Designing AI-Driven storyboarding tools for enhanced creativity and interdisciplinary collaboration in the ideation process

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Abstract

This project seeks to seamlessly integrate artificial intelligence (AI) into the realms of creative ideation and collaborative endeavors. To facilitate this, storyboarding has been employed as a visual instrument. The project employs a web-based prototype that utilizes AI-generated storyboards, serving as visual aids. The research shows that the tool would play a key role in idea generation and effectively communicating them to stakeholders. As a result, it boosts the effectiveness of the creative ideation phase of production.

Introduction & Background

Storyboards have long been employed as a visual tool to depict and communicate ideas, particularly in fields such as film and advertising. With recent advancements in AI technology, integrating AI into the storyboard design process enhances creativity and streamlines the ideation phase to generate novel concepts.

Bobbin seeks to better collaborate in the ideation phase of production. This project employs traditional storyboarding methods and integrates them with generative AI to design a tool that would work to better facilitate creative ideation and collaboration. It analyses the attitudes and contributions of the development of the tool in creative ideation to all stakeholders involved.
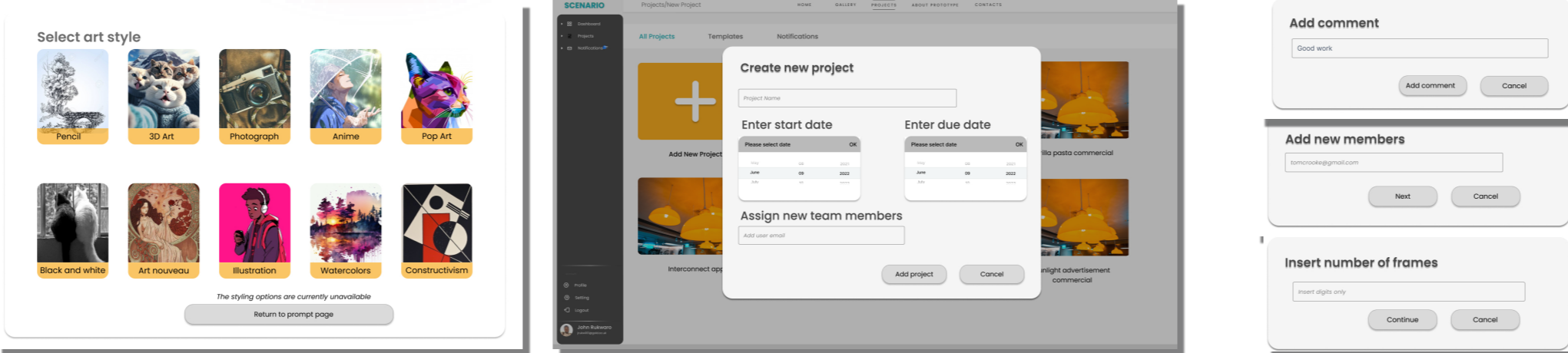
Diagram / Design

Interface (Onboarding)
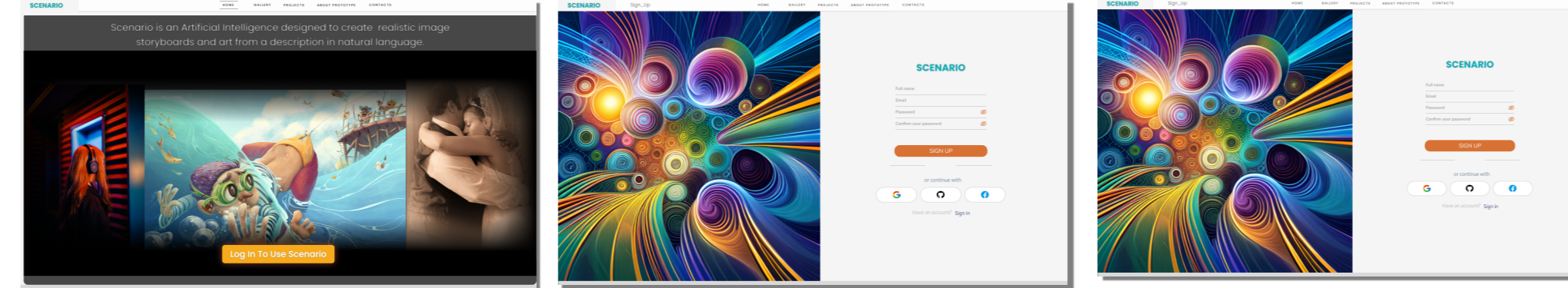
Interface (Collaborative & Creative)
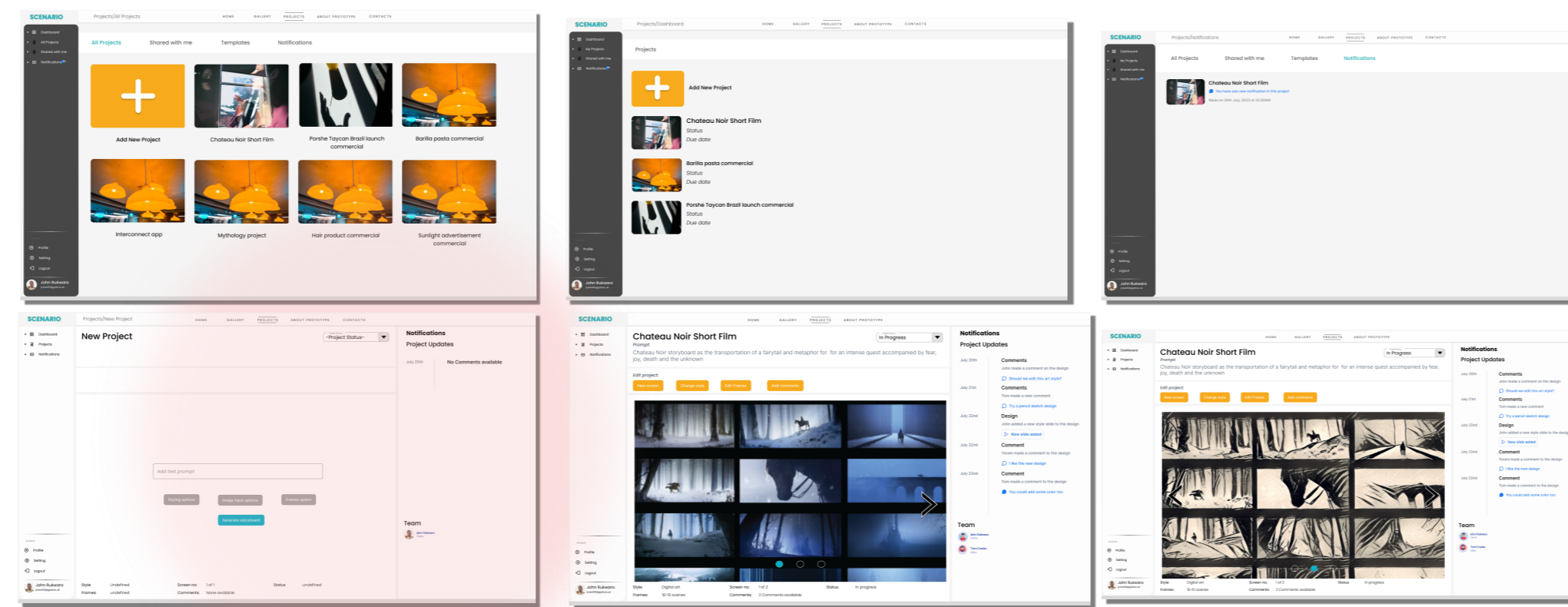
Interface (Functions)

Testing & Evaluation

Recruitment
A total of 12 participants were involved in the testing phase. Half of these participants, accounting for 50%, evaluated the initial design, while the remaining 50% assessed the redesigned version. The testers encompassed a diverse group, including individuals from creative backgrounds and stakeholders from fields such as marketing, communication, and film post-production, specifically in editing processes.

Design & Testing
A low-fidelity prototype was crafted using Figma, featuring a dual flow that effectively segregated the creative and collaborative functions. These functionalities were accessible within a single user profile. All testers took part in both pre- and post-interview sessions, aimed at gauging usability and enjoyment, as well as gathering insights to enhance the creative and collaborative processes.

Re-design and Testing
The redesign integrated creativity and collaboration within projects, which were also built using Figma. The evaluation of the testing phase involved a post-testing questionnaire that utilized the Creativity Support Index. This index assessed various aspects, including exploration, expressiveness, immersion, enjoyment, the value of outcomes in relation to effort invested, and collaboration.

Research Results

Many testers expressed interest in the prototype. The outcomes have revealed the potential of the prototype's creative and collaborative elements. Feedback from participants regarding the high-fidelity version indicates that the provided tools and functions are well-suited for an effective collaborative and creative ideation process.

However, a notable challenge encountered is that at this phase of the project, certain users lacked practical familiarity with image generative AI and required guidance to understand the concept and thus a lower scoring on the immersion and navigational aspects of the prototype. Nonetheless, the results demonstrated a favorable response to the prototype

Study Methodology

Literature review
Investigating the literature behind creative ideation, collaboration and the role artificial intelligence plays in the process.

Ethnographic study
Conducting a qualitative research at Bobbin to realise the culture and practises in ideation at the company.

User case development
Understanding the users needs in order to design the tasks process the design should take using roleplays,taskflows, journey maps, user case and service designs.

Prototyping and testing
Design a prototype that would help communicate a solution Bobbin may develop to assist in ideation. Test the design and collect information in user interviews

Redesign, testing & evaluation
Analyse the initial results, redesign and evaluate the results from the same.

Comparisons between the Creative & Collaborative index from use of scenario prototype
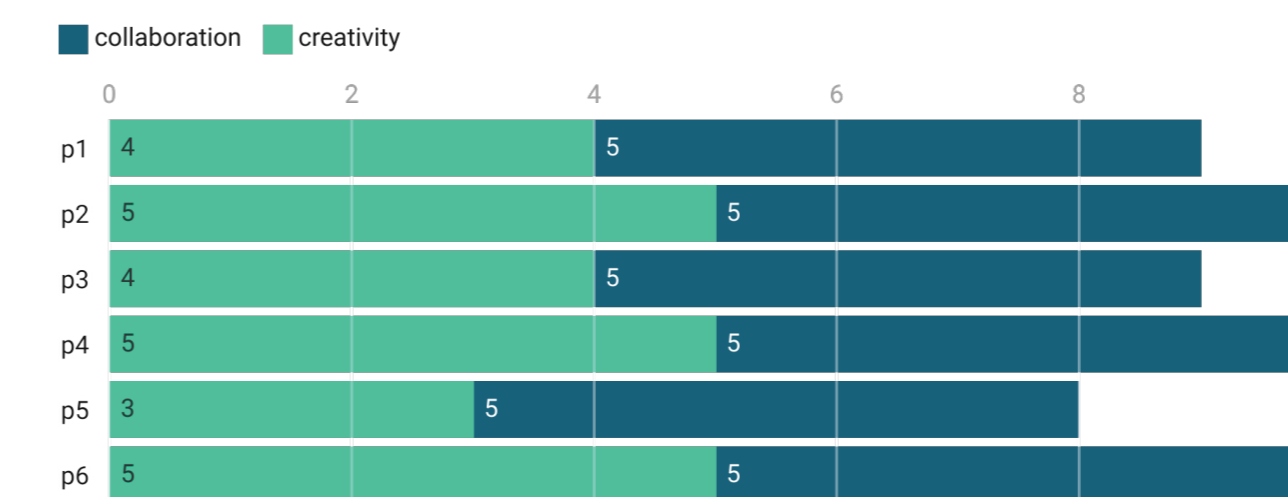
User perspectives on Immersion vs Navigation of scenario
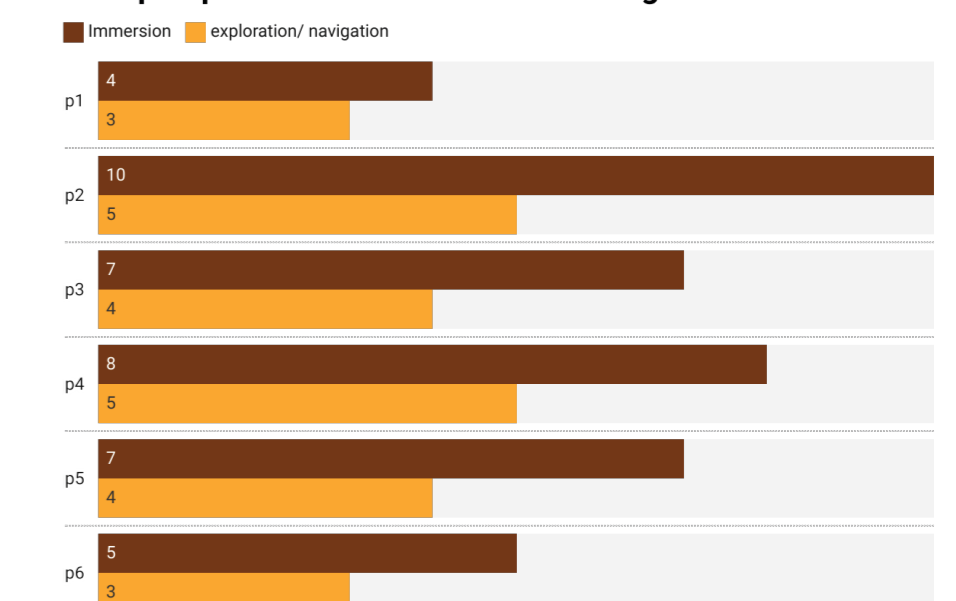
Conclusion & Future Work

As stated by one of the participants, the application holds the promise of functioning as an excellent collaborative tool by organizing ideation into a structured process. The outcomes have indeed validated this assertion. Witnessing the further development of this tool for enabling participants to conceive their own projects and observe their dynamic implementation would be highly valuable.