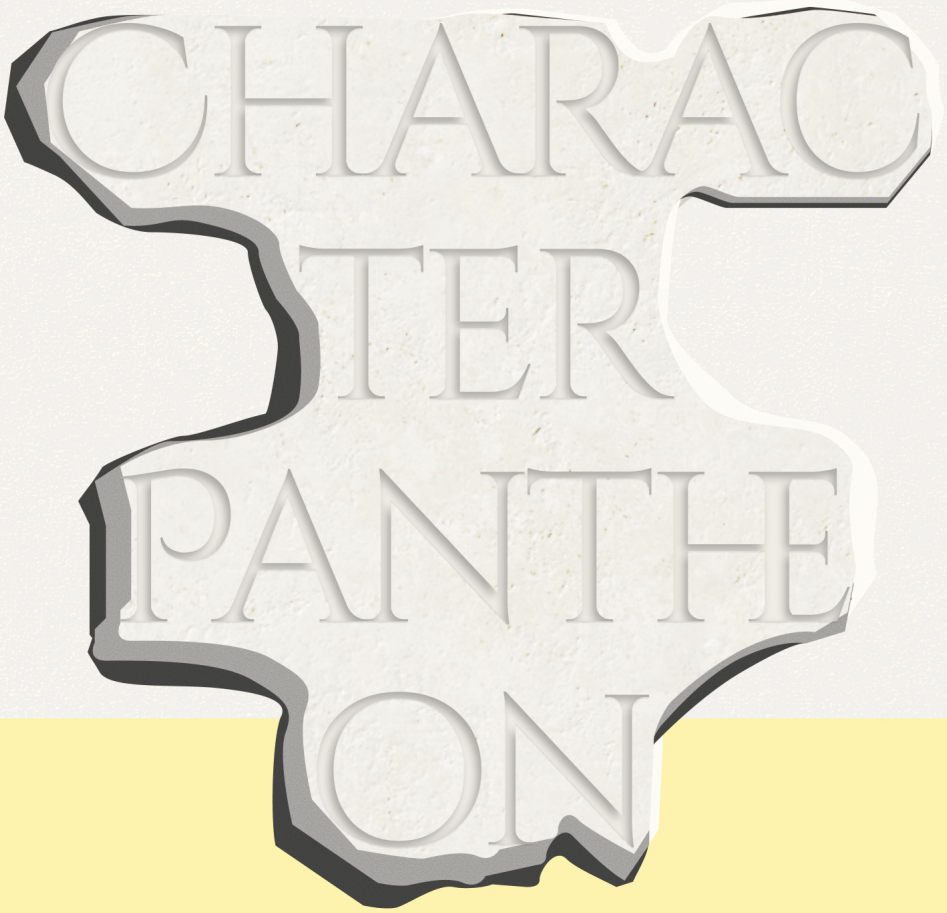
EXPLORING EMOTIONAL ENGAGEMENT IN FICTION READING

Master Thesis



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Abstract

Fiction reading is shaped by imagination, interpretation, and emotional engagement, yet many augmented reading approaches add information, media, or immersive effects in ways that may interrupt reading flow or reduce reader agency. This thesis explores how augmented reading experiences can support emotional engagement in fiction while preserving reading flow, imaginative openness, and reader control.

In response, the project developed Character Pantheon, a character-centred augmented reading prototype. Instead of attempting to create emotional engagement directly, the prototype supports the conditions that allow engagement to continue across reading moments. During reading, progress-aware character cards and relationship diagrams help readers stay oriented within the narrative without replacing their own interpretation. After reading, the Pantheon archive gives characters a place to be revisited, while the Roundtable Dialogue allows readers to continue thinking with fictional characters through questions, discussion, and reflection.

This thesis contributes a character-centred design pathway for supporting emotional engagement indirectly, by helping readers maintain and extend their relationship with fictional characters and narratives across time. The final evaluation suggests that this pathway was generally perceived as coherent, meaningful, and compatible with fiction reading, while also showing that AI-supported character dialogue requires further refinement in character distinctiveness, emotional tone, pacing, and user control. The project points to the potential of augmented fiction reading as a subtle relational layer around the reading experience, rather than an intensification of the text itself.



Table of Contents

Introduction 1

1 Literature Review 3

- 1.1 Review Methodology 4
- 1.2 The Value of Emotional Engagement in Fiction Reading 5
- 1.3 Mechanisms of emotional engagement 6
- 1.4 Current Augmented Reading Approaches 8
- 1.5 Literature Synthesis 10

2 Formative User Research 11

- 2.1 Study 1: Semi-structured Interviews with Fiction Readers 12
- 2.2 Study 2: Follow-up Questionnaire 15
- 2.3 From Research to Design 17

3 Iterative Design Process 21

- 3.1 Design Concept Ideation 22
- 3.2 Design Prototype 27
- 3.3 Prototype Description 37

4 Prototype Evaluation 43

- 4.1 Aim 44
- 4.2 Methods 44
- 4.3 Results 47

5 Discussion 53

- 5.1 Discussion of Findings 54
- 5.2 Limitations 58
- 5.3 Future Work 59

6 Conclusion and Reflection 61

- 6.1 Conclusion 62
- 6.2 Self-Reflection 63

7 AI Statement 64

References 65

Appendix 67

- A. Study 1 Interview Materials and Analysis 68
- B. Study 2 Follow-up Questionnaire 69
- C. Study 2 Questionnaire Results Summary 70
- D. Final Prototype Evaluation Materials 71
- E. Final Prototype Evaluation Analysis 72
- F. Graduation Project Brief 74

Introduction

Background

Fiction reading is more than following a plot or extracting information from a text. When readers enter a story, they imagine fictional worlds, form impressions of characters, engage with narrative tensions, and sometimes connect the story to their own experiences. In this sense, fiction reading can be understood as an experiential and meaning-making practice, where the value of reading emerges through the interaction between the reader and the text (Rosenblatt, 1978).

A key part of this experience is emotional engagement. Readers may feel close to a character, become absorbed in a story world, imagine what is not explicitly described, or continue thinking about a story after closing the book. Narrative transportation theory describes this as a state in which readers' attention, emotion, and mental imagery become focused on the narrative world (Green & Brock, 2000). Similarly, engaging reading experiences are often described as moments of getting lost in a book, where readers temporarily lose awareness of time and become deeply involved in the story (Colombo & Landoni, 2011).

At the same time, fiction reading is increasingly shaped by digital media. E-books, online reading platforms, audiobooks, interactive media, and AI tools have changed how readers access, navigate, and extend stories. These technologies create new opportunities for augmented reading experiences, such as providing practical support, visualising story elements, or enabling new forms of interaction with fictional content.

However, adding more media or technology does not automatically make reading more engaging. Fiction reading often depends on openness, imagination, and the reader's own pace of interpretation. If an augmented reading system provides too much information, visualises the story too concretely, or interrupts the reading flow, it may weaken the very qualities that make fiction emotionally meaningful.

To explore these possibilities responsibly, augmented reading needs to be considered not only as a technical opportunity, but also as a design question. The challenge is not simply to add more media or technology to fiction reading, but to understand how additional support can sit alongside the text and the reader's own engagement with it.

Research Gap & Questions

Existing research has shown that emotional engagement is a key aspect of fiction reading, helping explain why stories can feel immersive, memorable, and personally meaningful. At the same time, research and design experiments in augmented reading have explored how digital media can extend the reading experience through interface-based support, VR/AR reading environments, AI-generated visualisation, and interactive content. These approaches show that technology can add new layers to reading, but they do not fully answer how augmentation should relate to the reader's emotional engagement with fiction.

However, there is still a gap between understanding emotional engagement as a reader-led experience and designing augmented reading systems that support it. While technology can provide additional information or interaction, it may also interrupt reading flow, over-define the fictional world, or reduce the reader's own imaginative and interpretive role. This creates a design challenge: augmented reading should support readers when needed, without taking over the reading experience.

This project addresses this challenge through two research questions:

RQ1: What factors shape readers' emotional engagement in fiction reading experience?

RQ2: How can insights from these factors inform the design of augmented reading experiences that support emotional engagement without disrupting reading flow?

Understanding Emotional Engagement

Literature Review + Formative User Research

This phase mainly addressed RQ1 by investigating what shapes readers' emotional engagement in fiction reading through literature review, interviews, and a follow-up questionnaire.

Translating Insights into Design

Iterative Design Process

This phase mainly addressed RQ2 by translating the research insights into the Character Pantheon concept, a first prototype, and finally a web-based MVP for evaluation.

Evaluating and Synthesising

Evaluation + Discussion + Conclusion

This phase examined how participants experienced the final prototype and used the findings to discuss the project's contribution, limitations, and future opportunities.

CHAPTER I

LITERATURE REVIEW

This chapter reviews relevant literature to establish the theoretical and design context of the project. It begins from broader discussions of reading and gradually narrows towards fiction reading, emotional engagement, and augmented reading, providing the foundation for the following research and design process.

1.1 Review Methodology

This literature review was conducted to establish a theoretical basis for understanding emotional engagement in fiction reading and to examine how existing augmented reading approaches have attempted to support reading experiences. The process was divided into three phases: data collection, screening, and thematic clustering.

Data Sources & Search Strategy

The literature search was conducted across major academic databases relevant to Human-Computer Interaction and Humanities, primarily ACM Digital Library, IEEE Xplore, and Google Scholar.

Search Query Structure: The strategy employed OR to connect synonyms within each domain (expanding the scope) and AND to connect the domains with each other (narrowing the focus to the intersection). The conceptual blocks were defined as follows:

- Emotional Engagement in Fiction Reading:
(“emotional engagement” OR “reading engagement” OR “reader engagement” OR “narrative engagement” OR “narrative absorption” OR “transportation” OR “flow in reading” OR “fiction reading experience”)

- Engagement Mechanisms and Reading Conditions:
(“character engagement” OR “character attachment” OR “identification” OR “empathy” OR “perspective-taking” OR “imagination” OR “interpretation” OR “reader response” OR “world-building” OR “social reading” OR “shared reading” OR “after-reading reflection” OR “reading continuity” OR “cognitive load” OR “interruption”)

- Medium and Design Approaches:
(“augmented reading” OR “digital reading” OR “interactive reading” OR “e-reading” OR “mixed reality” OR “augmented reality” OR “virtual reality reading” OR “multi-sensory reading” OR “reading support” OR “reading interface”)

Final Boolean Logic: To ensure relevance, the final search queries followed the intersectional formula: (Block 1) AND (Block 2) AND (Block 3)

In addition to keyword searching, snowballing was applied, reviewing the reference lists of key papers to identify relevant works that might have been missed by keyword indexing.

Inclusion & Exclusion Criteria

To ensure the review remained focused on the experiential and emotional dimensions of reading, several eligibility criteria were applied during the screening process.

Inclusion Criteria

- Thematic Focus: The review prioritized studies that investigate fiction reading as an experiential and emotional practice. Key topics included engagement, narrative absorption, interpretation, and emotional relationships with fictional characters.

- Timeframe: Foundational theories (e.g., flow, engagement, transportation Theory) were included regardless of publication date to establish a theoretical baseline. In contrast, the review of medium and technology was restricted to 2015–2025 to reflect the capabilities of modern hardware and design practice, while literature on early interactive reading formats was specifically included to analyze historical design constraints.

Exclusion Criteria

- Purely utility-oriented metrics: Studies focusing primarily on functional efficiency and utility—such as reading speed, comprehension test scores—were excluded. The focus of this research is on engagement and reading experience, not productivity.

- Purely technical implementation: Papers focusing purely on engineering challenges (e.g., text legibility, optical distortion in VR headsets) without addressing the narrative user experience and emotional engagement.

- Specialized user groups: Research dedicated to specific groups (e.g., accessibility tools for dyslexia or vision impairment) was excluded to maintain a focus on generalizable mechanisms of engagement.

Analysis & Clustering

The selected literature was analyzed using a thematic approach to identify recurring patterns and gaps. This analysis focused on how different bodies of literature explain the value of emotional engagement, the conditions through which it emerges, and the opportunities and risks of supporting it through digital or augmented media. This analysis led to three clusters, which inform the structure of this review.

- The value of emotional engagement in fiction reading:

- Mechanisms of emotional engagement:

- Medium and design approaches for supporting engagement:

1.2 The Value of Emotional Engagement in Fiction Reading

Fiction Reading as an Experiential Practice

Fiction reading is not only a process of extracting information and following plot events. While comprehension is necessary, the value of fiction reading often lies in the reader's ability to enter a fictional world, involved with the unfolding story, imagine what is not explicitly described, and form personal meanings from the story. Rosenblatt's transactional theory of reading emphasises that literary meaning emerges through the interaction between reader and text, rather than being simply extracted from the text (Rosenblatt, 1978). In this sense, fiction reading can be understood as an experiential and meaning-making practice rather than merely an information-processing activity.

Spiteri and Pecoskie's taxonomy of affective reading experience also supports this view by distinguishing between emotions, tones, and associations (Spiteri & Pecoskie, 2016). Their work suggests that readers' affective responses may include specific feelings, atmospheric impressions, and personal memories or connections triggered by the story. Emotional engagement therefore matters because it helps turn fiction reading into a personally meaningful experience that goes beyond simply understanding the content.

Emotional engagement supports narrative absorption and flow

Emotional engagement also matters because it contributes to narrative absorption and reading flow. Colombo and Landoni describe an engaging reading experience as a state of "getting lost" in a book, where the readers become immersed and lose awareness of time and self-consciousness through active engagement in the story world (Colombo & Landoni, 2011).

Narrative transportation theory provides a related explanation. Green and Brock describe transportation as a state in which readers' attention, emotions, and mental imagery are concentrated on the events of a narrative (Green & Brock, 2000; Green, 2021). This suggests that emotional engagement can emerge through multiple aspects of fiction, including characters, narrative situations, suspense, world-building, and the reader's own imaginative construction of the story world. Character engagement is one important part of this process, as readers may identify with characters, take their perspectives, or respond emotionally to their situations (Eekhof et al., 2023). Taken together, these perspectives suggest that emotional engagement supports the conditions under which readers become deeply involved in fiction. It helps explain why reading can feel personally significant, and difficult to separate from the reader's own thoughts and emotions.

Emotional engagement beyond the Reading Moment

Emotional engagement can also extend beyond the immediate moment of reading. Research on emotion and narrative fiction suggests that affective responses are shaped before, during, and after reading, and that emotions experienced during reading may have consequences after closing the book (Mar et al., 2010). Literary texts may also continue to be processed and remembered after the reading, sometimes becoming associated with personal insights, consolation, or lasting memories (Andersen & Hakemulder, 2024). Readers may therefore continue to think about a story, revisit scenes, remember characters, record meaningful passages, or discuss interpretations with others.

This extended quality is also related to the way fiction connects to readers' real-life emotional and social experiences. Oatley argues that fiction can be understood as a simulation of social worlds (Oatley, 2016). From this perspective, emotional engagement matters not only because it makes reading more immersive, but also because it allows readers to rehearse, compare, and reflect on social situations, emotions, and perspectives beyond their immediate reality.

1.3 Mechanisms of emotional engagement

Engaging with Fictional Minds

One important mechanism through which emotional engagement happens is the reader's relationship with fictional characters. Readers may identify with characters, take their perspectives, infer their inner states, and respond to their situations with empathy, sympathy, or personal distress (Eekhof et al., 2023). Character engagement can therefore be understood as a process in which readers actively relate to fictional minds.

This relationship can also take different affective forms. Research on emotional attachment to game characters suggests that attachment may involve admiration, concern, responsibility, or other complex responses, rather than only liking or positive identification (Bopp et al., 2019). Although this evidence comes from interactive media, it helps illustrate that emotional engagement with fictional characters can involve multiple kinds of reader–character relationship.

This form of engagement can be understood as part of a broader process of social simulation. Fictions allow readers to immerse themselves in fictional scenarios and mentally experience the emotions, relationships, and perspectives beyond their immediate experience. Oatley describes fiction as a simulation of social worlds, suggesting that readers can engage with fictional situations as models of human action, feeling, and social relation (Oatley, 2016). In this case, fictional characters become emotionally meaningful because they serve as the entry point for readers into the simulated experience.

Absorption and Transportation into the Narrative World

Emotional engagement can also happen through narrative transportation. While character engagement explains how readers become emotionally involved through fictional characters, transportation shifts the focus to the story world as a whole. Green and Brock describe transportation as a state in which readers' attention, emotions, and mental imagery are concentrated on the events of a narrative (Green & Brock, 2000). While reading, readers are not only following plot information, but are mentally and affectively drawn into the story.

This mechanism helps explain why emotional engagement does not depend only on attachment to individual characters. Readers may also become engaged through the suspense of unresolved events, the epic world-building of fiction, or the climax of the plot. Colombo and Landoni similarly describe engaging reading as a state of "getting lost" in a book, where readers become immersed and lose awareness of time and self-consciousness through active involvement in the story world (Colombo & Landoni, 2011). From this perspective, emotional engagement can be understood as a broader experience, in which all these different elements work together to draw the reader into the fiction (Troscianko, 2013).

Imaginative and Interpretive Participation

Fictional texts always leave gaps, ambiguities and indeterminacies for readers, inviting them to complete what is not fully given. Iser's reader-response theory remains a foundational explanation of this process, stating that textual gaps require readers to participate in the construction of meaning (Iser, 1978). Troscianko emphasises that literary texts can use linguistic indeterminacy to elicit varied imaginative experiences, rather than merely conveying fixed mental images (Troscianko, 2013) . This suggests that emotional engagement can emerge not only from what the text explicitly presents, but also from the reader's own work of filling in, visualising, and making sense of what remains open. If emotional engagement partly depends on readers' imaginative and interpretive activity, then preserving textual openness may be important for sustaining engagement. Emotional engagement can emerge not only from what is explicitly presented in a narrative, but also from the interpretive space for readers.

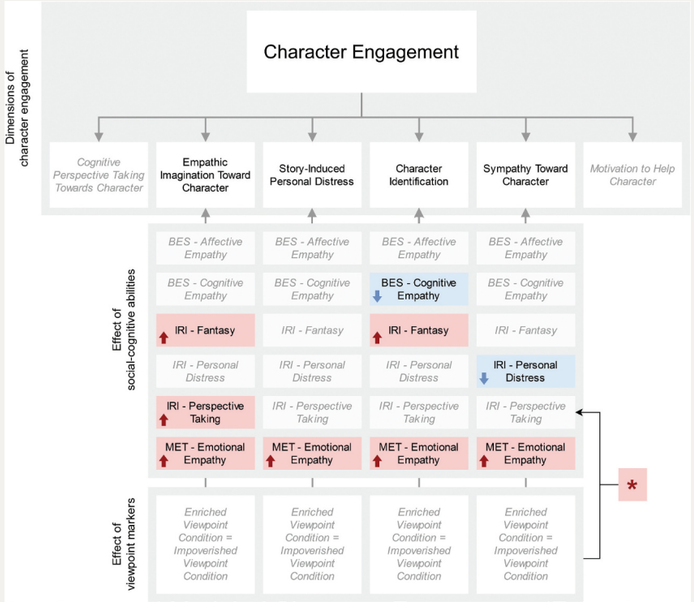


Figure 1.1: Structural Model of Character Engagement (Eekhof et al., 2023)

1.4 Current Augmented Reading Approaches

With the development of digital augmented and extended reality technologies, recent research has explored how reading can be enhanced. Existing approaches can be broadly understood through three directions: functional and interface-oriented augmentation, sensory and atmospheric augmentation, and spatial or immersive augmentation. These approaches show how digital media can expand the conditions of reading, but they also raise the question of how augmentation relates to the emotional engagement mechanisms discussed above.

Functional Augmentation

One direction of research focuses on functional and interface-oriented support. This type of work often aims to improve the efficiency, accessibility, or usability of reading by modifying the way text is presented or interacted with. Teixeira and De Souza explored "Bionic Reading" in AR, modifying typographic presentation to guide eye movements and increase reading speed (Teixeira & De Souza, 2024). Similarly, Brett et al. optimized Mixed Reality text layouts to mitigate fatigue during 'long-form reading' (Brett et al., 2025).

These works improve practical aspects of reading, such as legibility, comfort, and usability. However, they mainly treat reading as a functional task focused on efficiency and accessibility. While this can support the reading process, it does not fully address how readers become emotionally engaged with characters, narratives, and story worlds.

Sensory and Atmospheric Augmentation

Another direction uses sensory or atmospheric augmentation to intensify the atmosphere of reading. This approach often maps textual content to audiovisual or multisensory effects. Zhuang et al. proposed a "semantic fusion" system that aligns background music with the emotional sentiment of the text (Zhuang et al., 2011). In a more environmental approach, Xing et al. used XR to render atmospheric effects—such as rain or fire—that synchronize with narrative events (Xing et al., 2023). Vitali et al. leveraged Generative AI to dynamically convert text into graphic novel panels, visualizing the narrative in real-time (Vitali et al., 2025).

These systems successfully create a "surround" experience, effectively placing the reader inside the story's atmosphere. However, by translating textual descriptions into fixed sounds, images, or effects, they may also guide readers' imagination in specific ways. While this can enhance atmosphere, it may reduce the openness that supports personal interpretation and imaginative engagement.

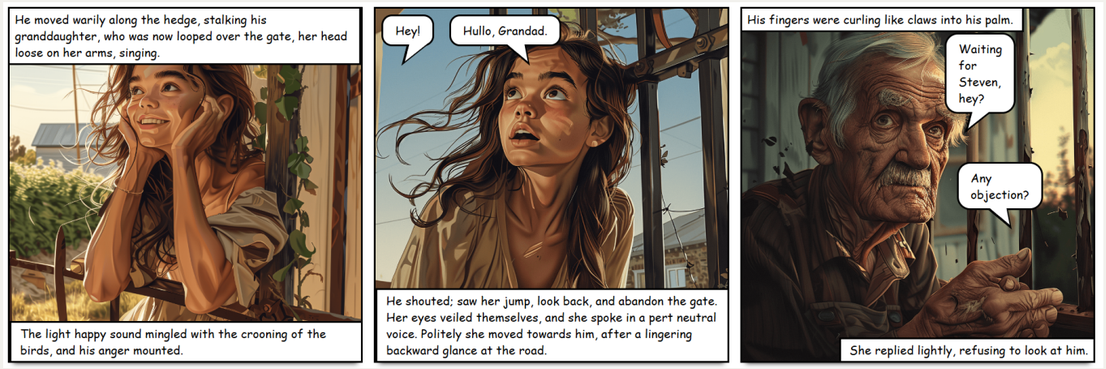


Figure 1.2. Example of AI-generated graphic novel panels visualising narrative content from Doris Lessing's short story "Flight." Adapted from Vitali et al. (2025).

Spatial and Immersive Augmentation

A third direction transforms reading into a spatial or immersive experience. Kunzová and Echeverri's Bookwander represents a key example in this area, proposing design paradigms such as "Scenic Reading," where readers move through narrative landscapes, and "Playful Reading," where readers interact with virtual artefacts (Kunzová & Echeverri, 2023). Such approaches move beyond audiovisual rendering by allowing readers to experience stories as spatial environments or interactive scenes.

Spatial and immersive augmentation shows how reading can move beyond the page and become part of a broader embodied experience. It can make fictional environments more tangible and give readers a stronger sense of presence within a story world. At the same time, these approaches often focus on the externalisation of fictional space. In relation to emotional engagement, this raises a critical question. If fiction reading depends partly on imagination, interpretation, and the reader's own construction of meaning, how can augmented reading support the reader's relationship with the narrative without replacing the reader's own mental imagery?

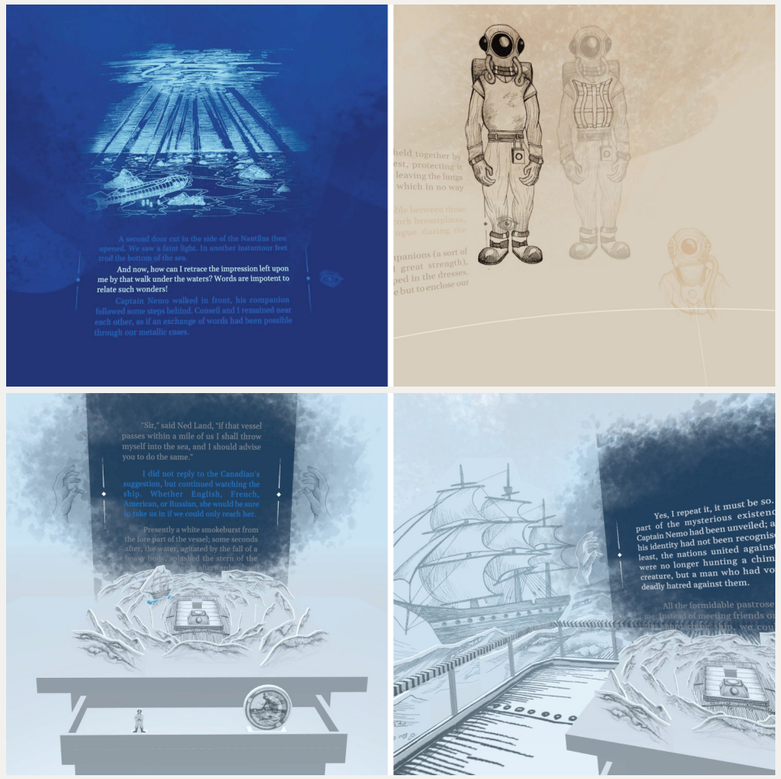


Figure 1.3: Scenic Reading Approach in Bookwander (Kunzova & Echeverri, 2023)

1.5 Literature Synthesis

Overall, existing augmented reading approaches have expanded the reading experience through functional support, multi-sensory feedback and spatial immersion. These directions demonstrate the potential of digital and augmented media to change how readers access, perceive, and experience texts. However, they did not fully answer how augmentation can support the mechanisms of emotional engagement identified in the previous section.

This suggests that the research question is not simply how to make fiction reading more immersive, visual, or interactive at the technological level. Instead, the key issue is how augmentation can relate to the internal and reader-led processes through which fiction becomes emotionally meaningful. Therefore, augmented reading design needs to consider how additional media elements interact with readers' attention, imagination, interpretation, and emotional involvement.

This literature review therefore provides the theoretical basis for the following user research. The next chapter examines how readers themselves experience emotional engagement in fiction

CHAPTER 2

FORMATIVE USER RESEARCH

This chapter presents the formative user research conducted before the design process. It describes the research setup, data collection, and analysis process, and explains how the findings were translated into design implications.

2.1 Study 1: Semi-structured Interviews with Fiction Readers

Aim of the Study

In the first research phase, I conducted a semi-structured interview study to investigate how fiction readers experience emotional engagement during reading. By interviewing readers with different backgrounds, the study aimed to identify the key characteristics of target users and understand how they engage with stories and fictional characters. This study addressed the first research question: “What factors shape readers’ emotional engagement in fiction reading experience?” In addition, the interviews explored readers’ current challenges, pain points, and expectations regarding possible augmentation in fiction reading.

Methods

Research Design

A semi-structured interview format was used to ensure consistency across participants while maintaining flexibility to explore individual reading experiences in depth. Each interview followed the same overall structure and core questions, while follow-up questions were used to further clarify participants’ specific examples, motivations, and interpretations.

The interview protocol was structured into four parts. The first part explored participants’ general reading context, such as reading frequency, reading environment, and preferred aspects of fiction. The second part focused on participants’ emotional engagement with fiction and characters. Participants were asked to recall memorable scenes and characters, and to describe moments of empathy. The third part explored participants’ expectations regarding potential augmentation and expansion of fiction reading. The final part examined participants’ experiences with other narrative media, such as films and video games. This comparison helped reveal how emotional engagement in fiction reading may differ from other narrative formats. A full overview of the interview protocol is provided in Appendix A.

Recruitment and Participants

Participants in study 1 were required to be regular fiction readers who read at least one book per month. This criterion was used to ensure that all the participants have sufficient experience with fiction reading and could reflect on their emotional engagement with story and characters. Participants were recruited through personal networks and snowball sampling, which initial participants recommended other readers.

Eight participants are interviewed in this stage, including six females and two male. Participants range in age between 20 and 28 and come from diverse cultural backgrounds. All of them reported reading fiction regularly and had experience with both physical and digital books.

Data Collection

The interview data is collected through one to one semi-structured interviews with participants. Depending on participants’ availability, the interviews were carried out either in person or online through video calls. The interview followed the four sections described in Research Design, follow-up questions were asked when necessary to encourage participants to elaborate their thoughts.

With participants’ consent, the interviews were audio-recorded for complete documentation of the conversation. I also took notes during the interviews to capture initial observations and points for follow-up. Each interview lasted approximately 30–50 minutes.

Data Analysis

The interview recordings were transcribed into textual data and analysed using an inductive thematic analysis approach, supported by affinity mapping. The analysis began with repeated reading of the transcripts and interview notes in order to familiarise myself

with the data. Meaningful segments were coded inductively, focusing on recurring ideas and experiential patterns across interviews that appeared to reflect underlying mechanisms in readers' experiences. These included, for instance, what seemed to trigger engagement, what sustained or disrupted it, and what tensions or needs repeatedly surfaced. In the next stage, I compared, clustered, and reorganised the initial codes through affinity mapping to identify recurring patterns and connections across participants. I iteratively refined these clusters into broader themes and checked them against the original transcripts to ensure that they remained grounded in the data. Visual records of the coding and affinity mapping process are included in Appendix A.

Results

The results were obtained based on the key themes identified through inductive thematic analysis:

Character-Based Emotional Engagement

- *Readers tend to empathize with fictional characters when characters share similar experiences or circumstances with them.*
- *Characters who make different choices can also engage readers by offering alternative perspectives.*
- *Character development and growth arcs strengthen readers' emotional investment over time.*
- *Access to the interiority of characters further deepens this connection by allowing readers to engage with their inner world.*

Narrative-Based Emotional Engagement

- *Fiction itself and reader's emotional engagement are both driven by the narrative as a whole, not only individual characters.*
- *Specific narrative moments (e.g., turning points or emotional scenes) create strong immediate engagement.*
- *World-building and ensemble storytelling enable engagement with relationships, context, and systems.*
- *Narratives reflecting social or cultural issues can resonate with readers, connecting to their real life.*
- *Emotional engagement is not isolated to a single element. Readers often do not clearly distinguish between engagement with characters and with the story itself.*

Imaginative and Interpretive Engagement

- *Readers value the imaginative freedom of text-based reading rather than being given explicit visualization.*
- *A smooth and uninterrupted reading flow supports this imaginative process.*
- *Readers often position themselves as observers, engaging with the story while maintaining interpretive distance.*
- *Interpreting metaphors and implicit meanings contributes to deeper emotional involvement.*

Engagement Beyond Reading Moment

- *Emotional engagement often continues after reading, through reflection on the story or characters.*
- *Readers may pause between chapters to process the narrative or think about what they have read.*
- *Some readers externalize their engagement by recording thoughts through notes or diaries, or collecting related merchandise as a way to commemorate the story.*
- *Social reading features, such as seeing other readers' comments, can further deepen engagement by creating a sense of community and shared reading experience.*

Frictions and Support Needs

- *Readers may struggle to remember character names and relationships, especially in the early stages of reading.*
- *Some readers express interest in supportive elements such as maps, relationship charts, or tools for collecting narrative clues.*
- *Some readers express a need for support in discovering new books after finishing one.*

2.2 Study 2: Follow-up Questionnaire

Aim of the Study

After the interview study, I conducted a short follow-up questionnaire to complement the qualitative findings with broader feedback. The aim was to check whether the themes identified in the interviews were also relevant to participants with different fiction-reading habits, and to use these responses to inform the following design stage.

Methods

Research Design

I developed the short online questionnaire based on the themes that emerged from the interview study and distributed it through Google Forms. Unlike the interview participants, who were selected as avid fiction readers, the questionnaire was designed for a broader group of people with different levels of fiction reading experience.

The questionnaire included questions on participants' reading background, emotional engagement in fiction reading, and attitudes toward possible added elements. These questions were used to compare participants' reading habits, examine which engagement themes from the interviews were shared more broadly, and identify which forms of augmented support seemed most relevant for the following design stage. Most questions used a 5-point Likert scale, complemented by a small number of multiple-choice items and one final open-ended question for additional comments. The full questionnaire is provided in Appendix B.

Recruitment and Participants

I recruited questionnaire participants through convenience and snowball sampling. I first shared the questionnaire in several group chats, including university-related groups, personal networks. I also asked initial respondents to forward the questionnaire to others who might be interested in participating.

Unlike the interview study, the questionnaire did not use strict inclusion criteria at the recruitment stage. This was because I wanted to reach a broader group of participants and compare different levels of fiction reading experience. However, the questionnaire included a screening question about participants' fiction reading frequency. If participants selected "I do not read fiction", they were directed to a short follow-up question asking them to briefly explain why, and then exited the questionnaire.

In total, 34 responses were collected. Participants had diverse reading backgrounds, which offered a broader view of reading practices beyond avid fiction readers.

Data Collection

The questionnaire was distributed online and participants completed it independently through Google Forms. Google Forms automatically recorded the responses and generated initial summary charts, including frequency distributions and percentages for multiple-choice and Likert-scale questions.

Data Analysis

I analysed the questionnaire responses using descriptive statistics and exploratory prioritisation. For the 5-point Likert-scale questions, I reviewed the distribution of responses and calculated the level of agreement for each item. This allowed me to identify which aspects of fiction reading and potential support features received stronger or weaker support across participants.

In addition to the overall level of agreement, I also examined the shape of the response distributions. For some items, responses were concentrated toward agreement, indicating a relatively shared tendency among participants. For other items, responses were more polarised, suggesting that participants had more diverse or divided attitudes toward that aspect of the reading experience.

I then used these patterns to roughly prioritise the reading needs and possible support directions that appeared most relevant for the design process. Open-ended responses were reviewed qualitatively and used to capture additional comments, explanations, and examples that could not be fully represented through the Likert-scale results.

Results

The main patterns from the questionnaire results are summarised below, with a fuller descriptive results summary provided in Appendix C.

Within this group, e-books emerged as the most popular reading format, suggesting that many respondents were already familiar with digital reading practices.

The questionnaire results supported the interview finding that emotional engagement in fiction was shaped by multiple factors rather than a single mechanism. Character interiority and character growth or development remained central to participants' emotional engagement, with both items receiving relatively strong agreement and character growth receiving agreement from over 70% of respondents. Participants also responded positively to different forms of narrative engagement: some valued fiction that connects to real-life experiences, while others valued fiction that offers distance from everyday life and allows entry into a different world.

Responses related to after-reading engagement showed a more polarised pattern. Some participants reported that they continued to think about, record, revisit, or keep something from a story after finishing it, while others showed a weaker tendency toward these practices. Shared reading was also perceived positively by some participants, although the responses suggested that it was not a universal need across the group.

Participants did not express strong satisfaction with their current reading experience; more than 55% of respondents selected a neutral response. In terms of support priorities, the strongest preference was for character relationship overviews (73.5%), followed by maps, timelines, or background information (70.6%). These results indicate that participants were especially receptive to support related to concrete and trackable story elements.

Open-ended responses further highlighted concerns around spoilers and over-defining the fictional world, while also suggesting interest in shared reading and richer

2.3 From Research to Design

This section synthesizes the findings and patterns that appeared across the interviews and follow-up questionnaire, and translates them into design implications. Each implication is therefore grounded in the user research findings and serves as a bridge toward the design question and design goal.

Cross-study Synthesis

The synthesis brings together the interview themes and questionnaire results in order to identify the key patterns that should inform the design process. While the interviews provided rich qualitative accounts of how readers experience emotional engagement, the questionnaire helped examine whether selected patterns resonated with a broader group of participants. Together, the two studies helped clarify what emotional engagement in fiction involves, what readers value in the reading experience, and where augmented support may be meaningful.

Finding 1: Emotional engagement is distributed across interconnected dimensions of the reading experience

Across the interviews and questionnaire, several mechanisms of emotional engagement were identified. In the interviews, participants described engagement through characters' experiences and development, specific narrative moments, world-building, imaginative interpretation, and connections between fiction and reality. The questionnaire supported this pattern. Character interiority and character growth or development remained strongly supported, while participants also responded positively to different forms of narrative engagement.

The findings also showed that engagement may extend beyond the immediate act of reading. Some readers revisit, record, or commemorate parts of a story after finishing it, while shared reading and reader communities can enrich engagement for some participants. However, these after-reading practices were not universal, suggesting that emotional engagement continues differently for different readers.

Taken together, these findings suggest that emotional engagement should be understood as an interconnected reading experience system. Character-based, narrative-based, imaginative, interpretive, reality-related, temporal, and social forms of engagement often overlap and influence one another. This synthesis is summarised in Figure 2.1.

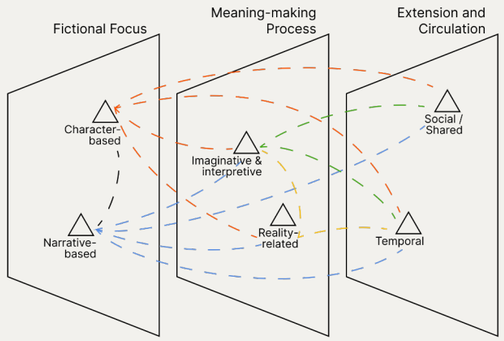


Figure 2.1: A synthesis model of emotional engagement in fiction reading

Finding 2: Readers value support, but only when reading remains open, continuous, and reader-led

Across the user research, participants showed openness toward possible augmentation of fiction reading, but this openness was accompanied by caution. In the interviews, several participants expressed concern that excessive or overly concrete visualisations might disrupt their imaginative freedom. Their past experiences with film and television adaptations of favourite fiction also reinforced this concern, as explicit visual representations often differed from how they had imagined the characters, scenes, or atmosphere themselves.

Reading continuity also emerged as an important condition for emotional engagement. Some participants valued the experience of entering a state of flow while reading, where they could remain absorbed in the text without external disruption. This resonates with Colombo and Landoni's argument that cognitive and emotional engagement can contribute to a state of reading flow (Colombo & Landoni, 2011). In this sense, interruption is not only a usability issue, but may directly affect the conditions under which emotional engagement unfolds.

A related concern was timing and information control. Some participants mentioned that background information can help readers understand the fictional world, but it may also reveal too much too early and reduce suspense. This concern was also reflected in the questionnaire's open-ended responses, where one participant wrote that "too much related content might spoil the plot", while another expressed concern about the "leak of plots" in reading augmentations.

Taken together, these findings suggest that augmented support should not compete with the act of reading itself. Readers may welcome additional support, but only when it preserves the openness of the text, the continuity of reading, and the reader's control over when and how support appears.

Finding 3: Character-related and trackable story elements emerged as the clearest design entry point

While emotional engagement should not be reduced to cognitive understanding, the user research showed that concrete and trackable story elements can affect whether readers are able to stay within the narrative. Several interview participants mentioned difficulties in remembering character names and relationships, particularly when names were unfamiliar or presented in foreign languages. When readers needed to repeatedly flip back to earlier pages or reconstruct basic information, they were temporarily pulled out of the reading flow.

Among these trackable elements, character-related information appeared especially relevant. Participants expressed a need to keep track of who characters are, how they relate to one another, and how their roles or impressions change as the story unfolds. This was further supported by the follow-up questionnaire, where character relationship overviews received the strongest preference among possible support features, selected by 25 participants (73.5%). Maps, timelines, or background information also received strong support, selected by 24 participants (70.6%), suggesting a broader interest in aids that help readers orient themselves within the story world.

This finding is important because support for trackable story elements does not directly "create" emotional engagement. Rather, it can support the conditions that allow engagement to continue. By reducing the effort spent on recalling names, relationships, and plot-relevant information, readers may be better able to focus on character development, narrative tension, imagination, and interpretation.

Emotional engagement can therefore be understood as an interconnected reading experience system.

Design implications

Based on the cross-study synthesis, I translated the main research findings into design implications. These implications define what the findings mean for the design of reading experience. They also provide the criteria for the following concept development and prototype decisions.

Design Implication 1: Emotional engagement in fiction unfolds through interconnected dimensions of the reading experience

The key takeaway for design is that emotional engagement should not be isolated or reduced to a single mechanism, nor approached as something that can be simply enhanced through stronger emotional stimuli. Instead, design should support the conditions under which engagement can unfold across the reading experience. Therefore, interventions should be considered in relation to the wider engagement system, since supporting or disrupting one dimension may also influence others.

Design Implication 2: It's always about reading: reading must remain open, continuous, and reader-led

The key takeaway for design is that augmented support should remain secondary to the reading experience itself. This raises some critical design principles for future exploration. Additional elements should not over-define the fictional world, interrupt the reading flow, or reveal information before the reader is ready for it. Instead, support should be optional, progress-aware, and reader-led, allowing readers to access help when needed while preserving the openness, continuity, and interpretive freedom of fiction reading.

Design Implication 3: Optional support for concrete and trackable story elements can help readers stay within the narrative.

The key takeaway for design is that character-related and plot-relevant support offers a practical entry point for augmented reading. The design should help readers keep track of characters, relationships, and story developments without turning reading into information management. Such support should remain optional and progress-aware, allowing readers to reconnect with relevant story elements when needed while preserving the flow, suspense, and emotional continuity of the reading experience.

Design Question & Design Goal

The three design implications together define the central design challenge of this project. Emotional engagement in fiction should be approached as part of a broader reading experience system; reading must remain open, continuous, and reader-led; and support for concrete and trackable story elements offers a focused opportunity for intervention.

Taken together, these implications reveal a tension within augmented reading: readers may benefit from support that helps them stay oriented within the narrative, especially around characters, relationships, and story developments, but this support must not interrupt the reading flow, over-define the fictional world, or reveal information before the reader is ready for it. This led to the following design question:

> *How might an augmented reading experience help readers stay emotionally engaged in fiction by helping them stay within the narrative, while preserving reading flow, imaginative openness, and reader control?*

In response to this question, the project defines the following design goal:

> *To design a non-intrusive and optional augmented reading experience that helps readers stay with the narrative by subtly supporting their understanding of characters, relationships, and story developments, while preserving reading flow, imaginative openness, and reader control.*

CHAPTER 3

ITERATIVE DESIGN PROCESS

This chapter describes how the research findings and design implications were translated into design concepts and prototypes. Building on the design goal defined in the previous chapter, the process moved from open ideation to concept convergence and iterative prototype development.

3.1 Design Concept Ideation

Brainstorm

The first ideation step was conducted as an open brainstorm. The purpose of this phase is to explore a broad range of possible design opportunities. In the previous chapter, emotional engagement was understood as an interconnected system. The brainstorm was structured around the six dimensions of the system: character-based engagement, narrative-based engagement, imaginative and interpretive engagement, reality-related meaning-making, temporal engagement, and social or shared engagement.

The brainstorm was time-boxed to 40 minutes and carried out individually using only pen and A4 paper. This deliberately simplified setup was chosen to enable rapid ideation without being constrained by concept details or technical implementation. During the first stage, each of the six dimensions was used as a starting point for divergent thinking. The raw brainstorm map is shown in Figure 3.1. Ideas were not evaluated in detail for feasibility or final concept quality. Instead, the focus was on divergence and identifying different ways in which design might support or extend emotional engagement.

Figure 3.1: Raw brainstorm map for divergent ideation.

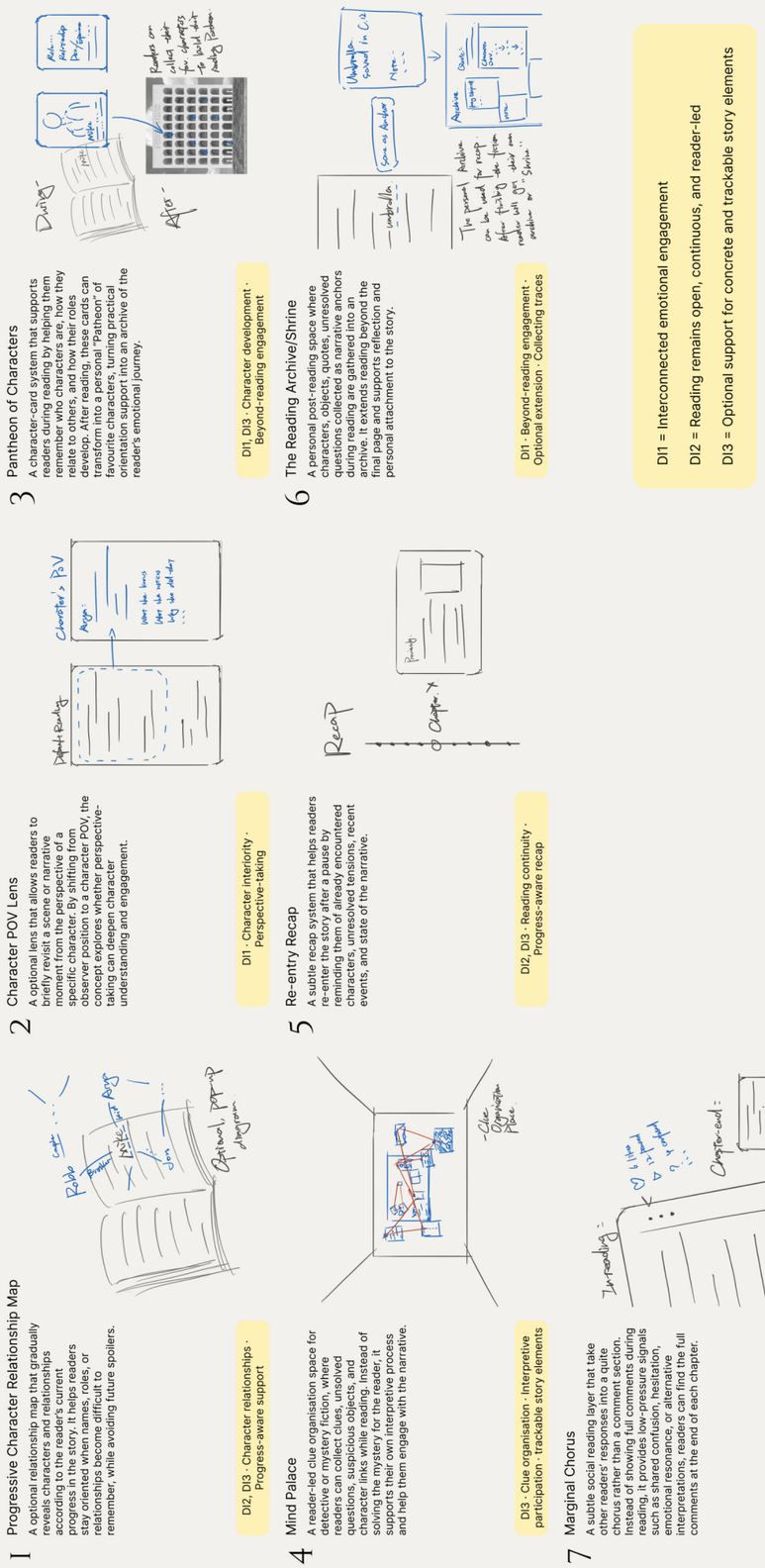


Figure 3.2: Selected concept sketches mapped to user research.

This initial brainstorm resulted in more than twenty rough directions. Some of them were already clear design ideas, while others remained as keywords, fragments or possible touchpoints. These outputs were then reviewed in a second stage. In the review, the ideas were compared against two main criteria: first, their feasibility within the scope and time constraints of the project; and second, their problem fit in relation to the design goal.

Finally a smaller set of ideas was selected for further development. The selected ideas were then developed into simple sketches in order to clarify their concept, possible context, and relationship to the emotional engagement dimensions.

Ideation Convergence

After the selected directions were sketched and mapped, I reviewed them again to identify overlaps and possible combinations. The ideas in Figure 3.2 were treated as related directions that could be merged, reframed, or absorbed into broader concept candidates. The Progressive Character Relationship Map, Pantheon of Characters, and Reading Archive all addressed similar needs around character engagement, progress-aware understanding. And in the temporal dimension, they correspond to different stages of reading. These directions were therefore combined into a broader concept candidate: Character Pantheon. In this concept, practical during-reading support for characters and relationships could gradually extend into a personal post-reading archive of meaningful characters.

Other ideas were kept as separate concept candidates because they explored distinct interaction principles. Character POV Lens was retained as a concept focused on perspective-taking and character interiority. Mind Palace was kept as a concept for reader-led clue organisation and interpretive participation, especially in mystery or detective fiction. Marginal Chorus was reframed as Collective Reading Signals, shifting from a visible comment layer toward a subtler form of shared reading traces. As a result, the ideation process converged into four concept candidates: Character Pantheon, Character POV Lens, Mind Palace, and Collective Reading Signals.

These four concepts were then evaluated through a criteria-based screening method, inspired by the concept screening method described by Ulrich and Eppinger. (Ulrich & Eppinger, 2008) . The evaluation focuses on problem fit, engagement relevance, applicability, during-reading value, post-reading potential, applicability and prototype feasibility. These criteria were derived from the design problem, research insights, and the practical need to move into further development. (Table 3.1)

Based on the screening, Character Pantheon was selected to move on to the next stage of prototyping. It has the highest overall score as it directly supports character recognition and relationship understanding during reading, while also extending into post-reading engagement.

Criterion	Character Pantheon	Character PoV Lens	Mind Palace	Collective Reading Signals
Design problem fit	+	0	+	0
Emotional engagement relevance	+	+	+	+
During-reading value	+	+	+	0
Post-reading potential	+	–	0	+
Applicability	+	0	–	+
Prototype feasibility	0	+	+	0
Score	5	2	3	3

Table 3.1: Concept screening matrix for the four concept candidates.

Refined Concept

Character Pantheon

This concept explores a progressive character-centered system that helps readers recognise characters and the dynamics among them during the reading. During reading, the system provides spoiler-safe character cards and corresponding relationship maps based on the reader's current progress. Each card will reflect both the character's own experience and the reader's impression.

After reading, cards featuring the reader's favourite characters can be collected to build a reflective "Pantheon". More than just a simple collection, readers can select characters to conduct dialogues or hold roundtable debates based on the original narrative or their own notes. The storyboard in Figure 3.3 illustrates how this concept connects during-reading support, character collection, and post-reading dialogue.

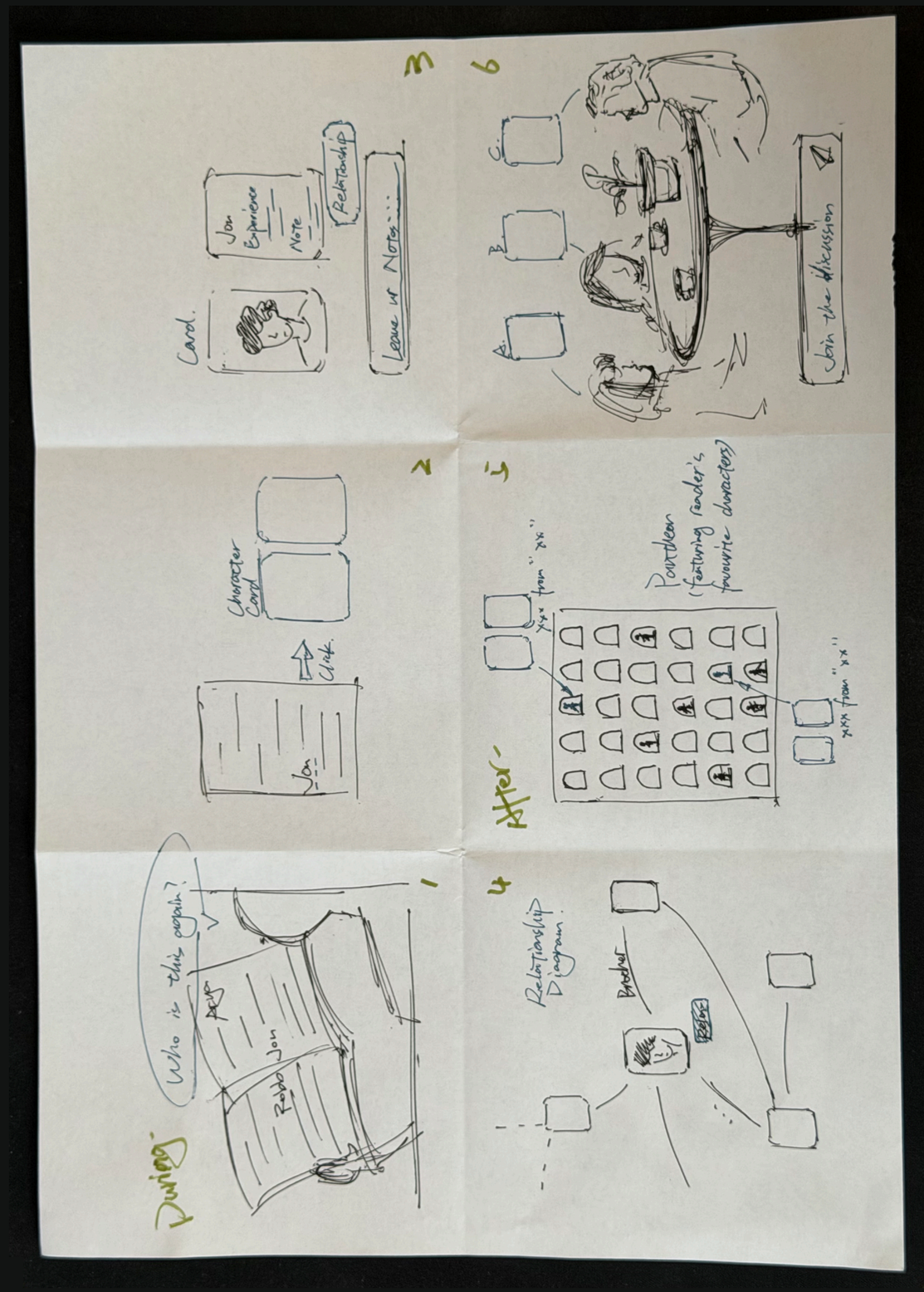


Figure 3.3: Storyboard of Character Pantheon.

3.2 Design Prototype

First Prototype: Low-fidelity Interactive Prototype

Aim

The aim of the first prototype was to translate the Character Pantheon concept into a testable interactive experience. At this stage, the prototype was intended to simulate the core experience of character-based augmented reading: reading with optional character support, collecting characters into a Pantheon, and entering a character-based dialogue after reading. The prototype was therefore developed to support the first round of user testing and to examine whether the overall concept and user journey were understandable and meaningful to readers.

Methods

Tool and Fidelity

I developed the first prototype as a low-fidelity interactive prototype in Figma. This level of fidelity was chosen because the main purpose was to test the concept, information structure, and interaction flow, rather than visual refinement or technical implementation. The prototype used prepared content and scripted interactions to simulate how the system could work in a future implementation.

Text Selection and Narrative Material

The short story A Scandal in Bohemia by Arthur Conan Doyle was selected as the testing material because it met the following criteria (Doyle, 2002):

Publicly available and accessible: As a public-domain work available through Project Gutenberg, the text can be fully accessed, used, and shared within the prototype without copyright restrictions.

Familiar but not overly complex: As part of the well-known Sherlock Holmes series, the story is widely recognisable while remaining easy to follow, making it suitable for participants with different levels of familiarity with fiction.

Manageable character set and evolving relationships : The narrative contains a limited number of key characters, the relationships between them are introduced gradually and change as new information is revealed, providing opportunities to test spoiler-aware character support.

In addition, the story offers a strong example of character reinterpretation. Irene Adler is initially introduced through the King's account as a threatening figure, later appears as an independent and composed character, and is ultimately revealed as someone who outwits Holmes and earns his admiration. This progression made the story particularly suitable for testing whether character cards could support readers' understanding without revealing future plot information.

To keep the testing session manageable, I selected excerpts supported by short bridge texts that summarised omitted sections. This allowed the prototype to preserve the key narrative progression while keeping the reading time to 20 minutes. The selected excerpts focused on three moments: the King's introduction of Irene Adler, Holmes's investigation and Irene's direct appearance at Briony Lodge, and the final reveal of Irene's strategy. These moments were chosen because they allowed the same character card to evolve across the reading process, demonstrating how the system could remain spoiler-safe while gradually updating the reader's understanding.

Prototype Scope

The prototype focused on three main sections: Library, Pantheon, and Dialogue. The Library section provided access to the selected reading material. The reading interface simulated an e-reader experience with optional character support. The Pantheon section represented the reader's collected character archive. The Dialogue section simulated an after-reading roundtable interaction with selected characters.

At this stage, the prototype did not include automatic text analysis, dynamic character-card generation, or real AI dialogue. Character cards, relationship diagrams, and dialogue responses were manually prepared or scripted with ChatGPT 5.5.

Prototype Description

During the reading phase, the prototype presented a simplified e-reader interface. Character names in the text were subtly marked and could be clicked to open prepared character cards in an overlay above the reading page. These cards provided progress-aware information, including the character's current role, known facts, relationships, and reader notes. A relationship diagram was also prepared to show the connections between key characters. At this stage, all character cards and relationship diagrams were manually prepared rather than generated dynamically.

After reading, the Pantheon page collected character cards into a visual archive. This page was intended to demonstrate how readers could collect characters across fiction works and revisit them after the reading moment. In the first prototype, this archive was represented through prepared character cards rather than a fully functional database.

The Dialogue section simulated how collected characters could become part of a post-reading discussion. In this first prototype, the dialogue was implemented as a scripted simulation. The discussion prompts and character responses were pre-generated based on the story context, character profiles, and the intended personality of each character.

Three prepared prompts were included in the discussion section. Two prompts were directly related to the short story and its characters. The third prompt explored a more general topic beyond the story itself. This was included to explore whether users expected the after-reading dialogue to remain closely tied to literary interpretation, or whether they were interested in a broader "beyond the fiction" mode, where characters become conversational agents for reflecting on more general life questions. The overall structure and interaction flow of the first prototype are shown in Figure 3.4.

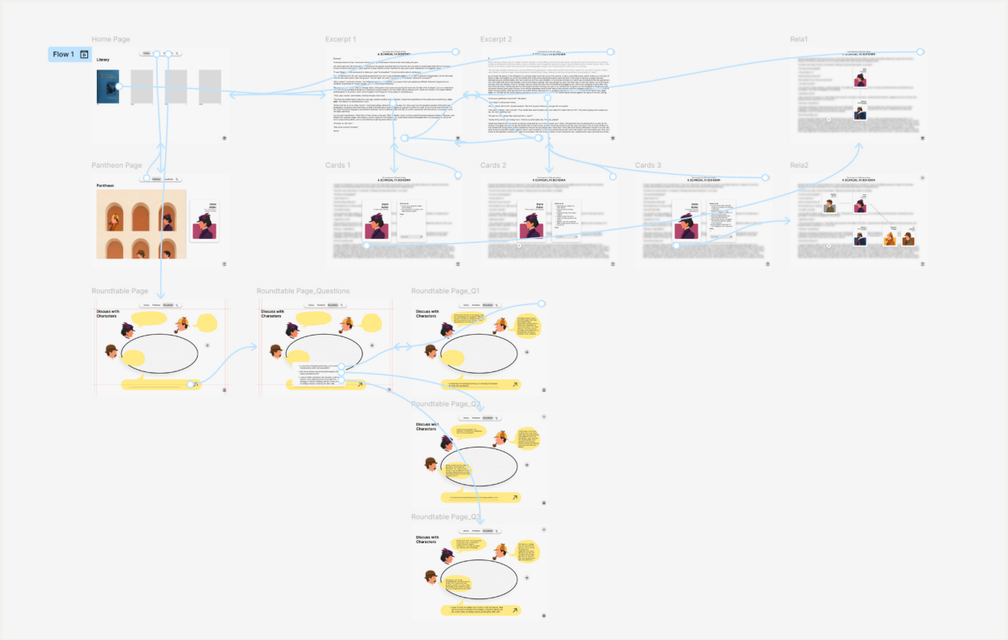


Figure 3.4: Interaction flow of the first low-fidelity prototype in Figma.

First Prototype Test

Aim

The first prototype test was conducted to gather initial feedback on the Character Pantheon concept, the overall interaction flow, and the perceived value of the prototype. Since the prototype was still low-fidelity and partially scripted, this test did not intend to evaluate usability in detail, but to understand whether the core experience was understandable, meaningful, and worth developing further.

More specifically, the test focused on three questions:

- whether readers understood and valued the during-reading character support;
- whether the Pantheon archive and Dialogue section made sense as after-reading extensions;
- which parts of the prototype needed to be refined before the next iteration.



Figure 3.5: First prototype test setup, showing a participant experiencing the low-fidelity Figma prototype in a quiet café setting.

Methods

Test Design

The test was conducted as a formative prototype walkthrough combined with a post-test interview. Participants first experienced the prototype by reading selected excerpts and interacting with the character cards, relationship diagram, Pantheon page, and Dialogue section. After the interaction, I conducted interviews about their experience, expectations, and concerns.

Before the test, I briefly introduced the project and explained the concept using the storyboard. Participants were not shown the Figma prototype beforehand, in order to preserve their first impressions during the walkthrough. The test followed four stages:

1. Introduction and setup
   I briefly introduced the project context and the Character Pantheon concept. Participants could choose to use either a laptop or an iPad for the test.
2. Reading phase
   Participants entered the story from the Library page and read the selected excerpts through the e-reader interface. During reading, they could click on underlined mentions of Irene Adler to open her character card and view the relationship diagram.
3. After-reading phase
   Participants visited the Pantheon page to review collected character cards. They then explored the Dialogue section and interacted with the prepared discussion prompts and scripted responses.
4. Semi-structured post-test interview
   After the interaction, I asked participants follow-up questions based on their experience with the prototype. The interview focused on their overall impression, the usefulness and intrusiveness of during-reading support, the experience of the Pantheon and Roundtable Dialogue, the coherence between the two parts of the prototype, and suggestions for future improvement.

Recruitment and Participants

Three participants took part in the first prototype test. All three had previously participated in the interview study in the user research phase. This continuity was intended to involve readers across the design process and to collect feedback from participants who were already familiar with the broader research context.

At the same time, none of the participants had previously read A Scandal in Bohemia, although all of them were generally familiar with the Sherlock Holmes series. This allowed them to experience the prototype with some contextual familiarity, while still encountering the specific story and character progression for the first time.

The tests were conducted in settings close to everyday reading environments. One participant tested the prototype in the IDE faculty, while two participants tested it in quiet café settings. During all sessions, I was present to observe the interaction and answer questions if needed, but I did not actively guide participants during the prototype experience.

Data Collection

I collected data through observation notes and recorded post-test interview transcripts. During the prototype walkthrough, I observed how participants moved through the prototype, which elements they noticed, where they hesitated, and how they reacted to the character cards, relationship diagram, Cast Repository, Pantheon archive, and Roundtable Dialogue.

After the walkthrough, I conducted a semi-structured interview with each participant. With participants' consent, the interviews were audio-recorded and later transcribed. I also took notes during the sessions to capture immediate observations, visible reactions, and points that required follow-up during the interview.

Data Analysis

I analysed the data as formative design feedback for the next prototype iteration. I reviewed the observation notes and interview transcripts to identify recurring feedback, concerns, and suggestions related to the main parts of the prototype.

The feedback was organised according to the structure of the prototype and the post-test interview: during-reading support, after-reading features and overall coherence, and suggestions for iteration and future development. This structure allowed the analysis to remain closely connected to the prototype experience and to identify which parts of the concept needed to be refined in the next iteration.

Results

The first prototype test provided initial feedback on how participants understood and experienced the Character Pantheon concept. The findings are organised around three areas: during-reading support, after-reading features and overall coherence, and suggestions for future iteration.

1. Feedback on during-reading support

- Participants responded positively to the simplified character illustrations, finding them recognisable while still leaving room for imagination.
- Character cards were seen as useful recap tools for the story. One participant noted that updated cards should build on earlier content rather than replace it, so that readers could follow the continuous development of a character.
- Participants raised concerns about underlined character names. Too many highlights could clutter the interface, while too few might reduce discoverability. One participant also noted that unmarked names could imply that a character is less important.
- One participant suggested using a lightweight notification when a character card is updated.
- Participants expected notes on character cards to remain private, viewing them as personal reflections.

2. Feedback on after-reading features and overall coherence

- Two participants said they were unlikely to use Pantheon Dialogue immediately after finishing a story. Instead, they imagined returning to it later when a question, thought, or personal topic came to mind.
- Participants compared Pantheon Dialogue to their existing use of conversational AI tools such as ChatGPT, suggesting that it may work better as an ongoing interaction space rather than a one-time post-reading activity.
- One participant expressed concern that AI-generated responses might over-interpret the text.
- Participants felt that the current dialogue functionality was not yet sufficient to create a conversational or discussion-oriented atmosphere, and that it would need extended, multi-turn conversations.
- The transition from during-reading character support to the after-reading Pantheon and Dialogue was seen as conceptually promising, but the connection between practical support, character collection, and later dialogue still needed to be made clearer.

3. Suggestions for iteration and future development

- One participant suggested using different visual layouts for different dialogue formats.
- One participant proposed combining character agents with human discussion in a Reddit-like environment, where readers and fictional characters could participate in the same conversation thread.
- Another participant imagined a more spatial version of the Pantheon, such as an AR-enabled museum-like environment where characters appear as statues or projected figures that readers can interact with.
- These suggestions were not directly implemented in the next iteration, but they helped clarify the broader design space around the Character Pantheon concept.

Prototype Iteration

Aim

Based on the first prototype test, I developed the next iteration as a Minimum Viable Prototype (MVP) for evaluation. In this project, the MVP refers to a functional web-based reading prototype that allows participants to experience the core loop of the Character Pantheon concept: reading → character support → character archiving → AI-supported character dialogue.

The aim of this iteration was therefore to move beyond a low-fidelity Figma simulation and build a working prototype with the essential interactions needed for evaluation. This included refining the interaction flow, connecting the interface with full support features, and implementing the Dialogue section as an AI-supported roundtable experience.

Content Database for Test Fiction

To support the Excerpt module, I constructed a content database for the selected test fiction. In the full concept, this type of database would ideally be generated automatically from any fiction text. However, for this prototype, I used a semi-automated workflow in order to ensure content quality and keep the evaluation prototype reliable.

The workflow started with the selected excerpts and bridge summaries from A Scandal in Bohemia (Doyle, 2002). I provided ChatGPT 5.5 with the source text, the intended database structure, and a set of construction criteria. ChatGPT assisted in turning the text into structured data, and I then manually reviewed, corrected, and approved the output before integrating it into the prototype.

The construction criteria were:

- Progress-aware information release: character information should change according to the reader's current position in the story.
- Spoiler prevention: the system should only show what the reader can reasonably know at that point.
- Card–diagram state consistency: character cards and relationship diagrams should update together according to the same reading checkpoint.
- Selective character highlighting: character names and aliases should be recognisable by the system, but only the first appearance of each character in a section is marked with a dotted underline to avoid cluttering the reading interface.
- Separated data structure: reading text, checkpoints, character cards, relationship diagrams, and mention rules should be managed separately.

The database was organised into several data layers:

- Reading content: stores the selected excerpts and bridge summaries.
- Reading checkpoints: connect text positions with support states.
- During-reading character cards: define what each character card shows at each stage.
- Relationship diagrams: represent the character relationship state at different reading points.
- Mention rules: define which names, aliases, and contextual references can be clicked.
- Helper functions: allow the interface to retrieve the correct card and diagram based on the current reading position.

Together, these layers support the main logic of the Excerpt module:
reading segment → checkpoint → active character card stage and relationship diagram → clickable character mention → contextual reading support.

This structure allowed the prototype to simulate a progress-aware reading support system. Instead of presenting static character summaries, the Excerpt module could gradually reveal character and relationship information as the reader moved through the story.

Character Agent Database

To support the Dialogue module, I constructed a Character Agent Database. This database was not designed as UI content for readers to view directly. Instead, it functioned as a prompt-ready character specification system. Its purpose was to define how each literary character should understand a topic, speak in dialogue, respond to the user and other characters, and remain within an appropriate interpretive boundary. Similar to the previous database, a semi-automatic workflow was used to build this one.

Agent Structure

- Each character agent was structured through three layers:
- Text-grounded profile: Defines what the agent knows about the character and keeps it grounded in the source fiction.
- Soul / voice layer: Defines how the agent speaks, thinks, judges, and responds in dialogue.
- Interaction boundaries: Defines what the agent should avoid and how it should remain grounded, character-specific, and reader-led.

Text-grounded Profile

The Text-grounded Profile defines the literary basis of each character agent. It includes the character's source text, narrative situation, key relationships, core motivations, conflicts, and role within the story. This layer provided the minimum textual grounding needed for dialogue generation. It helped the agent respond from a character-specific perspective while remaining connected to the original fiction.

Soul / voice Layer

The Soul / Voice Layer defines how each character agent should feel and sound in dialogue. This layer was adapted from OpenClaw's concept of SOUL.md (OpenClaw, n.d.), but adjusted for fictional character agents in a roundtable dialogue setting. In this project, the layer translates a character's literary identity into concrete behavioural instructions for dialogue generation.

This layer aimed to keep the characters recognizable without forcing them into exaggerated role-play. The goal was to preserve the character's way of thinking and speaking in clear, contemporary language (OpenClaw, n.d.).

Interaction Boundaries

The Interaction Boundary layer was designed as a shared rule layer across all character agents. The agents needed to discuss topics beyond the original story, but without becoming unsupported role-play personas, generic chatbots, or authoritative interpreters of the literary text.

The character data was stored separately from the reading content database and the Pantheon cards. In the prototype, the main character data was stored in src/data/characters/characters.ts and called by the dialogue generation system when users selected characters for a roundtable discussion.

Element	Function
Core Voice Principle	Defines the character's central way of speaking and responding.
Worldview	Describes how the character interprets people, conflict, emotion, or power.
Conversational Posture	Defines the character's attitude in dialogue, such as calm, ironic, direct, or gentle.
Emotional Temperature	Sets how openly the character expresses emotion.
Speaking Mechanics	Guides sentence rhythm, length, rhetorical habits, and explanation style.
Values	Lists the principles that shape the character's judgement.
Default Opinions	Defines recurring beliefs the character tends to hold.
Avoided Behaviours	Specifies tones or response patterns the character should not use.
Voice Anchors	Provides short example lines that capture the intended voice.

Table 3.2: Elements of the Soul / Voice Layer and their functions in shaping character-agent dialogue behaviour.

Boundary Area	Role in Dialogue
Textual Grounding Boundary	Prevents agents from inventing unsupported events, hidden backstories, or definitive psychological claims.
Fictional Perspective Boundary	Ensures that agents respond through a character-grounded worldview rather than as generic AI assistants.
Roundtable Interaction Boundary	Guides agents to respond to one another, respect turn-taking, and leave space for user interruption.

Table 3.3: Interaction boundary areas and their roles in keeping character-agent dialogue grounded, character-specific, and reader-led.

AI Dialogue Integration and Interaction Tuning

After constructing the Character Agent Database, I integrated the character agents into the Dialogue module. The aim was to support an AI-generated roundtable discussion in which selected literary characters could respond to a shared topic, interact with one another, and allow the reader to pause, join, and end the discussion. Therefore, the integration focused not only on generating character responses, but also on creating a readable and controllable discussion experience.

After this skeleton was stable, the module was connected to an API route for AI generation. The frontend sent the selected characters, opening topic, conversation history, dialogue mode, and user input to the API, and received dialogue messages that could be displayed as speech bubbles and saved in the transcript. Three generation modes were used: turn for automatic character discussion, user_ response for responding to reader interruptions, and closing for ending the discussion. The earlier mock functions were kept as fallback to maintain prototype stability during testing. This interaction model was informed by recent work on dynamic human–AI group conversations. DialogLab separates multi-party conversation design into group dynamics, such as participants, roles, and relationships, and conversation flow dynamics, such as phases, turn-taking rules, interruptions, and backchanneling (Hu et al., 2026).

After AI integration, I tested the Dialogue module through repeated transcript-based trials as well as through observing the system's behaviour during use. In each trial, I reviewed both the generated transcript and the interface behaviour, then adjusted prompts, interaction rules, UI timing, or display logic before testing again. I summarised the outcomes as tuning principles for the final prototype, focusing on the roundtable dialogue interaction mode and overall user experience.

Principles for Roundtable Dialogue

1. Continuous discussion, not turn-by-turn prompting: The Dialogue should behave as an ongoing roundtable discussion rather than a step-by-step chatbot exchange. Characters continue the discussion automatically, while the reader controls intervention through Pause, Join, and End Discussion.

2. Bounded but flexible discussion flow: The discussion should have a clear beginning, development, and closing, without feeling mechanically scripted. Its length is bounded by the number of selected characters, while speaker order remains flexible to avoid strict round-robin turns.

3. Short, complete, and readable turns: Each character response should be short enough to be read as a speech bubble, but complete enough to express one clear idea. Turns should avoid essay-like explanation while still ending as complete sentences.

4. Character interaction, not separate chatbot answers: Characters should respond to one another, not only to the reader. They may build on, question, or gently challenge previous turns when relevant, while avoiding forced disagreement.

5. Reading-paced interaction timing: Since the Dialogue is text-based, the timing of each speech bubble should support reading rather than interrupt it. Display timing should respond to message length, and the reader should be able to pause, join, or temporarily hold the discussion when needed.

Technical Implementation and Deployment

The final evaluation prototype was implemented as a web-based interactive prototype. The process started from the Figma visual design and was then translated into a front-end application with the support of Codex. The prototype was built with React, Vite, Tailwind CSS, and Framer Motion. The Figma frames were used as the visual reference, while local assets, structured data, and interaction logic were gradually added.

The prototype architecture separated the visual interface, reading data, character data, and dialogue generation logic. The Excerpt module used structured reading data to provide progress-aware character cards and relationship diagrams. The Pantheon module used a separate after-reading character database, while the Dialogue module used character-agent profiles and a dialogue state machine to support roundtable interaction.

Before connecting real AI generation, the Dialogue module was first built with mock dialogue functions to test the interaction flow. After the interface and state logic were stable, the prototype was connected to a Vercel serverless API route, which handled OpenAI generation on the server side. The frontend sent the selected characters, topic, conversation history, and dialogue mode to the API, and received UI-compatible dialogue messages in return. Mock dialogue remained available as a fallback in case the API failed during testing.

The prototype was deployed through Vercel for remote access and evaluation. Overall, the implementation pathway can be summarised as: Figma visual design → Codex-assisted React/Vite implementation → structured reading and character data → dialogue state machine → serverless OpenAI API integration → Vercel deployment. This allowed the project to move from a Figma simulation to a functional AI-supported web prototype while keeping the system modular and suitable for evaluation.

3.3 Prototype Description

Prototype Overview

This prototype was developed as a web-based Minimum Viable Prototype (MVP) for evaluation, implementing the iteration aim: a functional reading prototype that allows participants to experience the core loop of the Character Pantheon concept, from reading, to character support, to character archiving, and finally to AI-supported character dialogue.

At this stage, the prototype focused on making the essential experience testable through one selected test fiction, structured character data, and a limited set of literary character agents. This allowed participants to engage with the core concept through an interactive prototype rather than a static Figma simulation.

The prototype is organised into four main modules: Library, Excerpt, Pantheon, and Dialogue. Library serves as the entry point where the reader selects the test fiction. Excerpt supports the during-reading experience through progress-aware character cards and relationship diagrams. Pantheon provides an after-reading space where collected characters can be revisited as fuller character cards. Dialogue allows the reader to select literary characters and engage with them in an AI-supported roundtable discussion. As shown in Figure 3.6, the final flow chart illustrates how these four modules are connected into a continuous experience, moving from reading support to character archiving and AI-supported dialogue.

User Interface Design

The UI design was important because the prototype intervenes directly in the act of fiction reading. Based on the design implication 2 in 3.3.2, reading should remain open, continuous, and reader-led. Therefore, the interface needed to make character support accessible without turning it into the main experience. This direction is supported by prior work comparing interaction strategies for character-support interfaces in fiction reading. The study found that a clickable pop-up offered a strong balance between ease of access, visual clutter, and reader control, suggesting that contextual support should be available on demand, visually lightweight, and easy to disengage from (Vitali et al., 2026).

The visual direction combined a minimal reading interface with subtle classical references. Since the concept uses the metaphor of a Pantheon, visual cues from classical and ancient Greek aesthetics were used to support the idea of characters being collected, revisited, and brought into dialogue. At the same time, the interface remained restrained and quiet, so that the visual style would not compete with the fiction text. The intention was to create a calm, slightly ritual-like atmosphere around fiction reading.

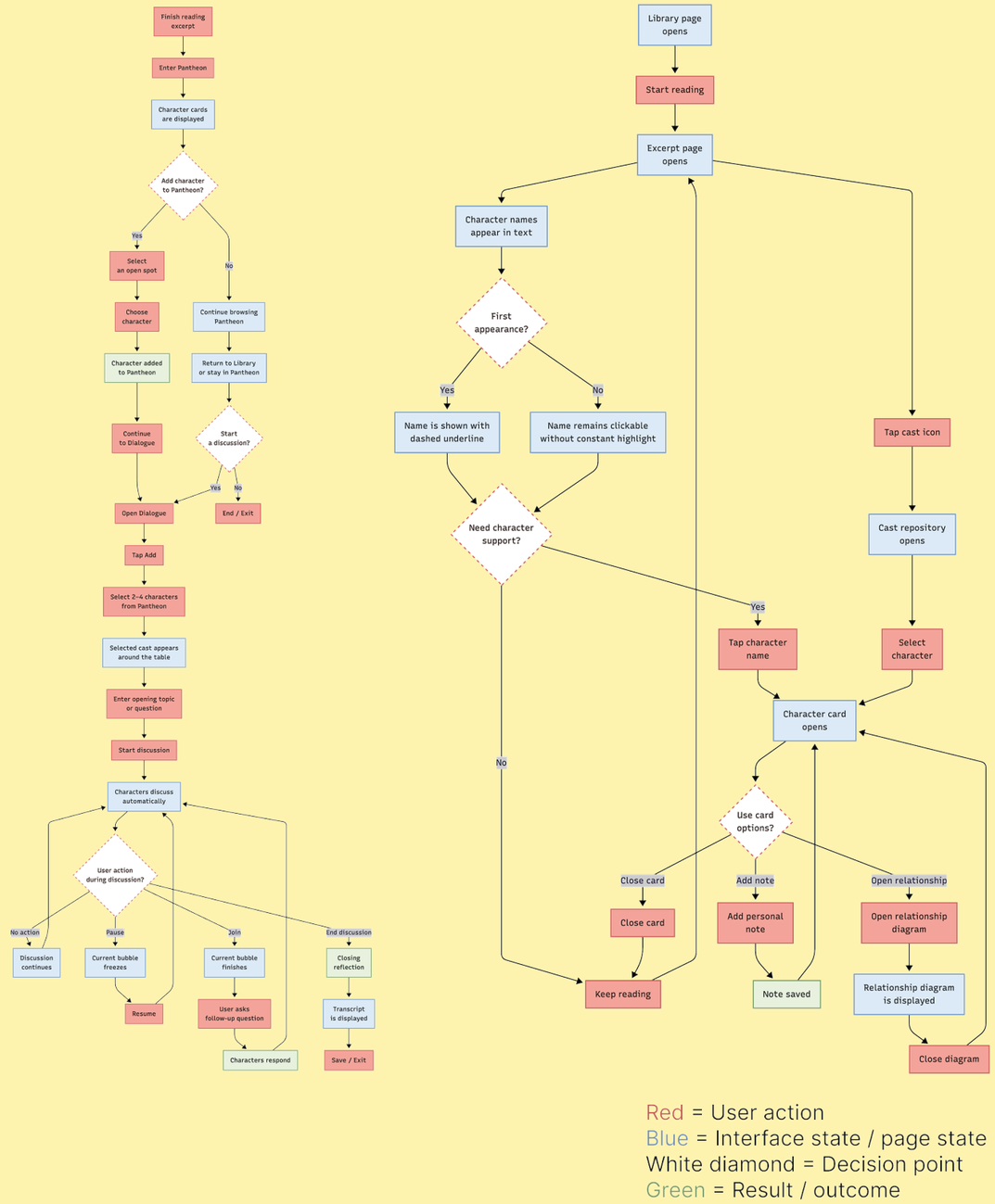


Figure 3.6: Optimized user flow of the prototype.

Key UI Screens

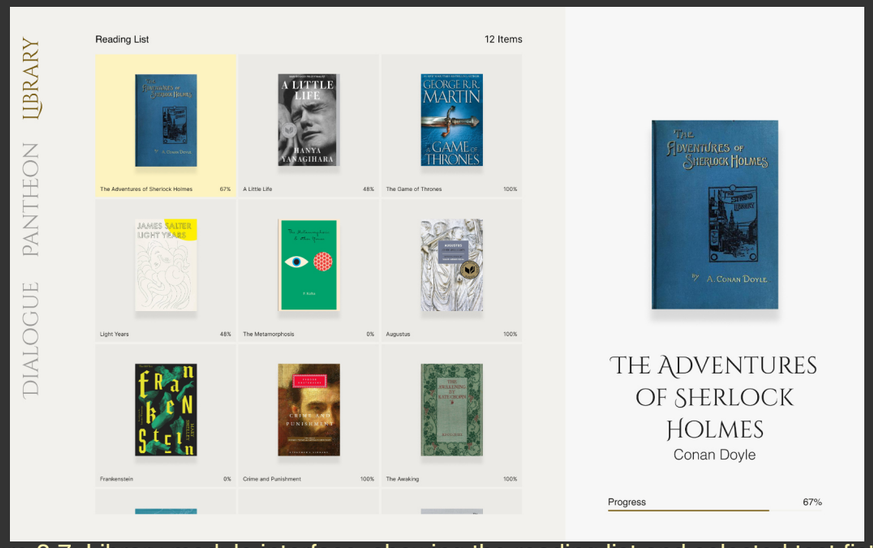


Figure 3.7: Library module interface, showing the reading list and selected test fiction.

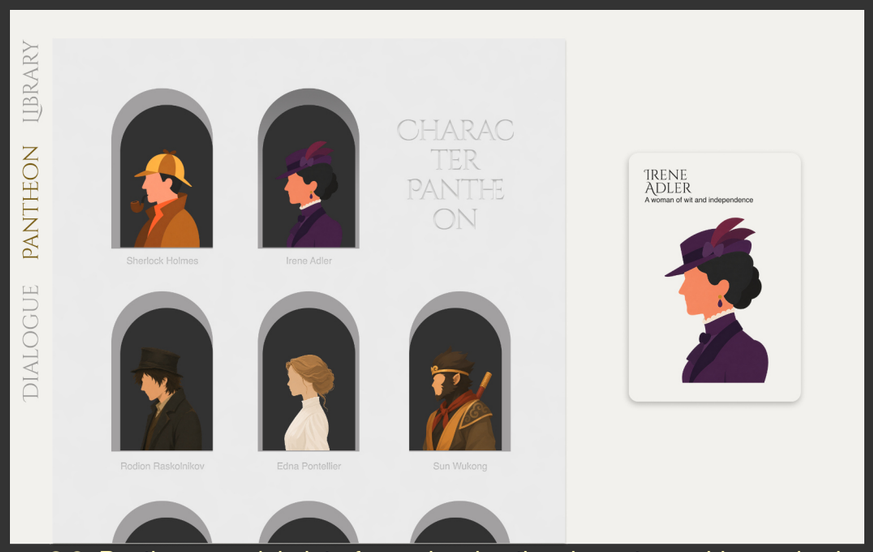


Figure 3.8: Pantheon module interface, showing the character archive and selected after-reading character card.

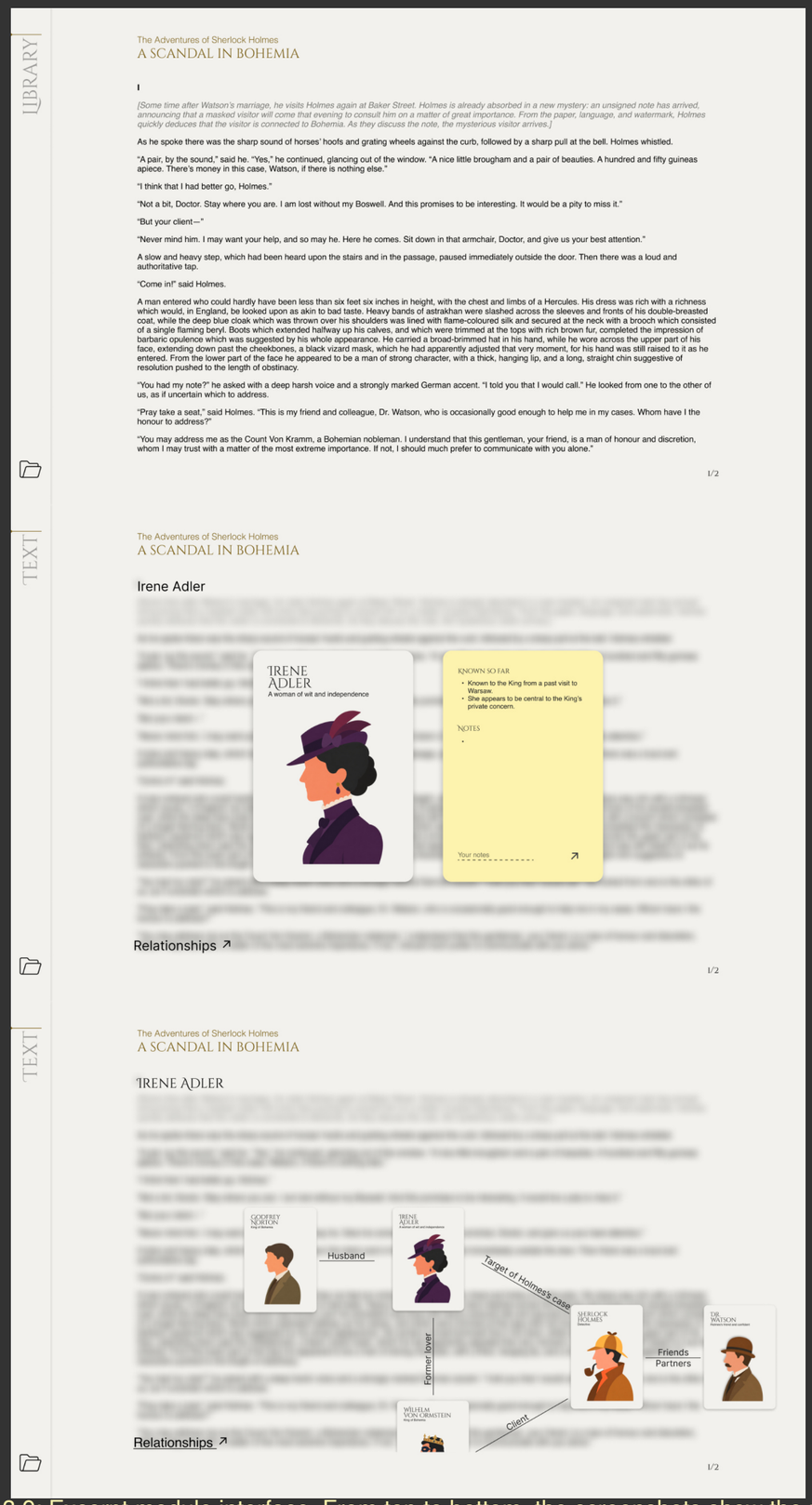


Figure 3.9: Excerpt module interface. From top to bottom, the screenshots show the reading interface, the progress-aware character card, and the relationship diagram.







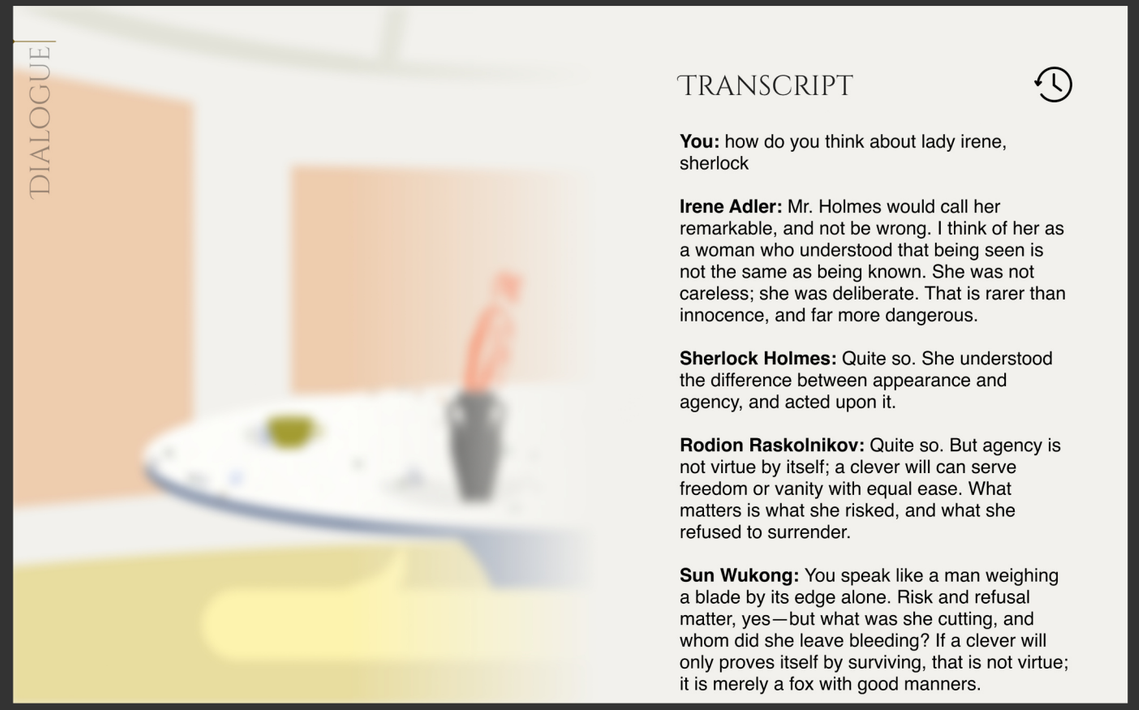


Figure 3.10: Dialogue module interface. The four screenshots show the initial roundtable view, selected characters with topic input, active AI-supported discussion, and transcript review.

CHAPTER 4

PROTOTYPE EVALUATION

This chapter presents the evaluation of the final prototype. It describes the evaluation setup, data collection, and analysis process, and reports the main results from the participant study.

4.1 Aim

The aim of the prototype evaluation was to examine how participants experienced the final web-based Prototype, and whether they perceived it as a meaningful way to support emotional engagement in fiction reading.

The evaluation aimed to:

- *Examine whether progress-aware character cards and relationship diagrams helped readers follow, recall, and reconnect with fictional characters during reading, while maintaining the continuity of the reading experience;*
- *Understand whether the Pantheon archive provided a meaningful structure for collecting, revisiting, and reflecting on literary characters after reading;*
- *Explore whether the AI-supported roundtable dialogue enabled readers to engage with fictional characters beyond the original text through open-topic reflection and multi-character discussion.*

4.2 Methods

Evaluation Test Design

This evaluation was positioned as an exploratory, qualitative-led mixed-method prototype evaluation. It focused on participants' perceived experience of the web-based MVP and the design qualities that supported or limited that experience.

All evaluation sessions were conducted in quiet everyday reading settings, either onsite in the IDE Faculty at TU Delft or in a quiet café, depending on participants' preferences. Both settings were chosen to approximate a calm and low-distraction reading environment. All participants completed the prototype experience on a laptop.

The evaluation session followed a fixed overall structure:

- *Introduction and consent — approximately 5 minutes*
- *Background questions — approximately 5 minutes*
- *Part 1: During-reading prototype experience — depending on participants' reading time*
- *Part 2: Pantheon and roundtable dialogue experience — approximately 15–20 minutes*
- *Short character recall task — approximately 5 minutes*
- *Prototype-specific questionnaire — approximately 5–7 minutes*
- *Semi-structured interview — approximately 15–20 minutes*

In Part 1, participants read the selected excerpts in the Excerpt module and could use the character cards and relationship diagram when needed. In Part 2, participants explored the Pantheon archive and then entered the Dialogue module to experience an AI-supported roundtable discussion with selected literary characters. During both parts, participants interacted with the prototype independently. I observed their behaviour and took notes, but did not actively guide them unless they asked for help.

The questionnaire was designed as a prototype-specific self-report instrument. Its structure followed the participant's prototype journey: During-reading Support, Pantheon, Roundtable Dialogue, and Overall Experience. This made the questionnaire easier for participants to complete immediately after the test. The items were informed by literature on narrative engagement, story world absorption, and character engagement, but were adapted to this prototype rather than directly copied from existing scales (Busselle & Bilandzic, 2009; Kuijpers et al., 2014; Eekhof et al., 2023). The questionnaire used a 7-point Likert scale, ranging from 1 = Strongly disagree to 7 = Strongly agree.

The semi-structured interview followed a similar structure to the questionnaire. It asked participants to reflect on their overall experience, during-reading support, the Pantheon archive, the roundtable dialogue, the coherence between different parts, and possible improvements. This structure allowed the interview responses to be compared with the questionnaire results, while leaving room for participants to explain their ratings and raise unexpected issues.

The full questionnaire, interview guide, and recall task are provided in Appendix D.

Recruitment and Participants

Participants were recruited through purposive and convenience sampling. The recruitment focused on readers who had regular fiction reading habits and prior experience with digital reading formats. In this evaluation, regular reading habits referred to reading fiction or long-form narrative texts on a recurring basis, while digital reading experience referred to having used formats such as e-books, online reading platforms, PDFs, or reading apps.

Seven participants took part in the final prototype evaluation. Three of them had participated in the first prototype test and were also part of the earlier user research interviews. Including them allowed the evaluation to capture how readers who were familiar with the project understood the iteration from the first prototype to the final MVP. The remaining four participants were recruited through my personal network, including three master's students from TU Delft and one master's student from the University of California, San Diego.

All seven participants met the recruitment criteria. They had established reading habits and sufficient digital reading experience to reflect on the web-based reading prototype.

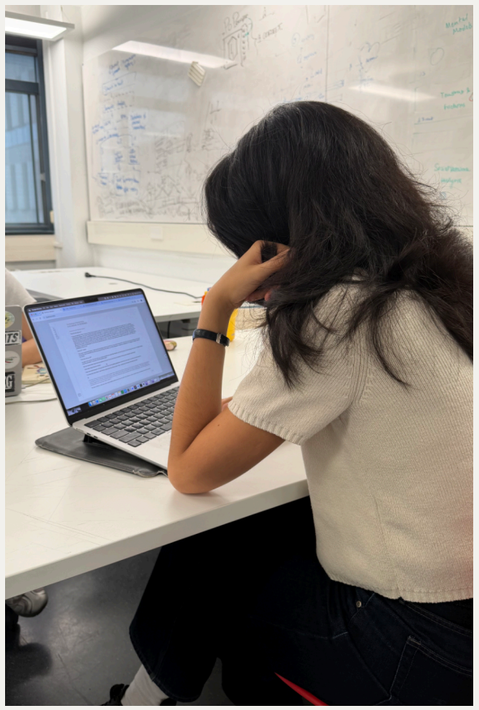


Figure 4.1: Final prototype evaluation setup, showing a participant interacting with the web-based MVP in a quiet IDE faculty room.

Data Collection

Evaluation data were collected through observation notes, screen recordings, recall task responses, questionnaire responses, and semi-structured interview transcripts.

During the prototype experience, I observed how participants moved through the web prototype and took notes on their behaviour. These notes included reading time, the number of times participants opened character cards or relationship diagrams, moments of hesitation or confusion, visible reactions such as surprise or interest, questions asked during the session, and any navigation issues. The prototype testing process was also screen-recorded, so that specific interaction moments could be reviewed later if needed.

After completing the prototype experience, participants completed a short character recall task. They were asked to recall characters and reflect on their understanding of the story. As there was no no-support control condition, these responses were used as supplementary qualitative material rather than evidence of improved memory or comprehension.

Participants then completed a prototype-specific questionnaire through Google Forms. The questionnaire used a 7-point Likert scale, ranging from 1 = Strongly disagree to 7 = Strongly agree. It collected participants' self-reported experience of the prototype.

Finally, I conducted a semi-structured interview with each participant. With participants' consent, all interviews were audio-recorded and later transcribed for analysis.

Data Analysis

The data analysis followed the exploratory positioning of the evaluation. Because of the small sample size and the absence of a no-support control condition, a descriptive and qualitative analysis approach was adopted, focusing on identifying patterns in participants' responses and interpreting their experiences of the prototype.

The questionnaire responses were analysed descriptively. For each 7-point Likert item, I reviewed the response distribution, mean, range, and number of participants who selected agreement responses. The scores were used to identify tendencies across participants rather than to produce statistical comparisons.

To connect participants' ratings to the design aims of the prototype, the questionnaire items were remapped during analysis into literature-informed and prototype-specific experiential dimensions. These dimensions were informed by constructs from narrative engagement and story world absorption, and were then operationalised according to the prototype's functions and questionnaire items (Busselle & Bilandzic, 2009; Kuijpers et al., 2014). The final dimensions included conceptual clarity, character and narrative understanding, reading flow and imaginative openness, character reconnection, dialogue quality, reflection beyond the text, and overall concept acceptance. The full remapped questionnaire framework is provided in Appendix E.

The semi-structured interview transcripts were analysed using a framework-guided thematic analysis. The same experiential dimensions from the questionnaire remapping were used as the initial coding framework. I first coded relevant interview comments according to these dimensions, then identified recurring comments, concerns, and explanations within each dimension. The interview findings were then cross-checked with the questionnaire scores to understand why participants rated certain parts of the prototype positively or negatively. Observation notes and screen recordings were used to contextualise these interpretations. I also remained open to

unexpected themes that did not fit neatly into the initial framework.

The short recall task was analysed qualitatively as supplementary material. The responses were reviewed to understand how participants described remembered characters, relationships, and changing impressions after the prototype experience.

The final results were therefore developed through triangulation and organised around key experiential findings rather than separate data sources. Questionnaire scores were used to indicate general tendencies, while interview data, observation notes, and screen recordings were used to explain and contextualise these patterns.

4.3 Results

Overview of Evaluation Findings

The evaluation results were developed through triangulation of the questionnaire responses, semi-structured interviews, observation notes, screen recordings, and the short recall task. The questionnaire data were used to identify general tendencies across the remapped experiential dimensions, while the interview data were used to explain the reasons behind participants' responses. Observation notes and screen recordings were used to contextualise how participants moved through the prototype, and the recall task was treated as supplementary qualitative material and not as evidence of improved comprehension or memory.

Figure 4.2 and Table 4.1 provide an initial overview of the questionnaire tendencies across the remapped emotional engagement dimensions defined in the analysis. Overall, participants responded positively to most aspects of the prototype, especially its conceptual clarity, character and narrative support, archive meaningfulness, and open-topic reflection potential. Reading flow and imaginative openness were also generally positive, although one low score suggested that interface smoothness affected the experience of returning to the story. Dialogue quality was the weakest and most varied area, indicating that participants recognised the promise of the Roundtable Dialogue but also saw the current AI-generated discussion as needing further refinement.

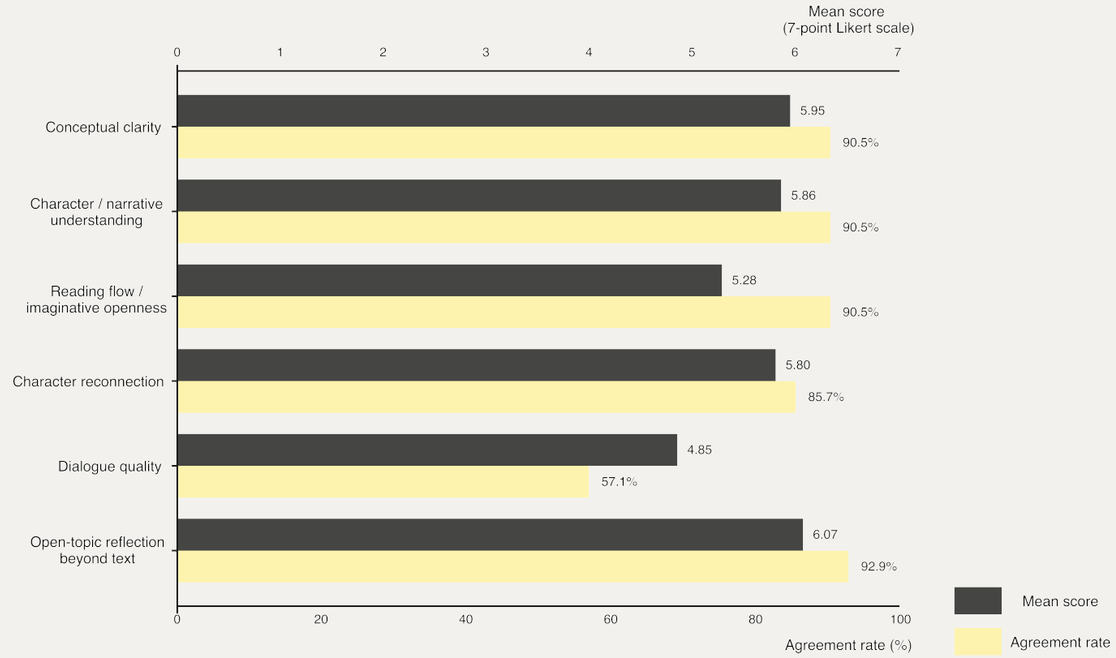


Figure 4.2: Questionnaire tendency profile across the remapped experiential dimensions.

Dimension	Variation note	Tendency
Conceptual Clarity	All related items ranged from 4–7.	Generally positive
Character / Narrative Understanding	All related items ranged from 4–7.	Generally positive
Reading Flow / Imaginative Openness	One low outlier in Q8 (score of 1), likely linked to interface smoothness.	Generally positive but uneven
Character Reconnection	One weaker item (Q6), including one score of 3.	Generally positive but uneven
Dialogue Quality	Wide variation, especially in Q17 (scores from 2–6).	Mixed / weakest area
Open-topic Reflection Beyond Text	Range 4–7 across both items.	Strongly positive

Table 4.1: Summary of response variation and tendency labels across the remapped questionnaire dimensions.

Coherence of the Reading-to-Dialogue Experience

The first finding concerns the overall coherence of the prototype experience. As shown in Figure 4.2 and Table 4.1, Conceptual Clarity received a positive tendency, suggesting that participants generally understood the main purpose and process of the prototype. Participants appeared to understand it as a continuous experience that moved from reading, to character support, to the Pantheon archive, and finally to character dialogue.

This coherence was also reflected in how participants described the relationship between the reading and after-reading parts. Although participants differed in whether they would personally use the Pantheon to revisit fictional characters, several still understood it as a meaningful transition between the reading support and the dialogue. In this sense, the Pantheon helped connect the prototype stages even when the habit of revisiting characters after reading was not shared by all participants.

P4: “I would not revisit fictions and characters in this way, but in this prototype, the Pantheon is a great transition. It gives me a buffer before entering the dialogue.”

P1: “It does not feel disconnected. Because it is in the same system, it feels a bit like going to the backyard to see what everyone is doing.”

Participants also showed a general acceptance of the prototype’s potential value, especially for longer or more complex fiction. While the selected short story made the support effect less visible for some participants, they could still imagine the concept becoming more useful when dealing with larger casts, complex families, or longer narrative structures.

P6: “I can imagine it would be much more useful for something like Game of Thrones, where there are a lot of families and a lot of people.”

Progress-Aware Character Support During Reading

This finding concerns how participants experienced the progress-aware character support during reading. As shown in Figure 4.2 and Table 4.1, Character / Narrative Understanding received a positive tendency, suggesting that participants generally perceived the character cards and relationship diagram as useful for staying oriented within the story. Interview comments further explained this tendency: participants described the support as helping them recognise characters, recall previous information, and understand relationships without needing to reconstruct these details manually. Observation notes and screen recordings also provided contextual support, as participants actively consulted the character cards and relationship diagram while reading.

*P6: “When I read *A Little Life*, I first started with my e-book, but I was very confused about the characters and their relationships. I switched to the physical book because I could annotate more easily and write notes. For that type of book, I felt it was necessary, because I was always confused about which character did what, or how close or distant they were from each other. I think this system could do a similar task in the e-reader.”*

This support was also generally experienced as compatible with the project’s design principle (Design Implication 2 in 3.3.2) that reading should remain open, continuous, and reader-led. Participants did not describe the character cards as forcing a different way of reading; instead, the optional nature of the support allowed them to decide when to access it. This helped explain why Reading Flow / Imaginative Openness also showed a generally positive tendency, despite one low score related to returning to the excerpt interface.

P3: “I didn’t feel interrupted because I chose when to open it.”

At the same time, the evaluation showed that this non-intrusive quality depended on interaction details. Some participants mentioned small interface frictions, such as unclear exit controls or less smooth transitions back to the reading page. These comments suggest that the support concept itself was generally accepted, but its ability to preserve reading flow depended on how easily readers could open, close, and return from support features.

The character support also functioned as a way to reconnect with story information when needed. This was reflected in the Character Reconnection dimension and in interview comments describing the cards as recap tools, especially when returning to a book after a break.

P5: “It would help me, because sometimes when I restart reading, I can use these cards as a recap to remember the plot and the characters.”

The short recall task was consistent with this perceived orientation support, as participants were able to recall main character identities, relationships, and key plot information after using the prototype. However, this was treated only as supplementary material and not as evidence of improved memory or comprehension.

After-Reading Engagement Through Archive and Dialogue

This finding relates to how participants experienced the after-reading part of the prototype, including the Pantheon archive and the Roundtable Dialogue. As shown in Figure 4.2 and Table 4.1, Character Reconnection / Archive Meaningfulness and Open-topic Reflection Beyond Text both showed positive tendencies, while Dialogue Quality was the most varied dimension. This suggests that participants recognised the value of extending character engagement after reading, but also distinguished this potential from the current quality of the generated dialogue.

The Pantheon was generally understood as a meaningful space for keeping and revisiting characters, although participants differed in whether this matched their own reading habits. This difference also echoed the user research questionnaire in Section 2.2, where revisiting fictional characters after reading appeared to be uneven across readers. In the evaluation, however, even participants who did not personally expect to revisit characters through an archive still recognised the Pantheon as a useful bridge into the dialogue experience.

P4: "I would not revisit stories and characters in this way, but in this prototype, the Pantheon is a great transition. It gives me a buffer before entering the dialogue."

The Roundtable Dialogue was seen as especially valuable when it stayed connected to the fiction itself. Participants imagined using it to ask about plot details, character relationships, or literary interpretation. For example, P3 described the dialogue as a possible tool for literary analysis, because it allowed questions to be approached from the perspectives of different characters.

P3: "I think it could be used as a literary analysis tool. You can ask questions from the characters' perspectives."

Beyond fiction-related questions, participants also responded positively to the possibility of bringing their own questions or topics into the roundtable. This helped explain the strong tendency in Open-topic Reflection Beyond Text: participants saw the dialogue not only as a way to recall the original story, but also as a way to let fictional characters become reflective perspectives after reading.

Participants also recognised strengths in the current Roundtable Dialogue before pointing out its limitations. The pause-and-join interaction model was generally accepted, and some participants felt that the current discussion length was reasonable. Several participants also found the characters' basic personalities and speaking styles recognisable and close to their original fictional roles, suggesting that the character database provided a useful basis for generating recognisable character voices. However, several participants felt that the characters sometimes spoke in ways that were too logical or educated, which weakened the feeling of a vivid multi-character discussion. Participants further suggested that a certain degree of reduced practicality would be acceptable if it resulted in a more emotional and intense conversational dynamic.

P6: "It still feels a bit AI-like. They agree with me and each other too much, and I would expect the characters to have more intense or human reactions."

Overall, the after-reading experience showed strong perceived potential, especially for fiction-related questioning and open-topic reflection. However, this potential depended on whether the dialogue could make characters feel distinct, emotionally grounded, and convincing beyond the original reading moment.

Summary

Overall, the evaluation addressed its aim by showing how participants perceived the prototype as a coherent, useful, and generally non-disruptive augmented reading experience. Within the scope of this exploratory evaluation, the findings supported the perceived value of helping readers stay with the narrative through a connected reading-to-dialogue experience. Participants generally understood the prototype flow, perceived the progress-aware character support as useful for staying oriented during reading, and recognised the Pantheon and Roundtable Dialogue as meaningful ways to extend engagement after reading. The findings also supported the continued relevance of the design principles developed earlier in the project, especially progress-awareness, optional access, reader control, and the preservation of reading flow. At the same time, the evaluation does not claim that the prototype improved comprehension, recall, or emotional engagement; rather, it shows that participants perceived these forms of support as valuable and compatible with fiction reading.

The Roundtable Dialogue, as the core experiential component of the system, represents the main extension beyond traditional reading support and therefore carries both significant potential and considerable space for refinement. Participants recognised its value for fiction-related questioning, literary reflection, and bringing their own topics into character-based discussion. However, their responses also showed that the quality of this experience depended on several factors: recognisable character voices, emotional and human-like reactions, distinct character perspectives, natural turn-taking, pacing control, and the reader's ability to pause or join the dialogue. These findings suggest that the dialogue concept was accepted, but its future value depends on whether the interaction can make fictional characters feel vivid, grounded, and controllable beyond the original text.

CHAPTER 5

DISCUSSION

This chapter discusses the key findings of the project in relation to the research questions and design outcome. It reflects on the meaning of the results, the limitations of the work, and possible directions for future development.

5.1 Discussion of Findings

This section reflects on the key findings of the project and discusses what they suggest for designing augmented fiction reading experiences that support emotional engagement. It revisits the project's position within the broader augmented reading landscape, examines the design pathway to support emotional engagement, and discusses the roles of reader agency and AI-supported character dialogue in shaping the experience.

The Role of Character-Centred Augmentation in Fiction Reading

The evaluation results suggest that the Character Pantheon prototype was generally perceived as a coherent and meaningful augmented reading experience. Through a set of interconnected character-based supports across reading and after-reading moments, the prototype explored a pathway in which readers could stay connected to characters and story developments during reading, and then continue this connection after reading. This does not mean that the prototype can be claimed to have improved emotional engagement. Rather, it suggests a design interpretation of how emotional engagement may be supported: by helping readers maintain and extend their relationship with the narrative and character.

The interpretation connects back to the research gap identified in the literature review. Existing augmented reading approaches show how digital media can expand reading through functional support, sensory or atmospheric effects, visualisation, and spatial immersion. However, these approaches do not fully explain how augmentation can support emotional engagement as a reader-led process of attention, imagination, interpretation, and affective involvement, without disrupting the flow and openness of fiction reading. The Character Pantheon responds to this gap by showing that augmented reading does not have to rely on stronger media enhancement alone. Instead, it can work by maintaining and extending the reader's relationship with the fiction across different moments of the reading experience.

Zooming out, the project contributes a different role for augmented fiction reading. Shifting attention from enhancing the text itself, it suggests that augmentation can act as a subtle relational layer around reading: supporting the reader's ongoing relationship with fiction across time.

Design Pathway for Supporting Emotional Engagement

This project approached emotional engagement not as an outcome that could be directly produced by the prototype, but as an experience that depends on several supporting conditions. As discussed in the literature review and user research, emotional engagement in fiction reading should be understood as an interconnected reading experience system, comprising six interrelated dimensions. For this reason, the design process structured emotional engagement into two interrelated design dimensions: a character dimension, focusing on supporting narrative orientation and character engagement during reading, and a temporal dimension, extending engagement into after-reading engagement and continued interpretation. Through this structuring, the prototype aimed to support emotional engagement as a continuous experience across reading moments.

The first part of this pathway focused on character support during reading. The user research showed that character names, relationships, and changing impressions can affect whether readers remain connected to the characters and narrative, especially when a text contains unfamiliar names, complex relationships, or long gaps between reading sessions. In response, the prototype used progress-aware character cards and relationship diagrams as supports for narrative orientation and emotional continuity. By reducing the effort required to reconstruct who characters are and how they relate to one another, the support aimed to help readers stay with the story rather than being pulled out of it by confusion or memory load.

The second part of the pathway extended engagement beyond the reading moment. The literature review and user research both suggested that emotional engagement with fiction can continue after closing the book, through remembering, revisiting, recording, discussing, or reflecting on characters and story meanings. The Pantheon archive and Roundtable Dialogue responded to this temporal dimension by giving characters a continued presence after reading. The pathway therefore opened a space where readers could return to the story, extract ideas or questions from it, and carry them into their own everyday reflections and conversations beyond the original text.

The significance of this pathway is that emotional engagement is treated as a distributed reading journey rather than a single emotional response. Across the project, engagement was supported through connected moments of orientation, reconnection, revisiting, and reflection. This suggests that augmented reading can support emotional engagement not by adding one strongly immersive or emotionally intense feature, but by connecting the conditions that allow readers to remain engaged with fiction over time.

Reader Agency as a Design Condition

Reader agency appeared throughout the project because fiction reading was understood from the beginning as an active, reader-led process. The literature review showed that emotional engagement depends not only on what the text presents, but also on the reader's active participation in meaning-making (Rosenblatt, 1978; Iser, 1978). It also involves the reader's attention, imagination, and mental imagery as part of becoming engaged with the narrative world (Green & Brock, 2000; Troscianko, 2013). This concern became more concrete in the user research. Finding 2 in the user research showed that readers were open to augmented support, but only when reading remained open, continuous, and reader-led. This was then translated into design principles: support should be optional, progress-aware, spoiler-safe, and secondary to the reading experience itself.

During the prototyping stage, these principles became concrete forms of user agency. In the during-reading support, character cards and relationship diagrams were designed as optional layers that readers could open when needed rather than as constant information panels. This direction was also supported by prior work on character-information interfaces, where clickable pop-ups were found to balance ease of access, visual clutter, and reader control (Vitali et al., 2026). In the after-reading part, agency appeared differently: readers could select characters, start, pause, join and end the discussion as they want. Across these different interactions, the role of augmentation was therefore not to take over the reading or interpretation process, but to remain available as a support layer.

The final evaluation further highlighted how sensitive this condition was. Participants responded positively when they could decide when to open support or enter the dialogue, but small interaction details also produced noticeable feedback. For example, unclear exit controls, less smooth transitions back to the reading page, potentially suggestive plot spoilers, or limited control over dialogue pacing could all affect the experience. These details mattered because they affected the reader's control over attention, suspense, reading rhythm, and interpretation.

This suggests that reader agency should be treated as a core design condition for augmented fiction reading. In the context of fiction reading, agency is broader than simple interface control. It includes control over when support appears, how much information is revealed, how strongly the system directs attention, and how far AI-generated interpretation enters the reader's relationship with the text and characters. The project therefore shows that supporting emotional engagement through augmentation requires careful attention to the reader's authority within the reading experience itself.

The role of Roundtable Dialogue in Extending Fiction Reading

The Roundtable Dialogue represents the main extension of the project beyond conventional reading support. While the during-reading supports helped readers recognise and reconnect with fictional characters, the Dialogue introduced a more active form of after-reading engagement. It allowed readers to ask fiction-related questions about plot, relationships, and interpretation, while also opening the possibility of bringing their own topics into a character-based discussion. In this sense, fictional characters were no longer only elements to be understood or collected, but became perspectives through which readers could engage after the original reading moment.

The roundtable format also introduced a specific interaction mode: a single reader could engage with multiple fictional characters, while the characters could also respond to one another. This differs from a one-to-one chatbot structure because the value of the interaction depends not only on individual character responses, but also on the relationships, contrasts, and turn-taking among different voices. The reader's ability to start, pause, join, and end the discussion further positioned the interaction as a reader-led dialogue rather than a fixed generated scene. For this reason, the character database and dialogue rules were not only technical implementation choices. They were part of the design attempt to make literary characters speak in a way that was text-grounded, character-specific, and open to reader participation.

At the same time, the evaluation showed that this interaction mode is fragile. Dialogue Quality was the most varied part of the prototype, suggesting that participants recognised the promise of the concept but were also sensitive to the quality of its execution. One important tension is the balance between informative usefulness and conversational vividness. If the dialogue is too explanatory, logical, or agreeable, it risks feeling like a generic AI response or a literary analysis tool. If it becomes too performative or emotionally intense without grounding, it may lose its connection to the original fiction. The current prototype also remained limited by the small character database, the selected test fiction, and the maturity of the dialogue generation and pacing.

The exploration of roundtable dialogue suggests that AI-supported character dialogue should be understood as a literary interaction design problem, not only as a text-generation problem. Its value depends on how well the system balances textual grounding, recognisable character voice, emotional believability, multi-character dynamics, pacing, and reader agency.

5.2 Limitations

While this project provides valuable insights into fiction reading, it also has certain limitations that present opportunities for further exploration.

First, the final evaluation was limited in scope and sample size. The study involved seven participants and was designed as an exploratory prototype evaluation rather than a controlled experiment. Therefore, the results cannot be generalised to a broader population, nor can they be used to claim that the prototype improved comprehension, recall, or emotional engagement. The questionnaire results provided useful indications of participants' perceived experience, and the interviews helped explain why certain features were considered meaningful or problematic. However, these findings should be understood as qualitative and descriptive evidence of perceived value, coherence, and non-disruption, rather than proof of measurable effects. The absence of a no-support control condition further limits the extent to which the prototype's impact can be isolated from participants' individual reading habits, expectations, or interest in the concept.

Second, the prototype and evaluation were limited by the scale of the reading material and the testing context. The system was not applied to a full-length novel, although the concept was partly motivated by the challenges of longer and more complex fiction, such as remembering character names, relationships, and plot developments over time. Testing the prototype with a complete novel would require a much longer evaluation period, potentially extending across several weeks or a month, because readers would need time to read, pause, return, revisit characters, and engage with the after-reading features in a more natural rhythm. As a result, the current evaluation could only capture a short-term experience of the reading-to-dialogue flow. It could not fully examine how the progress-aware updates, Pantheon archive or roundtable dialogue would function across extended reading sessions, multiple chapters, or how the system might be integrated into readers' longer-term, intermittent reading practices over time.

Third, the project was limited by the current quality and reliability of AI-supported content generation. Although AI tools were used to support the creation of character information, relationship structures, and dialogue behaviour, the process could not be fully automated. The parsing and encoding of fictional texts still required manual checking, editing, and correction to ensure that character descriptions, relationships, and story information remained accurate and appropriately progress-aware. Small errors in information timing could create spoiler risks or misalignments between the reader's current progress and the support provided by the system. The dialogue component was even more dependent on iterative tuning, as character voices, emotional tone, pacing, and text-grounding needed repeated adjustment. This means that the prototype should be understood as a carefully constructed design exploration, not a fully scalable or automatically deployable system.

Finally, the project focused on one specific design pathway: character-centred augmentation. This focus was valuable because characters, relationships, and after-reading reflection emerged as important entry points for supporting emotional engagement. However, emotional engagement in fiction reading can also be shaped by many other factors, such as language style, atmosphere, genre conventions, personal memory, social reading, and broader interpretive practices. The project therefore does not offer a complete model of how augmented reading can support emotional engagement in all forms of fiction, it presents one situated design exploration of how character-centred augmentation may support readers' ongoing emotional relationship with fiction.

5.3 Future Work

From Prototype to Integrated Reading Platform

Future work could explore how the Character Pantheon concept can be integrated into a complete e-reader or digital reading platform. The current prototype was intentionally focused in order to test the core design concept, while many parts of a real reading platform, such as library browsing, book selection, reading history, bookmarking, and cross-book navigation, were simplified or blurred. A future version could therefore examine how these features function as part of a continuous reading ecosystem rather than as an isolated prototype flow. This would allow readers to move more naturally between reading, receiving progress-aware support, revisiting characters, and returning to the text. In this direction, Character Pantheon could become not only a feature beside reading, but a relational layer embedded within the everyday experience of digital fiction reading.

Scaling Fiction and Character Databases

Due to copyright constraints, this project relied on public or available fictional texts and a manually constructed character database. Future work could explore how such a system might connect with wider digital libraries, licensed book collections, or publisher-supported reading platforms. This would require more advanced methods for extracting, structuring, and updating character information across full-length works, series, and potentially multiple books by the same author or within the same fictional world. The challenge extends beyond technical scale to questions of literary fidelity: character profiles, relationships, and story developments need to remain sensitive to reading progress, narrative ambiguity, and spoilers. If this infrastructure could be developed reliably, the system could support a much broader range of fiction and make character-centred augmentation available beyond a single curated prototype.

Expanding Across Media and Immersive Interfaces

Although this project used a screen-based digital reading format, the core concept is not limited to this medium. The choice of a screen-based prototype was made to keep the evaluation focused and to test whether character-centred augmentation could support emotional engagement without disrupting reading flow. However, because the project addresses emotional engagement rather than a fixed medium, the concept could be extended into other media. AR, VR, smart glasses, or spatial interfaces could allow characters, relationship diagrams, archives, or dialogues to appear in more ambient and embodied ways. For example, readers might encounter subtle character traces in their environment, revisit a spatial archive after reading, or join a more immersive roundtable discussion. Such extensions would need to still preserve reader agency and imaginative openness, but they could also expand the ways in which emotional engagement is supported through different forms of mediated interaction with characters and narrative content.

From Individual Reading to Social and Educational Contexts

Future work could also extend the concept beyond individual reading into social, educational, and cultural contexts. During the evaluation, some participants mentioned possible applications in museums and education, suggesting that the system could support not only private readers but also visitors, students, teachers, and groups. In this broader context, “characters” could include literary figures, historical figures or mythological figures represented in museum exhibitions and learning environments. The interaction mode could also move beyond the current structure of one reader interacting with multiple characters. Future systems might support multi-user and multi-character conversations, where several users participate in a shared interpretive dialogue. Recent work on dynamic human-AI group conversations, such as DialogLab (Figure 5.1), points to the importance of designing roles, turn-taking, group structures, and transitions between scripted and improvised interaction in such multi-party settings (Hu & Du, 2026).

Extending to Broader Emotional Engagement Dimensions

Finally, future work could expand the design pathway beyond the character and temporal dimensions explored in this project. The Character Pantheon focused on supporting emotional engagement through narrative orientation, character reconnection, after-reading reflection, and dialogue. However, the earlier research in this project suggested that emotional engagement is shaped by multiple interrelated dimensions. Other future pathways could therefore explore how augmentation might extend these existing mechanisms. These directions would not replace the character-centred pathway, but extend it into a broader framework for designing emotional engagement in augmented reading. In this sense, the project can be seen as one entry point into a larger design space: how digital and AI-supported media can help readers remain emotionally connected to fiction while still preserving the openness and agency of reading.

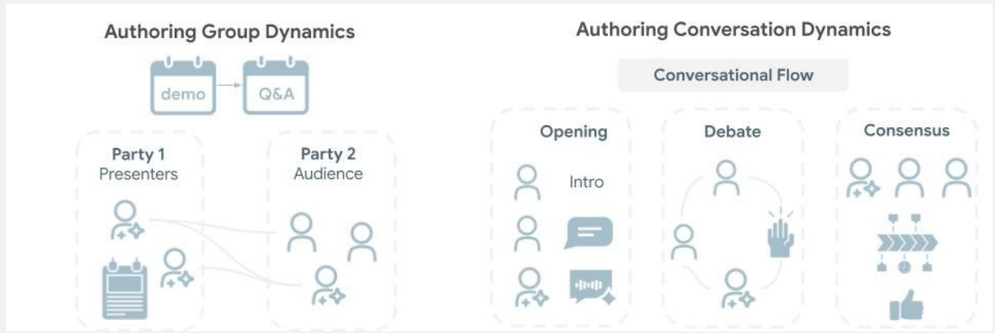


Figure 5.1: DialogLab framework for designing dynamic human–AI group conversations, separating group dynamics such as roles and parties from conversation dynamics such as phases, turn-taking, and interaction flow. Reproduced from Hu and Du (2026).

CHAPTER 6

CONCLUSION AND REFLECTION

This chapter concludes the thesis by summarising the project's response to the research questions and reflecting on the overall process. It also considers the contribution of the project and the personal learning gained through the work.

6.1 Conclusion

This thesis set out to explore how augmented reading experiences can support emotional engagement in fiction without disrupting reading flow, imaginative openness, and reader control. It began with two research questions: what factors shape readers' emotional engagement in fiction reading, and how insights from these factors can inform the design of augmented reading experiences. Through an iterative research-through-design methodology, the project moved from a broad investigation of emotional engagement toward a concrete design response: Character Pantheon, an augmented reading prototype that connects progress-aware character support, an after-reading character archive, and AI-supported roundtable dialogue.

In response to the first research question, this thesis found that emotional engagement in fiction reading emerges from an interconnected reading experience involving attention, imagination, narrative understanding, character engagement, interpretation, reader agency, and reflection beyond the immediate reading moment. The literature review provided an initial theoretical foundation for this understanding, while the user research showed how these factors appear in readers' actual practices, needs, and concerns. Readers may become emotionally involved through characters, story worlds, personal associations, and interpretive reflection, but this involvement can also be interrupted by confusion, memory load, spoilers, or overly direct support. Emotional engagement therefore depends not only on what is added to reading, but also on how carefully the reading experience is preserved.

In response to the second research question, the project translated these insights into a character-centred reading prototype, Character Pantheon. Rather than creating emotional engagement directly, Character Pantheon explored how to help readers stay oriented within the narrative, maintain their relationship with fictional characters, and carry this relationship beyond the immediate reading moment. The outcome of the project was therefore not only a prototype delivery, but also a design pathway and a set of design considerations, including the need for progress-aware information, optional and non-intrusive support, spoiler-sensitive interaction, and text-grounded character dialogue. Looking forward, these considerations also point towards broader future directions for fiction reading systems. These outcomes together provide a situated answer to how augmented reading experiences may support emotional engagement.

The broader contribution of this thesis lies in how it reimagines the role of augmentation in fiction reading. Augmented reading is often imagined as adding more media, stronger immersion, richer visuals, or more direct information to the text. This project suggests another possibility: augmentation can act as a subtle relational layer around reading. Rather than replacing the text or intensifying it through additional media, it can help readers maintain their relationship with the narrative across time. In this sense, the project shifts attention from enhancing the text itself to supporting how readers stay with, return to, and think through fiction. This contribution is especially important for fiction reading, where the value of the experience depends on openness, ambiguity, imagination, and the reader's own interpretive authority.

Looking back across the development of this project, Character Pantheon should be understood as an exploratory design attempt rather than a finished system. Its limitations, including short reading context, non-fully automated content preparation, uneven dialogue quality, and the small-scale evaluation, show that augmented fiction reading remains a complex and sensitive design space. However, these limitations also clarify what makes the direction meaningful. Supporting emotional engagement is not only a matter of adding intelligent features to books; it requires careful attention to narrative timing, character fidelity, reader agency, and the emotional continuity of reading. Ultimately, this thesis suggests that the future of augmented fiction reading may not lie only in making stories more immersive, but also in helping readers stay with them, return to them, and continue thinking through them beyond the page.

6.2 Self-Reflection

On a personal level, this project fulfilled one of my main goals for the graduation project: to enter this field that was new to me and explore a design pathway for approaching emotional engagement through design. At the beginning of the project, fiction reading was not a familiar research area for me. However, as the project developed, I gradually gained a deeper understanding of reading experience. Completing this project has therefore not only strengthened my design research and prototyping skills, but also expanded the way I understand what design can do in relation to subtle and personal human experiences.

More importantly, the project became a process of repeatedly questioning and revising my own assumptions. Rather than simply using design creativity to generate new ideas, I had to learn how to examine my initial interpretations, listen carefully to users, and allow the project direction to change when the research suggested a different path. This reflects one of the reasons I came to TU Delft: to practise design not only as a creative act, but also as a reflective and responsible process. Through this project, I learned that reducing personal bias does not mean removing my own perspective as a designer, but learning to recognise it, question it, and use it with greater care and responsibility.

7 AI Statement

Generative AI tools were used as supporting tools during this project. ChatGPT was used to support the structuring of prototype content data, the development of initial scripted dialogue in the first prototype, and writing refinement. Codex supported the implementation and debugging of the React/Vite prototype, while the OpenAI API was used to generate character dialogue in the final evaluation prototype.

All AI-assisted outputs included in the final work were reviewed, edited, and checked by the author. The author remains fully responsible for the final content, design decisions, analysis, and conclusions presented in this report.

References

Rosenblatt, L. M. (1978). The reader, the text, the poem: The transactional theory of the literary work. Southern Illinois University Press.

Spiteri, L. F., & Pecoskie, J. (2016). Affective taxonomies of the reading experience: Using user-generated reviews for readers' advisory. Proceedings of the Association for Information Science and Technology, 53(1), 1–9. https://doi.org/10.1002/pra2.2016.14505301032

Colombo, L., & Landoni, M. (2011). Towards an engaging e-reading experience. In Proceedings of the 4th ACM Workshop on Online Books, Complementary Social Media and Crowdsourcing (BooksOnline'11) (pp. 61–66). ACM. https://doi.org/10.1145/2064058.2064074

Green, M. C., & Brock, T. C. (2000). The role of transportation in the persuasiveness of public narratives. Journal of Personality and Social Psychology, 79(5), 701–721. https://doi.org/10.1037/0022-3514.79.5.701

Green, M. C. (2021). Transportation into narrative worlds. In L. B. Frank & P. Falzone (Eds.), Entertainment-education behind the scenes: Case studies for theory and practice (pp. 87–101). Springer. https://doi.org/10.1007/978-3-030-63614-2_6

Eekhof, L. S., Van Krieken, K., Sanders, J., & Willems, R. M. (2023). Engagement with narrative characters: the role of social-cognitive abilities and linguistic viewpoint. Discourse Processes, 60(6), 411–439. https://doi.org/10.1080/0163853x.2023.2206773

Mar, R. A., Oatley, K., Djikic, M., & Mullin, J. (2010). Emotion and narrative fiction: Interactive influences before, during, and after reading. Cognition & Emotion, 25(5), 818–833. https://doi.org/10.1080/02699931.2010.515151

Andersen, T. R., & Hakemulder, F. (2024). "The poem has stayed with me": Continued processing and impact from Shared Reading experiences of people living with cancer. Poetics, 102, Article 101847. https://doi.org/10.1016/j.poetic.2023.101847

Oatley, K. (2016). Fiction: simulation of social worlds. Trends in Cognitive Sciences, 20(8), 618–628. https://doi.org/10.1016/j.tics.2016.06.002

Bopp, J. A., Müller, L. J., Aeschbach, L., Opwis, K., & Mekler, E. (2019). Exploring emotional attachment to game characters. In CHI PLAY '19: Proceedings of the Annual Symposium on Computer-Human Interaction in Play (pp. 313–324). Association for Computing Machinery.

https://doi.org/10.1145/3311350.3347169

Troscianko, E. T. (2013). Reading imaginatively: The imagination in cognitive science and cognitive literary studies. Journal of Literary Semantics, 42(2), 181–198. https://doi.org/10.1515/jls-2013-0009

Iser, W. (1978). The act of reading: A theory of aesthetic response. Johns Hopkins University Press.

Teixeira, J. M. X. N., & De Souza, J. D. T. (2024). Augmented reading. In Proceedings of the 24th Symposium on Virtual and Augmented Reality (pp. 55–61). Association for Computing Machinery. https://doi.org/10.1145/3604479.3604511

Brett, C. A., Kruijff, E., Hinkenjann, A., & Bateman, S. (2025). Understanding long-form reading in mixed reality. In Proceedings of the 2025 ACM Symposium on Spatial User Interaction (SUI '25). ACM. https://doi.org/10.1145/3694907.3765958

Zhuang, L., Ye, Z., Wu, J., Zhou, F., & Shao, J. (2011). Towards a new reading experience via semantic fusion of text and music. In Proceedings of the 11th Annual International ACM/IEEE Joint Conference on Digital Libraries (pp. 149–152). Association for Computing Machinery. https://doi.org/10.1145/1998076.1998105

Xing, Y., Fahy, C., Wang, N., & Shell, J. (2023). Towards an interactive environment for enhancing reading experience in extended reality. In Proceedings of the 2023 ACM Symposium on Spatial User Interaction (SUI '23). ACM. https://doi.org/10.1145/3607822.3618007

Vitali, A., Alpizar-Chacon, I., Schneegass, C., Dingler, T., & Lykourentzou, I. (2025). Beyond "just" text: Can an AI-generated graphic novel enhance the reading experience of non-native English readers? In Proceedings of Mensch und Computer 2025 (pp. 452–464). Association for Computing Machinery. https://doi.org/10.1145/3743049.3743076

Kunzová, N., & Echeverri, D. (2023). Bookwander: From printed fiction to virtual reality—Four design approaches for enhanced VR reading experiences. In L. Holloway-Attaway & J. T. Murray (Eds.), Interactive Storytelling: 16th International Conference on Interactive Digital Storytelling (ICIDS 2023), Lecture Notes in Computer Science, vol. 14383 (pp. 309–328). Springer, Cham. https://doi.org/10.1007/978-3-031-47655-6_19

Ulrich, K. T., & Eppinger, S. D. (2008). Product design and development (4th ed.). McGraw-Hill/Irwin.

Doyle, A. C. (2002). A scandal in Bohemia. In The adventures of Sherlock Holmes (Project Gutenberg eBook No. 1661; original work published 1891). Project Gutenberg.

OpenClaw. (n.d.). SOUL.md personality guide. OpenClaw Docs. Retrieved July 13, 2026, from https://docs.openclaw.ai/concepts/soul

Vitali, A., Schneegass, C., & Dingler, T. (2026). Designing access to character information in mobile fiction reading: A comparative study of reading interfaces. Proceedings of the ACM on Human-Computer Interaction, 10(5), Article MHCI5112. https://doi.org/10.1145/3821660

Busselle, R., & Bilandzic, H. (2009). Measuring narrative engagement. Media Psychology, 12(4), 321–347. https://doi.org/10.1080/15213260903287259

Kuijpers, M. M., Hakemulder, F., Tan, E. S., & Doicaru, M. M. (2014). Exploring absorbing reading experiences: Developing and validating a self-report scale to measure story world absorption. Scientific Study of Literature, 4(1), 89–122. https://doi.org/10.1075/ssol.4.1.05kui

Hu, E., & Du, R. (2026). Beyond one-on-one: Authoring, simulating, and testing dynamic human-AI group conversations. Google Research Blog. https://research.google/blog/beyond-one-on-one-authoring-simulating-and-testing-dynamic-human-ai-group-conversations/

APPENDIX

A. Study 1 Interview Materials and Analysis

Interview Protocol

**In this study, "emotional engagement" refers to the ways readers become emotionally involved in fiction reading. This may include connections with characters, responses to narrative events, or engagement with the story as a whole (e.g. fiction's world-building). Rather than focusing on a specific type of emotional response, we are interested in understanding how readers experience and describe their emotional involvement during reading.*

- *What are your usual reading habits and frequency?*
- *Under what kind of conditions do you usually read? (time, environment, device...)*
- *What aspect of fiction do you find most engaging or appealing?*

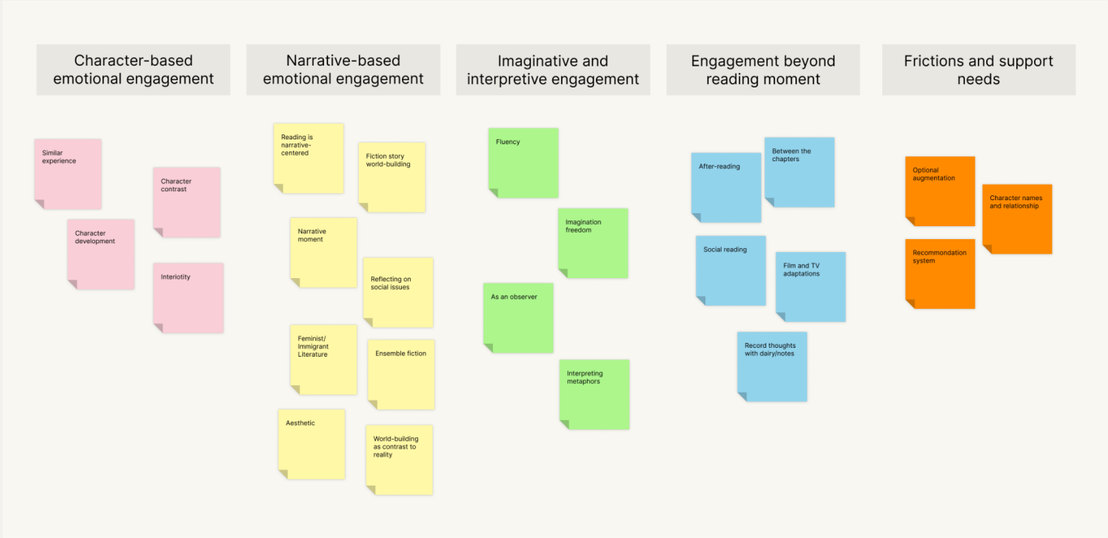
- *Can you recall a moment while reading when you felt emotionally engaged or affected by the story? What happened?*
- *What usually makes you emotionally engaged in a story? (e.g., characters, plot, atmosphere, writing style…)*
- *Do you ever reflect on a story or character after reading? What kind of thoughts or feelings stay with you?*

- *Are you satisfied with your current reading experience? Do you ever feel that something is missing in your reading experience?*
  (e.g., understanding, emotional connection, remembering details…)
- *Have you ever wanted additional support while reading? What kind?*
- *Some reading platforms provide extra elements (e.g., comments, highlights, background info).*
  How do you feel about these?
- *Do you think additional elements could enhance your reading experience or distract you?*

- *Besides reading, do you engage with other narrative media such as films or video games?*
- *Do you feel emotionally engaged differently across these media? How?*
- *What do you think reading does uniquely well compared to other media?*
- *Do you think the lack of visuals or physical presence in reading affects your emotional experience? Or does it support it?*

- *Is there anything else you think is important about your reading experience that we didn't talk about? Please write it down!*

2. Coding Structure and Affinity Mapping Process



B. Study 2 Follow-up Questionnaire

All Likert-scale questions used a 5-point scale from 1 = Strongly disagree to 5 = Strongly agree.

No.	Question	Response type / options
	Survey introduction and consent	
1	I have read the information above and agree to participate in this survey.	Single choice: Yes, I agree; No, I do not agree
	Reading background	
2	How often do you read fiction?	Single choice: Several times a week; About once a week; A few times a month; A few times a year; Rarely or almost never; I do not read fiction
3	What formats of fiction do you usually read?	Multiple choice: Printed books; E-books; Audiobooks; Web fiction / online fiction; Other
4	If you do not read fiction, could you briefly tell us why?	Open-ended
	Fiction reading experience	
5	I feel emotionally engaged when I can relate to a character's experiences or inner world.	5-point Likert
6	Character growth and development strengthen my emotional investment in a story.	5-point Likert
7	My emotional engagement often comes from the narrative as a whole, not only from individual characters.	5-point Likert
8	I am emotionally engaged by fiction that connects to real-life experiences or social realities.	5-point Likert
9	I am emotionally engaged by fiction that offers distance from everyday life and allows me to enter a different world.	5-point Likert
10	I value the freedom to imagine characters, scenes and fiction worlds in my own way while reading fiction.	5-point Likert
11	My engagement with a story often continues after I stop reading.	5-point Likert
12	After finishing a story, I sometimes like to record, revisit, or keep something that helps me stay connected to the story. (For example, notes, journals, favourite passages, or related objects.)	5-point Likert
13	Shared reading elements in digital reading platforms, such as others' reactions, highlights, or comments, can make reading feel more engaging.	5-point Likert
	Reading support and augmentation	
14	My current fiction reading experience already feels sufficient, and I would not want additional support or augmentation.	5-point Likert
15	I am open to support features as long as they do not interrupt the reading flow.	5-point Likert
16	I would prefer added reading elements to appear between chapters or after reading, rather than during the reading process.	5-point Likert
17	I sometimes struggle to remember character names and relationships.	5-point Likert
18	I would appreciate optional support for tracking concrete story elements, such as maps, key objects, timelines, or clues.	5-point Likert
19	Which types of reading support or augmentation would you find potentially valuable?	Multiple choice: Character relationship overviews; A place to record personal thoughts or reactions; Access to other readers' comments or interpretations; Maps, timelines, or background information; After-reading recommendation; Optional explanations; No additional support; Other
	Final open questions	
20	Is there anything else you would like to share about how you experience fiction reading, or about what kind of support you would or would not want?	Open-ended
21	If you love reading and are interested in participating in a more in-depth interview, please leave your name and email address below.	Optional contact: Personal contact details are not included in the results appendix.

C. Study 2 Questionnaire Results Summary

1. Likert-scale Response Summary

N = 34. Agreement combines scores 4 and 5; neutral refers to score 3; disagreement combines scores 1 and 2.

Result area	Related Likert item(s)	Disagree	Neutral	Agree	Main response pattern
Character-related engagement	Q5: Relating to a character's experiences or inner world; Q6: Character growth and development	Q5: 2.9%; Q6: 8.8%	Q5: 29.4%; Q6: 14.7%	Q5: 67.6%; Q6: 76.5%	Generally positive; character growth received the strongest agreement.
Narrative engagement	Q7: Narrative as a whole, not only individual characters; Q8: Connection to real-life experiences or social realities; Q9: Distance from everyday life / entering another world	Q7: 8.8%; Q8: 20.6%; Q9: 5.9%	Q7: 41.2%; Q8: 17.6%; Q9: 29.4%	Q7: 50.0%; Q8: 61.8%; Q9: 64.7%	Positive overall, but more varied than character-related engagement.
Imaginative openness	Q10: Freedom to imagine characters, scenes, and worlds	Q10: 11.8%	Q10: 20.6%	Q10: 67.6%	Most participants valued imaginative freedom.
After-reading engagement	Q11: Engagement continues after reading; Q12: Record, revisit, or keep something after finishing	Q11: 26.5%; Q12: 38.2%	Q11: 17.6%; Q12: 8.8%	Q11: 55.9%; Q12: 52.9%	More polarised, suggesting varied after-reading practices.
Shared reading	Q13: Shared reading elements: reactions, highlights, comments	Q13: 20.6%	Q13: 20.6%	Q13: 58.8%	Positive for some participants, but not universal.
Current reading sufficiency	Q14: Current reading already feels sufficient	Q14: 17.6%	Q14: 55.9%	Q14: 26.5%	Neutral responses dominated.
Non-intrusive support	Q15: Open to support if it does not interrupt reading flow	Q15: 14.7%	Q15: 23.5%	Q15: 61.8%	Generally positive when support remained non-intrusive.
Timing of support	Q16: Prefer added elements between chapters or after reading	Q16: 29.4%	Q16: 26.5%	Q16: 44.1%	Mixed responses; preferred timing differed among participants.
Trackable story elements	Q17: Struggle to remember character names and relationships; Q18: Support for tracking maps, objects, timelines, or clues	Q17: 14.7%; Q18: 14.7%	Q17: 26.5%; Q18: 14.7%	Q17: 58.8%; Q18: 70.6%	Relatively strong agreement, especially for tracking concrete story elements.

2. Background, Preferences, and Open Responses

N = 34. Multiple-choice items allow more than one selected option, so percentages may exceed 100% in total.

Reading Background

Fiction reading frequency	n	%
Several times a week	8	23.5%
About once a week	3	8.8%
A few times a month	5	14.7%
A few times a year	14	41.2%
Rarely or almost never	4	11.8%
I do not read fiction	0	0.0%

Reading format	n	%
Printed books	14	41.2%
E-books	25	73.5%
Audiobooks	4	11.8%
Web fiction / online fiction	9	26.5%

Support features selected as potentially valuable

Support feature	n	%	Visual proportion
Character relationship overviews	25	73.5%	
A place to record personal thoughts or reactions	10	29.4%	
Access to other readers' comments or interpretations	14	41.2%	
Maps, timelines, or background information to help understand the story world	24	70.6%	
After-reading recommendation	10	29.4%	
Optional explanations for difficult words, concepts, metaphors, or implied meanings	16	47.1%	
I do not think I need any additional support or augmentation	2	5.9%	

Open-ended response themes

Theme	Summary of response content
Spoiler / plot-leak concerns	Comments mentioned too much related content might spoil the plot and concern about plot leaks.
Over-concrete visualisation	One response noted that very concrete images may limit the reader's imagination.
Shared reading interest	One response referred to viewing other readers' comments or reactions.
Richer multimodal / tangible extensions	Some responses imagined watching fiction or making tangible / 3D elements.
Reading context and neutral comments	Some responses described reading context, expressed interest in the research outcome, or left no additional comments.

D. Final Prototype Evaluation Materials

1. Prototype Evaluation Questionnaire

All questionnaire items used a 7-point scale from 1 = Strongly disagree to 7 = Strongly agree.

No.	Question	Response type / options
Part 1. During-reading Support		
1	I understood when and how to use the character support features during reading.	7-point Likert
2	The character support helped me keep track of who the characters were during reading.	7-point Likert
3	The character cards helped me understand relevant character information at the right moment in the story.	7-point Likert
4	The relationship diagram helped me understand how the characters were connected.	7-point Likert
5	The support helped me reconnect with a character when they reappeared later in the excerpt.	7-point Likert
6	The character information helped me notice how my impression of a character changed during reading.	7-point Likert
7	The support features did not interrupt my reading flow too much.	7-point Likert
8	I could return to the story easily after opening a character card or relationship diagram.	7-point Likert
9	The support features left enough room for me to imagine the characters and story world in my own way.	7-point Likert
Part 2A. Cast Repository & Pantheon		
10	I understood the difference between the Cast Repository and the Pantheon archive.	7-point Likert
11	The Pantheon archive felt like a meaningful place to revisit characters after reading.	7-point Likert
12	I could imagine collecting characters from different stories into a personal archive like the Pantheon.	7-point Likert
13	The idea of keeping characters after reading made the reading experience feel more personal.	7-point Likert
Part 2B. Roundtable Dialogue		
14	I understood the purpose of the roundtable dialogue after entering from the Pantheon.	7-point Likert
15	The roundtable dialogue felt like a discussion between multiple characters, rather than separate answers from a chatbot.	7-point Likert
16	The characters' perspectives felt distinct from one another.	7-point Likert
17	I felt able to control when to listen, pause, or join the discussion.	7-point Likert
18	The dialogue helped me think about the characters beyond the original story.	7-point Likert
19	I could imagine bringing my own questions or topics into the roundtable dialogue after reading.	7-point Likert
Part 3. Overall Experience		
20	Overall, this prototype offered a meaningful way to engage with fictional characters.	7-point Likert
21	The during-reading support and the after-reading Pantheon / dialogue experience felt connected as part of one coherent reading experience.	7-point Likert
22	The prototype felt suitable for fiction reading rather than feeling like a separate study or information tool.	7-point Likert
23	I could imagine using a similar system when reading fiction in the future.	7-point Likert

2. Interview, Observation, and Recall Materials

These materials were used after or during the prototype experience to collect qualitative feedback and supplementary recall data.

Semi-structured interview guide

Section	Guiding questions
A. During-reading support	How did the character support affect your reading experience? Did the character cards or relationship diagram help you follow the story, or did they interrupt your reading? At what moments did you feel you wanted character support?
B. Pantheon	How did you understand the difference between the Cast Repository and the Pantheon? Did the idea of collecting and revisiting characters after reading make sense to you? What kinds of characters would you want to keep in a personal archive like this?
C. Roundtable dialogue	How did you experience the roundtable dialogue? Did it feel like a discussion between different characters, or more like separate chatbot responses? Would you use this dialogue only to talk about the story, or also to bring in your own questions and topics?
D. Coherence between Part 1 and Part 2	Did the during-reading support and the after-reading Pantheon / dialogue feel connected to you? Did the transition from reading support to character archive and dialogue feel natural?
E. Overall impression	How would you describe your overall experience with the prototype? Was there any part that felt especially useful, confusing, or memorable?
F. Improvement	If you could change one thing about this prototype, what would it be? Is there anything you would remove, simplify, or make more visible?

Observation sheet

Field	Recording format
Participant ID	Text entry
Date	Text entry
Reading time	Duration
Number of clicks on the name	Count
Number of clicks on the relationship	Count
Observed behavior	Observation notes
Confusion / hesitation	Observation notes
Prompt needed?	Yes / No

Recall Task

No.	Question	Response type
1	Which main characters do you remember from the excerpt?	Open-ended
2	How would you describe Irene Adler at this point in the story?	Open-ended
3	How are Sherlock Holmes, the King, and Irene Adler connected?	Open-ended
4	Did your impression of Irene Adler change during reading? If yes, how?	Open-ended

E. Final Prototype Evaluation Analysis

1. Remapped Questionnaire Dimension Summary

This table summarises how questionnaire items were remapped into experiential dimensions and interpreted at the dimension level.

Dimension	Items	Mean	Agreement / variation	Dimension-level tendency
Conceptual Clarity	Q1, Q10, Q14	5.95	All items have 6/7 or more agreement; range 4-7.	Participants generally understood the prototype's main functions and transitions.
Character / Narrative Understanding	Q2, Q3, Q4	5.86	All items have 6/7 or more agreement; range 4-7.	Character cards and the relationship diagram were broadly perceived as useful for staying oriented within the story.
Reading Flow / Imaginative Openness	Q7, Q8, Q9	5.28	All items have 6/7 or more agreement; Q8 contains one low outlier at 1.	Support was generally compatible with reading flow and imaginative openness, but returning to the story needs smoother interaction.
Character Reconnection / Archive Meaningfulness	Q5, Q6, Q11-Q13	5.80	Q6 has 4/7 agreement; all other items have 6/7 or more agreement.	The system was perceived as meaningful for reconnecting with characters and imagining a personal archive.
Dialogue Quality	Q15-Q17	4.85	Agreement is weaker, ranging from 3/7 to 5/7; Q17 ranges from 2-6.	Dialogue was the weakest and most varied dimension, especially around multi-character quality and control.
Open-topic Reflection Beyond Text	Q18, Q19	6.07	Both items have 6/7 or more agreement; Q19 has 7/7 agreement.	Participants strongly endorsed bringing their own questions into the roundtable after reading.
Overall Experience (analysed separately)	Q20-Q23	6.29	All overall items have 7/7 agreement; range 5-7.	Participants strongly accepted the overall concept, coherence, suitability for fiction reading, and future-use potential.

2. Evaluation Triangulation Summary

This table summarises how questionnaire tendencies, interviews, observations, and recall-task evidence were triangulated into result claims.

Dimension	Questionnaire tendency	Interview explanation	Observation / recall evidence	Tensions	Primary Result
Conceptual Clarity	The questionnaire suggests that participants generally understood the prototype's main functions and transitions, indicating that the overall concept was clear and accessible.	Participants generally recognised the design concept and could imagine its future potential for longer and more complex fiction reading.	During the introduction, all participants appeared to understand the concept well; no visible confusion or negative reactions were observed. Recall task: N/A.	The prototype used a short excerpt, so the current test context may have limited the full effect of the concept.	Participants generally understood and accepted the prototype concept as a coherent augmented reading experience.
Character / Narrative Understanding	Participants broadly perceived the character cards and relationship diagram as useful for tracking characters, understanding relationships, and staying oriented within the story.	Participants consistently described the during-reading system as effective support for reducing confusion about characters and their relationships.	Most participants opened character cards or diagrams during reading without needing much guidance, and every participant opened them more than five times. Recall task: all participants could recall character identities, relationships, and key plot information, but this was treated only as supplementary qualitative material.	There was no no-support condition, so the evaluation cannot demonstrate improved recall or comprehension. Participants also expected lightweight update notifications when character information changed.	Participants perceived the progress-aware character support system as useful for following and reconnecting with characters and relationships.
Reading Flow / Imaginative Openness	The questionnaire indicates that the support was generally experienced as compatible with reading flow and imaginative openness, although one low score on returning to the story suggests that interaction smoothness needs further explanation.	One participant gave a very low score for returning to the story because, from a design perspective, they felt the interaction details were not smooth enough and therefore affected the experience.	Some participants needed prompts because parts of the UI were not explained clearly enough, for example how to return or switch between views. These issues appeared to relate more to interface clarity than to the support concept itself. Recall task: N/A.	The main tension concerned UI refinement rather than the principle of support itself.	The during-reading support system was generally compatible with reading flow and imaginative openness, but depended on smoother and more fully resolved interaction details.
Character Reconnection / Archive Meaningfulness	Participants generally perceived the system as meaningful for reconnecting with characters and imagining a personal archive, although responses were somewhat weaker on whether the support helped them notice changing impressions of a character.	For participants who already had a habit of revisiting reading experiences, the Pantheon worked well as an archive space. At the same time, even participants without this habit still recognised its role as an important transition between during-reading support and after-reading dialogue.	Observation: N/A. Recall task: N/A.	Several participants expected a larger character library and imagined richer archive use if more characters and stories were available.	The Pantheon was perceived as a meaningful after-reading space for character reconnection and as an important bridge within the overall prototype.
Dialogue Quality	Dialogue Quality was the weakest and most varied dimension. Participants recognised the promise of the roundtable, but responses suggest that multi-character discussion quality, character distinctiveness, and dialogue control still need refinement.	Nearly every participant mentioned that the characters sometimes sounded too educated, logical, or polished. At the same time, participants responded positively to the recognisability of the characters' personalities and speaking habits.	Participants tried many unexpected interaction patterns, such as asking different kinds of questions, attempting to add new characters during the discussion, and testing the same question with different character combinations. Recall task: N/A.	Dialogue tuning still needs work, especially around emotional intensity, conflict, pacing, and control. The current prototype appeared stronger for fiction-related or philosophically framed questions.	The Roundtable Dialogue was perceived as promising and engaging, but its value depended on further development of character distinctiveness, emotional tone, pacing, and user control.
Open-topic Reflection Beyond Text	Participants strongly endorsed the open-topic potential of the dialogue, especially the idea of bringing their own questions into the roundtable after reading, suggesting a strong perceived fit with reflective needs.	Participants gave consistently positive feedback on this aspect, describing it as a way not only to discuss the fiction itself, but also to open broader reflective possibilities.	Observation: N/A. Recall task: N/A.	Participants expected a larger and more diverse character library so that more combinations could be explored through the roundtable.	Open-topic character dialogue was positively received as a meaningful way to extend reflection beyond the original text.

F. Graduation Project Brief

Project Proposal form

IDE Master Graduation Project

In this proposal the agreements made between student and supervisory team about the student's IDE Master Graduation Project are set out. This document needs to be prepared for the Kick-off meeting and should be submitted in MyCase.

Name student Junnan Zhang **Student number** 6253849

Project title Exploring Emotional Reader-Character Relationship in Augmented Reading

Please state the title of your graduation project (above). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

MSc programme ☐ Design for Interaction ■ Integrated Product Design ☐ Strategic Product Design

☐ Other *(in case of a double degree outside IDE):*

Introduction

Describe the context of your project in the box below; What is the domain in which your project takes place? Who are the main stakeholders and what interests are at stake? Describe the opportunities (and limitations) in this domain to better serve the stakeholder interests. (max 250 words)

From ancient myths to contemporary novels, fiction reading has played a persistent role in human society. Acros s cultures and historical periods, fictional narratives have functioned not only as entertainment, but also as a me dium through which people explore social norms, value conflicts, and emotional experiences beyond their immed iate reality. Within fictional worlds, readers are able to rehearse empathy, reflect on relationships, and engage wi th complex inner states. At its core, reading is driven by a desire for emotional connection with fictional worlds a nd characters. Readers do not simply seek to grasp a plot, but to become transported into the narrative, experien cing characters' feelings and perspectives from within.

As reading enters an era of augmented media, new technological possibilities have emerged. Recent systems emp loy augmented and virtual reality to enhance efficiency, usability, or immersive atmosphere, for example by visu alizing fictional spaces or introducing multisensory cues. While such approaches can enrich the spatial and senso ry dimensions of reading, they often position the reader as a passive observer. The environment becomes more vi vid, yet the characters within it remain distant, resulting in experiences that augment space rather than relations hips.

In contrast, research and practice in interactive narratives and video games illustrate how emotional attachment can emerge through active involvement with characters. Games such as Detroit: Become Human, as well as text -driven works like Disco Elysium, demonstrate that strong character relationships can be formed primarily throu gh dialogue, responsiveness, and perceived reciprocity. Rather than merely observing events, users engage with c haracters in ways that foster responsibility and emotional investment.

Despite the availability of immersive reading technologies and theoretical insights into reader – character attach ment, these perspectives have rarely been integrated. While games successfully cultivate relational engagement, c omparable mechanisms remain largely unexplored within augmented reading contexts, particularly in ways that preserve the continuity and coherence of long-form reading.

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Problem Definition

What problem do you want to solve in the context described in the introduction, and within the available time frame of 100 working days? (= Master Graduation Project of 30 EC). What opportunities do you see to create added value for the described stakeholders? Substantiate your choice. (max 200 words)

Current augmented reading systems increasingly enrich fiction reading with atmospheric visuals and spatial interaction. However, these experiences position the reader as a passive spectator, creating a disconnect between the immersive environment and the emotional narrative. As a result, the engagement and relationship between readers and characters that motivates deep reading remains largely unchanged, and augmented elements can even become distractions that compete with narrative flow.
The core problem in this project, therefore, is not a lack of immersion, but a lack of relational structures that allow readers to feel involved with characters without disrupting long-form reading. This reveals an opportunity to explore character-centered forms of augmentation that support engagement while maintaining reading continuity.
The project will focus on fiction reading in augmented contexts and will not aim to transform reading into gamification or branching narrative experience.

Assignment

This is the most important part of the project brief because it will give a clear direction of what you are heading for. Formulate an assignment to yourself regarding what you expect to deliver as result at the end of your project (1 sentence. As you graduate as an industrial design engineer, your assignment will start with a verb (Investigate/Design/Validate/Create), and you may use the format:
(Investigate/Design/Validate/Create) ***a*** *(what will be the deliverable →prototype/roadmap/process/ intervention /approach/guideline/strategy/…)* ***to*** *(what should it do →(create/understand/evaluate/validate/ improve/execute/ analyse/…) (the objective → experience/value/process/product/…)* ***for*** *(whom → target group/client/…)* ***in*** *(what context).*

Explore and design a prototype that creates emotional reading experiences grounded in reader – character relationships for fiction readers in augmented reading contexts.

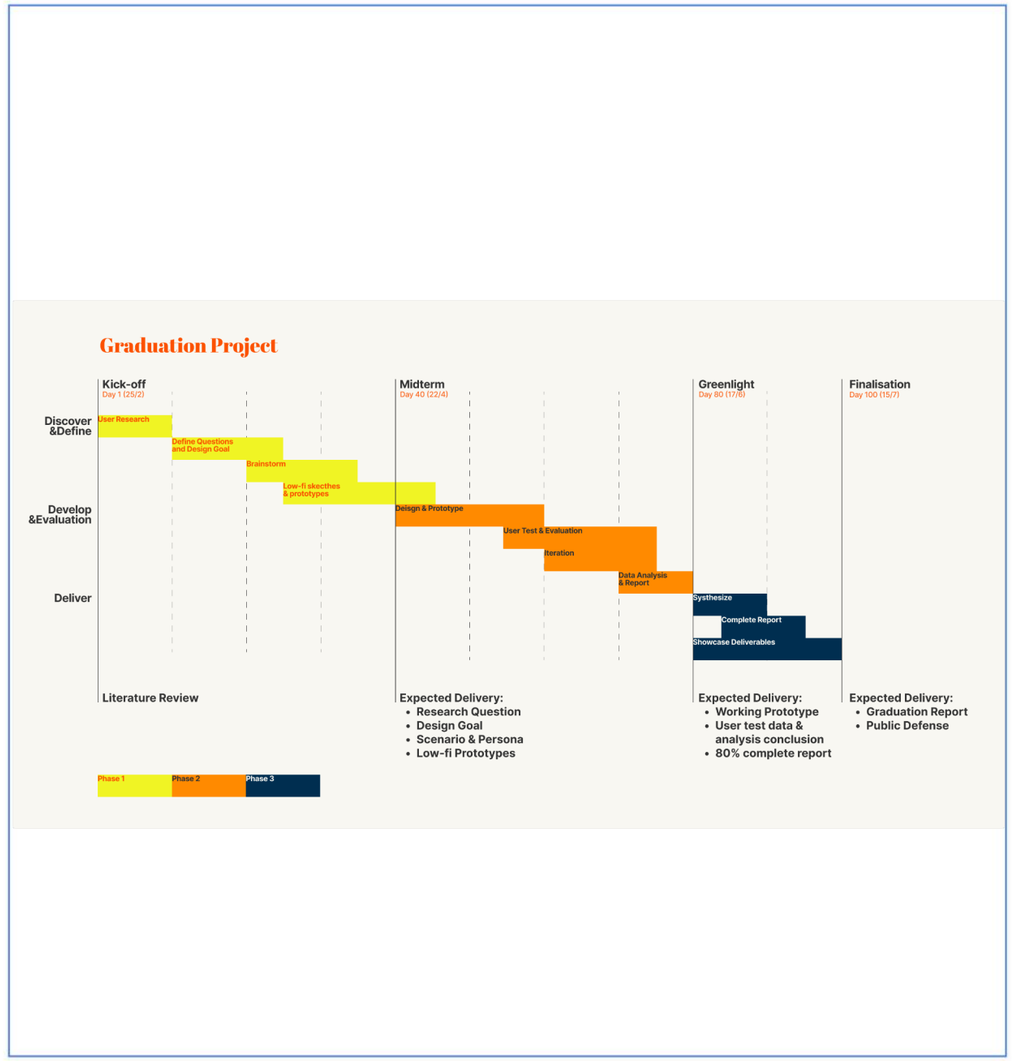
Explain your project approach to carrying out your graduation project and what research and design methods you plan to use to generate your design solution (max 150 words).

The project follows a research-through-design approach to explore how emotional reader-charater relationships can be support within augmented reading experiences. Insights from literature on narrative engagement, character attachment, and augmented reading will be translated into initial design principles and concepts. These concepts will be developed through iterative prototyping, including (scenario-based design and experiential prototypes) that finvestigate how characters may be presented, respond, or accompany the reader during fiction reading.

Prototypes will be refined focsing on character-centered scenarios rather than full system development. They will explore a spectrum of reader – character interaction possibilities ranging from subtle presence to more explicit forms of engagement. Prototypes may be realized through different digital forms, such as screen-based interfaces, conversational character representations, or mixed reality set-up, with the medium selected for its ability to enact the scenarios rather than by technical completeness. Prototypes will be evaluated through qualitative, experience-based methods reflecting on emotional engagement, perceived reader – character relationships, and reading continuity. Insights gained from these evaluations will inform iterative refinement of the concepts, gradually narrowing the design space toward interaction strategies that meaningfully support emotional reading experiences. The outcome will be an experiential prototype accompanied by design insights into character-centered relationships in augmented reading.

Project planning

To make visible how you plan to spend your time, you must make a planning for the full project. You are advised to use a Gantt chart format to show the different phases of your project, deliverables you have in mind, meetings and in-between deadlines. Keep in mind that all activities should fit within the given run time of 100 working days. Your planning should include the ***Kick-off****,* ***Midterm Evaluation****,* ***Green Light*** *and* ***Finalisation*** *(ceremony). Please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any (for instance because of holidays or parallel course activities). Add (an image of) the planning in the box below. If it is not readable, you can add the planning as an attachment to My Case along with this Proposal.*



Motivation and personal ambitions

Explain why you wish to start this project, what competencies you want to prove or develop (e.g. competencies acquired in your MSc programme, electives, extra-curricular activities or other).

Optionally, describe whether you have some (max 5) personal learning ambitions which you explicitly want to address in this project, on top of the learning objectives of the Graduation Project itself. You might think of e.g. acquiring in depth knowledge on a specific subject, broadening your competencies or experimenting with a specific tool or methodology (200 words max).

I am motivated to start this project because reading is a deeply ingrained everyday ritual, present in many people' s daily lives, including my own. As an enthusiast of narrative media, including fictions, films, and games, I have long been interested in how stories create emotional bonds with fictional characters. While emerging technologies increa singly augment narratives with new potentials, I am curious about how such interventions can support relational an d emotional engagement in reading.
Building on my MSc programme, where I have engaged with empirical research methods, psychological theories, an d approaches to designing for emotion, this project offers an opportunity to integrate these perspectives within a sin gle, open-ended design challenge. It allows me to validate my ability to translate theoretical insights into experienti al prototypes and to coherent design outcomes.
On a personal level, this project presents several learning ambitions. As a IPD student, I see this project as a challen ge due to its high degree of freedom, starting from early-stage concepts rather than being constrained by a predefin ed problem or a traditional physical outcome. In addition, evaluating affective and relational experiences presents a particular challenge, as it relies less on quantitative measures and more on qualitative, interpretative forms of ass essment.

TU Delft

Exploring Emotional Engagement in Fiction Reading

Nam Junnan Zhang