unmotivating to read through due to the fact that the whole text was presented at once. The participant suggested a solution by implementing a function in which the text was revealed simultaneously as it was read, possibly leading to a more profound pacing and an easier ability to match sounds with text-based events.

Lastly, the two participants that had tried Suntown prior to this had the perception that Surgical intervention felt more like a game than Suntown, which they felt leaned more towards a narrative. This was also a valuable insight as to the balancing of interactivity and narrative and when an experience can be considered a game. This will be further analysed in a discussion presented later.
**Figure 12.** Using the affect circumplex, the emotional scope of all participants is displayed prior to and after the experience.

**Iteration 2:**

Implements were mainly done related to audial feedback. I added relevant sounds such as heartbeats and heavy breathing where it felt natural to the storyline. This was to further enhance the immersion and experience overall. The reliance on text has been a key element throughout all prototypes because of the software capabilities and the narrative focus. However, participants felt that this iteration contained too much text at certain points. I wanted to address this problem in some way but restructuring this prototype to rely on functions enabling the text to appear as you read it seemed counterproductive. This mainly because of Surgical intervention being a prototype made to focus on creating frightful response through gore, horror and sound. I therefore made a conscious choice to include this functionality into the upcoming, final prototype discussed next. I didn’t want to include too many game mechanics, features and elements into a single prototype, as I felt it to be more constructive to explore these throughout a range of prototypes. This also enabled me to get a deeper understanding of each theme within the prototypes.

**Feedback 2:**

Going back to the original five participants, I was interested to find out how the implementations made could alter their experience. All of the participants got a heightened sense of immersion from the second iteration, much to my enjoyment since this was my intentions. They still found some parts too reliant on text, but as I explained my upcoming plans, they provided me with some leniency. Four out of five participants expressed feelings of disgust, repulsiveness and anxiety after having experienced this iteration. This was also a positive response, since these feelings were in tune my intended theme.
Concluding this observation, I would say that it proved beneficial in giving me valuable insights as to elements that could induce certain fear-related emotions, but also in how a narrative should be structured to feel more interactive. Lastly, it gave me ideas on how to structure and develop the functionality of my last prototype, discussed in the next section.

8.2.4 Reality check

**Iteration 1:**

Learning from prior prototypes, I strived to implement these changes into the final one named Reality check. First, let’s start by discussing the structure of the narrative and how interactivity can be implemented into the design. The earlier prototypes focused on a story where you, the participant, were assigned a certain role as the protagonist. Instead of using this structure, I wanted to see if it’s possible to include the actual participant as the main character of the narrative. This is where I drew inspiration from The Wattson Scott test discussed earlier. Rather than having a standard story consisting of a beginning, a middle and an end, I sought to explore how reality can be taken advantage of as a natural part of the prototype environment. I decided to structure the prototype in the form of a survey, which the participants were asked to take. In it, they are asked questions in regard to their emotional states and their personal preferences and situational reactions, which aims at creating an individual experience unlike any other. The reasoning behind this was in creating value out of drawing inspiration from the participants lives, thus adding a layer of relevance to the narrative.

The experience starts out by the participants being greeted by a text introducing the test they are about to take. I chose to implement a text that is displayed as the user is reading it, which is done to assist with the pacing and timing of the experience as a whole. Here, they are also warned of the possible side effects participating in this experience may lead to. This is all done to set the scene and create a certain mood (see Figure 13). This experience is all about confronting your inner fears and facing the consequences of your choices. This prototype serves to revolve around psychological fear and mind games and will explore themes within fear such as unpredictability, uncertainty, tension, terror and anxiety.

By explaining the dangers of taking this test, it allows the participants to imagine what’s to come. They are then asked to answer a couple of routine questions in order to prove that they are human. After this follows multiple scenarios where they are asked to choose the answer which best correlates with their own reaction or action. This serves to withhold the illusion that their choices matter and will ultimately affect the outcome of the test. This is not true, since each passage leads to another one randomly and not with any particular motive, which makes it harder for the participants to guess what is going to happen or where they’ll end up.
This prototype was made both to evaluate the participants' moral compass in critical situations, but also to rely on uncertainty and perceived control as core game elements. The participants will have pre-set notions going into this experience, which will be the driving force behind the choices they make. However, much reliance on games are within the idea that the participant is in control and that their choices will have certain consequences. This prototype serves to oppose this structure by rendering each consequential choice nonsensical and non-based. Of course, the participants will have no clue of this going into the experience, which is also the main idea. They will be able to expect a certain outcome from choosing a certain answer; however, the game won't conform to this and will constantly strive at challenging the players psyche. This is primarily based on the notion of challenging agency. Agency, which has been discussed earlier, is the user's ability to affect the outcome of an experience and take a certain action. Challenging agency, on the other hand, is the illusion of agency without changes being made to the experience. By letting the player believe that their actions had a certain effect, it allows for us to fill in the gaps without expanding on the content itself (Fernandez-Vara, 2019). There is a total of 20 different endings, which aren't dependant on the participants choices. Instead, this is also randomized. Leaving the participants to believe they scored a certain amount of points based on their choices aims at further leading to confusion and possibly add an element of surprise to each playthrough, enhancing the experiences' longevity.

All in all, it is an experience that is supposed to target the participants insecurities and predetermined ideas of how a game-like experience should work, while also incorporating dark themes related to fear. By doing so, my intentions are to provoke nervousness and anxiety due to its uncertainty and unreliable nature, while also invoke terror and dread because of its disturbing subject matters.
**Intentions:**

*Uncertainty*- By evoking doubt into the participant I aim at creating a sense of uncertainty and unpredictability to cater to the notion of the unknown as a principle of fear.

*Narrative*- Going against the standard idea of a narrative I chose to implement a story based on the participant themselves, where their choices will form the outcomes through the use of a personality test. This was done to explore a new way of telling a narrative, while at the same time relying on interactivity through the use of agency and presence mentioned in earlier passages. It also resonates with the notion of literary fiction, since in this case I am the author of the narrative rules in terms of pacing, character development and plot.

*Tension*- Previous prototypes and theories underlines the importance of tension, which is also a big part of the emotion of terror. It is partly made possible by obscurity in this prototype. Not knowing what will happen or where the narrative will take you is a strong instigator to the creation of tension and is used extensively in this prototype.

**Observations:**

Observations were done on six different participants, where three of them were confidants while the other three were random persons. This was done in order for me to be able to compare feedback from the two groups based on objectivity and broader criticism.

The affect circumplex was used to understand the emotional scope of the participants prior to and after the experience. The informal approach of asking the participants how they were feeling, and later enabling them to put it into context on the circumplex was a conscious choice, since it also served as a way to lighten the mood and making the participants feel comfortable prior to their experience.

**Settings:**

As some of the questions had relations with the physical space in which the participants were located in, I tried to conduct the observations in a variety of places. Some of the observations were done in the participants homes, while others in a larger facility such as a school or library (see Figure 14). This was to retrieve insights on the importance of a certain setting for this specific prototype. However, I understood the danger of solely relying on the settings, since it isn’t always possible to observe participants under ultimate conditions. It was merely to understand how the different settings might have an impact on the experience as a whole, and how much this should be taken into consideration.
Feedback:

If we take a look at the participants' emotional states prior to experiencing Reality Check, we can see that they range from calm and contented to excited and happy. No negative emotions were present at this time. We can, however, see a major change when looking at their emotional states after the experience (see Figure 15). All of the participants displayed emotions located within the displeasure/activation area, which is also where fear is located. The emotional scope ranged from nervousness to anxiety to feelings of dread and even terror at times. This was, of course, a positive insight since the overall goal was to elicit feelings of fear.

Let's proceed with the participants' opinions on the experience itself, in regard to features and functionality. Two of the participants felt that the clickable options that appeared took too long before revealing themselves. I could understand this, since at some points during the experience you are not sure whether or not there will be more options presenting themselves.

All participants were intrigued by the questions and scenarios presented before them, and this made them want to continue with the experience and try different paths to see the different outcomes. This was also positive, since
it could possibly contribute to the replay value of the prototype, elongating the lifespan of the experience.

Five out of six participants felt that the background music fit naturally into the flow of interactivity and didn’t interrupt the experience. The background track was made in the home studio of a friend, where we took use of everyday objects such as a scissor cutting paper to the crinkling sounds of different materials. We then distorted these sounds and added them to a background track, along with screams and voices. This created another layer of uncertainty since the sounds were distributed randomly throughout the track, making each experience unique since the timeframe of the test is different for each participant.

8.3 Final thoughts on prototyping
Since I had been developing multiple prototypes, each with their own theme and iterations, I felt that there were sufficient insights and findings on the topic for me to form relevant capable conclusions on it and have a rewarding discussion analysing the different insights. Because of this, I couldn’t really justify another iteration on Reality Check, since it would most likely only serve to rob me of valuable time without generating much further knowledge on the topic. Following is a discussion on the main findings as well as a conclusion on the thesis itself.

9 Discussion/Conclusion

9.1 Discussion
This process has been a journey into the realm of fear, while also exploring different narrative structures and how to balance them with interactivity. It has served as a primary way of analysing how interactivity is affected by the narrative, and vice versa, thus aiming at displaying relevance into the field of interaction design. The focus has also been on the notion of emotional design, where I have had the intentions of eliciting a certain emotion into the user, in this case fear. It has been an extensive process that has ultimately led to interesting and surprising insights on many areas that touch upon the interaction design practice as a whole. Here follows a discussion on the main findings and their possible contribution to the field:

The complexity of emotions
Eliciting high levels of fear such as horror and terror can be difficult when focusing on an interactive narrative. Instead, there was a general theme of tension, nervousness and anxiety throughout many of the experiences. Going into this process I was fairly confident in my ability to invoke these higher-
level feelings of fear, such as terror, panic and horror. It turns out that the emotional scope of fear has a wide range and is more complex than I initially perceived it. The reason for this might also be because of the stimulus generalization mentioned earlier, in which we are able to experience certain emotions through different types of media, though not as intense as they would be perceived in reality.

This has, in a way, generated a newfound respect within the field of emotional design, and how extensive the research needs to be in order to fully understand emotions. Looking back at the results and the relevant theories that have been presented, I can see a lack of theories supporting emotional design throughout. Future research on the topic might yield more satisfactory results should the notion of emotional design be explored on a deeper level.

**Balancing interactivity with narrative**

Interactivity and narrative can almost be regarded as opposing forces, since following a narrative is often a passive ability, while interactivity is all about agency and being able to act and having the ability to make choices. Each iteration and prototype served as a lesson in the sense that they taught me how interactivity and narrative could coexist and even thrive of one another. It turned out that every step towards a new prototype got me a little closer to understanding and implementing the balance between the two. Unfortunately, I would claim that the final prototype didn’t make it all the way to refining this form of art but was indeed on a good path towards a balanced trajectory. I believe that there is a great possibility that further expanding upon this topic could render a beneficial balance between the two.

**Individuality**

I found it important to discuss the topic of individuality in relation to this thesis as well. Since we all experience things differently and our emotional scope is highly individual, it is almost impossible to find a general framework on what is to be considered a frightening experience. A number of parameters is to be included in order to understand this, such as phobias and personal traumas. I would therefore propose that more extensive research could be made on the individuality of emotions and how an experience can affect people differently.

**When does an interactive experience turn into a game?**

This was an insight that I found of relevance to address, since some of the prototypes I developed leaned more towards telling a story and presenting an experience rather than to be considered as a full-fledged game. I didn’t specifically aim at creating a game, more on developing an experience that would contain a narrative element throughout while also trying to invoke feelings of fear. The question still arose though on when an interactive experience can be considered a game and if there is a difference between the two. What does it take for an interactive product to be classified as a game? I
would suggest that research could be made on this topic, and probably has been, but I made a conscious decision to not delve deeper into this particular aspect of the thesis. The focus was instead placed on the emotional scope of fear and how interactivity and narrative structure could incorporate it as a main element.

*The power of multiplicity*

The meaning behind this insight is that I would consider a value for this topic in developing multiple prototypes and explore different dimensions of fear, but also as a way to enhance mechanics and refine features and elements throughout the whole process. If we look at my first prototype and my last one, we can see that there are extensive differences, both in terms of narrative structure, but also in terms of interactive elements and mechanics. So not only has developing a variety of prototypes been a beneficial way for me to explore vastly different fearful emotions but has also served as a way for me to generate knowledge on various methods relevant to the interaction design practice and the possibilities that the software allows.

*Interactivity*

Looking at the thesis as a whole, I realize there is an extensive focus on the emotional scope of fear and narrative. Interactivity is mainly discussed in terms of agency and presence and I don’t find that interactivity is explored extensively, considering its apparent role within interaction design. Further research might have proven beneficial, such as analysing interactivity and its role within this thesis deeper.

*Reliance on scientific approaches*

I felt that this also was a relevant insight to discuss, since it revolves around the notion of basing your methods on renowned scientific approaches. Throughout this process I have been relying on a variety of known methods within the practice of interaction design, such as the double-diamond matrix and the structure of playtesting. However, in the observation part of the thesis, I have realized a lack of certain scientific approaches when extracting information from the participant. Should it had been made with a more scientific methodology, I would assume the results would have been slightly different and perhaps more valuable in the sense that the data presented would be more reliable. This means that we can see a clear design opportunity and possibility to expand on this field by adding more scientific methods as means of generating insights.

The next part will serve as the conclusion to this thesis, summarizing the main insights and finalizing my thoughts on the project.

### 9.2 Conclusion

This thesis has served as an exploration of the emotional scope of fear while also considering its role into an interactive narrative. Analysing and
investigating different principles, elements and features relevant to fear, narrative and interactivity allowed me to develop prototypes, each exploring different aspects of the topics. Confirming and testing these theories allowed me to form my own insights on the topics at hand. The focus throughout the thesis has been on finding appropriate literature, both based on empirical data on the different topics but also on relevant theories that would strengthen my design decisions. The main design methods used throughout has relied on playtesting of the various interactive prototypes as well as observations and questioning of the participants perceived experiences with them.

The main conclusions that can be found is the importance of understanding the complexity of being able to design for emotions and the difficulty of invoking intense forms of a certain feeling. I also found that certain mechanics might be crucial in how an experience is perceived, in this case focus was made on the audio itself as a means of enhancing the experience and the fearful reactions. There has also been a constant struggle back and forth between interactivity and narrative and knowing how to balance the two. I think an important thing to take away from this is that these terms can coexist and work together, but it needs to be fairly balanced in order to be perceived as a fulfilling experience. Lastly, I would suggest that the reliance of multiplicity in terms of number of prototypes served beneficial when referring to my chosen topic, since it allowed me to try various themes, structures and forms of fear, narrative and interactivity. Ultimately, I would proclaim that I did succeed in creating fearful experiences in different ways, however, they were not considered to be as intense as my intended goal.
10 Bibliography


[Pixel PHD]. (2019, November 27). *What is Narrative Design?* [video file]. Retrieved from https://www.youtube.com/watch?v=RjPt4xNx4bQ&list=PLj8T8uVZRneBi957hBQ1bdDDCaVDU6ECf&index=2


### 10.1 Game bibliography


