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ABSTRACT

The Online Quiz Website is a dynamic and interactive platform designed to provide users with engaging quiz experiences on a wide array of subjects. This web-based application aims to offer an accessible and convenient way for individuals to test their knowledge, challenge themselves, and learn in an enjoyable manner. Through a user-friendly interface and robust backend architecture, the Online Quiz Website enables users to select, and participate in quizzes that span diverse categories, including general knowledge, science, literature, history, and more. The system leverages modern web technologies such as HTML, CSS, JavaScript, and java to deliver seamless quiz-taking experiences across various devices, ensuring compatibility and convenience for users on desktops. Users have the option to create accounts, track their quiz performance, and compete with others through ramification elements such as scoring, leaderboards, and achievements. Overall, the Online Quiz Website seeks to promote interactive learning, cognitive engagement, and friendly competition while fostering a sense of community among quiz enthusiasts.

Chapter (1)

Introduction

1.1 **Quizi - Online Quiz Website**

Quizi is an engaging and interactive quiz website designed to provide users with a fun and educational experience. It offers a wide range of quizzes on various topics, allowing users to test their knowledge and challenge themselves while having an enjoyable time. This system is implemented using Java (J2EE, Java 2 Enterprise Edition) language. All types of system service for users. The system includes two major sub-systems.

1.1.1 **The Client Sub-System**

The client sub-system consists of these functions:

- ❖ Home
- ❖ Login
- ❖ About Us
- ❖ Play Quiz
- ❖ Result
- ❖ Top Scorers
- ❖ Log out

1.1.2 **The Administrative Sub-System**

The administrative sub-system consists of these functions:

- ❖ Login
- ❖ Admin Home
- ❖ View Question List,
- ❖ View Question code
- ❖ View Register User,
- ❖ User each subject score
- ❖ Add Quiz
- ❖ Delete and Edit Quiz
- ❖ Log out

1.2 **Objectives**

The main objectives of our website are:

- To create an engaging and interactive quiz platform
- To provide quizzes that enhance knowledge and learning
- To encourage continuous learning and knowledge acquisition through interactive and informative quizzes
- To establish a user-centric environment that encourages participation and interaction with quizzes
- To encourage users to challenge themselves and track their progress over time, motivating self-improvement

1.3 **Development Environment**

For the successful development of our online quiz website, the following tools and components need to be set up on your PC.

- Java Development Kit (JDK 1.8 or above)
- Integrated Development Environment (IDE) like Eclipse
- Web server software such as Apache Tomcat (version 8.0 or newer)
- MySQL Database (5.7 or later)
- Modern web browsers (Mozilla Firefox, Google Chrome, Microsoft)

This online quiz website is built using Java (J2EE, Java 2 Enterprise Edition) Language,HTML (Hypertext Markup Language), CSS (Cascading Style Sheet), JavaScript, and MySQL Database.

Chapter (2)

Theory Background

2.1 What is J2EE?

J2EE is Java 2 Enterprise Edition. J2EE / JavaEE is the platform popularly used for building server-side applications and provides a convenient component-based approach. JavaEE is targeted at large-scale business systems.

2.2 J2EE Architecture

J2EE architecture is a distributed computing architecture. Figure 2.1 shows the architecture of J2EE.

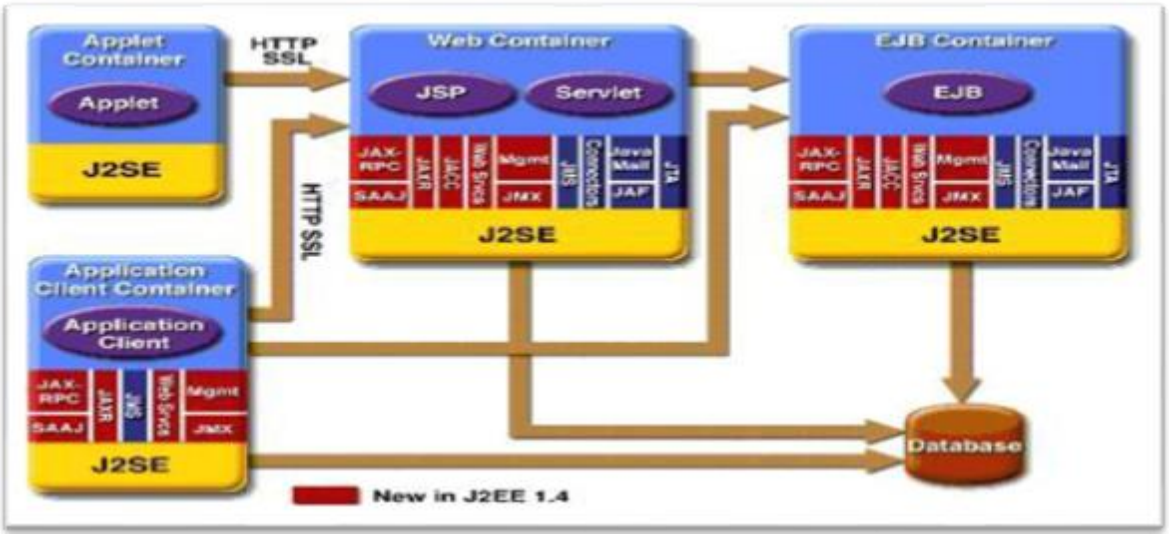


Figure 2.1 Architecture of J2EE

2.3 J2EE Containers

There are four types of containers. These are EJB Container, Web Container, Application Client Container, and Applet Container. Figure 2.2 shows the J2EE container types.

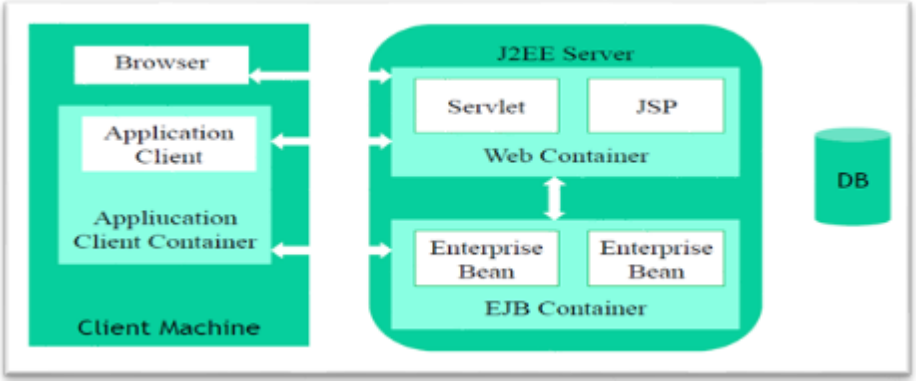


Figure 2.2 J2EE Container Types

Chapter (3)
Design and Implementation

3.1 Database Design

Eight tables are used for this quizz System.

Table 3.1 Users Table

Field Name	Data Type	Description
Id	int	Show user_id (unique, primary key)
Email	Varchar (300)	Show user email
Password	Varchar (300)	Show user password
Full Name	Varchar (300)	Show user full name

Table 3.2 Subjects Table

Field Name	Data Type	Description
subject_id	int	Show subject_id(unique, primary key)
subject	Varchar (200)	Show name of subjects

Table 3.3 Question Table

Field Name	Data Type	Description
Question_id	int	Show question_id (Primary key)
Question title	Varchar(600)	Description of question
Subject_id	int	Show id subject (foreign key)
Optionone_id	int	Show optionone_id (foreign key)
Optiontwo_id	int	Show optiontwo_id (foreign key)
Optionthree_id	int	Show optionthree_id (foreign key)
Answeroption_id	int	Show answeroption_id(foreign key)
question code	Varchar(200)	Show question code

Table 3.4 Option one Table

Field Name	Data Type	Description
Optionone_id	int	Id of optionone (primary key)
Description	Varchar (800)	Description of optionone
Subject_id	int	Id of subject (foreign key)

Table 3.5 Option two Table

Field Name	Data Type	Description
Optiontwo_id	int	Id of optiontwo (primary key)
Description	Varchar (800)	Description of optiontwo
Subject_id	int	Id of subject (foreign key)

Table 3.6 Option three Table

Field Name	Data Type	Description
Optionthree_id	int	Id of optionthree (primary key)
Description	Varchar (800)	Description of optionthree
Subject_id	int	Id of subject (foreign key)

Table 3.7 Answer Option Table

Field Name	Data Type	Description
AnswerOption_id	int	Id of answeroption(primary key)
Description	Varchar (800)	Description of answeroption
Subject_id	int	Id of subject (foreign key)
Score	Varchar (100)	Score For AnswerOption

Table 3.8 Achievement

Field Name	Data Type	Description
Id	int	Id (primary key)
Subject_id	int	Id of subject (foreign key)
score	Varchar (300)	Score for achievement
Full name	Varchar (300)	Full Name for achievement
answerdate	timestamp	Show day,time,moth,year of answer
date	Varchar (200)	Show date
time	Varchar (200)	Show time

3.2 Implementation

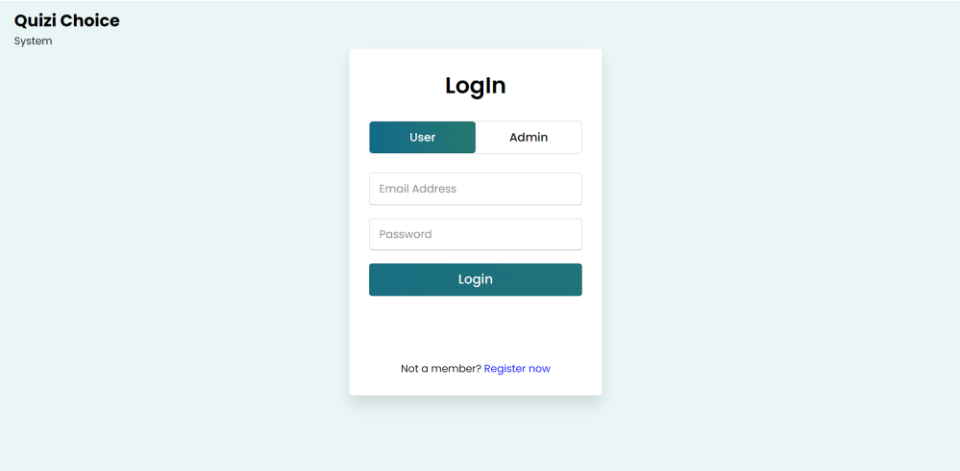


Figure 3.1 Login Page

On this login page, there are two tabs: one for users and one for administrators. If a user hasn't registered, they can do so and then log in to the system. If there is an issue, the system will display an error message.

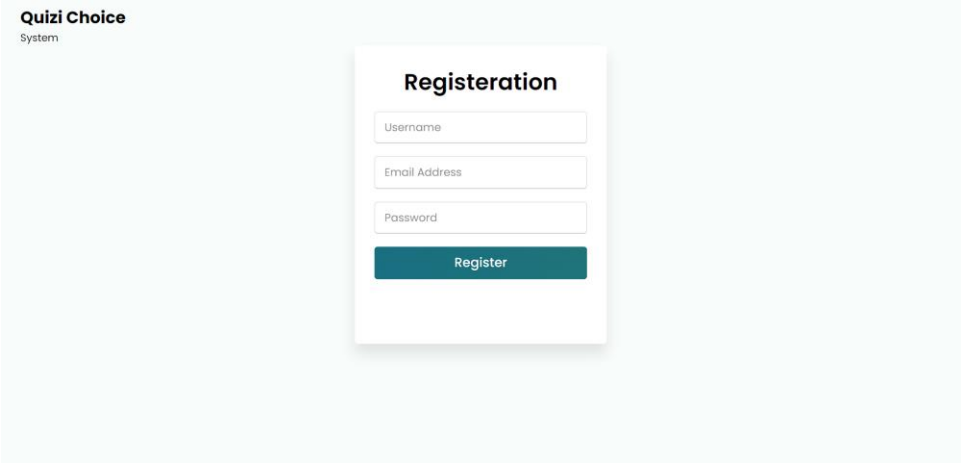


Figure 3.2 Register Page

In Figure 3.2, those who haven't registered yet can fill in their information here to complete the registration process and access our system.

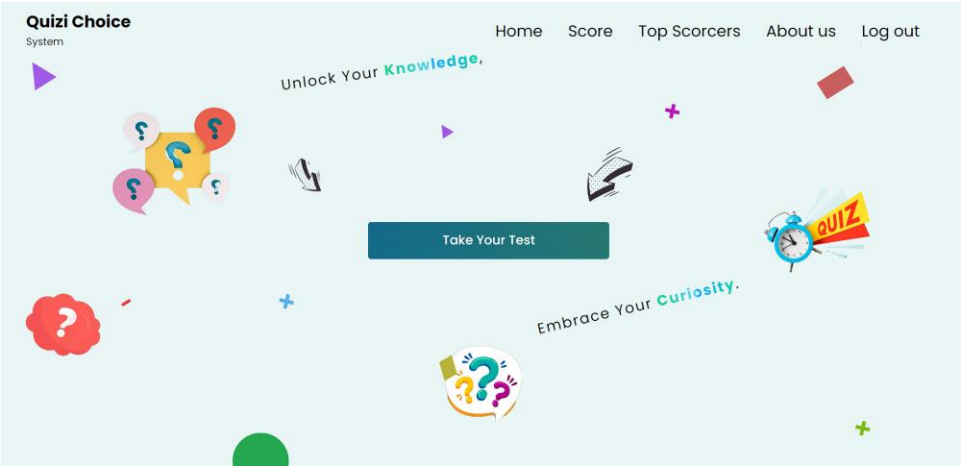


Figure 3.3 Home Page

On the home page, you will find five tabs, one of which is 'Log Out.' Another important tab is 'Take Test,' where you can start your test and receive your score after login to our system.

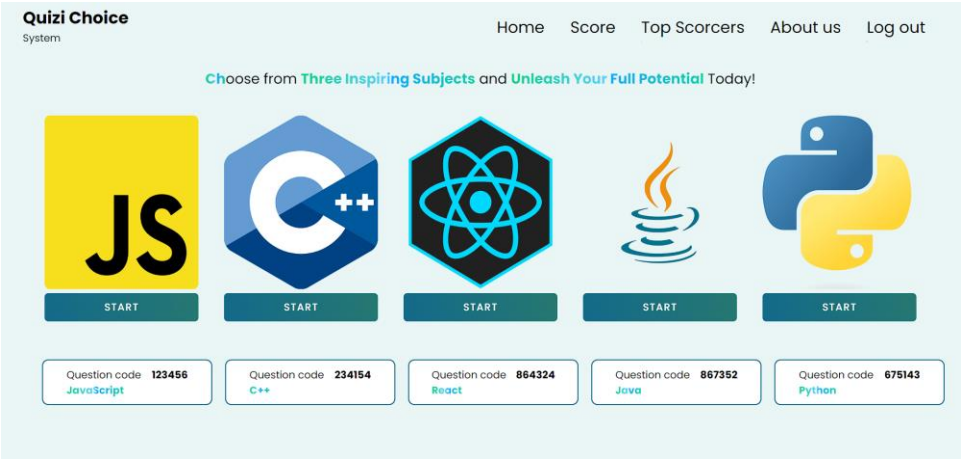


Figure 3.4. Takt Test page

After clicking the 'Take Your Test' button, you will see a list of the five subjects offered by our system. Under each subject, you will find a unique question code. These question codes will multiply for each subject whenever the admin uploads new ones.

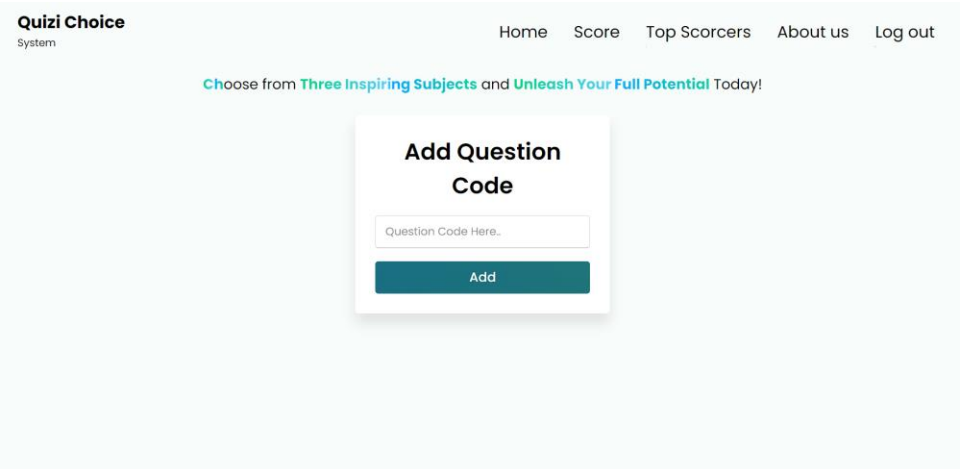


Figure 3.5 Add Question code page

When adding a question code to our system, it will verify whether the code entered by the user exists. If the code doesn't exist, an error will be displayed. Additionally, even if two different subjects have the same question code, our system will verify each subject individually.

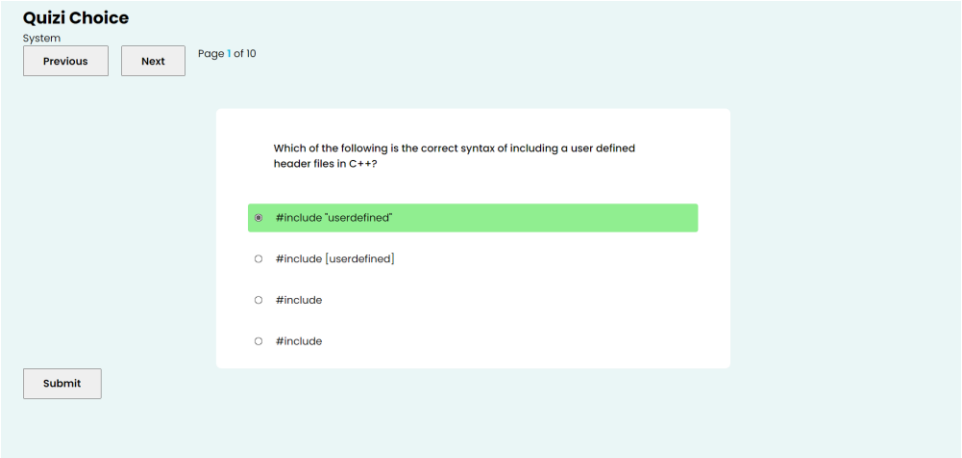


Figure 3.6 Taking Test Page

After user enters a question code, the system will display the number of questions related to the question code on the page, allowing the user to take the test and submit their test after answering all the questions.

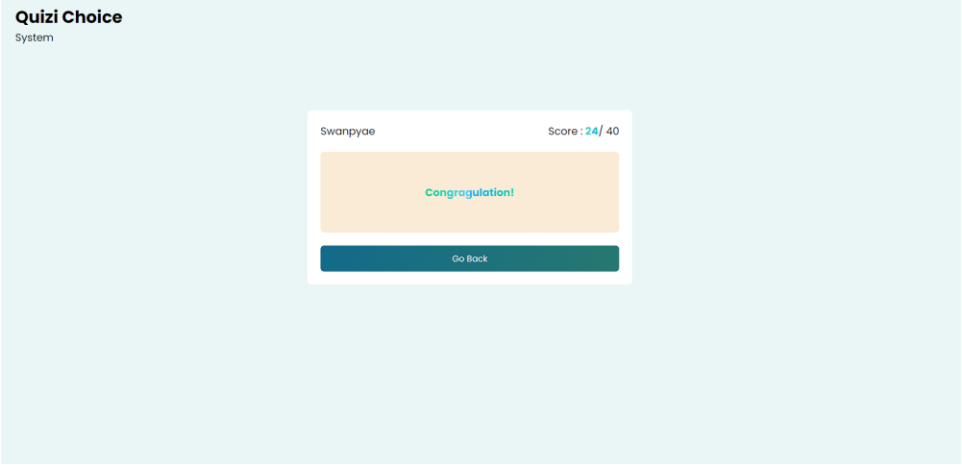
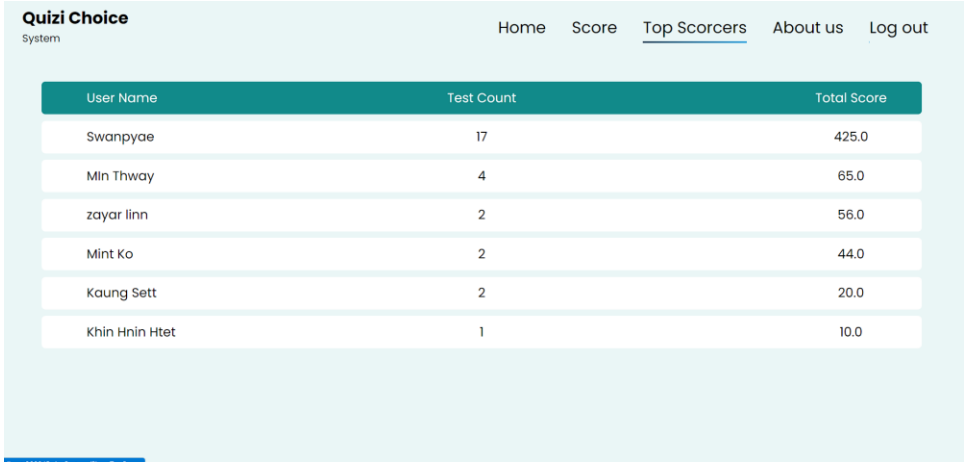


Figure 3.7 Show Score page

After submitting the test, user will see the overall score, the full score, and user username displayed.



User Name	Test Count	Total Score
Swanpyae	17	425.0
MIn Thway	4	65.0
zayar linn	2	56.0
Mint Ko	2	44.0
Kaung Sett	2	20.0
Khin Hnin Htet	1	10.0

Figure 3.8 Top Score Page

In Figure 3.8, users will find a comprehensive summary of their progress. This includes the total score achieved in each subject, a count of the tests they've taken, and, prominently, their username for easy identification.

Figure 3.9 Score Page

On the score page, you'll find a detailed list showing each user's test score for their respective subjects, along with the timestamp of when the test was taken. This information will be available for a 24-hour period.

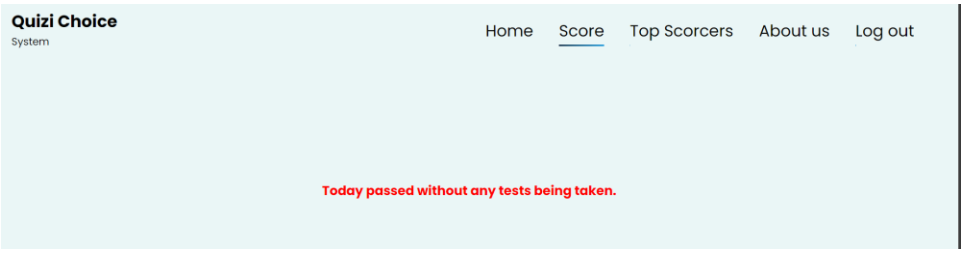


Figure 3.10 Show noti Page

In Figure 3.10, if 24 hours pass without any user taking or submitting their test, a notification will be displayed on the score page.

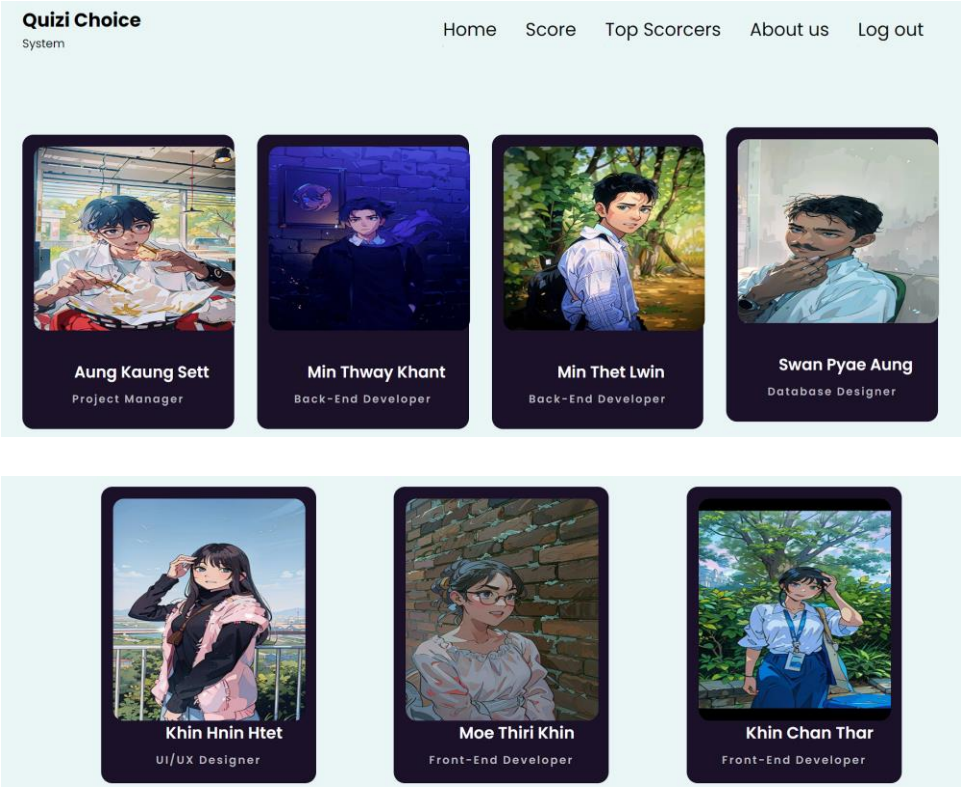


Figure 3.11 About Page

Our 'About Us' page proudly features exceptional individuals who have made significant contributions to our project, highlighting their specific roles and contributions that have driven our success.

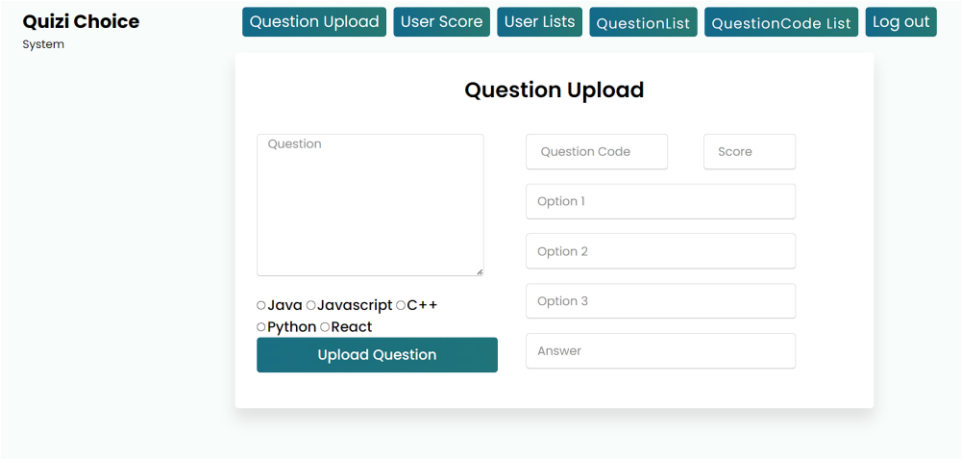


Figure 3.12 Question Upload Page

Upon logging in as an admin, the first page encounter is the question uploading page. Here, admin can assign individual scores to each question, select the relevant subject, specify the question code, and proceed to upload the question.

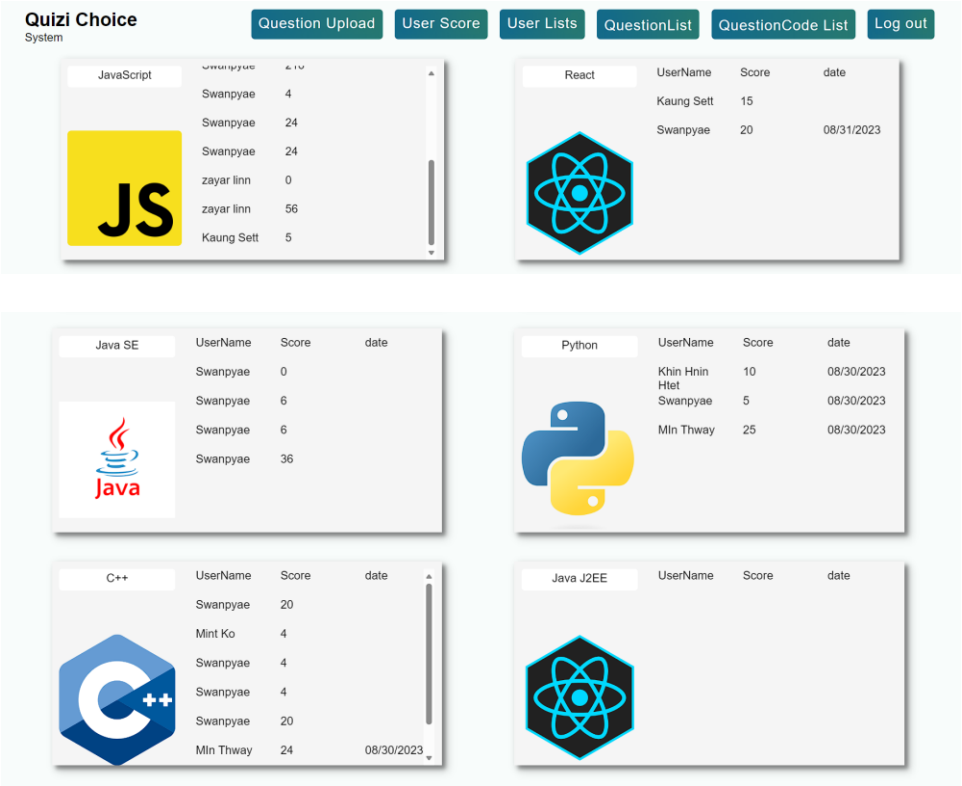
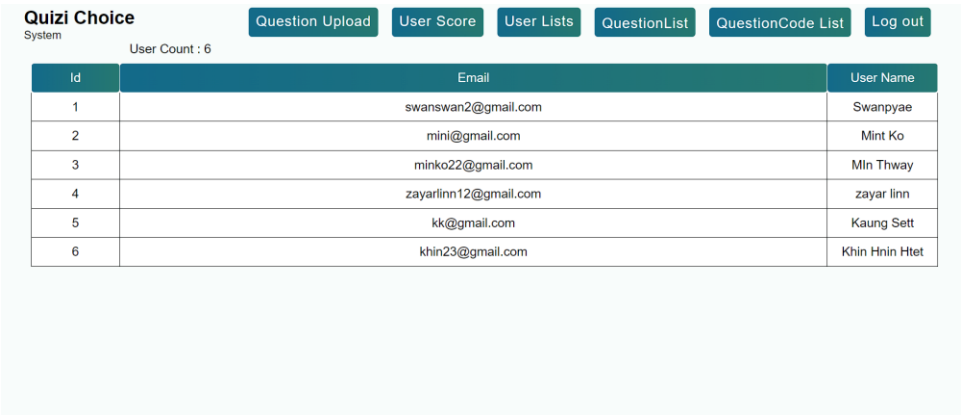


Figure 3.13 User Score List Page

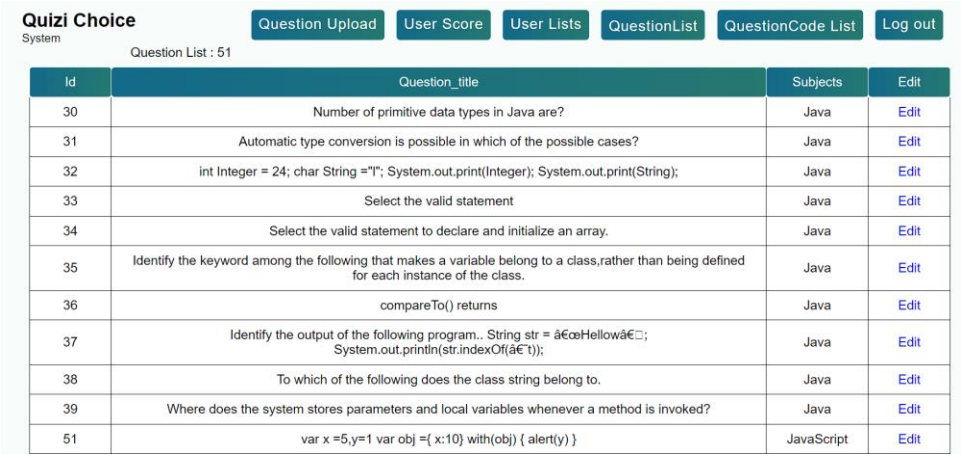
The User Score List Page presents a comprehensive view of each user's test results, including their scores for each subject and the date (day, month, and year) when they completed the test.



Id	Email	User Name
1	swanswan2@gmail.com	Swanpyae
2	mini@gmail.com	Mint Ko
3	minko22@gmail.com	MIn Thway
4	zayarlinn12@gmail.com	zayar linn
5	kk@gmail.com	Kaung Sett
6	khin23@gmail.com	Khin Hnin Htet

Figure 3.14 User List Page

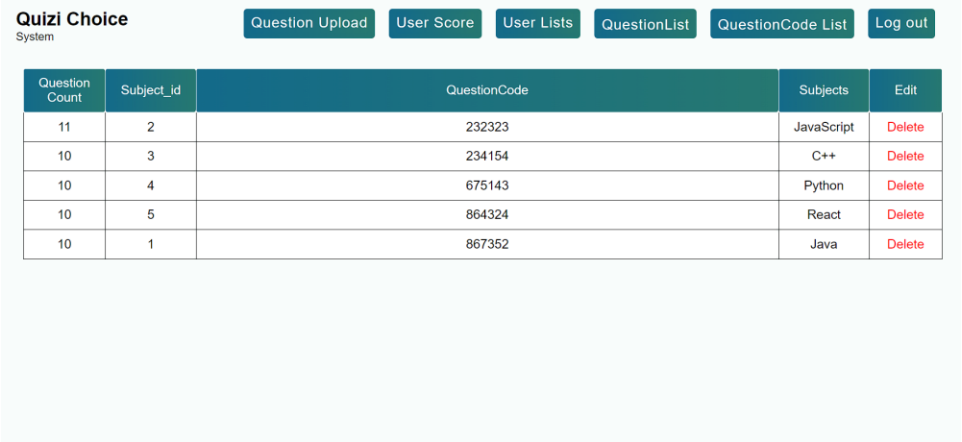
Figure 3.14 displays the list of users who have registered in our system.



Id	Question_title	Subjects	Edit
30	Number of primitive data types in Java are?	Java	Edit
31	Automatic type conversion is possible in which of the possible cases?	Java	Edit
32	int Integer = 24; char String ="I"; System.out.print(Integer); System.out.print(String);	Java	Edit
33	Select the valid statement	Java	Edit
34	Select the valid statement to declare and initialize an array.	Java	Edit
35	Identify the keyword among the following that makes a variable belong to a class,rather than being defined for each instance of the class.	Java	Edit
36	compareTo() returns	Java	Edit
37	Identify the output of the following program.. String str = â€œHellowâ€□; System.out.println(str.indexOf(â€˜t));	Java	Edit
38	To which of the following does the class string belong to.	Java	Edit
39	Where does the system stores parameters and local variables whenever a method is invoked?	Java	Edit
51	var x =5,y=1 var obj ={ x:10} with(obj) { alert(y) }	JavaScript	Edit

Figure 3.15 Question List Page

The Question List displays all questions uploaded to our system. If any question or input was incorrect, administrators have the ability to edit the question from this list.



Question Count	Subject_id	QuestionCode	Subjects	Edit
11	2	232323	JavaScript	Delete
10	3	234154	C++	Delete
10	4	675143	Python	Delete
10	5	864324	React	Delete
10	1	867352	Java	Delete

Figure 3.16 Question Code List Page

On the Question Code List page, admin'll find a comprehensive list of questions associated with each question code. Additionally, it displays the total number of questions under each code. If an administrator deletes all questions related to a specific question code, that code will automatically disappear from the list.

Chapter (4)

Conclusion

4.1 Conclusion of Quizi – Online Quiz Website

Quizi is the ultimate destination for quiz enthusiasts and knowledge seekers alike. With its extensive quiz collection, engaging features, and user-friendly interface, the website promises an enjoyable and intellectually stimulating experience. Whether you're testing your knowledge or challenging friends, Quizi will keep you entertained and coming back for more!

4.2 Lesson Learned

We have got many experiences and advantages by creating this project. They are:

- Understanding the overview of project planning and scheduling
- Good skills for time management
- Improving teamwork skills
- Realizing and applying the use of Java, HTML, CSS, JavaScript and MySQL
- Getting problem-solving skills
- Applying creative thinking skills for project design

4.3 References

[1] www.google.com

[2] https://www.developer.mozilla.org

[3] https://www.getboostrap.com

[4] http://www.stackoverflow.com