Narrative Visualisation in the Age of Generative AI: A Case Study of *The Yellow Wallpaper*

Abstract

This study uses Charlotte Perkins Gilman's *The Yellow Wallpaper* as a case study to explore how close reading can be combined with lightweight natural language processing to construct structured prompts for text-to-image generation. The aim is to examine the potential of this approach in enhancing the directionality and coherence of generated images while also reflecting on its limitations and challenges. Through this experimental practice, the project expected to highlight the collaborative interplay between human judgment and artificial intelligence, thereby expanding new pathways for literary re-creation and reader engagement.

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1.Introduction

1.1 Project Background

Recent advances in artificial intelligence have been largely driven by generative AI, a class of systems capable of producing text, images, and other forms of media (Sengar et al., 2024). In the past few years, such models have achieved unprecedented progress (He, Cao and Tan, 2025). Generative AI tools can produce a wide range of ideas more quickly than humans (Kalota, 2024). Among its many emerging applications, Text-to-Image generation (TTI) has drawn particular attention. It can produce outputs aligned with complex narratives, opening new possibilities for creative expression, visual design, and multimedia content creation, when integrated with large language models (Bie et al., 2023; Dang et al., 2022; Cao et al., 2025;). From another perspective, this may also provide a new technological path for the visualisation of literary texts.

DALL·E 3 is one of the most representative image generation systems today and now integrated into ChatGPT, can transform user queries into detailed textual descriptions, thereby lowering the technical barrier to image generation (Lin et al., 2023; OpenAI, 2025). This feature not only sparked wide-ranging discussions on creativity and modes of expression but also demonstrated significant potential across various domains. Therefore, in this study, the model is employed as an experimental medium that supports the visualisation of narrative literature and critically reflects on the epistemic implications of AI-driven cultural production.

1.2 Research Rationale and Purpose

The Yellow Wallpaper holds an important place in both feminist and Gothic literary traditions, featuring extensive use of imagery that lends itself well to visualisation. However, most modern digital editions still present the work in plain-text form, lacking high-quality illustrations that could deepen readers' understanding and emotional engagement. Historically, when the story was first published in 1892, it was accompanied by only a few simple illustrations, many of which critics argued failed to capture the psychological intensity and symbolic depth of the text. This absence of compelling visual interpretation has persisted into the digital era, with high-quality re-illustration efforts remaining extremely rare. Therefore, addressing this long-standing visual gap forms a key motivation for this project.

The current era represents a democratisation of art and creative production, characterised by the ability of anyone to generate digital images from text (Oppenlaender et al., 2024). The rapid development of AI-driven image generation technologies has opened new possibilities for reinterpreting literary works. However, while current TTI systems may be able to produce visually detailed outputs, the task of narrative-to-image generation demands a higher degree of narrative alignment, preservation of emotional atmosphere, and precision in symbolic expression. For example, in *The Yellow Wallpaper*, the wallpaper pattern is not merely a decorative element but a visual symbol of the protagonist's psychological entrapment and social oppression. To achieve a faithful visualisation, high-precision symbolic representation is essential. The wallpaper needs to be rendered in a way that conveys claustrophobia, distortion, and unease, thereby aligning its visual form with its thematic function, rather than producing a generic, aesthetically pleasing yellow motif devoid of symbolic reference.

These qualities are central to the visualisation of the book. Beyond the performance of the model itself, the design of prompts plays a decisive role in this process. This is because, a general or loosely structured prompts often fail to communicate such layered meanings, resulting in outputs that diverge from the source text in both narrative continuity and symbolic depth.

In the field of digital humanities, natural language processing (NLP) techniques have been widely applied, particularly in the context of large-scale text analysis, to identify language and thematic patterns at the macro level. However, the integration of NLP with close reading for cross-modal generation remains relatively rare. This gap may be especially significant for literary works with distinctive stylistic features, where the absence of context-sensitive human intervention often leads to semantic inaccuracies in automated processing. Therefore, this study combines close reading with lightweight NLP tools to extract narrative elements from the source text, thereby supporting the design of structured prompts for narrative visualisation.

1.3 Research Method Overview

The project's primary aim is to use a single literary text as a lens through which to explore and evaluate a structured prompting framework. Its significance lies not in offering a universal methodology, but in exploring the potential of human-machine collaboration within literary visualisation.

Accordingly, this study follows a three-stage research process.

A. Semantic segmentation and feature extraction

   The stage involves segmenting the text into semantic units, identifying its stylistic and emotion, extracting key elements with lightweight NLP tools, and refining them through close reading. This provides a structured semantic foundation for prompt design, which is detailed further in the "Methodology" chapter.

B. Structured prompt construction

   The extracted elements are organised into clear prompt structures to reduce semantic ambiguity. This stage, also detailed in the Methodology chapter, forms the core process for image generation in this study.

C. Image generation and comparative analysis

   Images are generated from both the structured prompts and the unprocessed original text by using DALL·E 3 and compared across two main dimensions.

   a) Stylistic and emotional consistency

   b) Semantic clarity

   This part is developed in the Discussion chapter and is combined with qualitative analysis to assess the applicability, creative potential, and limitations of the method. Also, following the comparative analysis, the images generated through structured prompting are compiled into an illustrated edition of *The Yellow Wallpaper*.

1.4 Structure of the Dissertation

This dissertation is organised into five chapters.

A. Chapter One is the introductory chapter, which outlines the research background, purpose, and methodological approach.

B. Chapter Two reviews the relevant literature, outlining the research context of *The Yellow Wallpaper*, the development of text-to-image generation and prompt engineering, as well as the close reading and NLP. It also identifies research gaps and formulates the research questions.

C. Chapter Three presents the prompt design methodology, including text segmentation, extraction of semantic elements, prompt construction, and the image-generation workflow.

D. Chapter Four presents and analysis the research findings, comparing the differences between images generated from structured prompts and those from the original text, as well as evaluating the strengths and limitations of images generated using structured prompts alone. The critical methodological implications are also discussed.

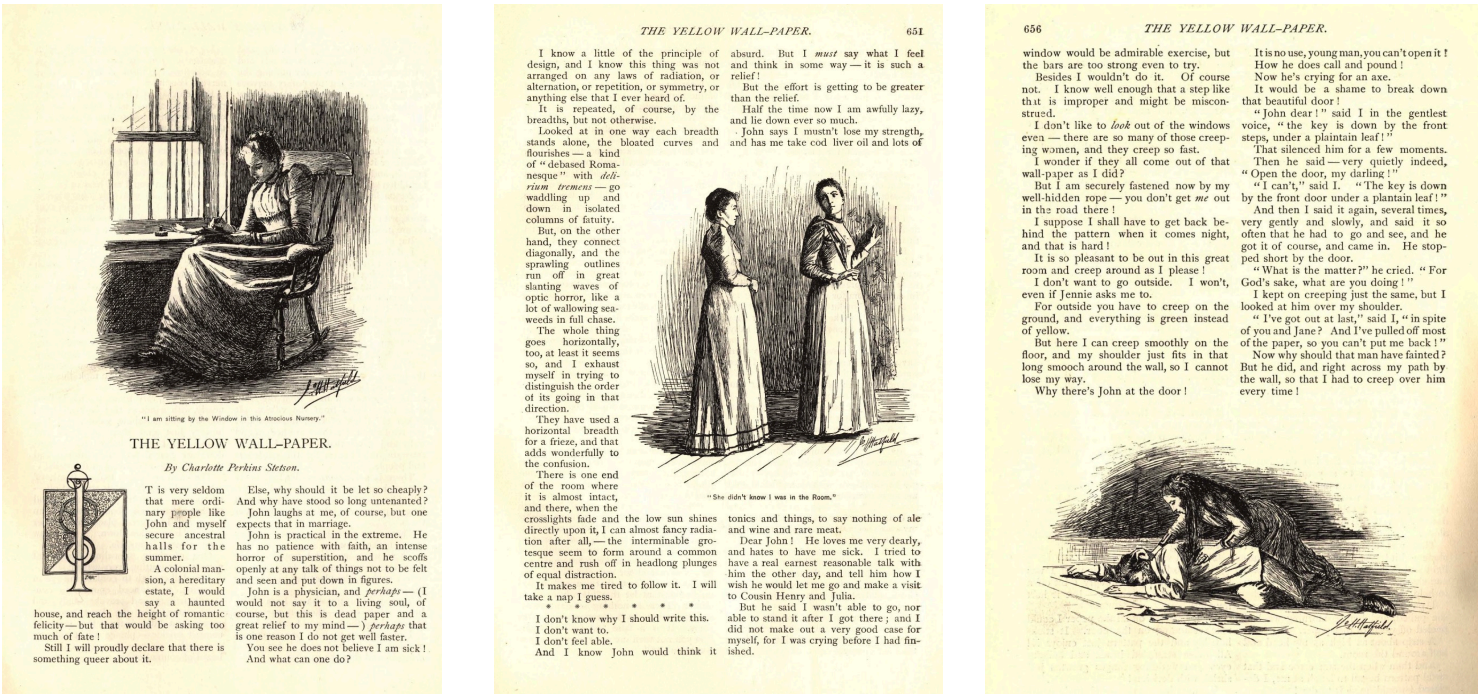
E. Chapter Five summarises the main research findings, reflects on the research process, proposes directions for future work, and discusses the potential applications and cultural value of the illustrated edition of *The Yellow Wallpaper*.

2.Literature review

2.1 Limitations in the Illustration of *The Yellow Wallpaper*

The Yellow Wallpaper is a highly symbolic literary work written by Charlotte Perkins Gilman and first published in The New England Magazine in 1892, it is narrated in the first person by a female protagonist who records her experiences in the form of diary entries (Sahoo, 2021). The story centers on the wallpaper as its narrative core, with the illusion the narrator derives from it serving as a crucial driving force of the plot (Estok, 2023). The various fantasies embedded in the wallpaper both construct an oppressive atmosphere and function as externalised symbols of the narrator's psychological breakdown, layered with meanings of madness, repression and the erasure of female subjectivity. For instance, the plants and fungi, the watchful eyes, and the woman behind the wallpaper together form a complex and richly textured system of metaphors (Zeidanin, 2021; Estok, 2023).By combining striking visual imagery, complex symbolism, and strong emotional tension, the work offers rich material for visually conveying its core themes and metaphors, enabling it suited for visual reinterpretation and digital illustration.

When *The Yellow Wallpaper* was first published, it was accompanied by three illustrations by Joseph Henry Hatfield (Repas, 2023)(See Figure 1). Repas (2023, pp. 1-2) argues that although they highlighted the protagonist's "abnormal" condition to some extent, to depict madness as a staged performance, thus implying that her mental illness derived mainly from a failure to follow proper rest-cure practices rather than from the oppressive social and domestic environment that Gilman intended to criticise. However, subsequent editions have made little progress in providing a more faithful visual interpretation. In fact, a different form of absence has emerged, as most modern digital editions omit illustrations entirely. For instance, both the 2015 and 2017 editions contained no images. This prolonged lack of appropriate visual reinterpretation has motivated the present study's interest in the role of illustration in literary interpretation.



"I am sitting by the Window in this Atrocious Nursery."

THE YELLOW WALL-PAPER.

By Charlotte Perkins Stetson.

IT is very seldom that mere ordinary people like John and myself secure ancestral halls for the summer.

A colonial mansion, a hereditary estate, I would say a haunted house, and reach the height of romantic felicity — but that would be asking too much of fate!

Still I will proudly declare that there is something queer about it.

Else, why should it be let so cheaply? And why have stood so long untenanted?

John laughs at me, of course, but one expects that in marriage.

John is practical in the extreme. He has no patience with faith, an intense horror of superstition, and he scoffs openly at any talk of things not to be felt and seen and put down in figures.

John is a physician, and *perhaps* — (I would not say it to a living soul, of course, but this is dead paper and a great relief to my mind —) *perhaps* that is one reason I do not get well faster.

You see he does not believe I am sick! And what can one do?

THE YELLOW WALL-PAPER. 651

I know a little of the principle of design, and I know this thing was not arranged on any laws of radiation, or alternation, or repetition, or symmetry, or anything else that I ever heard of.

It is repeated, of course, by the breadths, but not otherwise.

Looked at in one way each breadth stands alone, the bloated curves and flourishes — a kind of "debased Romanesque" with *delirium tremens* — go waddling up and down in isolated columns of fatuity.

But, on the other hand, they connect diagonally, and the sprawling outlines run off in great slanting waves of optic horror, like a lot of wallowing seaweeds in full chase.

The whole thing goes horizontally, too, at least it seems so, and I exhaust myself in trying to distinguish the order of its going in that direction.

They have used a horizontal breadth for a frieze, and that adds wonderfully to the confusion.

There is one end of the room where it is almost intact, and there, when the crosslights fade and the low sun shines directly upon it, I can almost fancy radiation after all, — the interminable grotesque seem to form around a common centre and rush off in headlong plunges of equal distraction.

It makes me tired to follow it. I will take a nap I guess.

* * * * * *

I don't know why I should write this.

I don't want to.

I don't feel able.

And I know John would think it absurd. But I *must* say what I feel and think in some way — it is such a relief!

But the effort is getting to be greater than the relief.

Half the time now I am awfully lazy, and lie down ever so much.

John says I mustn't lose my strength, and has me take cod liver oil and lots of tonics and things, to say nothing of ale and wine and rare meat.

Dear John! He loves me very dearly, and hates to have me sick. I tried to have a real earnest reasonable talk with him the other day, and tell him how I wish he would let me go and make a visit to Cousin Henry and Julia.

But he said I wasn't able to go, nor able to stand it after I got there; and I did not make out a very good case for myself, for I was crying before I had finished.

"She didn't know I was in the Room."

656 THE YELLOW WALL-PAPER.

window would be admirable exercise, but the bars are too strong even to try.

Besides I wouldn't do it. Of course not. I know well enough that a step like that is improper and might be misconstrued.

I don't like to *look* out of the windows even — there are so many of those creeping women, and they creep so fast.

I wonder if they all come out of that wall-paper as I did?

But I am securely fastened now by my well-hidden rope — you don't get *me* out in the road there!

I suppose I shall have to get back behind the pattern when it comes night, and that is hard!

It is so pleasant to be out in this great room and creep around as I please!

I don't want to go outside. I won't, even if Jennie asks me to.

For outside you have to creep on the ground, and everything is green instead of yellow.

But here I can creep smoothly on the floor, and my shoulder just fits in that long smooch around the wall, so I cannot lose my way.

Why there's John at the door!

It is no use, young man, you can't open it!

How he does call and pound!

Now he's crying for an axe.

It would be a shame to break down that beautiful door!

"John dear!" said I in the gentlest voice, "the key is down by the front steps, under a plaintain leaf!"

That silenced him for a few moments.

Then he said — very quietly indeed, "Open the door, my darling!"

"I can't," said I. "The key is down by the front door under a plantain leaf!"

And then I said it again, several times, very gently and slowly, and said it so often that he had to go and see, and he got it of course, and came in. He stopped short by the door.

"What is the matter?" he cried. "For God's sake, what are you doing!"

I kept on creeping just the same, but I looked at him over my shoulder.

"I've got out at last," said I, "in spite of you and Jane? And I've pulled off most of the paper, so you can't put me back!"

Now why should that man have fainted? But he did, and right across my path by the wall, so that I had to creep over him every time!

Figure 1: Original Illustrations from The Yellow Wallpaper

Although illustrations play an important role in enriching narratives and shaping the reader's experience, their value has long been overlooked in narrative studies. At the theoretical level, Nikolajeva and Scott (2000, pp.225-226) argue that both visual and verbal elements are essential for complete communication, and that the interaction between words and images not only enhances the narrative but also stimulates the reader's imagination and critical thinking. Jung (2021, p. 5) similarly emphasises that illustrations are meaningful supplements to the text they accompany, and adding more images that capture specific moments can provide a clearer visual narration aligned with the text, while also assisting readers with limited visual literacy. However, the current publishing status presents a sharp contrast to these insights, which seems to confirm Nordelman's (1990, p.13) criticism that narrative theory often privileges the textual modes of engaging readers while neglecting the contribution of illustrations. This highlights an enduring blind spot in narrative studies, where the visual dimension of storytelling has tended to be marginalised.

In this context, employing contemporary technology to reintegrate the visual dimension into literary interpretation may serve as a meaningful intervention. As Bolter and Grusin (1999) observe, new media rarely detach entirely from old media but instead sustain a dynamic relationship with them. From this perspective, the shift of *The Yellow Wallpaper* from traditional print to digital editions can be seen as a form of "reconfiguration" that, through the removal of illustrations, diminished its visual dimension. By contrast, the AI re-illustration practice in this study may be understood as another form of reconfiguration, one that has the

potential to reintroduce and creatively reinterpret visual narratives, thereby opening possibilities for restoring and expanding the visual layer of the story.

2.2 Opportunities and Challenges in Text-to-Image Generation

Text-to-image (TTI) synthesis refers to a computational method that transforms human-written text descriptions into images that semantically correspond to the text (Agnese et al., 2019). In recent developments, large-scale text-to-image generation models, have become the most representative implementation of this approach. Trained through self-supervised deep learning on massive datasets, these models are capable of producing high-quality, open-domain images from multimodal inputs (Ko et al., 2023). Such models not only demonstrate wide-ranging applications in fields such as art, design, and multimedia, but also provide creators with more expressive and flexible tools (Paananen et al., 2023; Smith et al., 2023; Zhang & Tang, 2024).

Building on this foundation, the integration of large language models with TTI in recent years has further expanded the expressive capacity of such systems. Among these developments, the integration of DALL·E 3 with ChatGPT is particularly noteworthy. By using ChatGPT-4's abilities for contextual understanding and reasoning, this integration enhances the power of TTI generation (Baktash & Dawodi, 2023; Gong et al., 2023; OpenAI et al., 2023; OpenAI, 2025;). For instance, the platform not only transforms user queries into more detailed textual descriptions, but also provides a conversational interface that supports multi-turn interactions, enabling researchers to reference previously generated outputs when creating subsequent images (Lin et al., 2023). This advancement provides the technical foundation for AI re-illustration of *The Yellow Wallpaper* in this project.

However, TTI technologies also face numerous limitations. First, they are often constrained by biases, a lack of personalisation, and difficulties in generating images with philosophical depth, narrative coherence, or complex interpretative value (Ko et al., 2023; Singh, 2024). Second, at the technical level, models frequently produce incorrect associations between entities and their visual attributes (Rassin et al., 2023). More fundamentally, Samek et al. (2017, p. 1) points out that AI models rely on deeply nested nonlinear structures and typically operate in a "black box" manner, offering no clear explanation of the mechanisms underlying their outputs. This lack of transparency represents a critical drawback.

In view of these constraints, the creative process should perhaps not be fully delegated to the models themselves. There is a need to develop a critical perspective on AI art while simultaneously exploring new possibilities for "human-machine co-creativity" in the age of

artificial intelligence (Zylinska, 2020). Therefore, the core of present study is not about delegating the design and generation of literary reinterpretation entirely to the machine, but in foregrounding the significance and value of human-machine collaboration throughout the process (See Figure 2).

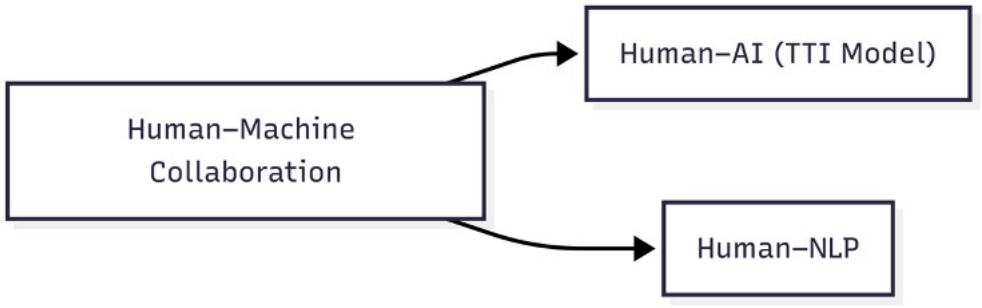


Figure 2: The Human-Machine Collaboration Discussed in This Project

2.3 Prompt Engineering

In all generative AI systems, users interact with models through natural language prompts rather than programming commands, thereby guiding them to produce outputs that meet the desired quality and quantity (White et al., 2023; Amatriain, 2024). In this sense, prompts serve as the key interface between human users and generative models (Wang et al., 2024). Prompt engineering refers to the process of designing and creating these natural language instructions (or prompts) (Vatsal & Dubey, 2024). It has become the central control mechanism in such systems and a critical topic in generative AI research.

For example, Giray (2023, pp. 2631-2632), using ChatGPT as a case study, points out that effective prompts should provide sufficient contextual information to help the model understand the task, maintain focus on the content, and avoid unnecessary verbosity or information overload, thereby improving the relevance and accuracy of the generated output. While such methods have proven effective in text generation, TTI tasks pose greater challenges. This is because, unlike language generation, which operates within a finite vocabulary, TTI must construct outputs within an almost unlimited space of potential images (Żelaszczyk and Mańdziuk, 2024). That makes the production of “valid” images far more difficult than generating coherent text. Consequently, TTI generation relies more heavily on precise and well-structured prompts, which play a critical role in constraining and guiding the model’s output.

Accordingly, in the context of TTI tasks, many scholars have attempted to propose effective prompt design strategies. For example, Liu and Chilton (2022) demonstrated through experiments that subject and style keywords choice play a crucial role in determining image

quality. Similarly, Xie et al. (2023), through prompt log analysis of text-to-image systems, further revealed prompt length significantly affect generation outcomes. However, such studies largely remain at the level of strategic recommendations and have yet to develop into reusable workflows or structured input frameworks.

At the same time, due to the inherent instability of TTI models, random manual prompt design often relies heavily on trial-and-error, which not only consumes considerable human effort and reduces efficiency but also leads to substantial waste of computational resources (He et al., 2024; Luccioni et al., 2024). In response, researchers have turned to automated prompt generation algorithms to alleviate the costs and limitations of manual design. For instance, BeautifulPrompt (Cao et al., 2023) and PromptMagician (Feng et al., 2024) adopt a range of technical strategies to optimise prompts, thereby improving the efficiency and quality of prompt engineering. However, TTI prompting strategies are often designed for relatively simple application scenarios, overlooking the structural complexity and semantic richness of narrative literary texts. This is because, story visualisation generates an image sequence based on an understanding of the entire narrative, whereas text-to-image focuses only on information from individual sentences (Song et al., 2020). Therefore, developing tailored prompts for such content is particularly important.

Kim et al. (2025, p. 1) identified the core of narrative preservation in story visualisation through their experiments and proposed a hierarchical prompting and optimisation strategy that divides the input into background and foreground layers to enhance semantic control and visual consistency. Also, Gao et al. (2025, p.2), in their visual narrative generation benchmark framework (VinaBench), introduced a two-tier prompt rule set. Frist, global rules, which define background information that spans the entire narrative, such as overall visual style, and scene rules, which specify details for each individual image, including the characters, time, and location within a scene.

It should be emphasised that while these two studies have provided valuable inspiration for the prompt design in this project, their approaches are largely oriented toward engineering optimisation and system performance. By contrast, the present study does not aim to develop a generalised algorithm or benchmark but instead uses *The Yellow Wallpaper* as a case study, combining lightweight NLP with close reading to construct a structured and interpretable prompt design framework. Its aims to approach the task from a digital humanities perspective, foreground the reinterpretation of literary texts and offering a methodological pathway for cross-modal literary visualisation that differs from purely technical orientations.

2.4 Integrating Close Reading with Lightweight NLP Tools

Close reading serves as the core method for the structured prompt design in this project. Aurnhammer et al. (2019, p. 4) note that close reading is an umbrella term that encompasses a range of reading strategies characterised by the detailed and in-depth interpretation of a literary work's meaning and structure. This approach not only examines the content of a text but also considers how it is expressed through imagery, figurative language, themes, and other stylistic features (Braun, 2022). However, as Jockers (2013, p. 9) emphasises, while human interpretation is indispensable in literary analysis, relying solely on close reading when dealing with large-scale textual corpora is often time-consuming and prone to overlooking crucial information.

To address this limitation, developments in NLP and computational linguistics have introduced tools such as lemmatizers, part-of-speech taggers, and parsers, which extend human analytical capacity (Kuhn, 2019). These methods underpin the practice of distant reading, allowing researchers to approach literary at a macro level. However, it often achieve it at the expense of close engagement with textual detail, limiting the analysis of nuanced literary context and style (Eve, 2019).Moreover, Kuhn (2019, p.572) also notes that NLP technologies themselves are not without constraints, since no automated system can maintain high accuracy across all contexts.

Additionally, previous studies that combine close reading with computational methods have primarily aimed at producing analytical conclusions (Long and So, 2016; Elkins and Chun, 2019; Ohman and Rossi, 2024). While such an emphasis contributes to textual understanding, it has not sufficiently addressed the creative, practice-oriented applications, such as reimagining illustration methods for narrative literature. This study seeks to fill that gap by extracting narrative elements from *The Yellow Wallpaper* through lightweight NLP techniques and analysing them through close reading, thereby informing the design of structured prompts for image generation.

2.5 Identified Gap and Research Focus

Drawing on the literature review, this study identifies three key research gaps.

A. Existing editions of *The Yellow Wallpaper* have long lacked critical illustration and visual reinterpretation, leaving its symbolic imagery underexplored on the visual level.

B. The integration of close reading and computational methods has largely remained within analytical research in the humanities, with limited extension to generative or practical applications in literary visualisation.

C. Existing frameworks tend to prioritise engineering optimisation and model performance, while lacking a structured and interpretable prompt design grounded in the literary characteristics and humanistic interpretation of narrative texts.

Building on these identified research gaps, this study employes *The Yellow Wallpaper* as a case study to investigate structured prompt design in text-to-image generation for literary visualisation, focusing on three core research questions.

A. Research Question 1 (methodological design): How can close reading and lightweight NLP analysis be combined to construct a structured prompt design framework for AI-assisted illustration of *The Yellow Wallpaper*?

B. Research Question 2 (application and performance): How does the application of this structured prompt framework influence the generated images?

C. Research Question 3 (reflection and evaluation): What are the main strengths and limitations of this project, and how might it inform future practices of human-machine collaboration in literary visualisation?

Specifically, the process begins by segmenting the text into semantic units to determine the fragments. The overall stylistic orientation and emotional tone are then identified, thereby constructing the interpretive background (background layer). Lightweight NLP tools are subsequently employed to extract key narrative elements (foreground layer), which are validated and refined through close reading to ensure that the core semantic features of each scene. Building on these steps, the semantic elements are combined and structured to generate prompts for image creation. Finally, the generated images are integrated with the corresponding textual content and exported as the digital object of this project, producing a digital literary visualisation (See Figure 3).

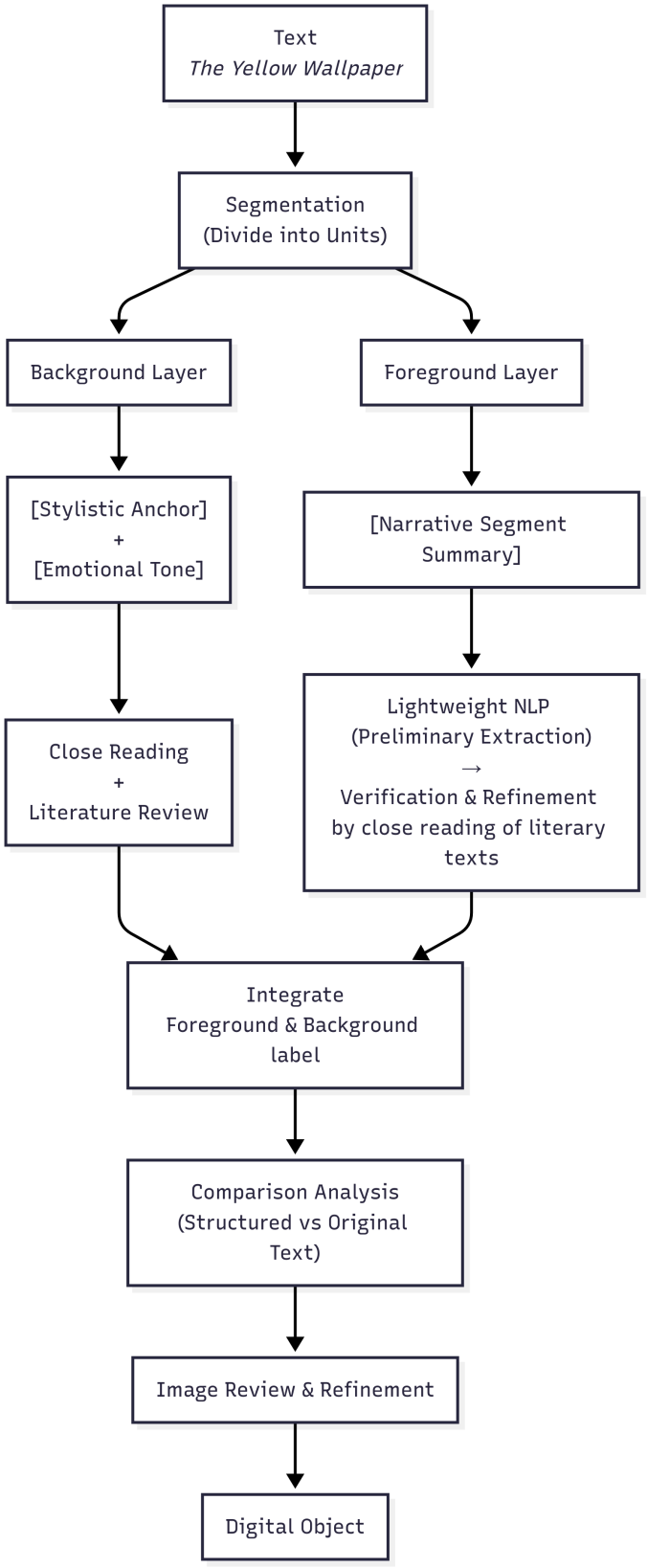
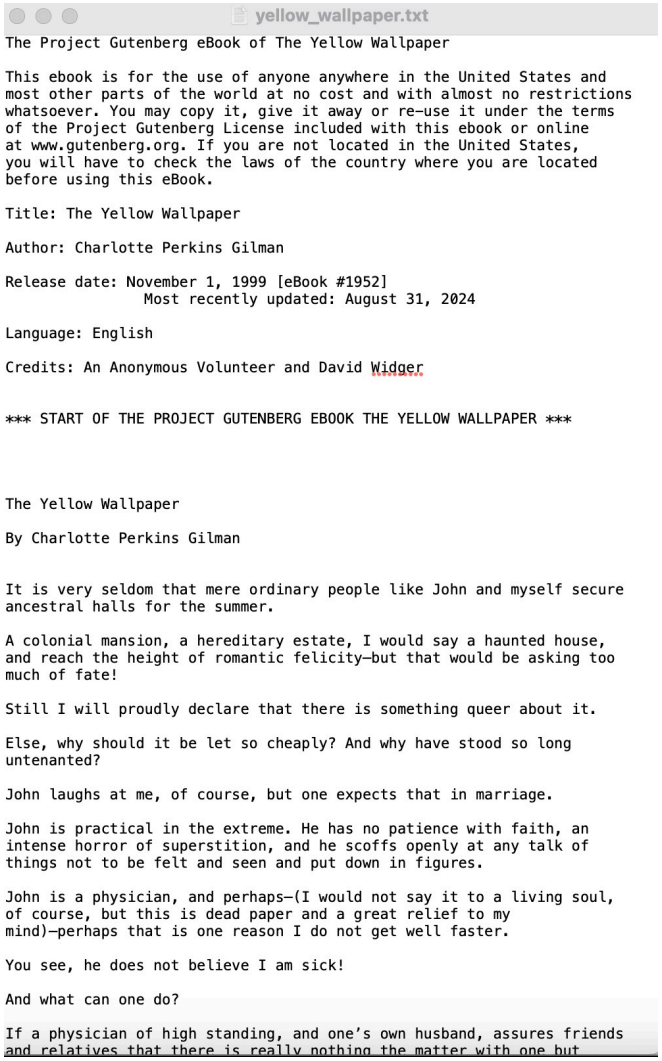


Figure 3: Overview of the Workflow

3.Methodology

3.1 Text Selection

The original publication of *The Yellow Wallpaper* has been made available in digitised form by the United States National Library of Medicine, providing an authoritative archival source. For computational processing, the project additionally employs the Plain Text UTF-8 edition released by Project Gutenberg (See Figure 4). The digital version was processed through optical character recognition and basic structural normalisation, serving as the raw data for subsequent text processing.


yellow_wallpaper.txt

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The Project Gutenberg eBook of The Yellow Wallpaper

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before using this eBook.

Title: The Yellow Wallpaper

Author: Charlotte Perkins Gilman

Release date: November 1, 1999 [eBook #1952]
                Most recently updated: August 31, 2024

Language: English

Credits: An Anonymous Volunteer and David Widger


*** START OF THE PROJECT GUTENBERG EBOOK THE YELLOW WALLPAPER ***



The Yellow Wallpaper

By Charlotte Perkins Gilman


It is very seldom that mere ordinary people like John and myself secure
ancestral halls for the summer.

A colonial mansion, a hereditary estate, I would say a haunted house,
and reach the height of romantic felicity—but that would be asking too
much of fate!

Still I will proudly declare that there is something queer about it.

Else, why should it be let so cheaply? And why have stood so long
untenanted?

John laughs at me, of course, but one expects that in marriage.

John is practical in the extreme. He has no patience with faith, an
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John is a physician, and perhaps—(I would not say it to a living soul,
of course, but this is dead paper and a great relief to my
mind)—perhaps that is one reason I do not get well faster.

You see, he does not believe I am sick!

And what can one do?

If a physician of high standing, and one's own husband, assures friends
and relatives that there is really nothing the matter with one but
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Figure 4: Screenshot of the uncleaned Project Gutenberg raw text format

From a legal and ethical perspective, the author passed away in 1935. Under the provisions of the Copyright, Designs and Patents Act 1988 (s.12), the work has consequently entered the public domain in the United Kingdom, as well as in the majority of other jurisdictions where copyright protection has expired. The utilisation of this text for semantic analysis and visual generation within the present study is therefore compliant with the relevant copyright framework and accords with accepted standards of ethical scholarship.

3.2 Preprocessing of the Original Text

A. Text Cleaning

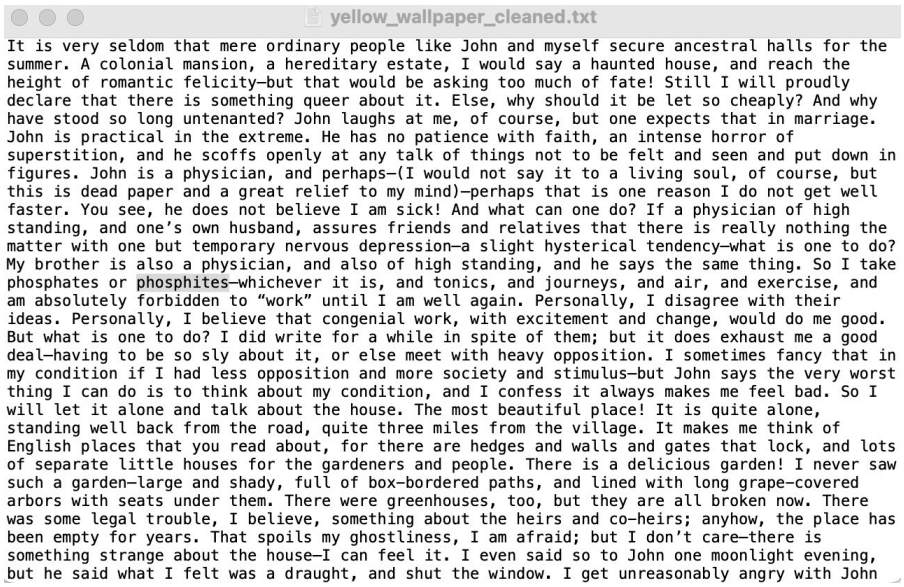
Due to numerous formatting irregularities in the original file from Project Gutenberg, a cleaning procedure is applied to enhance the accuracy of downstream processing.

a) Removal of line breaks (\n) to merge fragmented sentences across lines into complete statements.

b) Standardisation of spacing and punctuation, ensuring consistent formatting to preserve syntactic integrity.

c) Removal of the Project Gutenberg license metadata and the title line, retaining only the narrative body of the text.

d) Exporting the cleaned text as a standardised plain-text file to serve as the input for subsequent NLP tools (See Figure 5).


yellow_wallpaper_cleaned.txt

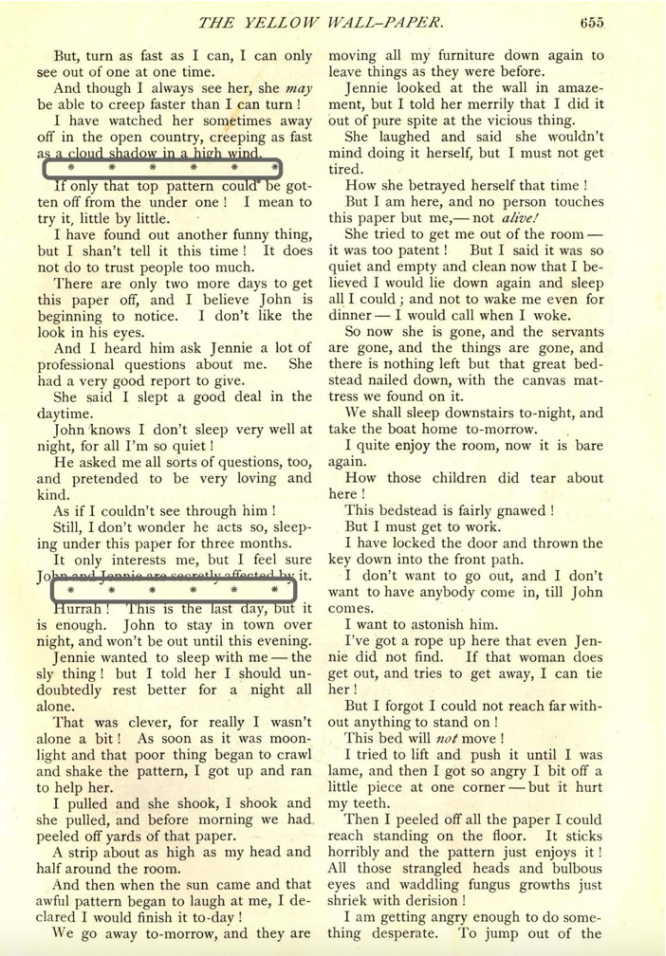
It is very seldom that mere ordinary people like John and myself secure ancestral halls for the summer. A colonial mansion, a hereditary estate, I would say a haunted house, and reach the height of romantic felicity—but that would be asking too much of fate! Still I will proudly declare that there is something queer about it. Else, why should it be let so cheaply? And why have stood so long untenanted? John laughs at me, of course, but one expects that in marriage. John is practical in the extreme. He has no patience with faith, an intense horror of superstition, and he scoffs openly at any talk of things not to be felt and seen and put down in figures. John is a physician, and perhaps—(I would not say it to a living soul, of course, but this is dead paper and a great relief to my mind)—perhaps that is one reason I do not get well faster. You see, he does not believe I am sick! And what can one do? If a physician of high standing, and one's own husband, assures friends and relatives that there is really nothing the matter with one but temporary nervous depression—a slight hysterical tendency—what is one to do? My brother is also a physician, and also of high standing, and he says the same thing. So I take phosphates or phosphites—whichever it is, and tonics, and journeys, and air, and exercise, and am absolutely forbidden to "work" until I am well again. Personally, I disagree with their ideas. Personally, I believe that congenial work, with excitement and change, would do me good. But what is one to do? I did write for a while in spite of them; but it does exhaust me a good deal—having to be so sly about it, or else meet with heavy opposition. I sometimes fancy that in my condition if I had less opposition and more society and stimulus—but John says the very worst thing I can do is to think about my condition, and I confess it always makes me feel bad. So I will let it alone and talk about the house. The most beautiful place! It is quite alone, standing well back from the road, quite three miles from the village. It makes me think of English places that you read about, for there are hedges and walls and gates that lock, and lots of separate little houses for the gardeners and people. There is a delicious garden! I never saw such a garden—large and shady, full of box-bordered paths, and lined with long grape-covered arbors with seats under them. There were greenhouses, too, but they are all broken now. There was some legal trouble, I believe, something about the heirs and co-heirs; anyhow, the place has been empty for years. That spoils my ghostliness, I am afraid; but I don't care—there is something strange about the house—I can feel it. I even said so to John one moonlight evening, but he said what I felt was a draught, and shut the window. I get unreasonably angry with John

Figure 5: Screenshot of the cleaned text (The process code is provided in Appendix 6)

B. Text Segmentation

a) Preliminary segmentation

In the original text, the author uses a series of asterisks as visual markers to separate the narrative into twelve distinct sections (See Figure 6). However, close reading reveals considerable variation in both information density and textual length across these segments. Moreover, many of them contain multiple shifts in narrative focus, visual attention, and psychological state, which makes it challenging to identify clear semantic anchors for prompt construction.



THE YELLOW WALL-PAPER. 655

But, turn as fast as I can, I can only see out of one at one time.

And though I always see her, she *may* be able to creep faster than I can turn!

I have watched her sometimes away off in the open country, creeping as fast as a cloud shadow in a high wind.

* * * * * *

If only that top pattern could be gotten off from the under one! I mean to try it, little by little.

I have found out another funny thing, but I shan't tell it this time! It does not do to trust people too much.

There are only two more days to get this paper off, and I believe John is beginning to notice. I don't like the look in his eyes.

And I heard him ask Jennie a lot of professional questions about me. She had a very good report to give.

She said I slept a good deal in the daytime.

John knows I don't sleep very well at night, for all I'm so quiet!

He asked me all sorts of questions, too, and pretended to be very loving and kind.

As if I couldn't see through him!

Still, I don't wonder he acts so, sleeping under this paper for three months.

It only interests me, but I feel sure John and Jennie are secretly affected by it.

* * * * * *

Hurrah! This is the last day, but it is enough. John to stay in town over night, and won't be out until this evening.

Jennie wanted to sleep with me — the sly thing! but I told her I should undoubtedly rest better for a night all alone.

That was clever, for really I wasn't alone a bit! As soon as it was moonlight and that poor thing began to crawl and shake the pattern, I got up and ran to help her.

I pulled and she shook, I shook and she pulled, and before morning we had peeled off yards of that paper.

A strip about as high as my head and half around the room.

And then when the sun came and that awful pattern began to laugh at me, I declared I would finish it to-day!

We go away to-morrow, and they are moving all my furniture down again to leave things as they were before.

Jennie looked at the wall in amazement, but I told her merrily that I did it out of pure spite at the vicious thing.

She laughed and said she wouldn't mind doing it herself, but I must not get tired.

How she betrayed herself that time!

But I am here, and no person touches this paper but me,— not *alive!*

She tried to get me out of the room — it was too patent! But I said it was so quiet and empty and clean now that I believed I would lie down again and sleep all I could; and not to wake me even for dinner — I would call when I woke.

So now she is gone, and the servants are gone, and the things are gone, and there is nothing left but that great bedstead nailed down, with the canvas mattress we found on it.

We shall sleep downstairs to-night, and take the boat home to-morrow.

I quite enjoy the room, now it is bare again.

How those children did tear about here!

This bedstead is fairly gnawed!

But I must get to work.

I have locked the door and thrown the key down into the front path.

I don't want to go out, and I don't want to have anybody come in, till John comes.

I want to astonish him.

I've got a rope up here that even Jennie did not find. If that woman does get out, and tries to get away, I can tie her!

But I forgot I could not reach far without anything to stand on!

This bed will *not* move!

I tried to lift and push it until I was lame, and then I got so angry I bit off a little piece at one corner — but it hurt my teeth.

Then I peeled off all the paper I could reach standing on the floor. It sticks horribly and the pattern just enjoys it! All those strangled heads and bulbous eyes and waddling fungus growths just shriek with derision!

I am getting angry enough to do something desperate. To jump out of the

Figure 6: Asterisk dividers as structural markers in the original edition

Nevertheless, these segments reflect Gilman's deliberate pacing and psychological structuring. To discard them entirely may undermine interpretive respect for the original narrative. For this reason, the project adopts a fine-grained segmentation that builds upon the original twelve parts. As a preparatory step for further segmentation and semantic analysis, the cleaned digital version from Project Gutenberg is processed. This initial division provides the foundation for subsequent work.

Technically, the procedure employs a Python script in combination with the spaCy toolkit to perform sentence-level tokenisation on the full text. Using the twelve manually determined opening sentences as anchor points, the script programmatically segments the narrative. Each segment is then extracted and saved individually as *Part01.txt* to *Part12.txt*, establishing the basis for the next step (See Figure7).

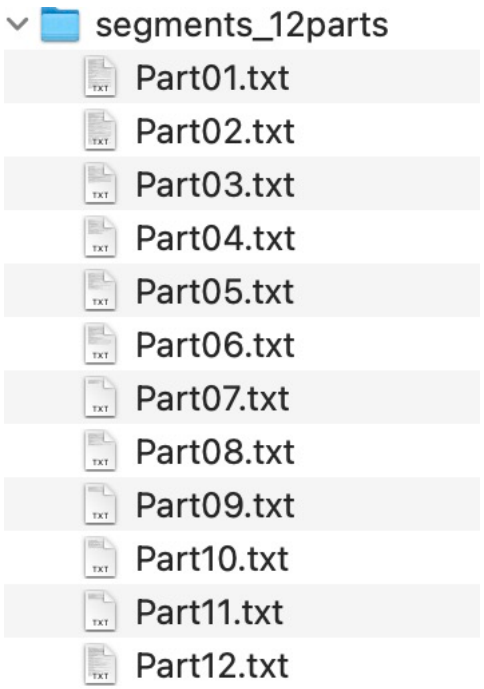


Figure 7: Output of the Preliminary Segmentation (The process code is provided in Appendix 6)

b) Further segmentation

Additionally, as Jung (2021) argues that incorporating more key images both strengthens the text-image coherence and supports readers with limited visual literacy. Building on this insight, the present study undertakes further close reading and fine-grained segmentation of *The Yellow Wallpaper* on the basis of its original twelve structural units. This approach also aims to provide a clearer grasp of visual focal points and emotional shifts in the narrative, while also enable the psychological and spatial dimensions of the text more explicit, thereby laying a solid semantic foundation for the subsequent construction of structured image prompts.

Technically, a Python script is developed to achieve precise segmentation and structural processing of the literary text through anchor-based text positioning. By manually specifying key anchor sentences in combination with automated extraction

and output routines. Each segment is output as a separate file, which served as the groundwork for further step (See Figure 8).

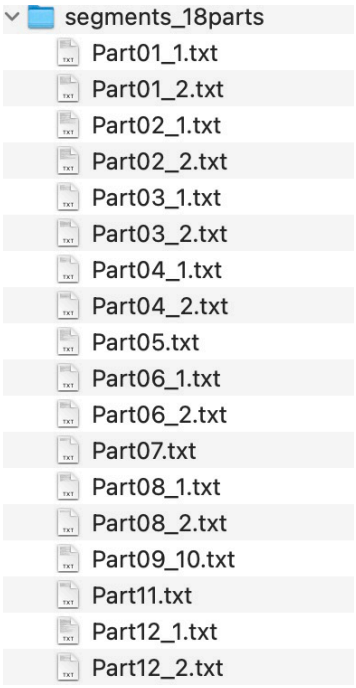


Figure 8: Output of the Further Segmentation (The process code is provided in Appendix 6)

To transparently document the segmentation logic, a comprehensive segmentation table is compiled. The table records all refined narrative units together with their anchor start and end points, as well as the rationale for each segmentation (See Figure 9).

Original Section	**Refined Segment ID**	**Anchor Start**	**Anchor End**	**Segmentation Rationale (Close Reading)**
Part1	Part1_1	*"It is very seldom…"*	*"…and that makes me very tired."*	Narrator focuses on the external setting of the estate. Visual perspective remains anchored in outdoor scenery.
	Part1_2	*"I don't like our room a bit."*	*End*	Focuses on confined physical setting and unsettling room details.

Figure 9: Text Segmentation Details (The full result is provided in Appendix 1)

3.3 Layered Prompt Design

This project adopts the layered prompt strategy outlined by Kim et al. (2025, p.1), in which prompts are divided into background and foreground layers to maintain both accuracy and overall coherence in image generation. The background layer functions to establish a stable visual and emotional framework for the illustration set, providing consistency of style and tone across the narrative. In contrast, the foreground layer operates at the level of individual narrative segments, attending to specific semantic elements and visual anchors so that plot cues and focal points be carried through the sequence. In addition, the foreground layer also serves as the basis for subsequent targeted modifications where necessary.

A. Design of Background-Level Labels (Stylistic anchor and Emotional tone)

The Yellow Wallpaper, at the stylistic level, can be situated within the Female Gothic tradition. Close reading reveals that the narrator projects her fear and resistance toward her husband onto the wallpaper, ultimately identifying with the imagined "woman behind it," a process that reflects both psychological fragmentation and domestic confinement. Crowder (2006, pp.1-2) reinforces this view, arguing that the text depicts not only a series of role transitions, from writer, to wife, to mother, to patient, and finally to "madwoman", but also the gradual erosion of female subjectivity within the patriarchal framework of marriage.

These insights resonates with Davison's (2004, p.48) observation that the Female Gothic differs from the traditional Gothic in its focus on women's conflicts with domestic ideology, particularly marriage and motherhood, and its frequent use of symbolic or fantastic elements to achieve political critique. Within this framework, *The Yellow Wallpaper* employs psychological symbolism and narrative transformation to expose the repression and resistance of women under patriarchy.

The emotional tone of *The Yellow Wallpaper* can be described as one of anxiety and repression, an extension of the Female Gothic tradition. The work is often interpreted within the framework of gendered oppression, with the protagonist's experience read as a critique of patriarchal constraints. This is most evident in her relationship with her husband John, who exerts near-total control over her life and dismisses her personal preferences (Baruiz et al., 2023). Under such conditions, the narrator learns to censor herself and construct a false feminine self to conform to John's "expert" diagnosis (Treichler, 1984).

Moreover, close reading reveals that these external restrictions are gradually internalised as a persistent state of self-repression. This repression manifests not only psychologically, but is also concretised through the oppressive symbolism of the wallpaper's colours and patterns. As night falls, these perceptions intensify and transform into the vision of a "woman trapped behind the wallpaper," with the physical space mirroring her psychological confinement and accelerating her mental collapse. In this way, the interplay of bodily constraint, silenced expression, and oppressive perception together produces the atmosphere of anxiety and repression that pervades the narrative.

B. Design of Foreground -Level Labels (Narrative segment summary)

Gao et al. (2025, p.2) emphasise the importance of tracking core narrative elements, such as characters, time, and setting, across a sequence of visual scenes when converting narrative texts into image sequences. Although this approach could effectively capture scene-level features, it might fall short in representing the psychological depth and symbolic layering often embedded in literary narratives. In response, and considering the specific context of *The Yellow Wallpaper*, this study formulates an adapted set of semantic dimensions to more fully capture the text's narrative logic and symbolic significance. (See Figure 10).

Gao et al. (2025) Category	**Feature Extracted in This Project**	**Extraction Method**	**Function in This Project**
Characters in the Scene	Dominant Pronouns	Automated	Determine the main characters and their perspectives.
	Primary Named Characters	Automated	Identify other characters.
	Character Actions	Manual	Shows how characters act or interact with the environment to enrich visual representation.
Time of Day	Time of Day Keywords	Manual	Guides background setting in prompts.
Location	Setting and Spatial Elements	Manual	Determines spatial context to inform visual composition and narrative grounding.
N/A	Wallpaper-Related Sentences	Automated	Provide targeted visual anchors in the prompts design. Verify whether descriptions of key imagery are included, after completing prompt construction

Figure 10: Feature Extraction Dimensions and Its Functions

a) Automated extraction

The first stage involves computational extraction of dominant pronouns, primary named characters, and wallpaper-related sentences.

Technically, this is implemented through a lightweight NLP pipeline built with custom Python scripts using the spaCy library. The script is designed to automatically extract these three semantic dimensions from a set of eighteen text files

in a single batch process (See Figure 11). The extracted results are systematically recorded in tabular form for clarity and reference (See Appendix 2).

Semantic Dimension	Extraction Method	Description
Dominant pronouns	part-of-speech tagging (spaCy)	a) Identified tokens with the POS tag PRON. b) Computed frequencies and retained the top three pronouns per segment to reduce noise.
Primary named characters	Named Entity Recognition (spaCy) + Lexical Matching	a) Detected named entities with the label PERSON (NER). b) Matched generic person-related nouns (e.g., woman, husband). c) Combined both sets, merged duplicates, and produced frequency counts per segment.
Wallpaper-Related Sentences	Keyword-based sentence matching	a) Searched all sentences for keywords (wallpaper, yellow, wall, paper). b) Extracted full sentences containing any keyword as contextual evidence.

Figure 11: Automated Semantic Feature Extraction

However, the computational outputs should not be treated as final interpretations, rather, they functioned as rapid indexing tools and reference aids to support more effective textual analysis. Where the extracted results are incomplete or ambiguous, human interpretation is applied to supplement and refine the analysis.

b) Close reading

In the second stage, close reading supported by the results of automated extraction is used to ensure contextual accuracy and visual coherence. The process follows a top-down sequence.

a) Identifying the core narrative moment to be depicted in each image

b) Prioritising scenes related to the wallpaper as the visual backbone

c) Specifying the protagonist's concrete actions and internal states at that moment

d) Verifying and disambiguating the dominant pronouns and named characters extracted by the script.

Since the focus of this study lies in representing the narrator's psychology and actions, character selection centres on the protagonist. Other figures are included only when their presence contributes directly to narrative progression or significantly shapes the narrator's mental state.

On this basis, three supplementary semantic dimensions, namely character actions, time of day, as well as setting and spatial elements are extract by close reading. As

these features lack standardised expression in literary texts, they are not extracted through rule-based methods but are instead interpreted and generalised in relation to the narrative context. Also, the extraction process remains flexible, since not every segment contains all dimensions. Finally, to avoid semantic loss, adjectives associated with key terms are retained, and where necessary selectively refined.

To support traceability and potential refinement, a reference table is created to document the semantic fragments extracted through close reading (See Figure 12). The identified fragments are then combined into structured language inputs specifying the intended content for each image.

File Name	Dominant Pronouns	Primary Named Characters	Character Actions	Time of Day Keywords	Setting and Spatial Elements
Part01_1.txt	a weary woman	her cold husband John	The weary woman stands; the cold husband dismisses her.	Summer, moonlight evening	a grand decaying colonial mansion, locked iron gates, overgrown tangled gardens

Figure 12. Foreground Semantic Labels Confirmed via Close Reading (The full result is provided in Appendix 3)

C. Narrative Segments Summary Construction

The step seeks to transform discrete semantic elements extracted from the source text into linguistically coherent segment summaries. Therefore, the confirmed semantic components, comprising dominant pronouns, secondary characters, character actions, temporal markers, and spatial or setting descriptors, are systematically organised into a structured sequence. This stage employs appropriate syntactic connectors to integrate the extracted elements, allowing each segment to be articulated as a complete sentence. This approach aims to avoid fragmented structures, formulaic phrasing, and unnecessary elaboration. Once formulated, these Summary are subsequently utilised as part of the input prompt for the image generation model.

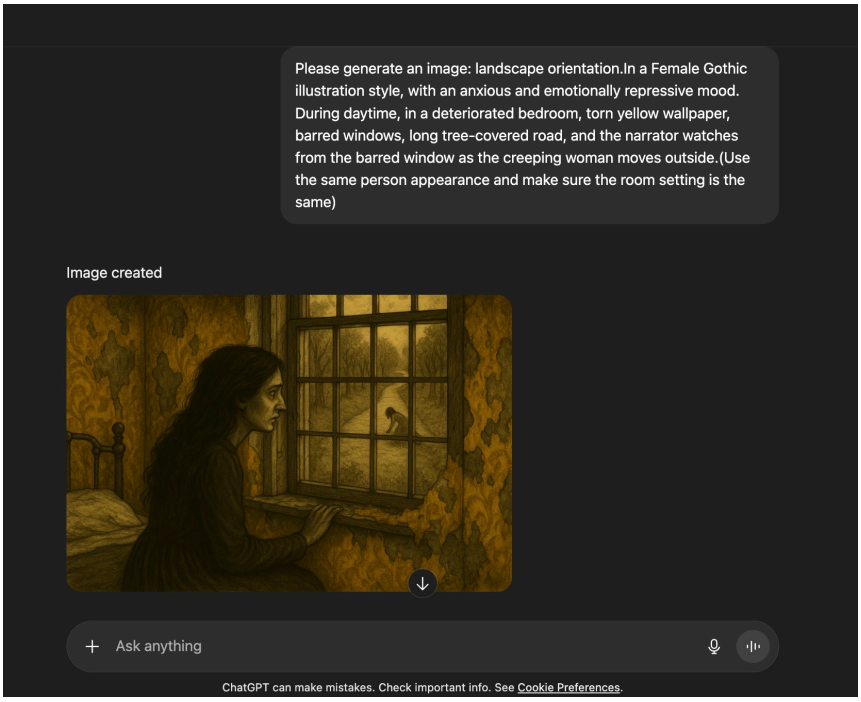
3.4 Prompt Construction and Image Generation

At this stage, structured image-generation prompts are constructed by integrating the previously extracted elements, stylistic anchor, global emotional tone and narrative segment summary, to guide the image creation process.

This study employs DALL·E 3, integrated into ChatGPT, as the primary image generation model. Due to its combined capabilities of query expansion and multi-turn interaction, the platform enables researchers to perform iterative generation based on existing results (Lin et al., 2023). Accordingly, to enhance spatial and character continuity, supplementary

instructions such as “use the same character appearance” or “ensure the room setting remains consistent” is added where appropriate (See Figure 13).

Figure 13: Generation Process Overview (The full result is provided in Appendix 4)



Finally, the images generated from structured prompts are compared with those produced from the original narrative and evaluated. The structured-prompt images are then further analysed and selectively revised. Subsequently, the revised images generated through structured prompts are combined with excerpts from the original narrative and systematically assembled, with Microsoft PowerPoint chosen as the primary platform for integrating visual and textual content. The curated outputs are then exported as a collection of high-resolution images in Portable Network Graphics (PNG) format, serving as the final digital object of this project.

As the digital object of this project, it is not only expected to be a demonstration of the methodological outcome but also a potential of human-AI collaboration in literary visualisation, offering cultural value for exploring the cross-media transformation between narrative and visual art.

4.Results Discussion

4.1 Evaluation: Structured prompt vs. Original text input

This section evaluates the practical impact of structured prompts by comparing images generated from eighteen segmented units of the original text with their counterparts produced using structured prompts. During the experiment, it was observed that identical inputs could yield different outputs in subsequent runs. Accordingly, all results reported are based on the first set of generated outputs.

A. Stylistic and emotional consistency

In terms of visual style, the image sequence generated using structured prompts predominantly employs a low-saturation colour palette combined with high-contrast shadows. This consistent use of colour and lighting helps establish a relatively cohesive visual atmosphere, avoiding abrupt tonal or aesthetic shifts and, in comparison, further enhancing the overall stylistic continuity of the sequence.

By contrast, images generated from unstructured original text inputs show clear inconsistencies in colour some images feature bright, pastel tones or warm lighting, which conflict with the expected emotional repression and the Gothic undertone conveyed by the source narrative. In addition, the individual images vary noticeably in artistic style. These inconsistencies visually dilute the intended mood and may interfere with viewer immersion and narrative continuity (See Figure 14).

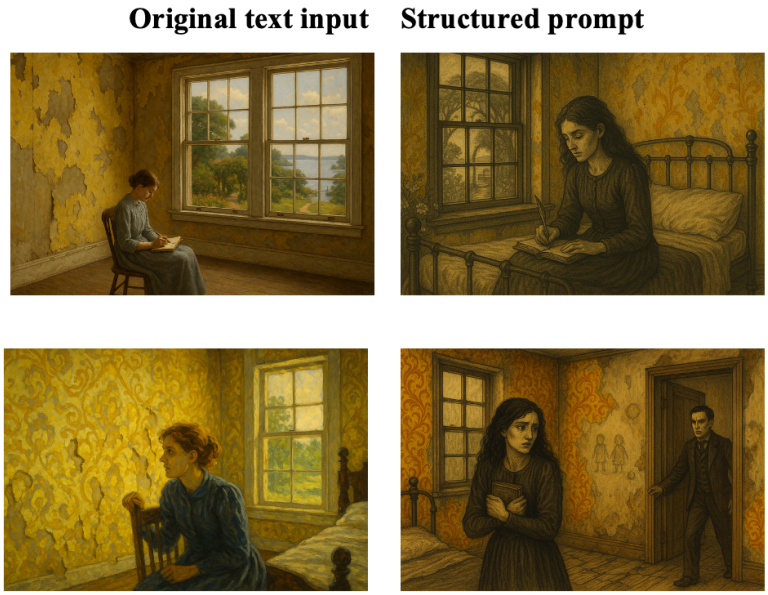


Figure 14: Comparison example (The full result is provided in Appendix 5)

In terms of emotional content, the images generated using structured prompts exhibit a relatively consistent portrayal of character facial and body expressions. Specifically, figures basically display signs of anxiety, emptiness, and muscular tension. This visual coherence may reinforce the pervasive sense of psychological fragmentation and emotional repression throughout the image sequence.

By contrast, characters in images generated from unstructured textual input often display facial and bodily cues that appear disjointed or emotionally inconsistent. These discrepancies fail to reflect the underlying psychological tension or narrative progression embedded in the source text. As a result, the emotional continuity of the sequence is disrupted, maybe diminishing the viewer's sense of immersion and weakening the overall affective impact of the visual narrative (See Figure 15).

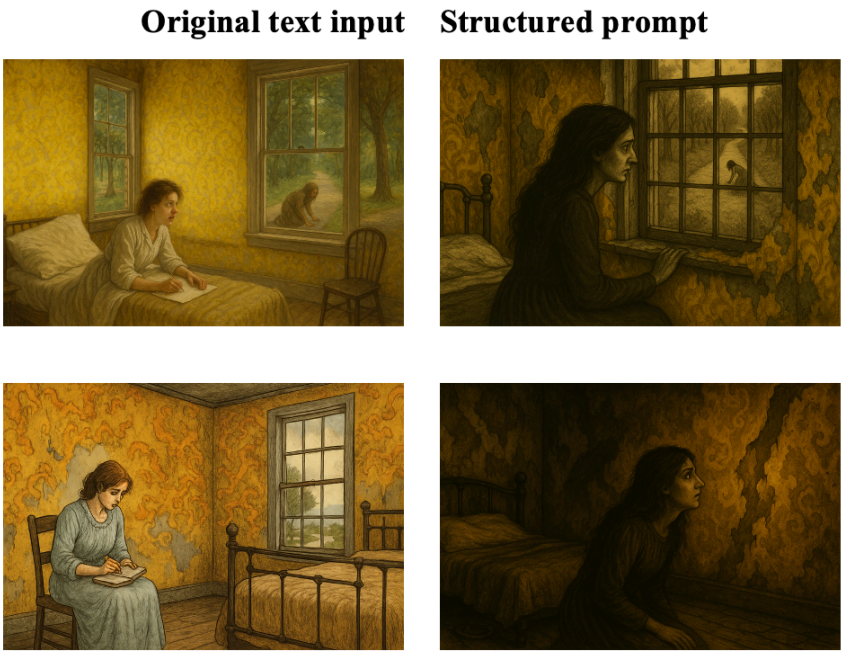


Figure 15: Comparison example

B. Semantic Clarity

In terms of character representation, the images generated with structured prompts consistently depict the intended figures, and this stability helps maintain the consistency and coherence between the visual content and the narrative details. In contrast, images generated directly from unprocessed original text inputs sometimes omit characters altogether, instead depicting neutral environmental scenes that bear little connection to the psychological tension or character states described in the text (See Figure 16).

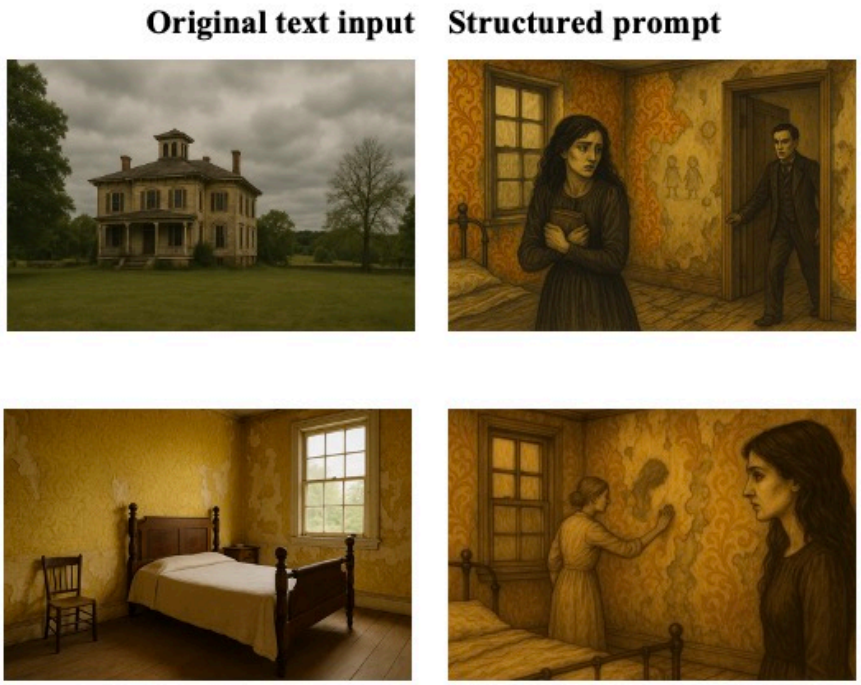


Figure 16: Comparison example

At the spatial level, the motif of the yellow wallpaper recurs throughout the image sequence generated by structured prompts. It is rendered not only as a physical surface texture but also through abstract visual metaphors, such as the appearance of “ghostly bulbous eyes” or “the woman behind the wallpaper.” These representations may help visualise the narrator’s fragmented psychological state and advance the narrative trajectory (See Figure 17). In comparison, although the images generated from the same numbered segments of the raw text usually include the presence of yellow wallpaper, they often fail to capture the key symbolic elements, resulting in a significant loss of semantic depth.

Figure 17: Comparison example of Part02_2 and Part12_1

4.2 Internal Inconsistencies and Limitations

A. Stylistic control limitations

Some of the generated images exhibit a cool grey palette and low saturation, which stand in sharp contrast to the tones present in the rest of the sequence. This stylistic disparity may reduce the immersive quality of the narrative world (See Figure 18).

Figure 18: Comparison example

B. Detail control limitations

In the image sequence generated under structured prompt guidance, the most salient and disruptive issues are concentrated in two key areas, which are local compositional breakdown and spatial-logical inconsistency. In several cases, the visual boundaries between the protagonist and surrounding objects such as the bed or the floor became blurred, causing a perceptual merging of figure and environment. These ambiguities undermined the spatial legibility and compositional coherence of the scenes (See Figure 19).

Figure 19: Example Images

Additionally, structural irregularities and unintended visual elements further compromised narrative clarity. For example, the accidental appearance of a second female figure disrupted the intended focal hierarchy and narrative perspective, while anomalous architectural features, such as the generation of a double bedframe, violated basic physical plausibility (See Figure 20).

Figure 20: Example Images

C. Final Refinement

To ensure greater consistency and narrative expressiveness in the final digital object, the project undertook multiple rounds of prompt refinement and image-level adjustments in response to the issues identified.

Firstly, to improve overall stylistic coherence, explicit descriptors of tone and lighting are incorporated into the prompts to unify the aesthetic across the image sequence.

Secondly, at the level of visual detail, targeted post-processing through the refinement or modification of foreground-layer tags, aiming to restore compositional integrity and enhance the immersive quality of the narrative.

4.3 Critical Reflection

This section aims to critically reflect on the research process and outcomes around research questions, with a focus on evaluating the strengths and limitations of the structured prompt framework, examining the interpretive challenges of translating literary texts into images, and analysing the collaborative dynamics between human judgment and machine generation.

A. Reflections on the Role of Structured Prompts in Cross-Modal Generation

The results indicate that, compared with unstructured original textual input, structured prompts may contribute to maintaining overall style and narrative atmosphere, thereby enhancing the semantic consistency and emotional continuity of the image sequence. This finding supports the claims of Kim et al. (2025, p.1) and Gao et al. (2025, p.2) regarding the importance of emotional cues and semantic anchors. In addition, structured prompts provide a clear organising principle for prompt design, enabling the generation to process more goal-oriented and reducing reliance on repeated trial-and-error.

However, the outputs also reveal several limitations. First, the close reading stage relies heavily on the researcher's subjective judgment, which not only risks introducing bias but also means that different interpretations may emerge across researchers, resulting structured prompts difficult to fully standardise or replicate. Secondly, the model continues to exhibit limitations in fine-grained detail control and reproducibility. Even when narrative logic and emotional tone are explicitly specified, the outputs remain unstable, with identical prompts sometimes producing divergent results. The instability of TTI models pointed out by Rassin et al. (2023) remains unresolved within the approach. Nevertheless, the use of background layer and foreground layer tags in subsequent modifications still offered a certain degree of directionality. Consequently, even when structured prompts appear to produce improvements over raw textual input, these improvements cannot be fully conclusively attributed to prompt design alone. This limitation underscores the need for critical analysis and caution in interpreting the effects of prompts in cross-modal literary visualisation.

At the same time, it is precisely within these constraints that the methodological significance of the structured prompt framework becomes evident. Its value is not about

guaranteeing absolute fidelity in every single image but about providing a clear organising principle for prompt construction that enhances efficiency and transparency.

B. Reflections on the challenges of literary visualisation

While illustrations may help to clarify the visual narrative and support readers with limited visual literacy (Jung, 2021), they cannot fully capture the interpretive openness inherent in literary texts. This is because, once fixed into a multiple concrete visual form, the interpretive openness of the text is inevitably constrained. In this experimental case, for instance, even without explicit prompt instructions, the model automatically rendered the entire scene in a uniform yellow tone. Such treatment implicitly predetermined the reader's interpretive path, thereby compressing the multiplicity and tension of meanings embedded in the text.

Methodologically, the subjectivity of close reading is often regarded as a limitation. In this study, however, it is treated as an essential component of literary visualisation. It compensates to some extent for the model's shortcomings in reproducing detail and maintaining semantic alignment, enabling the outputs to convey the narrative rhythm and emotional resonance of the text with relative effectiveness. Also, it allows humanistic perspectives to be embedded into prompt design, achieving a practical integration of technical operation with humanistic interpretation. In this way, human-AI interaction is no longer a mechanical process of input and output, but a more interpretive and collaborative practice.

In this sense, the outputs of generative models cannot be regarded as simple "illustrations." Rather, they should be understood as acts of re-creation, shaped both by the model's latent visual algorithm and by the researcher's interpretive interventions in prompt design. As a result, these images are neither direct reproductions of the text nor mere reinterpretations, but original digital objects that both carry the traces of literary inspiration and bear the imprint of human-machine collaboration. Therefore, the significance of artificial intelligence in literary visualisation may not produce faithful pictorial reproductions, but propose a new form of re-creation, which is not only expands the pathways of visualisation but also transforms the interaction between readers and texts, which has traditionally relied on reading alone.

C. Reflections on the Role of Human-Computer Collaboration

a) Human-NLP Collaboration

In this study, the most direct form of human-machine collaboration is the construction of foreground semantic labels. Computational tools were employed as lightweight aids, revealing preliminary key content and providing a structural scaffold that significantly enhanced the efficiency of close reading. This mode of use, however, appears to echo Jockers's (2013, p.17) critique that when applied to a single text, computational methods risk deviating from the theoretical paradigm of "distant reading" and functioning merely as advanced search tools. Nevertheless, it is important to recognise that the absence of contextual specification weakens the critique. In the domain of literary narrative TTI generation, a fresh appraisal of the roles assigned to computational tools is required.

This is because of the aim in the context of cross-modal generation, is not to produce large-scale statistical explanations, but to stably extract actionable semantic elements that support prompt construction, sustain semantic consistency and narrative continuity at the image sequence level. Additionally, algorithmic outputs inevitably contain noise, which must be re-contextualised, selected, and rewritten through the researcher's interpretive judgment before they can be transformed into executable structured prompts. It is ultimately this interpretive judgment that determines how computational patterns are re-organised into prompts and how they subsequently function as mediators between text and image.

Accordingly, this collaborative model should not be seen as a regression from distant reading. Rather, it represents a contextual reorientation of its role in the AI-era practice. The computation and close reading work in a complementary way, with the former provides a traceable and reusable semantic skeleton, while the latter, on the basis of its revision and confirmation, imparts it with narrative meaning and critical intent. As a result, the process improves both the efficiency and directionality of visualisation practices, and it also strengthens the explanatory power and critical insight of structured prompts.

b) Human-AI Collaboration

In this project, the collaboration between the researcher and DALL·E 3 demonstrates another key dimension of human-AI interaction, mediated through prompts. As Zylinska (2020, p. 65) observes, AI-driven art should not be regarded

as an isolated innovation, but rather as a turning point in the long entanglement of human creativity and technological media. In this process, the researcher's interpretive choices of narrative literature are translated into prompts, while the model's often unexpected outputs continuously prompt further adjustment and reinterpretation. As a result, technology is transformed from a mere tool of human use into a collaborator that advances scholarly interpretation and cultural reproduction. This ongoing interplay between interpretation and generation constitutes a dialogic form of co-creation that continually challenges and reshapes the visual potential of literary texts. Therefore, the fundamental value of this approach is not only about the production of images but also about revealing, through experimental practice, how meaning is co-produced by human judgment and AI logic within the context of literary visualisation.

5.Conclusion

5.1 Research Significance

Initially, this project combined close reading with lightweight NLP analysis to propose a structured prompt framework for text-to-image generation. While NLP tools offered an initial scaffold through semantic tag extraction, the effectiveness of the framework ultimately depended on the researcher's close reading to establish the "narrative center" guiding prompt design.

The results indicate that, compared with unstructured textual input, structured prompts demonstrate clear advantages, although these advantages are accompanied by significant limitations. Therefore, the value of the structured framework is not guaranteeing the fidelity of individual images, but in providing an organising principle for prompt design. While post-hoc refinements remain necessary, this approach nevertheless achieves greater efficiency and directionality than relying solely on raw textual input or repeated trial-and-error.

Beyond its methodological contributions, the broader significance of this study lies in revealing how human judgment and machine logic jointly generate meaning in the context of literary visualisation, as well as expanding the pathways of literary visualisation and reshaping the ways readers engage with texts.

5.2 Reflections on the Research Process

The comparison process also revealed several methodological limitations. First, the evaluation of structured prompts in this study relied primarily on qualitative visual comparison, without the use of systematic quantitative analysis or controlled experiments. As a result, the conclusions are largely observational rather than rigorously validated through statistical or experimental methods. Future research could build on this by incorporating quantitative measures, such as text-image similarity models like CLIP, to assess semantic alignment and thereby provide a more objective and comparable basis for evaluating the effectiveness of structured prompts.

Secondly, each prompt is generated only once, with comparisons based solely on the initial output. While this provides a rough indication of performance, it fails to account for randomness during the generation process, consequently, some instances that appear "successful" or "problematic" may merely be fortuitous outcomes of a single run, rather than stable effects of the prompt design. Furthermore, all experiments rely on a single text-to-

image model of DALL·E 3. Given variations in data and configurations across systems, the same prompt may yield different outputs elsewhere, thus limiting the generalisability of the conclusion. More robust evaluation should involve multiple generations per prompt, replicated across multiple models under identical settings, followed by comparison of overall patterns rather than individual instances.

5.3 Potential and Critical Reflection on the Digital Object

This project produced a series of digital illustrations for *The Yellow Wallpaper*, which supplement the longstanding absence of illustrations in digital versions of the text. Beyond enriching the textual representation, they may offer some insights for visual storytelling. However, the current digital object is presented as a static PNG, lacking public interaction and deeper immersive experiences, which limits user engagement and emotional resonance. While this format facilitates preservation and sharing, it does not fully employe the multimodal and multi-layered narrative potential of digital media.

In the future, transforming the digital outcomes of this study into an online interactive platform or immersive environment may open new modes of engaging with literature. Recent developments, such as Google DeepMind's Genie, which generates interactive 3D scenes directly from text, demonstrate the expanding technical potential of narrative beyond static images (Genie 3, n.d.). By incorporating elements such as ambient sound design, interactive guidance, and three-dimensional visuals, these explorations may not simply promise "deeper immersion" but rather broaden the expressive palette of literary representation and experience, offering readers more diverse pathways into the text and opportunities for reinterpretation.

5.4 Future Research Directions

The structured prompt design framework developed in this study may in the future be extended to different types of narrative texts, such as stream-of-consciousness fiction, science fiction or fairy tales, to explore whether distinct literary styles require differentiated semantic structures in prompt construction. This analysis across genres may further reveal how prompt design priorities shift when visualising diverse narrative forms.

In addition, future research could test this framework on multilingual corpora to examine whether linguistic differences affect the stability and interpretability of generation outcomes. This direction may allow literary visualisation to intersect with translation studies, highlighting how different languages encode narrative, cultural and symbolic cues within prompts, thereby broadening the cross-cultural scope of investigation.

Finally, future research also may incorporate a reception aesthetics perspective to investigate how audiences interpret AI-generated literary visualisations. By analysing reader or viewer responses, such work could not only evaluate the effectiveness of structured prompts in capturing narrative atmosphere and meaning but also shed light on the broader cultural implications of cross-modal literary reinterpretation.

6.References

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7.Appendices

Appendix 1. Text Segmentation and Scene Rationale for Image Generation

Original Section	Refined Segment ID	Anchor Start	Anchor End	Segmentation Rationale (Close Reading)
Part1	Part1_1	*"It is very seldom…"*	*"…and that makes me very tired."*	Narrator focuses on the external setting of the estate. Visual perspective remains anchored in outdoor scenery.
	Part1_2	*"I don't like our room a bit."*	*End*	Focuses on confined physical setting and unsettling room details
Part2	Part2_1	*"We have been here two weeks…"*	*"…but I find I get pretty tired when I try."*	Narrator's attention focuses on the external world, especially the view from the nursery window. Emotional tone remains subdued but stable, anchored in passive observation.
	Part2_2	*"It is so discouraging not to have any advice."*	*End*	Shifts inward as narrator begins perceiving discomfort in the wallpaper pattern. The gaze moves from outer world to symbolic interior, marking the onset of illusion and visual instability.
Part 3	Part3_1	*"Well, the Fourth of July is over!"*	*"I'm getting really fond of the room in spite of the wallpaper."*	Marks a transition from post-holiday social withdrawal to physical exhaustion and emotional stillness.
	Part3_2	*"Perhaps because of the wallpaper…"*	*End*	Shifts from emotional passivity to heightened visual obsession. The narrator begins intensely analysing the wallpaper, moving from whole-room awareness to narrow focus on pattern details.
Part 4	Part 4_1	*"I don't know why I should write this."*	*"And dear John gathered me up in his arms"*	Focuses on verbal interaction and emotional tension between the narrator and John. The section is dialogue-heavy and centers on their conflicting views of her condition.
	Part 4_2	*"He said I was his darling and his comfort*	*End*	Scene shifts to the room. The narrator's thoughts turn inward and visual, as she begins to fixate on the wallpaper and her illusion within the confined space.

		and all he had"		
Part 5	N/A	*N/A*	*N/A*	Unfolds in a single nighttime scene, shifting from quiet visual fixation to rising internal resistance; spatial and narrative continuity is maintained.
Part 6	Part6_1	*"On a pattern like this, by daylight.."*	*"By daylight she is subdued, quiet."*	Focuses on the shifting appearance of the wallpaper under changing light conditions and introduces the hallucinated figure behind the pattern; visual emphasis remains confined to the wall.
	Part6_2	*" I fancy it is the pattern that keeps her so still."*	*End*	Marks a shift from passive observation to anxious behavior toward others, the narrator begins to suspect John and Jennie's interest in the wallpaper, introducing a new layer of tension and surveillance.
Part 7	N/A	*N/A*	*N/A*	Maintains a continuous emotional tone as the narrator reflects on her growing fascination with the wallpaper and masks it from John.
Part 8	Part8_1	*"I'm feeling ever so much better!"*	*"A yellow smell."*	Introduces a sensory shift from visual obsession with the wallpaper to a smelling hallucination, "the yellow smell", which transforms the scene from patterned surface to enveloping atmosphere.
	Part8_2	*"There is a very funny mark on this wall..."*	*End*	Shifts attention to a physical trace, an unusual smudge near the base of the wall
Part 9&10	Part9_10	"I really have discovered something at last."	"…creeping as fast as a cloud shadow in a high wind."	The latter passage offers a more concrete and externalised visual scene, the woman spreading into the outside world, whereas the former, with its sense of "about to emerge," remains more of a psychological premonition and less visually direct.
Part 11	N/A	*N/A*	*N/A*	The reference to the wallpaper functions primarily as an action, the narrator's impulse to tear it down.
Part 12	Part12_1	*"Hurrah!"*	*"...and everything is green instead of yellow."*	Follows the narrator's final descent into delusion as she joins the creeping woman, locks herself in, tears down the wallpaper, and attempts to restrain "her." Visual focus moves between chaotic action, aggressive gestures, and spatial distortion within the room.
	Part12_2	*"But here I can creep smoothly on the floor..."*	*End*	The narrator now fully identifies with the woman behind the wallpaper. Her crawling becomes a ritualistic act of release as John collapses at the sight.

Appendix 2. Automated Semantic Feature Extraction Results

File Name	Dominant Pronouns (with count)	Named Characters (with count)	Wallpaper-Related Sentences
Part01_1.txt	i (28), it (13), there (7)	John (7), John one moonlight evening (1), husband (1), brother (1)	John is a physician, and perhaps— (I would not say it to a living soul, of course, but this is dead paper and a great relief to my mind)—perhaps that is one reason I do not get well faster. It makes me think of English places that you read about, for there are hedges and walls and gates that lock, and lots of separate little houses for the gardeners and people.
Part01_2.txt	i (12), it (10), he (6)	John (2), away, —he (1)	It was nursery first and then playground and gymnasium, I should judge; for the windows are barred for little children, and there are rings and things in the walls. The paint and paper look as if a boys' school had used it. It is stripped off—the paper—in great patches all around the head of my bed, about as far as I can reach, and in a great place on the other side of the room low down. I never saw a worse paper in my life. The color is repellant, almost revolting; a smouldering, unclean yellow, strangely faded by the slow-turning sunlight.
Part02_1.txt	i (27), he (10), it (10)	John (5), Mary (1), baby (2)	He laughs at me so about this wallpaper! At first he meant to repaper the room, but afterwards he said that I was letting it get the better of me, and that nothing was worse for a nervous patient than to give way to such fancies. He said that after the wallpaper was changed it would be the heavy bedstead, and then the barred windows, and then that gate at the head of the stairs, and so on. I'm really getting quite fond of the big room, all but that horrid paper.
Part02_2.txt	i (18), it (11), there (6)	John (2), Henry (1), child (1), brother (1), sister (2), girl (1), figure (1)	This paper looks to me as if it knew what a vicious influence it had! I used to lie awake as a child and get more entertainment and terror out of blank walls and plain furniture than most children could find in a toy-store. The wallpaper, as I said before, is torn off in spots, and it sticketh closer than a brother—they must have had perseverance as well as hatred. But I don't mind it a bit—only the paper.

			This wallpaper has a kind of sub-pattern in a different shade, a particularly irritating one, for you can only see it in certain lights, and not clearly then.
Part03_1.txt	i (14), it (4), me (4)	John (5), Nellie (1), Jennie (2), Weir Mitchell (1), mother (1), brother (1)	I'm getting really fond of the room in spite of the wallpaper.
Part03_2.txt	i (13), it (10), that (3)	None	Perhaps because of the wallpaper. But, on the other hand, they connect diagonally, and the sprawling outlines run off in great slanting waves of optic horror, like a lot of wallowing seaweeds in full chase.
Part04_1.txt	i (17), me (6), it (4)	John (3), Henry (1)	None
Part04_2.txt	i (12), it (10), me (5)	John (2), baby (2), child (2), woman (1)	There's one comfort, the baby is well and happy, and does not have to occupy this nursery with the horrid wallpaper. There are things in that paper that nobody knows but me, or ever will.
Part05.txt	i (27), you (13), it (12)	John (3), Jennie (1), figure (1), girl (1), child (1)	John was asleep and I hated to waken him, so I kept still and watched the moonlight on that undulating wallpaper till I felt creepy. I got up softly and went to feel and see if the paper did move, and when I came back John was awake.
Part06_1.txt	it (13), you (8), i (7)	woman (2)	There is one marked peculiarity about this paper, a thing nobody seems to notice but myself, and that is that it changes as the light changes. By moonlight—the moon shines in all night when there is a moon—I wouldn't know it was the same paper.
Part06_2.txt	i (17), it (10), she (8)	John (4), Jennie (3)	It strikes me occasionally, just as a scientific hypothesis, that perhaps it is the paper! I have watched John when he did not know I was looking, and come into the room suddenly on the most innocent excuses, and I've caught him several times looking at the paper! She didn't know I was in the room, and when I asked her in a quiet, a very quiet voice, with the most restrained manner possible, what she was doing with the paper she turned around as if she had been caught stealing, and looked quite angry—asked me why I should frighten her so!

			Then she said that the paper stained everything it touched, that she had found yellow smooches on all my clothes and John's, and she wished we would be more careful! Did not that sound innocent?
Part07.txt	i (9), it (4), me (3)	John (1)	He laughed a little the other day, and said I seemed to be flourishing in spite of my wallpaper. I had no intention of telling him it was because of the wallpaper—he would make fun of me.
Part08_1.txt	it (19), i (16), me (4)	None	There are always new shoots on the fungus, and new shades of yellow all over it. It is the strangest yellow, that wallpaper! It makes me think of all the yellow things I ever saw—not beautiful ones like buttercups, but old foul, bad yellow things. But there is something else about that paper—the smell! The only thing I can think of that it is like is the color of the paper! A yellow smell.
Part08_2.txt	it (6), there (1), that (1)	None	There is a very funny mark on this wall, low down, near the mopboard.
Part09_10.txt	i (26), her (10), it (9)	John (2), woman (4)	None
Part11.txt	i (12), it (5), me (3)	John (3), Jennie (2)	There are only two more days to get this paper off, and I believe John is beginning to notice. Still, I don't wonder he acts so, sleeping under this paper for three months.
Part12_1.txt	i (46), it (16), me (7)	John (2), Jennie (4), person (1), woman (1)	I pulled and she shook, I shook and she pulled, and before morning we had peeled off yards of that paper. Jennie looked at the wall in amazement, but I told her merrily that I did it out of pure spite at the vicious thing. But I am here, and no person touches this paper but me—not alive! Then I peeled off all the paper I could reach standing on the floor. I wonder if they all come out of that wallpaper as I did? For outside you have to creep on the ground, and everything is green instead of yellow.
Part12_2.txt	i (11), he (8), it (6)	John (2), I. "The key (1), Jane (1), man (2)	But here I can creep smoothly on the floor, and my shoulder just fits in that long smooch around the wall, so I cannot lose my way. And I've pulled off most of the paper, so you can't put me back!"

			But he did, and right across my path by the wall, so that I had to creep over him every time!

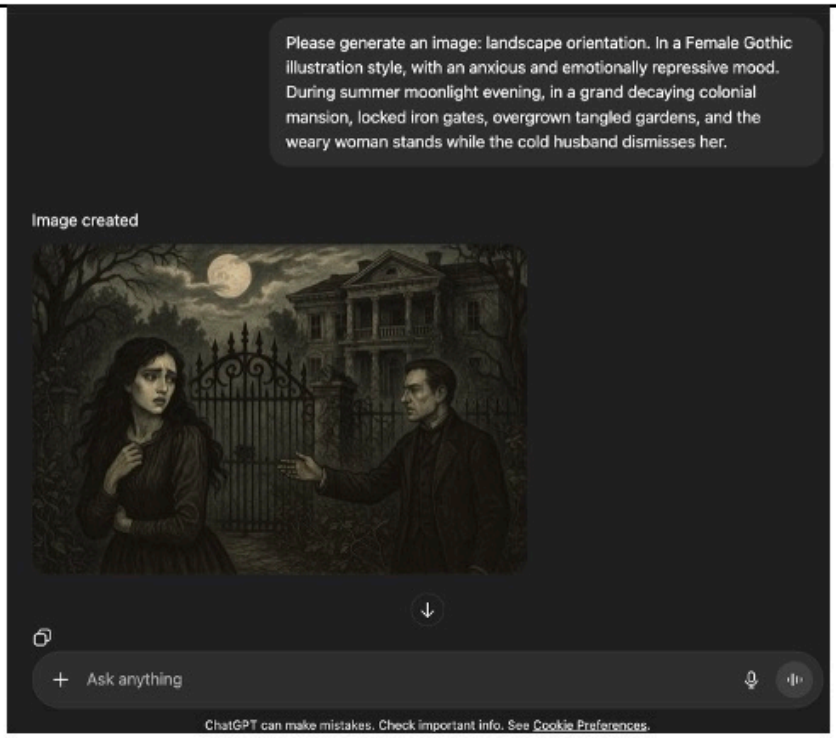
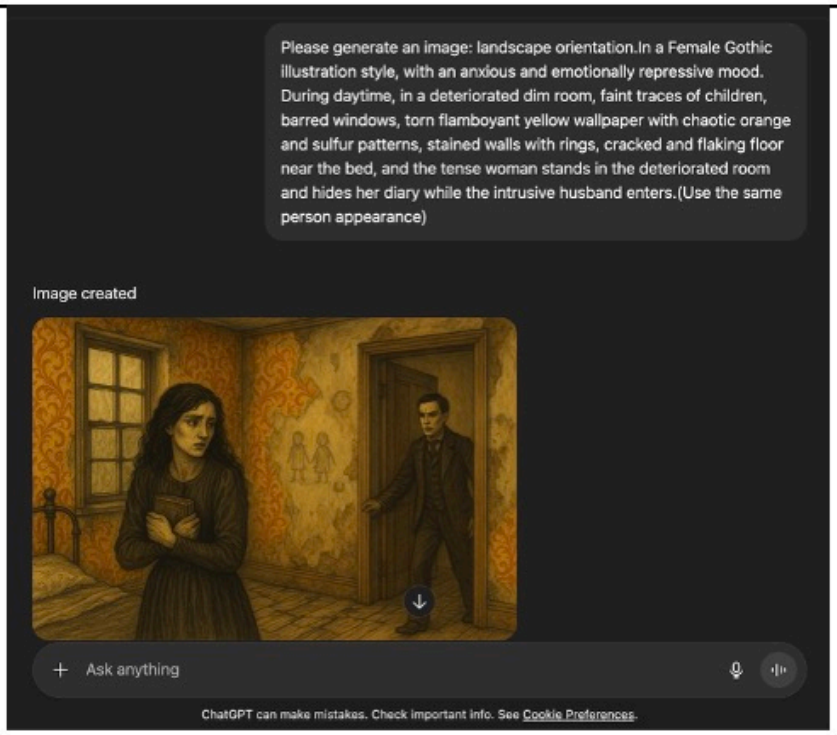
Appendix 3. Semantic Elements Finalised through Close Reading

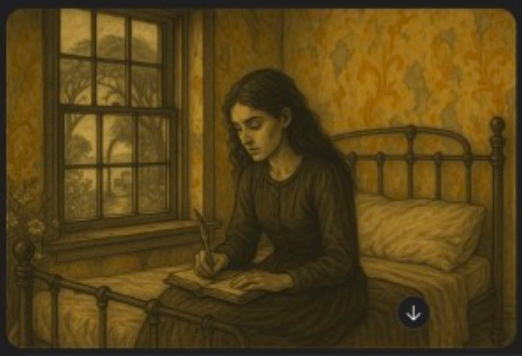
File Name	Dominant Pronouns	Primary Named Characters	Character Actions	Time of Day Keywords	Setting and Spatial Elements
Part01_1.txt	a weary woman	her cold husband John	The weary woman stands; the cold husband dismisses her.	Summer, moonlight evening	a grand decaying colonial mansion, locked iron gates, overgrown tangled gardens
Part01_2.txt	a tense woman	her intrusive husband John	The tense woman stands in the deteriorated room and hides her diary; the intrusive husband enters.	Daytime	a deteriorated dim room, faint traces of children, barred windows, torn flamboyant yellow wallpaper with chaotic orange and sulfur patterns, stained walls with rings, cracked and flaking floor near the bed
Part02_1.txt	a solitary woman	N/A	The solitary woman sits by the barred window, writing.	Daytime	a deteriorated quiet bedroom, secluded house, barred windows, tangled garden flowers, dark arbors, gnarly trees, narrow shaded lane, private wharf by the bay, antique heavy bed, torn yellow wallpaper
Part02_2.txt	a disturbed woman	N/A	The disturbed woman stares at the torn wallpaper.	N/A	a deteriorated shadowy bedroom, torn yellow wallpaper with ghostly bulbous eyes and hidden shadowy figure, barred windows, disordered furniture, broken floor, peeled plaster, heavy battered bed
Part03_1.txt	a quiet woman	N/A	The quiet woman sits on the porch.	late summer afternoon	a rose-covered porch, quiet summer house, lush overgrown garden, shaded lane disappearing into distance
Part03_2.txt	a still woman	N/A	The still woman lies on the heavy bed and stares at the wallpaper pattern.	low evening sun	a deteriorated still bedroom, chaotic yellow wallpaper with bloated curves, grotesque Romanesque flourishes, diagonal and horizontal slanting pattern waves, wall like tangled seaweeds
Part04_1.txt	a distressed woman	her rigid husband John	The distressed woman cries and argues with her rigid husband.	N/A	a dim ground floor of a decaying colonial-style mansion, scattered medicine bottles, wine glasses, rare raw meat on the table
Part04_2.txt	a broken woman	N/A	The broken woman lies on the	N/A	a deteriorated eerie bedroom, horrid yellow wallpaper with torn outer pattern,

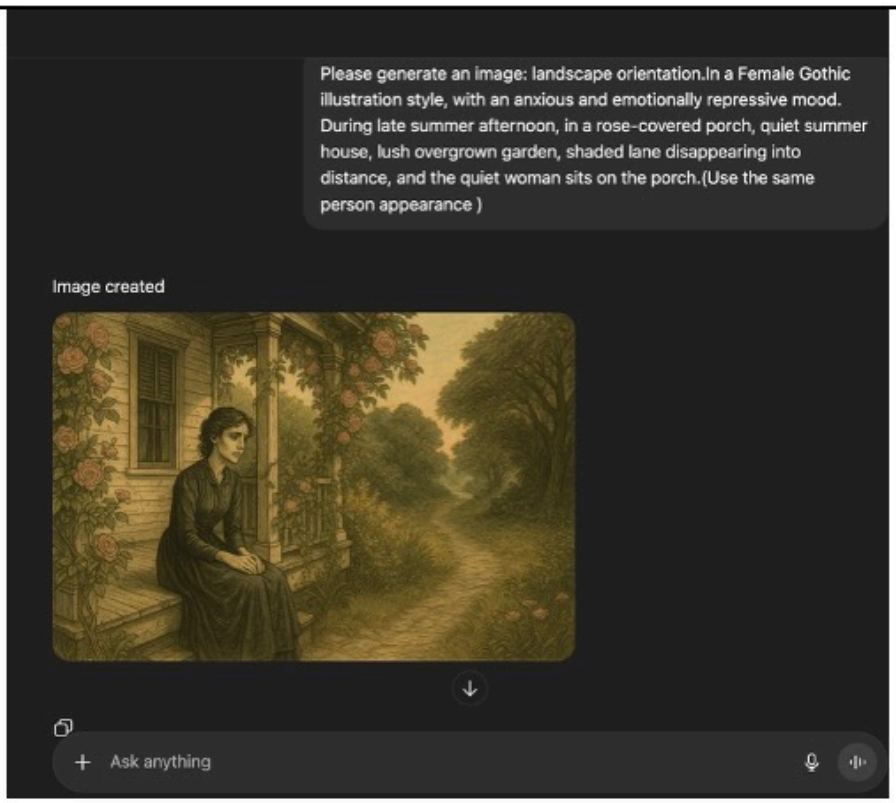
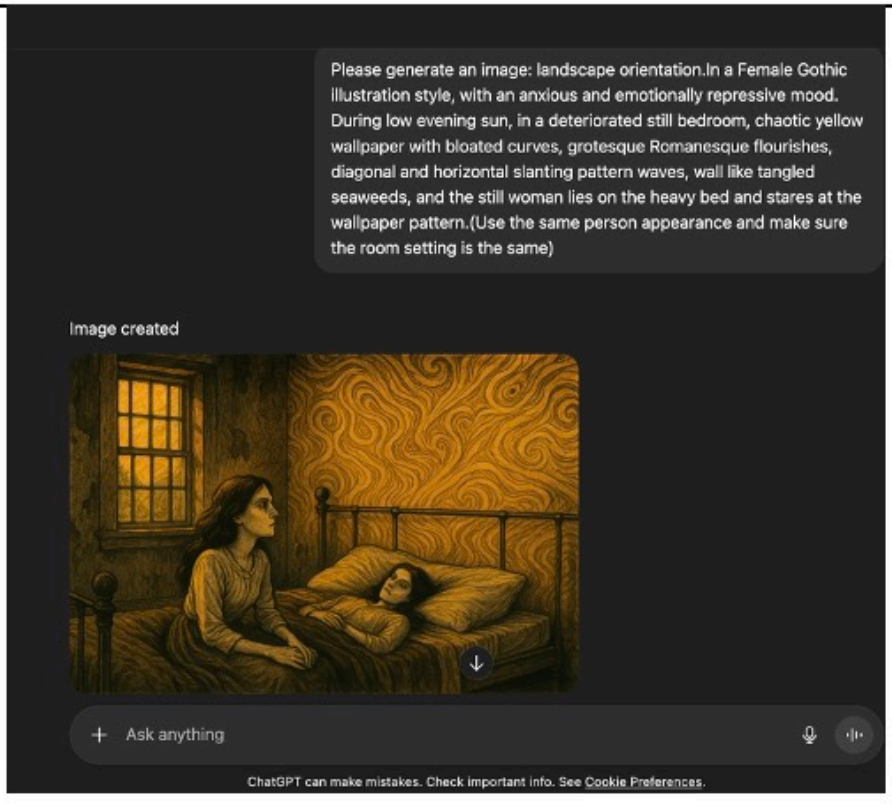
			bed and stares at the wallpaper.		shadowy crawling female figures, sense of dread and mental strain
Part05.txt	an anxious woman	her unaware husband John	The anxious woman sits on the bed, staring at the wallpaper; the unaware husband sleeps beside her.	Nighttime	a dim bedroom, undulating yellow wallpaper, faint stooping figure behind the wallpaper
Part06_1.txt	a fixated woman	N/A	The fixated woman stands and stares at the wallpaper.	Nighttime	a deteriorated bedroom, yellow wallpaper with florid arabesque patterns, fungus-like convolutions, shadowy woman visible behind pattern
Part06_2.txt	a silent woman	gentle Jennie (John's sister)	Jennie gently touches the torn yellow wallpaper while the silent narrator watches.	N/A	a deteriorated tense bedroom, torn yellow wallpaper, heavy battered bed
Part07.txt	an obsessed woman	her casual husband John	The obsessed woman sits quietly, stares at the wallpaper with anticipation, and smiles to hide her obsession; the casual husband observes her.	Daytime	a deteriorated bedroom, torn yellow wallpaper, heavy battered bed
Part08_1.txt	a mesmerised woman	N/A	The mesmerised woman watches the torn wallpaper.	Nighttime	a deteriorated bedroom, torn yellow wallpaper with fungus-like pattern, heavy battered bed, yellow musty smell
Part08_2.txt	a dizzy woman	N/A	The dizzy woman stares at the yellow wall streak.	N/A	a deteriorated bedroom, torn yellow wallpaper, heavy battered bed, a long yellow streak running along the base of the wall behind the furniture, with a smooth, worn surface from repeated rubbing
Part09_10.txt	a watchful woman	the creeping woman behind the wallpaper	The narrator watches from the barred window as the creeping woman moves outside.	Daytime	a deteriorated bedroom, torn yellow wallpaper, barred windows, long tree-covered road

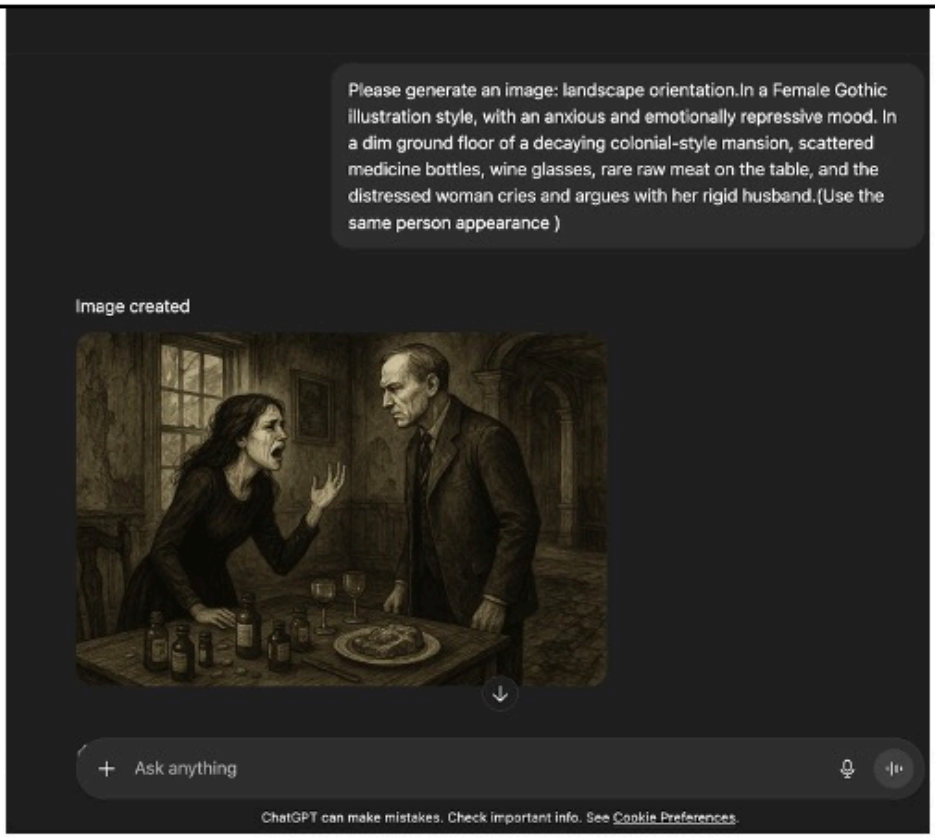
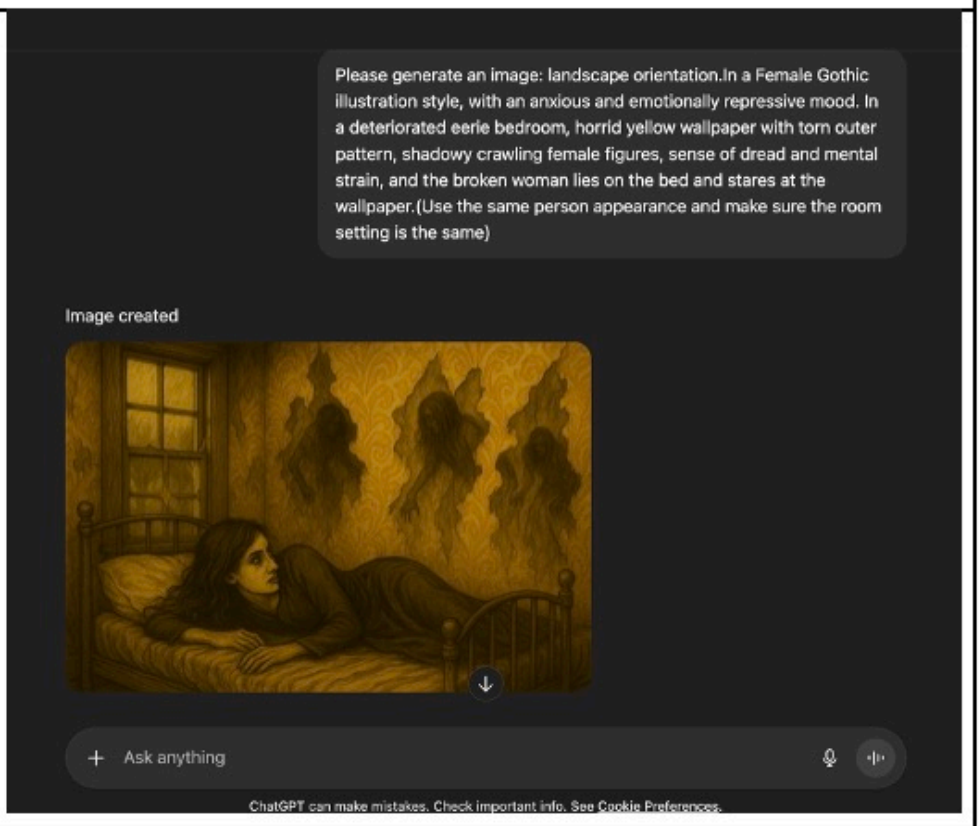
Part11.txt	a suspicious woman	her falsely gentle husband John	The suspicious woman looks at John and plans to tear the wallpaper; the falsely gentle husband questions her.	Nighttime	a deteriorated dim bedroom, torn yellow wallpaper, heavy battered bed
Part12_1.txt	a frenzied woman	the trapped woman behind the wallpaper	The frenzied narrator crawls in circles on the floor; the trapped woman inside the wallpaper tries to crawl out.	N/A	a deteriorated eerie bedroom, torn yellow wallpaper, heavy battered bed, coiled rope on the ground, locked door
Part12_2.txt	a deranged woman	her unconscious husband John	The unconscious husband faints; the detached narrator crawls over him.	Nighttime	a deteriorated bedroom, torn yellow wallpaper, open door, unconscious man lying across the cracked floor

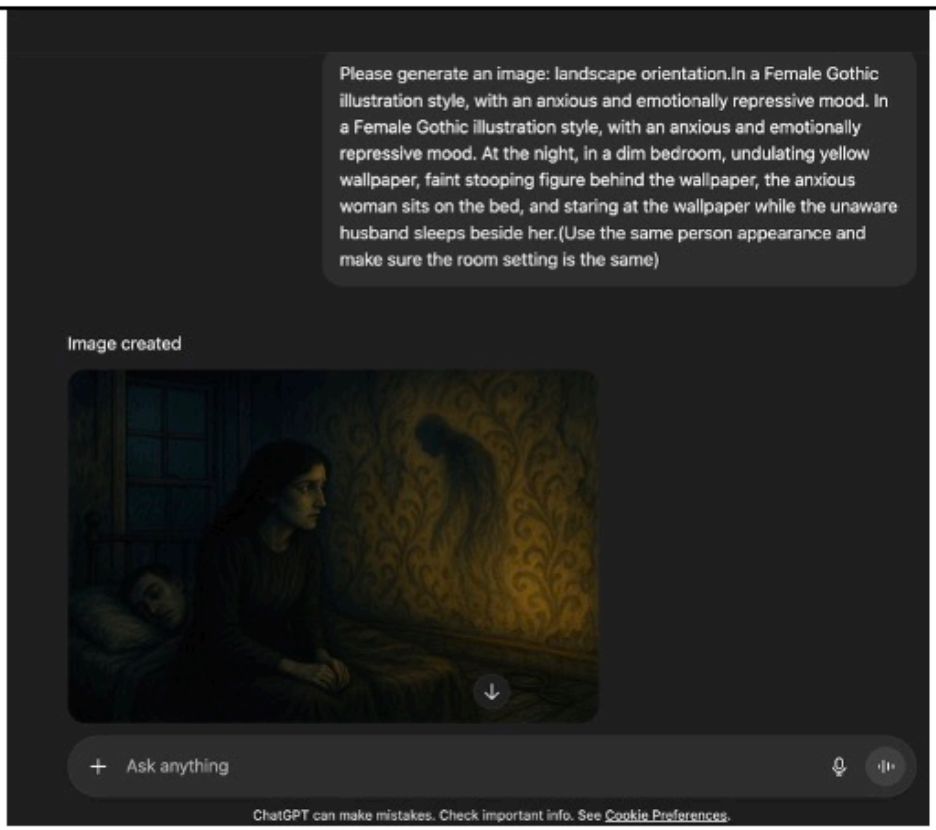
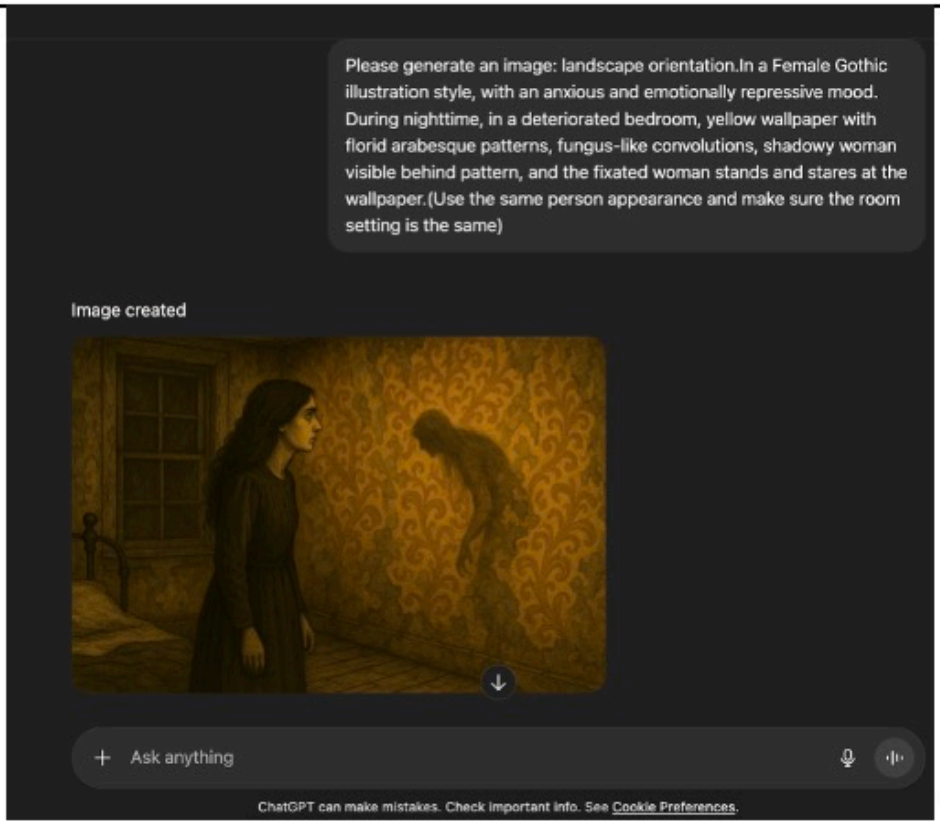
Appendix 4. Image Generation Process

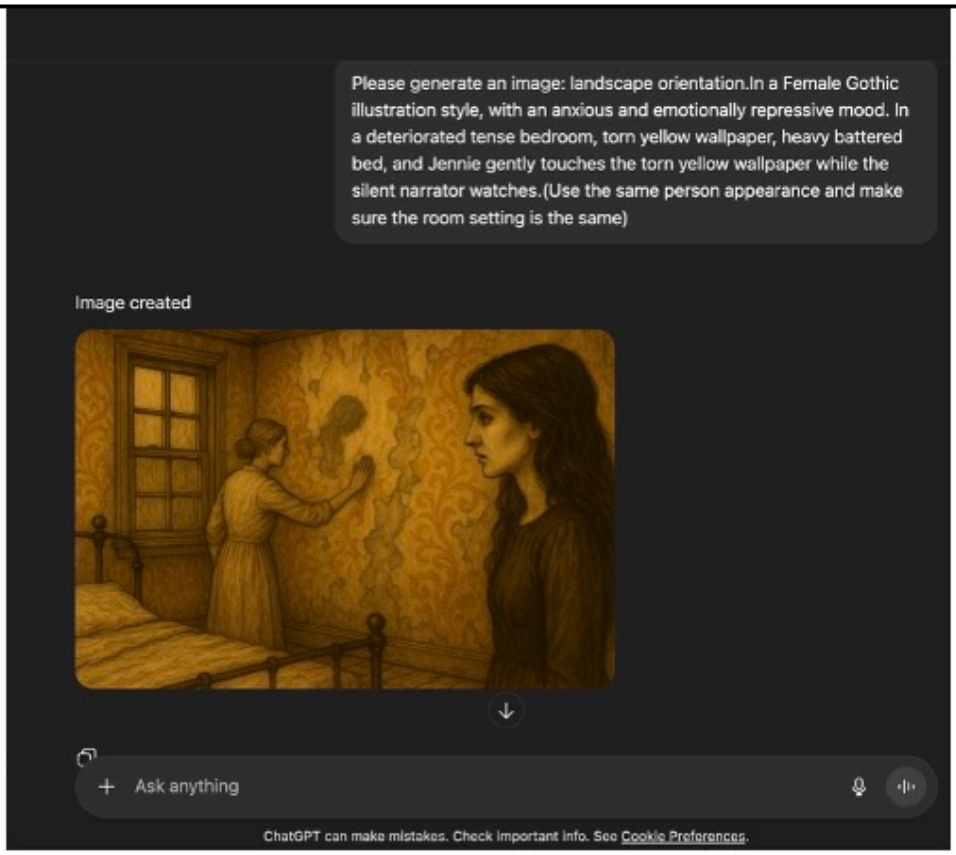
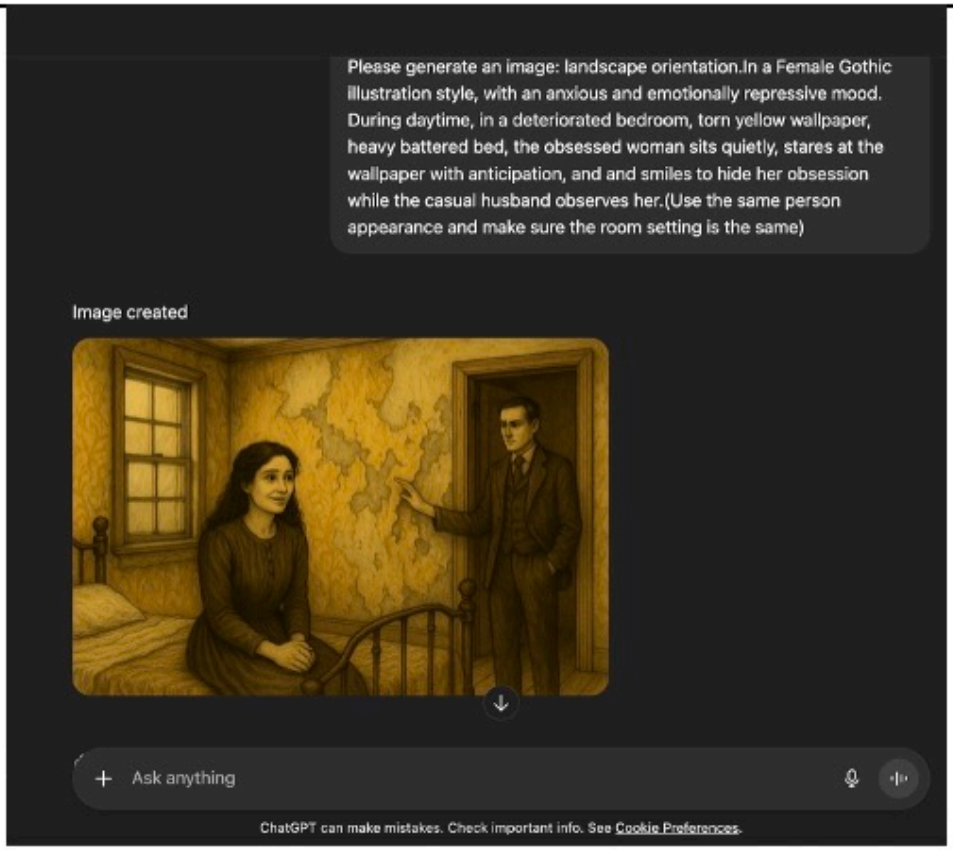
Part	Image Generation Process
Part01_1.txt	
Part01_2.txt	

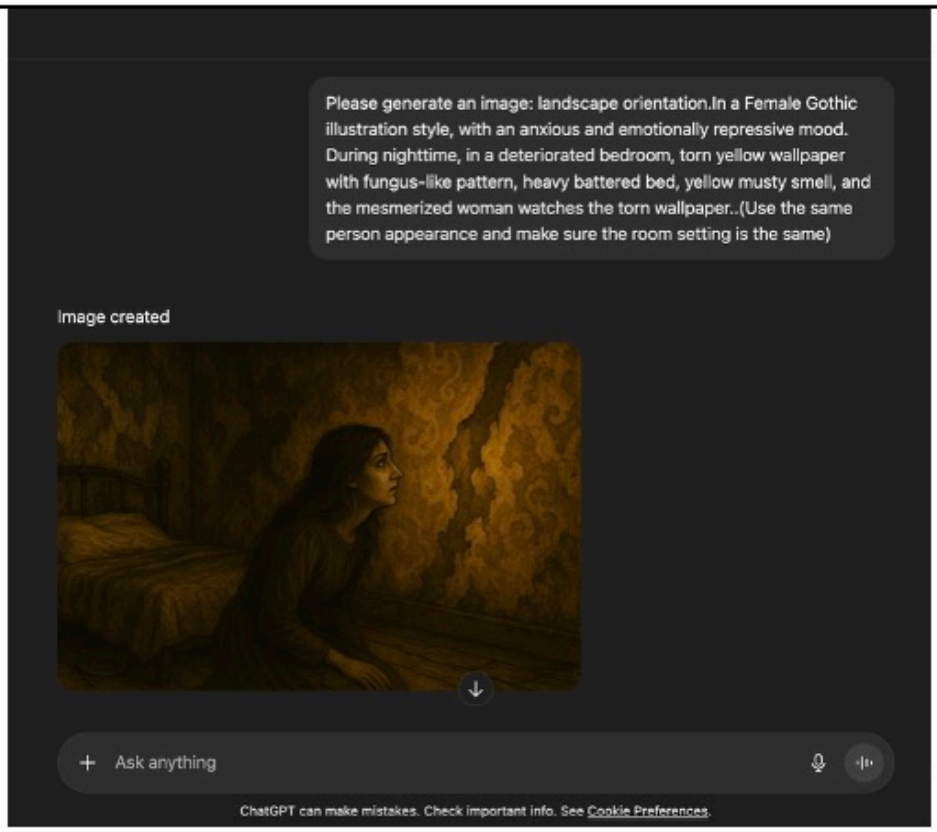
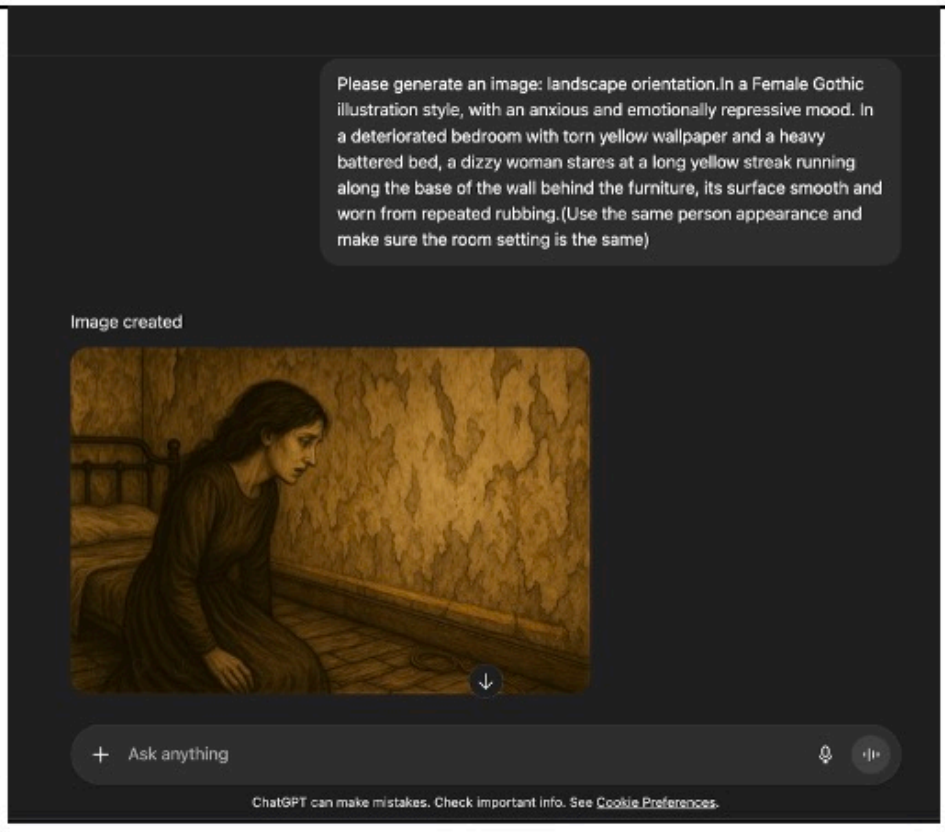
Part02_1.txt	Please generate an image: landscape orientation.In a Female Gothic illustration style, with an anxious and emotionally repressive mood. During daytime, in a deteriorated quiet bedroom, secluded house, barred windows, tangled garden flowers, dark arbors, gnarly trees, narrow shaded lane, private wharf by the bay, antique heavy bed, torn yellow wallpaper, the solitary woman sits by the barred window, and writing.(Use the same person appearance and make sure the room setting is the same) Image created  Ask anything ChatGPT can make mistakes. Check important info. See Cookie Preferences.
Part02_2.txt	Please generate an image: landscape orientation.In a Female Gothic illustration style, with an anxious and emotionally repressive mood. In a deteriorated shadowy bedroom, torn yellow wallpaper with ghostly bulbous eyes and hidden shadowy figure, barred windows, disordered furniture, broken floor, peeled plaster, heavy battered bed, and the disturbed woman stares at the torn wallpaper.(Use the same person appearance and make sure the room setting is the same) Image created  Ask anything ChatGPT can make mistakes. Check important info. See Cookie Preferences.

Part03_1.txt	
Part03_2.txt	

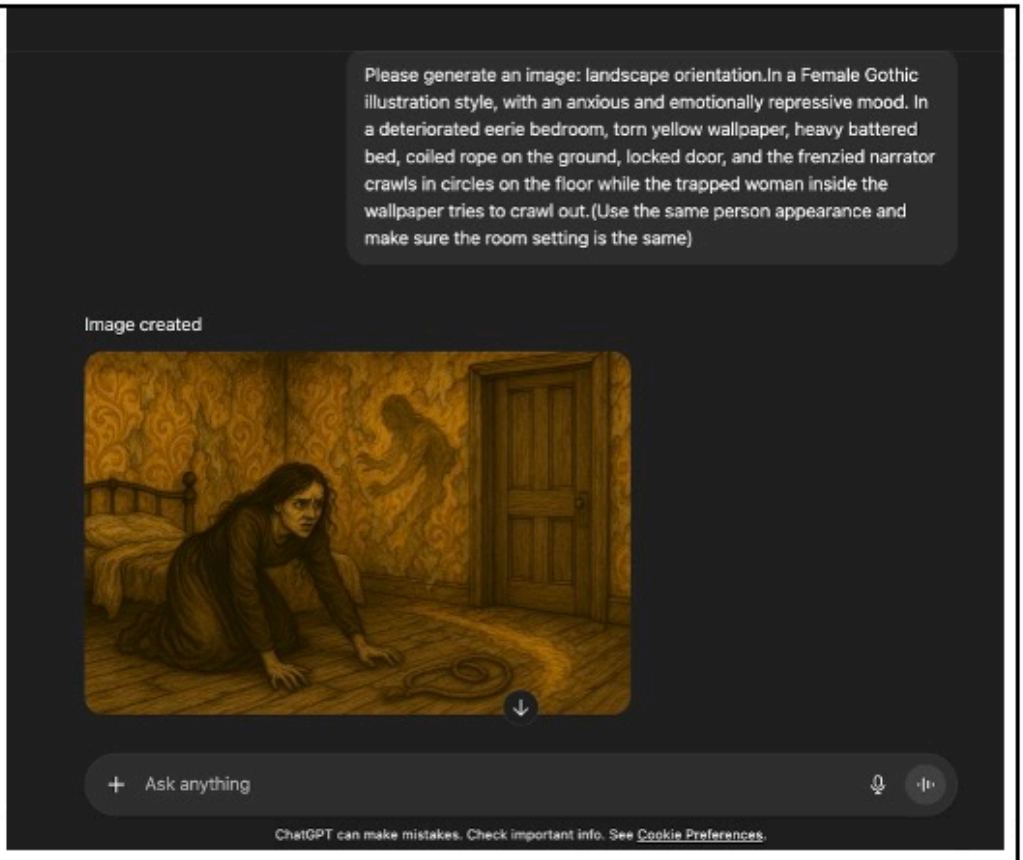
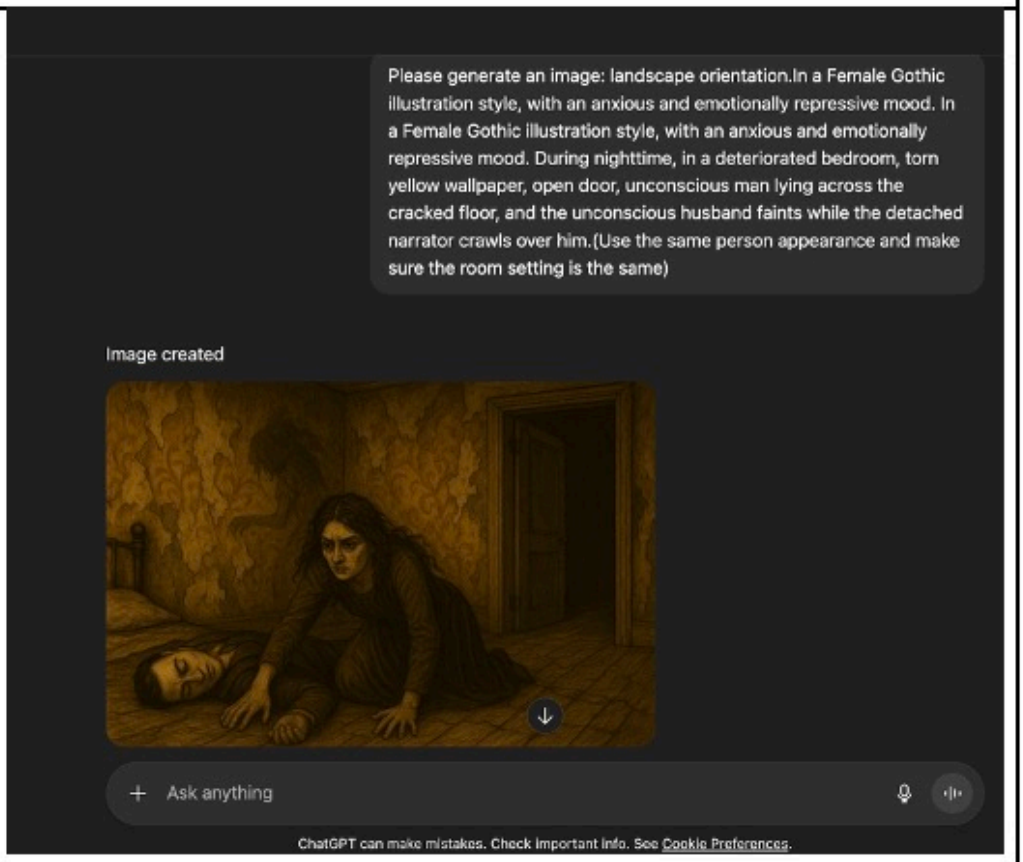
Part04_1.txt	
Part04_2.txt	

Part05.txt	
Part06_1.txt	

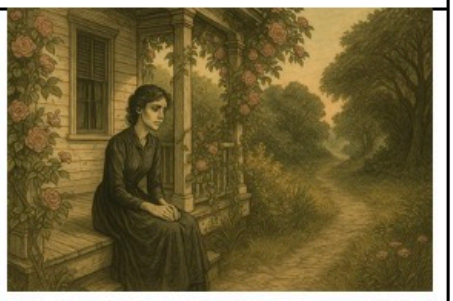
Part06_2.txt	
Part07.txt	

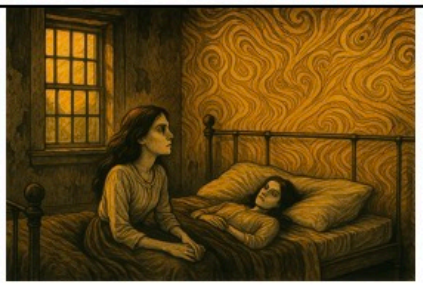
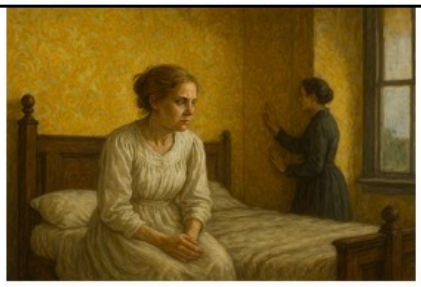
Part08_1.txt	
Part08_2.txt	

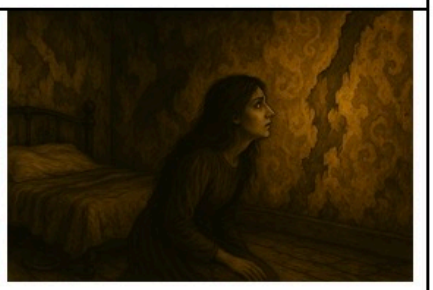
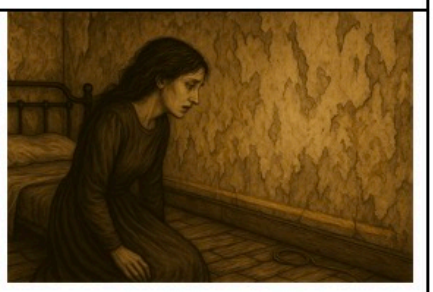
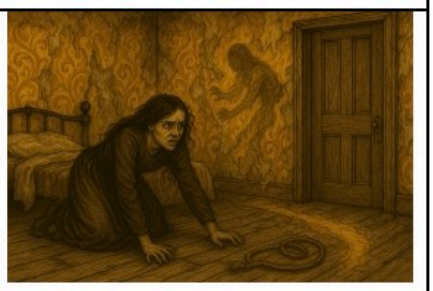
Part09_10.txt	Please generate an image: landscape orientation.In a Female Gothic illustration style, with an anxious and emotionally repressive mood. During daytime, in a deteriorated bedroom, torn yellow wallpaper, barred windows, long tree-covered road, and the narrator watches from the barred window as the creeping woman moves outside.(Use the same person appearance and make sure the room setting is the same) Image created  Ask anything ChatGPT can make mistakes. Check important info. See Cookie Preferences.
Part11.txt	Please generate an image: landscape orientation.In a Female Gothic illustration style, with an anxious and emotionally repressive mood. During nighttime, in a deteriorated dim bedroom, torn yellow wallpaper, heavy battered bed, and the suspicious woman looks at John and plans to tear the wallpaper while the falsely gentle husband questions her.(Use the same person appearance and make sure the room setting is the same) Image created  Ask anything ChatGPT can make mistakes. Check important info. See Cookie Preferences.

Part12_1.txt	
Part12_2.txt	

Appendix 5: Complete Comparison Results

Part01_1			
Part01_2			
Part02_1			
Part02_2			
Part03_1			

Part03_2			
Part04_1			
Part04_2			
Part05			
Part06_1			
Part06_2			

Part07			
Part08_1			
Part08_2			
Part09_10			
Part11			
Part12_1			

Part12_2			

Appendix 6: Code Screenshots

A. Text cleaning

```python
import re

input_path = "yellow_wallpaper.txt"
output_path = "yellow_wallpaper_cleaned.txt"

# Read the original text file
with open(input_path, "r", encoding="utf-8") as f:
    text = f.read()

# Remove Project Gutenberg header and footer
start_flag = "*** START OF THE PROJECT GUTENBERG EBOOK THE YELLOW WALLPAPER ***"
end_flag = "*** END OF THE PROJECT GUTENBERG EBOOK THE YELLOW WALLPAPER ***"

if start_flag in text and end_flag in text:
    text = text.split(start_flag)[-1].split(end_flag)[0]
else:
    raise ValueError("Start or end flag not found. Please verify the source file structure.")

# Remove title and author line (case-insensitive)
text = re.sub(r"The Yellow Wallpaper\s*By Charlotte Perkins Gilman", "", text, flags=re.IGNORECASE)

# Replace all line breaks with spaces to preserve sentence continuity
text = text.replace('\n', ' ')

# Normalize multiple spaces to a single space
text = re.sub(r'\s+', ' ', text).strip()

# Save the cleaned text to a new file
with open(output_path, "w", encoding="utf-8") as f:
    f.write(text)

print("Text cleaning complete. Output saved to:", output_path)
```

```
Text cleaning complete. Output saved to: yellow_wallpaper_cleaned.txt
```

B. Preliminary segmentation

```python
import os
import spacy

nlp = spacy.load("en_core_web_sm")

# Set input and output paths
input_path = "yellow_wallpaper_cleaned.txt"
output_folder = "segments_12parts"
os.makedirs(output_folder, exist_ok=True)

# Read the full text
with open(input_path, "r", encoding="utf-8") as f:
    text = f.read()

# Define 12 segment start markers
start_markers = [
    "It is very seldom that mere ordinary people like John and myself secure",
    "We have been here two weeks, and I haven't felt like writing before",
    "Well, the Fourth of July is over!",
    "I don't know why I should write this.",
    "It is so hard to talk with John about my case",
    "On a pattern like this, by daylight, there is a lack of sequence",
    "Life is very much more exciting now than it used to be.",
    "I'm feeling ever so much better!",
    "I really have discovered something at last.",
    "I think that woman gets out in the daytime!",
    "If only that top pattern could be gotten off from the under one!",
    "Hurrah! This is the last day, but it is enough."
]

# Step 1: Find start indices of all markers
start_indices = []
for marker in start_markers:
    idx = text.find(marker)
    if idx == -1:
        raise ValueError(f"Marker not found: {marker}")
    start_indices.append(idx)

# Add final index for slicing
start_indices.append(len(text))

# Step 2: For each segment, slice the raw text, then process with spaCy
for i in range(12):
    segment_raw = text[start_indices[i]:start_indices[i+1]].strip()

    # Use spaCy to split into sentences
    doc = nlp(segment_raw)
    sentences = [sent.text.strip() for sent in doc.sents if sent.text.strip()]

    # Save sentences to file
    output_path = os.path.join(output_folder, f"Part{i+1:02d}.txt")
    with open(output_path, "w", encoding="utf-8") as f:
        f.write("\n".join(sentences))

    print(f"Saved Part {i+1:02d} with {len(sentences)} sentences.")
```

```
Saved Part 01 with 54 sentences.
Saved Part 02 with 62 sentences.
Saved Part 03 with 31 sentences.
Saved Part 04 with 30 sentences.
Saved Part 05 with 34 sentences.
Saved Part 06 with 34 sentences.
Saved Part 07 with 10 sentences.
Saved Part 08 with 29 sentences.
Saved Part 09 with 10 sentences.
Saved Part 10 with 18 sentences.
Saved Part 11 with 14 sentences.
Saved Part 12 with 66 sentences.
```

C. Further segmentation

Part1

```
import os

# Define input and output paths
input_path = "segments_12parts/Part01.txt"
output_dir = "segments_18parts"
os.makedirs(output_dir, exist_ok=True)

# Load the full Part01 text
with open(input_path, "r", encoding="utf-8") as f:
    text = f.read()

# Define the segmentation anchors
anchor_1_start = "It is very seldom that mere ordinary people like John and myself"
anchor_1_end = "and that makes me very tired."
anchor_2_start = "I don't like our room a bit."

# Function to extract segments
def extract_segment(text, start_str, end_str=None):
    start_idx = text.find(start_str)
    if start_idx == -1:
        print(f"[Warning] Start anchor not found: {start_str}")
        return None
    if end_str:
        end_idx = text.find(end_str, start_idx)
        if end_idx == -1:
            print(f"[Warning] End anchor not found: {end_str}")
            return None
        return text[start_idx:end_idx + len(end_str)].strip()
    else:
        return text[start_idx:].strip()

# Extract segments
segment_1 = extract_segment(text, anchor_1_start, anchor_1_end)
segment_2 = extract_segment(text, anchor_2_start)

# Save output files
if segment_1:
    with open(os.path.join(output_dir, "Part01_1.txt"), "w", encoding="utf-8") as f:
        f.write(segment_1)
    print("[Saved] Part01_1.txt")

if segment_2:
    with open(os.path.join(output_dir, "Part01_2.txt"), "w", encoding="utf-8") as f:
        f.write(segment_2)
    print("[Saved] Part01_2.txt")
```

[3]

```
[Saved] Part01_1.txt
[Saved] Part01_2.txt
```

Part 2

```python
import os

# Define input and output paths
input_path = "segments_12parts/Part02.txt"
output_dir = "segments_18parts"
os.makedirs(output_dir, exist_ok=True)

# Load the full Part02 text
with open(input_path, "r", encoding="utf-8") as f:
    text = f.read()

# Define segmentation anchors
anchor_1_start = "We have been here two weeks"
anchor_1_end = "But I find I get pretty tired when I try."
anchor_2_start = "It is so discouraging not to have any advice"

# Function to extract text segments
def extract_segment(text, start_str, end_str=None):
    start_idx = text.find(start_str)
    if start_idx == -1:
        print(f"[Warning] Start anchor not found: {start_str}")
        return None
    if end_str:
        end_idx = text.find(end_str, start_idx)
        if end_idx == -1:
            print(f"[Warning] End anchor not found: {end_str}")
            return None
        return text[start_idx:end_idx + len(end_str)]
    else:
        return text[start_idx:].strip()

# Extract the two segments
segment_1 = extract_segment(text, anchor_1_start, anchor_1_end)
segment_2 = extract_segment(text, anchor_2_start)

# Save to output directory
if segment_1:
    with open(os.path.join(output_dir, "Part02_1.txt"), "w", encoding="utf-8") as f:
        f.write(segment_1)
    print("[Saved] Part02_1.txt")

if segment_2:
    with open(os.path.join(output_dir, "Part02_2.txt"), "w", encoding="utf-8") as f:
        f.write(segment_2)
    print("[Saved] Part02_2.txt")
```

```
[Saved] Part02_1.txt
[Saved] Part02_2.txt
```

Part 3

```
import os

# Define file paths
input_path = "segments_12parts/Part03.txt"
output_dir = "segments_18parts"

# Create the output directory if it doesn't exist
os.makedirs(output_dir, exist_ok=True)

# Read full text
with open(input_path, "r", encoding="utf-8") as f:
    text = f.read()

# Define anchors
anchor_1_start = "Well, the Fourth of July is over!"
anchor_1_end = "I'm getting really fond of the room in spite of the wallpaper."

anchor_2_start = "Perhaps because of the wallpaper."
# Segment 2 ends at the end of the file

# Helper function to extract segment
def extract_segment(text, start_str, end_str=None):
    start_idx = text.find(start_str)
    if start_idx == -1:
        print(f"[Warning] Start anchor not found: {start_str}")
        return ""
    if end_str:
        end_idx = text.find(end_str, start_idx)
        if end_idx == -1:
            print(f"[Warning] End anchor not found: {end_str}")
            return ""
        return text[start_idx:end_idx + len(end_str)]
    else:
        return text[start_idx:]

# Extract segments
segment_1 = extract_segment(text, anchor_1_start, anchor_1_end)
segment_2 = extract_segment(text, anchor_2_start)

# Save to files
if segment_1:
    with open(f"{output_dir}/Part03_1.txt", "w", encoding="utf-8") as f:
        f.write(segment_1)
    print("[Saved] Part03_1.txt")
else:
    print("[Skipped] Part03_1.txt due to missing anchor.")

if segment_2:
    with open(f"{output_dir}/Part03_2.txt", "w", encoding="utf-8") as f:
        f.write(segment_2)
    print("[Saved] Part03_2.txt")
else:
    print("[Skipped] Part03_2.txt due to missing anchor.")

print("Segmentation complete.")
```

```
[Saved] Part03_1.txt
[Saved] Part03_2.txt
Segmentation complete.
```

Part4

```python
import os

# Define file paths
input_path = "segments_12parts/Part04.txt"
output_dir = "segments_18parts"

# Create output directory if it doesn't exist
os.makedirs(output_dir, exist_ok=True)

# Read full text
with open(input_path, "r", encoding="utf-8") as f:
    text = f.read()

# Define anchors
anchor_1_start = "I don't know why I should write this."
anchor_1_end = "And dear John gathered me up in his arms"

anchor_2_start = "He said I was his darling and his comfort and all he had"

# Extract function
def extract_segment(text, start_str, end_str=None):
    start_idx = text.find(start_str)
    if start_idx == -1:
        print(f"[Warning] Start anchor not found: {start_str}")
        return ""
    if end_str:
        end_idx = text.find(end_str, start_idx)
        if end_idx == -1:
            print(f"[Warning] End anchor not found: {end_str}")
            return ""
        return text[start_idx:end_idx + len(end_str)]
    else:
        return text[start_idx:]

# Extract segments
segment_1 = extract_segment(text, anchor_1_start, anchor_1_end)
segment_2 = extract_segment(text, anchor_2_start)

# Save files
if segment_1:
    with open(f"{output_dir}/Part04_1.txt", "w", encoding="utf-8") as f:
        f.write(segment_1)
    print("[Saved] Part04_1.txt")
else:
    print("[Skipped] Part04_1.txt")

if segment_2:
    with open(f"{output_dir}/Part04_2.txt", "w", encoding="utf-8") as f:
        f.write(segment_2)
    print("[Saved] Part04_2.txt")
else:
    print("[Skipped] Part04_2.txt")

print("Segmentation complete.")
```

```
[Saved] Part04_1.txt
[Saved] Part04_2.txt
Segmentation complete.
```

Part6

```
import os

# Define input and output paths
input_path = "segments_12parts/Part06.txt"
output_dir = "segments_18parts"

# Create output directory if it doesn't exist
os.makedirs(output_dir, exist_ok=True)

# Read the full text
with open(input_path, "r", encoding="utf-8") as f:
    text = f.read()

# Define segment anchors
anchor_1_start = "On a pattern like this, by daylight"
anchor_1_end = "By daylight she is subdued, quiet."

anchor_2_start = "I fancy it is the pattern that keeps her so still."

# Helper function for segment extraction
def extract_segment(text, start_str, end_str=None):
    start_idx = text.find(start_str)
    if start_idx == -1:
        print(f"[Warning] Start anchor not found: {start_str}")
        return ""
    if end_str:
        end_idx = text.find(end_str, start_idx)
        if end_idx == -1:
            print(f"[Warning] End anchor not found: {end_str}")
            return ""
        return text[start_idx:end_idx + len(end_str)]
    else:
        return text[start_idx:]

# Extract each segment
segment_1 = extract_segment(text, anchor_1_start, anchor_1_end)
segment_2 = extract_segment(text, anchor_2_start)

# Save the segments as separate files
if segment_1:
    with open(f"{output_dir}/Part06_1.txt", "w", encoding="utf-8") as f:
        f.write(segment_1)
        print("[Saved] Part06_1.txt")
else:
    print("[Skipped] Part06_1.txt due to missing anchor.")

if segment_2:
    with open(f"{output_dir}/Part06_2.txt", "w", encoding="utf-8") as f:
        f.write(segment_2)
        print("[Saved] Part06_2.txt")
else:
    print("[Skipped] Part06_2.txt due to missing anchor.")

print("Segmentation complete.")
```

```
[Saved] Part06_1.txt
[Saved] Part06_2.txt
Segmentation complete.
```

Part 8

```
import os

# Define input and output paths
input_path = "segments_12parts/Part08.txt"
output_dir = "segments_18parts"

# Create output directory if it doesn't exist
os.makedirs(output_dir, exist_ok=True)

# Read the full original text
with open(input_path, "r", encoding="utf-8") as f:
    text = f.read()

# Define start and end anchors for each refined segment
anchor_1_start = "I'm feeling ever so much better!"
anchor_1_end = "A yellow smell."

anchor_2_start = "There is a very funny mark on this wall, low down, near the mopboard."

# Helper function for segment extraction
def extract_segment(text, start_str, end_str=None):
    start_idx = text.find(start_str)
    if start_idx == -1:
        print(f"[Warning] Start anchor not found: {start_str}")
        return ""
    if end_str:
        end_idx = text.find(end_str, start_idx)
        if end_idx == -1:
            print(f"[Warning] End anchor not found: {end_str}")
            return ""
        return text[start_idx:end_idx + len(end_str)]
    else:
        return text[start_idx:]

# Extract segments
segment_1 = extract_segment(text, anchor_1_start, anchor_1_end)
segment_2 = extract_segment(text, anchor_2_start)

# Save segments to individual files
if segment_1:
    with open(f"{output_dir}/Part08_1.txt", "w", encoding="utf-8") as f:
        f.write(segment_1)
        print("[Saved] Part08_1.txt")
else:
    print("[Skipped] Part08_1.txt due to missing anchor.")

if segment_2:
    with open(f"{output_dir}/Part08_2.txt", "w", encoding="utf-8") as f:
        f.write(segment_2)
        print("[Saved] Part08_2.txt")
else:
    print("[Skipped] Part08_2.txt due to missing anchor.")

print("Segmentation complete.")
```

```
[Saved] Part08_1.txt
[Saved] Part08_2.txt
Segmentation complete.
```

Part9+Part10

```
import os

# Define file paths
input_path_1 = "segments_12parts/Part09.txt"
input_path_2 = "segments_12parts/Part10.txt"
output_dir = "segments_18parts"

# Create output directory if it doesn't exist
os.makedirs(output_dir, exist_ok=True)

# Read the content of both segments
with open(input_path_1, "r", encoding="utf-8") as f:
    part09 = f.read().strip()

with open(input_path_2, "r", encoding="utf-8") as f:
    part10 = f.read().strip()

# Combine the contents
merged_segment = part09 + "\n\n" + part10

# Save the merged segment
output_path = os.path.join(output_dir, "Part09_10.txt")
with open(output_path, "w", encoding="utf-8") as f:
    f.write(merged_segment)

print("[Saved] Part09_1.txt – merged from Part09 and Part10")
```

[9]

```
[Saved] Part09_1.txt – merged from Part09 and Part10
```

Part12

```
import os

# Define input and output paths
input_path = "segments_12parts/Part12.txt"
output_dir = "segments_18parts"
os.makedirs(output_dir, exist_ok=True)

# Load full Part12 text
with open(input_path, "r", encoding="utf-8") as f:
    text = f.read()

# Define start and end anchors for each segment
anchor_1_start = "Hurrah!"
anchor_1_end = "and everything is green instead of yellow."
anchor_2_start = "But here I can creep smoothly on the floor"

# Function to extract text by anchors
def extract_segment(text, start_str, end_str=None):
    start_idx = text.find(start_str)
    if start_idx == -1:
        print(f"[Warning] Start anchor not found: {start_str}")
        return None
    if end_str:
        end_idx = text.find(end_str, start_idx)
        if end_idx == -1:
            print(f"[Warning] End anchor not found: {end_str}")
            return None
        return text[start_idx:end_idx + len(end_str)]
    else:
        return text[start_idx:].strip()

# Extract segments
segment_1 = extract_segment(text, anchor_1_start, anchor_1_end)
segment_2 = extract_segment(text, anchor_2_start)

# Save output files
if segment_1:
    with open(os.path.join(output_dir, "Part12_1.txt"), "w", encoding="utf-8") as f:
        f.write(segment_1)
    print("[Saved] Part12_1.txt")

if segment_2:
    with open(os.path.join(output_dir, "Part12_2.txt"), "w", encoding="utf-8") as f:
        f.write(segment_2)
    print("[Saved] Part12_2.txt")
```

```
[Saved] Part12_1.txt
[Saved] Part12_2.txt
```

D. Automated extraction

```
import os
import spacy
from collections import Counter
import pandas as pd

# Load spaCy English model
nlp = spacy.load("en_core_web_sm")

# Set the directory path containing multiple text segments
input_dir = "segments_18parts"
segment_files = sorted([f for f in os.listdir(input_dir) if f.endswith(".txt")])

# Output results file path (saved in the input directory)
output_path = os.path.join(input_dir, "semantic_extraction_results.csv")

# Keywords related to wallpaper
wallpaper_keywords = ["wallpaper", "yellow", "wall", "paper"]

# Generic person-related nouns
generic_person_words = [
    "woman", "man", "girl", "boy", "wife", "husband",
    "mother", "father", "sister", "brother", "child", "baby",
    "lady", "gentleman", "person", "figure", "creature"
]

# Store results
results = []

for filename in segment_files:
    file_path = os.path.join(input_dir, filename)
    with open(file_path, "r", encoding="utf-8") as f:
        text = f.read()

    doc = nlp(text)

    # ===== Extract top three pronouns =====
    pronouns = [token.text.lower() for token in doc if token.pos_ == "PRON"]
    pronoun_counts = Counter(pronouns).most_common(3)
    pronoun_output = ", ".join([f"{p} ({c})" for p, c in pronoun_counts]) or "None"

    # ===== Extract character names (NER + generic nouns) =====
    named_characters = [ent.text for ent in doc.ents if ent.label_ == "PERSON"]

    generic_characters = [
        token.text for token in doc
        if token.pos_ in ["NOUN", "PROPN"] and token.text.lower() in generic_person_words
    ]

    all_characters = named_characters + generic_characters
    char_counts = Counter(all_characters)
    character_output = ", ".join([f"{c} ({count})" for c, count in char_counts.items()]) or "None"

    # ===== Extract wallpaper-related sentences =====
    wallpaper_sentences = [
        sent.text.strip() for sent in doc.sents
        if any(keyword in sent.text.lower() for keyword in wallpaper_keywords)
    ]
    wallpaper_output = "\n".join(wallpaper_sentences) if wallpaper_sentences else "None"

    # ===== Aggregate results =====
    results.append({
        "File Name": filename,
        "Dominant Pronouns (with count)": pronoun_output,
        "Named Characters (with count)": character_output,
        "Wallpaper-Related Sentences": wallpaper_output
    })

# Save results
df = pd.DataFrame(results)
df.to_csv(output_path, index=False)
print(f"Extraction completed. Results saved as: {output_path}")
```

```
Extraction completed. Results saved as: segments_18parts/semantic_extraction_results.csv
```

8. AI Declaration

King's requires students to acknowledge any use of generative AI tools in coursework by including a declaration statement along with your references. Please note that so long as acknowledged use falls within the scope of appropriate use as defined in the assessment brief/guidance then this will not have any direct impact on the grades awarded. Unless alternative wording is suggested in an assessment brief then you should append one of the following:

https://www.kcl.ac.uk/about/strategy/learning-and-teaching/ai-guidance/student-guidance

I declare that parts of this submission has contributions from AI software and that it aligns with acceptable use as specified as part of the assignment brief/ guidance and is consistent with good academic practice. The content can still be considered as my own words. I understand that as long as my use falls within the scope of appropriate use as defined in the assessment brief/guidance then this declaration will not have any direct impact on the grades awarded.

I acknowledge use of software to [include as appropriate]:

ChatGPT- OpenAI. Available at: https://chat.openai.com

(i) Code debugging and optimisation: modified and optimised the codes used in the methodological process.

(ii) Image generation: generated images for experimental comparison, revised images, and the cover and background illustrations of the digital object.

(iii) Reference management: proofread the reference list and reordered it alphabetically (A-Z).

(iv) Text optimisation: performed synonym replacement, refinement of expressions, translation and grammar correction.