

Information Sciences

Fall 2023 Senior Design Project

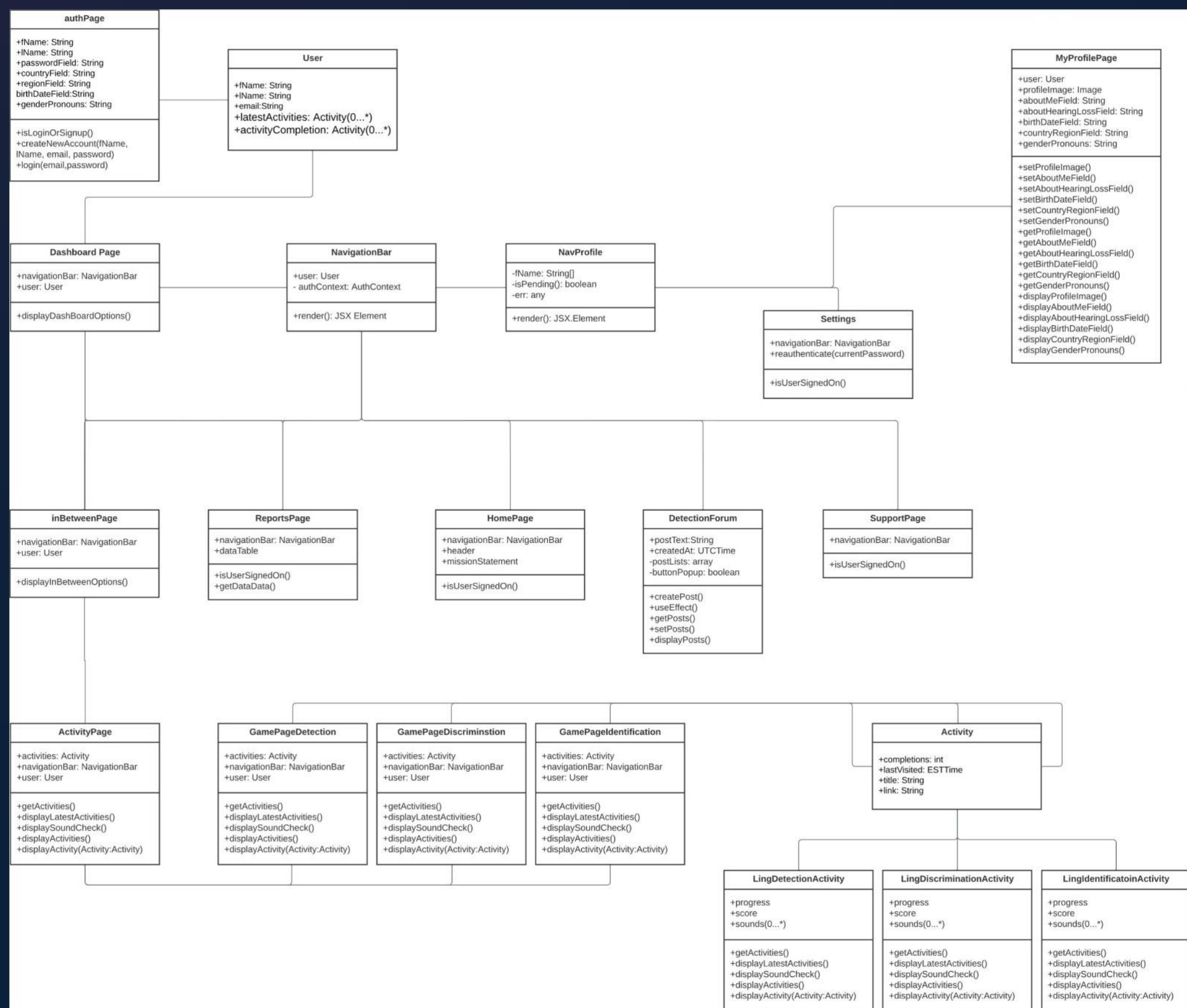
Auditory Training App

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PROBLEM

After hearing loss patients undergo cochlear implant surgery, it is recommended that they partake in aural rehabilitation in order 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. Additionally, users can connect with other members of the community via the forum to share their hearing loss journeys and training progress.

SYSTEM 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.

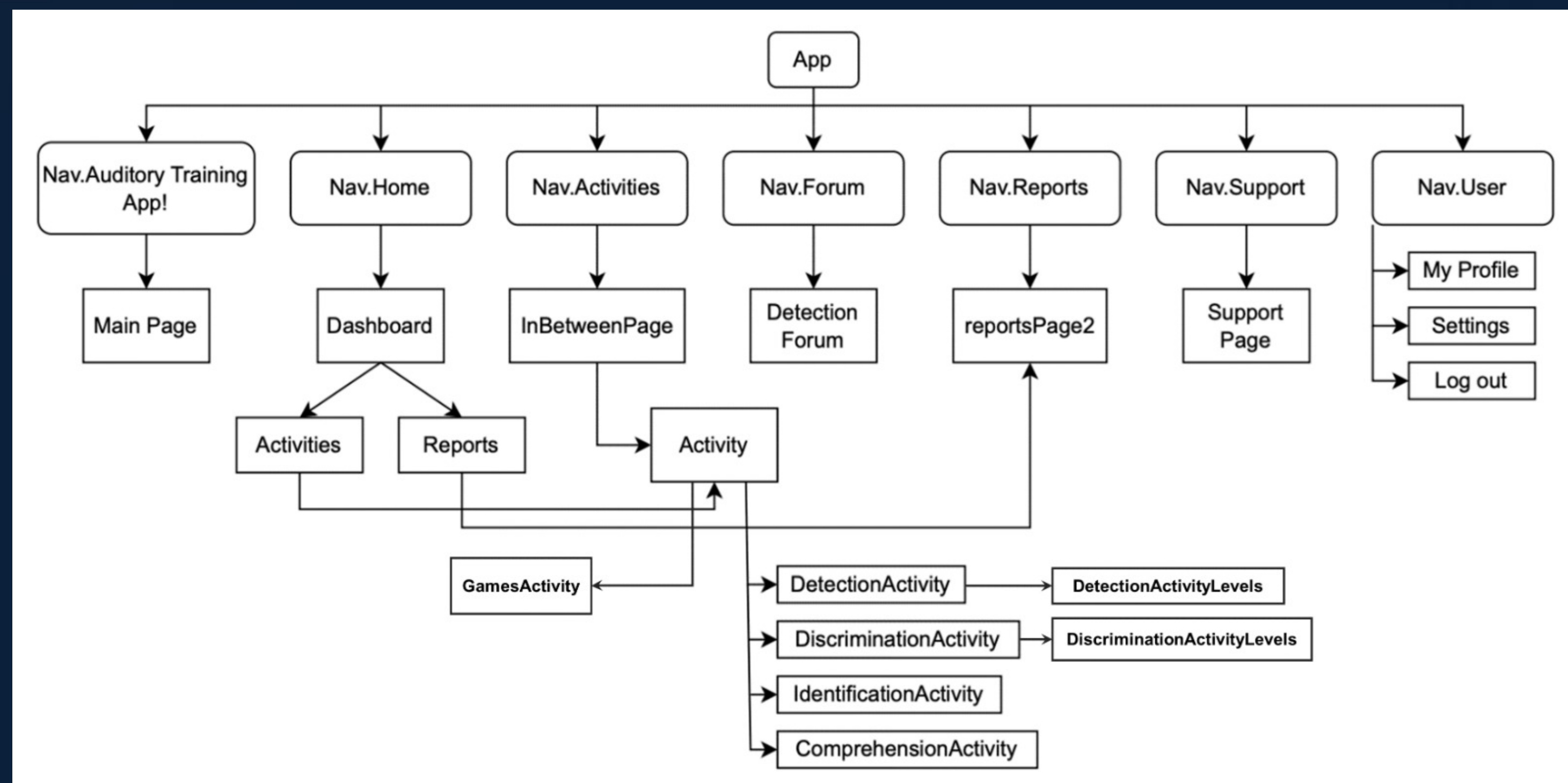
CURRENT SYSTEM

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 new game activity.
- Adding detection activity levels.
- Adding discrimination activity levels
- Recording new voice clips to add to the database.
- Organizing database folder structure
- Fixing a bug where sounds would not play for discrimination activities.
- Updating UI to select voices.
- Creating crossword game page and levels.

OBJECT DESIGN



SUMMARY

For the fall semester, we worked on adding new games to the application, adding more voice files to the database, and changing aspects of the UI.

REQUIREMENTS

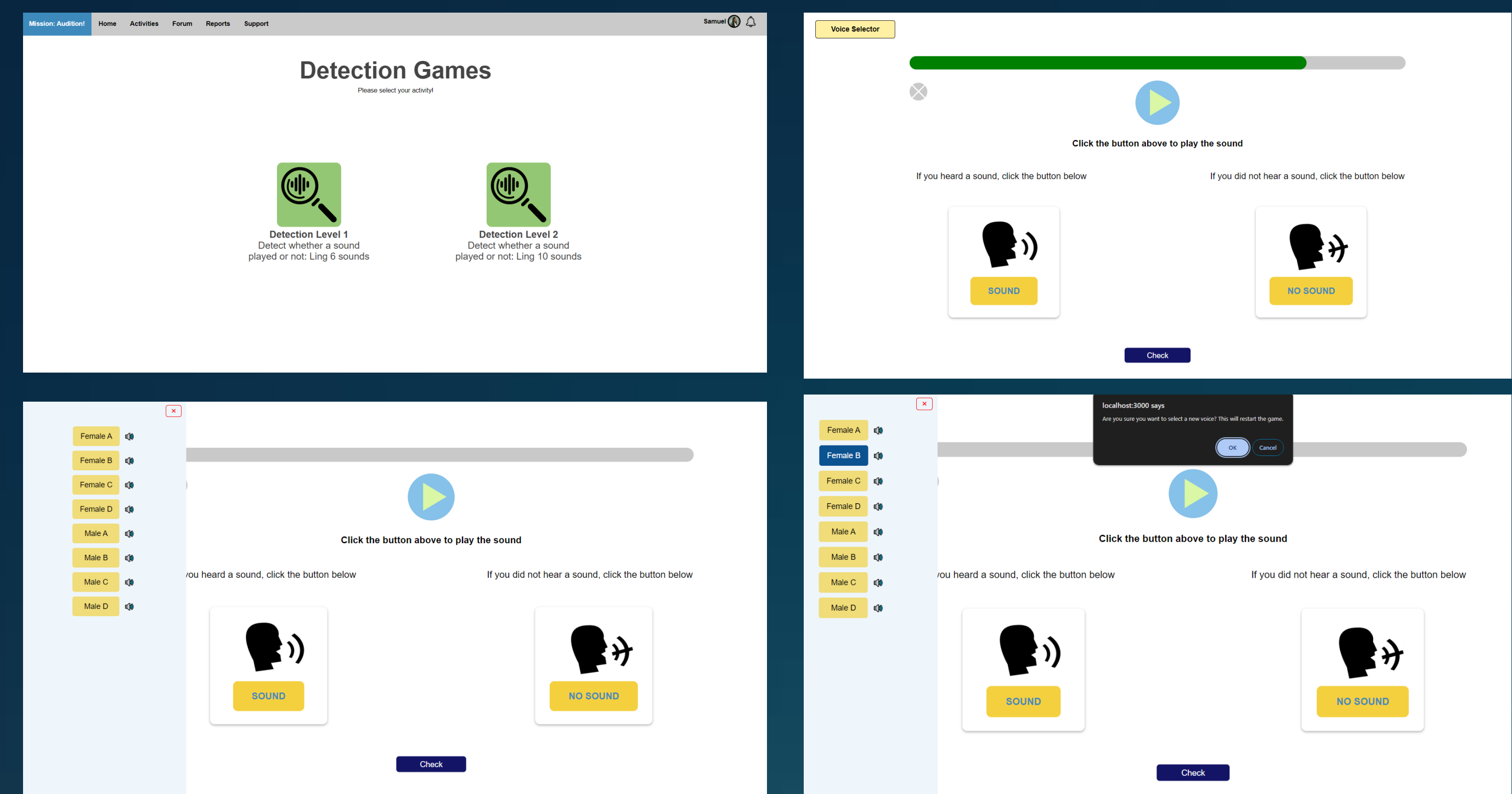
Requirements to Run the Program:

- 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

IMPLEMENTATION

- Google Firebase
 - React
 - JavaScript
- Visual Studio Code
 - Git/Github
 - NodeJS

REFERENCES



ACKNOWLEDGEMENT

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