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SAKOON MOBILE APPLICATION

Bachelor of Science in Information Technology

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Certificate

We accept the work contained in the report titled "SAKOON MOBILE APPLICATION", written by Mr. SANAULLAH BARI Enrollment 01-235181-086 AND Mr. SAHIBZADA ABDULLAH JAN Enrollment 01-235172-053 as a confirmation to the required standard for the partial fulfillment of the degree of Bachelor of Science in Computer Science.

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Abstract

Anxiety has been spread all over the mankind. Each one of us has some weaknesses in terms of fear for the future, what is going to happen? Is it going to be in my favor? Today's generation is suffering from anxiety, and some people like to discuss their fears but mostly people are shy and less interactive at this matter and do not want the world to know about their fears because they think that people will start judging them for their fears. In this case our Sakoon mobile application comes in where we are providing different options for different types of anxiety people are facing on the daily basis.

SAKOON Mobile App which will include breathing exercises, mini games, relaxing videos, and some soft music which will be much suitable and relaxing to the user who is suffering from anxiety and wants to use it to get relief for a while. It is important for to overcome your anxiety at the earlier stages as if it gets worse it will lead your anxiety to severe level phobias which is very difficult to reduce after some time.

In Pakistan, in this era we can find internet and Mobile phones almost in every area which seems that there is no big problem for the Mobile Application to run. As most of the people in Pakistan uses the android phones which is a user-friendly mobile according to our people this application can easily be accessed by the people who are really suffering from anxiety and are finding the way to get out of that phase.

Acknowledgement

We would like to express our special thanks of gratitude to our parents for supporting and believing in us which boosted our confidence so we can focus on our project and make it worth it. We would also like to thank our supervisor Sir Talha Nakash for helping and guiding us all this time regarding our project, without him it would have been nearly impossible.

We are also grateful to our FYP coordinator Ma'am Zubaria Inayat who coordinated all the events consisted in the FYP schedule very impressively which helped us meet our deadlines smoothly and on time. We would like to be thankful to all other teachers who helped us in our project and giving us details about the topic.

At the end we would like to be thankful to our group members for cooperation and for completing the Final Year Project with utmost dedication towards the work.

Sanaullah Bari, Sahibzada Abdullah Jan

Islamabad, Pakistan

June 14, 2021

"There are no limits to what you can accomplish,

except the limits you place on your thinking"

~Brian Tracy

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Acronyms

User – An individual person that created an account to Axe the Anxiety

API– Application Programming Interface

TECH– Technology

UI– User Interface

PC– Personal Computer

GB – Giga Bytes

ID – Identity document

MBSR -- Mindfulness-Based Stress Reduction

AI – Artificial Intelligence

Chapter 1

Introduction

1.1 Introduction

Anxiety is spread across the globe. Each human being faces anxiety on a different level, some fell very deep which is not controllable by themselves and must consult the psychologists. But some people just need some relaxing environment which can help them reduce anxiety in their daily routine. Students also go through anxiety due to having workload, the few types that can be discussed about anxiety are social anxiety, specific phobias, generalized anxiety disorder (GAD), agoraphobia, and obsessive-compulsive disorder (OCD). These types can be controlled except for phobias, the techniques that can be used are listening to soft music, watching a motivational or soothing video, breathing exercises and meditations are used to reduce the anxiety. On the other hand, phobias are the extreme level of anxiety which is not likely to be controlled by using these simple techniques. The person suffering from the phobias should consult a psychologist on time so that he/she can recover or get out of the horrible phase they are going through.

1.2 Objectives

The main objective of this application is to give the users the experience of meditation which can help mostly people to recover from the anxiety phase. Mini games would also be a part of this application which will be played by the users to make themselves calm and relaxed during the hours they are not feeling very energetic. Entertaining videos are also going to be added as people like to see fuuny, motivational videos which will cheer them up when they are not feeling really good. Soft music will also be added in the application because it can enhance a persons mood, which elevates them and makes them feel really better.

1.3 Problem Description

Anxiety is fear of future. People are afraid that either something bad is going to happen or something that should not happen. Anxiety if not counselled on time may lead towards phobias which Is a hard phase which cannot be counselled easily. The negative part of anxiety can be health issues causing other diseases in your body, due to lack of sleep or even over thinking. This may

also affect your daily routine which do not let you enjoy your life to the fullest as you are always in stress. The "Sakoon" application in this case will be very much useful as it will offer different kinds of activities which will make the person busy with its features which will make him calm and will have a good mood and will be stress free for some time.

1.4   Methodology

The methodology used for this mobile application is the 3-tiered architecture. The 3-tiered architecture which consist of three parts that are logical and physical, the user interface, the application tier where the data is associated. There is a game module that will use an artificial intelligence algorithm known as minmax. A database will be connected to the application through Firebase for saving the data.

1.5   Project Scope

Sakoon is a mobile application which has the aim to reduce anxiety among the teenage children who are going through a tough time because of their workload from schools. The application consists of many amazing features that will be helpful in reducing the stress of the children by listening to soft music, watching videos, meditation.

1.6   Brief Feasibility

The mobile application consists of some good features and will have a high demand in the market of mobile applications. Those features will help in reducing and controlling the anxiety the target audience are facing.

1.7   Solution Area

The main target of the application will be students that are teenagers because they are facing some severe symptoms of anxiety that can be dangerous for their health in the future.

Chapter 2

Literature Review

Technology has shown a good advancement towards anxiety. It seems that people are getting aware and making applications on basis of anxiety reduction and wants to be a part in reducing it. There are many applications that can be used by the people on basis on their liking and comfort. This is the main aim of Sakoon to help in controlling anxiety by offering various features in our applications that are video library, soft music, guided meditation, breathing exercises. The new feature which is not mostly used in other applications is the gaming module which is being introduced in "Sakoon". These games will be psychological based and would be enjoyable by the user.

2.1   Related Application

In this chapter know as Literature Review we are going to discuss some of applications that have the same goal as our application. There a many mobile applications that are developed for reducing stress, each of them has some distinct qualities in their own natural way. The applications have different user interface with having different arrangements of features. These applications are on the markets top list on the context of anxiety.

1. Insight Timer.
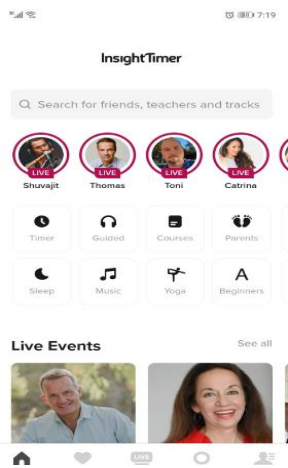
Figure 1:InsightTimerApp

2. Calm App
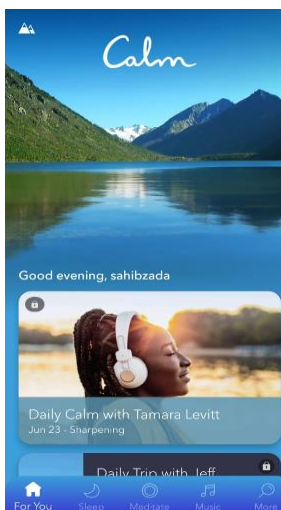
Figure 2:Calm App

3. Aura: Meditation and Mindfulness.
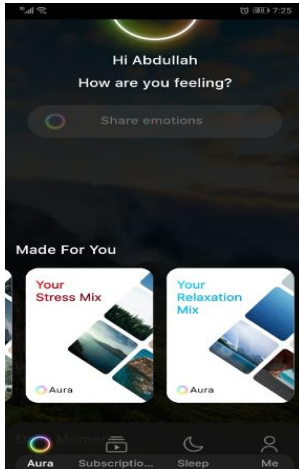
Figure 3: Aur Meditation App

4. Headspace.
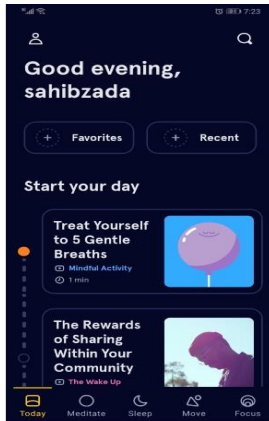
Figure 4: Headspace App

2.1.1 Insight Timer

The Insight Timer is an anxiety-based application that offers guided meditations sessions online and offline. The guided meditation sessions are also conducted live. According to the statistics on Google Play Store it has a rating of 4.9 stars out of 5. There are more than 5 million downloads of this application.

Features

The features are categorized in two different forms, paid and free. In Free There are more than 75,000+ guided meditations, music track, customizable meditation timer, discussion groups. Different exercises for reducing anxiety are also present. In paid version they offer courses on how to deal with stress. Listening offline classes, advanced player, high quality video, sleep tracker.

2.1.2 Calm

Calm application is a mobile for anxiety and stress. It is an application which has a rating of 4.3 out of 5 on the google play store. It also has over 10 million+ downloads on the play store. The application has many interesting features, especially in the meditation features they have recorded voices of Hollywood celebrities who gives the people lessons on how to control anxiety.

Features

The Calm application provides guided practices for meditation, sleep with great mind exercises which can help in reducing stress and anxiety. There are nature scenes and soft sounds that makes the mind more relaxing and fresher and makes people focus more on their objectives. The other feature is tracking down your progress based on your mood. It also contains stories for children to make them feel relax at night.

2.1.3   Aura: Meditation and Mindfulness

Aura is a meditation application for people undergoing stress and anxiety. The application ratings on the google play store is 4.6 out of 5. There are 1 million+ downloads and 10,000 reviews. The application offers good features which are suitable for the users.

Features

The features of the Aura application consist of meditation, life coaching. There are nature relaxing sounds to keep the person calm relaxed. There are breathing exercises, Gratitude journal is also found in this application. Aura also consist of 3 minutes meditation session for every day.

2.1.4   Headspace

Headspace is anxiety relief application based on mobile application. Headspace is mostly known for its illustration and animations which they use for controlling anxiety. The application is in the list of top 5 grossing health and fitness category, it also has more than 10 million+ downloads, a rating of 4.6 out of 5 on google play store, and more than 230,000 reviews.

Features

The main features of this applications are, you can find more than 40 courses related to meditation on topics like stress. Mind relaxing exercises are also in this application. People having busy schedules can have short meditation sessions according to their time constraints. Music is also one of the features found in headspace.

Chapter 3

Requirement Specification

This application is basically a mobile that will provide a user with possible techniques to cope with anxiety. The purpose for documentation of SRS is to lay out all possible business requirements for the Sakoon app. The app will create a convenient and efficient dreamland for the users through which they can reduce their anxiety and change the direction of thinking.

3.1 Limitations within the existing system

After comparative study the limitations of existing applications are as follows:

- During the tough hour, user cannot always listen to someone else, so we came up with the idea of gaming module where games will be psychological based.
- No gaming module.
- There is no customizable control for the animation of features like breathing exercise and solo timer

3.2 Proposed Improvements in Existing Works

The Sakoon application which will be implemented in a mobile-based application. The main aim is to provide the help required to the user in their tough hour. Mobile-based application will be developed in flutter to neglect the delays and provide better user experience. The purpose of this application is to reduce stress and anxiety through different techniques. It will be a self-based application without involving third person to interact with user. Making the user comfortable with reality, providing breathing exercise of user choice to perform breathing exercises to decrease the heartbeat, reduces high blood pressure and soft animations for user selected time in solo timer feature.

3.3   External Interface Requirements

3.3.1   User Interfaces

Sakoon UI will be specifically composing with their users in mind, as clean and clear main screen to introduce the main theme and features of the app with splash screen. Sakoon will ensure at each point from typography to the visual elements and colors. Major focus will be kept on stress, anxiety to help the user to keep them calm throughout the app.

3.3.2   Hardware Interfaces

As this project is designed to be mobile-based application, the hardware on which it dwell will be any mobile or PC that will have active internet connectivity to ensure all the content loads properly.

3.3.3   Software Interfaces

This application will be utilizing software components for its mobile-based functionality that will include Dart, java along with Firebase database. A Firebase will be required to host server to keep the database same on the mobile-based application.

3.3.4   Communications Interfaces

This project will require HTTP protocol for the communication interfaces with client-side devices for the use of different API for the all the content libraries in application.

3.4   Other Nonfunctional Requirements

3.4.1   Performance Requirements

The main reason of recognizing the response time is to emphasize the user experience with the application because without their response this app will be of no use.

- Normal user response time shall be less than 2-3 seconds.
- Act upon all the instruction given in the guided sessions.

3.4.2   Safety Requirements

1) Security questions should be set 2-3 when user is login into their account for first time
2) As well as email or mobile number for confirmation to reset their password.

3.4.3 Security Requirements

In this application security has been taken seriously so that the information of user is well protected from visibility from the other users. This is privacy protected app which will give a space to each user to set their own unique ID and password. Through this uniqueness their confidential data and stats will be safe from any other users.

3.4.4 Software Quality Attributes

The application will have sort of quality attributes that will make the user to use the application. Some of them are considered below:

Adaptability
The application will have its own distinction of adaptability for future improvements in the features list or to the user interface designs or user's experience with the application.

Availability
The server will be available most of the time for the users so they can access the data resources pack anytime.

Correctness
Accurate information and appropriate content will be provided to the users in such well-ordered way that user will be able to feel the change in their self within few days. Each user data will be kept privately and stored correctly.

Flexibility
The application will be flexible to the users in such a manner that they can perform any provided technique to cope with their anxiety and stress. Stats of the application will be easily accessible by the user.

Reliability
The application will be reliable to its users. Reliability is the main purpose of this application, so every user can perform and follow the instruction without worrying because every instruction/practices are from MBSR without religious or spiritual discourse.

3.5   Use Cases

3.5.1   Registration:

1) **Use Case:** Registration for user.
2) **Pre-condition:** Registration info should be unique.
3) **Post-condition:** User successfully registered into the system.
4) **Actors:** User
5) **Description:** A user will be prompted with sign up/ sign in page where user will register themselves including their name, age, etc. This registration is for personalized profile to keep their stats in it and will differentiate from others using the user's unique login details.

Table 3.1: Dressed use case for registration

Action	Response
1) User clicks on register button.	2) System opens the registration form. 2.1) Displays all the fields to be entered.
3) User provided all the information required in form and clicked done.	4) System will ensure the data provided is unique and if so, it will store info in data store. 4.1) User will be redirect to login screen

3.5.2 Login

1) **Use Case**: Login.
2) **Pre-condition:** User detail must exist in the system.
3) **Post-condition:** User logged-in into the system successfully.
4) **Actors:** User.
5) **Description:** Authentication will be required to login into the application. Unauthorized login will not be able to use the available features in the app.

Table 3.2: Dressed use case for login

Action	Response
4) User click on Sign-In/Login button	2)System will respond and redirect to Login screen.
3) User fills the field of username and password.	2.1) Displays all the fields to be entered in login screen. 4) System checks the login details with existing information 4.1) User's credentials will be validated. 4.2) If user's credentials matched, it will redirect to dashboard screen. 4.3) If user's credentials didn't match, it will show error message "ID or password is incorrect".

3.5.3 Logout:

1) **Use Case:** Logout.
2) **Pre-condition**: User must be logged in.
3) **Post-condition:** user logout successfully.
4) **Actors:** User.
5) **Description:** Logout will be used when user wants to log out from the system for various reason such as logging from another account and so forth.

Table 3.3: Dressed use case for logout

Action	Response
1) User opens the drawer from the home screen.	
	2) System will open the drawer and show all buttons.
3) User clicks the logout button.	
	4) System will logout the user.

3.5.4   Breathing Exercise

1) **Use Case:** Breathing Exercise.
2) **Pre-condition:** User detail must exist in the system.
3) **Post-condition:** There are no pre-conditions associated with this use case.
4) **Actors:** User.
5) **Description:** Authentication will be required to login into the application. Unauthorized login will not be able to use the available features in the app.

Table 3.4: Dressed use case for breathing exercise

Action	Response
1) User click on Sign-In/Login button	
	2)System will respond and redirect to Login screen.
	2.1) Displays all the fields to be entered in login screen.
3) User fills the field of username and password.	
	4) System checks the login details with existing information
	4.1) User's credentials will be validated.
	4.2) If user's credentials matched, it will redirect to dashboard screen.
	4.3) If user's credentials didn't match, it will show error message "ID or password is incorrect".

3.5.5 Games: Tic Tac Toe

1) **Use Case:** Tic Tac Toe.
2) **Pre-condition:**
    I.   User must be logged into the system.
    II. User must click on "Mini-games".
    III. User must click on "tic tac toe".
3) **Post-condition:** There are no post-conditions associated with this use case.
4) **Actors:** User.
5) **Description:** Gaming module, an AI based game which includes O's and X's. It's based on 2 players and winner is the one which place 3 O's or X's in a row, diagonal or vertical first. The second player in this game will be AI based using minimax algorithm.

Table 3.5: Dressed use case for tic tac toe game

Action	Response
1) User navigate to gaming module and selects the tic tac toe game.	2)System will open the game and show the main screen of the game.
	2.1) Screen will show Menu of game.
3) User clicks on "play game"	4) System will respond and draw the 2 rows and column.
5) User clicks on start game and putted X on first row and column	6) System registers the user's entered X.
6) Users again Putted X on 2 row and column.	6.1) Now system will put O against the move automatically.
	7) System will again register the second X placed by user. 7.1) Again, system will make a move against the user input
8) User again putted X at 3rd row and column.	
	9) System registered the X entered by user.
	9.1) System will check if there is any move left. If not left then it will check if diagonal, row or vertical X's are in position.
	9.2) If 3 X's are found in row, column or diagonal, it will generate a message "WINNER"
	9.3) If X's are not found in row, column or diagonal, it will generate a message "Better Luck Next Time."

3.5.6 Games: Mathematics Problem Solving

1. **Use Case:** Mathematics Problem Solving.
2. **Pre-condition:**
   I.   User must be logged into the system.
   II. User must click on "Mini-games".
   III. User must click on "Mathematics Problem Solving".
3. **Post-condition:** There are no post-conditions associated with this use case.
4. **Actors:** User.
5. **Description:** Gaming module, it will give the time duration to the user and if the answer is given within a time, scores will be gained.

Table 3.6: Dressed use case for Mathematics Problem Solving

Action	Response
1) User navigate to gaming module and selects the Mathematics Problem Solving.	
3) User clicks on "play game"	2) System will load and show the menu.
5) Suppose user corrected the adding of mathematics number within 2 seconds.	4)System will show the 1,2,3 and game will be started.
	4.1) System will randomly generate a number and shows it on the screen.
	4.2) Correct answer will be calculated automatically.
	6) If the answer is correct tick mark will be showed, points will be added to the scores and moves to the next problem.
	6.1) If answer is not correct cross mark will be showed and stays on the same page

3.5.7   Game: Tetris

1. **Use Case:** Tetris.
2. **Pre-condition:**
   I.   User must be logged into the system.
   II.   User must click on "Mini-games".
   III. User must click on "Tetris".
3. **Post-condition:** There are no post-conditions associated with this use case.
4. **Actors:** User.
5. **Description**: This is gaming module, basically a game containing different shapes and its goals is to prevent the shapes from stacking up the screen as long as possible.

Table 3.7: Dressed use case for Tetris

Action	Response
1) User opened the Tetris and starts the game.	2) System will show menu screen
3) User clicks on "play".	4) System will respond and started to throw the shapes from top of the screen.
5) User handle the position of shape and placed it to appropriate location.	6) System placed the shape where user selected.
	6.1) Points will be given on basis of duration time.
7) Once screens screen stacked up with shapes and no more place is left for more shapes.	6.2) Once screens screen stacked up with shapes and no more place is left for more shapes.
	6.3) System will respond and show "You lose! Better luck next time."
	6.4) System will redirect to main menu screen of game.

3.5.8 Game: Nine Men's Morris

1. **Use Case:** Nine Men's Morris.
2. **Pre-condition:**
   I.   User must be logged into the system.
   II.   User must click on "Mini-games".
   III. User must click on "Nine Men's Morris".
3. **Post-condition:** There are no post-conditions associated with this use case.
4. **Actors:** User.
5. **Description:** This game is strategy-based game of 2 players. Here the 2nd player will be AI based using the minimax algorithm. It will contain 3 phases: the first phase contains placing of pieces. Second phase contains moving of those placed pieces and the last one is optional moving of pieces to any vacant point when the other player has been reduced to three pieces.

Table 3.7: Dressed use case for Nine Men's Morris

Action	Response
1) User opened the Nine men's Morris and starts the game.	2) System will show menu screen
3) User clicks on "play".	
	4) System will respond and started to draw 3 squares, 4 lines vertically, horizontally on both side and points on each side where 2 lines are matching.
5) Suppose user is selected, now user placed all the pieces on the board.	4.1) Random person will be selected to play first.
	6) System detects the user moves and putted all the pieces according to the user move.
7) User starts to move the pieces.	
	8) System moving the pieces according to user's moves.
	8.1) If 3 pieces in a row founded at any position on the board, the opponent's piece will be removed.
	8.2) Once all the pieces of opponent is removed from the board user will be shown "You've Won!"
	8.3) If unable to remove, game will be continuing until any of the party is removed from the board.

Chapter 4

Design

4.1 Design and Implementation Constraints

1. **Memory:** The Sakoon content library will mostly be stored on Firebase, and for the download resources minimum requirement for the device space should be above 1GB or above.

2. **Language Constraint:** Our application will be supporting only English, as all the content such as music, guided meditation will be in English language.

4.2 System Overview

Sakoon is mobile application which will incorporate with salient features where an individual might be able to address and reduce their anxiety with different techniques, such as prompting the user at their chosen times to meditate or indulge in short timed mini games or listen to relaxing music.

4.3 Design Map

In this document, the intended work of our system will be discussed and explained in detail how the constraints are been for its users. The relationship between the user and the calm technology has also been explained in this document. The user will have access to all the features and can track progress; how much time they've spent using this application. The users will only have to register and use the application.

4.4 Database Schema

Following is the database schema for Sakoon where database will be implemented on firebase.

4.4.1 Tables, Fields, and Relationships

4.4.1.1 Music Table

Attributes: The database attributes.

Type: Data type of the attributes.

Description: Describes the attributes, for what purpose they are being used.

Example: Mentions the data that is being used in the app .

Table 4.1: Database schema for Music Table

Attributes	Type	Description	Example
songID	Int	A primary key for unique audio file	15
songName	Varchar/String	Name of the audio file	Senorita
songCategory	Varchar/String	Category of the song	soft
songDuration	Varchar/String	Total duration of the song	3:46

4.4.1.2 Registration Table

Attributes: The database attributes.

Type: Data type of the attributes.

Description: Describes the attributes, for what purpose they are being used.

Example: Mentions the data that is being used in the app

Table 4.2: Database schema for registration table

Attributes	Type	Description	Example
userId	Varchar/String	A primary key for unique user	215
firstName	Varchar/String	First name of the user	Zayn
lastName	Varchar/String	Last name of the user	malik
Profession	Varchar/String	Profession of the user	student
Email	Email	Email address of user	zaynmalik@personal.com
Password	Varchar/String	Password for user	132hpo7DuB

4.4.1.3 Video Table

Table 4.3: Database schema for video table

Attributes	Type	Description	Example
VideoID	Int	A primary key for unique audio file	52
videoName	Varchar/String	Name of the video file	sunset
videoCategory	Varchar/String	Category of the video	nature
videoDuration	Int	Total duration of the video	0:42

4.5 Designs:

4.5.1 Use Case Model:

4.5.1.1 Use Case Diagram
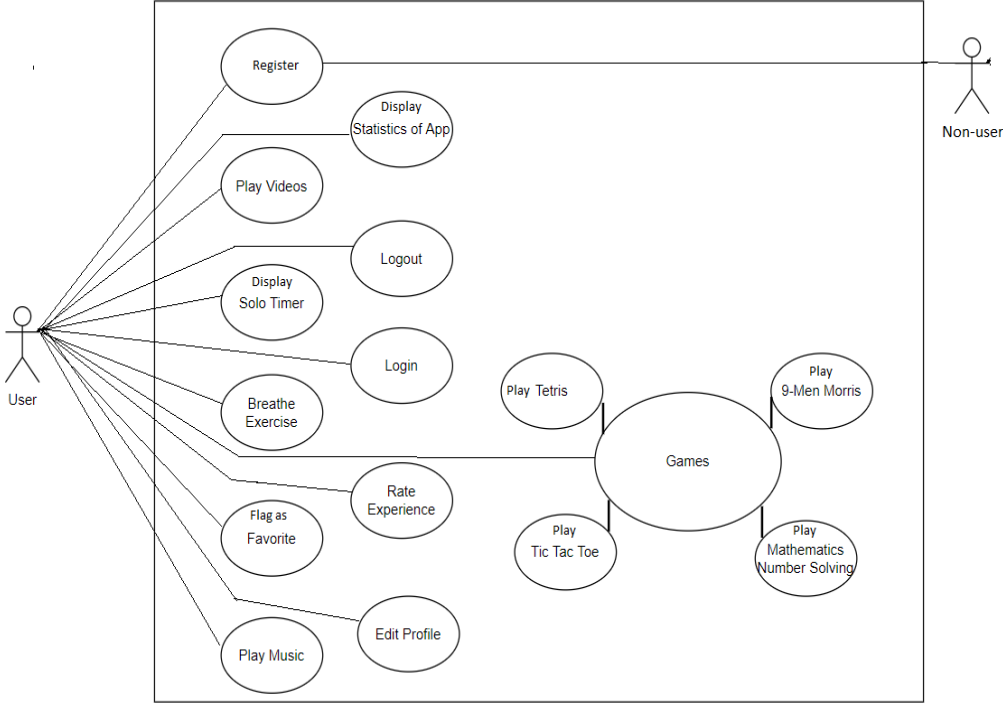
Figure. 5 Use Case Diagram

4.5.2   Sequence Diagram

Sequence Diagram for login
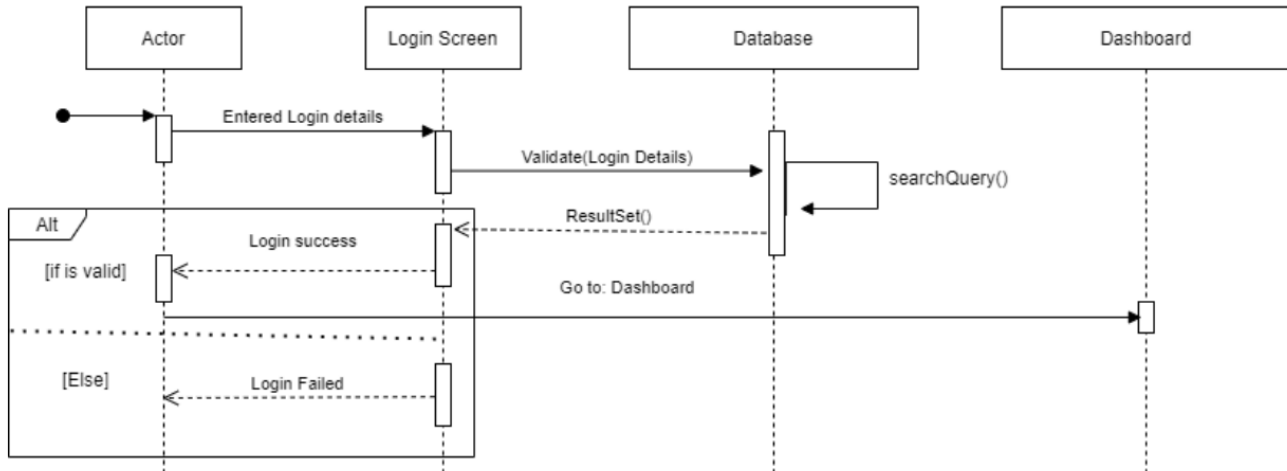
Figure 6 Sequence Diagram for login

Sequence diagram for registration
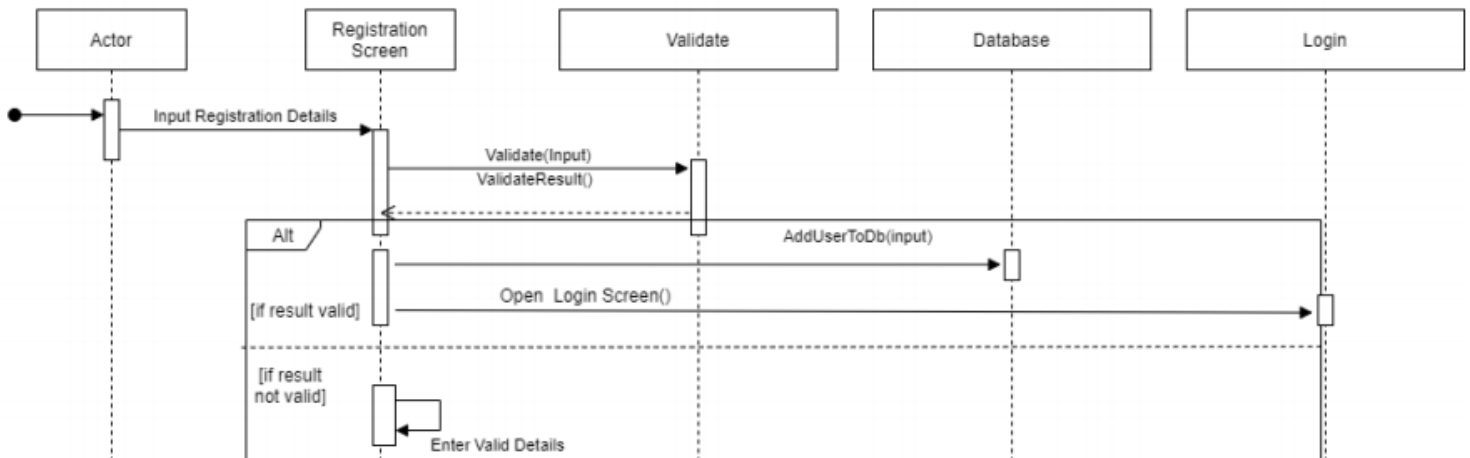
Figure 7 Sequence diagram for registration.

Sequence Diagram for playing video
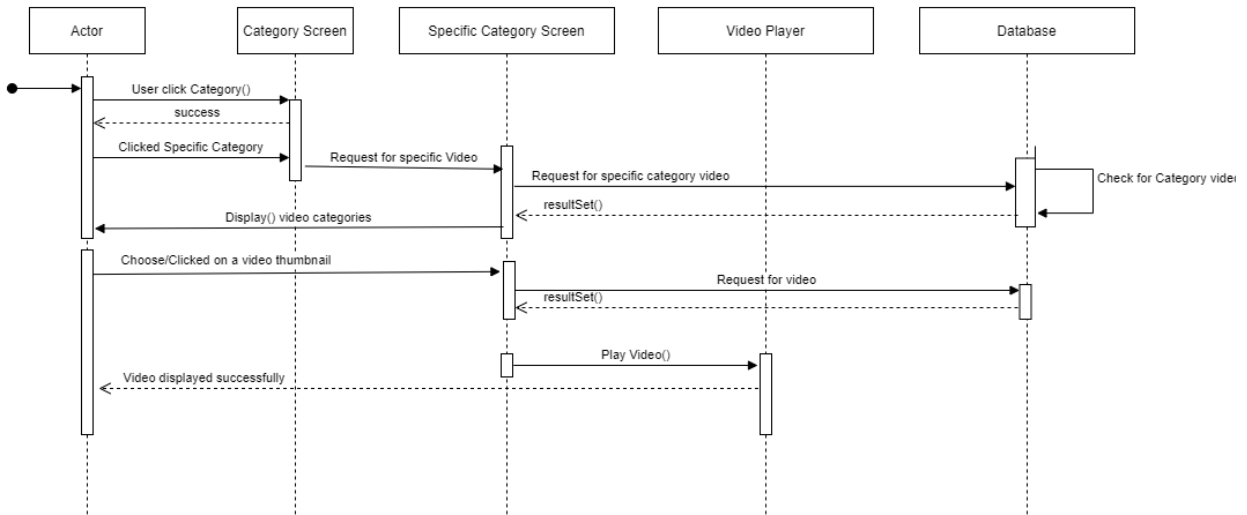
Figure 8 Sequence Diagram for video

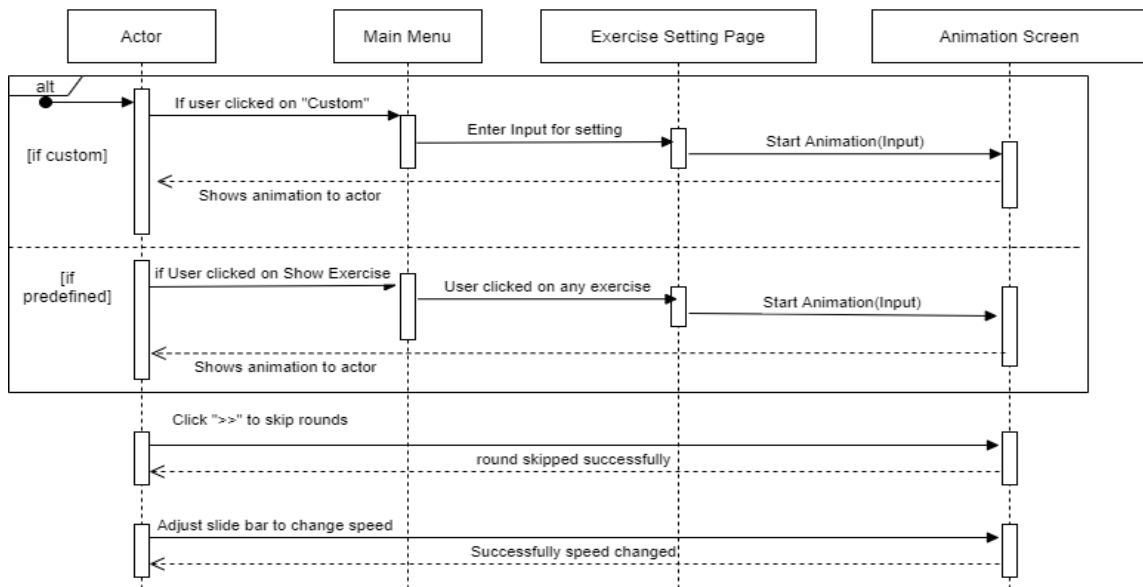**Sequence Diagram for breathing exercise**

Figure 9 Diagram for breathing exercise

Sequence Diagram for playing music
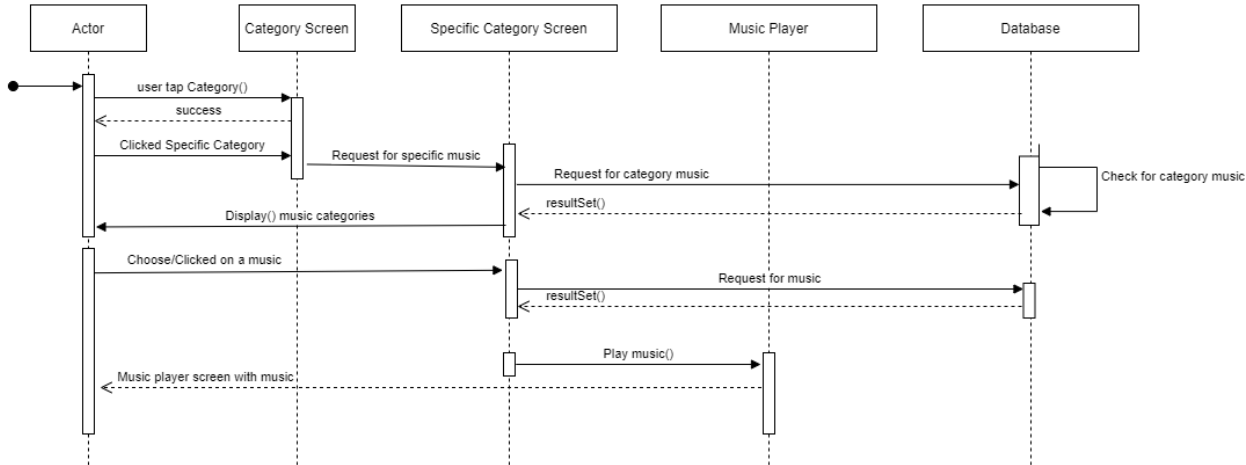
Figure 10 Sequence diagram for music

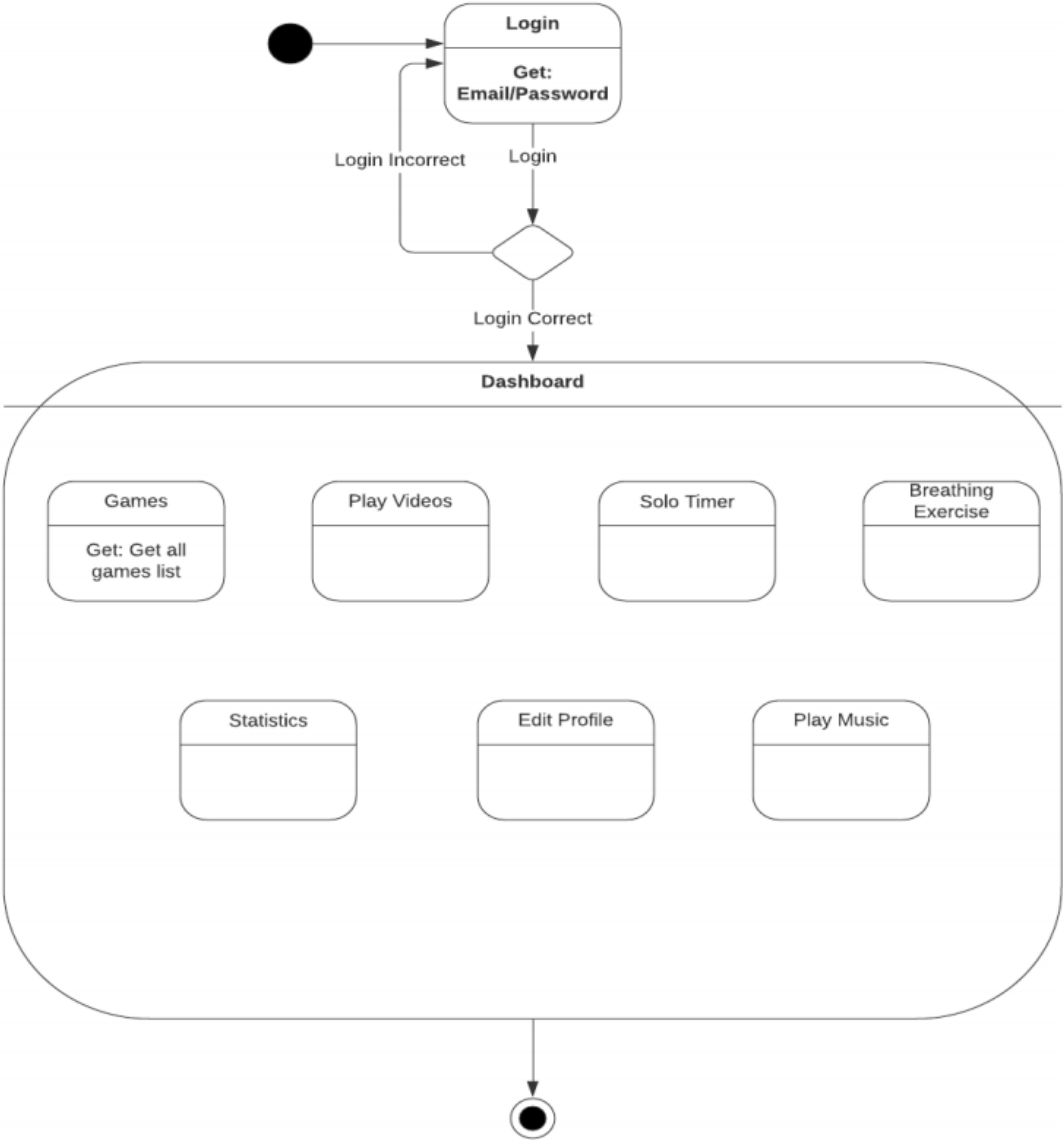### 4.5.3 State Diagram

State Diagram of Dashboard

Figure 11 State Diagram of Dashboard

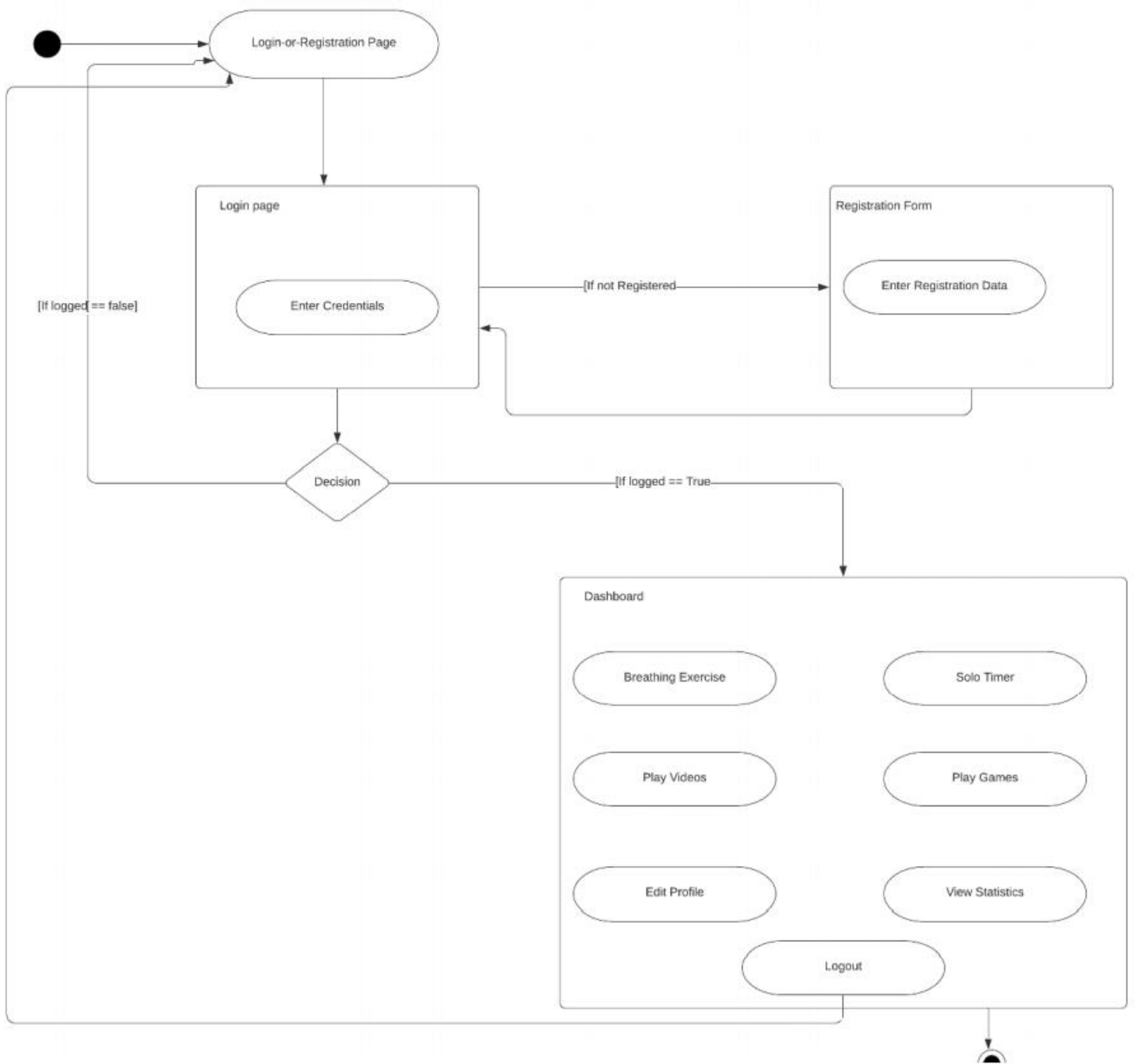### 4.5.4 Activity Diagram

Figure 12 Activity diagram for login and registration

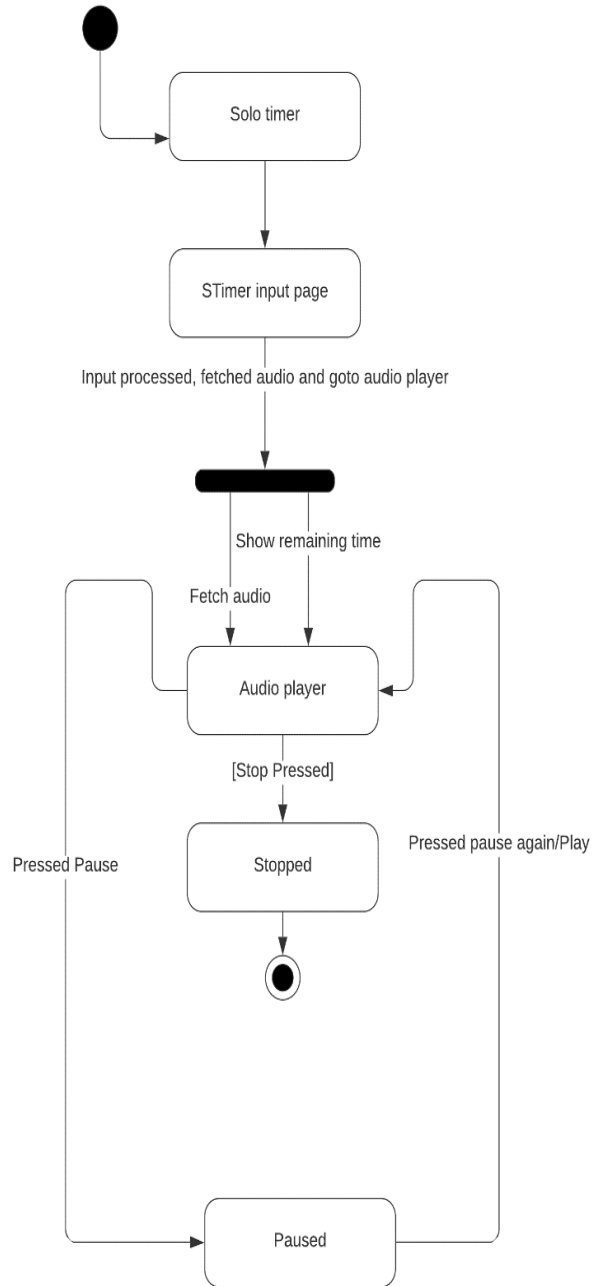**Activity Diagram for Solo Timer**

Figure 13 Activity Diagram for solo timer

Chapter 5

System Implementation

5.1 Development Methodologies

The registered users will have access to the applications features. Each user will have its own statistics of usage. User can watch guided meditation and perform as per video/animation requirements such as breathing exercises that will guide the user when to breathe out or in, guided videos to perform Yoga. For games, each user will have its own score boards.

Sakoon will not give access to the other users to see other user's profile or stalk them.

5.2 Implementation Tools & Technologies

Sakoon will be deployed using the following techniques and tools.

Tools:

• Flutter – Dart language & Android Studio

• Firebase

Flutter – Dart

Flutter is open-source UI kit that is being developed for cross platform such as mobile, web and desktop application. It is created by Google. Dart is developed for client for programming.

Firebase

As a database server, it is a software product with the primary function of storing and retrieving data as requested by other software applications.

5.3 Deployment Environment

Our Mobile application is deployed with Flutter framework using Dart programming language.
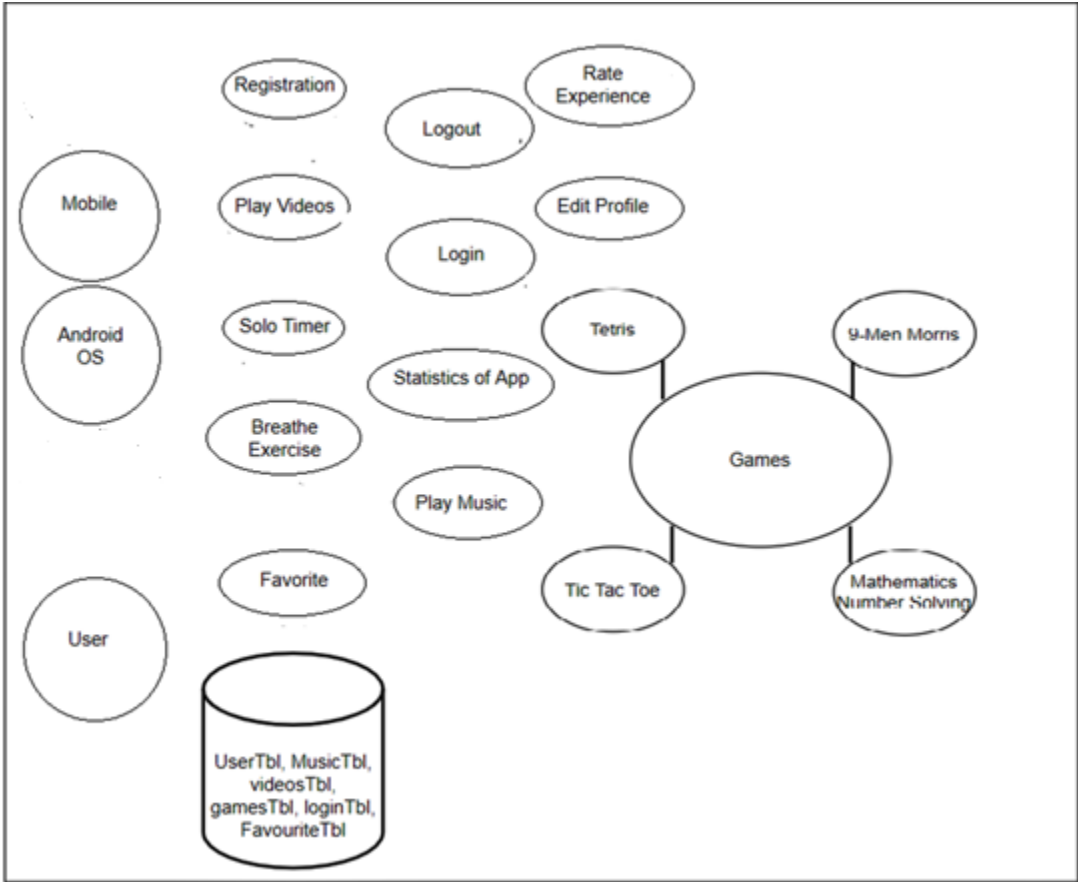
5.4 System Architecture

Figure 14 Architectural Design
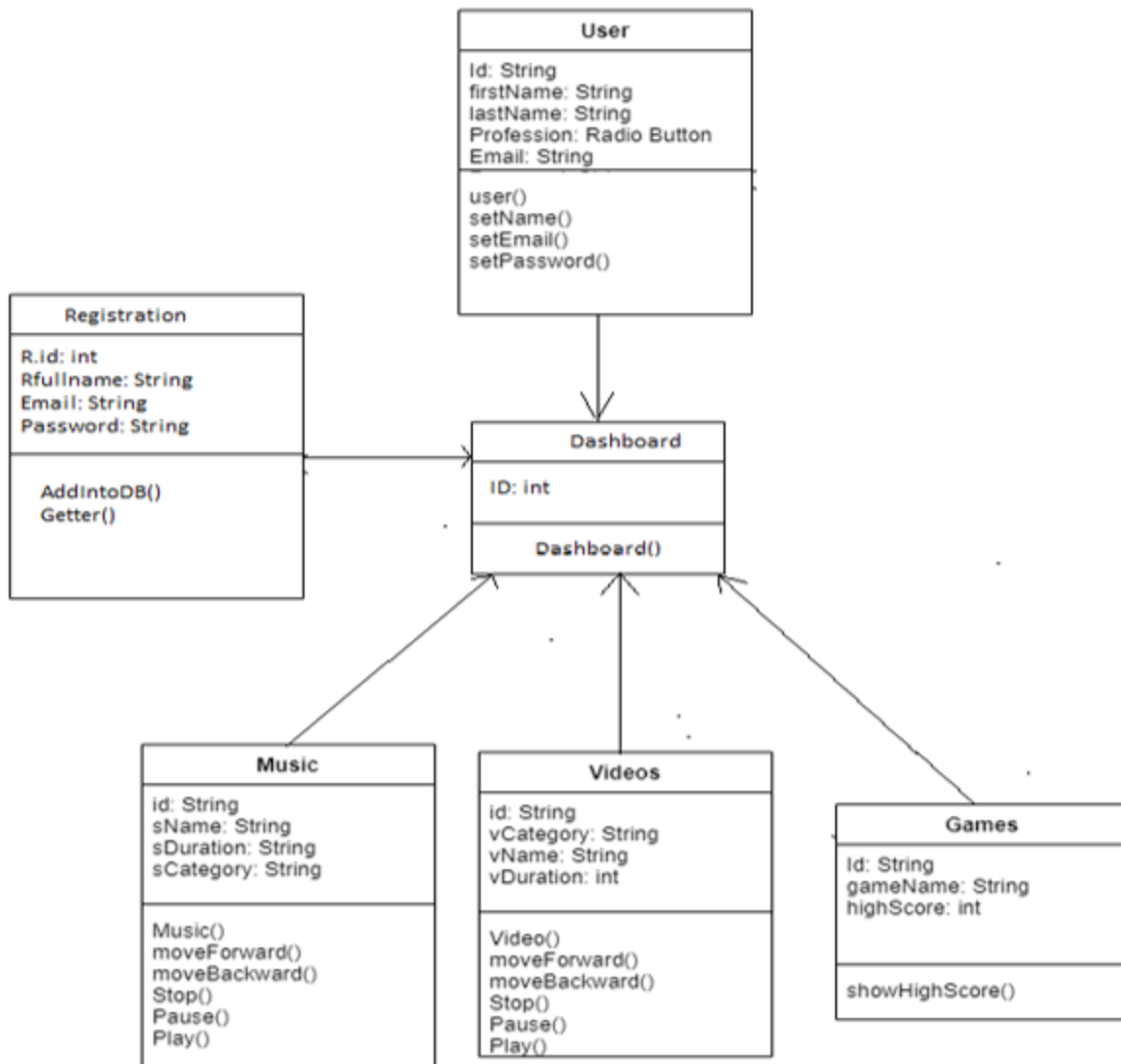
5.5 Class Diagram

Figure 15 Class Diagram for implementation

5.6   Front End Sukoon Application

Get Started and Login Screen:

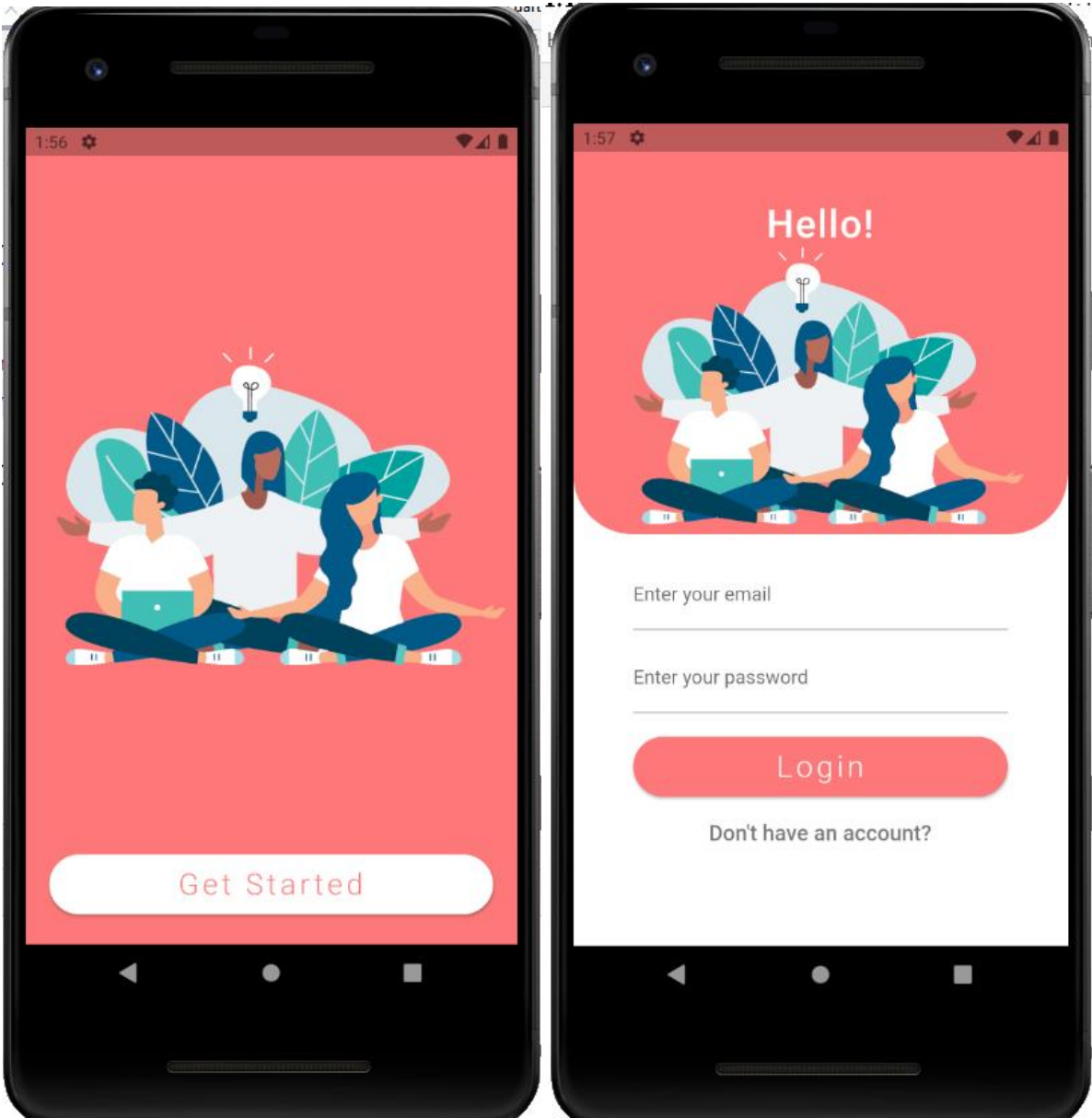*Figure 16 Front end screenshot for get started and login screen*
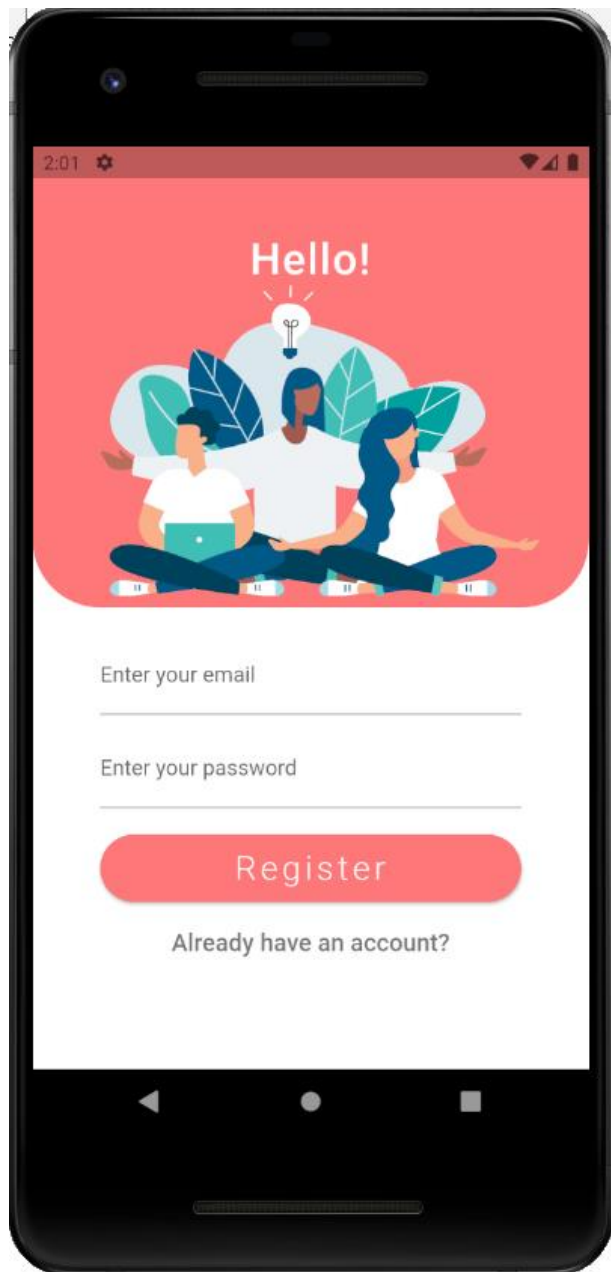
Registration Screen:

Figure 17 Front end screenshot for registration screen

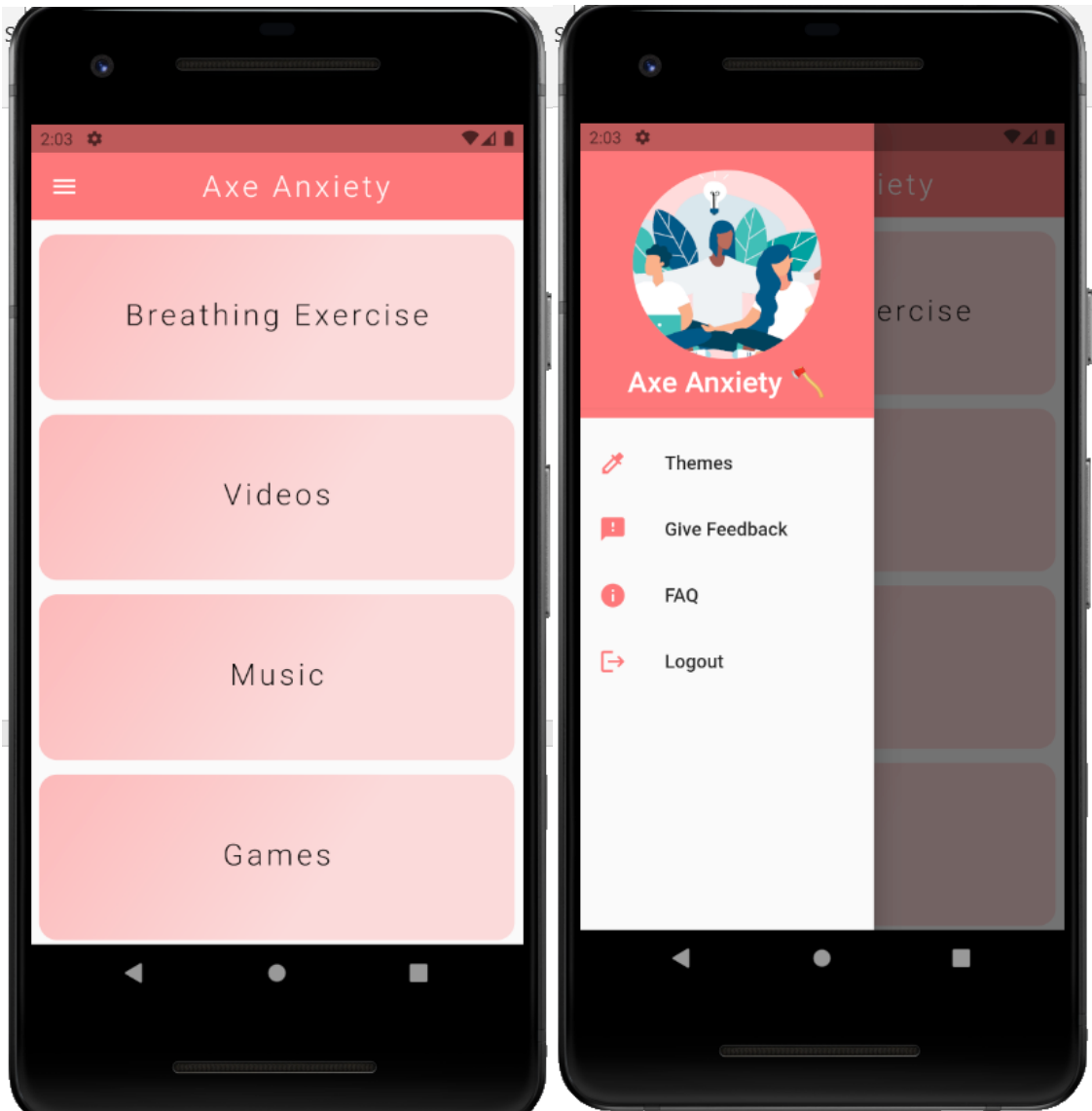**Dashboard and Drawer Screen:**

Figure 18 Front end screenshot for dashboard and drawer

Breathing Exercises List and Info Screen:
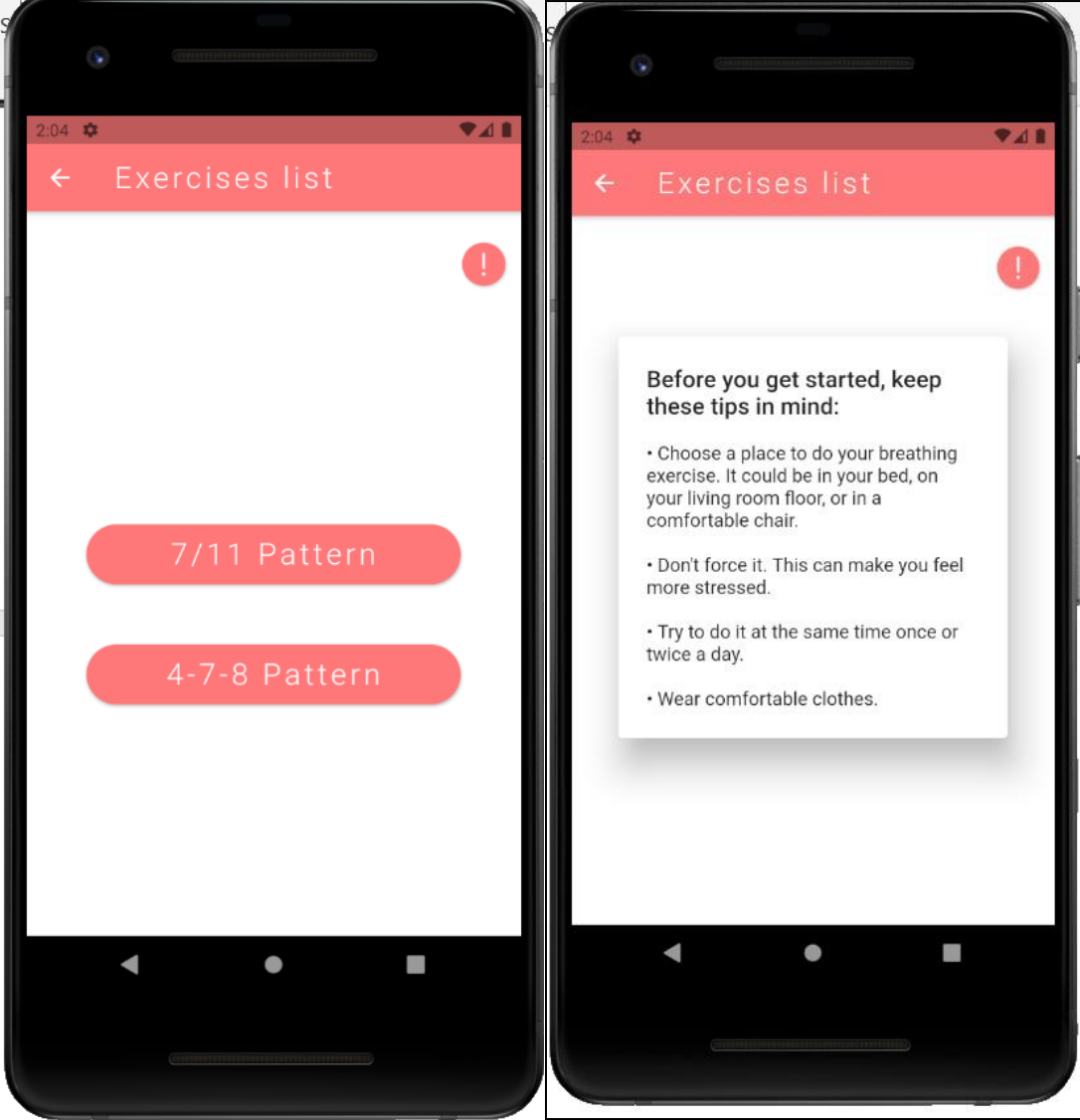

Figure 19 Front end screenshot for breathing exercise

Exercise Screen:
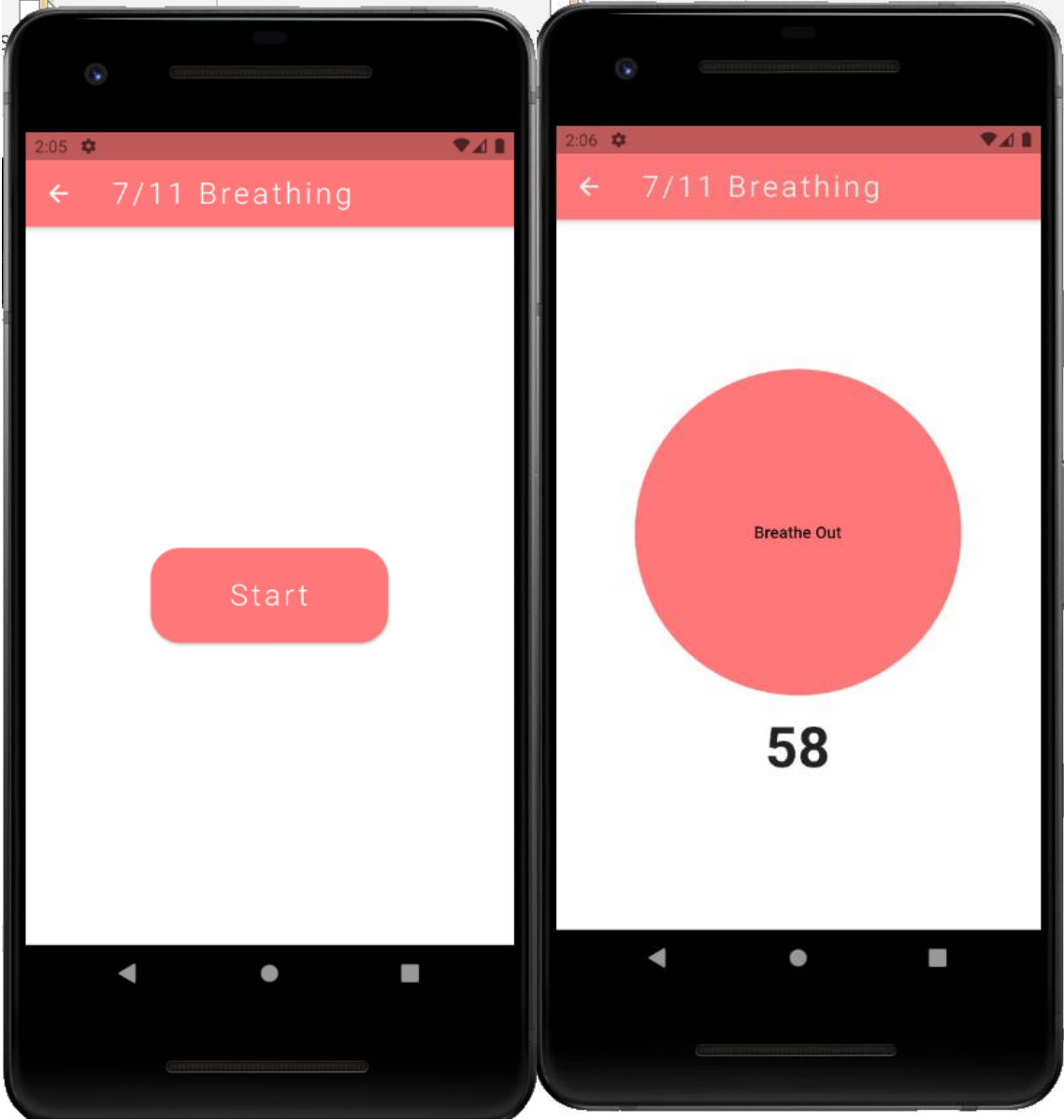
Figure 20 Front end screenshot for breathing screen

5.7   Summary

In this chapter, the tools for development of the Sakoon: A Calm Tech App to Reduce Anxiety are discussed. For Tools purpose, Android Studio for development for coding perspective Dart is used as a Programming language.

Chapter 6

System Testing and Evaluation

6.1   Testing Techniques Employed for This Project

We have made an Sakoon App in android using Flutter framework, all testing is done on functional requirements. It been tested in terms of

- Data Fetching through API
- Validation
- Behavioural based

6.2   Test Cases

6.2.1   Test Case 1: Login Validations

Table 6.1:Test Case for Login Validation

Test Case ID	TC_01
Description	Valid user will be able to login into the application.
Constrain	The user information must be available in database.
Steps	**Tests**
1	Open the auth screen.
2	Enter the user email
3	Enter the correct password
4	Click on Login button
Expected Result	To have the user login to the application successfully
Actual Result	The user gets logged into the system.
Status	Pass

6.2.2   Test Case 2: Failed Validations for Login

Table 6.2: Test Case for Invalid Login Validation

Test Case ID	TC_02
Description	The user would try to login with the right email but with wrong password to get logged in
Constrain	The user is not validated
Steps	**Tests**
1	Open the login screen.
2	Enter the user email
3	Enter the invalid password
4	Click on Login button
Expected Result	User login invalidation
Actual Result	The user is not entered into the system
Status	Fail

6.2.3 Test Case 3: Sign Up Validation

Table 6.3: Test Case for Signup Validation

Test Case ID	TC_03
Description	The user will attempt to sign up
Constrain	The Email must not exist in Database.
Steps	**Tests**
1	Open the login screen.
2	Clicks on Sign Up button
3	Entered valid E-mail
4	Entered strong password
5	Click on Sign Up Button
Expected Result	To register the user info into the database successfully
Actual Result	The user gets logged in to the system by signup and data has been added to the database.
Status	Pass

6.2.4 Test Case 4: Failed Sign-Up Validation

Table 6.4: Test Case for Invalid Signup Validation

Test Case ID	TC_04
Description	The user will attempt to sign up with invalid email/ weak password
Constrain	The Email must not exist in Database.
Steps	**Tests**
1	Open the login screen.
2	Clicks on Sign Up button
3	Entered invalid E-mail or
4	Entered weak password
5	Click on Sign Up Button
Expected Result	To show error message on registration fields
Actual Result	The user entered information will not be registered into the system due to weak password/ wrong email
Status	Fail

6.2.5   Test Case 5: Breathing Exercise

Table 6.5: Test Case for Breathing Exercise

Test Case ID	TC_05
Description	The user will be shown animation of breathing exercise
Constrain	No constrain for this test case
Steps	**Tests**
1	Open dashboard
2	Select Breathing Exercise
3	Select one of the exercise
4	Animation started
Expected Result	To show animation of Breathing circle
Actual Result	The user will be shown breathing circle to perform exercise
Status	Pass

6.2.6   Test Case 6: To Stop Breathing Exercise

Table 6.6: Test Case for Stopping Breathing Exercise

Test Case ID	TC_06
Description	The user will stop the animation of circle
Constrain	Animation must be happening
Steps	**Tests**
1	Open dashboard
2	Select Breathing Exercise
3	Select one of the exercise
4	Animation started
5	Click on stop
Expected Result	To stop animation
Actual Result	The user will stop animation of breathing exercise
Status	Pass

6.2.7   Test Case 7: To play Music

Table 6.7: Test Case for Play Music

Test Case ID	TC_07
Description	The user will be able to play music from music library
Constrain	Music must be selected
Steps	**Tests**
1	Open dashboard
2	Select Play Music
3	Select one of music from library
4	Click on play button
Expected Result	To play music
Actual Result	The user will be able to play music
Status	Pass

6.2.8　Test Case 8: To Play Video

Table 6.8: Test Case for Play Video

Test Case ID	TC_08
Description	The user will be able to play video from list view
Constrain	There is no constrain for this case
Steps	**Tests**
1	Open dashboard
2	Select Play Video
3	Select one of the video from screen
4	Click on video
5	Video played
Actual Result	The user will be able to play video
Status	Pass

6.2.9   Test Case 9: To play game

Table 6.9: Test Case for Play Games

Test Case ID	TC_09
Description	The user will be able to play games
Constrain	There is no constrain for this case
Steps	**Tests**
1	Open dashboard
2	Select Games
3	Select one of the game from screen
4	Game will open
5	Select play
Actual Result	The user will be able to play game
Expected Result	Game will be played of user choice
Status	Pass

6.2.10   Test Case 10: To See Daily Quote

Table 6.10: Test Case for Daily quote

Test Case ID	TC_10
Description	The user will be able to see daily one quote
Constrain	There is no constrain for this case
Steps	**Tests**
1	Open dashboard
2	Select Daily Quote
3	Quote Screen opened
Actual Result	The user will be able to see quote
Expected Result	User will be shown daily new quote on their daily quote screen
Status	Pass

6.3 Summary

In this chapter we talked about various tests to guarantee the quality of the system while using Sakoon testing strategy. This testing technique guarantees that the system is working properly as indicated by the characteristic flow and that all tests are effectively identified. In the testing phase, functional requirements are being tested to guarantee its Performance and Behavior with in / out parts of the Interface, database availability, invalid and substantial sources of information.

Chapter 7

Conclusions

7.1 Finding

As there are likewise advance progressed and smart systems however, they were exceptionally costly to actualize. With other applications, gaming module is not presented and some other features also but with our application, users can enjoy the features all in one such as entertaining videos, music, games, quotes, breathing exercises and so on.

7.2 Future Work

7.2.1 Improvements in existing system

Yet there is a door for improvement in this project such as user-based feed, music, videos and more collection of music, videos, exercises and give more relaxation to the user through more complex UI animation and AI based.

7.2.2 Further system designs

This project is developed specially for students that have anxiety and don't want to discuss with others. So, for future games and exercises such as AI based features like posture detection to detect yoga poses to perform exercises carefully and breathing postures with eye detection. In short, this project will have more updates in future with integration of AI field so that user can be relaxed through Artificial Intelligence module.

Summary:

In this chapter we have discussed the future work and scope of this project as we are not stopping here. Our aim is to provide a best platform for people that are suffering from anxiety. So we decided to add AI and Computer vision module to have more interaction with user so they can feel better such as posture detection, eye movements during exercise and so on.

References

1. https://www.healthline.com/health/anxiety#disorders.

2. The *Diagnostic and Statistical Manual of Mental Disorders* (*DSM–5*).

3. Calm App: https://www.healthline.com/health/anxiety/top-iphone-android-apps#our-picks.

4. Headspace: https://www.verywellmind.com/best-mental-health-apps-4692902.

5. Aura: Meditation and Mindfulness: https://www.womansworld.com/posts/mental-health/aura-app-review.

6. Insight Timer: https://www.integrativenutrition.com/blog/meditation-app-review-insight-timer#:~:text=Insight%20Timer%20has%20helped%20thousands,meditation%20apps%20of%20the%20year!.

7. Calm App: review, ratings: https://play.google.com/store/apps/details?id=com.calm.android&hl=en&gl=US.

8. Headspace: Review and Ratings https://play.google.com/store/apps/details?id=com.getsomeheadspace.android&hl=en&gl=US.

9. Insight Timer:
   https://play.google.com/store/apps/details?id=com.spotlightsix.zen timerlite2&hl=en&gl=US.

10. Aura: Meditation and Mindfulness: Review and Ratings:

https://play.google.com/store/apps/details?id=com.aurahealth&hl=en &gl=US

Appendix A: Front-end Screenshots
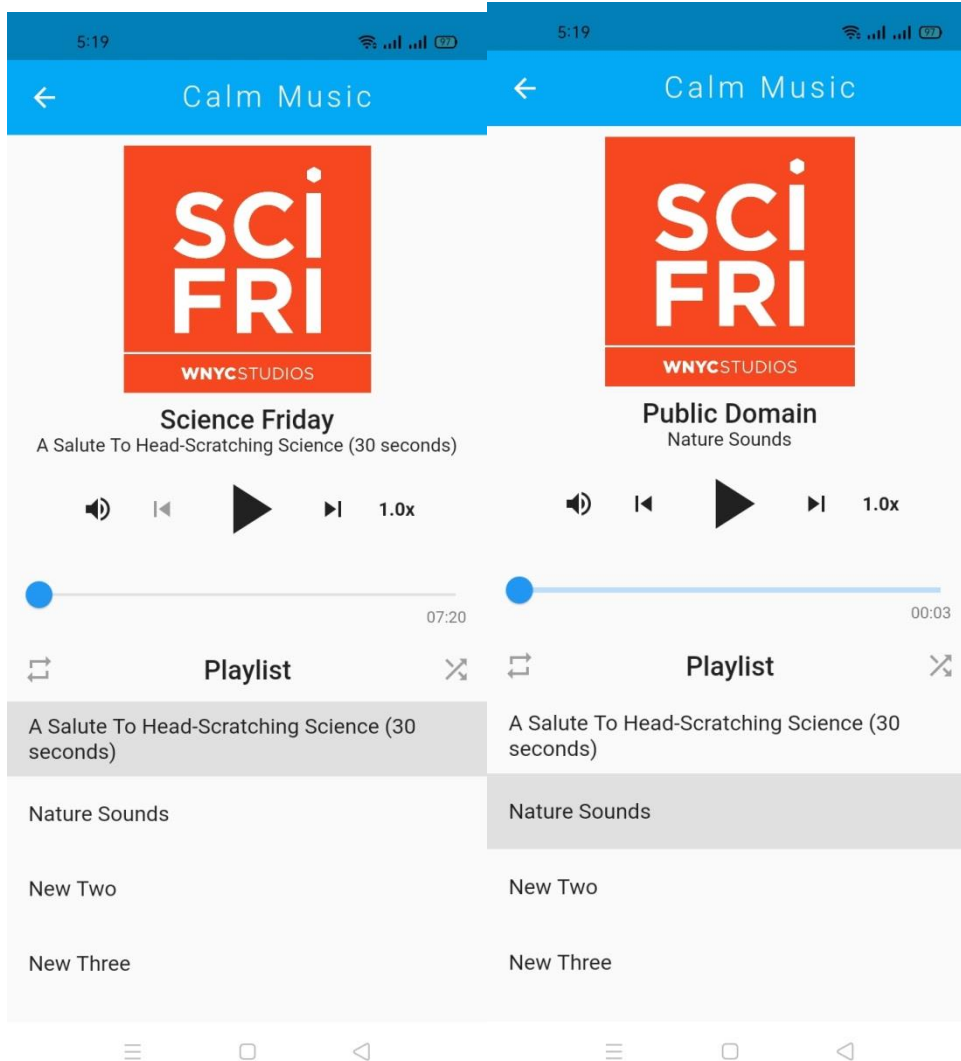## Mobile Application:

Video screen and Music Screen:

Figure 21 Front end screenshot for music player
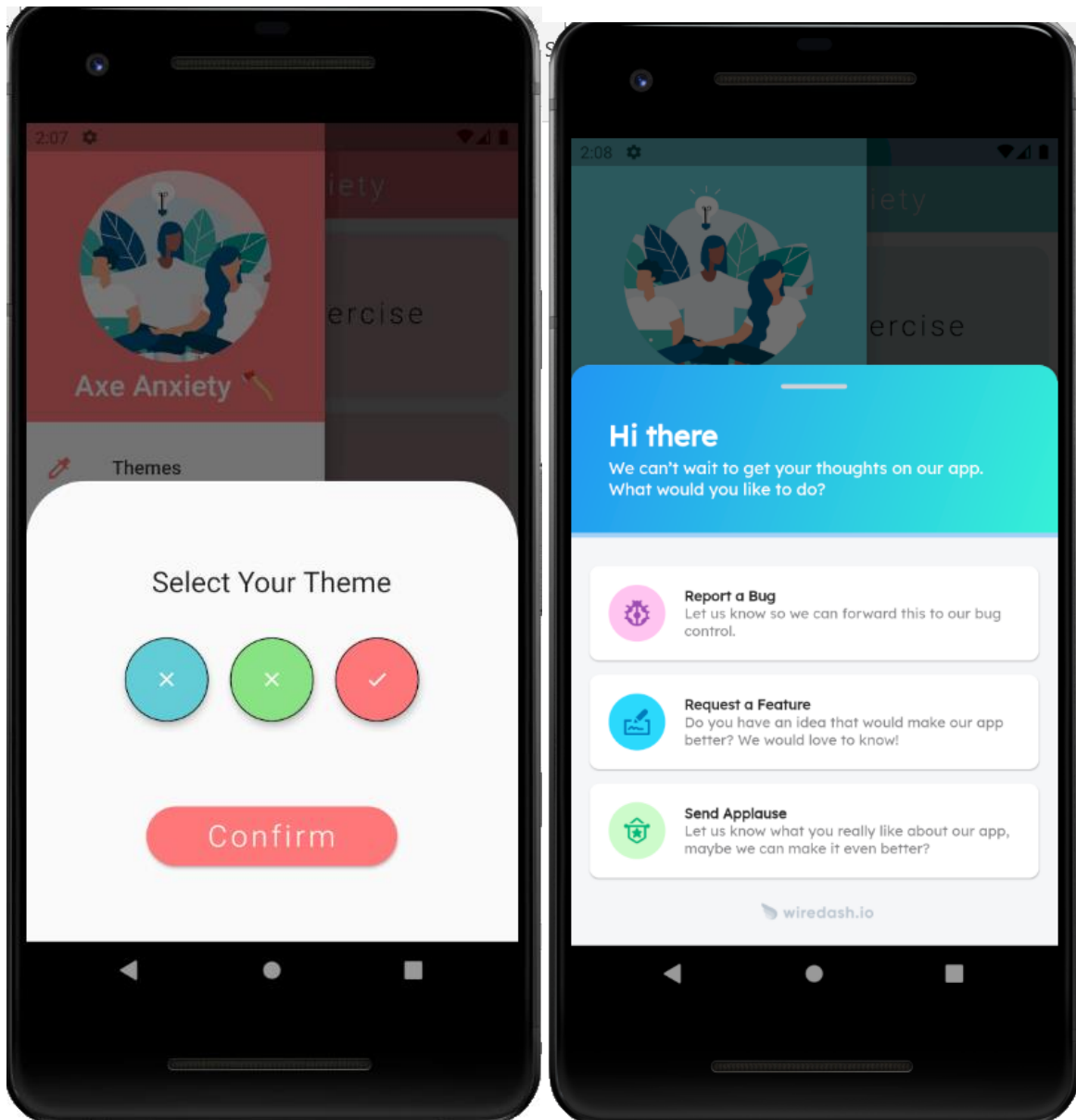
Selection of Themes and Feed Back Screen:

Figure 22 Front end screenshot for feedback and theme

FAQ Screen:
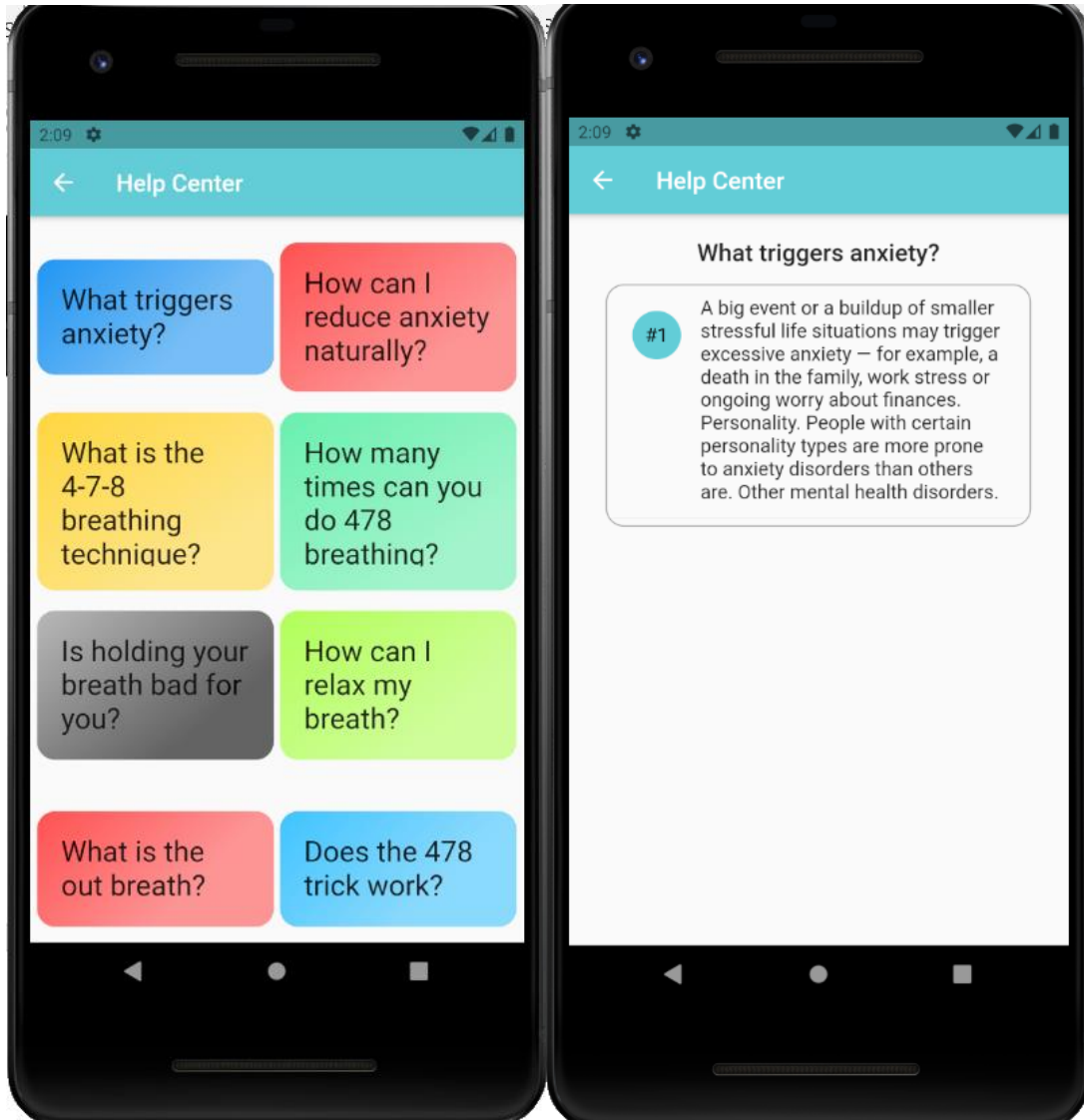
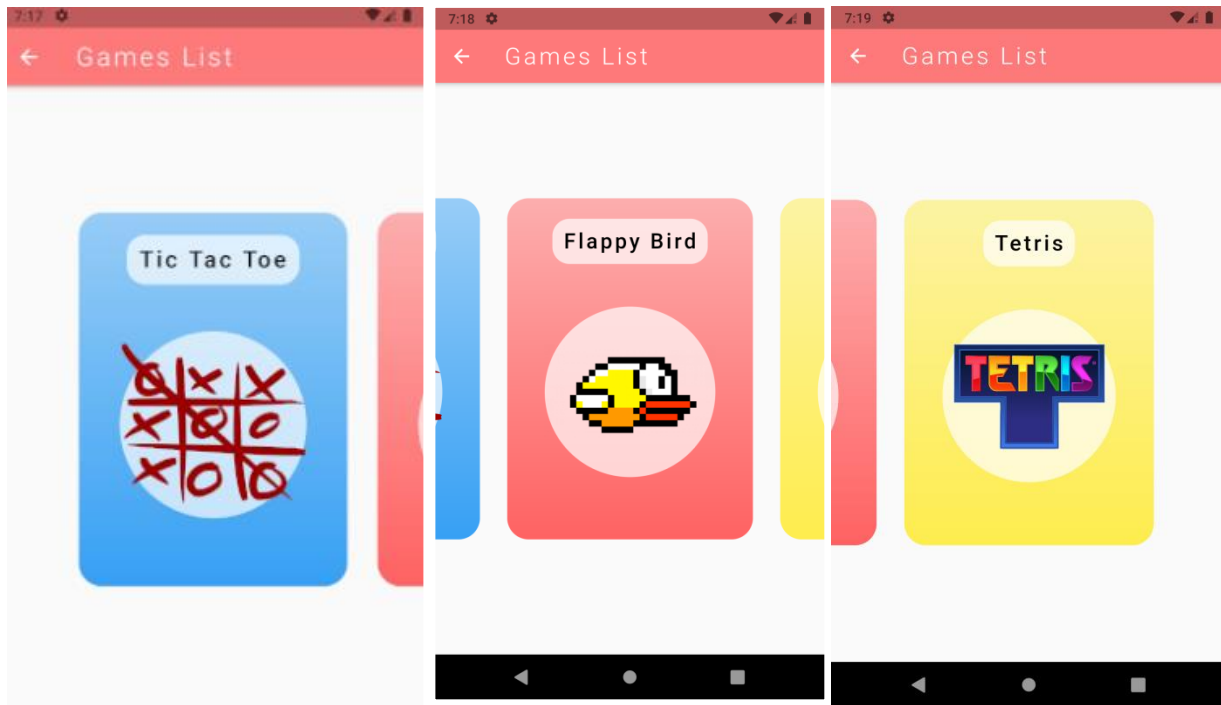*Figure 23 Front end screenshot for FAQ*

Game list:

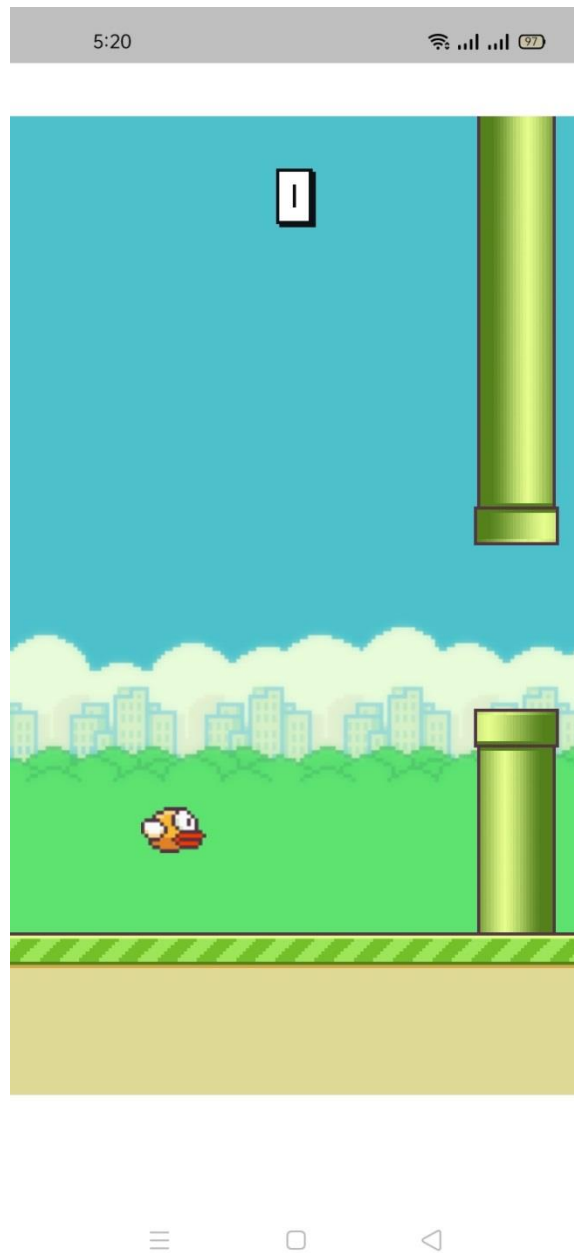*Figure 24 Front end screenshot for games*

Game: Flappy Bird

Figure 25 Front end screenshot for flappy bird
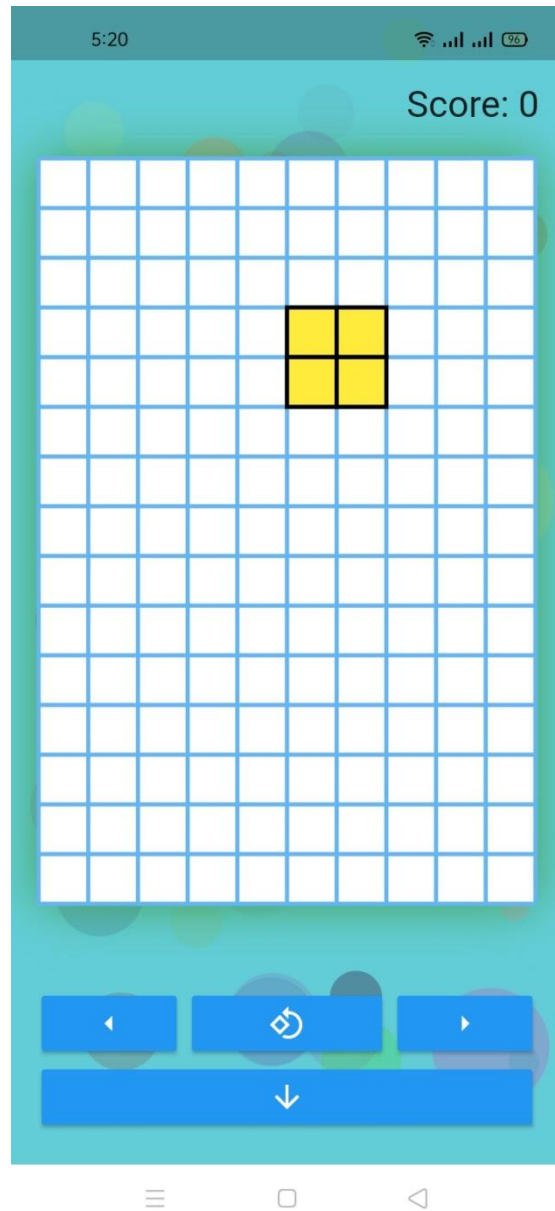
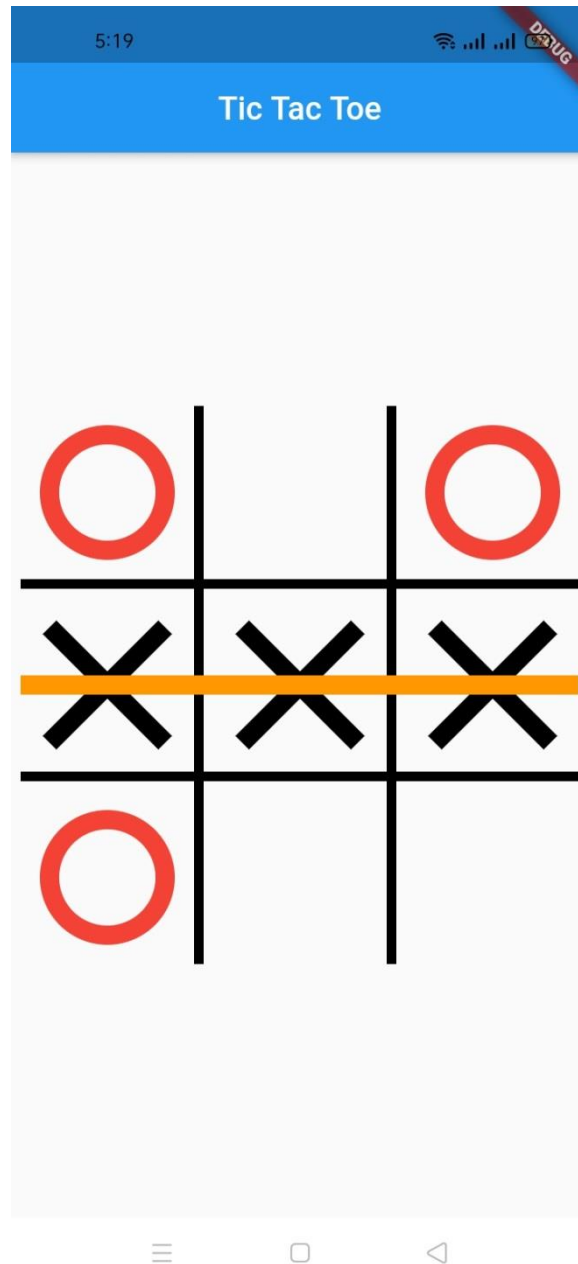**Game: Tetris**

Figure 26 Front end screenshot for tetris

Game: Tic Tac Toe

Figure 27 Front end screenshot for TicTacToe