

Florida International University
Knight's Foundation School of Computing and Information
Sciences

Software Engineering Focus

Final Deliverable

Stress and Anxiety Management Application
Spring 2024

Team Members: Lyn Quintana, Ian Rodriguez, Oghenetega Idogun, Rafael Ojeda, Alexandr Motovilov

Product Owner(s): Liane Sangollo

Instructor: Dr. Masoud Sadjadi

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Abstract

This document serves as an informative presentation to gain an adequate understanding of the seventh iteration of the Stress and Anxiety Management App.

For this iteration, the goal was to enhance the application by adding a web version that would make the application more accessible and therefore more beneficial to its users. The web version would feature all the original features of the app and can be viewed in a variety of screen sizes. The team was successful in achieving this goal during the Spring semester of 2024.

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Introduction

The purpose of this capstone project was to continue the development of the sixth iteration of the Stress and Anxiety Management mobile application, HowRU.life. Primarily, the app's goal is to be an interactive platform to help users manage stress and anxiety by first evaluating how they feel and then offering healthy practices to help eliminate the stress and/or anxiety that the user is facing. With the ever-increasing demand of people suffering from mental health issues, it has been very difficult for patients to seek some cure and relief from stress and anxiety. When dealing with day-to-day activities, whether it is school or work, many people sometimes face stress and/or become anxious. Furthermore, there are limited resources in the market that allow for these people to help cope with stress and anxiety. The app's goal is to be an interactive platform to help users manage stress and anxiety by first evaluating how they feel and then offering healthy practices to help eliminate the stress and/or anxiety that the user is facing.

Liane Sangollo intended on developing a mobile application for individuals of all ages and backgrounds to have a way of dealing with the mental obstacles many people face on a daily basis. HowRU is designed for users to track their mental health and document their journey in order to develop their wellbeing. The application also offers multiple outlets on how to combat anxiety in a way that gives everyone a safe and healthy outlook.

Current System

This is the seventh iteration of the Stress and Anxiety Management Application. The current system allows users to fill in a series of questions all related to their stress and anxiety, store all user-entered data in the database, as well as providing breathing exercises for the user to assist in sleeping, to help calm themselves down, or improve their focus. The new option to view and interact with the application through the web allows users accessibility whether they use a desktop or mobile phone no matter the brand.

Purpose of New System

First iteration

The first iteration of the Anxiety & Stress Self Management application was completed by the Capstone II team composed of Juan Arias, Robert Aguilar, Manuel Kamboykos, Daniel Navarro, and Aaron Sasenaryan. The purpose of this iteration is to create the foundation for the application by creating a base design and adding front-end and back-end components. The design was developed using Figma to assist in the specification of colors and styles for the pages within the discussion forum. This involved detailed research of the project packages that would fit the desired stack. Research on React Native and Firebase was done during the development of the project. The login, sign up, forgot password, emotion sliders, stressor/reasons, breathing, food for thought, dashboard, and mood diary was implemented. The backend was implemented using Firebase.

Second iteration

The second iteration of the Anxiety & Stress Self Management application was completed by the Capstone II team composed of Daniel Perez, Jorge Agüero, Julieta Albano, Janeel Abrahams, Raul Gutierrez Niubo and the Senior Project member, Annie Brigido. The purpose of this iteration is to expand the foundation set by the 1st iteration and add new features to enhance the usage of the app. A second breathing screen was implemented so users now have two choices of breathing exercises, between the 4-4-4-4 and 4-7-8 exercises. Push notifications were added so users can enable reminders whenever they want. Lastly, the mood diary was updated to improve user experience.

Third iteration

The third iteration of the Anxiety and Stress Self Management application was completed by the Capstone II team composed of Noah Pineiro, Cecilia Gervasoni Latorre, Luis Artimez, James Bustos, Eduardo Gomez, Tatendaishe Mahaka. We were given plenty of help and useful ideas from the Capstone I team composed of Ximena Puig, Robert Velazquez, Jose Aguiar, Ryan Neubert. The purpose of this iteration was to further improve the design that was left behind by the previous two iterations and add to the database. The colors of the backgrounds of most of the screens was changed, along with the menu and four quadrants sections getting complete overhauls.

Fourth Iteration

The fourth iteration of the Anxiety and Stress Self Management application was completed by the Capstone II team composed of Ryan Neubert, Jose Aguiar, Mayelin Espino Gavilanes, Alejandro Cartagena, Eduardo Marcucci. The purpose of this iteration was to bring back a functioning database and add some new features to the app. After the database issues were resolved there was a new Dashboard and Exercise made for the app alongside the addition of custom user inputs to the several questions.

Fifth Iteration

The fifth iteration of the Anxiety and Stress Self Management application was completed by the Capstone II team composed of Miguel Rivera-Segura, Vanesa Gomez, and Hanane Mbarki. The purpose of this iteration was to clean up the app by improving the graphics and illustrations which included changing screen colors and removing unnecessary buttons to avoid confusion when using the app.

Fifth Iteration

The fifth iteration of the Anxiety and Stress Self Management application was completed by the Capstone II team composed of Miguel Rivera-Segura, Vanesa Gomez, and Hanane Mbarki. The purpose of this iteration was to clean up the app by improving the graphics and illustrations which included changing screen colors and removing unnecessary buttons to avoid confusion when using the app.

Sixth Iteration

The sixth iteration of the Anxiety and Stress Self Management application was completed by the Capstone II team composed of Chenying Wu, Cristina Trujillo, and

Jose Fernandez. The purpose of this iteration was to integrate the database to capture and record all user-entered data, create two new sections on the homepage as the Monthly Calendar and the Dashboard to track and display the user's daily log data for any specific date and visualize the past data to better understand and analyze users' mental health patterns over time.

Seventh Iteration

The seventh iteration of the Anxiety and Stress Self Management application was completed by the Capstone II team Lyn Quintana, Ian Rodriguez, Oghenetega Idogun, Rafael Ojeda, Alexandr Motovilov. The purpose of this iteration was to create a website version of the application to be run on traditional desktops and laptop internet browsers. An unsuccessful attempt was made to publish the Android application to the Google Play store due to the age of the Android application codebase/outdated API level.

User Stories

The following section provides the detailed user stories that were implemented in this iteration of the Anxiety & Stress Self Management project. These user stories served as the basis for the implementation of the project's features. This section also shows the user stories that are to be considered for future development.

Implemented User Stories

- **User Story 1: As a user, I want to see the Stress & Anxiety Management App to have a clear and easy-to-use page.**
- **User Story 2: As a user, I want the Stress & Anxiety Management App to be accessible from both desktop or mobile web app.**
- **User Story 3: As a user, I want the Stress & Anxiety Management App to offer a seamless transition between different screens.**
- **User Story 4: As a developer, I want to remove all unnecessary elements on every screen to ensure a user-friendly interface.**
- **User Story 5: As a developer, I want to develop a feature to make user to retrieve their logged data for any chosen day.**
- **User Story 6: As a developer, I want to collect and visualize all the past user-entered data into charts to help the user identify their emotion patterns.**

Project Plan

This section describes the planning that went into the realization of this project. This project incorporated agile development techniques and as such required the sprints to be planned. These sprint plannings are detailed in the section. This section also describes the components, both software and hardware, chosen for this project.

Hardware and Software Resources

The following is a list of all software resources that were used in this project:

- **Java/JavaScript:** A scripting language used to write the code for the application
- **React Native:** An open-source, front-end, JavaScript library for building user interfaces or UI components that serve open-source as the engine for the front-end of the application.
- **Node:** A server-side event-driven software used for enabling Javascript to be written for the backend.. It enables Javascript to be ran outside of a traditional browser environment.
- **React Native CLI:** Used to generate react-native files and manage the projects.
- **GitHub:** A web-based version-control and collaboration platform for software developers.
- **GitHub Desktop:** Optional support application that enables Git collaboration.
- **Visual Studio Code:** a source-code editor developed by Microsoft for Windows
- **Firebase:** A backend as a service platform that was used for authentication and to handle user data.
- **Figma:** A web-based design and prototyping tool that can be used to create mobile app interfaces, and websites.

For Future Development:

- **Stripe:** Service payment provider to charge users membership fees.
- **Google AdMob:** A global ad network used to implement ads in the app.
- **Google Play Store:** A mobile app page so users can download the app.

Sprint Planning Meetings

Sprint 1 Planning Meeting:

Project: Stress and Anxiety best software

Attendees: Sangollo Liane, Quintana Lyn, Idogun Oghenetega Eric, Rodriguez Ian A, Ojeda Matos Rafael E, Motovilov Alexandr.

Start time: 5PM

End time: 6PM

The product owner chose the following tasks to be done until the end of the week: They are ordered based on their priority.

- Familiarize ourselves with the development tools
- Familiarize ourselves with the project itself
- Brainstorm ideas for features, improvements, expansions, and more.

All the team members indicated their willingness to work on all the tasks.

Sprint 2 Planning Meeting:

Project: Stress and Anxiety best software

Attendees: Sangollo Liane, Lyn Quintana, Ian Rodriguez, Oghenetega Idogun, Rafael Ojeda, Alexandr Motovilov

Start time: 5:00PM

End time: 6:00PM

During the meeting, we focused on the development and enhancement of the HowRU.life application. The key points discussed were centered around ensuring the app's functionality, user-friendliness, and aesthetic appeal. We emphasized the importance of thorough testing and addressing any bugs to guarantee a smooth, reliable user experience. The integration of user-friendly features was deemed crucial for enhancing user interaction and tracking their progress. Platform accessibility was another major topic; prioritizing the development of a web page version of the app as it would make the app more accessible to a wider audience. The incorporation of meditation and music features, including exercises like alternative breathing techniques, was highlighted as a core component to aid users in stress relief. Unique features like a virtual zen garden/koi pond, teachings, and interactive elements like fortune cookies were discussed to enrich the user experience. Finally, integrating a music player and focusing on the app's aesthetic design were recognized as essential steps to make the app more engaging and pleasing to use. Overall, the meeting was productive, setting a clear roadmap for the application's development with a focus on user-centered design and functionality.

The product owner chose the following user stories to be done during this sprint. They are ordered based on their priority.

1. **As a user**, I want the app to be free of bugs and perform reliably so that I can manage my stress and anxiety without any technical interruptions.
2. **As a developer**, I want to see a roadmap that shows how to implement the application on the web.

As a developer, I want to see a roadmap that shows how to implement the application on iOS.

Sprint 3 Planning Meeting:

Final Deliverable Stress and Anxiety Management App

Project: Stress and Anxiety best software

Attendees: Sangollo Liane, Lyn Quintana, Ian Rodriguez, Oghenetega Idogun, Rafael Ojeda, Alexandr Motovilov

Start time: 5:00PM

End time: 6:00PM

After discussion, the velocity of the team was estimated to be 3 user stories.

The product owner chose the following user stories to be done during the next sprint. They are ordered based on their priority.

- User Story 1: Upload our application to Google Play.
- User Story 2: Initiate development on the web version of the app.
- User Story 3: Research web hosting options to ensure we find a solution that balances cost and reliability.

The team members indicated their willingness to work on the following user stories.

Sprint 4 Planning Meeting:

Project: Stress and Anxiety best software

Attendees: Sangollo Liane, Lyn Quintana, Ian Rodriguez, Oghenetega Idogun, Rafael Ojeda, Alexandr Motovilov

Start time: 5:00PM

End time: 6:00PM

After discussion, the velocity of the team was estimated to be 3 user stories.

The product owner chose the following user stories to be done during the next sprint. They are ordered based on their priority.

- User Story 1: Continue the development on the web version of the app.
- User Story 2: Upload our application to Google Play.
- User Story 3: Find Dr. Luis

The team members indicated their willingness to work on the following user stories.

Sprint 5 Planning Meeting:

Project: Stress and Anxiety best software

Attendees: Lyn Quintana, Ian Rodriguez, Oghenetega Idogun, Rafael Ojeda, Alexandr Motovilov Matos Rafael E, Motovilov Alexandr.

Start time: 5:00PM

End time: 6:00PM

After discussion, the velocity of the team was estimated to be 3 user stories.

We have not met with the product owner yet as the meeting has been pushed back until Wednesday. However, in the meantime, we can continue working on the main tasks from the previous sprint.

- User Story 1: Work on the website.
- User Story 2: Upload our application to Google Play.
- User Story 3: Enhance the website with animations

The team members indicated their willingness to work on the following user stories.

Sprint 6 Planning Meeting:

Project: Stress and Anxiety best software

Attendees: Lyn Quintana, Ian Rodriguez, Oghenetega Idogun, Rafael Ojeda, Alexandr Motovilov
Matos Rafael E, Motovilov Alexandr.

Start time: 5:00PM

End time: 6:00PM

After discussion, the velocity of the team was estimated to be 3 user stories.

Most of our work remains the same as from the previous sprint.

- User Story 1: Work on the website.
- User Story 2: Upload our application to Google Play.
- User Story 3: Enhance the website with animations

The team members indicated their willingness to work on the following user stories.

- **Lyn Quintana**
 - User Story 1: Work on the website.
 - User Story 2: Upload our application to Google Play.
 - User Story 3: Enhance the website with animations
- **Ian Rodriguez**
 - User Story 1: Work on the website.
 - User Story 2: Upload our application to Google Play.
 - User Story 3: Enhance the website with animations
- **Oghenetega Idogun**
 - User Story 1: Work on the website.
 - User Story 2: Upload our application to Google Play.
 - User Story 3: Enhance the website with animations
- **Rafael Ojeda**
 - User Story 1: Work on backend/UI implementation using React
- **Alexandr Motovilov**
 - User Story 1: Work on the website.
 - User Story 2: Upload our application to Google Play.
 - User Story 3: Enhance the website with animations

Sprint 7 Planning Meeting:

Project: Stress and Anxiety best software

Attendees: Sangollo Liane, Lyn Quintana, Ian Rodriguez, Oghenetega Idogun, Rafael Ojeda,
Alexandr Motovilov

Start time: 5:00PM

End time: 6:00PM

After discussion, the velocity of the team was estimated to be 2 user stories.

As we enter the last sprint, most of the code should be frozen, only to be changed for last minute details. As such, our work relates to the transition for next group to come in and continue iterating on HOWRU.life

- User Story 1: Last minute details, polishing and UI enhancements on the website.
- User Story 2: Finish up the final deliverables (videos, presentation slide deck, etc).

The team members indicated their willingness to work on the following user stories.

- **Lyn Quintana**
 - User Story 1: Last minute details, polishing and UI enhancements on the website.
 - User Story 2: Finish up the final deliverables (videos, presentation slide deck, etc).
- **Ian Rodriguez**
 - User Story 1: Last minute details, polishing and UI enhancements on the website.
 - User Story 2: Finish up the final deliverables (videos, presentation slide deck, etc).
- **Oghenetega Idogun**
 - User Story 1: Last minute details, polishing and UI enhancements on the website.
 - User Story 2: Finish up the final deliverables (videos, presentation slide deck, etc).
- **Rafael Ojeda**
 - User Story 1: Last minute details, polishing and UI enhancements on the website.
 - User Story 2: Finish up the final deliverables (videos, presentation slide deck, etc).
- **Alexandr Motovilov**
 - User Story 1: Last minute details, polishing and UI enhancements on the website.
 - User Story 2: Finish up the final deliverables (videos, presentation slide deck, etc).

System Design

This section contains information on the design decisions that went into this project. The architecture patterns are outlined and explained. The entire system is shown in a package diagram and the subsystems are explained. Finally, the design patterns used in the project are discussed.

Architectural Patterns

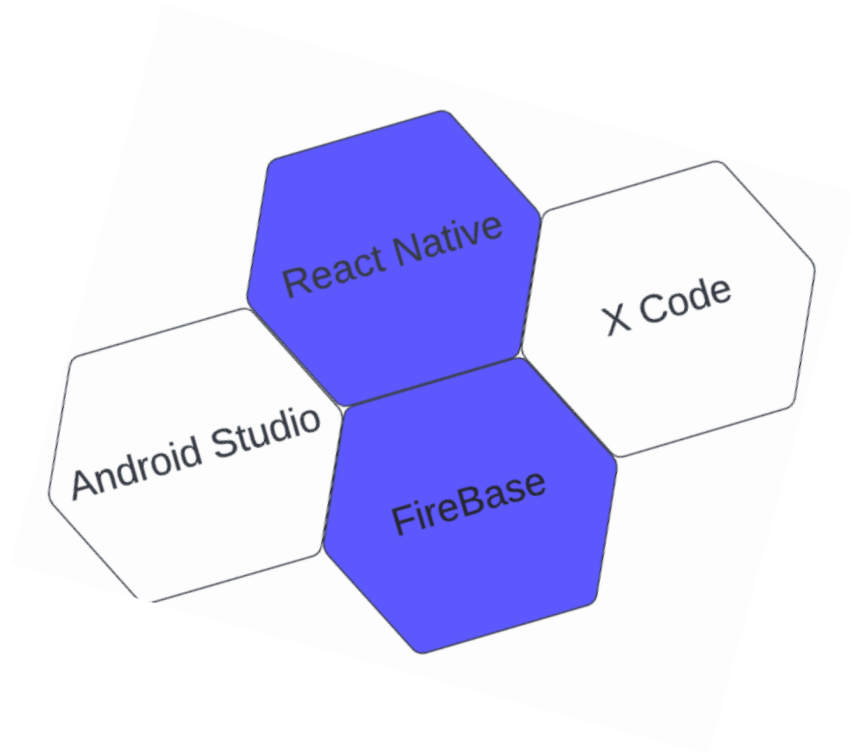
The HowRU.life app was built from the ground up; thus, there is no used code. The architecture utilizes React Native and Firebase on the Backend, along with Android Studio and XCode for Android and iPhone operating system development, respectively. A big advantage of HowRU.life is the advanced functionality of determining exercises based on the user's current mood. This could be further developed with the advancements in Artificial Intelligence technology to further make decisions on what exercise is proper for a user based on his or her current mood. This is a full-stack application that utilizes React Javascript framework as the main frontend component, whereas Firebase, Android Studio, and XCode manages backend processes. Furthermore, Firebase was mostly used as a database to store users' information and authentication. For example, when a user enters their account identification information, such as their name, email, and password, the information for that particular user is saved into the Firebase database. Therefore, when they are ready to login again after signing up, the application would connect with the Firebase server and find all users that have an account created with the application. The backend runs completely separate from the frontend, so if for some reason the backend is broken, it does not affect the way the user sees the application and its components.

System and Subsystem Decomposition

The frontend and backend of HowRU.life is heavily connected. Before a user could even use the application, he or she must register and set up with the application. The storing of information for each and every application user is performed by Firebase, which is on the backend side of the application. In addition, for future development of the application, new technologies, such as Artificial Intelligence, can help to make appropriate decisions to offer solutions for a user's current mood. In addition the main function of our application is to take in user's input and store it within our database.

This information is then passed along through a sequence of functions that allow the user to interact with the UI. The frontend components are handled by React Javascript. We also included several global style files to facilitate changes in the future such as color theme, button, and fonts.

Back-end architecture tools



This system architecture represents the deployed server version.

The backend is running with React Native and FireBase.

Front-end architecture tools

This project is built off of the model, view, controller architecture to separate each of the project's components into easily understandable parts. The model is our database and data structure, the view is the user interface, and the controller accepts and converts the input.

For the website,

Databases

```

"seif3yb1": [
  "users": [
    "_id": "MzRirZZ9rElYeEr51t7",
    "profile": [
      "name": "Robert Aguilar",
      "email": "robertA@gmail.com",
      "code": "seif3yb1",
      "password": "Password123@",
    ],
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        ],
      ],
    ],
  ],
],

```

Deployment Diagram

Our team is dedicated on continuing to enrich the quality of our mobile application, however at this time we have no plans of distribution at this time.

Design Patterns

The design patterns that we used for our application are as follows: A composite design pattern, an observer design pattern, and a state design pattern. The composite design pattern consists of a simple screen of objects and components that go in those screens. The screens are organized in a hierarchy that determines the navigation between them. The observer design pattern works between the screens by having them share information among themselves using the navigation structure, and therefore making them aware of changes in each other. The state design pattern exists inside the screens and components in which states are declared and initialized, and the screens/components are updated when there is a change in the state, allowing for complex behaviors and interactions.

System Validation

Testing was done locally through emulators and mobile devices and error checking was done using the console log output in order to debug. Testing was focused on functionality, layout, and communication with the back-end. On the emulators and mobile devices, testing on the functionality of buttons and components was done, as well as checking the layout on screens of different sizes. Furthermore, back-end testing was performed to ensure that users were created correctly and that verification was performed on login.

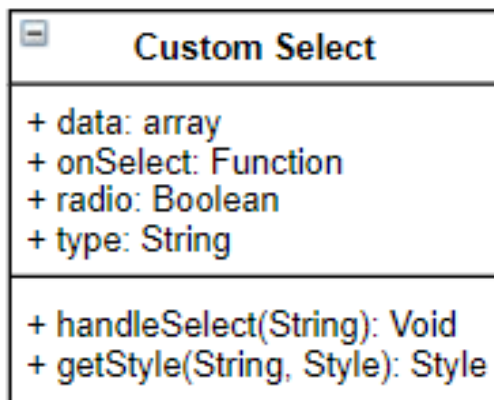
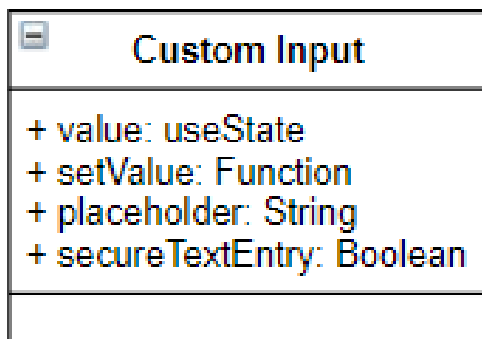
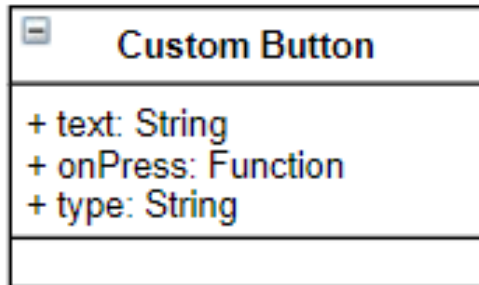
Glossary

- **Java/JavaScript:** A scripting language used to write the code for the application
- **Node:** An event-driven backend for handling the server-side application processes for the website. Written in Javascript.
- **React Native:** An open-source, front-end, JavaScript library for building user interfaces or UI components that serve open-source as the engine for the front-end of the application.
- **React Native CLI:** Used to generate react-native files and manage the projects.
- **GitHub:** A web-based version-control and collaboration platform for software developers.
- **GitHub Desktop:** Optional support application that enables Git collaboration.
- **Visual Studio Code:** a source-code editor developed by Microsoft for Windows
- **Firebase:** A backend as a service platform that was used for authentication and to handle user data.
- **Stripe:** Service payment provider to charge users membership fees.
- **Google AdMob:** A global ad network used to implement ads in the app.

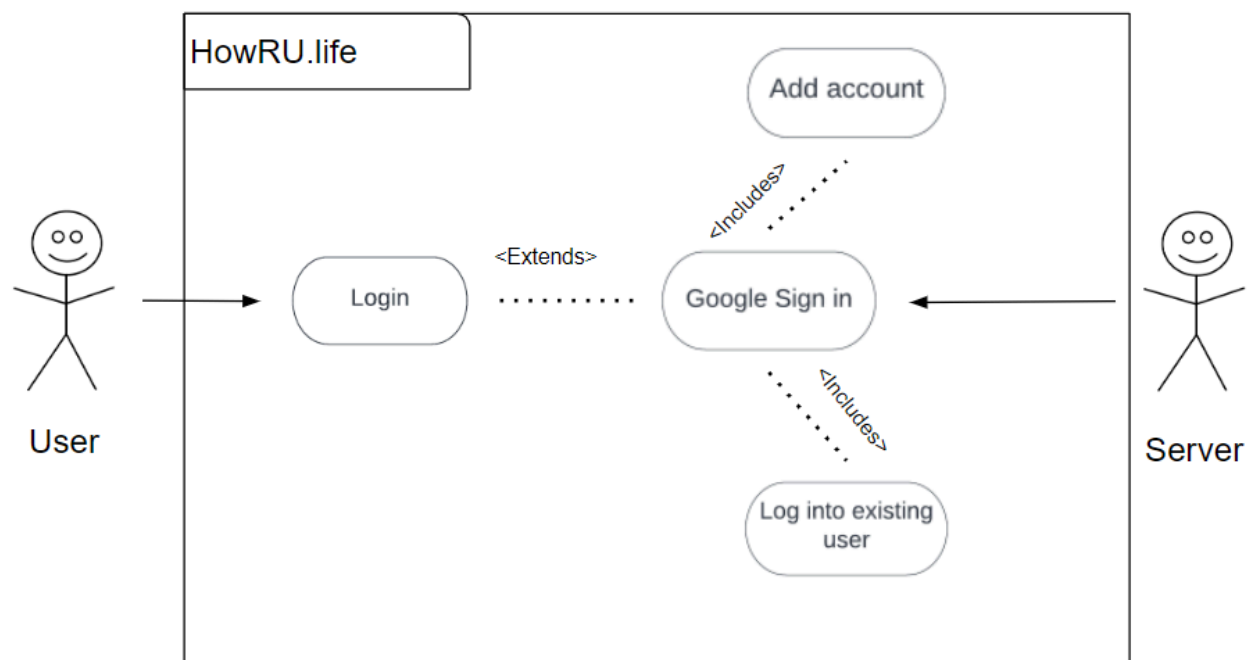
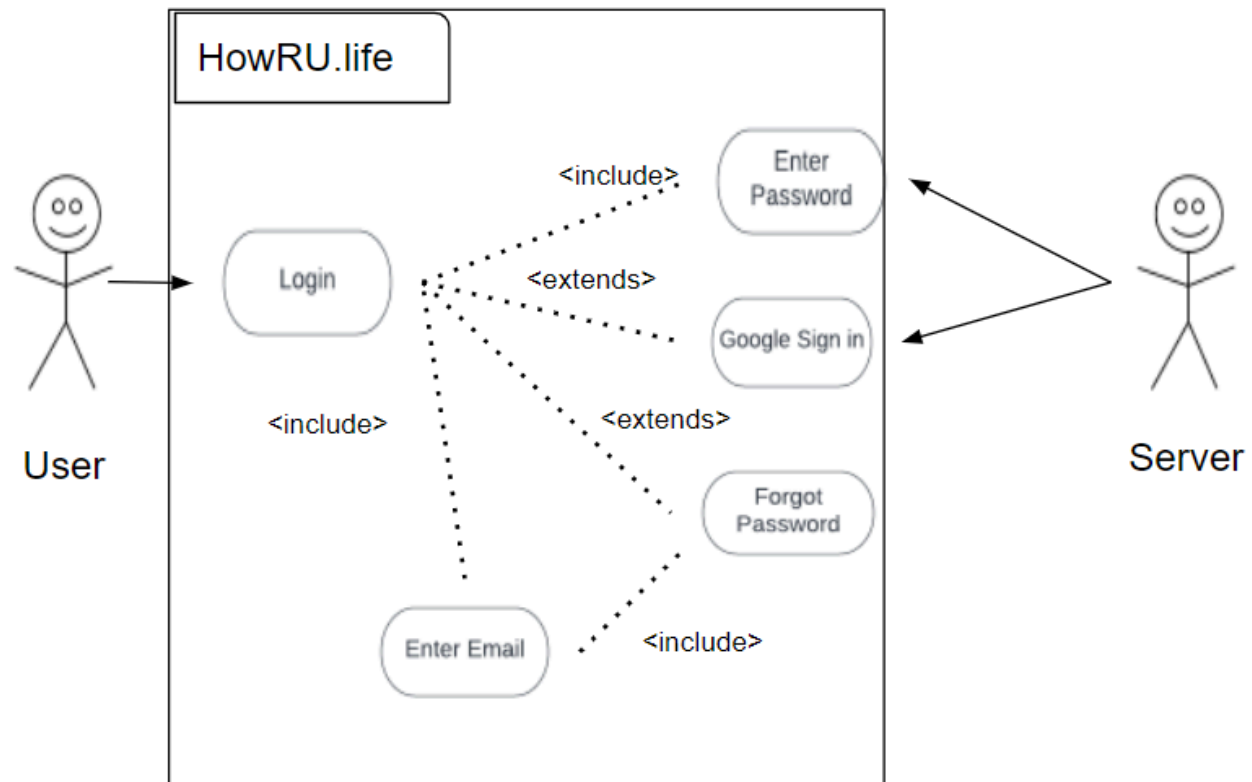
Appendix

Appendix A - UML Diagrams

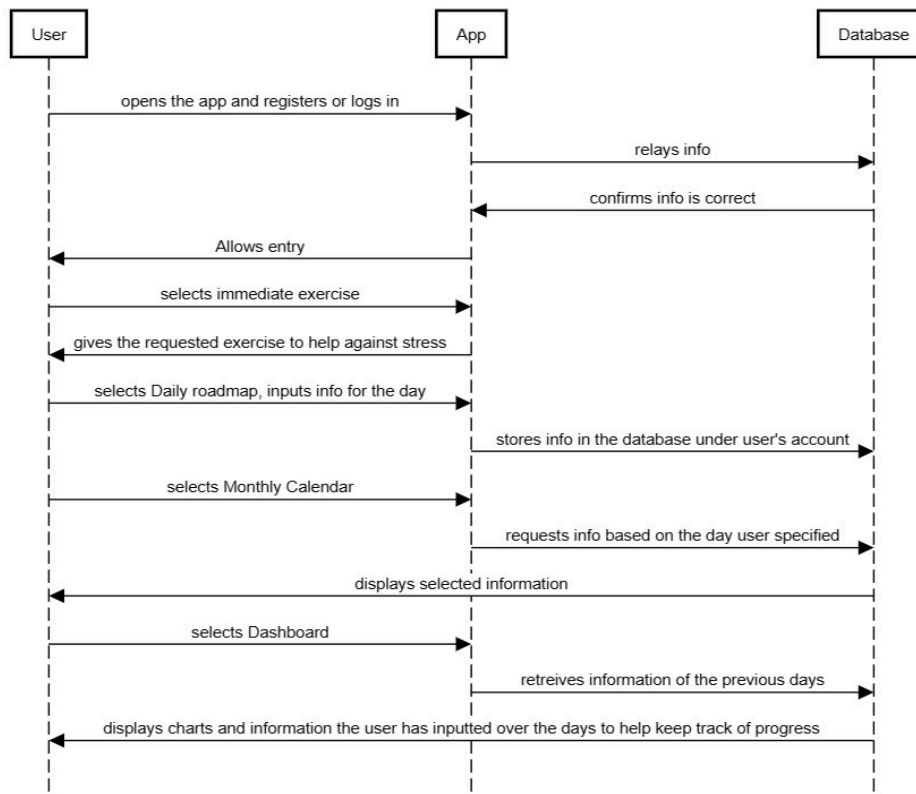
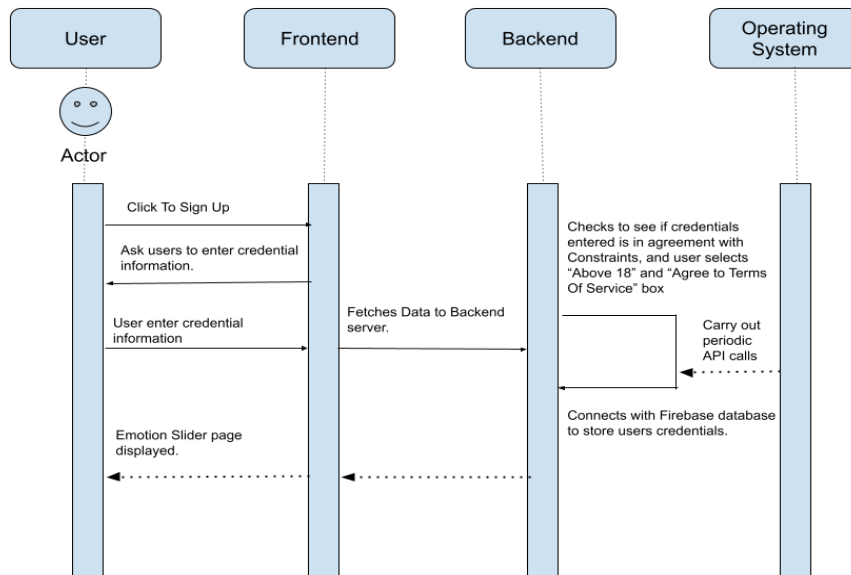
1. Class Diagram



2. Use Case Diagrams

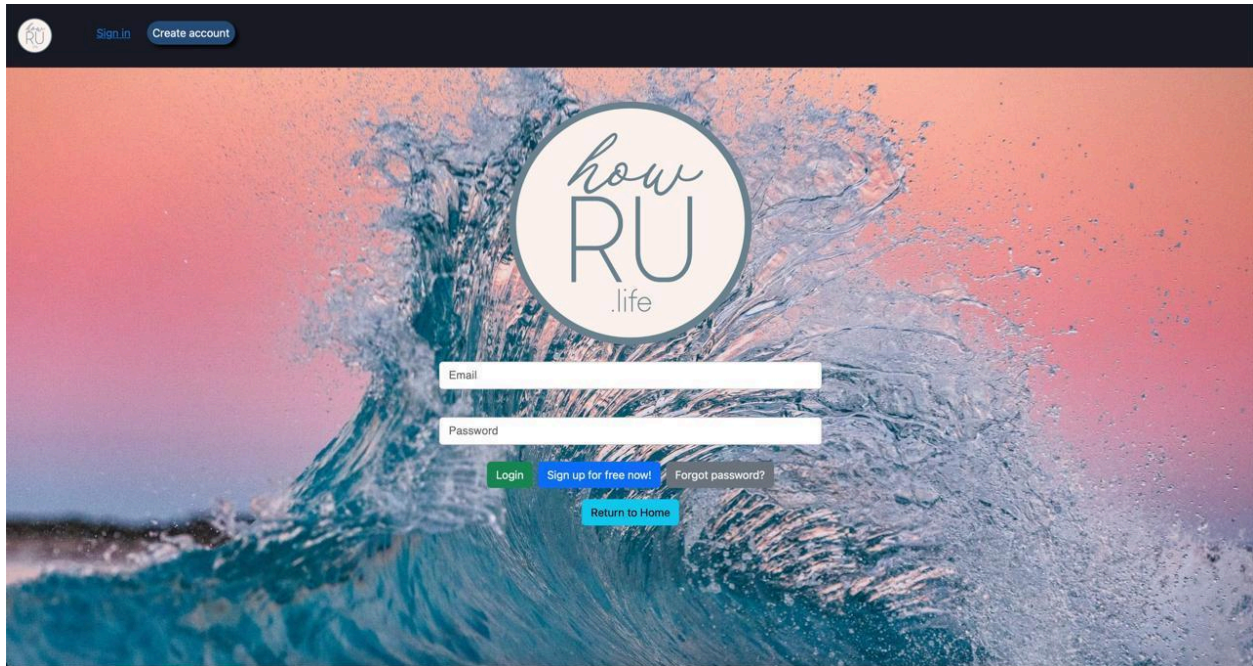


3. Sequence Diagram

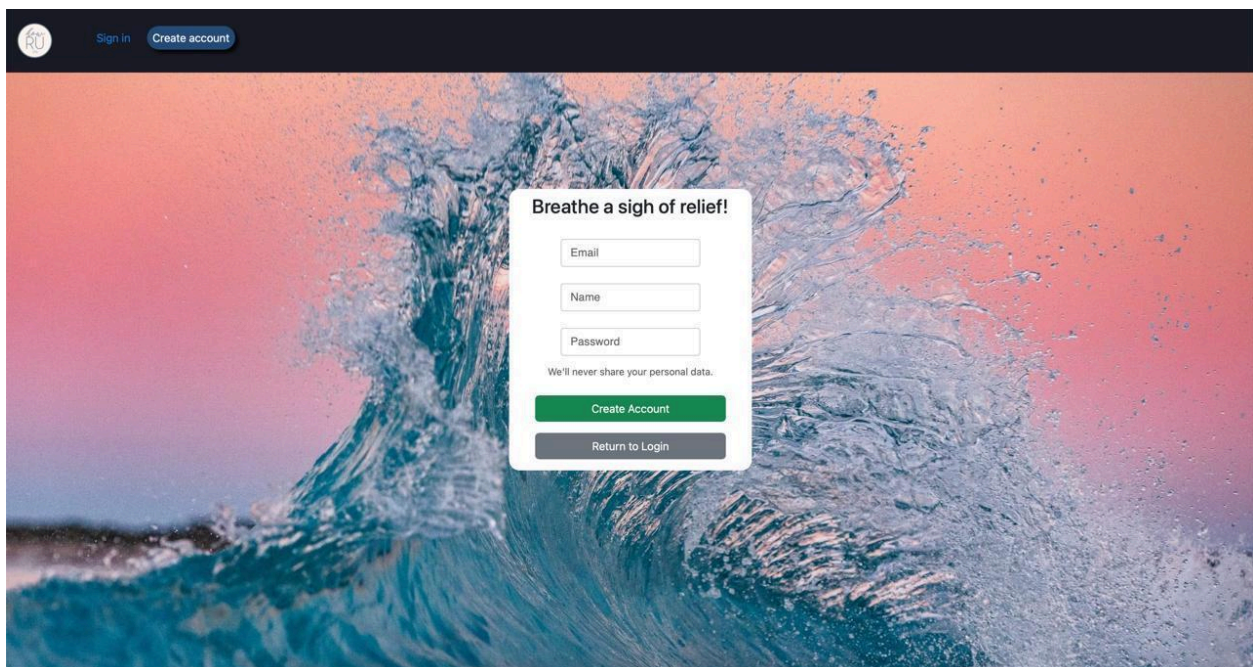


Appendix B - User Interface Design

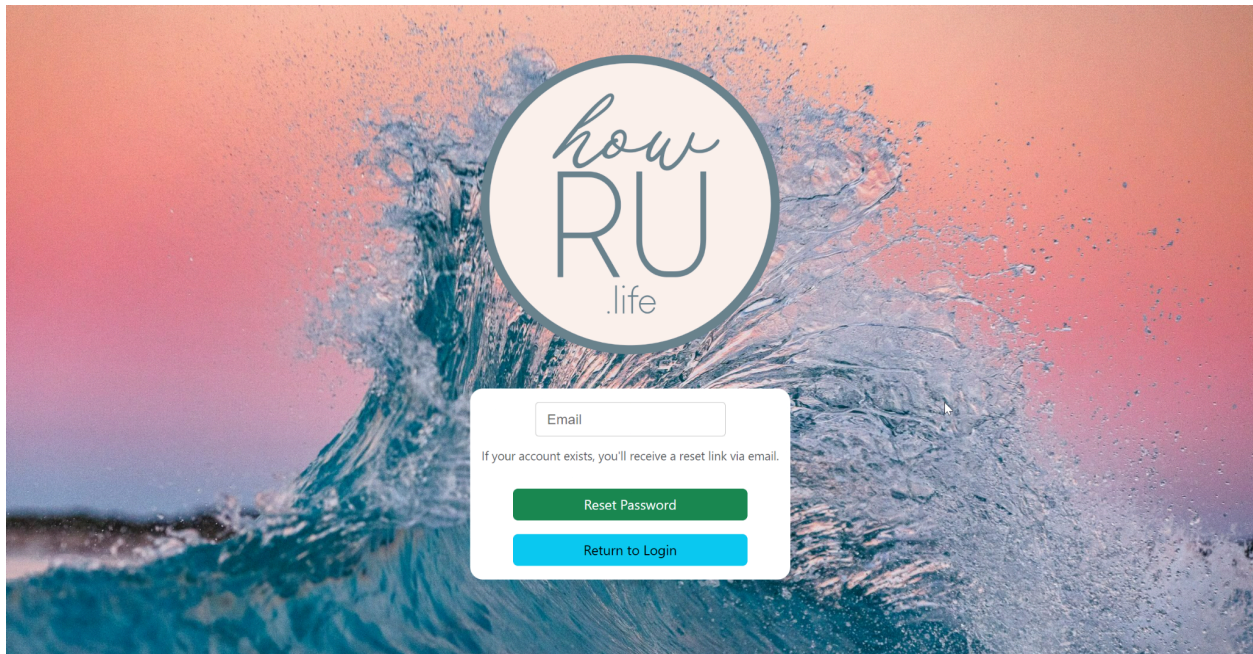
1. Login Page



2. Sign Up Page



3. Forgot Password Page

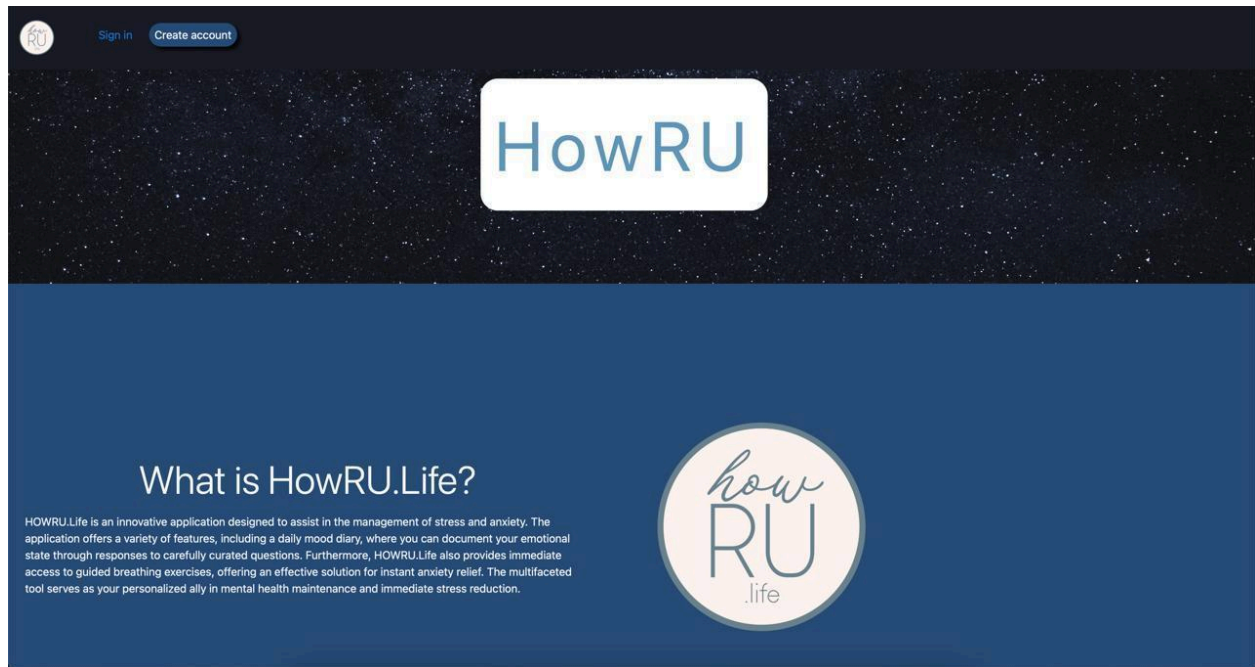


4. Policy Page

5. Emotion Page

6. In Control Page

7. Homepage



8. Stressor Page

9. Reasons Page

10. Breathing Exercise Info Pages

11. Breathing Control Page

12. Day Breathing Timer Page

13. Night Breathing Timer Page

14. Focus Breathing Timer Page

15. Food for Thought Page

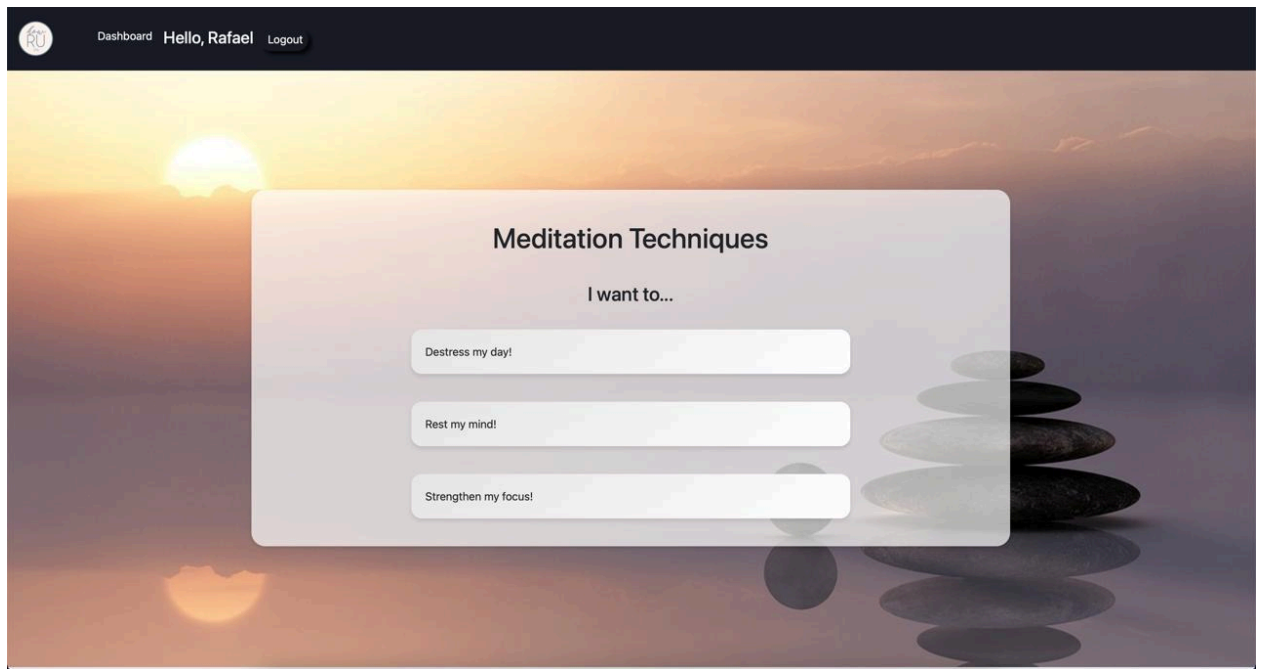
16. Intention Page

17. Awareness/Four Quadrants

18. Daily Log

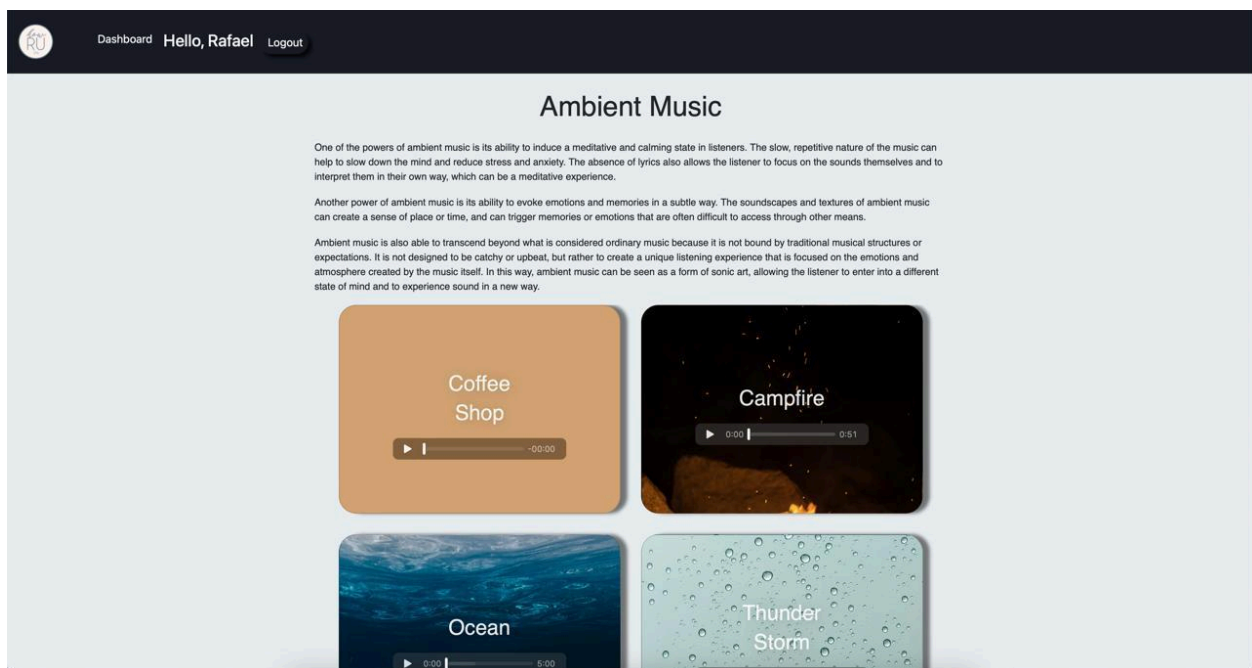
19. Menu Page

20. Exercises



21. Settings

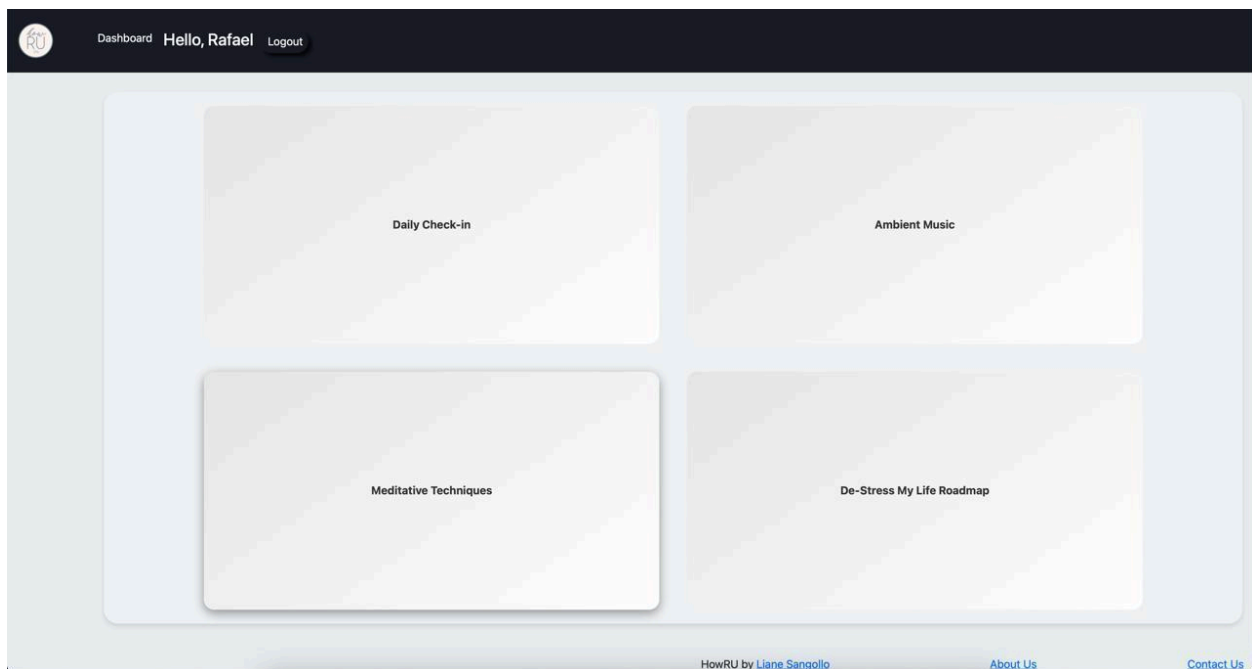
22. New Screen Exercise Choices



23. Monthly Calendar

24. Daily Log Data Screen

25. Dashboard



Appendix C - Sprint Review Reports

Sprint 1 Review

Project: Stress and Anxiety best software

Attendees: Lyn Quintana, Ian Rodriguez, Oghenetega Idogun, Rafael Ojeda, Alexandr Motovilov
Matos Rafael E, Motovilov Alexandr.

Start time: 9:00AM

End time: 10:00AM

After a show and tell presentation, the implementation of the following user stories was accepted by the product owners: All.

- **As a user**, I want the HowRU.life application to have a zen-like game as its main hub, providing a calming and enjoyable experience.
- **As a team member**, I want to explore and implement potential enhancements for the HowRU.life application, such as incorporating a zen-like game as the central point to improve user engagement.
- **As a developer**, I need to work on integrating the zen-like game into the HowRU.life application, ensuring it serves as the main hub connecting various features seamlessly.
- **As a product manager**, I want to discuss and prioritize the idea of incorporating a zen-like game into the HowRU.life application to enhance its overall appeal and usability.

The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Sprint Planning meeting.

- **As a tester**, I need to evaluate the functionality and user experience of the zen-like game integrated into the HowRU.life application to ensure it meets quality standards.

Sprint 2 Review

Project: Stress and Anxiety best software

Attendees: Lyn Quintana, Ian Rodriguez, Oghenetega Idogun, Rafael Ojeda, Alexandr Motovilov

Start time: 9:00AM

End time: 10:00AM

After a show and tell presentation, the implementation of the following user stories was accepted by the product owners: All.

- User Story 1: Fix critical bugs to ensure the app works smoothly
- User Story 2: Find and use the best web deployment strategy for our project
- User Story 3: Set our app onto Google Play Store

The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Sprint Planning meeting.

- User Story 4: Add VR support
- User Story 5: Add iOS support

Sprint 3 Review

Final Deliverable Stress and Anxiety Management App

Project: Stress and Anxiety best software

Attendees: Lyn Quintana, Ian Rodriguez, Oghenetega Idogun, Rafael Ojeda, Alexandr Motovilov

Start time: 9:00AM

End time: 10:00AM

After discussion, the velocity of the team was estimated to be 3 tasks.

After a show and tell presentation, the implementation of the following user stories was accepted by the product owners:

1. *Have some of the website complete.*
2. *Have Google Cloud Architecture up to date and compatible for both Android and Web version.*

The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Sprint Planning meeting.

- Add iOS support.
- Improve the Android version of the App.

Sprint 4 Review

Project: Stress and Anxiety best software

Attendees: Lyn Quintana, Ian Rodriguez, Oghenetega Idogun, Rafael Ojeda, Alexandr Motovilov

Start time: 9:00AM

End time: 10:00AM

After discussion, the velocity of the team was estimated to be 1 task which is broken down into many smaller tasks.

After a show and tell presentation, the implementation of the following user story was accepted by the product owner:

1. *Work extensively on the development of the website.*

The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Sprint Planning meeting.

- Add iOS support.
- Improvement of the Android version of the App.

Sprint 5 Review

Project: Stress and Anxiety best software

Attendees: Lyn Quintana, Ian Rodriguez, Oghenetega Idogun, Rafael Ojeda, Alexandr Motovilov

Start time: 9:00AM

End time: 10:00AM

After discussion, the velocity of the team was estimated to be 4 tasks which are broken down into many smaller tasks.

After a show and tell presentation, the implementation of the following user story was accepted by the product owner:

Final Deliverable Stress and Anxiety Management App

1. *Continue to work extensively on the development of the website. Start wrapping up features and design for the MVP & demo day on 4/19.*
2. *Finalize and deploy the mobile app as is, which includes gathering 100 user tests*
3. *Start considering work on the poster for demo day on 4/19*
4. *Start creating documentation to enable future groups to get started right away with development.*
5. *Finalizing backend of application*

The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Sprint Planning meeting.

- Contacting Dr. Steven Luis for AR/VR support.
- Deploying the new website on GCP/cloud platforms

Sprint 6 Review

Project: Stress and Anxiety best software

Attendees: Lyn Quintana, Ian Rodriguez, Oghenetega Idogun, Rafael Ojeda, Alexandr Motovilov

Start time: 9:00AM

End time: 10:00AM

After discussion, the velocity of the team was estimated to be 4 tasks which are broken down into many smaller tasks.

After a show and tell presentation, the implementation of the following user stories was accepted by the product owners: All.

- *Wrap up the major features of the HOWRU.life website*
- *Wrap up the styling and overall aesthetic of the website*
- *Obtain some user testing reports to get last minute outside feedback*
- *Completing the documentation related to handing off the work to the next group that comes to work on this project*
 - *UI Overhaul.*

The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Sprint Planning meeting.

- The calendar feature on the website to show the user their check in history
- Updating the mobile app to comply with API level 33 or higher

Sprint 7 Review

Appendix D - User Manuals, Installation/Maintenance Document, Shortcomings/Wishlist Document, and other documents

Installation/Maintenance Document: Local Development Environment Setup Guide

There are two ways to run a development instance of the Anxiety & Stress application. The first method is running the application using an emulator on a Windows machine through Android Studio, and the second method is running the application using a simulator on a MacOS machine through XCode.

For New Prototype:

Frontend:

Downloads list:

- **Android**

Step 1: Download Node LTS Windows Installer:

<https://nodejs.org/en/download/>

Step 2: Download Visual Studio Code:

<https://code.visualstudio.com/download>

Step 3: Download Java 11.0.2 JDK:

<https://www.oracle.com/java/technologies/javase/jdk11-archive-downloads.html>

Step 4: Download and install Android Studio:

<https://developer.android.com/studio>

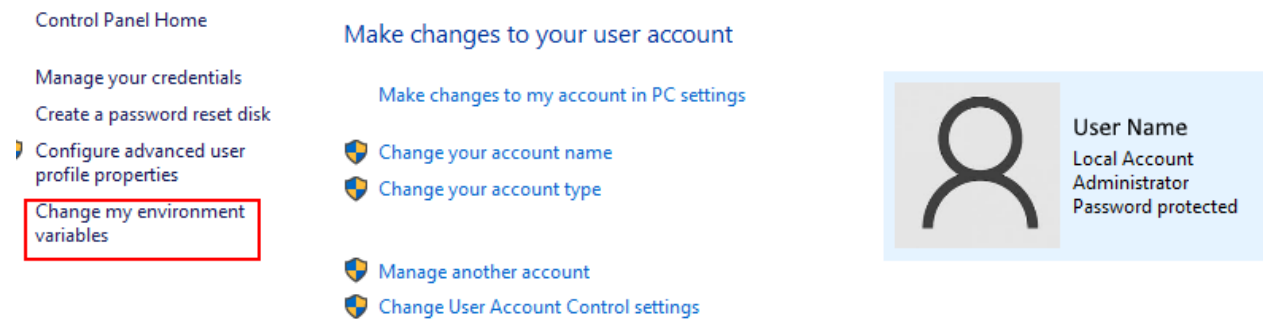
Step 5: Download and install GitHub Desktop:

<https://desktop.github.com/>

Step 6: Configure the ANDROID_HOME environment variable

File Explorer > Control Panel > User Account > User Accounts > Change my environment variables

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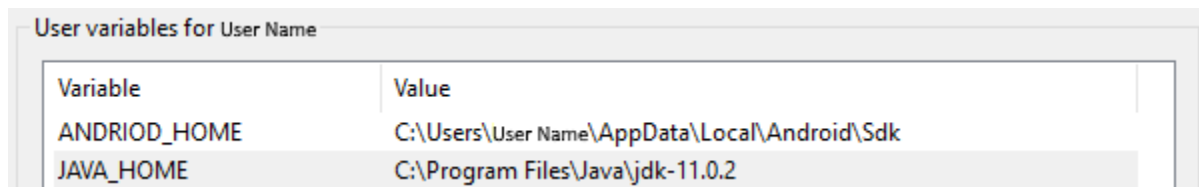


Under "user variables" > "New..."

Variable name:

ANDROID_HOME

Variable value: C:\Users\[name]\AppData\Local\Android\Sdk



Copy and paste into powershell, and verify ANDROID_HOME has been added

Get-ChildItem -Path Env:\

Step 7: Configure JAVA_HOME environment variable

File Explorer > Control Panel > User Account > User Accounts > Change my environment variables

Under "user variables" > "New..."

Variable name:

JAVA_HOME

Variable value: C:\Program Files\Java\jdk-[version]

Click "OK"

Under "user variables" > "Path" > "Edit..." > "New"

%JAVA_HOME%\bin

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Click "OK"

Copy and paste into CMD, and verify JAVA_HOME has been added

```
echo %JAVA_HOME%
```

Step 8: Configure path to Android Studio platform tool (this will allow you to run the project from VSC)

Under "user variables" > "Path" > "Edit..." > "New"

C:\Users\[name]\AppData\Local\Android\Sdk\platform-tools

Click "OK"

Step 9: Open Android Studio > open settings > SDK Manager > SDK Platforms, select
Android API 32

Android 11.0 (R)

Select "Show Package Details" and under "Android 11.0 (R)" section, select

Android SDK Platform 30

Sources for Android 30

Intel x86 Atom_64 System Image

Google APIs Intel x86 Atom System Image

Google APIs Intel x86 Atom_64 System Image

Google Play Intel x86 Atom System Image

Google Play Intel x86 Atom_64 System Image

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SDK Platforms SDK Tools SDK Update Sites				
Each Android SDK Platform package includes the Android platform and sources pertaining to an API level by default. Once installed, the IDE will automatically check for updates. Check "show package details" to display individual SDK components.				
Name	API Level	Revision	Status	
☐ Google Play Intel x86 Atom_64 System Image	31	9	Not installed	
▼ Android 11.0 (R)				
☒ Android SDK Platform 30	30	3	Installed	
☒ Sources for Android 30	30	1	Installed	
☐ Android TV Intel x86 Atom System Image	30	3	Not installed	
☐ China version of Wear OS 3 - Preview ARM 64 v8a System Image	30	10	Not installed	
☐ China version of Wear OS 3 - Preview Intel x86 Atom System Image	30	10	Not installed	
☐ Wear OS 3 - Preview ARM 64 v8a System Image	30	10	Not installed	
☐ Wear OS 3 - Preview Intel x86 Atom System Image	30	10	Not installed	
☐ AOSP ATD ARM 64 v8a System Image	30	1	Not installed	
☐ AOSP ATD Intel x86 Atom System Image	30	1	Not installed	
☐ ARM 64 v8a System Image	30	1	Not installed	
☒ Intel x86 Atom_64 System Image	30	10	Installed	
☐ Google TV Intel x86 Atom System Image	30	3	Not installed	
☐ Google APIs ARM 64 v8a System Image	30	11	Not installed	
☒ Google APIs Intel x86 Atom System Image	30	10	Installed	
☒ Google APIs Intel x86 Atom_64 System Image	30	11	Installed	
☒ Google Play Intel x86 Atom System Image	30	9	Installed	
☒ Google Play Intel x86 Atom_64 System Image	30	10	Installed	

Step 10: Open Android Studio > open settings > SDK Manager > SDK Tools, select

Android SDK Build-Tools 33-rc1

Android SDK Command-line Tools (latest)

Android Auto API Simulators

Android Auto Desktop Head Unit Emulator

Android Emulator

Android SDK Platform-Tools

Google Play APK Expansion library

Google Play Instant Development SDK

Google Play Licensing Library

Google Play services

Google Web Driver

IF ON INTEL: Intel x86 Emulator Accelerator (HAXM installer)

IF ON AMD: Android Emulator Hypervisor Driver for AMD Processors
(installer)

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Click “OK”

SDK Platforms

SDK Tools

SDK Update Sites

Below are the available SDK developer tools. Once installed, the IDE will automatically check for updates. Check "show package details" to display available versions of an SDK Tool.

Name	Version	Status
☒ Android SDK Build-Tools 33		Update Available: 33.0.0
☐ NDK (Side by side)		Not Installed
☒ Android SDK Command-line Tools (latest)		Installed
☐ CMake		Not Installed
☒ Android Auto API Simulators	1	Installed
☒ Android Auto Desktop Head Unit Emulator	1.1	Installed
☒ Android Emulator	31.2.10	Installed
☐ Android Emulator Hypervisor Driver for AMD Processors (installer)	1.8.0	Not installed
☒ Android SDK Platform-Tools	33.0.1	Update Available: 33.0.2
☒ Google Play APK Expansion library	1	Installed
☒ Google Play Instant Development SDK	1.9.0	Installed
☒ Google Play Licensing Library	1	Installed
☒ Google Play services	49	Installed
☐ Google USB Driver	13	Not installed
☒ Google Web Driver	2	Installed
☒ Intel x86 Emulator Accelerator (HAXM installer)	7.6.5	Installed

Step 11: Open Android Studio > open settings > Virtual Device Manager > Create device, select

Select Pixel 2

Under x86 Images, download both

R 30 x86 Android 11.0(Google APIs)

R 30 x86_64 Android 11.0

Name	Play Store	Size	Resolution	Density
Pixel 3a XL		6.0"	1080x2160	400dpi
Pixel 3a	▶	5.6"	1080x2220	440dpi
Pixel 3 XL		6.3"	1440x2960	560dpi
Pixel 3	▶	5.46"	1080x2160	440dpi
Pixel 2 XL		5.99"	1440x2880	560dpi
Pixel 2	▶	5.0"	1080x1920	420dpi
Pixel	▶	5.0"	1080x1920	420dpi
Nexus S		4.0"	480x800	hdpi
Nexus One		3.7"	480x800	hdpi
Nexus 6P		5.7"	1440x2560	560dpi
Nexus 6		5.96"	1440x2560	560dpi

Recommended	x86 Images	Other Images	
Release Name	API Level	ABI	Target
API 33 Download	33	x86_64	Android API 33 (Google APIs)
Sv2 Download	32	x86_64	Android API 32 (Google APIs)
S Download	31	x86_64	Android 12.0 (Google APIs)
S Download	31	x86_64	Android 12.0
R Download	30	x86	Android 11.0 (Google APIs ATD)
R	30	x86_64	Android 11.0 (Google Play)
R	30	x86_64	Android 11.0 (Google APIs)
R	30	x86	Android 11.0 (Google APIs)
R	30	x86_64	Android 11.0
R Download	30	x86	Android 11.0 (AOSP ATD)
Q Download	29	x86_64	Android 10.0 (Google Play)
Q Download	29	x86_64	Android 10.0 (Google APIs)
Q Download	29	x86	Android 10.0 (Google APIs)
Q Download	29	x86_64	Android 10.0

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NOTE: Select the image that has (Google APIs) on it, and press "Finish", then try launching the emulator, if it works, you're good to go.

If you get an error, try the option below

NOTE: Select the image WITHOUT (Google APIs) on it, then try launching the emulator.

If you still get an error, try the option below

NOTE: Select the image that has (Google APIs) on it, then before pressing "Finish" under the section of "Emulated Performance" change the Graphics to "Software - GLES 2.0", then try running the emulator.

If you still get an error, try the option below

NOTE: Select the image WITHOUT (Google APIs) on it, then before pressing "Finish" under the section of "Emulated Performance" change the Graphics to "Software - GLES 2.0", then try running the emulator.

If you still get an error, try the option below

NOTE: Open File Explorer > C:\Users\[name]\.android, add a new file called "advancedFeatures.ini", inside add

Vulkan = off

GLDirectMem = on

save and repeat Step 9, until one of the options above works

Step 10: Open the project in Android Studio under the "android" file that's inside of the main directory of this project. (Keep Android Studio Opened)

- **IOS**

Step 1: Open terminal outside of VSC (Keep this terminal open)

brew update

brew install node

brew install watchman

brew install git

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Step 2: Install XCode through the app store

Step 3: Install and/or update XCode command line tools through the terminal (May take a while to download)

```
xcode-select --install
```

```
softwareupdate --install -a
```

NOTE: if you already have XCode, but your command line tools are not updating, it is likely because you might have a pending MacOS update. If this is the case run

```
sudo rm -rf /Library/Developer/CommandLineTools
```

```
xcode-select --install
```

Step 4: Open up XCode > Preferences > Locations

On the "Command Line Tools" section, make sure you have the latest version selected

Step 5: XCode > Preferences > Components

Download the iOS 15.0 Simulator (Latest Version)

Step 6: Open another terminal outside of VSC

```
sudo gem install cocoapods
```

NOTE: if you get an error installing cocoapods do

```
brew cleanup -d -v
```

```
brew install cocoapods
```

NOTE: if you see failed to link then run

```
brew link cocoapods
```

Step 7: initialize Podfile, while on the main directory do

```
cd ios
```

```
pod init
```

(If it doesn't exist) and then

pod install

IOS SETUP DONE

NOTE: if you get **BUILD FAILED** when attempting to start the application, you most likely will have to run the project inside of XCode itself. The file you want to open is on ANXIETY-STRESS-SELF-MANAGEMENT > ios > anxietyStressSelfManagement.xcodeproj

NOTE: if you get "fatal error: 'React/RCTBridgeDelegate.h' file not found #import <React/RCTBridgeDelegate.h>", repeat Step 6, but at the end open the workspace project and delete the build from ios folder, then start the application

NOTE: if you get "Error error SHA-1 for file is not computed" issue, do

npm install -i -g --force react-native-cli

delete the node_modules, reinstall pods, delete workspace build, re-install dependencies, and run metro and the project again

User Manual: Guide to Start the ANDROID APPLICATION

Step 1: in terminal, update the version of react-native to the latest version

npm install

NOTE: If the build of the application fails for some reason, even after properly setting up the development environment, try running the following command in the root folder

npm audit fix

NOTE: To upgrade react-native to the latest version (DO NOT DO THIS UNLESS YOU WANT TO UPGRADE THE CLI)!!!

npm install --save react-native@latest

NOTE: if you upgrade react-native's version, you also have to update the react-native-cli (DO NOT DO THIS UNLESS YOU ARE TOLD TO)

npm install -i -g --force react-native-cli

Step 2: Start Metro (application watcher), inside your React Native project run

npx react-native start

Step 3: Start the application

(Android) open another terminal aside from the first one and run the line below

npx react-native run-android

(ios) open another terminal aside from the first one and run the line below

npx react-native run-ios

TROUBLESHOOTING: go to <https://reactnative.dev/docs/troubleshooting>

Ian Notes – 1/24/2024

This addendum was made because the Android source code as received at the beginning of the Spring 2024 semester DID NOT WORK as is. After some troubleshooting and code changes, I got it to work following the methodology below.

If you've followed the above steps to launch the Andoird mobile app in Android Studio and it didn't work, try this procedure below.

ANDROID BUILD VIA ANDROID STUDIO

1. In your project directory, delete your package-lock.json and your /node_modules directory. You will reinstall them later.

2. Uninstall your current Node. Go here:

<https://nodejs.org/download/release/v16.20.2/>

If you have Windows and a x64 system, you probably want this executable file at the bottom:

"node-v16.20.2-x64.msi"

Ensure its installed correctly in terminal/command prompt:

node --version

3. Go back to project directory in terminal/command prompt and reinstall the stuff via package.json we left behind.

```
npm install
```

4. Start Metro via the following in a terminal/command prompt and leave it open:

```
npx react-native start
```

5. Go to Android Studio. Heres what my SDK Manager stuff looks like. Go to Settings > Tools > SDK Manager to compare.

6. Heres what my Device looks like. I chose the Pixel 2 as suggested. Go to Settings > Tools > Device Manager to compare.

6. In the project build.gradle, change this line in the buildscript section:

```
This file ---> C:\..\Code\Source Code\android
```

Change this line to = 32:

```
compileSdkVersion = 32
```

7. In the app build.gradle, insert this line in the dependencies section:

This file ---> C:\.\Code\Source Code\android\app

Insert some new code, as shown below, into the dependencies section:

```
....

dependencies {

// For animated GIF support

implementation 'com.facebook.fresco:animated-gif:2.6.0'

implementation fileTree(dir: "libs", include: ["*.jar"])

//noinspection GradleDynamicVersion

implementation "com.facebook.react:react-native:+" // From node_modules

implementation platform('com.google.firebase:firebase-bom:31.2.2')

implementation 'com.google.firebase:firebase-auth'

implementation 'com.google.firebase:firebase-analytics'

implementation "androidx.swiperefreshlayout:swiperefreshlayout:1.0.0"
```

```
// INSERT THESE LINES HERE

implementation ("androidx.appcompat:appcompat:1.3.1") {
    version {
        strictly '1.3.1'
    }
}

....
```

8. In another terminal/command prompt, build the app with:

```
npx react-native run-android
```