

Auditory Training App

Student: Casey Sit

Mentor: Alliete Alfano, Florida International University

Instructor/Faculty: Masoud Sadjadi, Florida International University

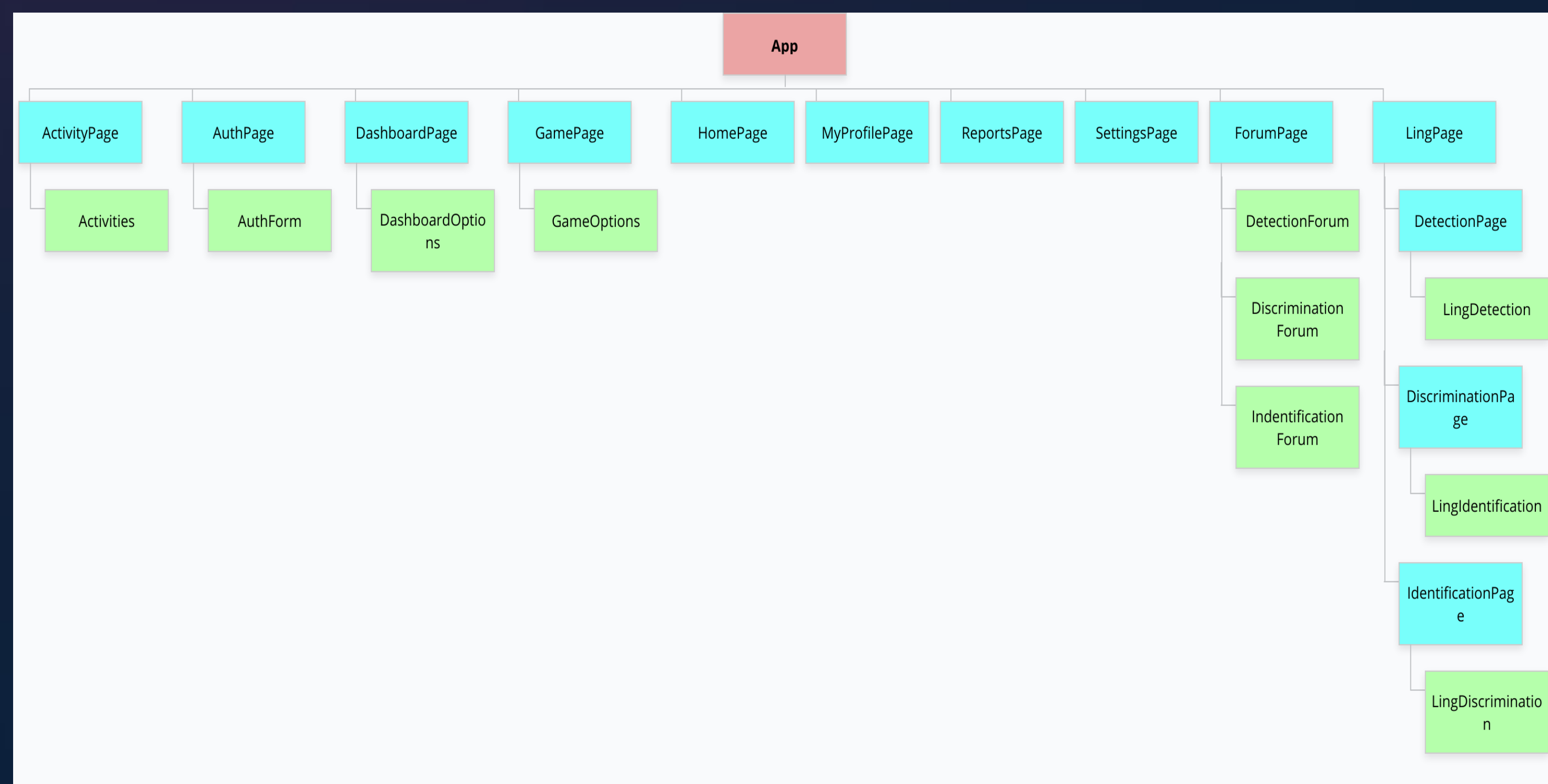
PROBLEM

Mission Audition is a web application aimed at supporting people with cochlear implants relearn to hear, training their auditory nerve to respond to the electronic stimuli. It also serves as a foci for a community to develop around, allowing people to connect with others sharing similar experiences or struggles.

Current apps designed to assist this demographic lack engaging hearing exercises that accurately scale with difficulty and may not contain functionality meant to foster a community internally, requiring external tools that may not be easily accessible to do so.

During this semester, I focused on debugging previous work, creating a completion screen, and creating guidelines to streamline future development works.

SYSTEM DESIGN



CURRENT SYSTEM

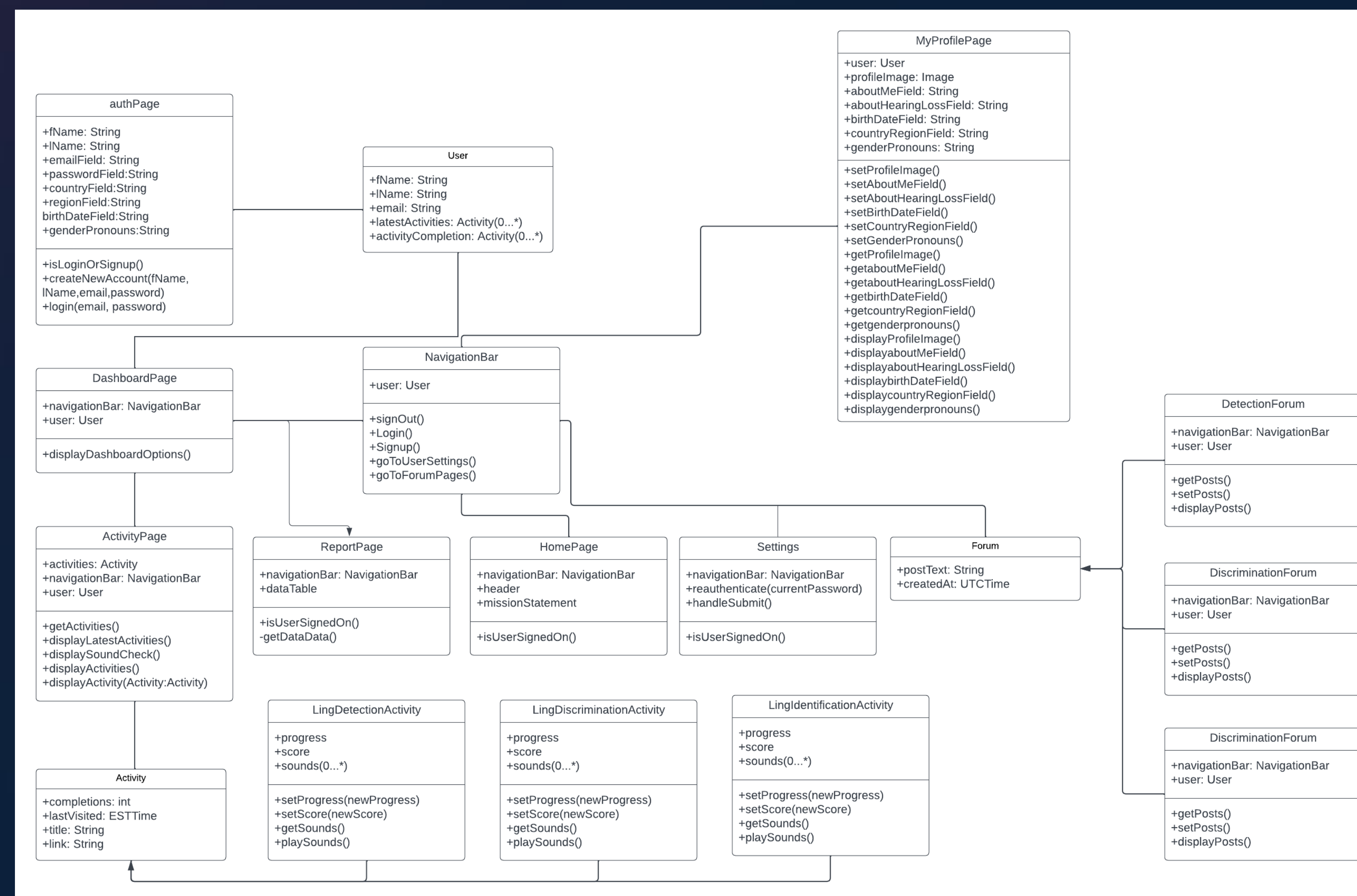
The current application is a continuation from the previous two semesters' work. New extensions implemented include a completion modal upon activity completion, a reports page, expansion on forum functionality, and visual overhauls.

The current tech stack includes the React framework using Node.js package manager and a Firebase backend.

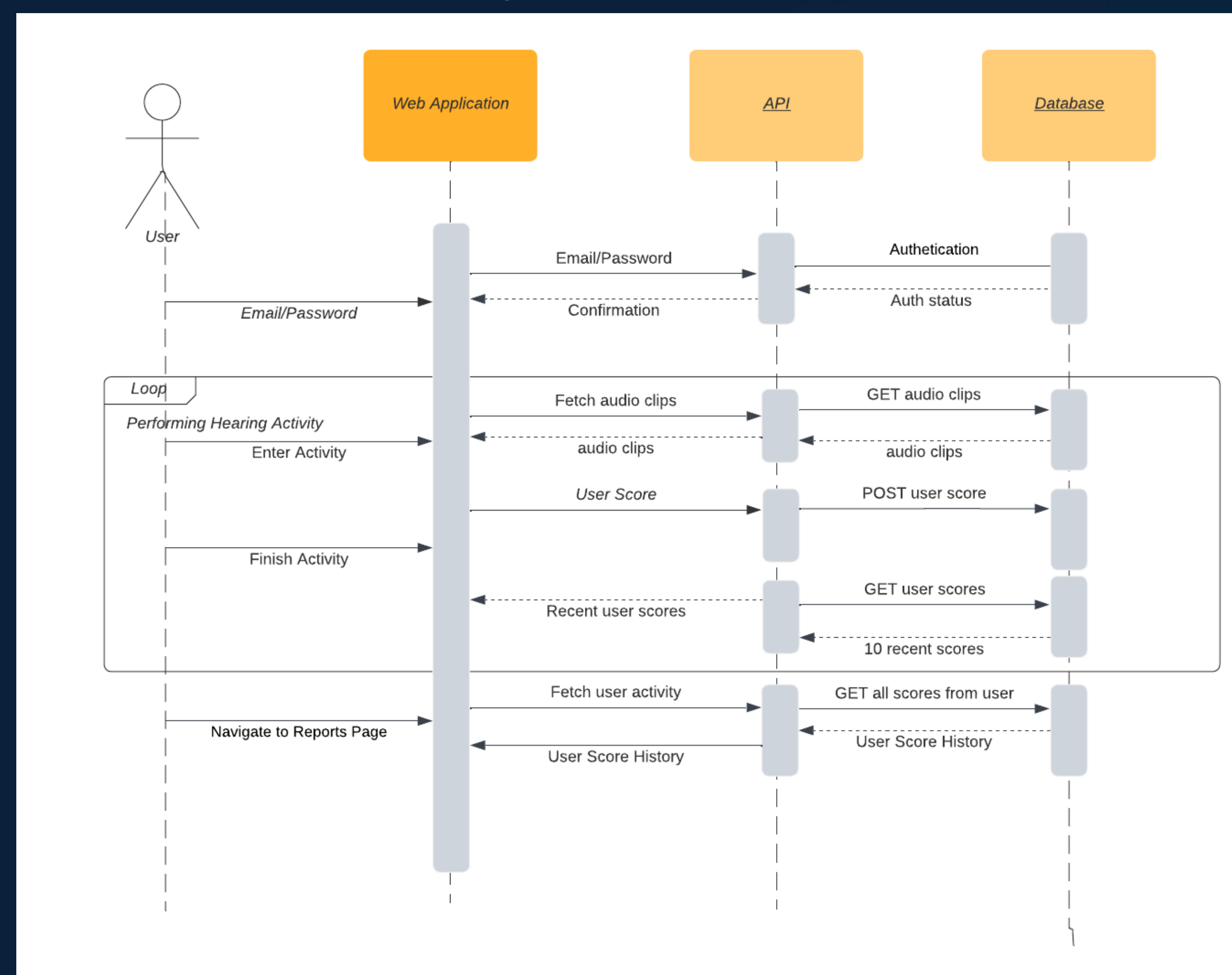
Future plans include the following:

- Add pagination & filtering to Reports Page
- Add more activities to practice e.g word search using an auditory word bank
- Continue visual overhaul with cards cluttering and filler text
- Continue testing of password reset functionality
- Extend night mode to the rest of the application

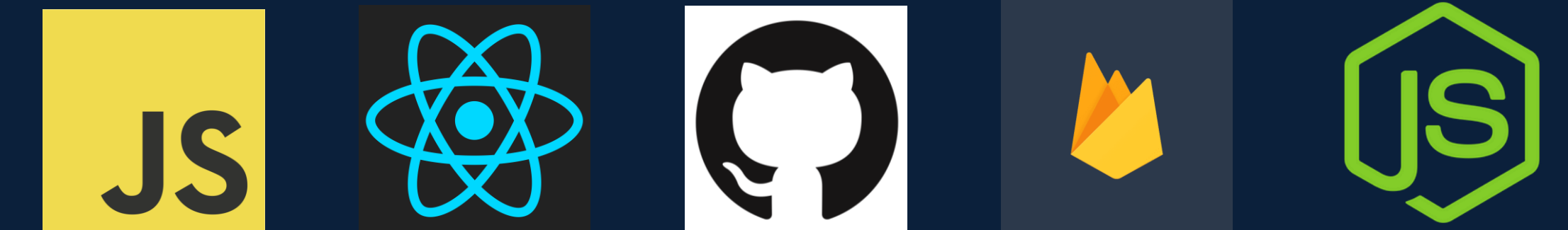
OBJECT DESIGN



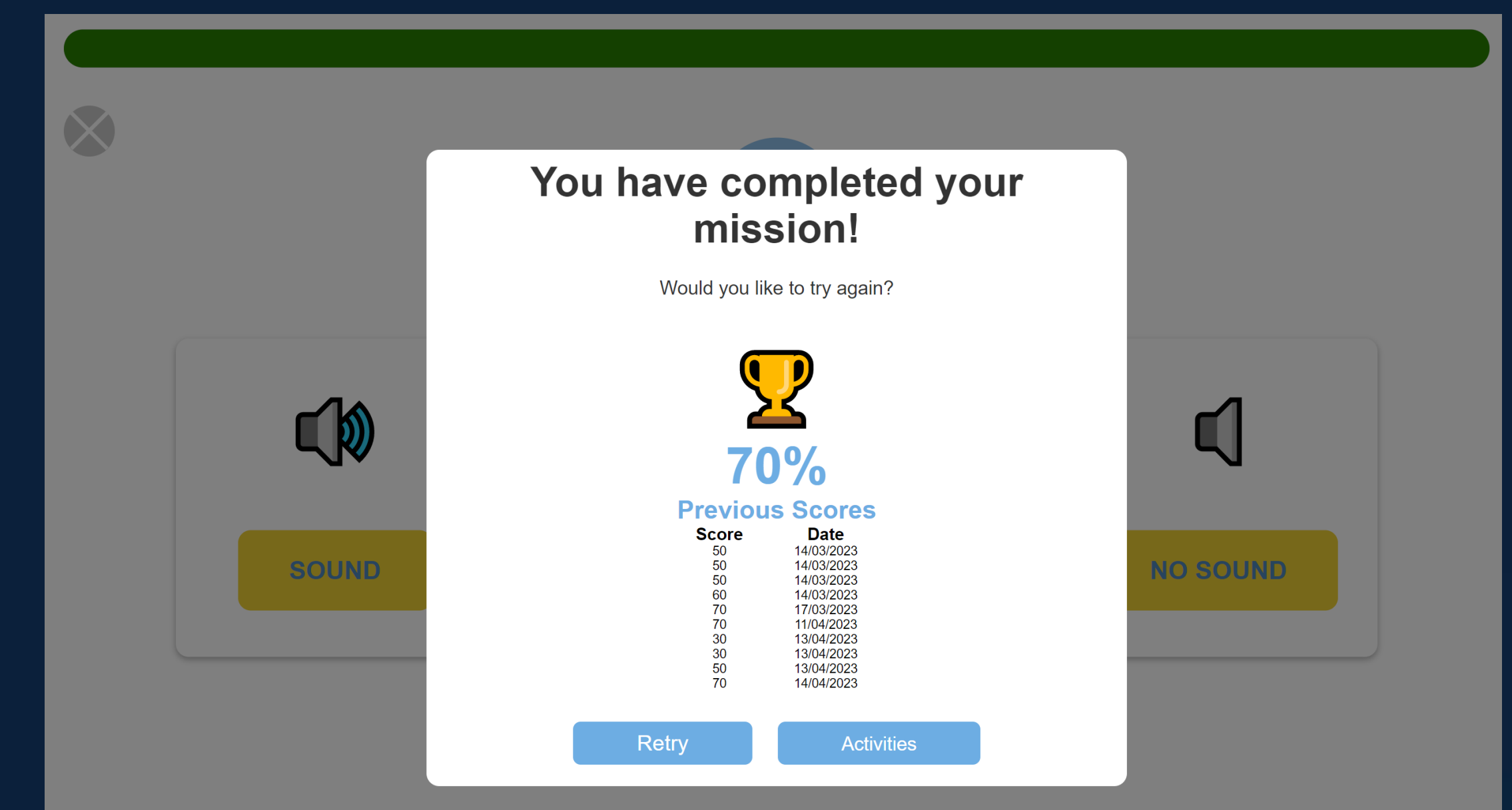
SEQUENCE DIAGRAM



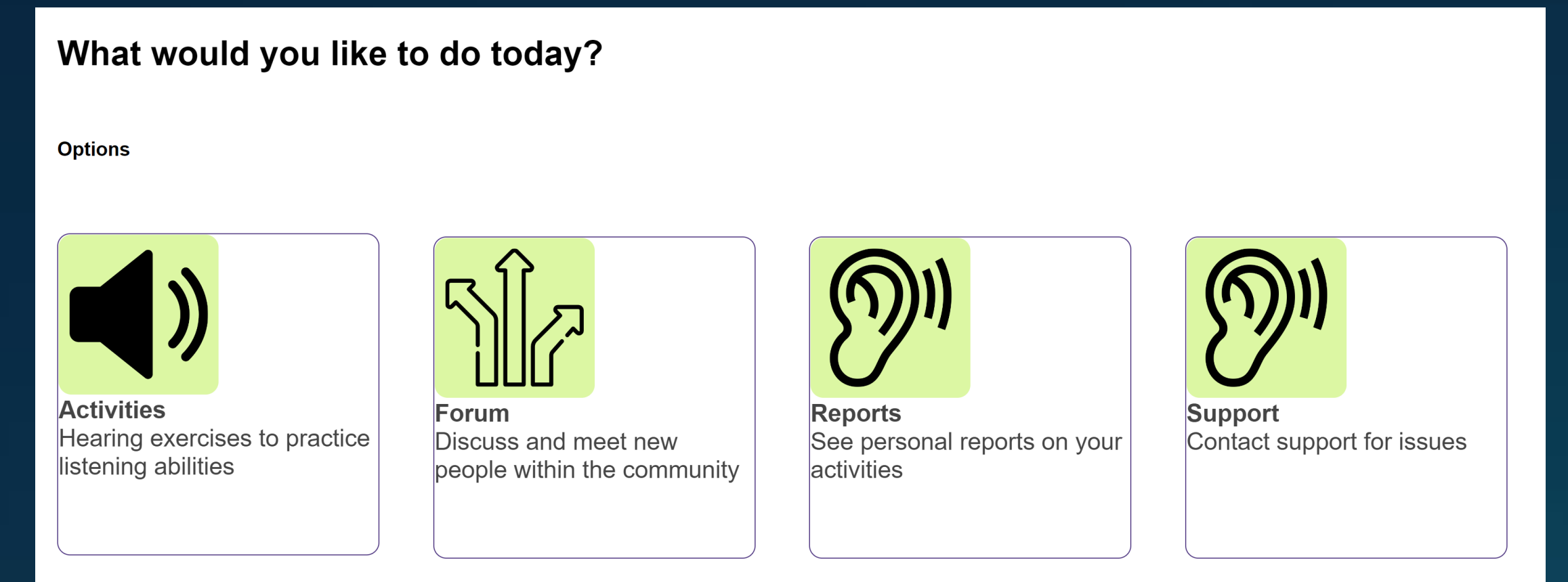
IMPLEMENTATION



SCREENSHOTS



Auditory Training App Dashboard			Someone	🔔	🗨️ Forums
Reports Page					
Welcome to the Reports Page, where you can view your activity history.					
Export		🔗 📄 📱			
Activity Type	Date	Score			
Detection	2023-03-10T20:58:50.767Z	60			
Detection	10/03/2023, 16:05:58	40			
Detection	10/03/2023, 16:06:48	40			
Detection	10/03/2023, 16:11:52	50			
Detection	10/03/2023, 16:12:21	50			
Detection	10/03/2023, 16:23:38	80			
Detection	10/03/2023, 16:32:08	40			



SUMMARY

I worked to improve all aspects of the Auditory Training App. Building from the previous semester, I finished the page which pops up after a user finishes an activity, displaying the current score along with the last 10 scores for a specific activity. I also assisted in the development of the Reports Page, showing a user's history.

Another major contribution I worked on was documentation. This semester, the group lost time during transition and on third party issues encountered by the previous. To remedy this for future semesters, I expanded on previous documentation to show immediate plans, how to solve or circumvent persistent issues, etc.

ACKNOWLEDGEMENT

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