

# Mental Wellness Companion App

## Project Report

Prepared by: Talent Nyota

Date: 05-12-2024

---

### Table of Contents

1. Project Overview .....	2
o App Description	
2. Detailed Explanation of Features .....	3
o Home Page	
o Mood Tracker	
o Mindfulness Exercises	
o Relaxation Sounds	
o Settings Page	
3. Screenshots with Annotations .....	5
4. Technical Challenges and Solutions .....	10
5. Potential Improvements .....	11
6. Reflection .....	12
o Roles and Responsibilities	
o Challenges Faced	
o Skills Acquired	
7. References .....	13

# Project Overview

## App Description

**Mental Wellness Companion** is a mobile application designed to promote mental health and well-being. The app offers daily mindfulness exercises, mood tracking, relaxation techniques, and personalization options to cater to individual user needs.

### Key Features:

- **Home Page:** A welcoming interface displaying a personalized greeting and a daily motivational quote.
- **Mood Tracker:** Allows users to log their daily moods and view their mood history through visual representations.
- **Mindfulness Exercises:** Provides a collection of guided meditations and breathing exercises to enhance mindfulness.
- **Relaxation Sounds:** Offers playlists of soothing sounds and music to aid relaxation and stress relief.
- **Settings Page:** Enables users to personalize reminders, notification preferences, and app themes.

## Detailed Explanation of Features

### Home Page

**Purpose:** The Home Page serves as the welcoming screen, offering a personalized greeting and a motivational quote to inspire positivity.

#### Features:

- **Welcome Message:** Displays "Good Morning, [User's Name]!" to create a personalized experience.
- **Motivational Quote:** Showcases a daily quote to motivate and uplift the user.
- **Action Buttons:**
  - **Log Mood:** Quick access to the Mood Tracker for daily mood logging.
  - **Start Exercise:** Directs the user to the Mindfulness Exercises to begin a session.
- **Background Image:** Features a calming background to enhance the user experience.
- **Navigation Bar:** Provides easy access to all main sections of the app (Home, Mood Tracker, Exercises, Sounds, Settings).

## Mood Tracker

**Purpose:** Allows users to log their current mood and view their mood history, facilitating self-awareness and emotional tracking.

### Features:

- **Mood Logging:**
  - **Mood Icons:** A selection of emoticons representing various moods (e.g., very happy, happy, neutral, sad, very sad).
  - **Intensity Slider** (Optional): Users can rate the intensity of their mood.
  - **Notes Field:** An optional text area for users to add personal reflections or notes.
  - **Save Button:** Saves the mood entry for future reference.
- **Mood History:**
  - **Graphical Representation:** Visual charts displaying mood trends over time.
  - **Recent Entries:** A list of recent mood logs with dates and mood icons.

## Mindfulness Exercises

**Purpose:** Provides guided meditations and breathing exercises to promote mindfulness and reduce stress.

### Features:

- **Exercise Categories:** Organized into sections such as Meditation, Breathing, Body Scan.
- **Exercise List:**
  - **Thumbnails:** Visual representations for each exercise.
  - **Titles and Descriptions:** Clear naming and brief overviews.
  - **Duration:** Indicates how long each exercise will take.

## Relaxation Sounds

**Purpose:** Offers playlists of soothing sounds and music to aid in relaxation and stress relief.

**Features:**

- **Sound Categories:** Includes Nature, Ambient, Instrumental, White Noise.
- **Sound List:**
  - **Thumbnails:** Images representing each sound (e.g., forest, ocean).
  - **Titles and Durations:** Clear labeling for easy selection.
  - **Play/Pause Controls:** Simple controls for playback.
- **Now Playing Bar:** Displays current track and controls at the bottom of the screen.

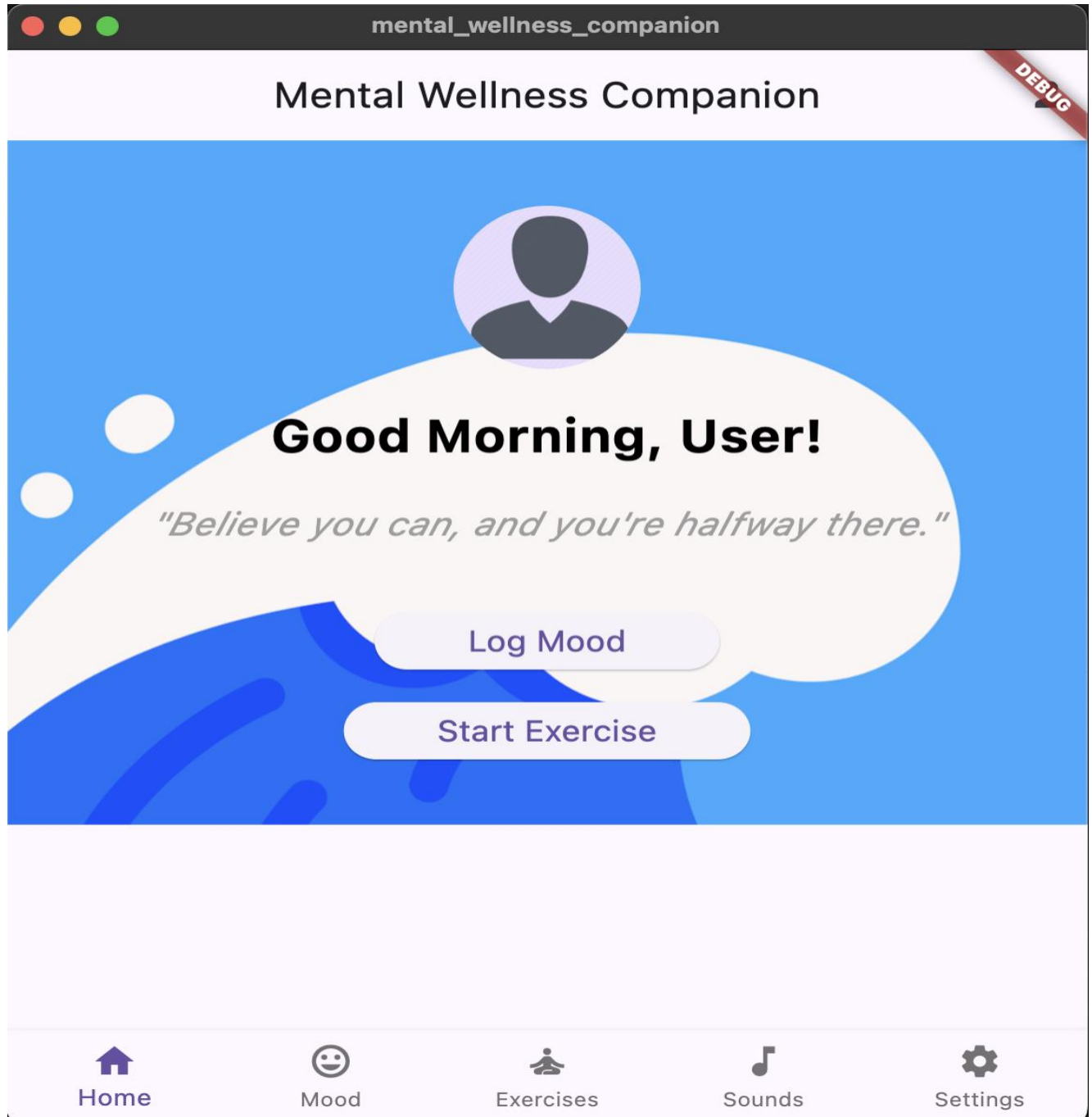
## Settings Page

**Purpose:** Allows users to customize app preferences and settings to enhance their experience.

**Features:**

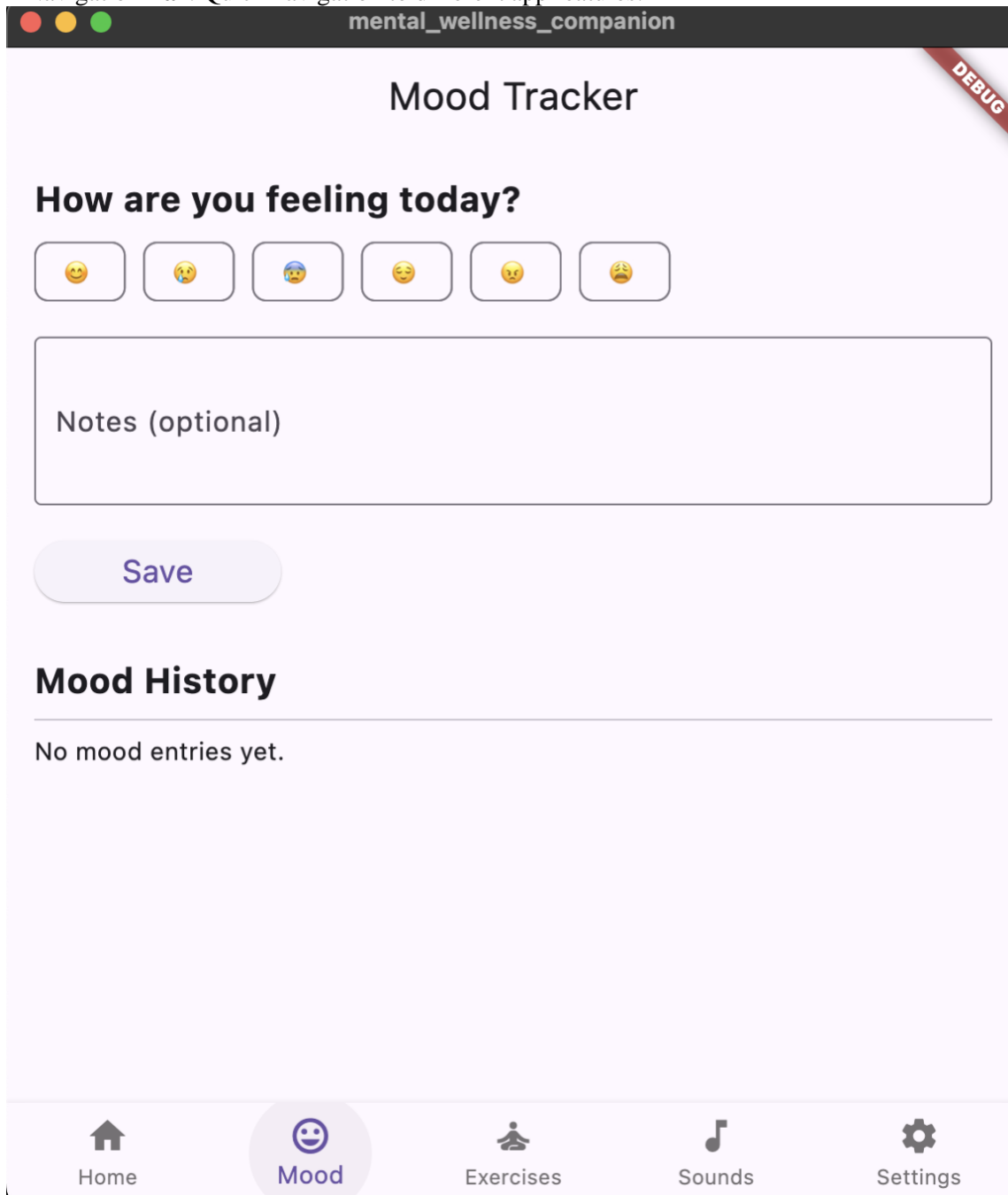
- **Profile Settings:** Users can update personal information and preferences.
- **Reminders & Notifications:**
  - **Toggle Notifications:** Enable or disable app notifications.
- **Theme Preferences:**
  - **Light/Dark Mode:** Choose between light or dark themes.
- **App Information:**
  - **About:** Information about the app and its purpose.

## Screenshots with Annotation

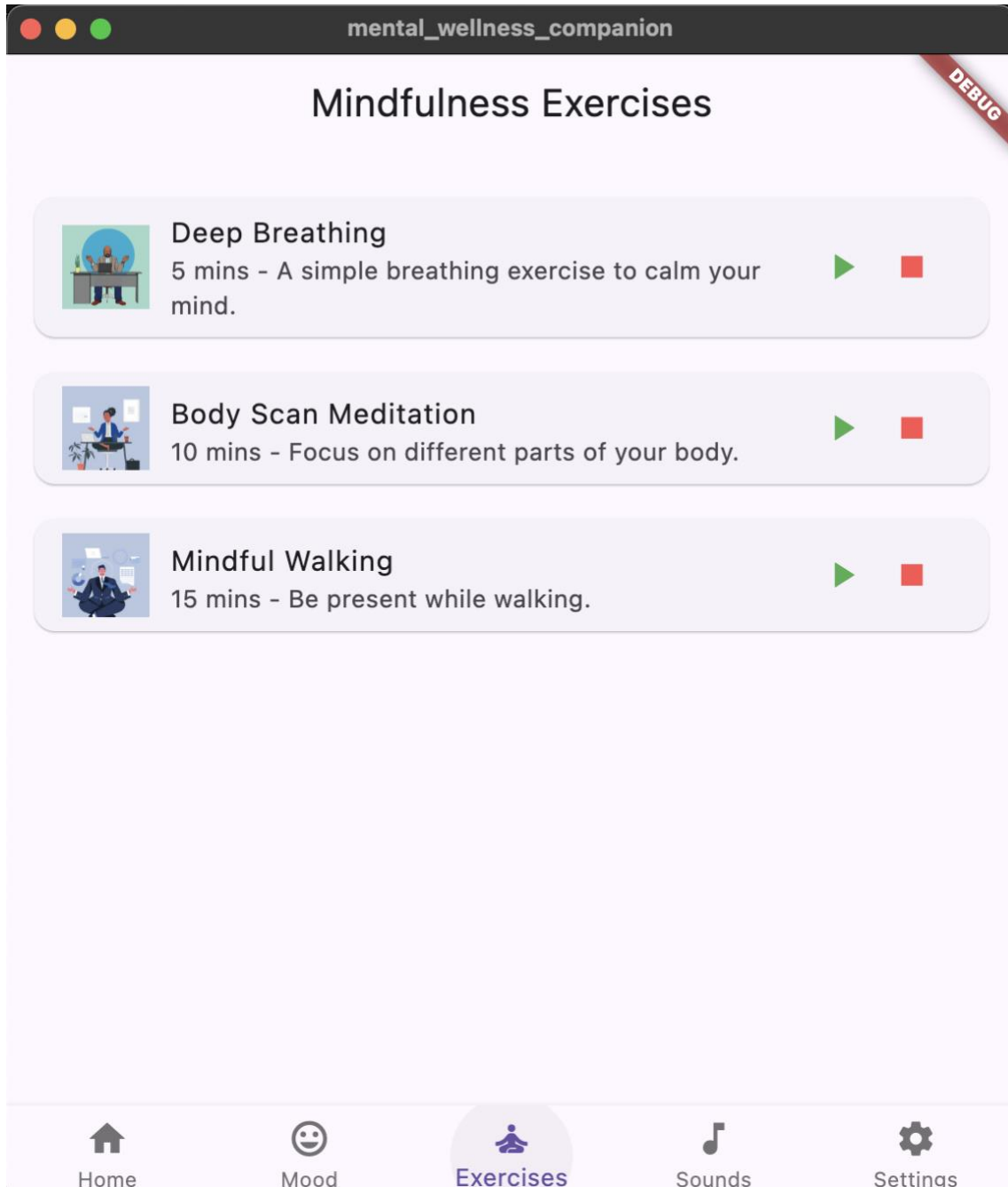


- **"Good morning, User!"**: Greets the user based on the time of day.
- **"Believe you can, and you're halfway there."**: Displays a motivational quote to inspire the user.
- **Log Mood Button**: Directs user to the mood tracking section.
- **Start Exercise Button**: Direct access to begin mindfulness exercises.

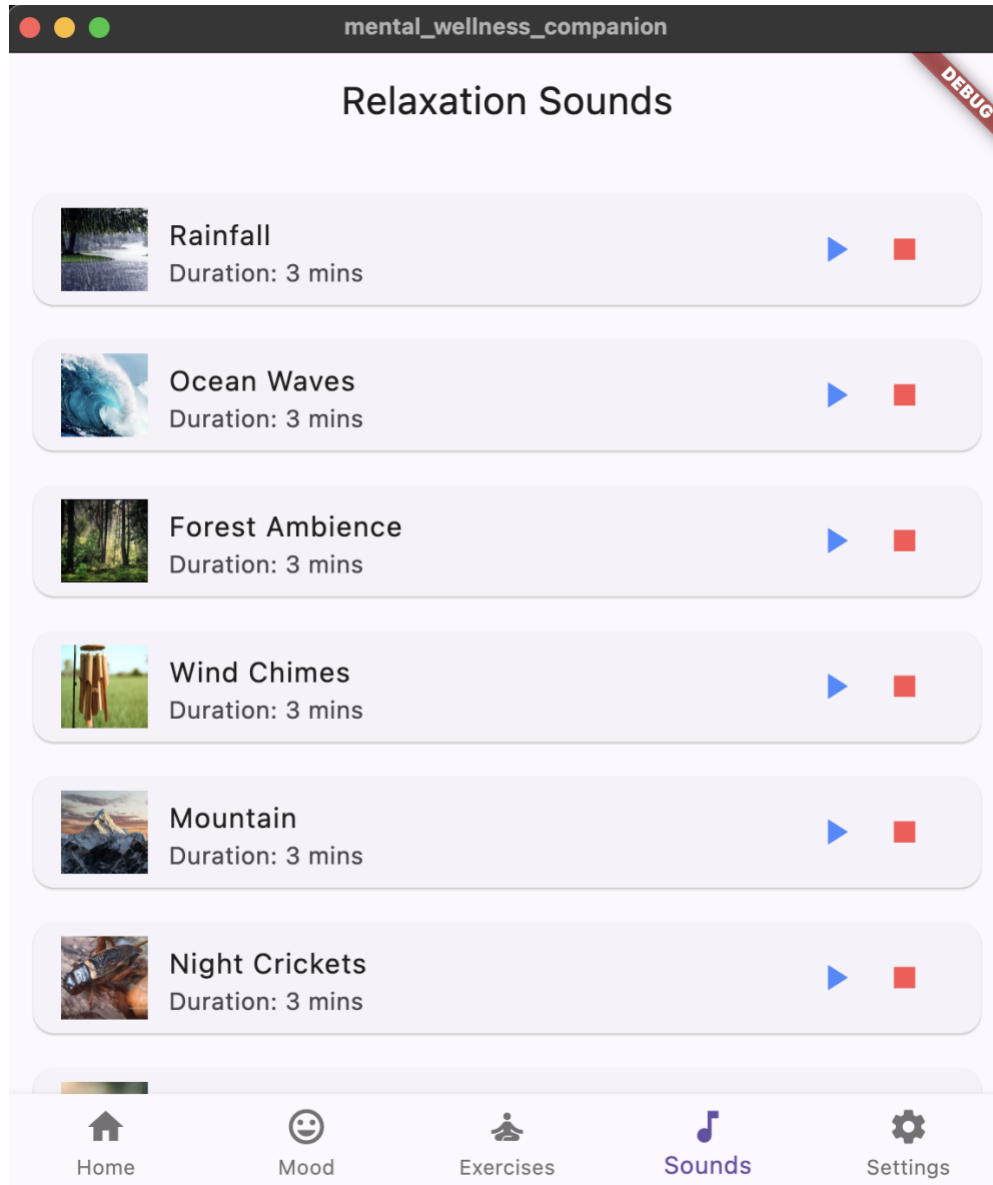
- Navigation **Bar**: Quick navigation to different app features.



- Emoji **Selection**: Users tap to select their current mood.
- Notes **Input**: Optional area for detailed mood context.
- Save **Button**: Saves the mood data.
- Mood **History**: Section that will list past mood entries.

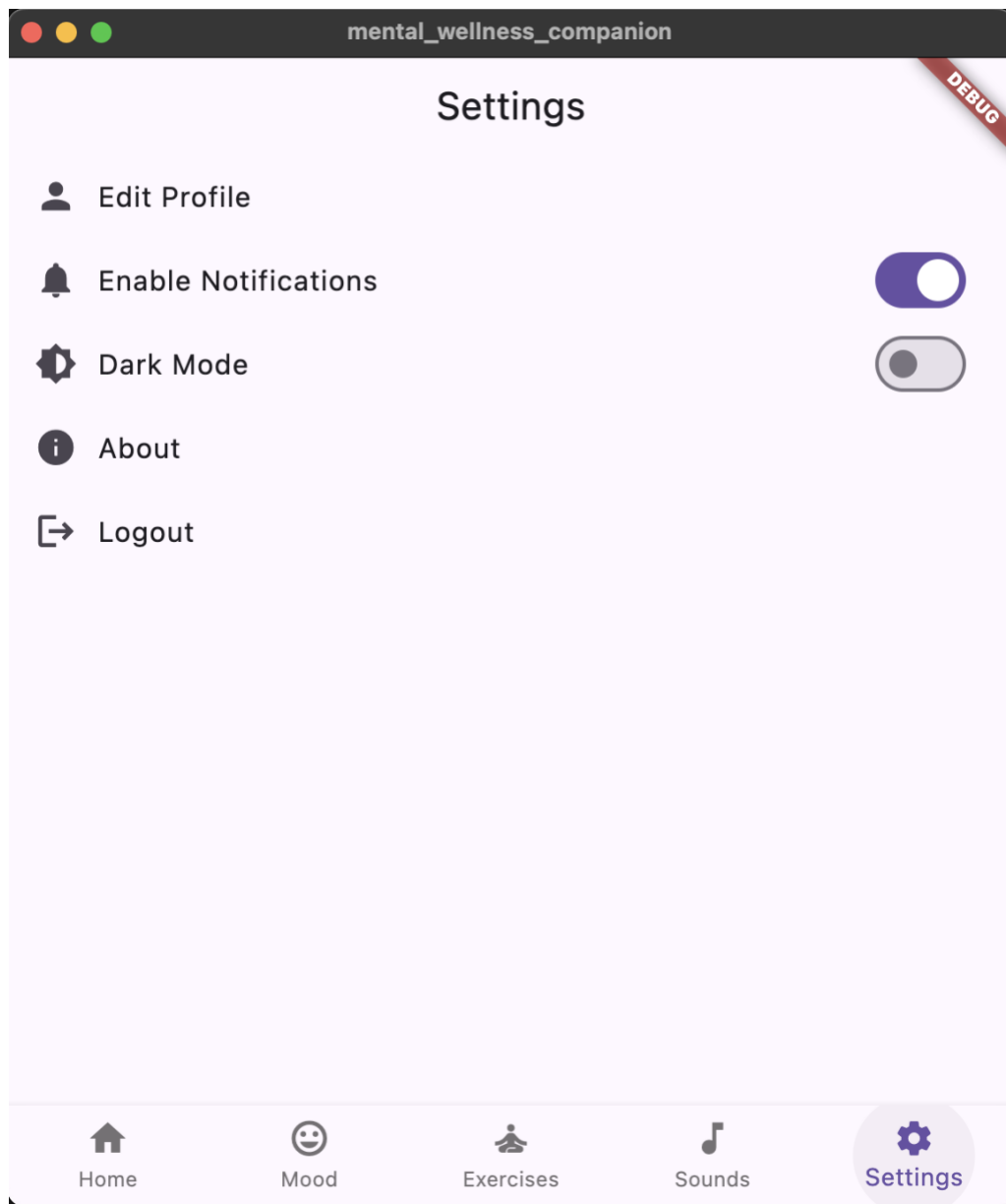


- Exercise **List**: Displays available exercises with brief descriptions.
- Duration **Indicator**: Shows how long each exercise takes.
- Play/**Pause Button**: Controls to start or pause an exercise.



- **Sound Options:** List of available natural and calming sounds.
- **Sound Duration:** Duration of each sound clip.
- **Playback Controls:** Play and stop buttons for sound management.
-





- **Profile:** Options for personalizing user experience, currently not working.
- **Toggle Switches:** For enabling notifications and dark mode, currently not working.
- **Logout Button:** For securely exiting the app, currently not working.

# Technical Challenges and Solutions

## Error Handling

While implementing the app, several errors were encountered, particularly related to:

- **Asset Loading:** Errors due to incorrect paths in `pubspec.yaml`.
  - **Solution:** Ensured that the asset paths were correct and properly indented in the YAML file.
- **Widget Constructors:** Warnings about missing `key` parameters.
  - **Solution:** Added `Key? key` parameters to widget constructors and passed `super(key: key)`.
- **Prefer Const Constructors:** Recommendations to use `const` constructors where possible.
  - **Solution:** Added `const` keywords to improve performance.
- **Unused Imports:** Warnings about unused imports.
  - **Solution:** Removed unnecessary import statements.

## State Management

Managing state across different screens, especially for the mood tracker and settings, was a challenge.

- **Solution:** Used `StatefulWidget` for screens that required dynamic content and state changes.

## Navigation Logic

Ensuring that the bottom navigation bar correctly updated the selected index and navigated appropriately.

- **Solution:** Passed the `selectedIndex` parameter to the `buildBottomNavigationBar` function and used `Navigator.pushNamed` for navigation.

## Potential Improvements

- **Persistent Storage:** Implementing local storage using packages like `shared_preferences` to save user data and settings.
- **Enhanced Mood History:** Adding graphical representations and analytics for mood tracking over time.
- **User Authentication:** Allowing users to create accounts to save data across devices.
- **Additional Exercises and Sounds:** Expanding the library of mindfulness exercises and relaxation sounds.
- **Notifications:** Implementing scheduled notifications to remind users to log their mood or practice mindfulness.
- Options for personalizing user experience,

## Reflection

### Roles and Responsibilities

As the sole developer on this project, I took on multiple roles:

- **Project Manager:** Planned the project timeline and milestones.
- **UI/UX Designer:** Created wireframes and designed the user interface.
- **Front-End Developer:** Implemented the app using Flutter and Dart.
- **Tester:** Tested the app for bugs and usability issues.

### Challenges Faced

- **Time Management:** Balancing multiple roles required effective time allocation.
  - **Solution:** Created a detailed project plan with specific tasks and deadlines.
- **Learning Curve:** Gaining proficiency in Flutter and Dart.
  - **Solution:** Utilized online resources and documentation to learn best practices.
- **Technical Errors:** Encountered various coding errors and warnings.
  - **Solution:** Debugged systematically and consulted Flutter documentation and forums.

### Skills Acquired

- **Flutter Development:** Improved skills in building cross-platform mobile applications.
- **State Management:** Learned how to manage state in Flutter applications effectively.
- **UI/UX Design:** Gained experience in designing user-friendly interfaces.
- **Problem-Solving:** Enhanced ability to troubleshoot and resolve technical issues.

## References

- **Flutter Documentation:** <https://flutter.dev/docs>
- **Dart Language Tour:** <https://dart.dev/guides/language/language-tour>
- **Material Design Guidelines:** <https://material.io/design>