Al Imam Mohammad ibn Saud Islamic University

College of Computer and Information Sciences

Computer Science Department

Software engineering 1

SRS doc:

Educational App-like Game

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Team RevU

Phase one

1-Project scope

The game is going to be called (المثقف) and it will have multiple levels to test the player knowledge from multiple genres and fields (mathematics, geography, etc.…) and it will have An easy-to-use settings menu for controlling sound and personal progress with a good looking GUI and appealing colors that represent knowledge and learning, the game will have a dark theme because these days people prefer dark mode over light mode and it is more comfortable for the eye, we did researches on the colors and found out that blue represent knowledge and learning so we choose blue as our logo color, the app will have good visuals and animations, the data base will store the user information and quizzes.

1-Project Objectives

1- Easy to use UI/UX.

2- Multiple genres to choose from to attract more audience.

3- Score tracking to add more challenge and fun.

4- Setting menu to edit the audio and sound effects.

5- An easy to remember logo to make an identity for the app.

6- Each genre has multiple levels that goes harder until the final level.

7- A logo that is easy to remember.

8- a progress bar to show how many questions are remaining.

9- Every quiz will have a duration shown.

10- a description about the quiz content

11- the ability to create quizzes from inside the app.

12- a good animation for the visuals.

13- database creation.

14- The game must be harder each level

2- target audience

Book Readers:

Book readers like to learn more, and the app derive many fields and great opportunities to learn from many sciences and it's a great way to test their knowledge with a well-organized approach

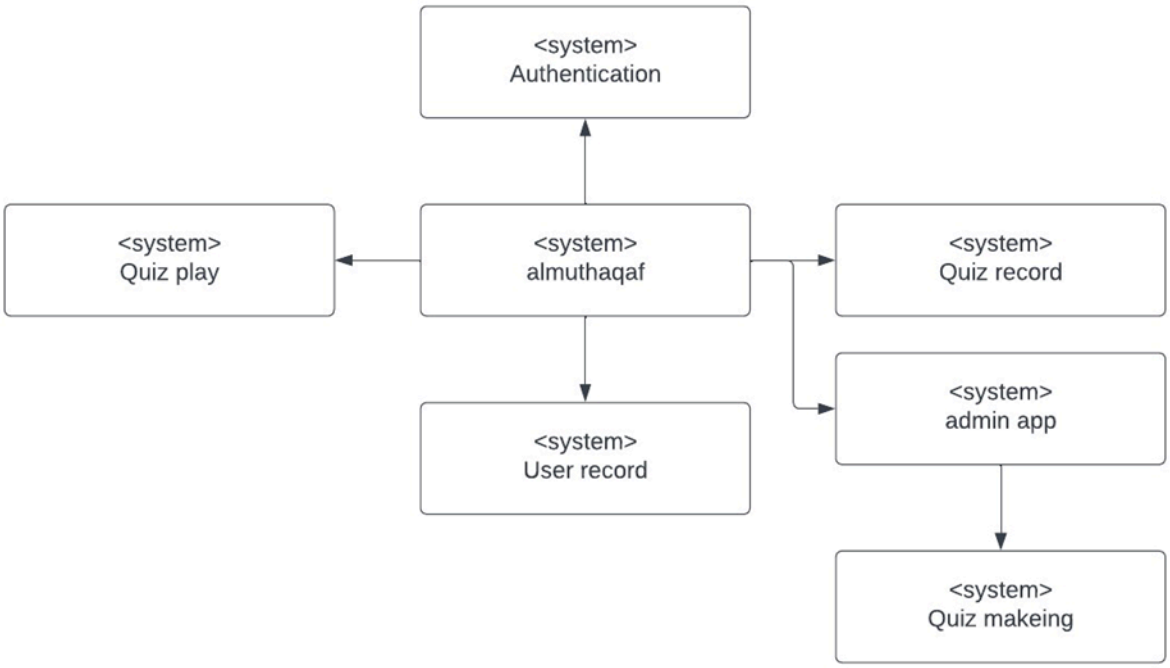
The youth:

The game attracts a lot of youth because of the gamified aspect of the app and they will enjoy the leveling and points tracking methods and at the same time they are learning and gaining more knowledge about multiple fields.

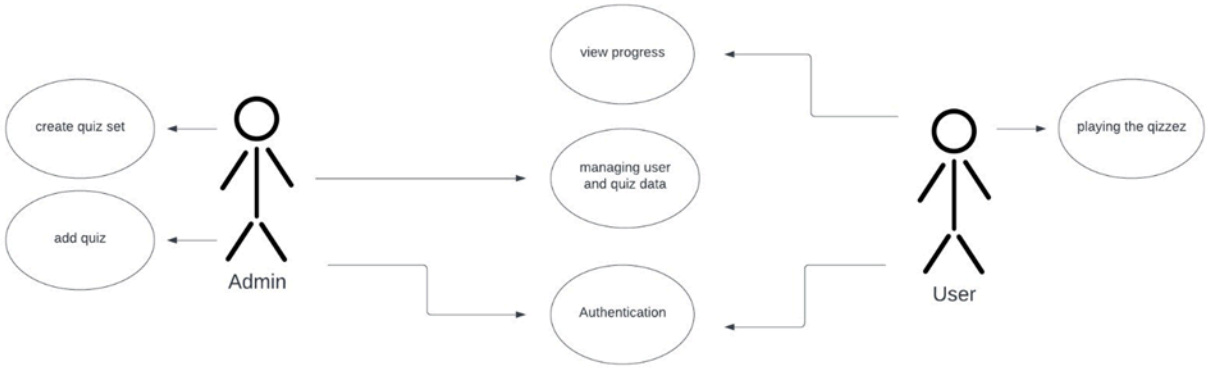
The game will not have specific age audiences and will be informative for many age stages.

Phase Two

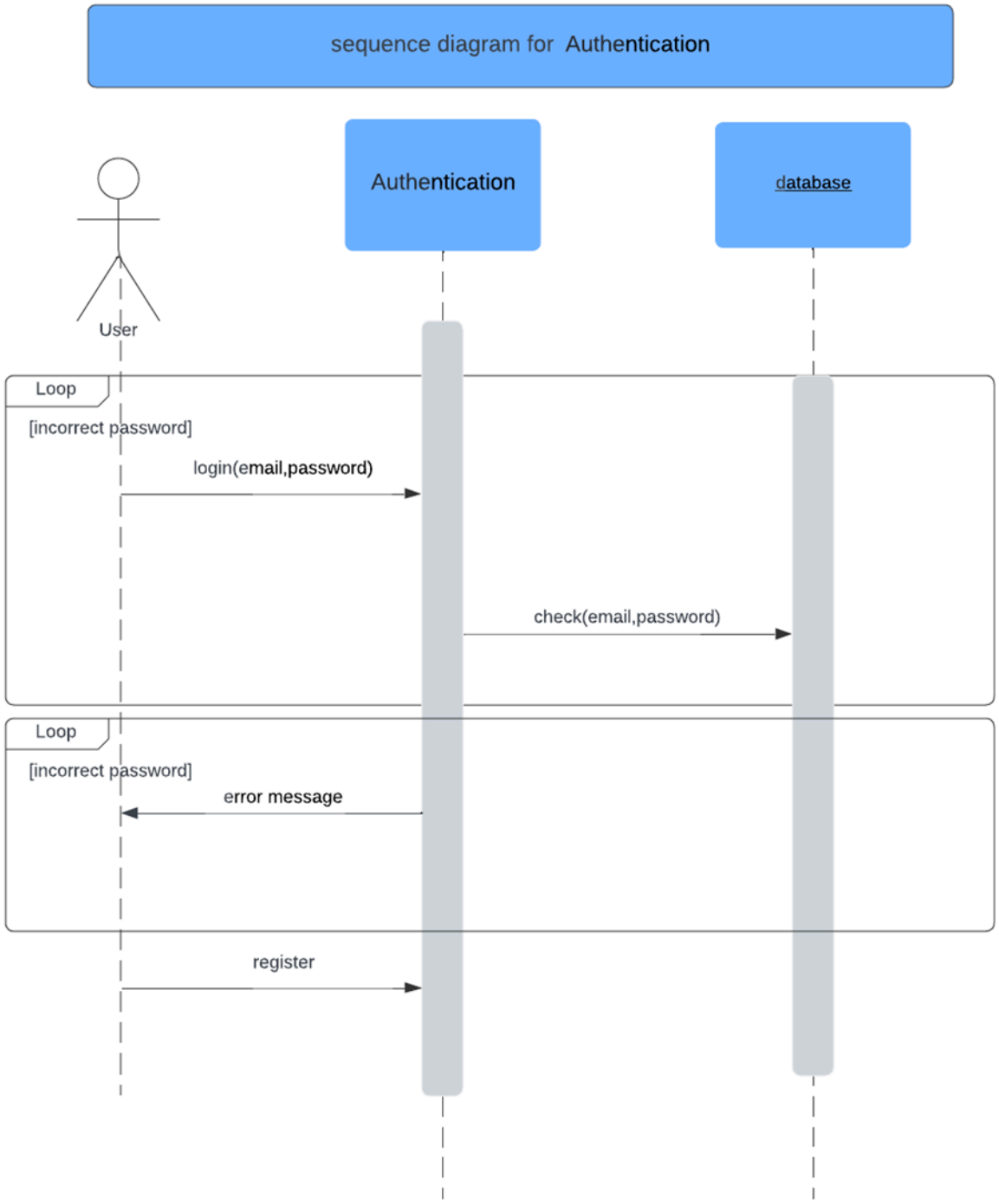
1-context diagram

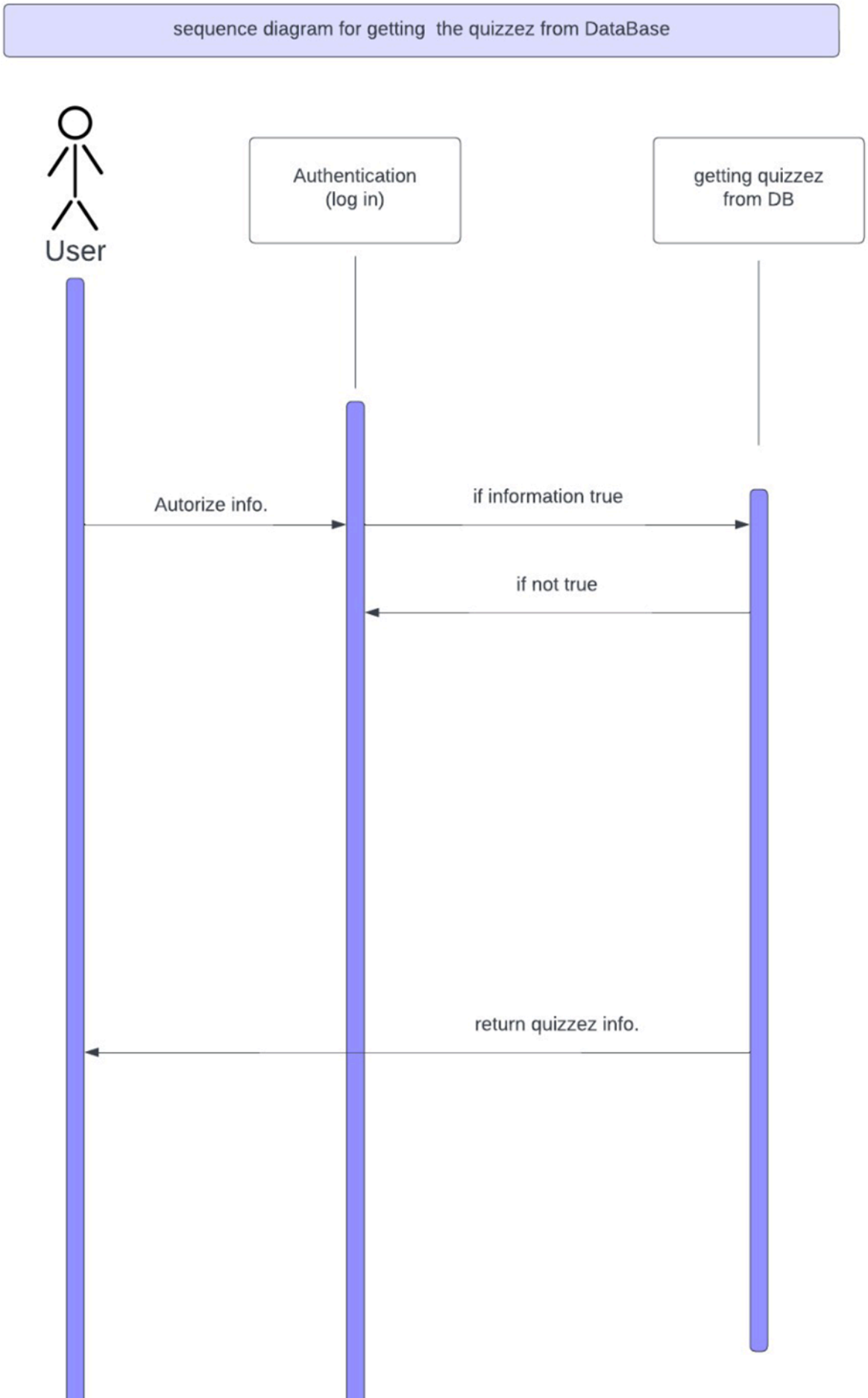


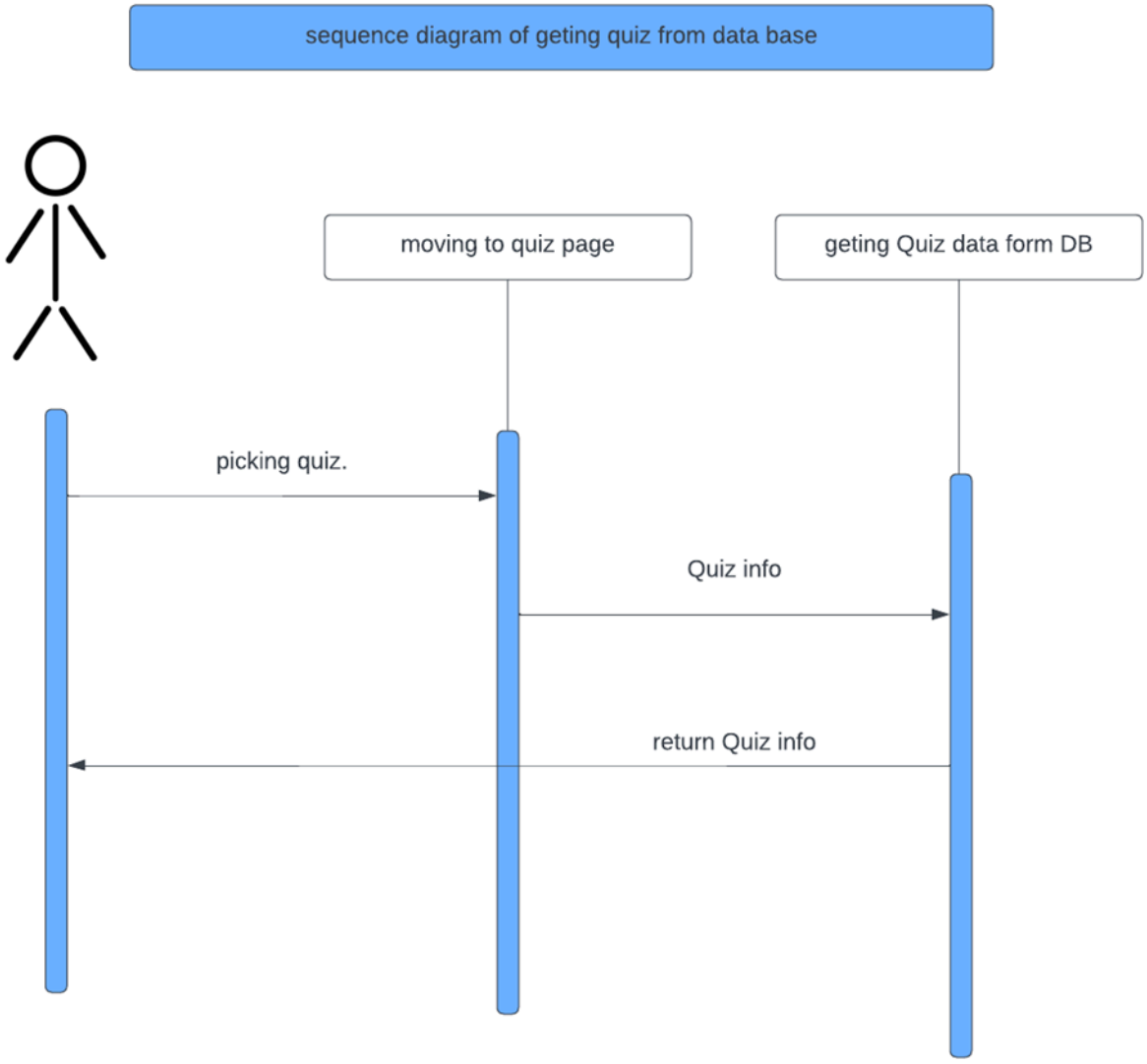
2-use case diagram



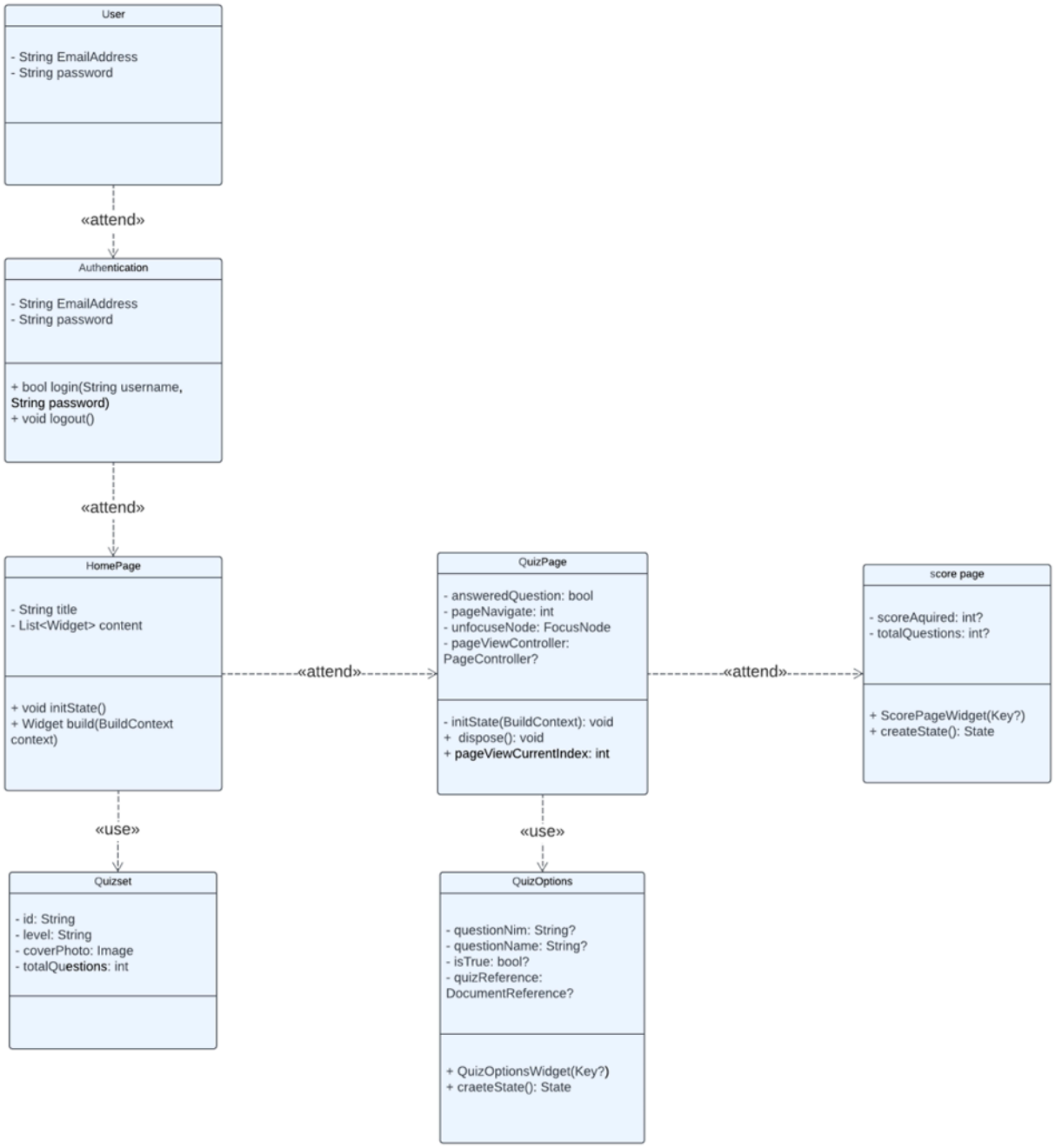
3-Sequence diagram


sequence diagram for Authentication
Authentication
database
User
Loop
[incorrect password]
login(email,password)
check(email,password)
Loop
[incorrect password]
error message
register

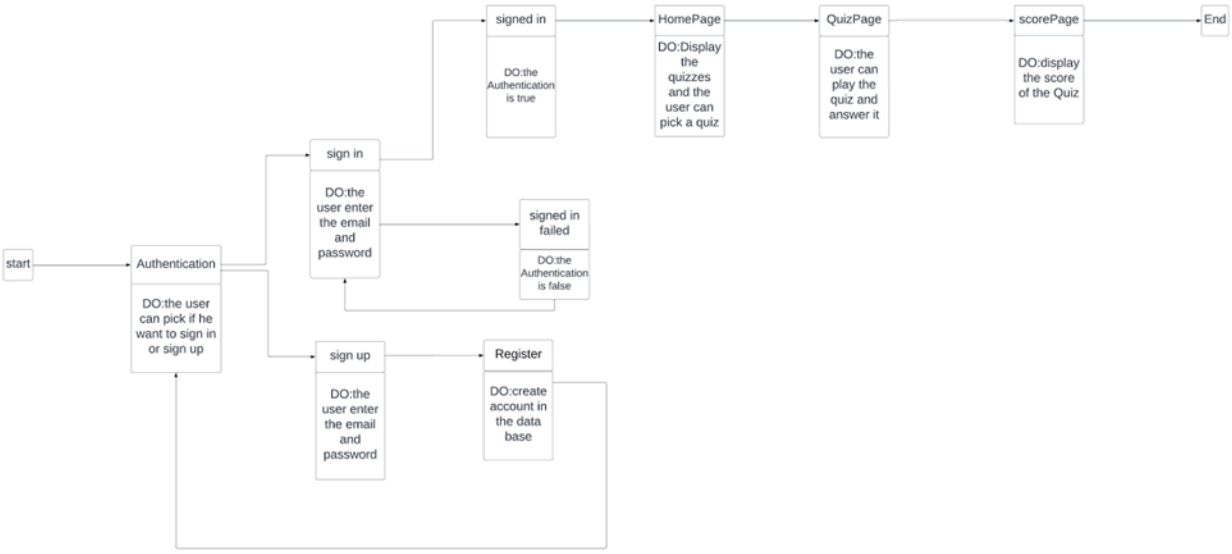

sequence diagram for getting the quizzez from DataBase
User
Authentication
(log in)
getting quizzez
from DB
Autorize info.
if information true
if not true
return quizzez info.



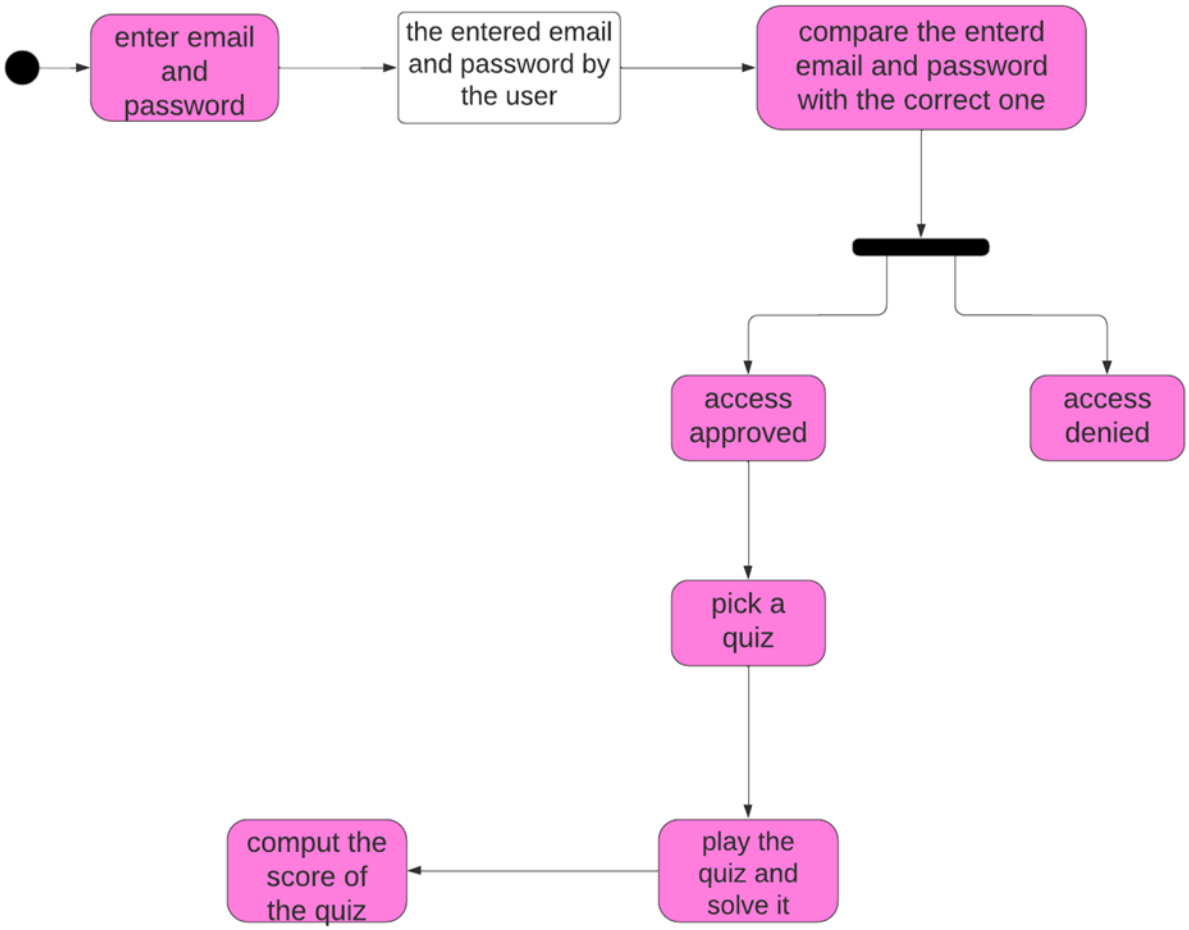
4-Class diagram



5-state diagram



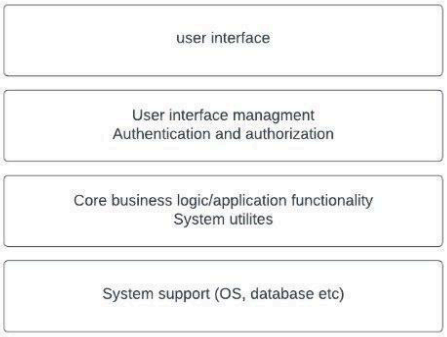
6-activity diagram

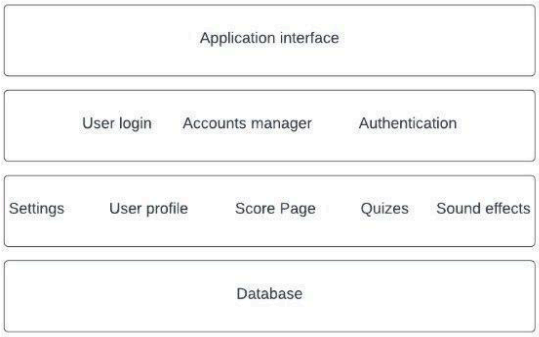


Phase Three

Architectural design

1-Layered architecture pattern:





2-MVC

We decide to use the MVC design pattern for our project for the following reasons:

- Simple to Adjust.

The MVC methodology makes it simple to modify the entire application. Since each element of the MVC pattern is independent of the others, adding and upgrading new types of views is made easier.

Therefore, modifications made to one area of the application will never have an impact on the architecture as a whole.

• Quicker Process of Development.

When creating web applications with the MVC approach, one developer can focus on one section (like the view) while another developer can work on any other section at the same time.

• Provides unformatted data in return.

You can build your own view engine with the MVC framework because it returns unformatted data. The same components can be reused with any interface thanks to the MVC framework.

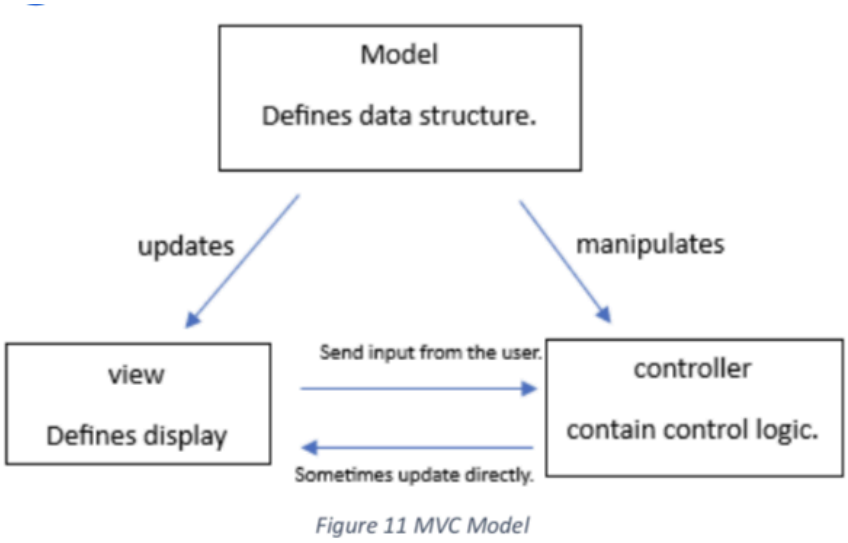


Figure 11 MVC Model

• Model: Communicates with the database

• View: The website's user interface.

- Search button and navigation bars in the header.

- The register/sign up page

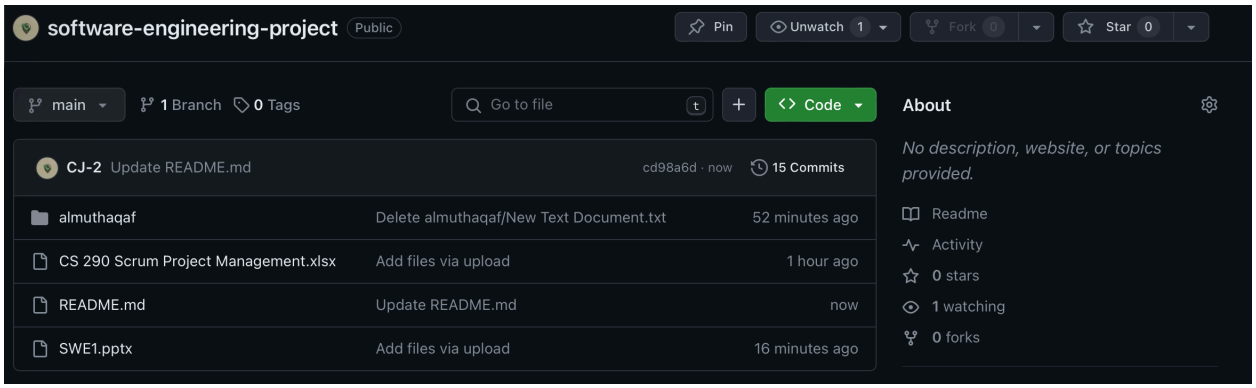
- Search bar: has a large search bar for doing searches.

• Controller: Log in and out as an administrator.

- Change the data.

3-Implementation

The code for the app is all in the GitHub repository listed below:



Link:https://github.com/CJ-2/software-engineering-project/tree/main

Summary

1-the progress

We've made fantastic progress on the project we now know about the agile methodology and scrum, two of the most well-known approaches, as well as the value of teamwork and communication.

2-challenges that we faced

We had multiple challenges. One of them is learning the new programming language Flutter, but it's worthwhile. It's also challenging to estimate project duration, but in the end, we make progress and have effectively managed our time.

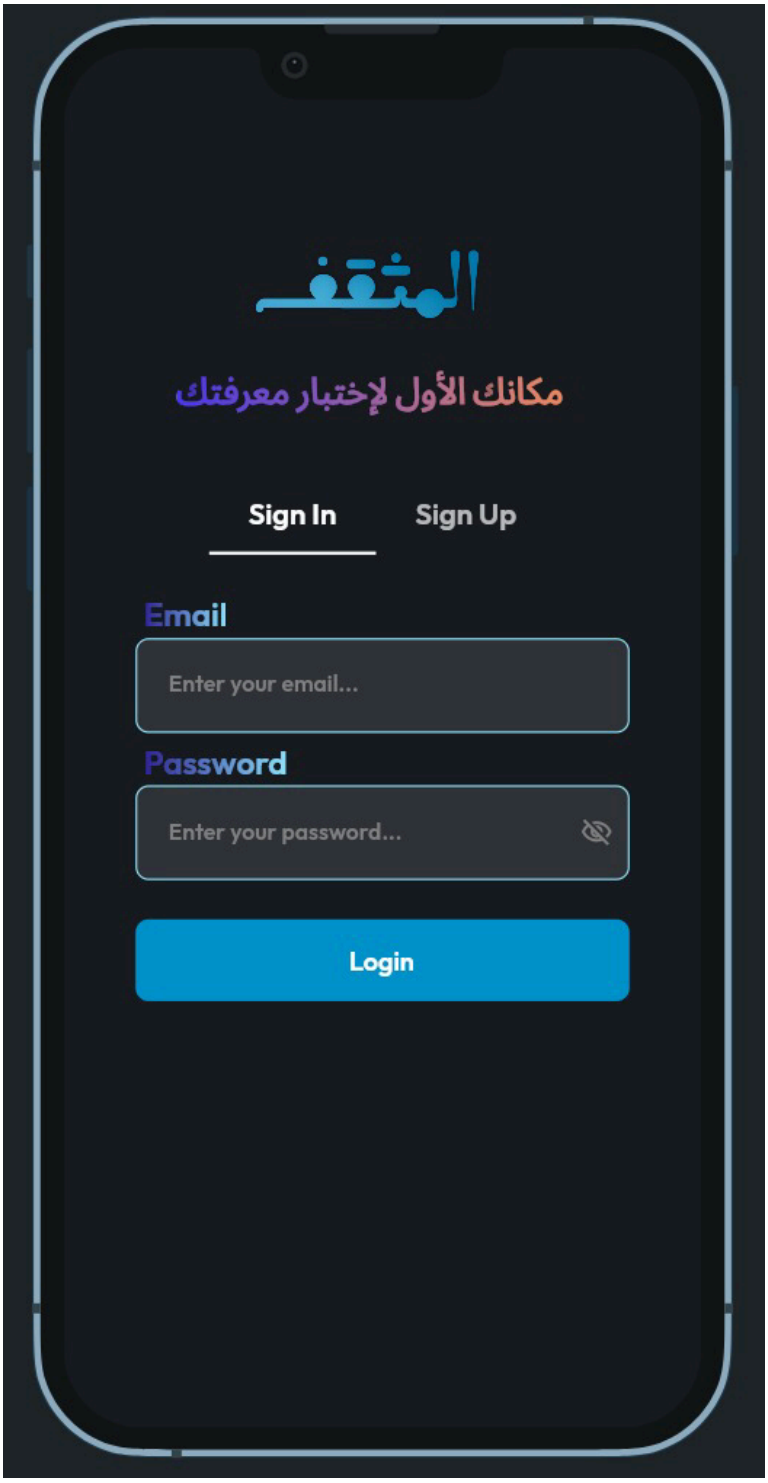
3-lessons learned

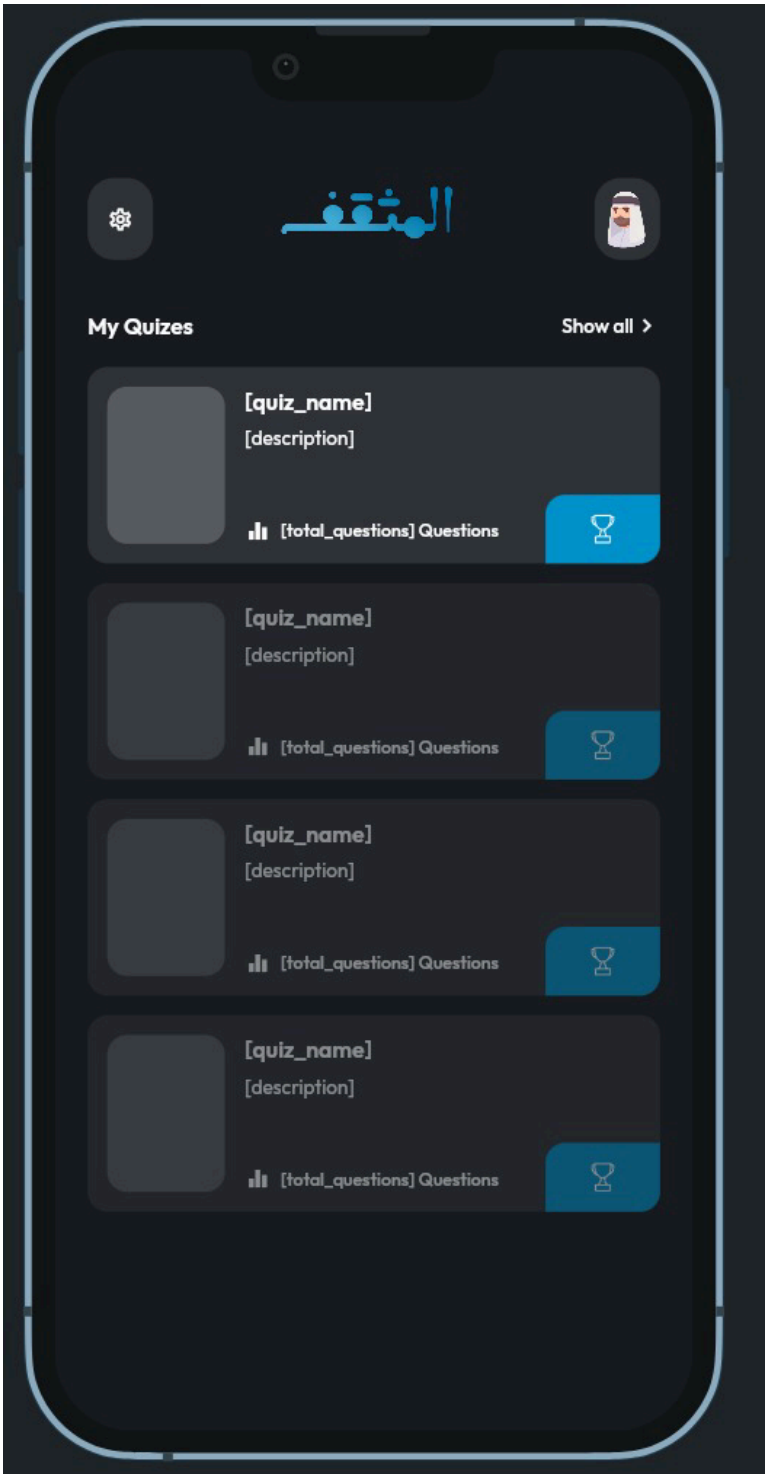
The knowledge that we I gained knowledge about software engineering, client relations, system development, architecture design, and UML diagram creation.

4-conclusion

The knowledge that we gained about software engineering, client relations, system development, architecture design, and UML diagram creation.

app preview


المثقف
مكانك الأول لإختبار معرفتك
Sign In
Sign Up
Email
Enter your email...
Password
Enter your password...
Login


المثقف
My Quizes
Show all
[quiz_name]
[description]
[total_questions] Questions
[quiz_name]
[description]
[total_questions] Questions
[quiz_name]
[description]
[total_questions] Questions
[quiz_name]
[description]
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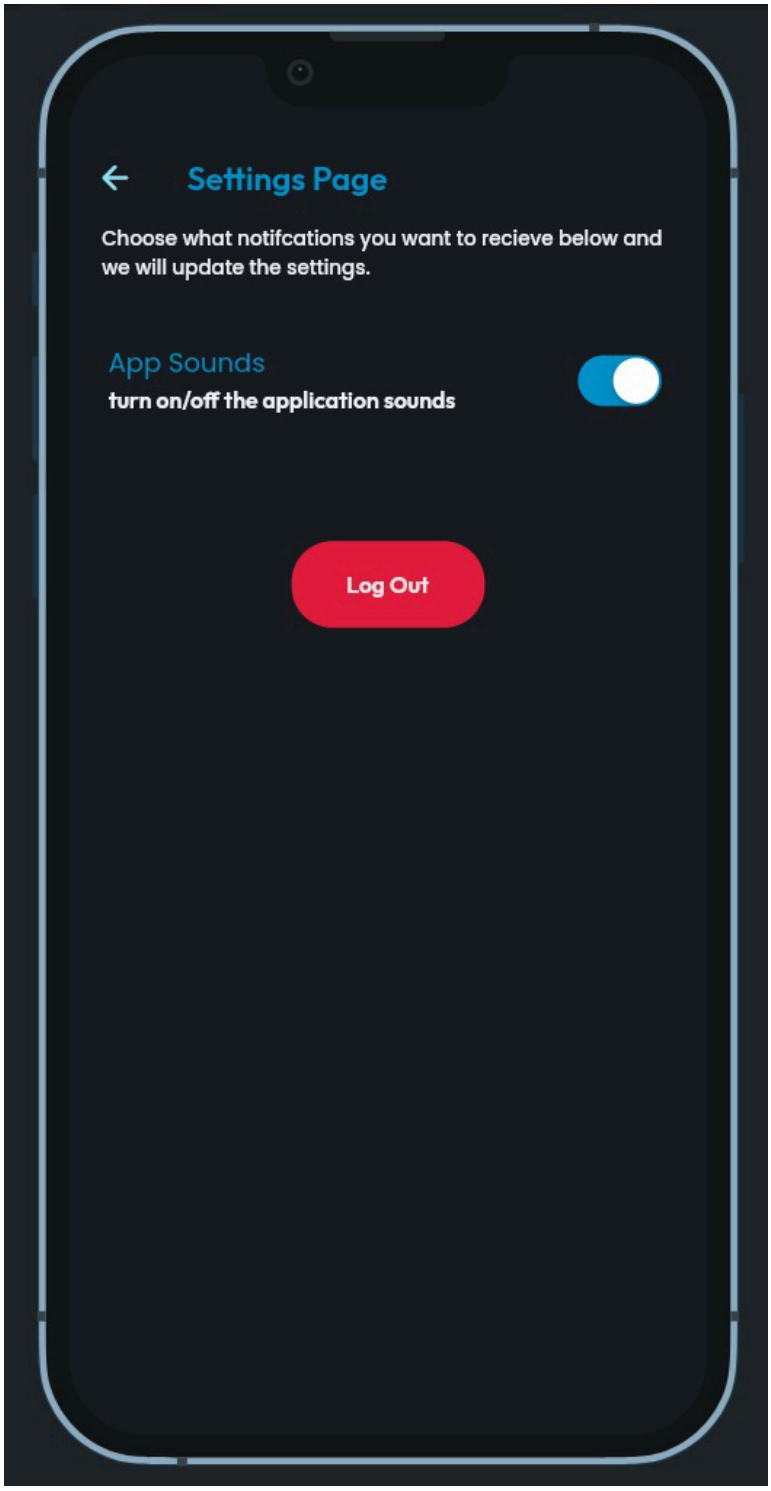
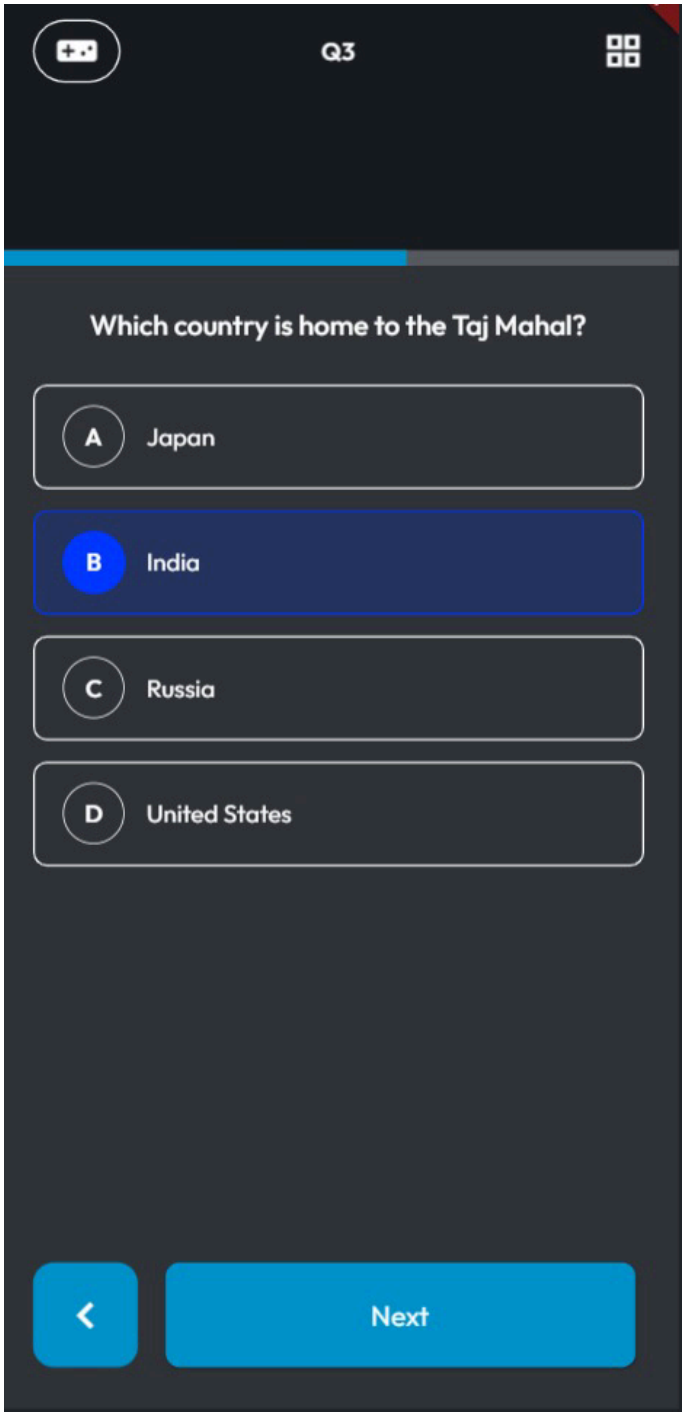
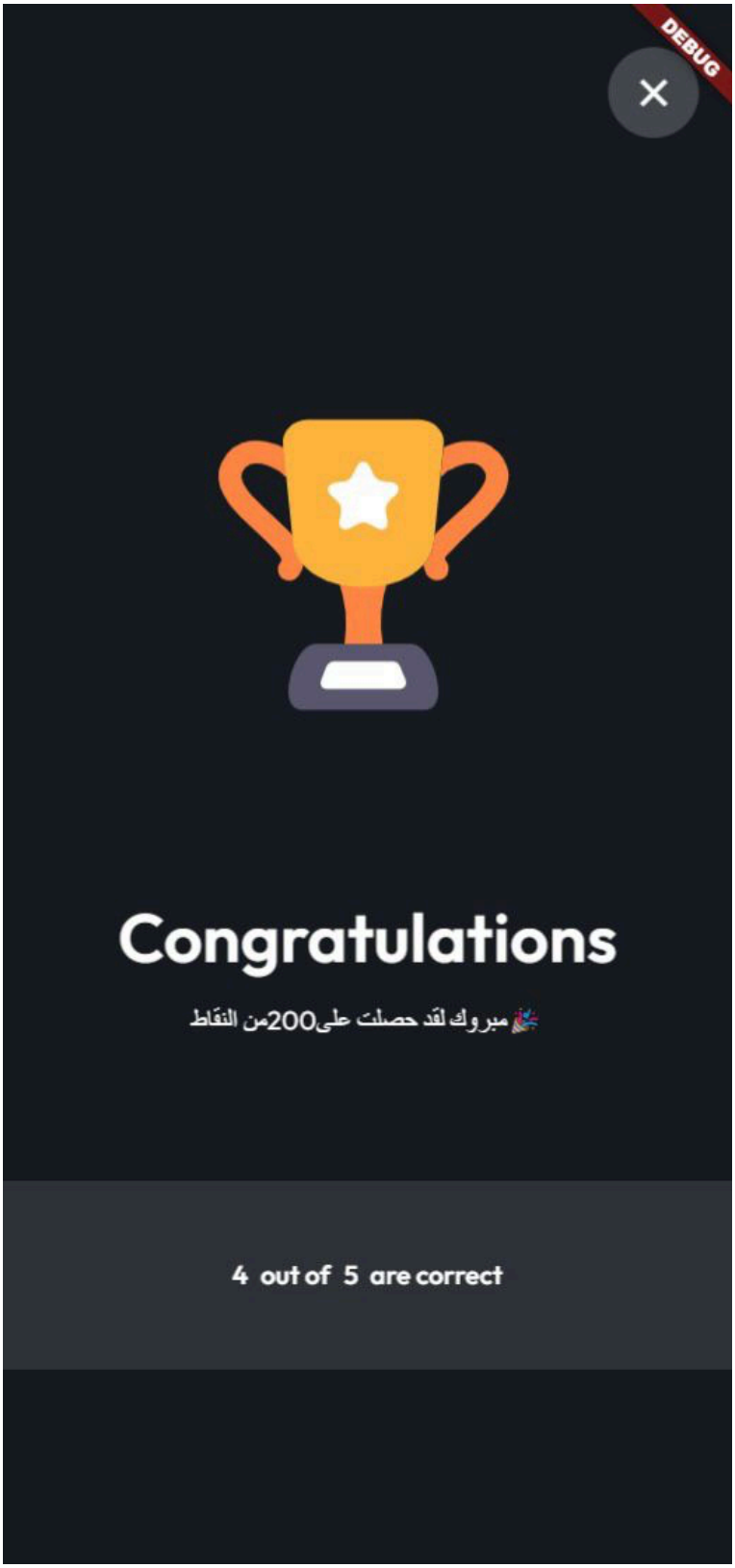

Settings Page
Choose what notifcations you want to recieve below and we will update the settings.
App Sounds
turn on/off the application sounds
Log Out


Profile
Profile info and progress
[Email]
your score is: [userTotalScore]
this app is a project for Software engeenring 1
in Imam Mohammad Ibn Saud Islamic University
by the students:
abdulaziz alqahtani
Ahmed aldayel
Faisal batis
Abdullah bin suqaih
Khalid tomihi
Supervised by the professor:
Ibrahim Abdelmoniem Ibrahim abdelmeguid
2023\2024


Q3
Which country is home to the Taj Mahal?
A
Japan
B
India
C
Russia
D
United States
Next


DEBUG
Congratulations
🎉مبروك لقد حصلت على200من النقاط
4 out of 5 are correct

Backlog and Sprints (Scrum):

You can Check everything else about the Backlog and Sprints from this link:

https://docs.google.com/spreadsheets/d/1w-I9Xg6ZQu_sDq1EJvtkcuSh-JTt6Jb0/edit?usp=sharing&ouid=113636373330489830633&rtpof=true&sd=true