

UNIVERSITY OF BERGEN
DEPARTMENT OF INFORMATION
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Designing a prototype of a book series wiki with spoiler control

Author: Aslak Ihle
Supervisor: Lars Nyre



UNIVERSITETET I BERGEN
Det samfunnsvitenskapelige fakultet

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Abstract

Spoilers can be defined as learning plot points in a narrative before the creator of the narrative intended, and are generally thought of in a negative light. There are however studies that show that spoilers can positively affect the enjoyment for certain types of people.

This thesis will define and use six requirements in the design of a book series wiki with spoiler control, named *unspoiled*. The thesis will delve into the two major domains the *unspoiled* solution will exist in; storytelling and the internet. Further, a more theoretical dive into both narrative theory and participatory cultures serve as the basis to define the six requirements. The main part of the thesis will cover the design of a prototype for *unspoiled* and how the requirements impacted this design. This prototype was used in five user tests to gain further insight for a new iteration. Finally the thesis concludes with how well the requirements served their purpose of enhancing and guiding the design.

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Chapter 1

Introduction

This design project started with my own frustration while reading book series, particularly fantasy stories. I often asked myself questions like: "Who is this person again?", "What was significant about that place?". The problem was the fear of spoilers when looking for the information I wanted online. Spoilers can be defined as prematurely learning significant plot points in a story(Perks & McElrath-Hart, 2018, p. 140). There should be a way to reliably avoid spoilers while getting answers to these questions. Before moving ahead in this thesis I feel obliged to warn you that both the thesis and the practical component contains some spoilers from The Lord of the Rings story.

unspoiled is an information website for fantasy book series with the goal of allowing the user to catch up on specific aspects of the story and the world around the story. The information is dynamic based on the users own progress through a book series, to allow control of spoilers. The information itself is to be written and uploaded in a collaborative effort by users.

The practical component of this thesis can be found at:

<https://ywyhvq.axshare.com/#id=nqybh4&p=home&zsc=1&c=1>

Password: MIX350

To get the best experience using this prototype, use this scenario as your starting point: "You are currently reading The Lord of the Rings and are about one third of the way through The Return of the King, the third book in the series. You want to look up the character Aragorn."

1.1 Research questions

This thesis will aim to answer one core research question:

How can you define and use requirements to design a wiki with dynamic information about narrative works?

This question encompasses what this thesis will answer; looking at the whole design process and how requirements can be defined and used to help that process. Along the core question, two secondary RQs are also asked, first: "How do the domains of storytelling and internet influence such a design?". This question helps focus the project and thesis towards important background domains and theories within these domains to provide a basis for the requirements. The other secondary RQ is: "What makes spoilers a problem in narrative works?". To what extent, and in what circumstances, spoilers are a problem is a vital question in the design of the solution, and the understanding of why it is a problem is important to consider throughout the process.

1.2 Defining the general scope

Before starting the process a choice was made about which medium *unspoiled* should cater to. The two major alternatives that stand out are TV series and books. Movies do have a place in the discussion, but TV series and books are more segmented by design, both in regards to the content itself with TV show episodes or book chapters, but also in how you consume the content. You rarely read a whole book in one sitting or watch a whole TV show in one day (although it is known to happen). Movies on the other hand, you typically watch in one go. This makes the *unspoiled* solution less relevant for movies, because either you know nothing or know you everything and can just use an existing wiki without spoiler control. Of course there are exceptions, in stories spanning over multiple movies. Because TV shows and books have a clear sequential structure, while movies only have it on exception (ex. trilogies), movies are ruled out as an alternative. The last two alternatives fulfill the need for a clear sequential structure sufficiently, so that the choice does not have to be based on this factor alone. Another factor that could be considered is how many potential users

you would get with each type of medium. For this project however, the choice in the end was made based on preference.

Another similar choice that could be made is to focus on any particular genre of books, and if so which genre. An argument for focusing on a specific genre is the ability to cater more to the particular needs of that genre. To counter that, limiting yourself to a single genre limits the amount of users, which could be problematic if the solution is not populated with enough data to be worth using. You could also argue that the more catered a solution is to a specific genre the more likely a user from that genre is to start using the solution. Which genre to focus on can also influence this choice. Genres that put the readers into a world different from our own, with new rules, adds more new information to digest and remember. This means that readers of fantasy and sci-fi are more likely to ask themselves the questions that started this project: "Who is this person again?", "What was significant about that place?".

It was necessary to take a step back and consider the options. The idea that sparked the concept, a fantasy wiki for books, was a good option. Therefore I chose to continue down the original path because it was a space that was familiar for me as a fantasy reader, and this path had more drive and joy behind it.

Before being able to directly answer the core research question, chapter 2 focuses on answering one of the secondary RQs. It first focuses on the storytelling, and more specifically fantasy storytelling, then moves over to the internet and its growth in the last decades. The last part of the chapter shows how these two domains increasingly overlap into a single domain, where *unspoiled* could exist. The next part, chapter 3, is a theoretical background focused on two fields; participatory culture and narrative theory. These theories serve as the theoretical framework to show how the solution can form a participatory culture around narratives. This chapter will start to answer the core RQ by defining a set of requirements based on the two theories. The theoretical background continues in chapter 4, but focused on the design and research methods used in the project. Chapter 5 covers the process, results and discussion of the whole project, divided into three parts. The first part is the start of the project with survey research and its results as well as some early iterations. The second part covers and discusses the design of the second iteration, which is the prototype provided with the thesis. The final part of this chapter covers the results of the user testing of iteration 2, discusses these results and describes how the third iteration would differ from

the second. The final chapter is the conclusion of the thesis where the important findings are summarized and then some possible paths forward are outlined.

Chapter 2

Background: Two important domains for *unspoiled*

This chapter will start answering one of the secondary RQs by describing the evolution of the two important domains for the *unspoiled* solution, and their increasing overlap in the modern era. A domain is, among other things, "an area of knowledge or activity" (Merriam-Webster, n.d.).

Like many other online solutions, *unspoiled* exists to a varying extent in multiple domains. Two domains stand out when discussing the design of *unspoiled*. First, the domain of storytelling or fiction and more specifically fantasy fiction. Second, the domain of the internet and the online culture. Getting a better understanding of the history and background of storytelling and the fantasy genre provides a foundation to better understand *unspoiled* and its goal and purpose. Similarly *unspoiled* would exist online, and rely on online cultures to function. A better understanding of what the internet is and the communities that have emerged highlights the possibilities and challenges of the project. The storytelling and internet domains are increasingly overlapping as, similarly to other aspects of our lives, more and more of the storytelling domain is moved online. However, these domains started separately, attributed mainly to the fact that the domain of storytelling is significantly older than the internet.

2.1 Storytelling

In an article named "Storytelling" National Geographic Society (2020) describes 30 000 years old cave drawings as the earliest evidence we have of storytelling, and suggests that storytelling has probably been part of the human experience since shortly after language developed.

Fiction is an important distinction to highlight in order to narrow the scope toward the relevant parts in the storytelling domain. Ashe (2018) describes fiction as a mode of writing where it is understood and accepted by both parts, the author and the reader, that the story is not asking to be believed, it is not a retelling of an event, but rather just a telling of an imagined event. This imagined event can take place in our world, with the rules of our reality, or in an imaginary world with completely new rules, or often, someplace in between the two. The stories that take place in an imaginary world, different from our own, more specifically the fantasy genre, are the focus of this thesis.

2.1.1 The fantasy genre

Pagan (2020) suggests that fantasy has always been a part of human culture, with myths and folklore that are used to pass lessons on to future generations. *One Thousand and One Arabian Nights* and *Journey to the West* are fantastical stories that are passed down through centuries. Mythology is also a good example for early fantasy with its vast collection of stories across Greek, Roman, Egyptian and Norse mythology. Fairy tales are fantasy that blossomed in the 19th century with the collections from *The Brothers Grimm* and *Hans Christian Andersen*. European medieval fiction like *Beowulf* and *Arthur and the Knights of the Round Table* are important works in the classic fantasy trope of knights, princesses, castles, dragons and quests. All of these classic stories are to a varying extent the basis of inspiration for most of the modern fantasy genre we see today. From the mid 19th century to the start of the 20th century we saw stories like Lewis Carroll's *Alice's Adventures in Wonderland*, L. Frank Baum's *The Wonderful Wizard of Oz* and J.M. Barrie's *Peter Pan*. The stories in the 19th and 20th century, while primarily being targeted at children, have played a major role in the development of the fantasy genre as a whole (Pagan, 2020).

Carmody (2020) also delves into the history of fantasy, and starts with trying to pinpoint the origin of fantasy, or more accurately the originator. He brings up two names as the big candidates for the 'Founder of Fantasy' title, Homer and George MacDonald. One important distinction that is brought up between the two is the vast gap in time between when they lived and wrote their works. Homer lived 700-800 BC and certainly has time on his side compared to MacDonald who lived in the Victorian Era. Homer's work, *The Odyssey* has been considered by some as the first fantasy work ever written, and his works were a part of defining the fantasy genre we see today. One question that is brought up is intent; did Homer set out to establish a new reading genre? George MacDonald set out to bring fantasy into its own as a genre with his works *Phantastes* and *The Princess and The Goblin*, and was specifically targeting adult readers, which was unheard of in his time. MacDonald also had some influence on other fantasy writers of his time like Lewis Carroll, C.S. Lewis and even J.R.R Tolkien, which further cements the argument for him as the 'Founder of Fantasy'. Carmody ends up concluding that both deserve the title, Homer for the more general origin of the fantasy genre, MacDonald for making the modern fantasy genre what it is today (Carmody, 2020).

Carmody (2020) also describes a common distinction used when discussing the historical fantasy timeline, the Pre-Tolkien era and the Post-Tolkien era. Tolkien's works established fantasy as what it is today. His first work, *The Hobbit*, was targeted primarily at children, but similarly to MacDonald he moved his focus over to an adult audience with *The Lord of the Rings*. In 2020, there were 150 million copies of *The Lord of the Rings* sold worldwide. This marks it as one of the most popular literary works ever written (Carmody, 2020).

Next Carmody (2020) highlights different works in both the Pre-Tolkien and Post-Tolkien eras. Pre-Tolkien he highlights the works *The Chronicles of Narnia* and *Alice's Adventures in Wonderland*, as these works along with Tolkien's own works served to move the fantasy genre forward into relevance. In the Post-Tolkien era he highlights three works: *The Sword of Shannara*, *A Song of Ice and Fire* and *Harry Potter*. These Post-Tolkien era works helped refine the fantasy genre into what we see today. Magic systems used to be vague mysterious aspects of the stories, but authors started giving it a more defined and rigid structure in their fantasy works. Worldbuilding is another element that became more prominent. Authors were focused more on worldbuilding so it took a bigger part of the narrative. Carmody ends with pointing out two more recent events in the fantasy genre that really helped skyrocket it into the mainstream. First was Peter Jackson's trilogy on *The Lord of the Rings*, which helped

the fantasy genre get a foothold in the cinematic world and motivating other directors and producers to do the same. The second event he highlighted was the TV show Game of Thrones, which grew to be a huge success and served to bridge the gap between the 'fantasy nerds' and everyone else (Carmody, 2020).



Figure 2.1: Venn diagram illustrating the definition of the literary genre speculative fiction (Neugebauer, 2014).

Apart from the fantasy genre itself, there is more general genre with a large overlap to fantasy; the genre of *speculative fiction*. The author Neugebauer (2014) attempts to define speculative fiction in a blog post. She first gives the short answer, saying that speculative fiction is the overarching genre for fantasy, sci-fi and horror. She includes a diagram, figure 2.1, which illustrates that this simple definition does not tell the full story. She defines speculative fiction as "(...) any fiction in which the "laws" of that world (explicit or implied) are different than ours." (Neugebauer, 2014). This definition, and the diagram, shows that the fantasy genre as a whole falls under speculative fiction, but that sci-fi and horror does not fall entirely into the speculative fiction genre, and therefore not the fantasy genre either, but there is a significant overlap of stories that contains both. To further cement the previous argument of fantasy being present in a lot of mainstream media, Neugebauer (2014) points out that the overlap between fantasy and sci-fi could for example be superhero-fiction (Neugebauer, 2014).

The popularity of fantastical worlds highlighted in the previous statistics from both film and books shows how much the fantasy, or more widely the speculative fiction genre, has grown, and most likely will continue to grow. This means that a solution, like *unspoiled*, that caters specifically to this genre has a lot of room to thrive and grow in. Even if only half of the potential user base fear spoilers when looking up specific information, there would still be enough users to reliably populate *unspoiled* with content, given that the design itself is good enough to warrant that.

Before we go further into the domain of fantasy and the effect of the genre fantasy and its community going online, we need to take a step back and look at the second important domain on its own, the internet.

2.2 The internet

In this section we will look briefly back at how the internet started, and then at the cultures that have evolved on the internet. This is important to be aware of to be able to cater to developing a similar culture on *unspoiled*. Likewise, looking at solutions that exist to solve some of the same problems that *unspoiled* does is important, both to know how *unspoiled* can be new and different, but also simply to learn from similar project, with similar goals.

The internet we know today is so intertwined with our lives. Public services, entertainment, social interaction; nowadays these can all be found online, and in some cases exclusively. The internet did not start out this broad and expansive, but rather on a very small scale, decades before the internet we know today emerged. Andrews (2013) explains that the first version of the internet started with ARPANET (Advanced Research Projects Agency Network) in 1969, that allowed for communication between multiple computers on a network. The first message ever sent on this network was supposed to be "LOGIN" but the network crashed, and the receiver only received the first two letters "LO". It continued to grow and TCP/IP (Transmission Control Protocol/Internet Protocol) was introduced as a way data could be transmitted between multiple networks. The ARPANET started using this method in 1983, which started the "network of networks" and grew into what we now know as the internet (Andrews, 2013).

2.2.1 Bulletin Board Systems

While the beginning of the internet was developing we saw a new social aspect emerge, namely *Bulletin Board Systems*(BBSs). Driscoll (2016) explains that BBSs started in 1978 when two members of Chicago Area Computer Hobbyist's Exchange (CACHE) started one of the most well known small-scale BBSs. Their goal was to create an online archive of the CACHE newsletters, so they created a systems where users could connect with dial-up and get a list of available newsletters and leave a message. The creators and their BBS were featured in a popular computer magazine that explained their process and this resulted in hundreds of similar systems popping up around the country. These early BBSs were mostly local because the prices for calls went up with distance, so dialing into a local BBS was more affordable. Because of this fact there was a certain expectation that the people you got to know over these systems lived nearby, and could even be someone you had met. The administrators could host real life (IRL) get-togethers, and this local community aspects meant that the anonymous trolling and flaming (insulting) we see online today was moderated because you had a decent chance of meeting everyone face-to-face. The local BBSs were separate, with no way of communicating between them, but the hope for a network of BBSs existed, and the creator of Fido, a host program for BBSs added a feature where two Fido BBSs could exchange data between themselves. This was named FidoNet and over time it became a network of over 20.000 BBSs across the world. FidoNet was created with the goal of collaboration, and it allowed for support for FidoNet to be added to other BBS software packages. This resulted in it becoming the standard for BBSs. The systems became more and more accessible, and in the late 1980s and early 1990s BBSs serving a specific kind of interest or theme emerged; baseball, batman and sharing homemade video game levels are some examples of this. There is an estimation of over 100.000 BBSs in operation during the period between 1978 and 2004. The introduction of the World Wide Web (WWW) was the beginning of the end for BBSs. Some moved over to the WWW, while others shut down (Driscoll, 2016).

2.2.2 The modern internet

When the World Wide Web was introduced, with websites and hyperlinks, it served as a more approachable method and helped the internet grow into the giant of information

that we know today (Andrews, 2013). Early in the 2000s we began to see websites still alive today emerge for the first time. A good and relevant example of such a website is wikipedia.org. History Computer Staff (2020) writes about the history of Wikipedia and shows two previous attempts at creating an online encyclopedia before Wikipedia launched. First, in 1993 Rick Gates, an internet enthusiast, proposed the idea. The project got some traction, and the name *Interpedia*, but never left the planning stage. Later, in 1999 Richard Stallman, an open source activist, proposed the idea of an open source web-based online encyclopedia, but similarly to Gates, the project never took off. In 2001 Jimmy Wales and Larry Sanger launched Wikipedia, the first working online encyclopedia. They used a concept and technology called a *wiki* developed some years prior by Ward Cunningham. History Computer Staff (2020) describes a wiki as:

(...) a website that allows the easy creation and editing of any number of interlinked web pages via a web browser, using a simplified markup language or a WYSIWYG text editor. A special wiki software has been created, which is often used to create collaborative websites (History Computer Staff, 2020).

Wikipedia was not Wales and Sanger's first delve into the world of online collaborative encyclopedia, but rather a side project to their main project, *Nupedia*. Nupedia was a free content encyclopedia, but it was not based on the wiki system, rather a peer-review collection of articles written by experts. Wikipedia started off as a side-project and was supposed to be a supplier of drafts and ideas to the experts writing for Nupedia. Wikipedia however quickly grew beyond Nupedia into its own global project, and resulted in Nupedia closing in 2003 with only 24 articles. While Wikipedia was growing, sister projects emerged, for example, Wikitionary, Wikibooks and more (History Computer Staff, 2020). Wikipedia as of 2021 has over 54 million articles across all languages, with over 6.4 million in English. The number of articles still grows by around 17 000 each month, but the growth of articles has been slowly, but steadily, declining since its 50 000+ per month peak in 2006 (Wikipedia, 2021).

One important term and similarity to highlight when describing both BBSs and wikis is *User-generated Content*. User-generated content (UGC) is regular people voluntarily contributing data, information or media, which often is displayed online (Krumm et al., 2008). UGC is a major aspect of the internet we see today, with websites like YouTube, Twitter and Reddit to name a few. Reddit is particularly interesting for this project as it caters to creating

communities around common interests, no matter how niche. Widman (2021) describes Reddit as a platform where users can create communities, known as *subreddits* that are focused on a particular thing or theme. Some cover general subjects like r/boardgames (the "r/" is usually included in every subreddit name and comes from the subreddits URL, ex. "https://www.reddit.com/r/boardgames/"), which as the name suggests is a community about anything boardgames related. Other subreddits are oddly specific, Widman uses the example r/birdswitharms, which again as the name would suggest is devoted to pictures of birds, with arms. Reddit uses a simple upvote / downvote system to prioritize posts, and allows for comments on posts to encourage discussion. The creator of a subreddit is a moderator and has the administrative powers in the subreddit, including deletion of posts and banning of users. Reddit as a whole has admins which have the power to control moderators and even deleting subreddits (Widman, 2021).

2.3 Fantasy online

Having looked at both the storytelling, specifically fantasy, and internet domains separately, we will now move on to how they overlap. It is in this overlapping of the two domains *unspoiled* will exist, and getting an understanding of what already exists in this overlap, also what might be missing, helps us understand if *unspoiled* can serve a purpose.

There are many subreddits on Reddit more or less related to fantasy, an obvious one being r/Fantasy. r/Fantasy has over 1.5 million members and around 50 posts and 1000 comments every day. Their own description reads: "r/Fantasy is the internet's largest discussion forum for the greater Speculative Fiction genre." (Subreddit Stats, 2021).

2.3.1 Spoilers

Now we are ready to consider a crucial aspect of this project; spoilers. Spoilers happen when someone, prematurely and against their will, learns a more or less important fact or plot point in a story (Perks & McElrath-Hart, 2018, p. 140). An example of a spoiler could be learning of a characters death before the creator of the story intended. Risk of spoilers can be important to be aware of when discussing media content, like fantasy, online. If you wish

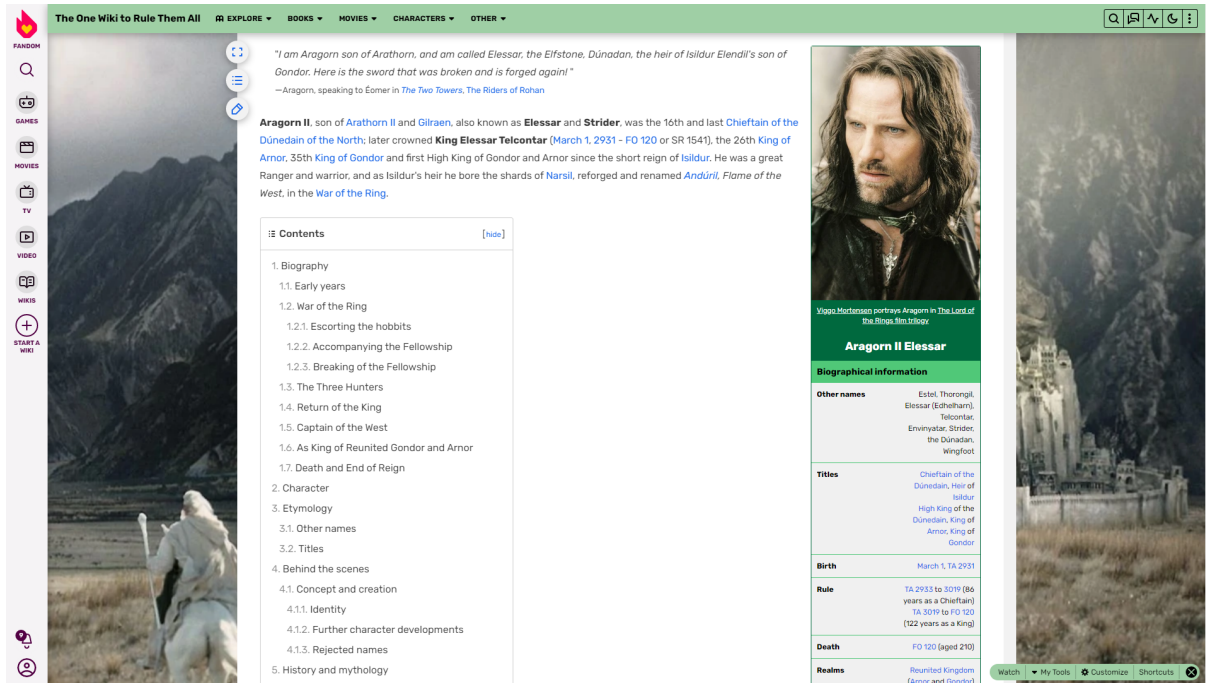


Figure 2.2: Screenshot of the page featuring Aragorn from Lord of the Rings, taken from: lotr.fandom.com/wiki/Aragorn_II_Elessar

to avoid spoilers there are a lot of different tools and solutions to keep yourself relatively safe online. These are often extensions on your web browser that scan through text and data on the website and hides potential spoilers to a specific show, or anything you tell it to look out for. There are different variants, some general for any TV show/book/movie/game etc, and other specific ones for one specific TV show. General spoiler control tools would work across many websites, but are more catered to general forums or social media where spoilers might be mentioned. They would be less suited on websites only containing information regarding the content you wish to avoid. Reddit has some build-in spoiler control. Reddit user u/tablesix (2018) shows the use of a spoiler tag to hide contents of the post while scrolling, and a more specific method of hiding certain text that contains a spoiler in a larger text (u/tablesix, 2018). We will delve further into research related to spoilers in the next chapter (section 3.2.1).

2.3.2 Fandom.com - the worlds largest fan wiki platform

Fandom.com describes themselves as the worlds largest entertainment and gaming fan platform. Among other types of content they are mostly know for their wikis. Fandom.com

allows users to create and participate in wikis for any particular subject, for example Lord of the Rings books, technical video game information or lyrics for songs. Each separate wiki that is created on Fandom has a core structure similar to the whole of Wikipedia, but rarely (if ever) on the same scale as Wikipedia. Figure 2.2 shows an example of a page from the Lord of the Rings fandom wiki called "The One Wiki to Rule Them All", with traditional text content with a picture and some facts to the right of the screen that we see on wikipedia.com as well.

Fandom.com has many different user roles, both on local and global levels. Local means the roles you have for a specific wiki, while global means your role for the whole of fandom.com. On a local level there are eight user roles apart from the "normal" user. Two of these, the *Bot* role and *CheckUsers* are less relevant to everyday users. The other six however show a hierarchy; *Administrator* and *Bureaucrats* are at the top along with the *Founder* role, which is given to the creator of the wiki, and receives both the Administrator and Bureaucrat role. Administrators can block other users as well as moderate both editing and discussions. Bureaucrats can assign or remove user rights from other users. *Content Moderators* and *Discussion Moderators* are roles for moderating the two major aspects of a wiki, the content editing, and the communications between users. *Rollbacks* is a role that provides an easier and faster way to undo bad edits compared to other users who need to go into the history page to achieve it.

2.3.3 Viewer guide for the Game of Thrones TV show

HBO, the TV network behind the popular TV show Game of Thrones, has a viewer guide website where you can get information about things in the show, for example characters. Before you get shown any information you get the chance to input your current progress in the TV show, so you can avoid spoilers. This page allows the users to relearn things they already knew, or see missed connections between the vast collection of characters and political houses in the series.

2.3.4 Map and Timeline for the Witcher TV show

witchernetflix.com is a information website for Netflix's TV show The Witcher. A screenshot of the website in figure 2.3 shows a map of the world, as well as a timeline of events. The

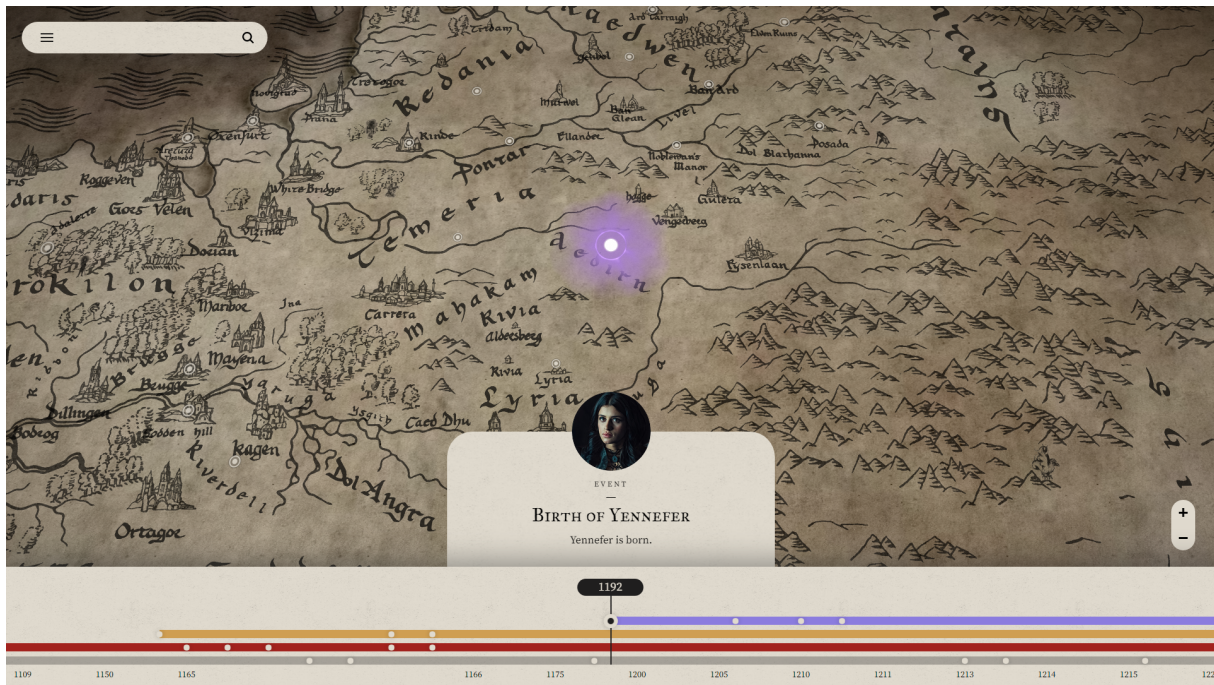


Figure 2.3: Screenshot showing a map with some timelines highlighting important events from "The Witcher" TV show, taken from witchernetflix.com.

timeline is sorted by the main characters. You can jump to different events to get a short description and a highlight on the map where the event took place. This allows the user to get new perspectives on information more or less accessible in the show. The distance between things on the map, and the timing of events become more defined and clearer than they might be in the show alone.

In this chapter we have covered two major domains, and the increasing overlap between the two. The solutions that already exist in this overlap show a empty space where *unspoiled* can exist.

Chapter 3

Two theories

After covering the two major domains for *unspoiled*, we will now continue within these two domains, but looking at it from a theoretical perspective. We will cover the two major theoretical backgrounds of this thesis, participatory culture and narrative theory. These two are tied to the internet and storytelling domains respectively. Participatory cultures are important to understand as we are trying to build a new participatory culture with *unspoiled*. Understanding how these cultures emerge and thrive is crucial for content to be written and refined on *unspoiled*. Narrative theory gives us the necessary insight into the structures of narratives, to be able to discuss and design a platform about narratives. With the help of these theories, we will define certain requirements to bring with us into the design of *unspoiled*.

3.1 Participatory Culture

Fandoms are important aspects of many participatory cultures, particularly the ones *unspoiled* is trying to reach and/or create. When discussing fandom, first one needs to define what makes someone a fan. Coppa (2014, p. 74-75) discusses a distinction between two types of fans. Type 1 is a person who watches a show regularly, enjoys it a lot, talks about it with friends etc. Type 2 is a person who has the same characteristics as Type 1 but also participates in some sort of activities or community. Some describe 'fans' as Type 1, and

uses 'cultist' or 'enthusiast' for Type 2, while others use 'followers' for Type 1, and 'fan' for Type 2 (Coppa, 2014, p. 74-75). Moving forward in this thesis the terms 'follower' and 'fan' will be used for Type 1 and 2 respectively.

Henry Jenkins is an important name to bring up when describing participatory culture. In an article titled "Confronting the Challenges of a Participatory Culture" Jenkins (2009, p. xi) defines a participatory culture as:

A participatory culture is a culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one's creations, and some type of informal mentorship whereby what is known by the most experienced is passed along to novices. A participatory culture is also one in which members believe their contributions matter, and feel some degree of social connection with one another (at the least they care what other people think about what they have created) (Jenkins, 2009, p. xi).

This quote from Jenkins can be divided into a list of requirements highlighting what is important for a participatory culture to flourish:

1. relatively low barriers to artistic expression and civic engagement.
2. strong support for creating and sharing one's creations.
3. some type of informal mentorship whereby what is known by the most experienced is passed along to novices.
4. members believe their contributions matter.
5. members feel some degree of social connection with one another (at the least they care what other people think about what they have created).

These points are directly drawn out of the previous quote, but for the *unspoiled* solution we can further narrow them down. Point 1 on the list is simple and precise and can stay separate.

The core of both point 2 and 3 is the creation of content on the *unspoiled* website. In regards to point 2 the text on *unspoiled* is what is created and, by the nature of it being online, shared. As for point 3, one could argue that the core of *unspoiled* is an informal mentorship where experienced readers create the condensed text to help the novice readers remember certain elements. The informal mentorship could also happen in the relation between two fans creating content on *unspoiled*, where one of the fans for example has more experience breaking down stories into crucial plot points and helps the novice creator in this process. To properly include both types of mentorships described from point 3 into point 2 we can add one more aspect: "Strong support for creating, sharing and evaluating creations".

The last two points, 4 and 5, are connected, as social connection would be a good way to make someone feel significant, however there still needs to be room in the requirements for users to feel significant without it having to be from a social connection, and likewise allow social connection to flow without forcing it down a certain path. A combination of the two that connects them but allows for some separation is: "Users should feel significant and get a social connection to others".

This leaves us with three requirements to design *unspoiled*:

1. Relatively low barriers to become an editor.
2. Strong support for creating, sharing and evaluating creations.
3. Users should feel significant and get a social connection to others.

3.2 Narrative Theory

Narrative theory is a well established field, and can help us further understand certain aspects of *unspoiled*. But what is Narrative theory? To answer that we first need to ask: "What is a narrative?" Chatman describes a narrative as having two parts. First the story, that is the events that take place and the existents (characters, settings) of the story. The second part, the discourse, is how this story is told or expressed. There are other terms used to define this story and discourse distinction, the Russian Formalists used the terms fable (story) and plot (discourse) (Chatman, 1978, p. 19). Puckett (2016, p. 6) presents an example to highlight

this distinction, a simple story like "someone sees a young man in a funny hat and then sees him again two hours later", can be told in many ways to end up with multiple discourses, but it is still only a single story. Another example that is brought up is the sentence "A man walks around Dublin", which is a short and simple discourse of a most likely more detailed story. The choice of which details from the story is included in the discourse is a crucial aspect of the distinction between story and discourse. The chronology of a narrative also changes if you are talking about the story or the discourse. The story chronology, sometimes referred to as the *natural chronology* follows certain rules where birth happens before death, cause before effect, everything follows a single timeline. The chronology of the discourse however does not have to follow these same rules, and has more freedom to focus on specific aspects, jump back and forth on the *natural chronology* timeline (Puckett, 2016, p. 6).

In his book *Fiksjon og Film* Lothe (2003, p. 14-15) also tackles the story and discourse terms. He refers to a french essay by Gérard Genette in which the french term "récit" is broken down. In french the word has three meanings, *récit*(discourse), *histoire*(story) and *narration*(narration). Lothe's definitions of story and discourse are very similar to the definitions from Chatman discussed in the previous paragraph. However, the narration term is also included and Lothe defines it as how a text is written and communicated Lothe (2003, p. 14-15).

The story and discourse definitions are important to be aware of while designing *unspoiled*. More traditional wikis usually take a step back from the specific books and try to just provide all the available information where it is relevant, which results in a bigger focus on the story, rather than the discourse. However, *unspoiled* is tied more closely to the discourse, by its nature of spoiler avoidance. The discourse is what defines the potential spoilers for the users, so the whole solution has to be built around the discourse. The narration term could be used to describe both the normal discourse in a book; what the author has written, but also the discourse the editors on *unspoiled* write. The users discourse is separate, but based on, both the authors discourse and the story behind the authors discourse.

Chatman brings in the term *existents* to describe the characters and settings that exist in the story. In the *unspoiled* solution there are many elements like characters, races, locations etc., and for the rest of this thesis the term *existents* will be adopted to encompass all of the elements in these categories.

When looking at specific events in a story, they vary in their significance to the overarching story line. A character drinking a glass of water before bed and a character confessing

his/her love for their love interest are two events that differ widely in their effect on the continued story (unless that water was poisoned). The distinction between these two events can be described using the terms *Kernels* and *Satellites*. Chatman (1978, p. 53-55) describes kernels as major plot point that raise and answer questions. He uses the word node or hinge to describe them being the point where a path forward is chosen, and the other possible paths are left behind. A satellite however is a minor plot point, which could be left out without it disturbing the general logic of the story. Chatman describes them as the meat on the bones the kernels provide, and as elaborating and completing the kernels.

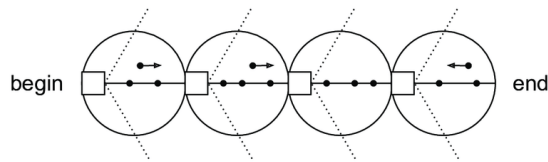


Figure 3.1: Diagram to highlight the differences between kernels and satellites (Chatman, 1978, p. 54).

Chatman (1978, p. 54) provides a figure (3.1) to highlight the difference between kernels and satellites. The squares on the circle are the kernels, while the circle is the narrative block a kernel is a part of. The lines indicate possible paths, where only one is chosen to move forward to the next kernel. On the chosen lines, in between each circle you can see the satellites, indicated by the dots. The dots not on the lines, with arrows attached, are still satellites. They are however anticipatory or retrospective of different kernels in the direction the arrow points (Chatman, 1978, p. 54)

Kernels and satellites is a crucial distinction for the *unspoiled* solution. At the core of the solution is the idea of reminding the user of important events related to an existent. Kernels serve as the perfect description of the events needed to remind the user of the significance of that existent. While satellites provide almost necessary meat on the bones to get a good story that feels complete, they are not relevant tools to use to remind the user. The user has already read both the kernels and satellites, and if they are reminded of the kernel, they get the core of the story, and will perhaps be reminded of certain satellites related to these kernels.

Similarly to the previous section about participatory cultures, we can define more requirements for the design of *unspoiled* based on the theory in this section. These two requirements are even more tailored specifically for *unspoiled*:

4. Editors must be able to distinguish kernels from satellites.
5. Editors must be able to follow the chronology of the discourse.

It is important for the editors on *unspoiled* to be able to distinguish the kernels from satellites, so that they can focus on the important aspects of the existent they are writing about. Likewise being able to understand the difference between the story and discourse allows the editor to tailor the content based on the story, while keeping it dynamic based on the discourse.

3.2.1 Spoilers

Spoilers are an integral part of the *unspoiled* solution. Perks and McElrath-Hart (2018, p. 140) discuss an evolving definition of spoilers, in an article with a focus on spoilers in TV shows. One definition they discuss is tied to the air date of episodes: "Spoilers attempt to reveal key pieces of information for a media object's narrative before the producers of that narrative release that information to the public". They describe other definitions that allow for more nuance from person to person: "premature and undesired information about how a narrative's arc will conclude" and discuss the change in how people consume television increasingly on their own time. In the end they define three key features of spoilers:

- "spoilers can occur after a text has been officially released".
- "viewers have individual judgments about what information constitutes a spoiler".
- "spoilers can evoke a range of positively and negatively valenced viewer reactions" (Perks & McElrath-Hart, 2018, p. 140).

Although these key features are tied to spoilers in TV shows, the same conclusions can be drawn in relation to books. The first feature has an even stronger basis seeing as books have always been a medium where the consumers themselves decide when to read. The other two features are more related to the individuals being spoiled, rather than the medium the spoiler is from.

How spoilers affect us

This section will describe multiple studies regarding spoilers, and how it affects people. Because the core of the *unspoiled* solution is about controlling spoilers, getting a insight into previous studies on the subject is important. Learning what type of people are most affected, or actively try to avoid spoilers can help identify the type of users who would need *unspoiled*.

In the book Spoiler alert! Greene (2019, p. 2-4) writes that the term “Spoiler” first appeared in print in 1971 in an article where the writer spoiled some movies and books, and arguing it as a service for people to save time and money. This article was meant as a joke, but ended up serving as the beginning of the term spoiler. Later in 1979 the first spoiler warning appeared, and in 1982 the phrase “Spoiler alert” was first used. Both of these cases of spoiler warnings was in relation to Star Trek. Moving forward the internet played a major part in the term becoming mainstream and commonly used (Greene, 2019, p. 2-4).

Rosenbaum and Johnson (2016) presents different examples of studies done regarding spoilers effect on enjoyment. They highlight two studies that were similar, one of them being a replication study of the other. The first study was conducted in 2011 and showed a consistent preference for spoiled stories. The replication study in 2015 however showed that spoilers negatively affected both enjoyment and appreciation. They highlight potential reasons for this difference. One reason is a different method for measuring enjoyment, because the method in the 2011 study was too simple to measure enjoyment in its entirety. Other potential reasons was a difference in genre, medium and an individual’s personality (Rosenbaum & Johnson, 2016, p. 274).

The individual’s personality is an aspect they focus on in their own study further on. They present concepts like the *need for cognition* and the *need for affect*. The *need for cognition* is how much a person engages in and enjoys thinking. The *need for affect* is how much a person wants emotional situations and stimuli. They measured these aspects of the participants personality as well as their selective preference for stories based on spoiled and non spoiled previews, and enjoyment of spoiled and non spoiled full short stories. Their goal was to see if there is a correlation between these personality traits and spoilers’ effect on the participants (Rosenbaum & Johnson, 2016, p. 275-277).

They found that when users were reading previews for stories and making selective preferences, users with low *need for cognition* had a selective preference for spoiled stories. This preference evened out for participants with high *need for cognition*. They found no link between *need for cognition* and spoilers effect on the enjoyment of a complete story. They also found that people with a high *need for affect* had higher enjoyment of non spoiled full stories. Similarly they found that people that regularly read more fiction also had higher enjoyment of non spoiled full stories. (Rosenbaum & Johnson, 2016, p. 282-283)

During a study with 92 Tv and movie consumers Perks and McElrath-Hart (2018, p. 139, 143) found that every participant could be categorized into four different types of spoiler behaviors. Around half of the participants avoided spoilers. The second largest group at around a quarter was ambivalent, while the smallest group was seeking (Perks & McElrath-Hart, 2018, p. 139, 143).

The division between avoiding and seeking out spoilers provides a different perspective on the *unspoiled* design process. The fact that there are people who seek out spoilers in general, or in certain situations means that a solution allowing people to control their own spoilers should not only focus on prevention, but also design with the seekers in mind. This brings us to the next point; motivation. What motivates a user to either avoid or seek out a spoiler? Perks and McElrath-Hart (2018, p. 144) found that a lot of users avoid spoilers relative to how invested they are in the show, similarly a more shallow investment in a show was more attributed to seeking spoilers Perks and McElrath-Hart (2018, p. 144).

Based on these studies about spoilers we can also identify one final requirement for the design of *unspoiled*:

6. The editor side must try to encourage as much *need for cognition* as possible.

The difference between the users *need for affect* and *need for cognition* is less relevant for the reader side of *unspoiled*. For the editing side however, we should try to encourage the users *need for cognition* as the user should be neutral and to the point. This is less of a specific measurable requirement, but more something to keep in mind throughout the process.

In this chapter we have defined six requirements we will to use in the process of designing *unspoiled*:

1. Relatively low barriers to become an editor.
2. Strong support for creating, sharing and evaluating creations.
3. Users should feel significant and get a social connection to others.
4. Editors must be able to distinguish kernels from satellites.
5. Editors must be able to follow the chronology of the discourse.
6. The editor side must try to encourage as much *need for cognition* as possible.

The hypothesis is that these are required for *unspoiled* to thrive, and serve as a guide in the design process. However, the requirements themselves will also be evaluated by how much they served a purpose in this process.

Chapter 4

Design Method

In chapter 3 we defined six requirements to bring into the design process. These requirements alone are not enough to ensure that *unspoiled* will be a good solution. For example req. 4: "Editors must be able to distinguish kernels from satellites." could be achieved by giving a full theoretical breakdown to the user. However, this is not the optimal way, we need to know how briefly we can explain what a kernel is, and still make sure the user understands it enough to be able to distinguish kernels from satellites. The key here is learning from your users, and *unspoiled* will achieve this through prototyping and user-centered design. This chapter will present the theoretical background for the design and research methods used in this project.

4.1 Prototyping

A prototype is one manifestation of a design. It can be anything from a paper/cardboard prototype to functioning software. There are multiple reasons to use prototyping as a method. It can be a tool to communicate ideas to stakeholders or other interested parties. It can also be used as a tool to help the designers test and evaluate their design (Preece et al., 2011, p. 422).

A prototype is often classified by its fidelity, generally low-fidelity (lo-fi) and high-fidelity (hi-fi). Preece et al. (2011, p. 426-429) describes lo-fi as simple, often paper or cardboard,

prototypes that often do not look like the finished product. The main purpose of lo-fi prototypes is to test and/or show ideas in a efficient and cheap way. Hi-fi on the other hand will look more like the final product, for example developed using computer software instead of paper, leading to a more time consuming process, but often with better results.

Lim et al. (2008, p. 4) uses the two terms filtering and manifestation when describing prototypes. They say that, when making a prototype, you filter out certain aspects of the final product to be able to focus on other aspects. By manifestation they mean the way these filtered design ideas are made (Lim et al., 2008, p. 4). Looking back at the lo-fi versus hi-fi prototypes described previously, paper versus computer software is a good example of two manifestations. However, Lim et al. (2008, p. 11) go into more detail on how a prototype can be filtered and manifested by providing different dimensions for both. They provide two tables, figure 4.1 and 4.2, that shows example variables for all the different dimensions of filtering and manifestation respectively (Lim et al., 2008, p. 11).

Using the dimensions and variables from figure 4.1 and 4.2 we can define the *unspoiled* prototype provided with this thesis. For the filtering dimension *appearance* there are certain variables, for example weight, texture and hardness, that are not relevant because this is a digital prototype. Size, color, shape, margin, sound are variables that could be filtered into a prototype. For *unspoiled* the size, color, shapes and margins for a lot of the elements are defined, while sound is filtered out. The *data* dimension is mostly filtered out, certain aspects like the size of a paragraph on an existents page is written down in a description, but not functionally enforced. For the *functionality* dimension, one example is very clear, the login is filtered out because it is something that has been designed countless times, and focusing on the unique aspects of *unspoiled* makes for more interesting results from the prototype. The *interactivity* of the prototype is both filtered in and out. You are able to navigate the prototype by clicking on buttons, and these buttons have some feedback in a hover effect. You are in some cases able to change and input new text, but it will not be visible on the page after saving because there is no database supporting the prototype, so the output behaviour is absent. The *spatial structure* is filtered in, as the prototype exists and is interacted with in a web browser, like the final product would be, and these size constraint are taken into account and the elements are sized accordingly.

The manifestation dimension *material* for the *unspoiled* prototype is a digital clickable prototype made with the prototyping tool Axure. The *resolution* is the level of sophistication in

Table II. Example Variables of Each Filtering Dimension

Filtering Dimension	Example Variables
<i>Appearance</i>	size; color; shape; margin; form; weight; texture; proportion; hardness; transparency; gradation; haptic; sound
<i>Data</i>	data size; data type (e.g., number; string; media); data use; privacy type; hierarchy; organization
<i>Functionality</i>	system function; users' functionality need
<i>Interactivity</i>	input behavior; output behavior; feedback behavior; information behavior
<i>Spatial structure</i>	arrangement of interface or information elements; relationship among interface or information elements—which can be either two- or three-dimensional, intangible or tangible, or mixed

Figure 4.1: Filtering dimensions for a prototype (Lim et al., 2008, p. 11).

Table III. The Definition and Variables of Each Manifestation Dimension

Manifestation Dimension	Definition	Example Variables
<i>Material</i>	Medium (either visible or invisible) used to form a prototype	Physical media, e.g., paper, wood, and plastic; tools for manipulating physical matters, e.g., knife, scissors, pen, and sandpaper; computational prototyping tools, e.g., Macromedia Flash and Visual Basic; physical computing tools, e.g., Phidgets and Basic Stamps; available existing artifacts, e.g., a beeper to simulate an heart attack
<i>Resolution</i>	Level of detail or sophistication of what is manifested (corresponding to fidelity)	Accuracy of performance, e.g., feedback time responding to an input by a user—giving user feedback in a paper prototype is slower than in a computer-based one); appearance details; interactivity details; realistic versus faked data
<i>Scope</i>	Range of what is covered to be manifested	Level of contextualization, e.g., website color scheme testing with only color scheme charts or color schemes placed in a website layout structure; book search navigation usability testing with only the book search related interface or the whole navigation interface

Figure 4.2: Manifestation dimensions for a prototype (Lim et al., 2008, p. 11).

the manifestation. For the *unspoiled* prototype the *resolutionis* in some cases like feedback time, appearance details quite high. Other aspects like more detailed interactions and realistic versus fake data is lower. The *scope* is somewhere in the middle, the core functionality is covered given the user follows the single path the user testing would ensure. However, there are whole elements of the final design that is only briefly included or hinted at, like the archived posts functionality. There are buttons to archive posts and view them, but neither are functioning in the prototype.

Lim et al. (2008, p. 7) describe incompleteness as the primary strength of a prototype. The incompleteness is what makes you able to test design ideas without having to create a full product (History Computer Staff, 2020). Being aware of the filtering and manifestation dimensions they provide us with is important to properly utilize this fact.

4.1.1 Human-centered design

Prototyping is essential to the design process of *unspoiled*. Involving users in the process is also a crucial part of most design projects. In his book *The Design of Everyday Things* Norman (2013, p. 4-8) argues that engineers who are designing often create designs that requires the users to be precise and accurate, which we humans tend not to excel at. He further argues that human-centered design is the way to solve this problem, by using an approach that puts the human first, with all its faults and capabilities. He further describes seven principles that can be used to evaluate a design (Norman, 2013, p. 4-8). For this project we will highlight three of these principles; affordances, signifiers and feedback. Affordances and signifiers are related, however, Norman (2013, p. 10-23) makes a clear distinction between them. Affordances define what actions are possible in the relationship between a human and a design, while signifiers tell us where in the design the action should take place. Further he defines feedback as a response from the design to communicate the result of an action (Norman, 2013, p. 10-23).

For *unspoiled*, and other website designs, the whole screen affords clicking, and you can use your keyboard to press hotkeys or type. The amount of affordances that are possible is limited, which highlights the need for signifiers to indicate where on the page you can interact. A good example of a signifier in this case is a button that looks like a real life button, to signify where you can click. You could also argue such a button affords clicking.

Feedback on a website can be information the user gets when they click on something, or simply while moving the mouse. When the user hovers over a clickable surface, there is a norm for the cursor to change from an arrow to a hand. Similarly the surface you are hovering over could also change to give you further feedback that there is something to interact with here.

Now that we've established the importance of taking humans, the end users, into account when designing, we need to establish how to achieve this. We will utilize three methods for including end users in the design process; a survey, and a combination of usability testing and interviews.

4.1.2 Survey

When starting this project, a need for a better understanding of certain aspects became apparent. Spoilers, and the control over them, was the unique aspect of the solution where more insight was needed. To get this insight a quantitative approach made sense, because it was important to get the general thoughts and behaviours of potential users around spoilers.. This, as well as restrictions caused by Covid-19, meant that an online survey made a lot of sense as a method to gain this initial insight.

A survey, or a questionnaire, is a collection of questions, either closed or open ended. The questionnaire can be distributed and the participants can take part in it remotely. This means that increasing the number of participants requires little effort compared to other data gathering methods like interviews. More attention needs to be put into properly wording your questions, as you are not available to clarify when the participant is taking the survey (Preece et al., 2011, p. 278).

For recruitment of participants for the survey I chose to use different forums and social media online. I found some groups dedicated to sharing and exchanging surveys. I tried some different ones but found most success with a subreddit called /r/SampleSize. This is where most of my participants came from. I tried posting at different times of the day to try and find a optimal time. Almost half of the participants came from one post that was posted around 16-17 local time in Norway and got a lot of traction for a little while on the subreddit. This hour of the day is just after work for a lot of people, when they are traveling home by

public transport. Finding the people that had finished their workday/school day and were browsing Reddit to kill time was a goal. A lot of the responses on that post was from the US, and the post was posted in the morning hour for USA, which also was a possible time to get people browsing Reddit on the bus, train, etc. After this post got a lot of traction I tried posting again at the same time of day, but I did not achieve the same results. All in all I think it mostly comes down to luck, and getting that initial traction that puts you at the top of the page for a little while.

4.1.3 User testing

The user tests conducted in this project were a combination of a usability test and a semi-structured interview. Preece et al. (2011) define usability testing as a data collection method on users' performance on specific predefined tasks. You can collect data by video recording, tracking key strokes and by including a questionnaire after the testing to get additional data points. Another method of gaining additional insight is the 'think aloud' method where the participants is asked to say what they are thinking (Preece et al., 2011, p. 524). They also define interviews as "conversations with a purpose", and the degree of which it is similar to a normal conversation depends on the type of interview. They highlight four main types, unstructured, semi-structured, structured and group interviews. The first three types go from relatively open conversation about a specified topic in unstructured interviews, to a specific set of questions in a specific order for structured interviews. Semi-structured interviews are somewhere in between the two, often with a basic idea of all the topics you want to cover. You could have a list of questions, but still allow the interview to flow more like a conversation covering these topics Preece et al. (2011, p. 268-270).

For this project the user tests drew inspiration from both usability testing with the "think aloud" method and semi-structured interviews. The participants of the tests each get the same tasks, and then gradually move from an exploration of the system through these tasks into a conversation with some specific questions prepared. The goal is to gain qualitative insight, both from observation based on what the user is doing and saying during the test and the interview part afterwards. Both the screen of the participants using the prototype and their voice are recorded, so I later can retrieve all the qualitative insights after the user test.

4.2 Maintaining privacy for research participants

The first page of the survey is dedicated to information about the project and a question asking for consent to use and store the data the participants give. The information provided is based on an information letter, see appendix A, submitted in the application process to Norwegian Centre for Research Data (NSD). Similarly the participants for the user testing and interviews got a chance to read the full information letter seen in appendix A. They then either signed a consent form if the test was in person, or gave their verbal consent if the test was done online.

Chapter 5

The design process

The projected users of *unspoiled* can generally be split into two groups. The first group is the users described in the previous paragraph, the users that only use the website for its main purpose, getting quick information about something in a book series, without fear of spoilers. The second type of users would use *unspoiled* in the same way as the first, but also take part in the creation, editing and evaluation of content on *unspoiled*. These two types of users fall into a similar distinction as between fans and followers described in section 3.1. However, to create even more clarity in the distinction between the users in the *unspoiled* ecosystem, the terms readers and editors will be used for the two types of users respectively.

This chapter is divided into three main sections; iterations 1, 2 and 3. The first section covers the initial stages of the design process with the survey and its results. It also includes the start of the prototyping process and a change in perspective that happened at this stage. The final two sections are further divided in two subsections; reader and editor. The reader subsections will focus mainly on aspects solely related to the readers using *unspoiled* for its intended purpose of getting information. The editor subsection will focus primarily on the features that allow for adding and editing the information for the reader side. While the primary focus in this subsection is the editor side, the reader side will also come into the discussion here since the two are intimately connected.

In the theory chapter we discussed participatory cultures, narrative theory and some studies about spoilers. From this we defined six requirements to use when designing and evaluating *unspoiled*. It is in this chapter these requirements come to use:

1. Relatively low barriers to become an editor.
2. Strong support for creating, sharing and evaluating creations.
3. Users should feel significant and get a social connection to others.
4. Editors must be able to distinguish kernels from satellites.
5. Editors must be able to follow the chronology of the discourse.
6. The editor side must try to encourage as much *need for cognition* as possible.

The requirements are inherently tied to the editor side of *unspoiled*. The first three are defined based on the definition of a participatory culture, and the editor side of *unspoiled* is where a participatory culture could exist. The latter three are based on narrative theory and aim to help the design for the editors to make the best possible content for the readers.

Because of this emphasis on the editor mode in these requirements, they will naturally be most present in the discussion around the design of the editor aspect of *unspoiled*.

5.1 Iteration 1

While this section is called iteration 1 it is not as clear and defined as a single iteration as the other two sections will be. This first iteration consists of the survey including a mock-up and the results from that survey. Further this section includes some explorations leading to a realization of the need to define and limit the scope to its more basic concept.

5.1.1 The survey

The survey has 79 fully completed participants and 43 partially complete. These two numbers add up to the 122 participants that agreed to the initial consent question. The age leans heavily towards the younger side with almost half being between 18-24 years old, and around 30% being 25-29 years old, while most of the rest were 30-44 years old. As for gender it was relatively equal, around half female, 41% male, and the rest chose “Other”. 35%

of participants were from USA, and around 10% each from Norway, Canada and United Kingdom. The rest of the participants were from the rest of the world with no country having over 6%.

The survey included initial questions about age, gender and country, and some questions related to consuming habits and preferences for books, TV shows and movies. These questions served mainly two purposes. First purpose is to provide some context around the participants to further enhance the validity of their answers. The second purpose was to give some relatively simple questions at the start of the survey to help 'warm up' the participants.

The results of the consuming habits and preferences show a high engagement with all three mediums; TV shows at 90% being highest, while both books and movies being around 75%. When asked about favorite genres, the participants could pick 3 out of 9 genres. It is worth noting here that they were not actually limited to three answers, so some participants could have missed the request to only pick three and picked more. Drama is the most favored genre in the survey at 50% but fantasy was a close second at 48%, with sci-fi third at 44%.

Perks and McElrath-Hart (2018), as already discussed in the Theory chapter, had four categories for TV/movie consumers in regards to spoiler mentality. Avoiding, seeking out, both depending on situation and indifferent. These four categories became crucial in making the survey. Early in the survey users would have to place themselves in one of these categories, and then got questions based on that choice. This provides the statistic of how many people chose each category, and also allowed for more specific detailed questions to be asked, because we knew their basic approach to spoilers. There were three groups of dynamic questions that were shown/hidden based on this category choice. These groups were questions about avoiding spoilers, seeking out spoilers, and the indifference to spoilers. People who chose the "both depending on situation" category, would get both the avoid and seek out questions. The questions about avoiding and seeking out went into more detail about how actively this happened, and the methods that were used. They were multiple choice questions, often with a "other" option at the end. The questions about indifference to spoilers were about finding out why they were indifferent, about spoilers not affecting enjoyment, or about not wanting to "be on guard" to spoilers.

The most surprising results from the survey was in the "Relation to spoilers" questions, where participants had chose between; avoid, seek, avoid and seek, indifferent. The expectation when sending out the survey was that *Avoid* would be the majority, but as seen on figure

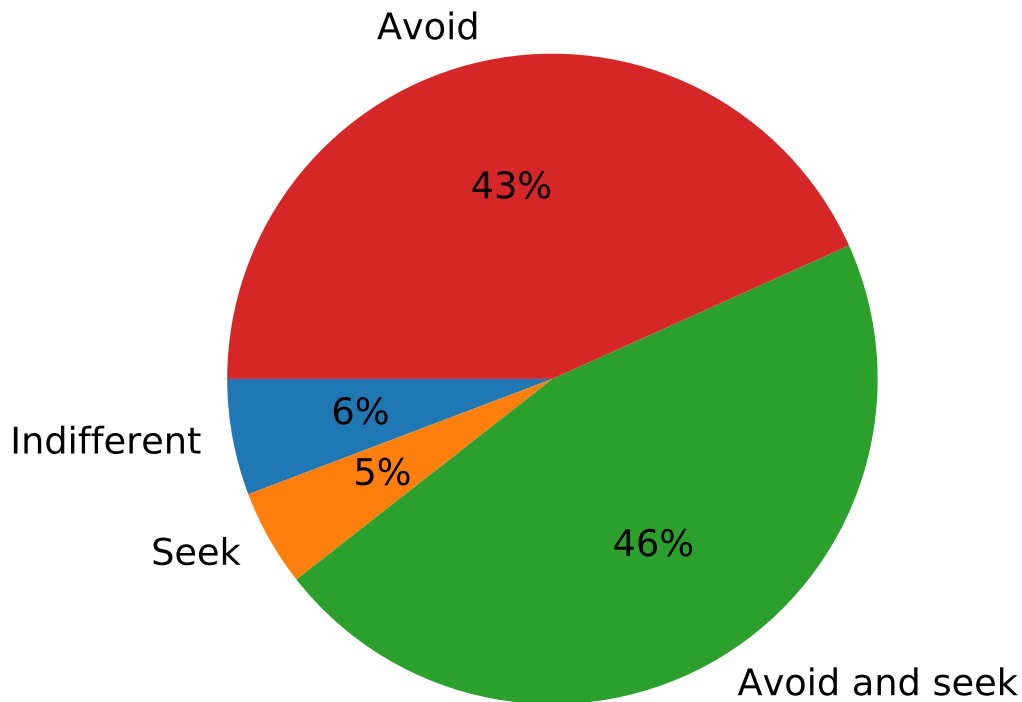


Figure 5.1: Survey results to question "How do you relate to spoilers?".

5.1 it got a close second behind "Avoid or seek out depending on content" while seek out and indifferent both had less than 10%. The vast majority of people at some point want to avoid spoilers, but some also seek them out in certain cases.

These results could mean functionality around seek specific spoilers about specific existents. Some ideas about seeking was considered. Being able to enter a seeking mode where you are able to unveil as little or as much about an existent as you wish. Certain categories of spoilers could be part of this user interface(UI), for example death or romances being examples of these categories you could unveil the information from. As will be discussed later in this section there was a need to take a step back and reconsider the scope. This resulted in shelving the ideas for specific seeking functionality because avoiding spoilers was still the common denominator from most of the participants, and therefore should remain the core functionality of the solution.

When users who avoid spoilers were asked about methods of doing so a majority of partici-

pants chose the "Staying away from 'dangerous ground'" option. This further enhances the need for a solution like this, since *unspoiled* is attempting to be a 'safe ground' in regards to spoilers.

There were two final questions about spoilers that everyone was asked, regardless of which category they were put in. The first one was a question about how different types of spoilers affect the experience; from spoilers about deaths or twists to just "Does it have a happy ending?". This was to get a better understanding of which types of spoilers might be something people would want to seek out, and have better control over, rather than just avoid. The last question in the spoiler section was an open general question about spoilers where the participant had the opportunity to write more insights about how they relate to spoilers. These were insights that maybe the previous questions did not ask for, that could provide a more thorough answer than the multiple choice questions gave an opportunity for.

In the later question about how different spoilers affect enjoyment differently we can see on figure 5.2 that certain spoiler types like "romance" and "character advancement" have most answers in the middle, indicating more indifference. Others like death, twist and how it ends leaned heavily towards "ruins it". "Happy ending" was the most evenly spread of all the types of spoilers. The results show a general inclination to avoid spoilers, particularly certain types. However there are people choosing "makes it better" for all types of spoilers, which further indicates a need to cater to both avoiding and seeking, but with a higher emphasis and focus on avoiding.

On the free text questions, after the questions about types of spoilers affect on enjoyment, a lot of people answered more specifically what they meant, or tried to clarify things that did not come across in a multiple choice question. One thing that was pointed out regarding the question about types of spoilers, was how the types of spoilers have different effects on different types of TV shows. As mentioned above you could see varied answers in the results, but some people felt they could not answer properly and just answered 3 (middle) on all of them. This further emphasizes the different variables that go into understanding peoples preference to avoid or seek spoilers. Not only are the participants individual people with their own personality and preferences relating to different types of spoilers, but also preferences relating to the different types of books and genres, as well as the users context for a particular book, like for example the users investment in it. Giving the user control over what types of spoilers they see and, about which specific existent, could be a way to work around all the nuances related to spoilers.

How does different kinds of spoilers affect the experience, from 1 (ruins it) to 5 (makes it better)?

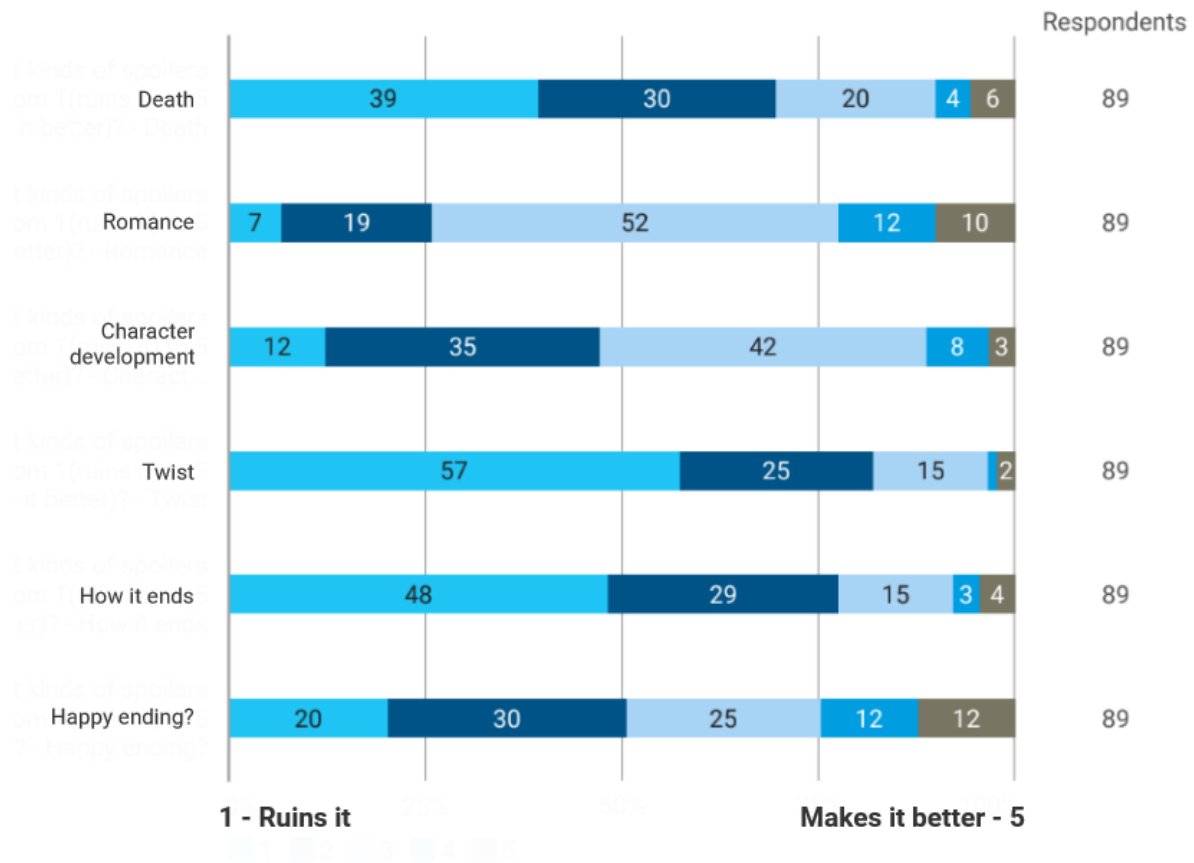


Figure 5.2: Survey results to question "How does different kinds of spoilers affect the experience?"

Multiple people brought up a preference for spoilers regarding death or tragedy. "I will sometimes look up if characters survive or not, because I'm not good at dealing with deaths of my favorites and spoiler give me the chance to prepare for it". This can be tied back to the *need for affect* presented in the theory chapter. There was a preference for *unspoiled* stories if you had a high *need for affect*. Based on this quote I could argue that this person has a lower *need for affect*, and therefore it makes sense that spoiled stories do not diminish the experience, but maybe enhances it in this specific case.

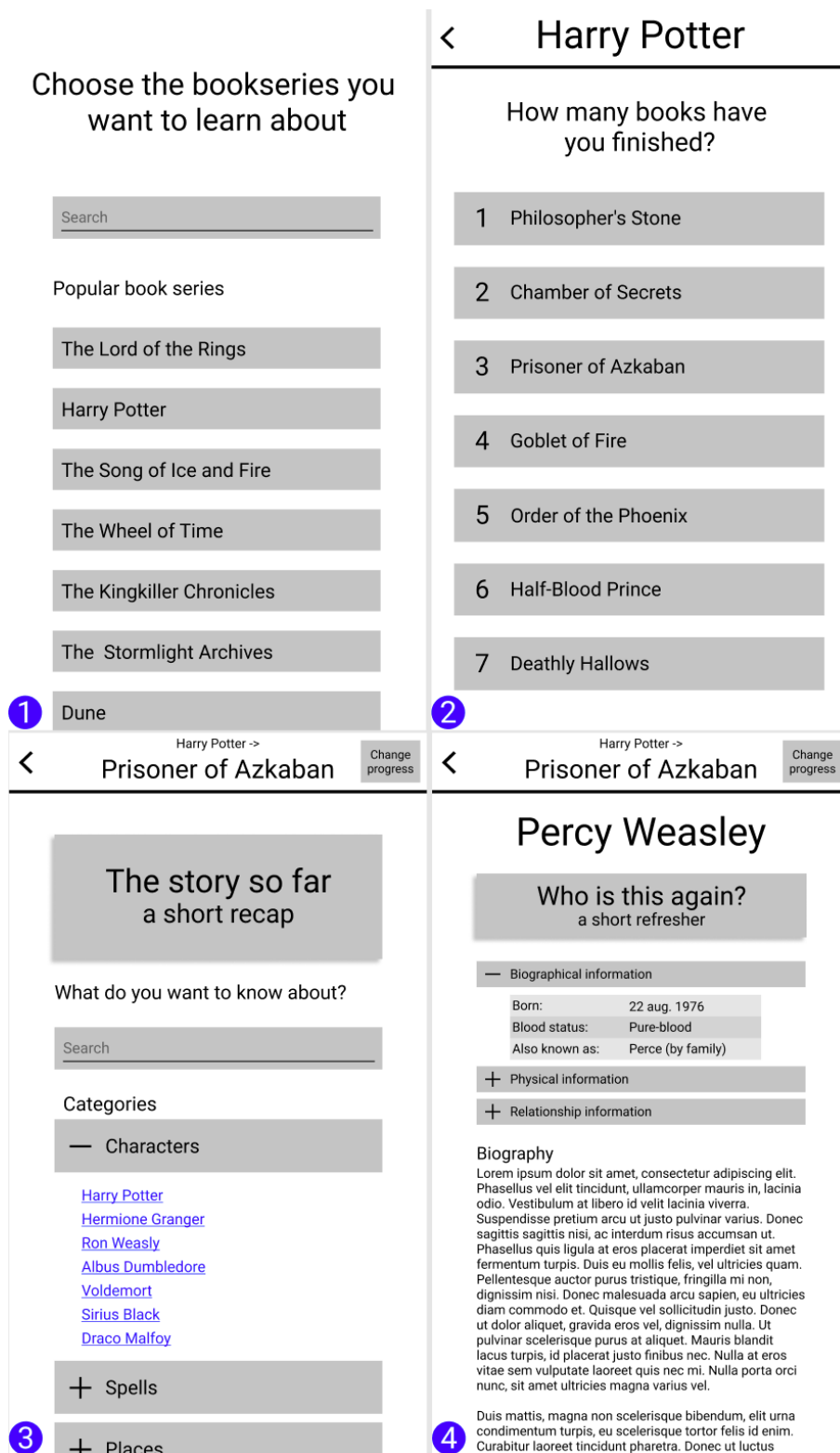


Figure 5.3: First mock-up to illustrate the concept to survey participants

The first mock-up

Towards the end of the survey, there was included a simple mock-up of the concept, shown in figure 5.3. This mock-up was included to help the participants understand the concept, and give them the opportunity to provide some feedback. They were asked if they did not understand the purpose of any of the four screens, and were given the option to choose the screen that confused them, or choose "No", as in "There are no screens I do not understand the purpose of". 72/78 of the answers on that question was "No", while the last 6 were spread on screens 2, 3 and 4. After this question there was a free text optional question asking for feedback on the concept. 27 of the participants chose to answer this optional free text question, with the answers ranging from just the words: "Pretty Good" to full paragraphs. In the longer answers some important feedback was given, for example:

"the only thing is i wonder if screen 2 takes into account if people have read out of order for any reason. for example, in the Chronicles of Narnia many people read the Lion, the Witch, and the Wardrobe, which is not the first book in the series. so would they select all of the above read or if they select "2: Lion Witch Wardrobe""

When selecting your progress there was always the intention that previous books were automatically selected if you chose other a book that is not the first book. This feedback however resulted in the functionality to deselect specific books after this automatic selection, and to limit the automatic selection to only the the initial selection for each book series.

Another example of an important point to be aware of is: "If the general public can add things I would make sure to have a moderator to make sure the appropriate info goes in the right area because people are jerks". This quote could also be tied to req. 2, about strong support for creation and evaluation, where strong support implies a way to combat users with bad intentions. This will be discussed in further detail later in the thesis. Others saw the potential, but wanted more, one quote in particular provided a small list: "Specifically what I want are frequently maps, family/relationship trees, and timelines." (I have been assuming that they meant "(...)what I want frequently are maps(...)"). Overall most of the feedback was positive about the concept in general, though a lot of people pointed to a lack of color, which makes sense as it barely has any, but it was also not a priority at all when creating the mock-up.

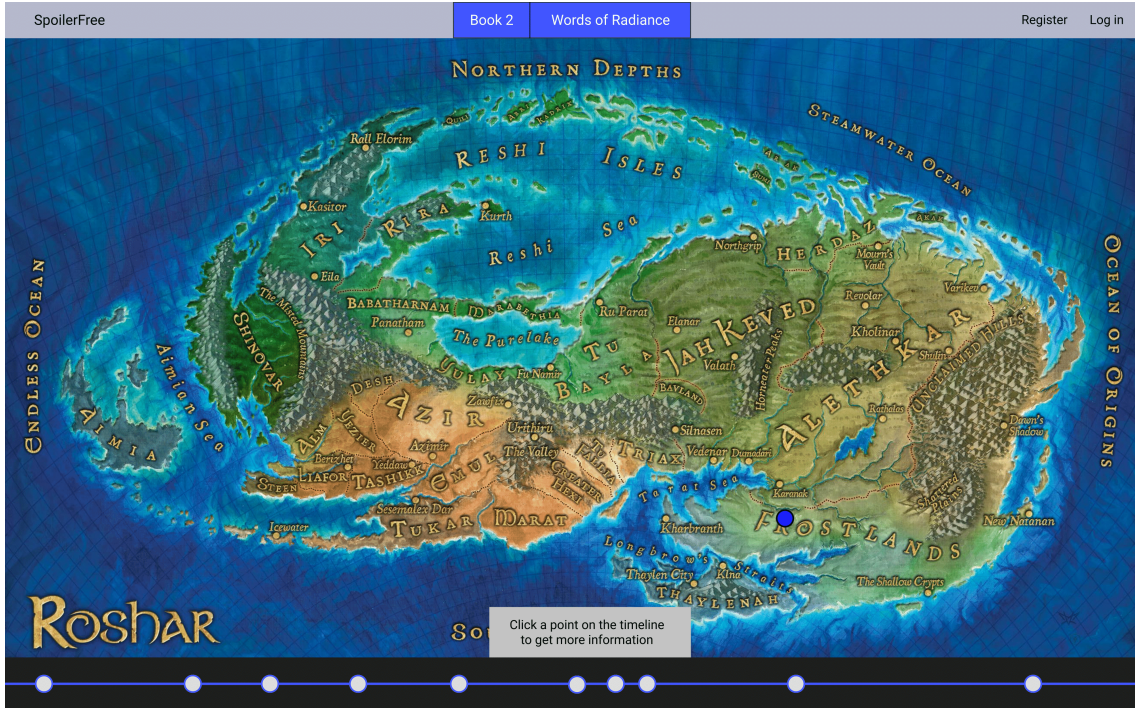


Figure 5.4: Screen 1 from a prototype with map + timeline functionality

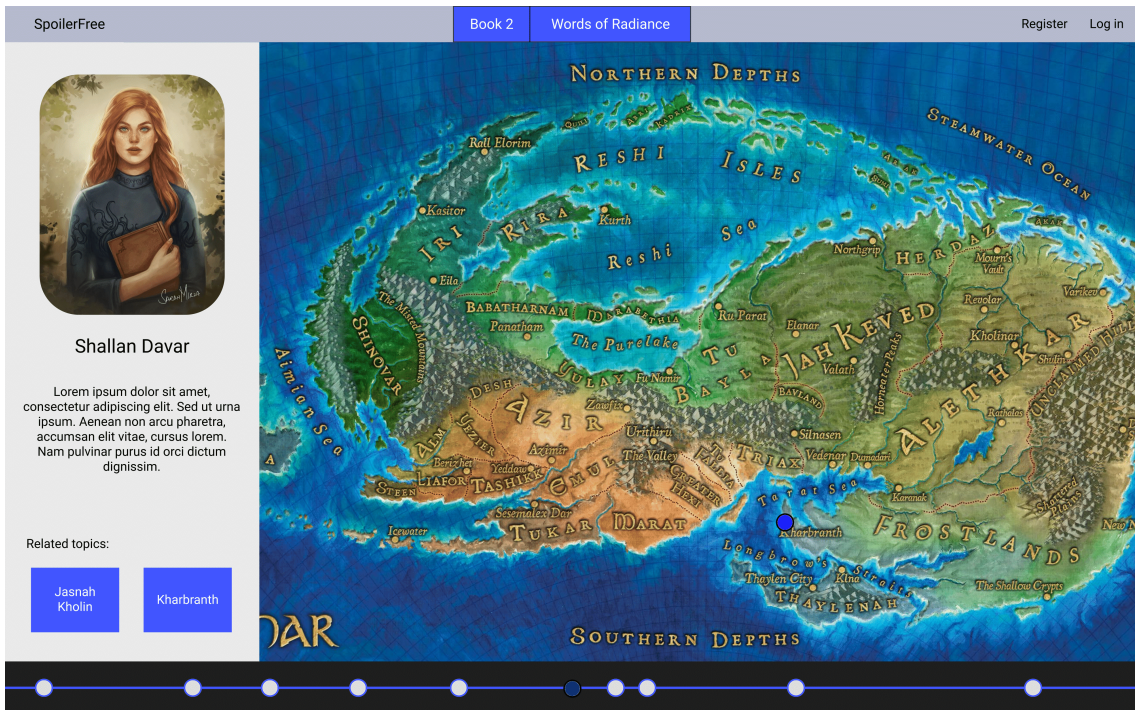


Figure 5.5: Screen 2 from a prototype with map + timeline functionality

5.1.2 Avoiding feature creep

After gathering the results of the survey, we started an exploration of the possible features *unspoiled* could have and paths it could take. Although I was the only one working on the project, I had regular meetings with a fellow designer, so we could bounce ideas off each other. This meant that the brainstorming process was a solo exploration into the possibilities, but also opened up for new perspectives regularly, which definitely served to strengthen its yield.

The brainstorming process resulted in what you could describe as *big dreams*; a solution with dynamic maps and timelines on top of the more traditional wiki you see on fandom.com, while still maintaining spoiler control. This idea started its realization in what you could describe as iteration 0.5. Figure 5.4 and 5.5 shows two screens from a prototype that was started with this solution in mind.

When continuing the work on this prototype some problems began to emerge. There was two main concerns, the first one being the concept of *feature creep*. This concept describes the problem around adding too many features to a design, resulting in it being needlessly complex to use. This concern, together with the second problem; realizing the size of the scope in the creation and editing side of the design, highlighted a need to take a step back and reconsider some aspects.

5.1.3 Defining the core scope

It was clear that *unspoiled* would be a wiki, but an important question to ask was how detailed this wiki should be. In the answers we can see two extremes, and then everything in between. On one hand you can have all the information possible, organize it well, and it would provide the user with any relevant information they seek. On the other hand you could provide a small amount of very specific information with the purpose of reminding the user about a specific existent, for example who a relatively obscure character is, or where a certain place is in the fantasy world. It was decided to lean heavily towards the latter type of wiki, while still allowing users some freedom to make it what they want. The main argument behind this choice was to ask the question: "When are users potentially scared of spoilers?". Two types of consumers would feel a need to look up information about an existent online. The first type is someone currently reading through the book series and the second type is

someone who has finished reading the book series. Only the first type, people still reading a book series, would be scared of spoilers and have a need for a solution like *unspoiled*, as the second type could just use the existing wikis that contains any relevant information on the subject. Further, you could argue that if you are still reading a series and are looking up a existent, you are most likely not looking for the "full report" with every detail. More likely you are in need of a short summary of who, what or where this existent is, so you can quickly go back to reading the story, with the most important, and by that probably most relevant, information in mind. There is another aspect of this choice discussed in more detail later in 5.2.2, but it boils down to a difference in complexity for making the two types of wikis dynamic for spoiler control. It was making this choice that enforced the need for having req. 4, editors must be able to distinguish kernels.

5.2 Iteration 2

This section will present and discuss the prototype provided as a practical component in this thesis. First the focus will be on only the reader side of the solution, then moving on to the editor side as well.

The practical component of this design project can be found at:
<https://ywyhvq.axshare.com/#id=nqybh4&p=home&zsc=1&c=1>
Password: MIX350

As mentioned previously in the introduction, to get the best experience using this prototype, use this scenario as your starting point: "You are currently reading The Lord of the Rings and are about one third of the way through The Return of the King, the third book in the series. You want to look up the character Aragorn."

5.2.1 Reader

Opening *unspoiled*

Figure 5.6 shows the landing page of *unspoiled*. All the pages include the same header bar, which largely has two states based on if you are logged in or not. The header bar also

includes a search field that users can use to search for books and book series. Although for the landing page the search field is moved further down into the content section of the page. The rest of the home page includes a short description of the solution and a selection of popular book series cards the user can also use to navigate to the respective book series pages.

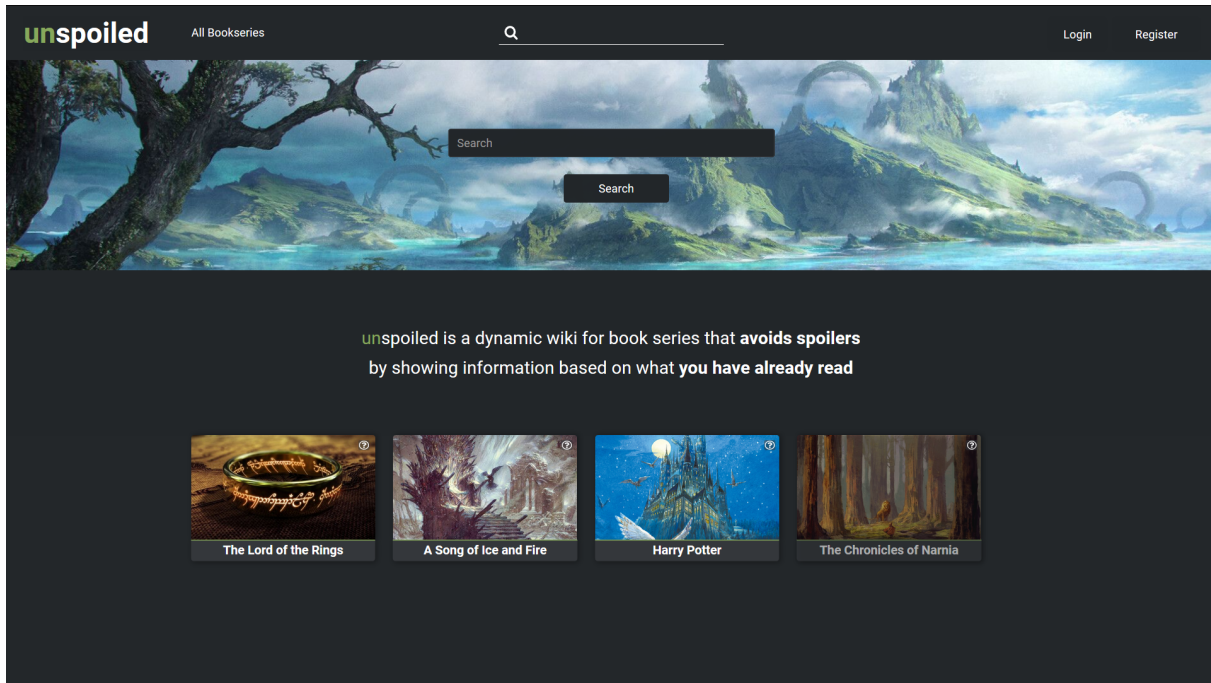


Figure 5.6: The landing page

Choosing current progress

Both figure 5.7 and 5.8 shows the same page, but in different states. Figure 5.7 shows a blurry overlay (it should be blurry, but the prototyping tool did not have functionality for it) that hides most of the content on the screen and points to the interface you should interact with to continue. The interface to the left allows you to select which books you have read to avoid spoilers from unread content. Along with the books in the book series, you can also select related novels set in the same world. Adding universes to the information structure of *unspoiled* is a feature that was considered for the project. This idea was dismissed to avoid unnecessary features that are not tied to the core concept.

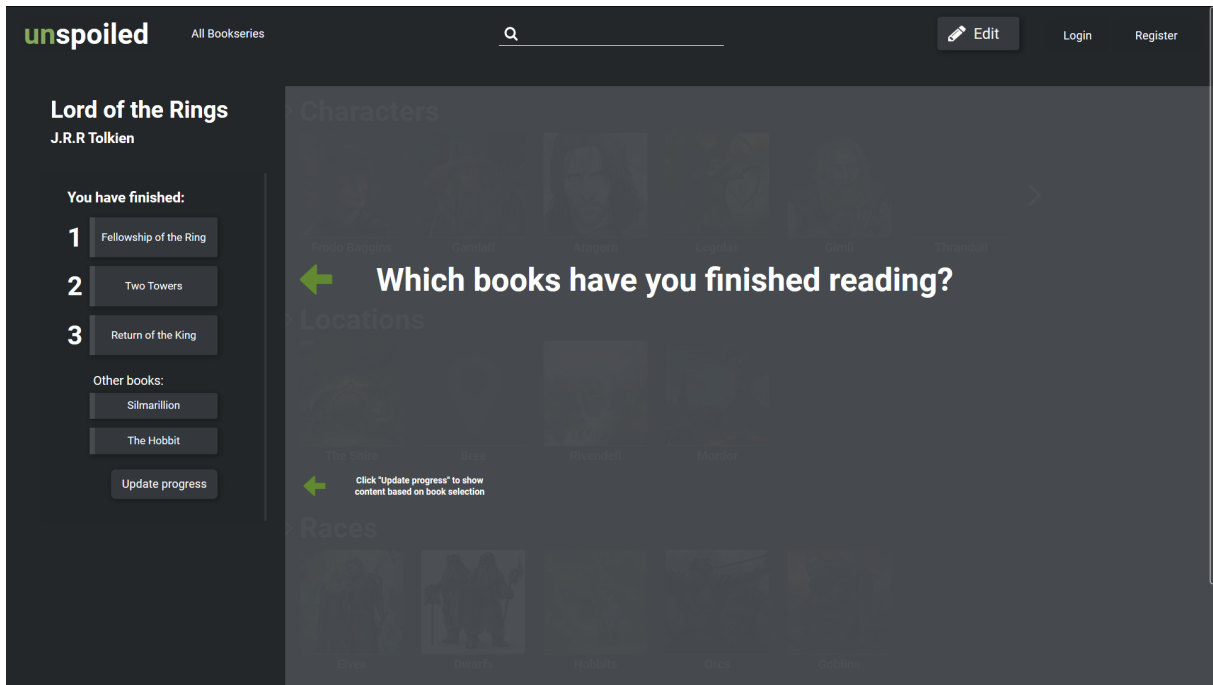


Figure 5.7: Page for The Lord of the Rings before you have selected your current progress in the series

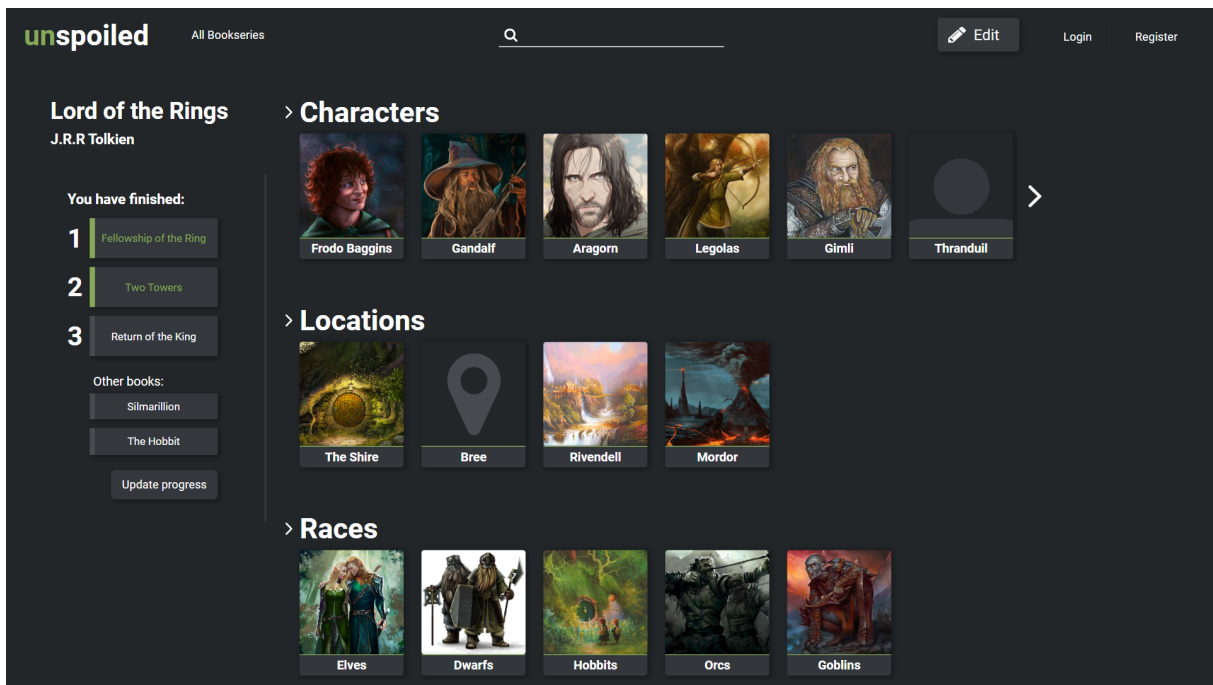


Figure 5.8: Page for the Lord of the Rings book series

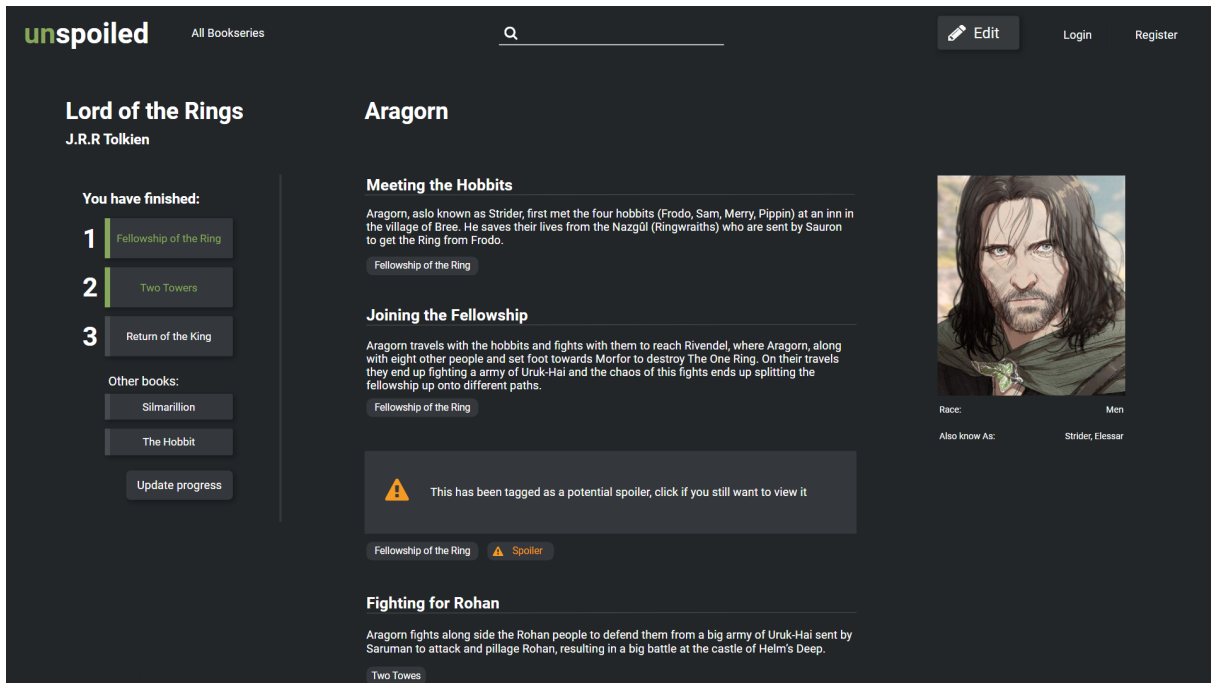


Figure 5.9: Page for the character Aragorn from The Lord of the Rings book series

Selecting an existent

On figure 5.8 the overlay is gone and the page now shows horizontal lists of pages relating to existents in the book series. These lists are each tied to a specific category of existents, like Characters and Locations. To be able to view more, or all of the existents in a certain category, you have two options. You can either use the arrow at the far right of the horizontal list of cards to view more, or you can expand a category to see everything by clicking on the category name.

Figure 5.9 shows the page for Aragorn, a character from The Lord of the Rings. The layout is similar to what we see in other wikis like wikipedia.com and fandom.com, with the biggest difference being the sidebar to the left that allows you to control how much of the discourse you see information from. The text is more segmented than we would normally see in other wikis due to the tags etc, but the image with facts below is very similar to other wikis. Keeping the layout similar to other solutions works towards req. 1, reducing the barriers of entry for new editors. One of the paragraphs has been tagged by other users as a potential spoiler and is therefore hidden until someone edits the section and fixes the problem.

5.2.2 Editor

Using books, chapters or pages to define current progress in a book series

One huge choice in the design of *unspoiled* that affects many aspects of the solution is how detailed the choice of "current progress" should be. For books there are three natural levels of splitting the story into sections. The first and least specific is using just the books themselves as sections, second is using the chapters in the books as sections, and third is using the page numbers. From the reader perspective there is some merit in being able to get information from the book you are currently reading, but only up to your progress. However, from the editing perspective, creating dynamic text or sections based on the more detailed split of chapters or page numbers requires a more complex system. We argue that the merit or convenience gained by readers does not outweigh the complexity added for the editors. The readers currently reading a book is most likely to remember the events of that current book, and therefore more often need a reminder of things from previous books. For the readers to even have anything to read, the editors must create the content, which brings up the req. 1 for the design of *unspoiled* "Relatively low barriers to become an editor". The participatory culture aspect of *unspoiled* is focused more on the editor users, and therefore we need a low barrier of entry into the creation and editing of content. This means that if this aspect is too complex it will be harder for a participatory culture to grow and flourish.

Aspects that do not come across in the prototype

Something that does not come across in the prototype is the fact that there is an expectation of having read all the books when you are an editor. You get access to information from all the books in the series and are not protected from spoilers anymore. There are multiple arguments surrounding this. One argument for having it this way is that users that have read the whole series are more likely to feel confident enough in the story to edit, but on the other hand the people currently reading might have a better grasp of the story since they are experiencing it at the time. Another argument is the added complexity in spoiler control for the editors, not only directly in the edit mode sections of *unspoiled*, but also in communication and collaboration with others.

Another aspect that is not covered in the prototype is user roles. *unspoiled* has three user roles apart from website admin type roles. The three roles are normal users, trusted users and moderators. The trusted and moderator roles are not site-wide, but are tied to specific book series. Roles would show as tags added to their name when editing on *unspoiled*. The creator of a book series on *unspoiled* is a moderator, and has the ability to promote other people to moderators. A trusted tag can be gained in two ways; a moderator 'promotes' you to a trusted status, or you gain it over time by adding and/or editing things and not being reported too much. Both trusted users and moderators could be part of an evaluative process of the creations and edits of a normal user. Moderators and trusted users would most likely have an easier time trusting each other and forming a social community around *unspoiled*. This means that the roles themselves can help further req. 3 by both making users feel significant because they got the role, and getting a social connection with others who also have the role. It should not be encouraged to exclude the normal editors, but the initial forming of a social community is more likely among the 'veteran' editors. Including everyone in that community could happen naturally afterwards.

Entering edit mode

If you are logged in you can click the edit button in the header and enter edit mode, shown in figure 5.10. The edit mode of a book series page gives you an interface to edit the details of the book series and its books. You can add new pages in any of the existing categories. Lastly you can manage which categories are active by clicking "Manage categories" at the bottom of the page. After clicking the button a popup overlap will show the interface to manage categories as seen in 5.11. This interface allows you to choose which of the standard categories you prefer to be active on the book series, as well as make new custom categories for the book series.

Writing and editing text

Being in edit mode on the a existents page as seen in figure 5.12 and 5.13 gives you the possibility to edit most things on the page. Each of the paragraphs with text can be opened like the "Joining the Fellowship" section in 5.12. This allows you to edit the title and text, change what book the content is from, and report it. When the page is scrolled further down

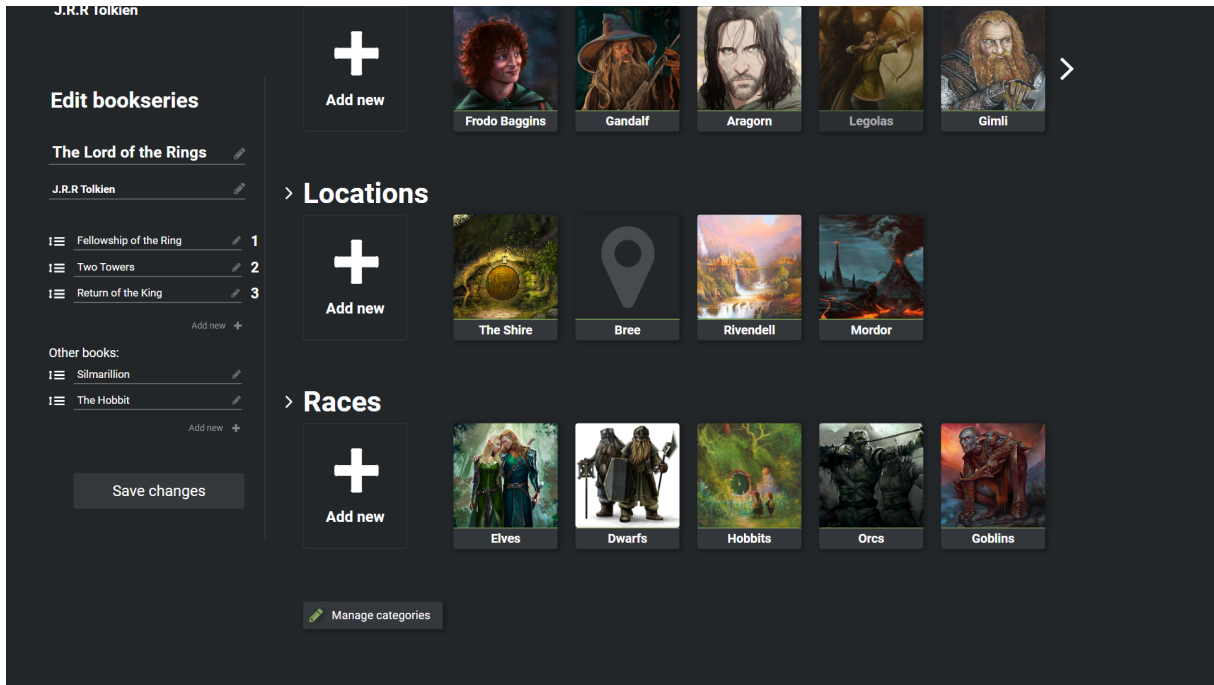


Figure 5.10: Edit mode for the Lord of the Rings book series page

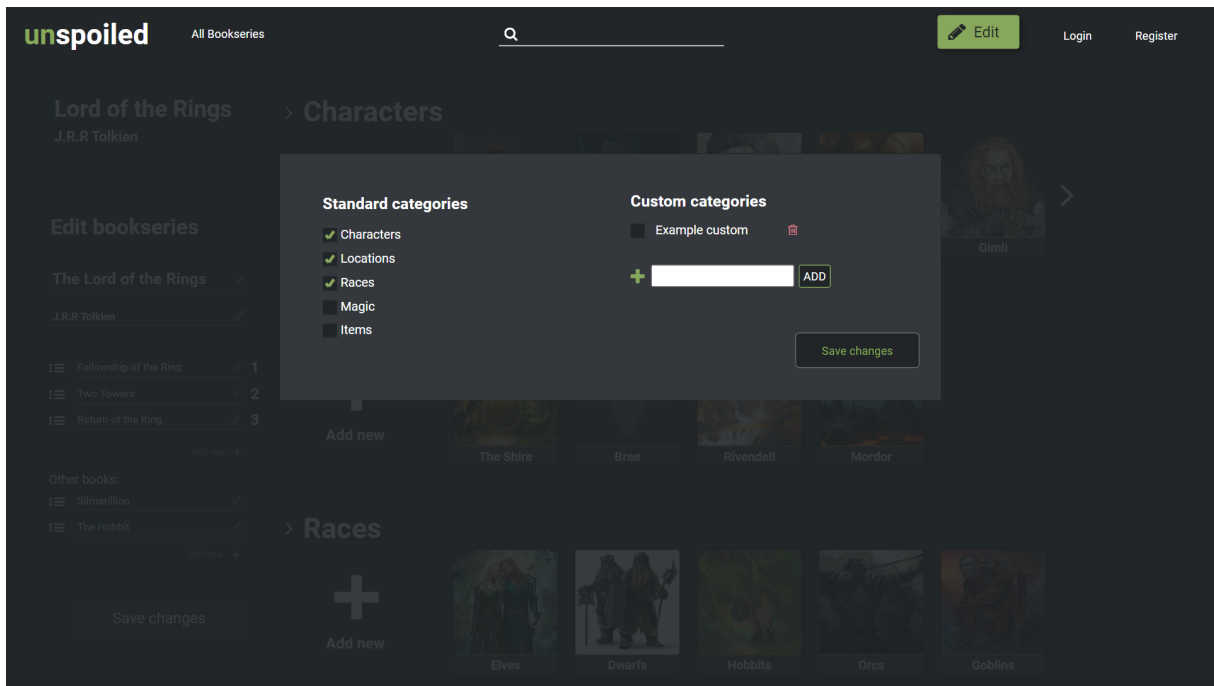


Figure 5.11: "Manage categories" popup overlay for the Lord of the Rings book series page

as seen in figure 5.13, you get the option to add a new paragraph to the page, as well as open a list of archived paragraphs.

This section for writing and editing paragraphs is the prime example of req. 2 in *unspoiled*, strong support for creating and sharing. This section is where the editors can create their own unique discourse based on the story of a single existent. Selecting the tags for what your text "contains spoilers from" also helps ensure req. 5, editors being able to follow the chronology of the discourse.

When adding new paragraphs to an existents page, editors get a placeholder text about the expectations of the paragraphs. This text aims to tell the user to focus on the major plot points for the existent. This is done because of req. 4, editors must be able to distinguish kernels. Req. 4 also provided a need for certain limits to be set in place to enforce the focus on only kernels. For each paragraph there is a character limit to not allow users to condense all the information into a single paragraph, but rather split it into multiple paragraphs, and therefore providing a better dynamic experience for the readers. All of this text also help accomplish req. 6, about encouraging editors *need for cognition* by providing a guiding hand, and some limitation to force the editors into a certain direction, requiring them to think about how they organize the content.

There would be some sort of warning if an existents page would display no content for a specific progress choice from a reader. An example of this would be an existent page that has two paragraphs. The first paragraph is tagged with both book 1 and book 2 in the respective series, while the second paragraph is tagged with only book 2. This would result in an empty page if a reader has only read book 1, even though, based on the tags, the existent was introduced in book 1. An important point here is that often an existent is introduced in a later book. In those cases the existent would not be visible when selecting existents if you had only read the first books, and no warning would be needed.

Being able to report a paragraph for being either "Incorrect" or a "Spoiler" allows users to quickly warn other without having to sit down and make the necessary edits. This functionality satisfies a small part of req. 2, about evaluating creations. In this case the evaluation is solely negative, and exists as a way for users to quickly warn other users of spoilers or misinformation. You could argue that not having a way to positively evaluate, only negative, works against req. 3 about users feeling significant. A moderators or trusted users report would carry more weight in the system and result in the post being tagged

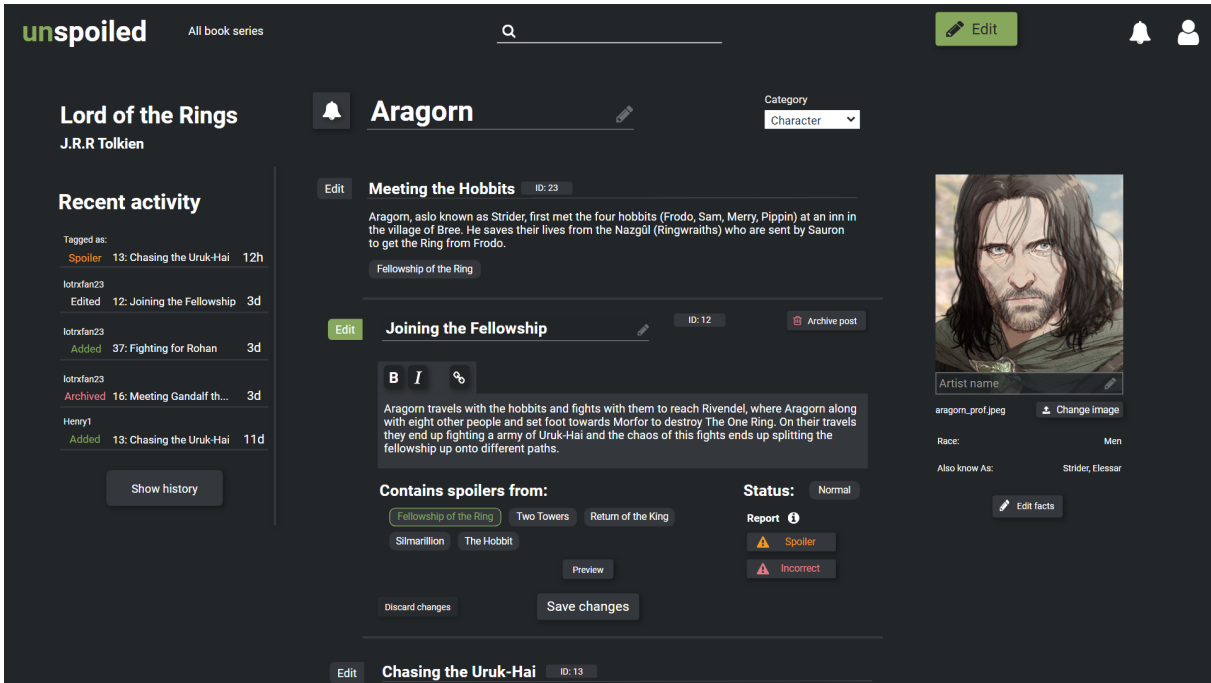


Figure 5.12: Edit mode activated on for Aragorn from The Lord of the Rings book series

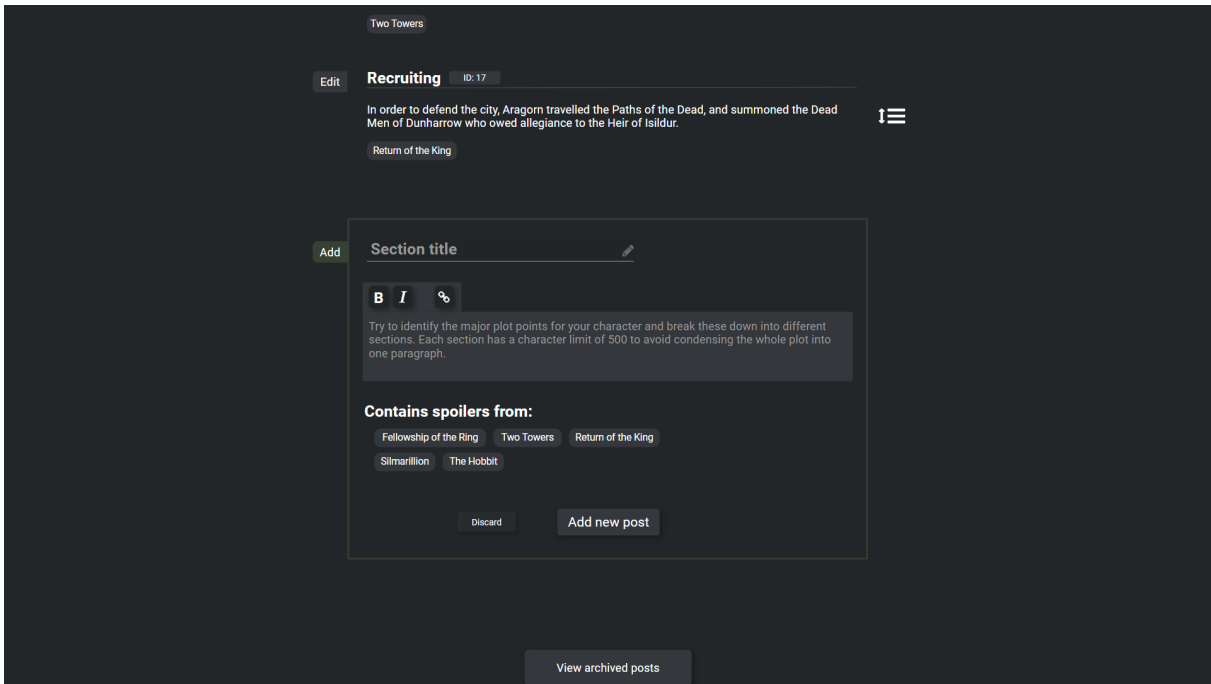


Figure 5.13: Scrolled further down the page shown in 5.12

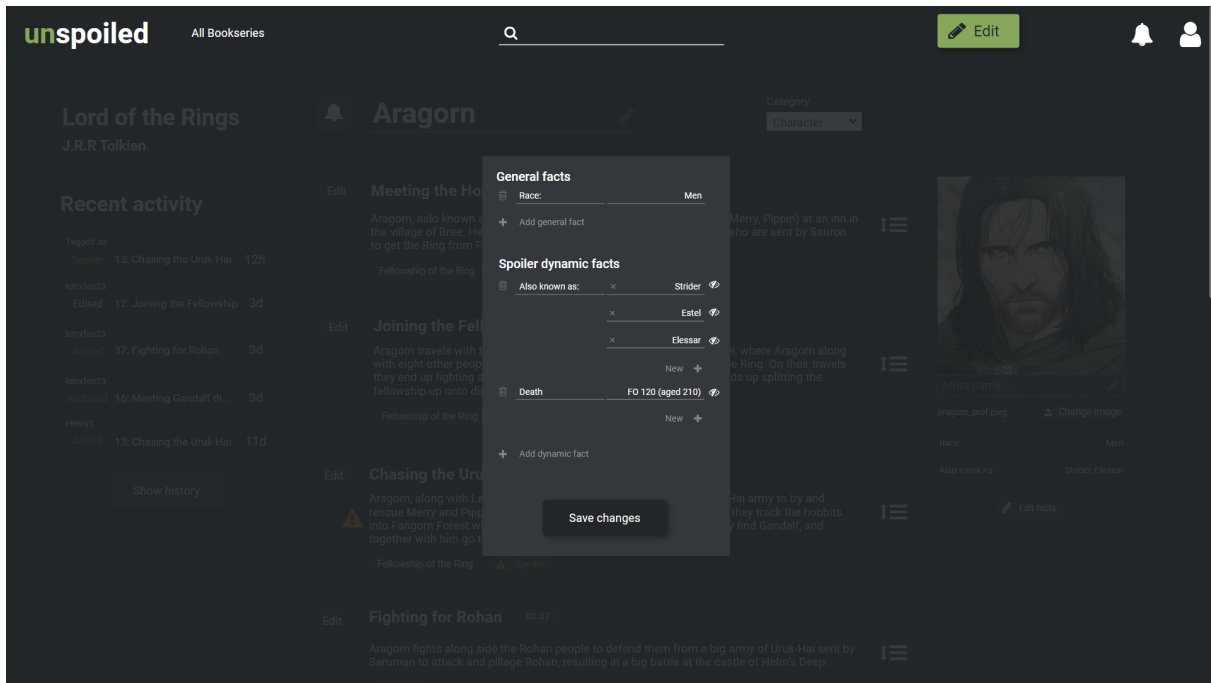


Figure 5.14: Popup overlay to edit facts for Aragorn from The Lord of the Rings book series

quickly. On the other hand a single report from a completely new user would not result in the post being tagged.

To the right of the screen seen in figure 5.12, below the image, you can upload a new image to replace the current one. You can also click on "Edit facts" below the image to open a popup overlay as seen in figure 5.14. When in edit mode the facts are split into two categories; normal facts, and dynamic facts that need to change or be hidden for spoiler control. For all the dynamic facts you can click the eye icon to choose what book in the series these facts are from.

While logged in you have access to a notification button in the header. You would receive notifications if you wanted to follow the activity on an existents page, by clicking the bell icon next to their name while on that page.

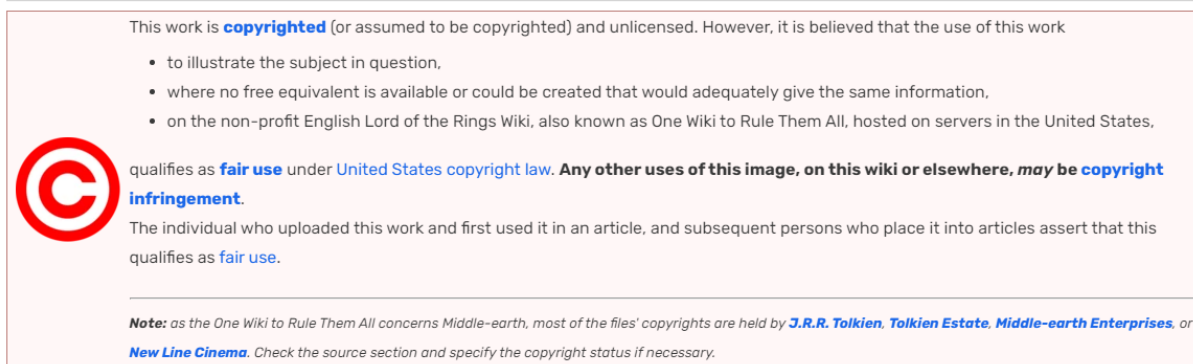
This means that on the page seen on figure 5.12, instead of the left sidebar with your current progress in the series that you would have outside of edit mode we have a list of "Recent activity". This shows the 5 most recent events that have happened in regards to editing/adding/deleting etc. on the Aragorn page. Seeing this recent history might give users some sort of social connection with others and make them feel part of something, make

them feel significant. This would help *unspoiled* accomplish req. 3, users feeling significant and get a social connection. You can also view the full history of the page by clicking "Show History". On this history page moderators would be able to revert changes made in case the changes were made with bad intentions. This brings us to the topic of trolling.

The trolling problem


Internet troll, or users with malicious intent can wreck havoc unless certain systems are in place to prevent and/or restore malicious edits. Having a history of changes, and allowing certain people to revert changes that are made plays a huge part in combating this. If it take less effort to revert the malicious edit, we can argue that the motivation behind being malicious would lessen.

Licensing



This work is **copyrighted** (or assumed to be copyrighted) and unlicensed. However, it is believed that the use of this work

- to illustrate the subject in question,
- where no free equivalent is available or could be created that would adequately give the same information,
- on the non-profit English Lord of the Rings Wiki, also known as One Wiki to Rule Them All, hosted on servers in the United States,

 qualifies as **fair use** under [United States copyright law](#). **Any other uses of this image, on this wiki or elsewhere, may be copyright infringement.**

The individual who uploaded this work and first used it in an article, and subsequent persons who place it into articles assert that this qualifies as [fair use](#).

Note: as the *One Wiki to Rule Them All* concerns Middle-earth, most of the files' copyrights are held by [J.R.R. Tolkien](#), [Tolkien Estate](#), [Middle-earth Enterprises](#), or [New Line Cinema](#). Check the source section and specify the copyright status if necessary.

Figure 5.15: Cropped screenshot of a fair use claim on The One Wiki to Rule Them All on fandom.com

Copyright and fair use

The images used on existent pages on the website fandom.com are often copyrighted. On The One Wiki to Rule Them All (Lord of the Rings wiki on fandom.com) many of the images are from the movies, but some are also artwork. In both cases, if you click the image and look for more information you will most likely find a section called licensing with a fair use claim, see figure 5.15. This claim states that the image is used to illustrate the subject in question

without a free alternative that would be as accurate, also claiming that the wiki is a non-profit hosted in the US. This allows them to use copyrighted images without permission from the copyright holders. In regards to *unspoiled*, something similar could be implemented, but would have to be researched further before publishing, especially if it would not be hosted in the US, and fall under different laws. *unspoiled* could however try also to incentivize artists to give permission to use their work, in exchange for showing their names, and a link to their shop or portfolio or something similar. Having your artwork shown might in some cases be a way to make someone feel significant, abiding further to req. 3.

External chat system

For *unspoiled* to flourish, req. 3 requires users to feel a social connection. Some sort of forum, or a message board tied to a book series, or even to each existent page, was considered. It would not only help achieve the goals in req. 3, but could be an arena for the evaluation aspect from req. 2 to happen. The chat could have ways to reference pages, paragraphs, users etc. to create an easier time communicating about the content of *unspoiled*. Some sort of communication system would have to exist, but we realized it would need to be of a certain quality for it to be put into use by the users. Creating a chat system with different layers (existents, book series) and extra functionalities compared to a basic normal chat system seemed like a separate project in its own right, for it to be given the justice it deserves. The idea that users would only take into use a system that was of a certain quality prompted the speculation that they would instead take matters into their own hands and just create a server on a separate chat platform, like Discord. This speculation served as the start of the idea of integrating Discord as part of *unspoiled*.

Discord is a communications platform that allows you to create invite-only servers that can contain both text-channels to chat, and voice-channels to talk. These servers can range from a couple of friends hanging out, to large communities. Over 19 million servers are active per week, with over 150 million active users per week. Discord allows developers to use their API to build the features they need in Discord (Discord, 2021).

Integrating Discord would allow for the use of an already developed and polished chat system, and most likely could include the referencing features to make collaboration and evaluation easier. Discord also allows for connections to your account, so you could connect a *unspoiled*

account. It could be argued that users would prefer using Discord as opposed to a internal system, as Discord is most likely something a significant amount of users regularly use anyway.

5.3 Iteration 3

Iteration 3 is the results of the user testing done on iteration 2. This iteration will not be visually presented in a prototype, but rather described and discussed using the screenshots from iteration 2.

The user testing process had five participants, aged 25-44. They all went through the same process of tasks, but the focus naturally varied some, because the participants focused on different elements. The tasks will be described in the relevant reader and editor sections. I have given the participants fake names to maintain their privacy and will provide a short description of relevant interests.

The participants:

- Emma, age 37 - Avid TV/movie consumer. Not specifically fantasy/sci-fi fan.
- Oliver, age 44 - Avid book reader, some fantasy, more sci-fi and other genres.
- Noah, age 25 - Fan of narrative works. Books, TV, film and games
- Lucas, age 29 - Fantasy/sci-fi fan, some books, more TV and games.
- Sofia, age 30 - Fantasy fan, mainly books and TV.

5.3.1 Reader

The reader part of the user testing was relatively short. They got a scenario and a goal before seeing the prototype and when that goal was achieved the rest of the testing was more tied to the editors and will be described in that section. The scenario the users got was as followed: "You are currently reading Lord of the Rings and are about one third of the way through Return of the King, the third book in the series. You want to look up the character Aragorn."

Choosing current progress

For the readers of *unspoiled*, there is one aspect that is less tied to general norms you find on a lot of web pages; the progress choice to avoid spoilers. This section of the prototype had many results from the user testing. Most of the users hesitated some on this part, Emma specifically said, "My instinct was to click on the third book because that is the one you said". This in some way could be a result of very recently having heard that name, but it would also be the case in a real scenario that you would relate the most to the book you are currently reading.

Noah got more stuck on this part, expressed some confusion around the "Other books" part of the UI, and was looking for a "Save" or "Ok" button. The instructions on the overlay could have been shown one at a time and changed when you selected progress the first time. Changing the wording of the save button could help in some cases, but none of the other testers expressed confusion around the wording. This could also be attributed to the fact that there was only the one single button and they just clicked it as the only option. For iteration 3 we would change the wording of the button to a simple "Save" to test if that resulted in any confusion.

Apart from Noah, Sofia also asked about the "Other books" part. She simply wondered if she, in the testing scenario, had read any of them. The "Other books" part will be discussed further in the editor subsection.

Noah looked for a way to provide his progress in the book he was currently reading. This brings us back to the previous argument of allowing selection by chapter. Because of req. 1 about low barriers when becoming an editor this was dismissed, but should at least be visited briefly in iteration 3. Noah further argued that for him, the content from the current book was the most important, as it was most likely the most relevant to where he is in the book. None of the other participants expressed a desire to further input their progress, but this could easily be a result of the user testing scenario. It is likely that they did not even consider the option, which in one way argues against a need to include it. On the other hand they, by the nature of it being a user test, are not actually invested in learning the crucial information. The scenario they were given might also be a factor, if they had been provided with a page number or a chapter instead of only "...about one third of the way through.." they might have looked for the option, and expressed their opinion on it. Most editors that

know a story well enough to start editing will be able to place most kernels in the book they are from. However, to be able to place which chapter the kernel is from would probably require them to check the book, or try to find it online somehow. This extra effort and time you would have to put into editing is another barrier for new editors to overcome, and would result in losing some along the way. Using chapters as well as books in this selection is a feature that could be revisited as an option once *unspoiled* is released and has gained some traction. In beginning stages however, the crucial aspect is the editors, and abiding by req. 1 for low barriers.

Using the search bar

Emma pointed out the possibility for searching for The Lord of the Rings before using the card at the bottom of the home page to navigate. Oliver navigated directly using the card, but later pointed out that he expected the search results and auto completion features to be safe from spoilers. The search bar was originally intended only to find a book series by searching for either the book series name, books in the series or the author(s). In this case it would not serve as a spoiler if only these three yielded results. However Noah tried to search twice before using the cards to navigate, and his queries were "lotr" and "lord of the rings aragorn". This indicates he had an expectation of being able to navigate directly to the Aragorn page through the search field. Lucas and Sofia did not mention or try to use the search bar in the testing.

5.3.2 Editor

For the editor part of the user testing there was more tasks than the reader part. While they were looking at the information about Aragorn they were asked a question: "You see an error in the 2nd paragraph and you want to fix it, how would you proceed?". The rest of the tasks were part of the edit mode of *unspoiled*. These tasks were not prompted in any particular order, but rather when they were not focused on the particular aspect of the solution the task required. This was to see if they could find their way there when they had a goal, instead of prompting them to do the task if they opened the functionality randomly while exploring. These tasks were:

- Edit the spoiler control for Aragorn's "Also known as" fact.
- Explain your expectations of the icons in the top right.
- Change the order of the paragraphs on the Aragorn page.
- Add "The one ring" to *unspoiled*.

Everyone had one final task, related to kernels and satellites. They were all asked to think of a character in a, preferably fantasy or sci-fi, story and then read the prompt text you would see when writing sections about a character:

"Try to identify the major plot points for your character and break these down into different sections. Each section has a character limit of 500 to avoid condensing the whole plot into one paragraph."

The participants were not asked to fully write out the sections, but rather define the major plot point of their chosen character. This was done to see they were able to identify the kernels based on the prompt. This task is done to try to ensure that req. 4 about being able to distinguish kernels is achieved with the text in the prototype.

Entering edit mode

A major observation across tests was some degree of confusion surrounding edit mode. Not specifically the functions you get access to in edit mode, although they provided ample feedback on that. There was confusion around what edit mode entails, and that you will not be safe from spoilers. On different occasions while doing tasks in the edit mode, some of the participants went out of edit mode to use the "You have finished:" book selection in the sidebar. Noah and Lucas both went out of edit mode, to the sidebar as a first step in the process. They eventually found their way to where the task is completed, but we will return to that when discussing those specific tasks. Lucas also did the same thing when trying to edit Aragorn's facts for spoiler control. My observation was that they thought the selection of your progress also changed the edit mode. Which meant they would need to change it to access the different 'state' of edit mode. Iteration 3 would have an overlay when entering edit mode, either for the first time across *unspoiled*, or for the first time on every

separate book series. This overlay would contain a spoiler warning stating the expectation that you have read all the books in order to edit. This overlay could also include a tutorial of sorts explaining the purpose of *unspoiled*. This would help the editors learn to identify major plot points, which points to req. 4, about editors being able to distinguish kernels from satellites. This overlay might work towards req. 6, encouraging *need for cognition* for editors, by providing a guideline to follow and consider.

Managing categories in a book series

When the users were faced with the task of adding "The one ring" to the wiki, they all needed to end up on the manage categories section to activate a new category. Both Emma and Oliver completed this task without much issue, but expressed some initial confusion around adding new custom categories. Meanwhile both Lucas and Sofia misunderstood the section in a similar way. They both used the UI to select a category, items in this case, and wrote "The one ring" on the input field to add a new custom category. Noah expressed some confusion at the start before he understood the purpose of the section. He did however think the section was needlessly complex. He argued that using only a single list of categories where you can add custom categories at the bottom made more sense. Further he argued that there was no need for the standard categories to be selectable, but rather just be active on the editor page and hidden for readers if the category had no existents in it. This was an example of where the participant started expressing some suggestions and was prompted to explain even further, more like an interview.

When two out of five participants completely misunderstood the purpose of the section there is a definitive problem. The idea of merging the two lists into one list alleviates a lot of this, particularly if you do not have an open input field to add custom categories that can be confused for the way to add new existents. Instead you could just have an "Add custom" button to show the input field. Not being able to deactivate the standard categories was considered but dismissed for now, as there could be cases where the standard categories either are not relevant to a story, or are too general to be of much use. In these cases not being able to deactivate the standard categories would just make the empty categories take up space for the editors.

The scenario given to the user testers is something that a new editor could come across, having to activate or add a new category to be able to add the existent they want to add.

This means that the confusion around the section on managing categories could cause a barrier for newer editors and cause them to give up. This can be tied back to req. 1 about low barriers to become an editor, and further emphasizes the importance of this section working well.

Editing facts for one existent

The fact editing section was across the board confusing for everyone of the participants. The main issue being that it was too cluttered. Too many input fields and being able to add both a whole new fact and add on to an existing fact. To address this issue we could allow only one fact to be edited at a time, so instead of opening a overlay for editing all the facts, you could open one for each fact separately. This would help with the confusion between adding a whole new fact and just adding another part of an existing fact.

During Emma's user test, while she was editing facts, she observed that her instinct interpreted the tags the wrong way. Only remembering the way she used them when editing a paragraph helped her make the correct edit. The way it is intended to work is that you select the book the text or fact you have written is from. If you consider the tags alone, separate from the "Contains spoilers from" text, another way to use the tags would be to select the books the text or fact spoils instead. This observation came up when looking at the tag selection when editing the "Also known as" fact. This problem is tied to req. 5, editors being able to follow the chronology of the discourse. This requirement is there to ensure the editors define the information correctly, for the readers experience to be spoiler free. This function is the way to do this, so it causing confusion is a warning that req 5. is not properly addressed. One solution to this problem is to not use the word spoiler in the wording above the tags, for example "This information is from:". Taking away the word spoiler makes it less likely to fall into the wrong way of using the tags.

Identifying the kernels of a character

In the final task of the user test users selected a character from a character from a story, preferably fantasy or sci-f. They were asked to use the text provided as a guide when writing new paragraphs in the prototype, and then think aloud about what are the major plot

points this text asks for. This was done to gauge how well iteration 2 satisfies req. 4, editors being able to distinguish kernels. All of the participants succeeded in this task, and identified kernels. However, there were some interesting observations to be made. After Emma defined her kernels about the character Hagrid for the Harry Potter series, she started considering how to order them as paragraphs on *unspoiled*. She said her instinct was to order them by the discourses chronology. But since we learn some backstory about the character Hagrids childhood in one of the later books she was unsure of where in the order to include this kernel. After probing a bit, she said that she initially thought it was required for the paragraphs to be ordered by the discourse chronology, but that she wanted to order it by the natural chronology instead. This was a prime example of a user being aware of both the chronology of the story and the discourse. It is somewhat problematic that she felt it was required to abide by the discourse chronology in the ordering. It makes sense to feel somewhat tied to that chronology because of the nature of *unspoiled*. Providing an example of this in a tutorial/guide section would help the users realize that it is an option and be allowed to make their own choice.

The spoiler tag

One aspect that got a decent amount of attention from the testers was the spoiler tagged post on the reader side, and the reporting system on the editor side. The example in the prototype is simply that the paragraph is mis-tagged as book 1 when it should be book 2. The participants of the test wondered why it was needed to report it as a spoiler, instead of just fixing the tag. In almost all cases you can just fix the tag to reflect what the posts says instead of reporting it for being a spoiler. Oliver pointed out a possible scenario where focus on something seemingly irrelevant in a paragraph, that hinted at a future event the reader does not know yet. This could be conceived as a spoiler. If for example book 1 has moments that hint at a major event in book 2, and an editor focuses a lot on these hints, resulting in readers who only have read book 1 maybe understanding what is going to happen in book 2. There was an example of this exact thing in the kernel identifying task in Sofia's user test. She chose the character Gollum from The Lord of the Rings, and the way she described the kernels put a lot of emphasis on Gollum "Playing nice for a while", which hints at an eventual betrayal.

The reason for adding the reporting system was for users to quickly be able to warn others without having to actually do any edits. In discussions about this during the test, Noah

pointed out that in that case you should be able to report from the reader side. This is a very valid point and it is further emphasized by the fact that the editor side would spoil everything, so even readers who got one spoiler should not have to risk more spoilers by entering edit mode to warn other readers. In iteration 3, a report feature in the reader mode would be included.

Chapter 6

Conclusion

In this thesis about the design of *unspoiled*, we first started by looking at the two domains; storytelling and the internet. This highlighted an overlap between the two domains where *unspoiled* could exist. The thesis continued within these same domains, but focused on the theoretical backgrounds with narrative theory and participatory culture. These theories provided valuable information that was defined into six requirements for designing *unspoiled*. These requirements were brought with us into the rest of the thesis.

This project had two user research studies to aid in the design process. The first research was a survey, conducted to gather valuable insight on how users relate to spoilers. The results of this survey showed that around 43% of participants actively avoid spoilers, while 46% both avoid and seek depending on the situation. These results cement the idea that a majority of users have a need for a solution that allows you to avoid spoilers, while around half also would benefit from ways to seek spoilers.

A prototype was developed based on insight from the survey and the six requirements. This prototype was then used in the second user research of this project; user testing. Five user tests were conducted, yielding valuable insights into the design of *unspoiled*. Some sections of the UI, like "Edit facts" and "Manage categories", confused a significant amount of the participants, and both observations of and suggestions from the participants helped refine these aspects for the next iteration. Another aspect of *unspoiled* that was highlighted in the user testing was the need for clarification around the edit mode, and the fact that editors are not safe from spoilers.

6.1 The six requirements

This section aims to answer the core RQ: "How can you define and use requirements to design a wiki with dynamic information about narrative works?" by summarizing the six requirements' effect on the design, as well as providing a short evaluation of each requirement. In two final sections we look back at the project, pointing out things that could have been done differently, followed by a section outlining possible directions for future work on *unspoiled*.

The first requirement: "Relatively low barriers to become an editor" is perhaps the most important requirement of the six, particularly in the early stages to get *unspoiled* off the ground. This requirement could be included in many aspects of the editor side of *unspoiled*, as any unnecessary complexity for the editors worked against this requirement. Perhaps the most vital point this requirement helped enforce, was in the discussion of using books, chapters or pages. It forced us to really consider the impact of using chapters or pages would have on the editors, and ultimately make a decision to help ensure that *unspoiled* actually will be populated with data.

The second requirement: "Strong support for creating, sharing and evaluating creations", although being an important requirement, in retrospect it merely enforced what was already expected when designing a wiki. Perhaps the evaluation aspect of this requirement was its strongest point, but also in some ways the most overlooked. The evaluation aspect of req. 2 was considered when making the "report post" feature, but evaluation was still not the main purpose behind that feature. It also played a part in the discussion around communication and Discord, but a constructive evaluation function in the design was not included, despite this requirement.

The third requirement: "Users should feel significant and get a social connection to others" was important in much the same way as req. 1, but more focused on making sure people want to stay, once they have made it through the low barriers from req. 1. Similarly to the evaluation part from req. 2, req. 3 would be most accomplished through a chat function. Users being able to gain a trusted tag, or become a moderator is also a definitive way to make users feel significant. Using an external chat like Discord, and making this chat reflect the roles users have on *unspoiled* would satisfy req. 3 even further.

The fourth requirement: "Editors must be able to distinguish kernels from satellites" is another vital requirement for the purpose of *unspoiled*. Part of this requirement was solved by trying to, as simply as possible, direct the editors to focus on kernels. This requirement was also the reason for having certain limits, like a character limit on a paragraph to force the users to split things up, and through that consider the kernels further. The key is finding the balance of limits to maintain the purpose and freedom to still allow for artistic expression.

The fifth requirement: "Editors must be able to follow the chronology of the discourse" was in retrospect a less used requirement. Its purpose was important; ensuring that the editors did not spoil the readers. You could argue this is the prime purpose for *unspoiled*. However, the wording might have been too vague to properly enforce this purpose. It was discussed briefly along side the book tags for paragraphs. It also served to highlight an observation on Emma's user test. Her expectation was a need to focus on the discourse's chronology when ordering paragraphs, but she wanted to order them by the story's natural chronology.

The sixth requirement: "The editor side must try to encourage as much *need for cognition* as possible" was less used. When it was part of the discussion it was usually along side req. 4. Req. 4 served to achieve a specific aspect of req. 6, so in retrospect req. 6 might be too general and vague to be put into good use. A way to improve this requirement could be to identify other more specific requirements, similar to req. 4, that all together would satisfy req. 6.

6.2 Limitations

Looking back at the design process there is one improvement that could have served the project well; conducting a set of user tests around halfway between the survey and the current user tests. In retrospect there were periods of time where steady progress on the design was being made, but user testing could have helped the design into important directions earlier. This brings up the next point; better planning could have helped seeing the need to have this extra set of user tests. Better planning and foresight could also have helped negate the need to take a step back to define and limit the scope at the end of iteration 1.

6.3 Future work

Moving forward *unspoiled* still requires some refinement of the design in certain areas. Of course all the insights highlighted in the iteration 3 discussion would have to be incorporated into a visual design to move forward. The UI/UX for moderation is an aspect that has not been considered much. To move into development, a deeper dive into the possibilities and limitations of using Discord as the main communication platform is necessary. How to handle copyright around potential art used on *unspoiled* is also something that would require further investigation before *unspoiled* could be released.

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Appendix A

Information letter for research participants

Do you want to participate in the research project Spoiler free wiki for book series?

This is a question to you about participating in a research project where the purpose is the design of a spoiler free wiki for book series. In this text we will give you information about the goals of the project and what participating will involve for you.

Purpose

The goal of the project is designing a webportal where users can get dynamic information about characters, places etc. in a book series, where the information is based on the users own progress in the book series. This is to avoid spoilers (Potentially seek out specific spoilers). The information about the book series is user generated, where users can make an account and write/edit a dynamic wiki page for their favorite book series

Who is responsible for the project?

University of Bergen, department of Information Science and Media Studies is responsible for the project.

Why are you being asked to participate?

The selection process of this project is initially optional. You will have gotten the option to take a survey, or participate in user testing/interviews and have to opt-in. If you choose to give your email in the survey you can be contacted directly at a later date in the project and asked if you want to participate in either usertesting or an interview.

What does participation in the project entail?

Survey:

- If you participate in the survey, you will fill out an electronic survey with a general theme around spoilers and the webportal this project is designing. You will have the option to give your email if you want to be potentially contacted at a later date and asked if you want to participate in user testing / user interviews regarding the project. The data will be stored electronically.

User testing

- If you participate in the usertesting aspect of the project you will take part in a user testing session. This will be a digital user test where you will be provided a link to a prototype and will share your screen while you go through the tasks that are provided. There will also be a user interview part after this user test, where there are some questions about the design with the aim of getting more feedback/understanding of your thoughts and experience with the prototype. This process will be recorded, video of the user testing part (the screen) and audio for the whole process. These recording will be stored electronically

User interview

- If you participate in the user interview you will take part in a digital interview over a video chat platform (you do not have to be on camera). The general theme of the interview will cover spoilers, book series, information sources of book series, the webportal the project is designing. The audio from the process will be recorded and stored electronically.

Participation is optional

It is optional to participate in this project. If you consent to participate in this project, you can at any time withdraw that consent without being obligated to provide a reason. All your personal data will then be deleted. There will not be any negative consequences for you if you choose to not participate or later choose to withdraw.

Your privacy - how we store and use your data

We will only use your data for the purpose described in this text. We treat the information confidentially and in accordance with the privacy regulations.

The people that will have access to your data is:

Masterstudent: Aslak Ihle, aih003@uib.no

Supervisor: Lars Nyre, lars.nyre@uib.no

To secure the personal information, any reference to your name will in the transcription be replaced by a fake name, and a different file stored separately will have the reference between the fake name and your personal information.

What happens to your data when we finish the research project?

The data will be anonymized when the thesis is approved, which according to plan is June 2022. The reference file with your personal data will then be deleted, and your email stored in the survey results will be deleted.

Your rights:

As long as you are identifiable in the data, you have the right to:

- gain insight into personal data registered about you, and getting a copy provided of said data,
- get your personal data corrected,
- get your personal data deleted, and
- Send a complaint to the data inspectorate about the treatment of your personal data.

What gives us the right to process your personal data?

We process your personal data based on your consent.

On behalf of University of Bergen, Department of Information Science and Media Studies, NSD - Norwegian Centre for Research Data AS has considered that the processing of personal data in this project is in accordance with the privacy regulations.

Where can I learn more?

If you have any questions about the study, or wish to make use of your rights, contact:

- University of Bergen, Department of Information Science and Media Studies ved Lars Nyre, lars.nyre@uib.no (Supervisor for project)
- University of Bergens privacy representative: Janecke Helene Veim, Email (Janecke.Veim@uib.no), Phone (+47 930 30 721)

If you have questions regarding NSD's assessment of the project you can contact:

- NSD – Norwegian Centre for Research Data AS via E-mail (personverntjenester@nsd.no) or over phone: 55 58 21 17.

With best regards

Aslak Ihle