



Knight Foundation of Computing and Information Sciences

Fall 2023 Senior Design Project

Auditory Training App

Student: Danny Pascual

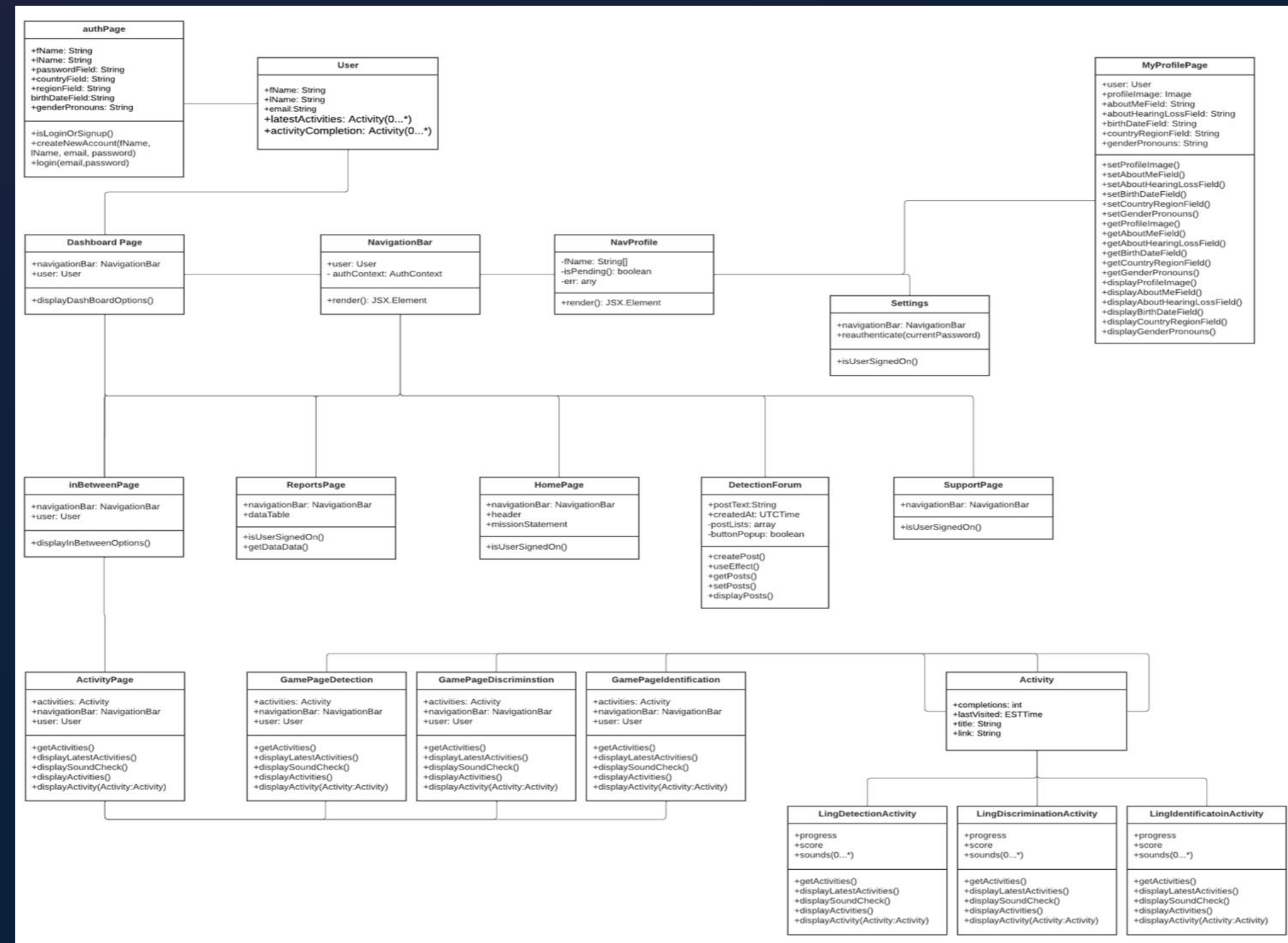
Mentor: *Dr. Aliete Alfano, Product Owner*

Instructor/Faculty: *Dr. Masoud Sadjadi* Florida International University

PROBLEM

After hearing loss patients undergo cochlear implant surgery, it is recommended that they partake in aural rehabilitation to improve language recognition and speech. The Auditory Training App seeks to support these individuals by offering a variety of auditory drills and activities to slowly build up their confidence and hearing abilities. Moreover, the Auditory Training App provides auditory games that make the process of aural rehabilitation more enjoyable and gives the user a break from their usual routine.

OBJECT DESIGN



VERIFICATION

The application was tested by all team members at the end of every sprint and comprehensive usage tests were run during the final sprint to ensure all the new pages and components worked together seamlessly and did not interfere with existing frameworks, UI, or functionality. Once verified, the code was merged to the 'development' branch on GitHub via a pull request to ensure no conflicts with the existing code.

CURRENT SYSTEM

The current system was built upon work done in the previous semesters. The current tech stack includes the React framework using Node.js package manager and a Firebase backend.

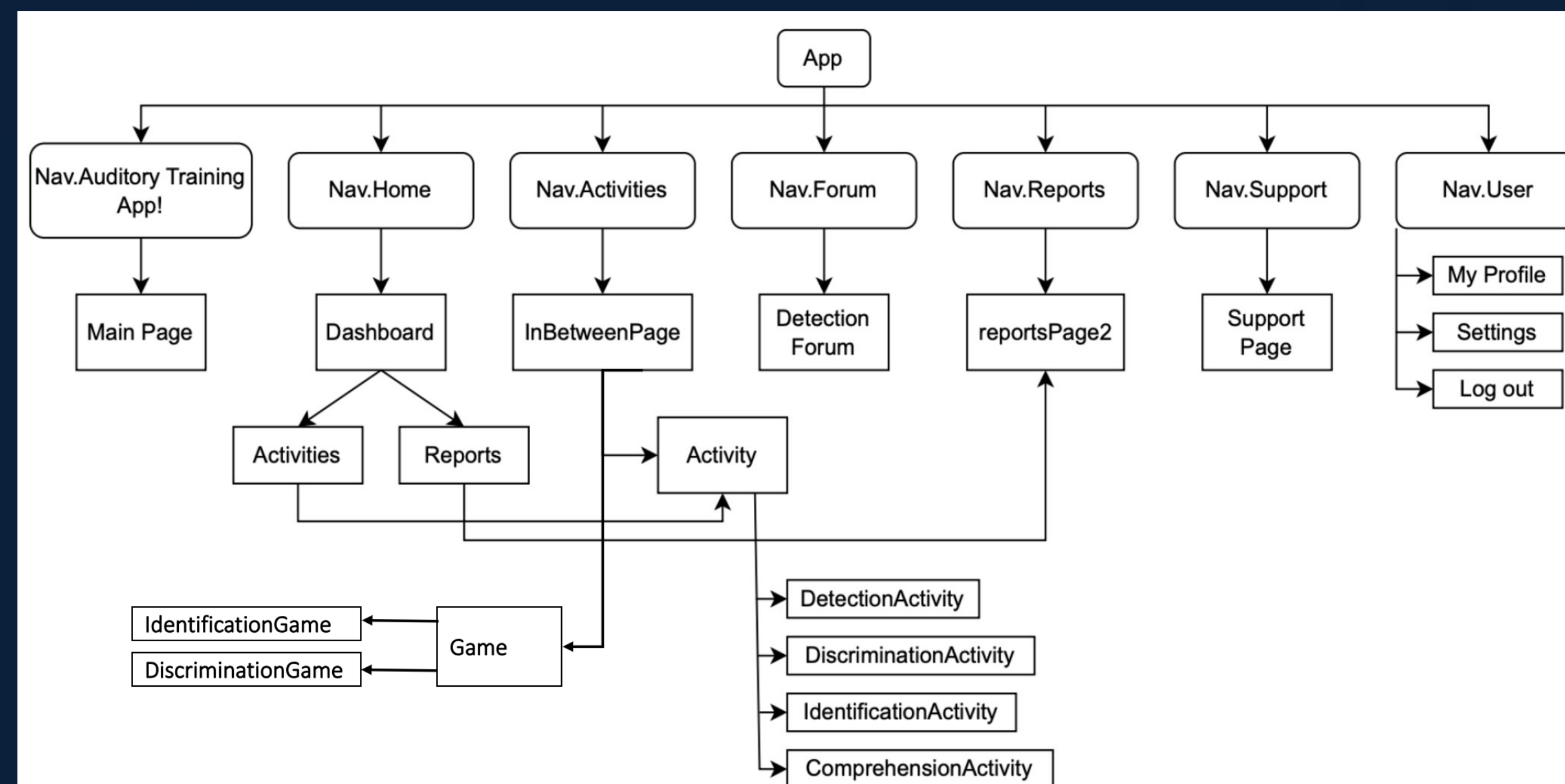
Our Contributions Include:

- Adding a game option page
- Adding a matching game
- Adding a word search game
- Organizing ling games in the proper categories
- Updating InBetweenPage
- Increasing page accessibility

Potential Future Contributions Include:

- Add more ling activities (Comprehension & Game Activities)
- Add a community feature
- Publish a demo

SYSTEM DESIGN



REQUIREMENTS

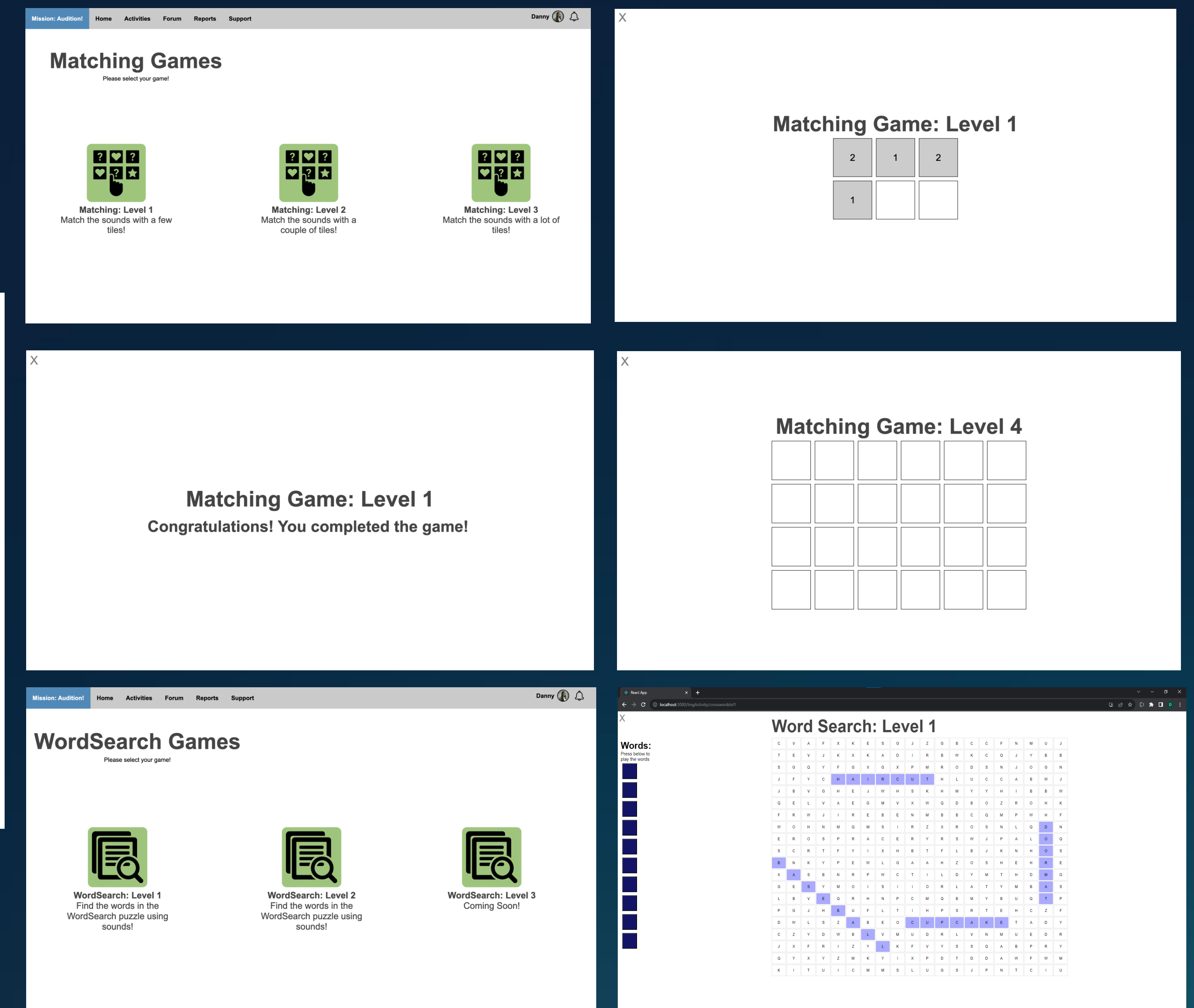
Requirements to Run the Program:

- Node JS, installed by the Node Package Manager
- Access to GitHub
- An IDE to run the program
- Recommended: VSCode
- Access to Google Firebase project to:
- Create firebase-config file
- Retrieve API Key for authentication
- Access the Database

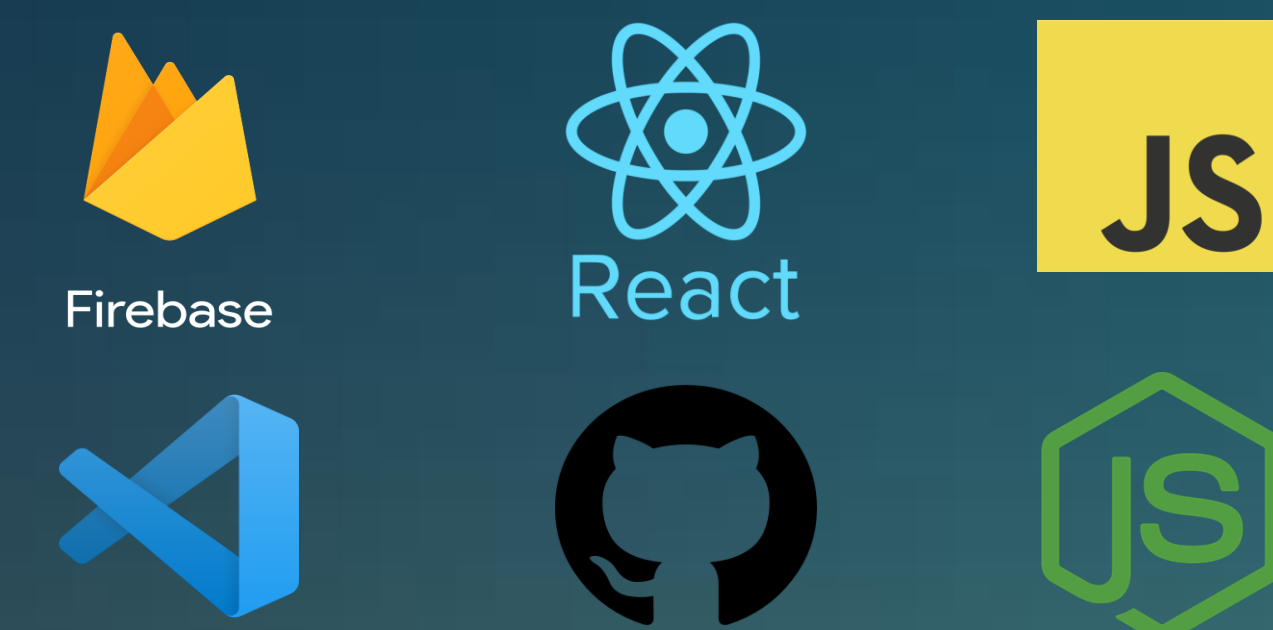
SUMMARY

This semester I worked on creating fun and engaging ways to keep the user entertained and learning. I updated the InBetweenPage by adding a functional game page option with two new games. I also created two new pages that allow users to choose the level of difficulty for each game that they have chosen. Additionally, I added text instructions to each game to promote accessibility and ease of use.

REFERENCES



IMPLEMENTATION



ACKNOWLEDGEMENT

The material presented in this poster is based upon the work supported by Dr. Aliete Alfano. I thank Dr. Aliete Alfano for her assistance and mentorship that I received throughout the senior design project.