GNG2101

Design Project Progress Update

“Gee-Gees Companion Developers” GNG2101 Group 1.5

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List of Acronyms and Glossary

Table 1. Acronyms

|  |  |
| --- | --- |
| **Acronym** | **Definition** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

Table 2. Glossary

|  |  |  |
| --- | --- | --- |
| **Term** | **Acronym** | **Definition** |
| Vite |  | A frontend building tool used for development to host websites locally |
| React |  | A frontend JavaScript development framework that offers services and boilerplate code to quicken and ease developer work |
|  |  |  |
|  |  |  |
|  |  |  |

# Introduction

This document serves as a follow-up report focusing on the prototype testing of the "Gee-Gees Companion Developers" project. The project aims to develop a tool that improves course content accessibility for students and professors by analyzing data provided by Ally and offering actionable recommendations. Our primary assumptions include user familiarity with Ally-generated CSV files and the integration of OpenAI to support the chatbot functionality. The scope of this document involves prototype testing, feedback analysis, and design refinement based on the usability and performance of the proposed system.

The document is structured as follows:

1. **Introduction** – A brief overview of the project’s goals, context, and assumptions.
2. **Prototype 1** – Details on Prototype 1 and the methods used to test the prototype, including test cases and considerations.
3. **Design Constraints and Prototype 2**– Analysis of project design constraints and breakdown of prototype 2.
4. **Economic and IP Considerations** – An economic report on the product beyond its deployment, and analysis of relationships with different IPs.
5. **Design Day Pitch and Final Prototype Evaluation:** Breakdown of design day pitch and materials, and a review of our final prototype.
6. **Video and User Manual**
7. **Conclusions**

# Prototype 1, Project Progress Presentation, Peer Feedback and Team Dynamics

## Prototype 1

**Description, Critical Assumption and DFX Testing**

The purpose of this prototype is to showcase and test our user interface designs and functionalities.

Our critical assumptions relating to this prototype can be defined as:

* **User-Centric Design**: The chatbot interface will prioritize user experience (UX) by employing a user-centric design approach, ensuring that professors can easily navigate and interact with the chatbot.
* **Responsive Design**: The UI will be fully responsive, ensuring a seamless experience.
* **Availability:** The website will be available and perform simlarly on various web browsers

Based on these assumptions, we can prepare our prototype testing as such:

* **Response Time Testing:** Assess how quickly the frontend loads and renders the interface. This will be done with developer tools
* **User Responsiveness Testing:** Evaluate how well the chatbot responds to user interactions. The topic is subjective, so external testing with multiple different users will be done to score this test.
* **User Usability Interactivity:** Gauge how intuitive and engaging the chat bot interface is for users during interactions. Again, the topic is subjective, so external testing with multiple different users will be done to score this test.
* **Browser Availability:** Ensure that the front-end functions seamlessly across various web browsers to ensure that it is accessible to various users with different browsers. We will use the top five most used browsers to test our website availability.

This prototype and its related tests are directly related to Design for Accessibility and Design for Usability:

* **Design for Usability**: Usability testing, response time, and user experience testing all focus on ensuring that the chatbot is easy to use and navigate, thereby enhancing user satisfaction and efficiency.
* **Design for Accessibility**: The browser and responsiveness testing directly addresses the importance of making the chatbot accessible for all users. It ensures that the product provides an inclusive, interactive and simple user experience.

**Prototype Design and Outline**

Prototype 1 is built on standard web technologies using HTML, CSS, and JavaScript. Specifically, we used React a JavaScript framework for fast development and future backend integration, and Vite as our fast build tool/runtime environment. Since the purpose of this prototype is to design and test our user interface experience, we will go in depth into only our front-end systems below. There will be no mention of back-end interactions, just the front-end implementations.

Table 1. Prototype Features and Systems

|  |  |
| --- | --- |
| Visual Screenshot of Feature | Description |
|  | **Sidebar/ Navigation Bar**  The central page control of the website, where the user can navigate the various pages and parts of the website. This bar is able to be toggled on and off. This feature offers a clean, user friendly, simple, and interactive interface where the user can easily go to the different services they chose. The side bar is available and visible in every website page.  Technical Implementation:  In our implementation, the side bar is a top-level component above all the pages in our code structure. The side bar handles all the page routing and changes the screen and URL depending on user input. |
|  | **Chat Introduction Page**  This is the front page of the website that the user will see. They will be able to instantly interact with the chat bot interface.  Technical Implementation: This page is a static page, when the user begins typing, they will be shown the real chat interface. |
|  | **Chat Interface**  The main interface where the user can interact with the chat bot. Their messages and the bot’s messages will be shown to them simulating an interactive and clean chat interface.  Technical Implementation:  This page handles user and bot messages. For this prototype, the bot messages only mirror the user message, but it still shows how bot responses will look like. |
|  | **.CSV File drop box and delete button**  This drop box is available with the chat interface. Users can drag files or click on the button to show their file explorer. This drop box will then accept any .csv files. They can also erase their uploaded files. |
|  | **Chat History**  This page shows the user conversation history.  Technical Implementation:  For this prototype, each post is static text and does not reflect any conversation that the user has had. This is to show how it will look like when backend capabilities are implemented. |
|  | **Accessibility Information Page**  This page shows various resources related to accessibility for user curiosity. |
|  | **Login / Sign Up Page**  This page allows the user to login and register an account. They are prompted through forums. This feature will allow the users to save and view their conversation history.  Technical Implementation: Static interface for now will be fully functional in later prototypes. |
|  | **About Page**  This page goes over frequently asked questions and information about the website and chat application. We hope to expand on this moving forward with video tutorials etc. |

**Prototype Testing**

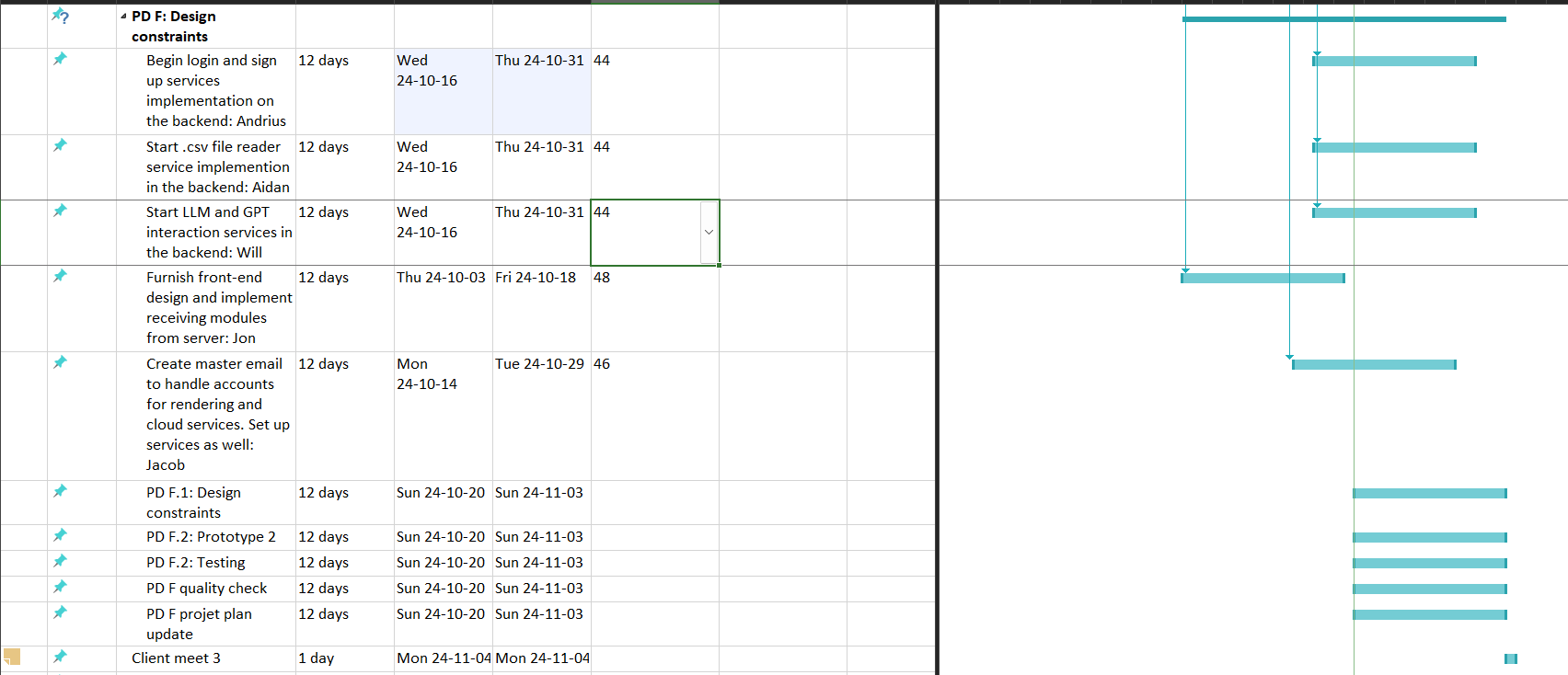
Table 2. Testing Values

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Description | Target Specification/Metric | Unit | Expected | Results | Considerations |
| This test is to test our website’s response time when directing to it on a web browser. This response and build time is was tracked using Vite tools. | Response Time (Load Time) | Milliseconds | <400ms | Average: 187ms  (20 trials) | This response time is based on our project build tool, Vite, and how fast it can build the website locally. This is only for development environments, and the test does not reflect the website's response time in production as it will be run from a web server. But it is still a good indication that we are creating efficient code. |
| This test is to score our website responsiveness. Responsiveness is subjective thus external user trials will be used. Trials are done locally with family members and friends. | Website Responsiveness | User Score (out of 5) | >= 3 | Avg: 4.2  (15 Users) | Our tests could benefit from a larger sample size. |
| This test is to score our interactive website design. Responsiveness is subjective thus external user trials will be used. Trials are done locally with family members and friends. | Interactive User Design | User Score (out of 5) | >= 3 | Avg: 3.87  (15 Users) | Our tests could benefit from a larger sample size. |
| The software should be available on many platforms. This test will test the compatibility of the website with the top 5 browsers (Chrome, Safari, Edge, Firefox, Opera) | Browser Availability | # of Browsers | All 5 main browsers | 5 | With more prototypes featuring server capabilities, this test should always be repeated, with multiple different user devices as well |

## Project Progress Presentation

<https://uottawa-my.sharepoint.com/personal/jsoli033_uottawa_ca/_layouts/15/guestaccess.aspx?share=ERkJ0NYkUTJHuVId69ZKwRgB1MA5amT9xQEG6fPbjDNsWg&e=Euvrq5>

## Project plan update



# Design Constraints and Prototype 2

## Design constraints

## Prototype 2

## Project plan update

Add a screenshot of your gantt chart.

# Economic and IP Considerations

## Economics report

## Intellectual property report

## Project plan update

Add a screenshot of your gantt chart.

# Design Day Pitch and Final Prototype Evaluation

Write your design day pitch and plan your prototype demo.

# Video and User Manual

## Video pitch

Add link to video.

## User manual

See separate template for the user manual. Do not write the content here.

# Conclusions

Summarize your lessons learned and your work related to your project. Discuss any outstanding issues or implications for the project.

# Bibliography

Insert your list of references here.