



**ASIA PACIFIC UNIVERSITY OF TECHNOLOGY AND INNOVATION
RESPONSIVE WEB DESIGN & DEVELOPMENT GROUP
ASSIGNMENT**

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Lecturer	Daniel Mago Vistro
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Student ID	Student Name
TP076386	Siew Zhen Lynn
TP077056	Sim Tian
TP076797	Yong Xuan Lyn
TP077224	Yap Xin Ling
TP077057	Yeo Pei Wen

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Introduction

"Quizzing You" is a web-based English quiz platform designed specifically for primary school students aged 7 to 12, offering an engaging and structured approach to language learning. The system supports various types of quizzes, including Fill-in-the-Blank, Multiple Choice Questions (MCQ), and Matching Words, allowing students to strengthen their English skills through varied exercises. Each quiz is tailored to different grade levels (1-6 levels of difficulty) and covers essential English language topics like Grammar, Idioms, Verbs, and Vocabulary, making it a comprehensive learning tool for young learners.

Objectives of the Project

The objective of the Quizzing You project is to develop an educational platform designed to support primary school students, aged 7 to 12, in enhancing their English language skills through interactive quizzes. Given their developing technical abilities, these students would benefit from a platform that is intuitive and easy to navigate. The design would prioritize a user-friendly experience that motivates students to study independently and enjoy the learning process. With a focus on accessibility and educational development, Quizzing You aims to inspire students and make learning English both engaging and enjoyable. By promoting language development through interactive quizzes, Quizzing You strengthens foundational English skills, fostering academic success and building confidence in young learners.

Best Practice Analysis

To create an effective platform, we have studied successful educational quiz platforms for children, ensuring we incorporate best practices and engaging features. We have also explored age-appropriate UI/UX design principles to create an intuitive and visually appealing experience suited to young learners. Additionally, we have considered accessibility standards for children's educational software to make the platform inclusive and user-friendly for all. Furthermore, we have analysed effective quiz structures and question design techniques for language learning, ensuring our quizzes are both educational and engaging, fostering meaningful language development.

Design

Process Flow chart

Notes:

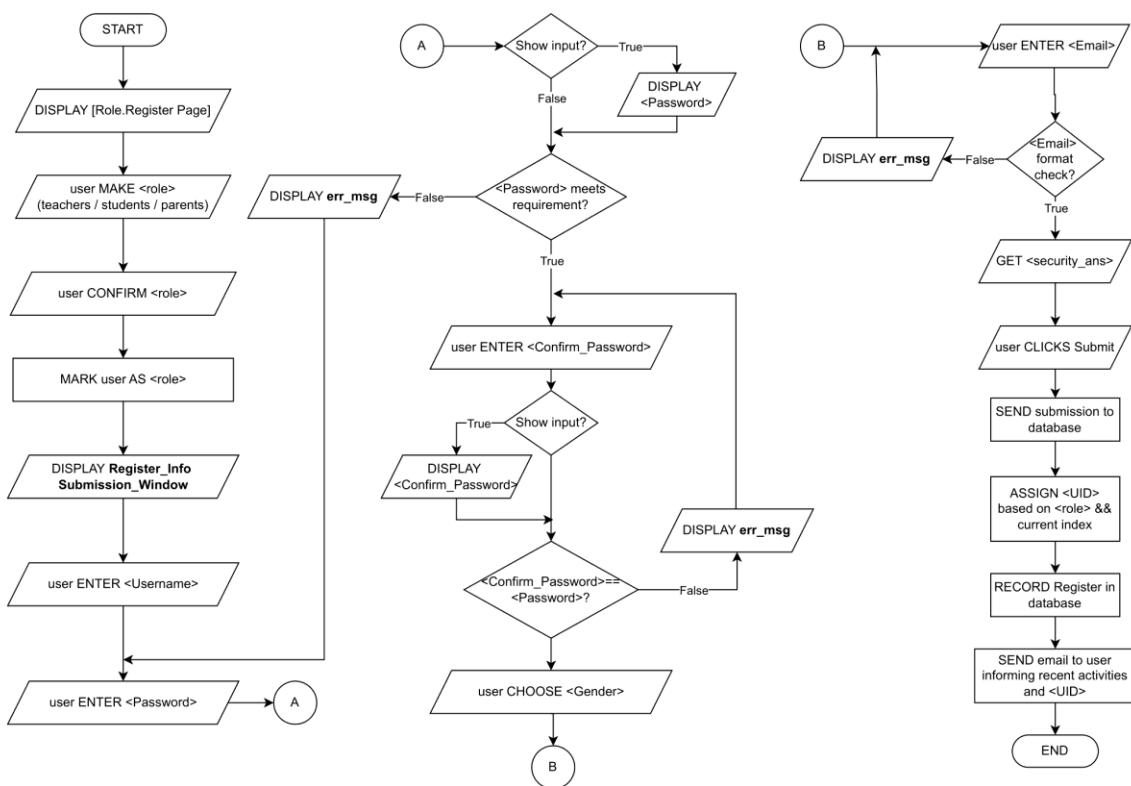
// All variables are formatted as <variableName>, where they are all enclosed with Angle Brackets to differentiate it from the rest of the words.

// **Bolded only** words are to emphasize / mark them as windows.

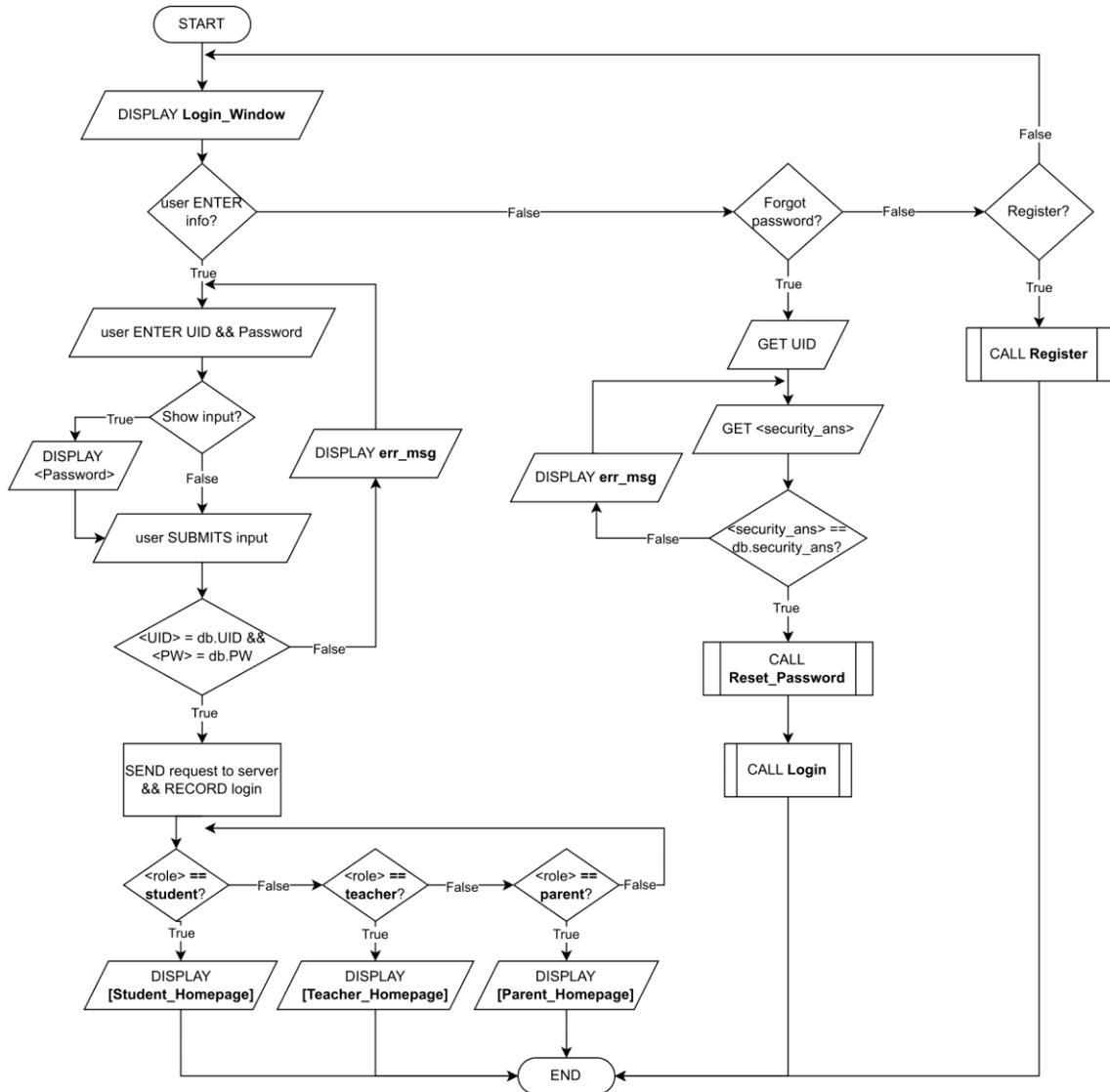
// **Bolded words + brackets**, example: [Quiz], refers to page.

// CAPITALIZED words are ACTIONS including user actions and process.

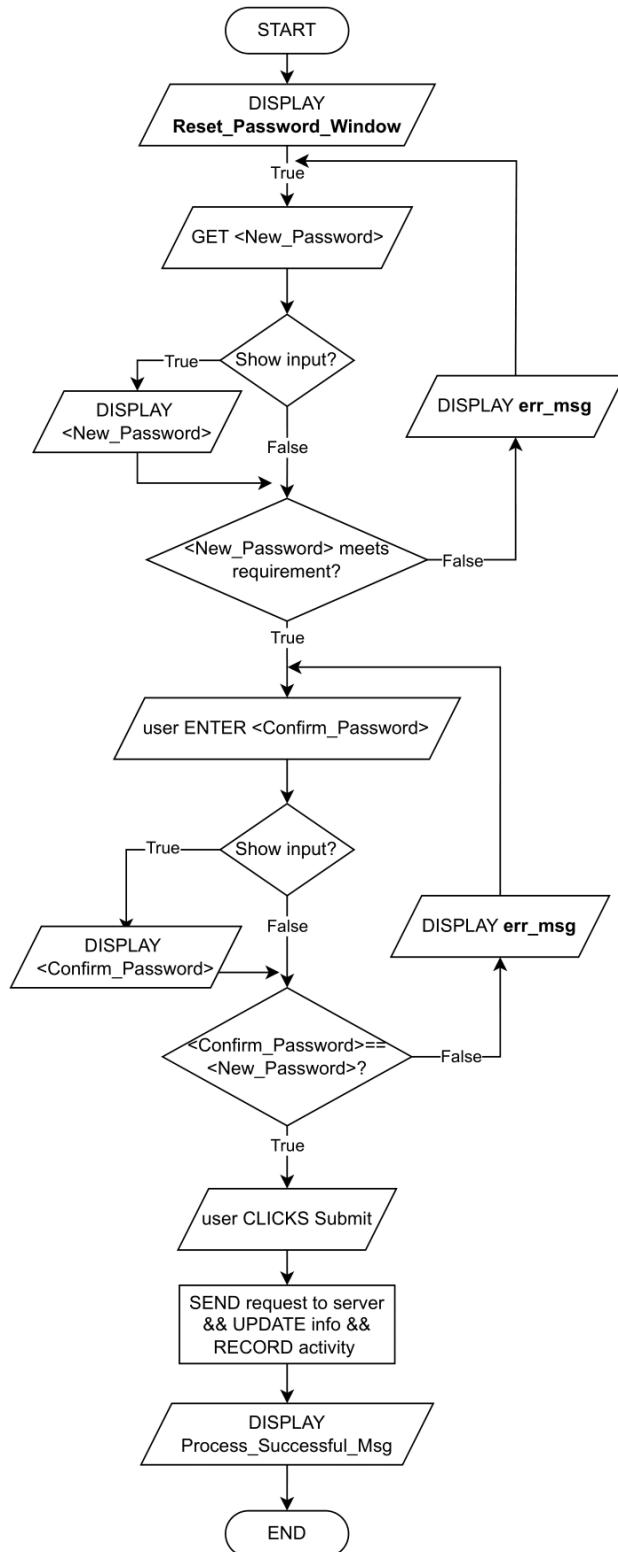
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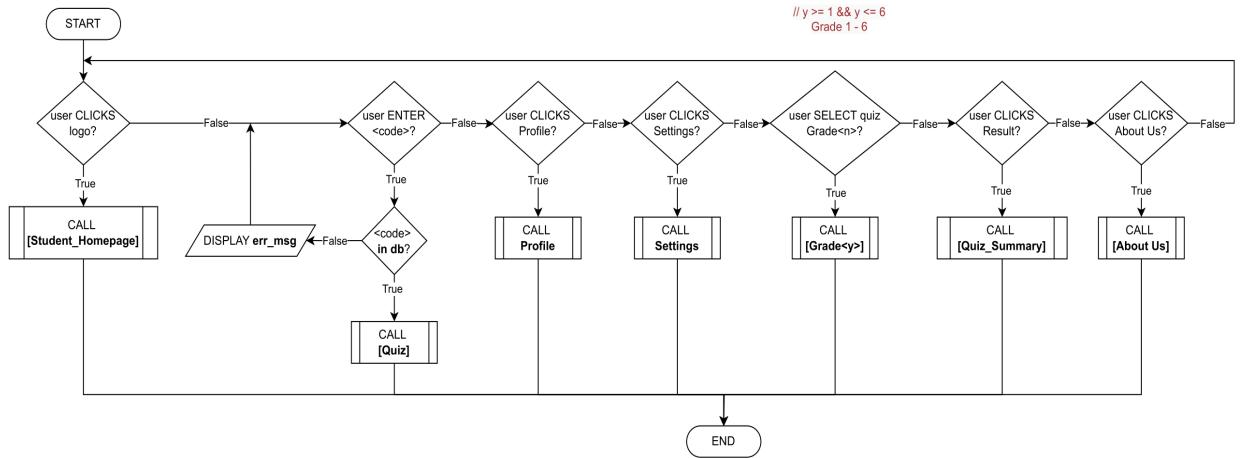
Login



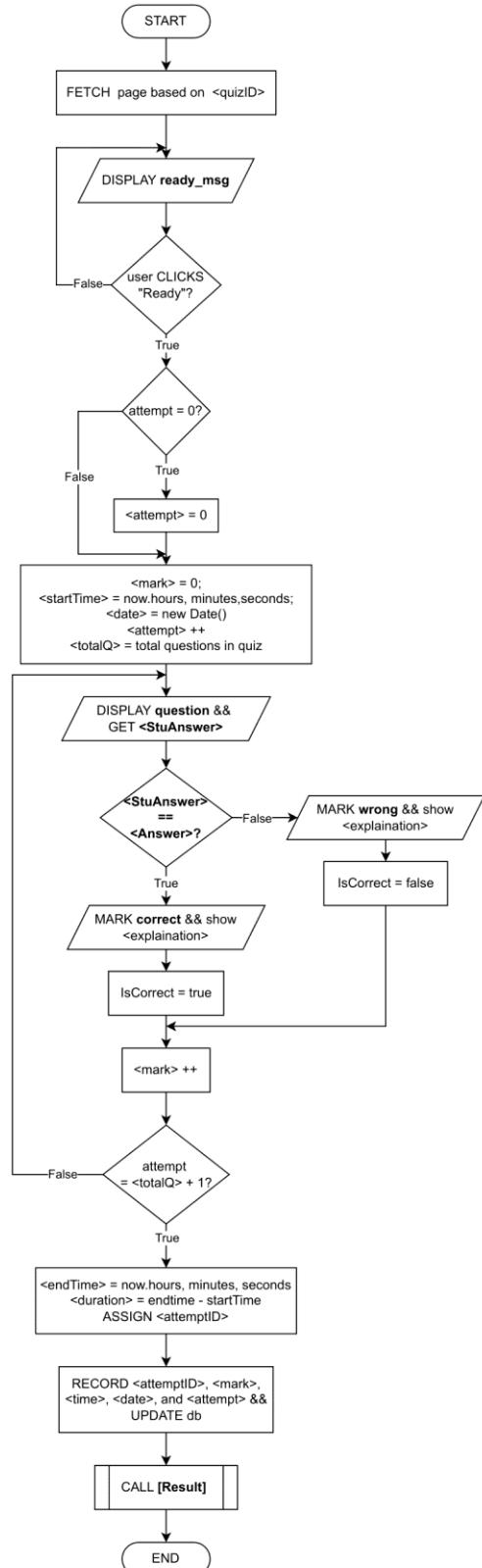
Reset_Password



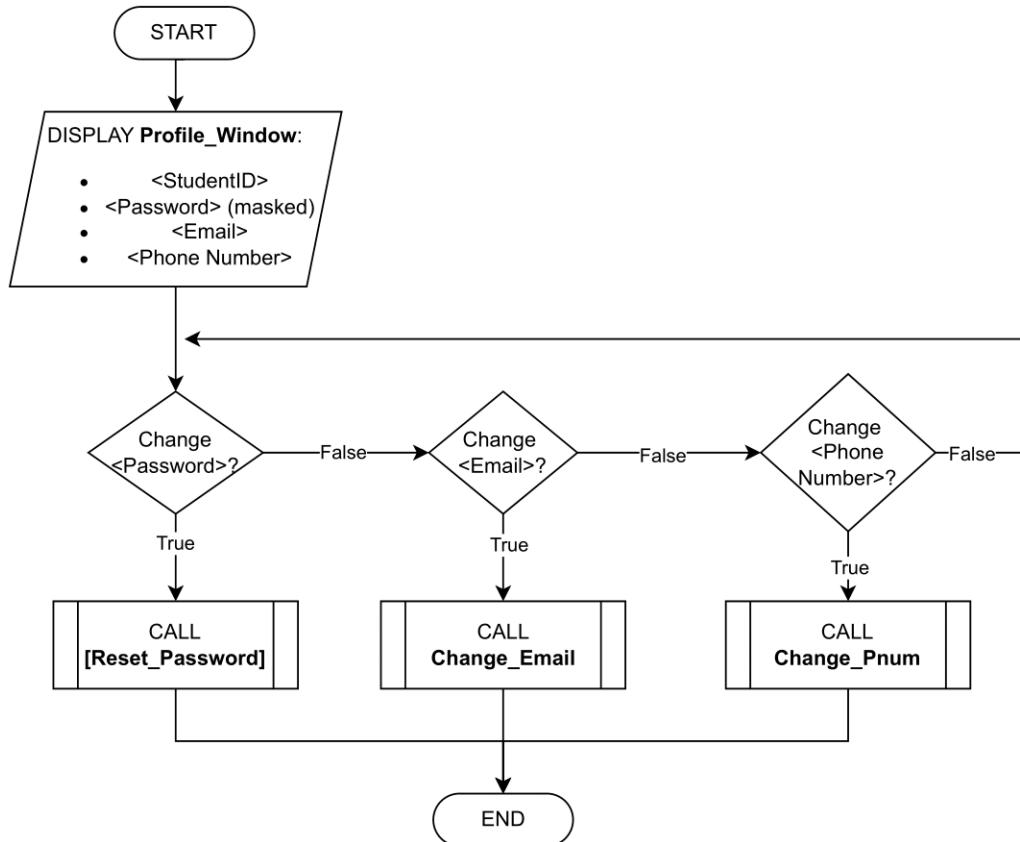
Student_Homepage



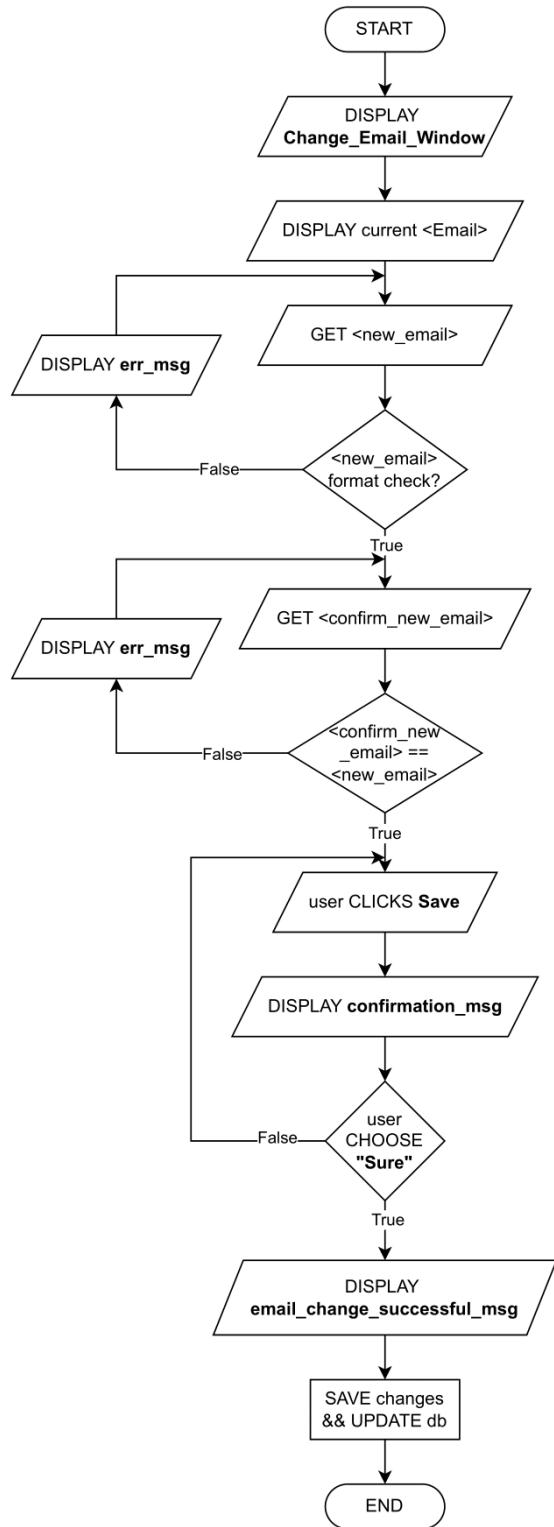
Quiz



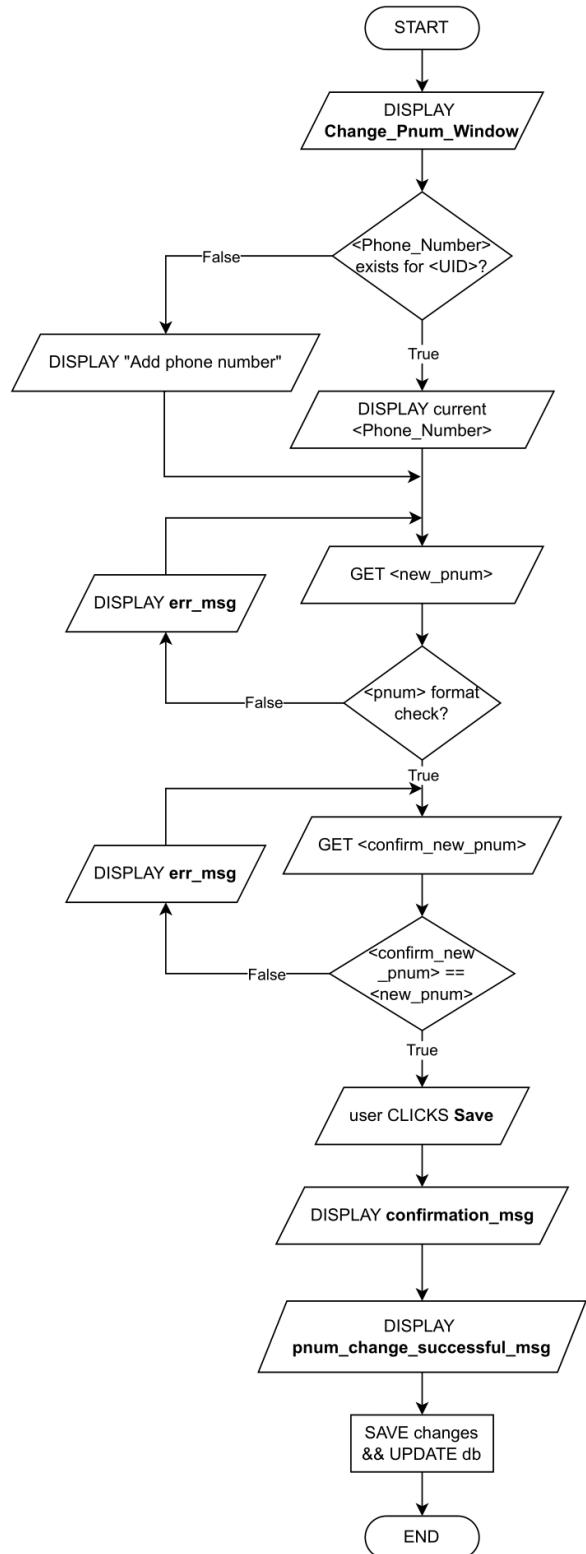
Profile



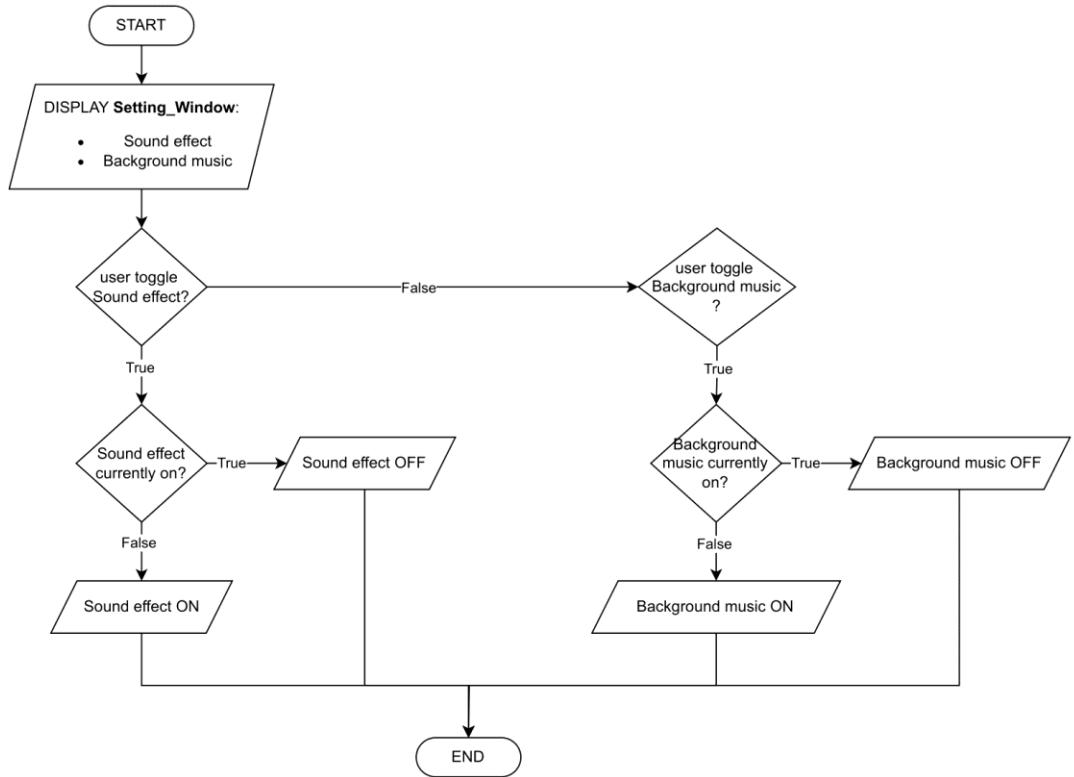
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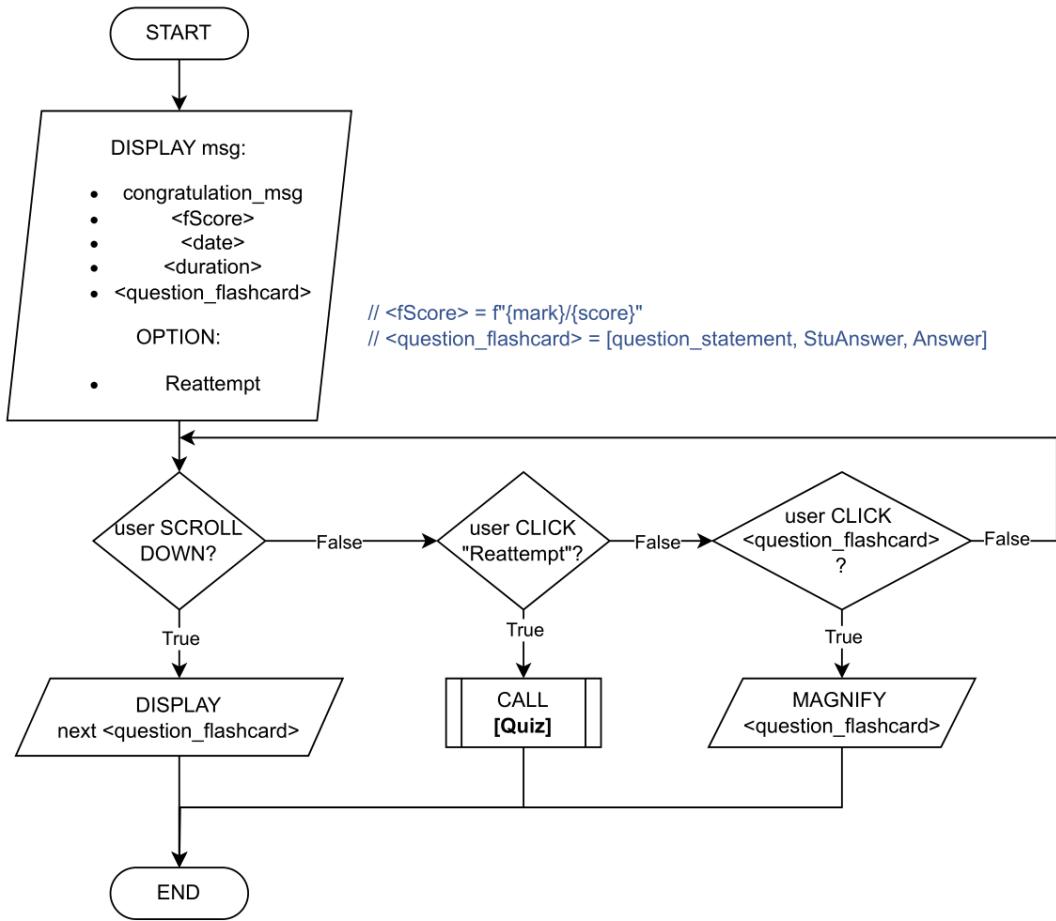
Change_Pnum



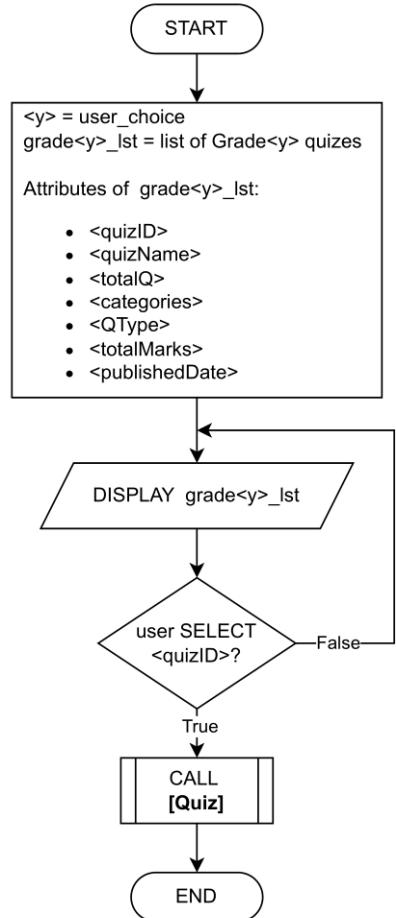
Settings



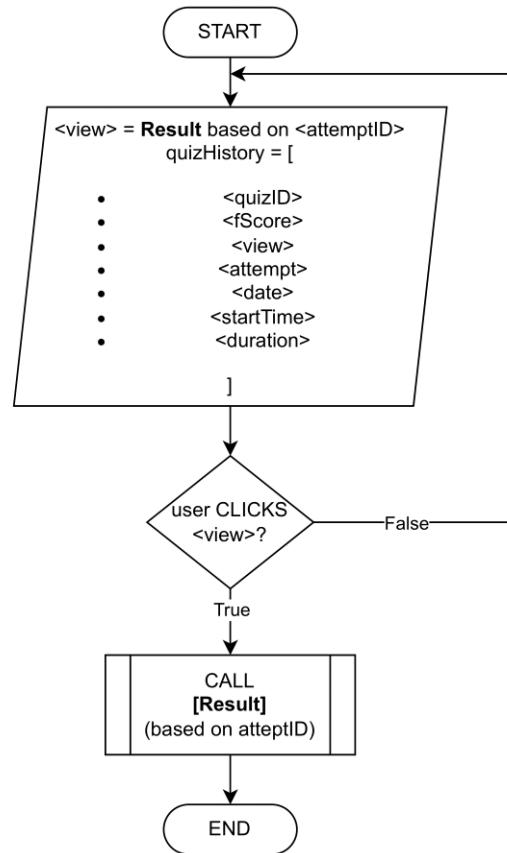
Result



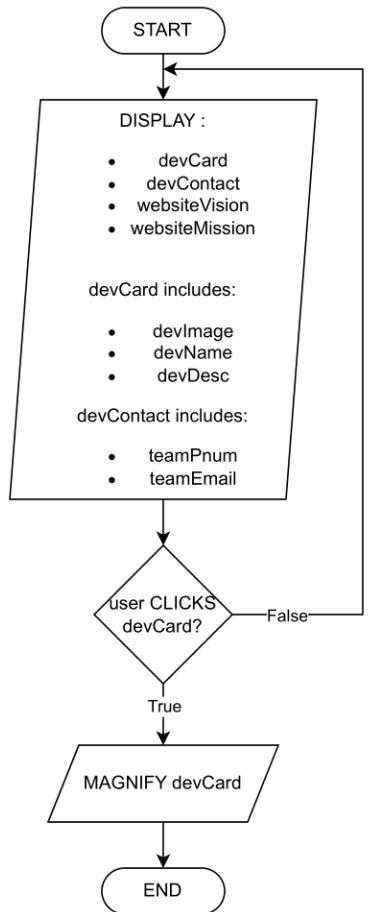
Grade<y> // <categories> = [idioms, grammar,...]
// <QType> = [mcq, matching,...]



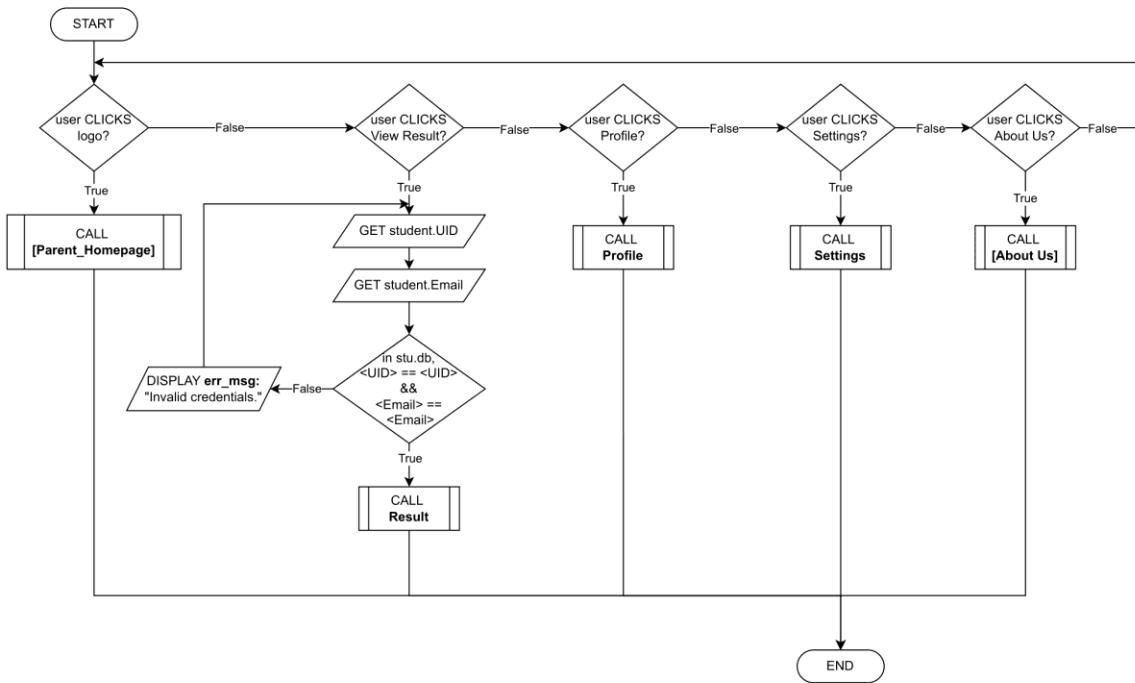
Quiz_Summary



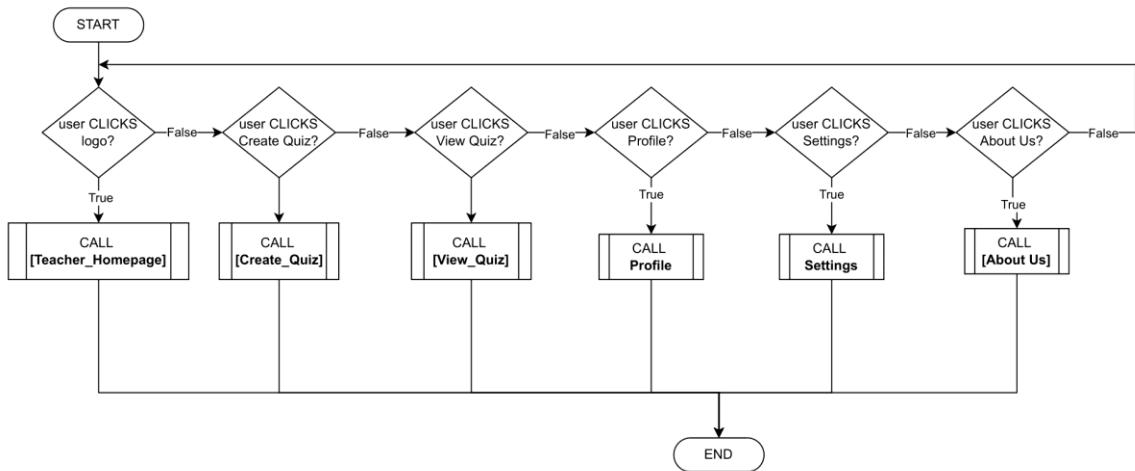
About_Us



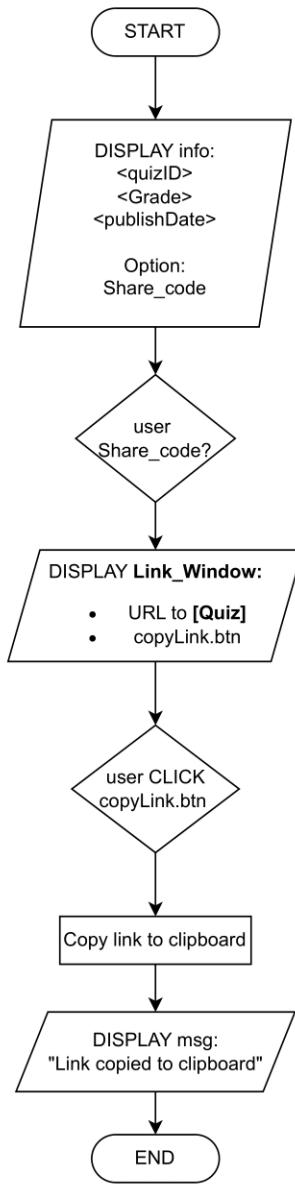
Parent_Homepage



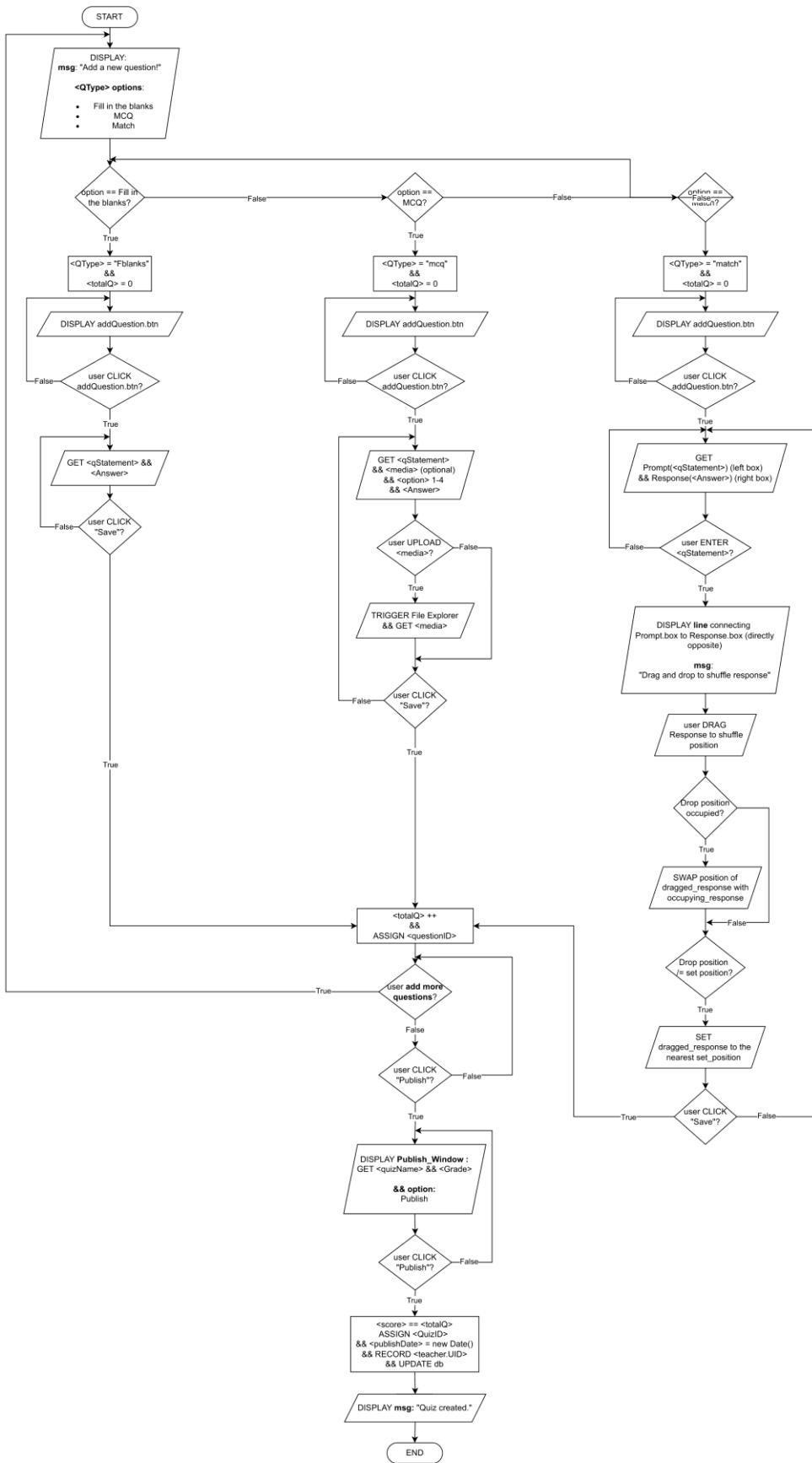
Teacher_Homepage



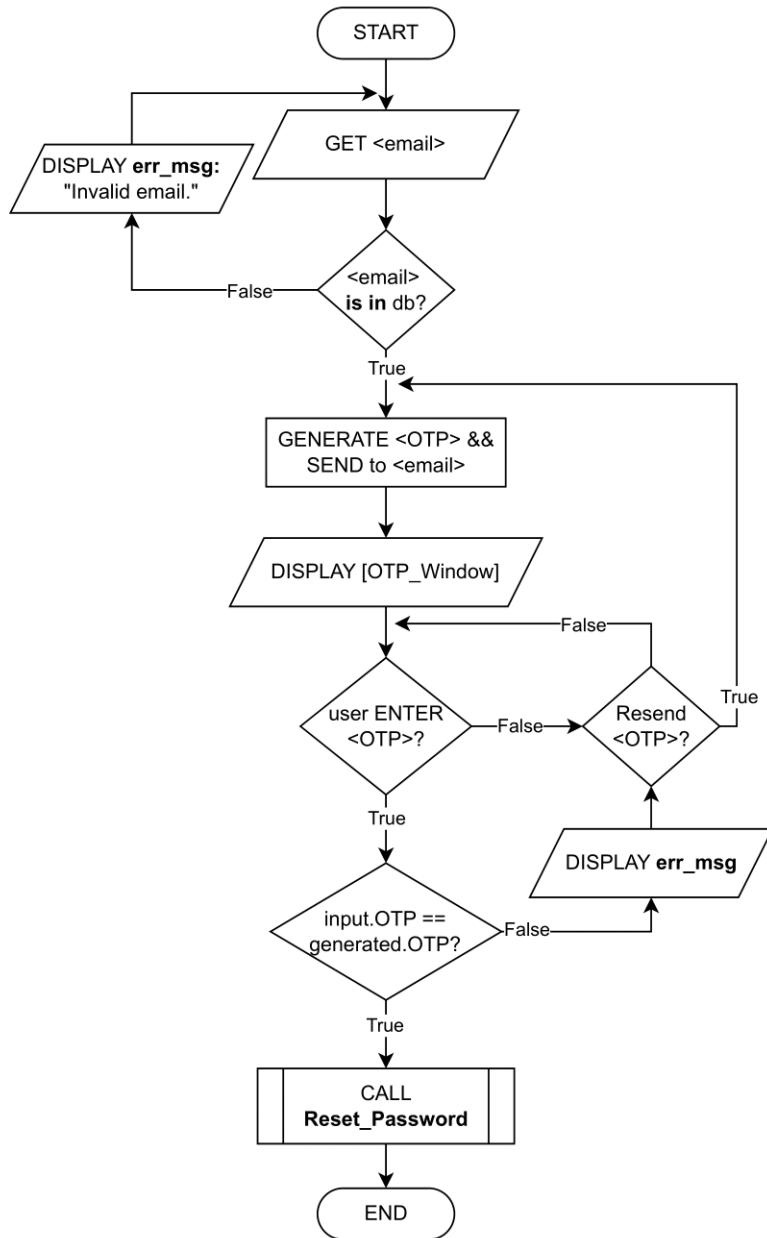
View_Quiz



Create_Quiz



Forgot_Password (not used)



ERD Diagrams

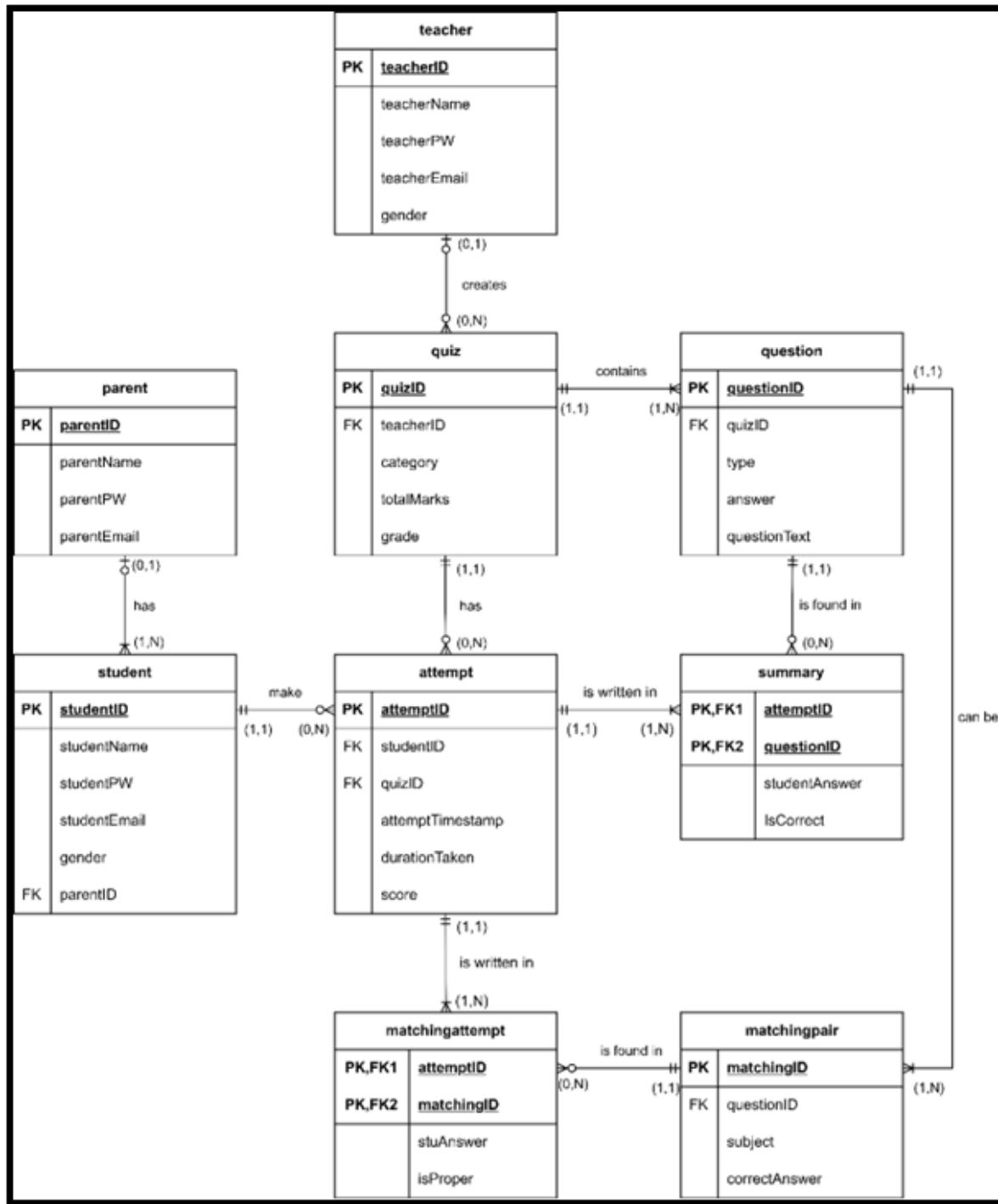


Figure 1: Entity Relationship Diagram (ERD) of the Quizzing You Web-based Quiz Platform

Normalisation

Unnormalised Form (UNF)

Table name: summary

Figure 2: Quizzing You Student Attempt Quiz Record

(Please note that the UNF table in Figure 2 should belong together, which could make it blurry. The UNF table has been separated to make Figure 2 easy to see.)

Figure 2 shows an unorganised data structure with recurring groups. It can be challenging to query for specific information due to the UNF contains empty cells. Repetitive groups and redundant data must be removed in order to convert UNF to 1NF.

First Normal Form (1NF)

Table name: summary

studentID	studentName	studentPW	studentEmail	gender	parentID	parentName	parentPW	parentEmail	questionID	category	totalMarks	grade	teacherID	teacherName	teacherPW	genderTeacher	teacherEmail	questionID
1	Jeanie	jeanie@1234	jeanie@gmail.com	Female	Ali	Ali@1234	ali@gmail.com	ali@gmail.com	1	Grammar	3	1				male	wooti@1234@gmail.com	1
1	Jeanie	jeanie@1234	jeanie@gmail.com	Female	Ali	Ali@1234	ali@gmail.com	ali@gmail.com	1	Grammar	3	1				male	wooti@1234@gmail.com	2
1	Jeanie	jeanie@1234	jeanie@gmail.com	Female	Ali	Ali@1234	ali@gmail.com	ali@gmail.com	1	Grammar	3	1				male	wooti@1234@gmail.com	3
1	Jeanie	jeanie@1234	jeanie@gmail.com	Female	Ali	Ali@1234	ali@gmail.com	ali@gmail.com	2	Idiom	3	1	1	wooti	wooti@1234@gmail.com	wooti@1234@gmail.com	6	
1	Jeanie	jeanie@1234	jeanie@gmail.com	Female	Ali	Ali@1234	ali@gmail.com	ali@gmail.com	2	Idiom	3	1	1	wooti	wooti@1234@gmail.com	wooti@1234@gmail.com	6	
3	Rose	Rose@1234	rose@gmail.com	Female	Anna	anna@1234	anna@gmail.com	anna@gmail.com	7	Verb	3	2						19
3	Rose	Rose@1234	rose@gmail.com	Female	Anna	anna@1234	anna@gmail.com	anna@gmail.com	7	Verb	3	2						20
3	Rose	Rose@1234	rose@gmail.com	Female	Anna	anna@1234	anna@gmail.com	anna@gmail.com	7	Verb	3	2						21
3	Rose	Rose@1234	rose@gmail.com	Female	Anna	anna@1234	anna@gmail.com	anna@gmail.com	7	Verb	3	2						21
1	Jeanie	jeanie@1234	jeanie@gmail.com	Female	Ali	Ali@1234	ali@gmail.com	ali@gmail.com	13	Grammar	3	4				male	wooti@1234@gmail.com	37
1	Jeanie	jeanie@1234	jeanie@gmail.com	Female	Ali	Ali@1234	ali@gmail.com	ali@gmail.com	13	Grammar	3	4				male	wooti@1234@gmail.com	38
1	Jeanie	jeanie@1234	jeanie@gmail.com	Female	Ali	Ali@1234	ali@gmail.com	ali@gmail.com	13	Grammar	3	4				male	wooti@1234@gmail.com	39
1	Jeanie	jeanie@1234	jeanie@gmail.com	Female	Ali	Ali@1234	ali@gmail.com	ali@gmail.com	13	Grammar	3	4				male	wooti@1234@gmail.com	39
2	Lisa	lisa@1234	lisa@1234	Female	4	3a	ps@1111	ps@gmail.com	24	Vocabulary	3	6						70
2	Lisa	lisa@1234	lisa@1235	Female	4	3a	ps@1111	ps@gmail.com	24	Vocabulary	3	6						71
2	Lisa	lisa@1234	lisa@1236	Female	4	3a	ps@1111	ps@gmail.com	24	Vocabulary	3	6						72
2	Lisa	lisa@1234	lisa@1237	Female	4	3a	ps@1111	ps@gmail.com	24	Vocabulary	3	6						72

attemptID	answer	questionText	attemptID	attemptTimestamp	durationTaken	score	stuAnswer	isCorrect	matchingID	subject	correctAnswer	studentAnswer	isProper
Fill in the Blank	am	I am (you are) a student.	1	16/2/2023 22:34	4	3	am	TRUE					
Fill in the Blank	has	She _____ (has/have) a pet cat.	1	16/2/2023 22:34	4	3	has	TRUE					
Matching	He		1	16/2/2023 22:34	4	3		1	He	is	is	TRUE	
Matching	are		1	16/2/2023 22:34	4	3		2	They	are	are	TRUE	
Matching	Break the ice		2	16/2/2023 22:35	9	3		3	Break the ice	Start a conversation	Start a conversation	TRUE	
Matching	Under the weather		2	16/2/2023 22:35	9	3		4	Under the weather	Feeling sick	Feeling sick	TRUE	
Fill in the Blank	(was/were)	He _____ (was/were) in my room.	3	16/2/2023 22:35	5	3	was	TRUE					
Fill in the Blank	cooked	She _____ (cooked/cook) dinner last night.	3	16/2/2023 22:35	5	3	cooked	TRUE					
Matching	walk		3	16/2/2023 22:35	5	3		13	I _____ () to the park	walk	walk	TRUE	
Matching	walked		3	16/2/2023 22:35	5	3		14	He _____ () to school yesterday.	walked	walked	TRUE	
Fill in the Blank	does	She _____ (does/do) her homework every evening.	4	17/2/2023 10:53	9	3	does	TRUE					
Fill in the Blank	were	If I _____ (was/were) a bird, I would fly high.	4	17/2/2023 10:53	9	3	were	TRUE					
Matching	mat		4	17/2/2023 10:53	9	3		23	The boy _____ () his French-quality mat.	mat	mat	TRUE	
Matching	play		4	17/2/2023 10:53	9	3		24	The children _____ () in the park.	play	play	TRUE	
Fill in the Blank	welcome	The _____ (welcome/invited) us, sending us into the sky.	5	17/2/2023 14:06	4	3	welcome	TRUE					
Fill in the Blank	mystery	The detective solved the _____ (mystery/story) with great skill.	5	17/2/2023 14:06	4	3	mystery	TRUE					
Matching	fast		5	17/2/2023 14:06	4	3		47	Quick	fast	fast	TRUE	
Matching	clever		5	17/2/2023 14:06	4	3		48	Bright	clever	clever	TRUE	

Figure 3: First Normal Form (1NF) of Quizzing You Student Attempt Quiz Record

(Please note that the yellow-highlighted column in Figure 3 indicates the primary key of the table. To facilitate viewing of Figure 3, the 1NF table has been divided.)

Figure 3 illustrates how the composite primary keys questionID, attemptID, and matchingID are used to uniquely identify attribute values like stuAnswer, isCorrect, studentAnswer, and isProper. Each cell in 1NF has a single atomic value, which means that it comprises an indivisible piece of information.

Second Normal Form (2NF)

Table Name: summary			Table Name: matchingattempt			Table Name: matchingpair					
attemptID	questionID	studentAnswer	isCorrect	attemptID	matchingID	studentAnswer	isProper	matchingID	subject	correctAnswer	questionID
1	1	am	TRUE	1	1	is	TRUE	1	He	is	3
1	2	has	TRUE	1	2	are	TRUE	2	They	are	3
1	3			2	3	Start a conversation	TRUE	3	Break the ice	Start a conversation	6
2	6			2	4	Feeling sick	TRUE	4	Under the weather	Feeling sick	6
3	19	runs	TRUE	3	13	walk	TRUE	13	I _____ () to the park.	walk	21
3	20	cooked	TRUE	3	14	walked	TRUE	14	He _____ () to school yesterday.	walked	21
3	21			4	25	eats	TRUE	25	The boy _____ () his lunch quickly.	eats	39
4	37	does	TRUE	4	26	play	TRUE	26	The children _____ () in the park.	play	39
4	38	were	TRUE	5	47	Fast	TRUE	47	Quick	Fast	72
4	39			5	48	Clever	TRUE	48	Bright	Clever	72
5	70	volcano	TRUE								
5	71	mystery	TRUE								
5	72										

Table Name: question												
questionID	type	answer	questionText	quizID	category	totalMarks	grade	teacherID	teacherName	teacherPW	gender	teacherEmail
1	Fill in the Blank	ans	I _____ (is/am/are) a student.	1	Grammar	3	1					
2	Fill in the Blank	has	She _____ (has/have) a pet cat.	1	Grammar	3	1					
3	Matching			1	Grammar	3	1					
6	Matching			2	Motion	3	1	1	wood	wood@123male	wood@gmail.com	
19	Fill in the Blank	runs	He _____ (runs/run) every morning.	7	Verb	3	2					
20	Fill in the Blank	cooked	She _____ (cooked/cook) dinner last night.	7	Verb	3	2					
21	Matching			7	Verb	3	2					
37	Fill in the Blank	does	She _____ (does/do) her homework every evening.	13	Grammar	3	4					
38	Fill in the Blank	were	If I _____ (was/were) a bird, I would fly high.	13	Grammar	3	4					
39	Matching			13	Grammar	3	4					
70	Fill in the Blank	volcano	The _____ (volcano/mountain) erupted, sending ash into the sky.	24	Vocabulary	3	6					
71	Fill in the Blank	mystery	The detective solved the _____ (mystery/story) with great skill.	24	Vocabulary	3	6					
72	Matching			24	Vocabulary	3	6					

Table Name: attempt													
attemptID	attemptTimestamp	durationTaken	score	quizID	studentID	studentName	studentPW	studentExt	gender	parentID	parentName	parentPW	parentEmail
1	16/2/2025 22:34	4	3	1	1	Jennie	jennie@1234	jennie@gmail	Female	1	Ali	Ali@1234	ali@gmail.com
2	16/2/2025 22:35	9	3	2	1	Jennie	jennie@1234	jennie@gmail	Female	1	Ali	Ali@1234	ali@gmail.com
3	16/2/2025 22:35	3	3	7	3	Rose	Rose@1234	Rose@gmail	Female	2	Ariana	ariana@1234	ariana@gmail.com
4	17/2/2025 20:53	3	3	13	1	Jennie	jennie@1234	jennie@gmail	Female	1	Ali	Ali@1234	ali@gmail.com
5	17/2/2025 14:06	4	3	24	2	Lissa	lissa@1234	lissa@gmail	Female	4	Jin	Jin@1111	Jin@gmail.com

Figure 4: Second Normal Form (2NF) of Quizzing You Student Attempt Quiz Record

(Please note that the yellow-highlighted column indicates the primary key of the table and the primary key of its table and refer to the primary key of another table as a foreign key is indicated by the blue-highlighted columns.)

A well-structured table that complies with 2NF is shown in Figure 4. Partial dependencies are eliminated in 2NF as no attribute depends just on a subset of the primary key. Redundancy and duplicate rows have significantly decreased as a result. Data integrity is improved due to the modifications to related data are simplified when non-key attributes depend on the entire primary key.

Third Normal Form (3NF)

Table Name: summary				Table Name: matchingattempt				Table Name: matchingpair			
attemptID	questionID	StuAnswer	IsCorrect	attemptID	matchingID	stuAnswer	isProper	matchingID	subject	correctAnswer	questionID
1	1	am	TRUE	1	1	is	TRUE	1	He	is	3
1	2	has	TRUE	1	2	are	TRUE	2	They	are	3
1	3			2	3	Start a com	TRUE	3	Break the ice	Start a conversation	6
2	6			2	4	Feeling sick	TRUE	4	Under the weather	Feeling sick	6
3	19	runs	TRUE	3	13	walk	TRUE	13	I _____ to the park.	walk	21
3	20	cooked	TRUE	3	14	walked	TRUE	14	He _____ to school yesterday.	walked	21
3	21			4	25	eats	TRUE	25	The boy _____ his lunch quickly.	eats	39
4	37	does	TRUE	4	26	play	TRUE	26	The children _____ in the park.	play	39
4	38	were	TRUE	5	47	Fast	TRUE	47	Quick	Fast	72
4	39			5	48	Clever	TRUE	48	Bright	Clever	72
5	70	volcano	TRUE								
5	71	mystery	TRUE								
5	72										
Table Name: question				Table Name: student				Table Name: teacher			
questionID	type	answer	questionText	quizID	studentID	studentName	studentPW	studentEmail	gender	parentID	
1	Fill in the Blank	am	I _____ (is/am/are) a student.	1	1	Jennie	jennie@1234	jennie@gmail.com	Female	1	
2	Fill in the Blank	has	She _____ (has/have) a pet cat.	1	2	Lisa	lalisa@1234	lalisa@1234	Female	4	
3	Matching			1	3	Rose	Rose@1234	rose@gmail.com	Female	2	
6	Matching			2							
19	Fill in the Blank	runs	He _____ (runs/run) every morning.	7							
20	Fill in the Blank	cooked	She _____ (cooked/cook) dinner last night.	7							
21	Matching			7							
37	Fill in the Blank	does	She _____ (does/do) her homework every evening.	13							
38	Fill in the Blank	were	If I _____ (was/were) a bird, I would fly high.	13							
39	Matching			13							
70	Fill in the Blank	volcano	The _____ (volcano/mountain) erupted, sending ash into the sky.	24							
71	Fill in the Blank	mystery	The detective solved the _____ (mystery/story) with great skill.	24							
72	Matching			24							
Table Name: attempt				Table Name: parent				Table Name: quiz			
attemptID	attemptTimestamp	duration	score	quizID	studentID	parentID	parentName	parentPW	parentEmail	category	totalMarks
1	16/2/2025 22:34	4	3	1	1	1	Ali	Ali@1234	ali@gmail.com	Grammar	3
2	16/2/2025 22:35	9	3	2	1	2	Ariana	ariana@1234	ariana@gmail.com	Idiom	3
3	16/2/2025 22:35	3	3	7	3	4	Jin	jin@1111	jin@gmail.com	Verb	3
4	17/2/2025 20:53	3	3	13	1					Grammar	4
5	17/2/2025 14:06	4	3	24	2					Vocabulary	6

Figure 5: Third Normal Form (3NF) of Quizzing You Student Attempt Quiz Record

Please note that the column that is highlighted in yellow indicates the table's primary key, the column that is highlighted in green indicates the table's foreign key and the column that is highlighted in blue indicates the table's primary key and refers to the primary key of another table as a foreign key.)

Figure 5 shows that 3NF is free of repetitive groups and duplicate rows. Since every non-key attribute depends directly on the primary key, which depends on the entire primary key, the inclusion of 3NF removes transitive dependencies. Because database updates are reliably reflected across linked data, this helps to improve data flexibility and strengthen data integrity. As a result, while the tables in 3NF have determinants, no tables with improper dependencies will exist.

Wireframe – Desktop

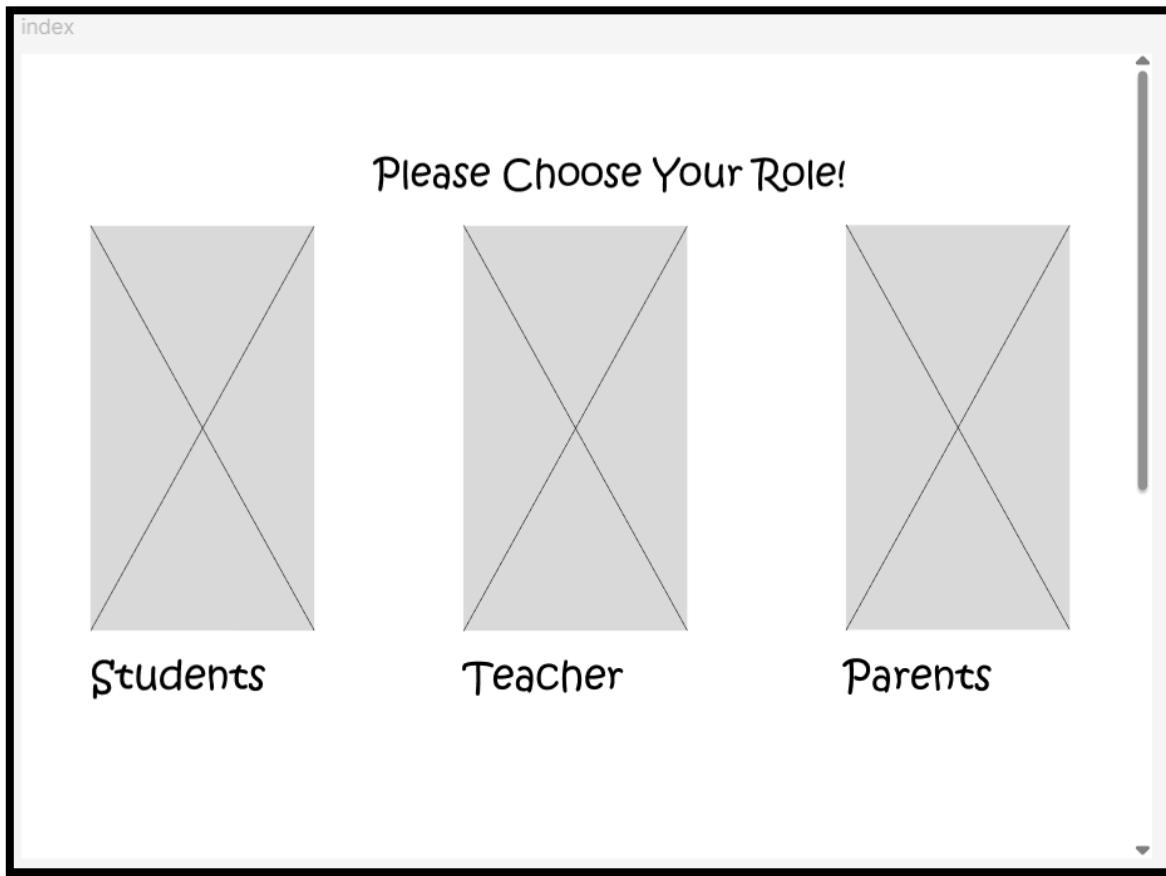


Figure 6: Choose Role Page

This figure shows the index page of our system, where users are allowed to choose their roles as students, teacher or parents. Each role is represented by a creative picture which makes the user interface more interactive.

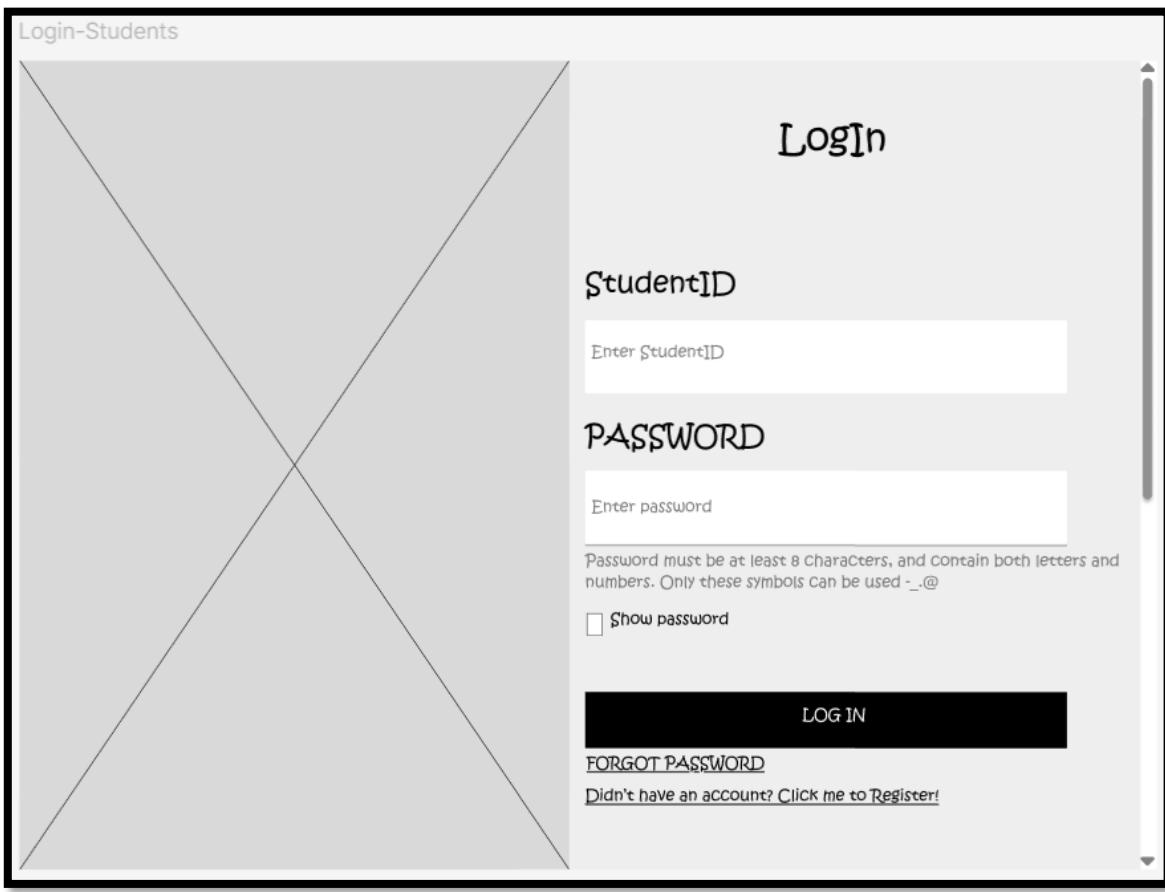


Figure 7: : Students LogIn Page

This figure shows the Login Page for students which allows users to access to the system using their StudentID, and password. This page consists of a “Show password” feature to ensure their password is entered correctly. Additionally, two links are provided which are “FORGOT PASSWORD” to assist users in recovering their accounts via email verification and “Didn’t have an account? Click me to Register” to allow new users to create an account.

Registrations-Students

Registration

Username

Enter username

PASSWORD

Enter password

Password must be at least 8 characters, and contain both letters and numbers. Only these symbols can be used -_.@

Show password

CONFIRM

Re-enter password

Password must be same with above.

Show password

GENDER

Select your gender.

EMAIL

Enter e-mail address

REGISTER

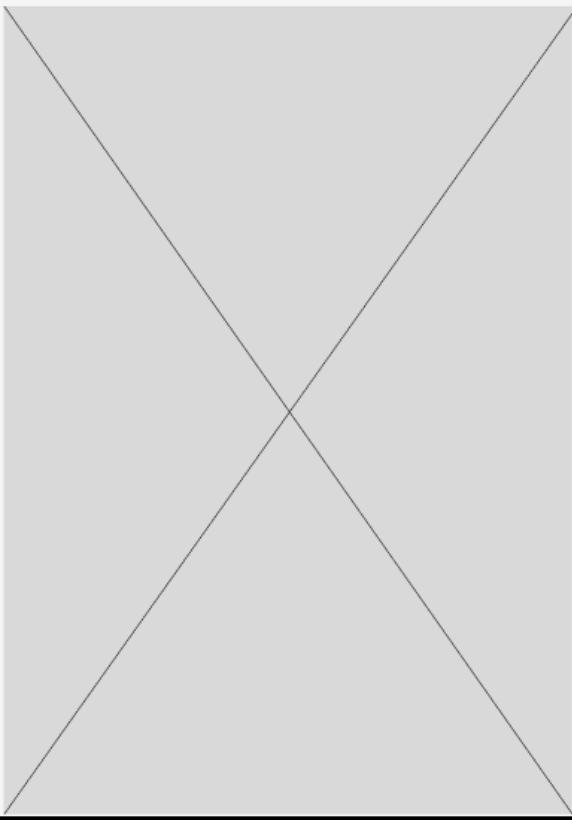


Figure 8: Registration Page for Students

This figure shows the Registration Page for students which allows new users to register themselves as students. This page requires new users to enter their username, password, confirm password, gender and email address. An image is placed on the left as an interactive element which makes the registration process attractive.

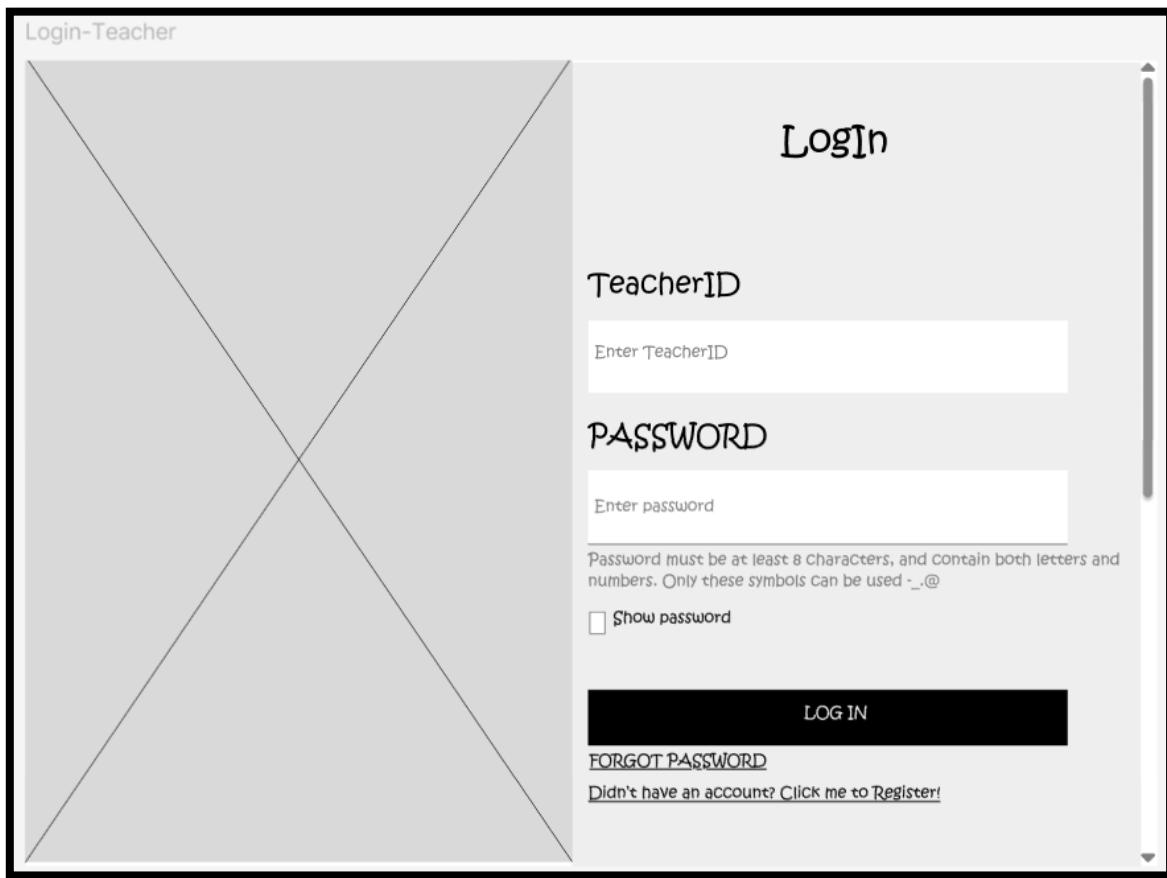


Figure 9: Teacher LogIn Page

This figure shows the Login Page for teacher which allows users to access to the system using their TeacherID, and password. This page consists of a “Show password” feature to ensure their password is entered correctly. Additionally, two links are provided which are “FORGOT PASSWORD” to assist users in recovering their accounts via email verification and “Didn’t have an account? Click me to Register” to allow new users to create an account.

Registrations-Teacher

Registration

Username

Enter username

PASSWORD

Enter password

Password must be at least 8 Characters, and contain both letters and numbers. Only these symbols can be used -_.@

Show password

CONFIRM

Re-enter password

Password must be same with above.

Show password

GENDER

-Select your gender-

EMAIL

Enter e-mail address

REGISTER

Figure 10: Registration Page for Teacher

This figure shows the Registration Page for teacher which allows new users to register themselves as teacher. This page requires new users to enter their username, password, confirm password, gender and email address. An image is placed on the left as an interactive element which makes the registration process attractive.

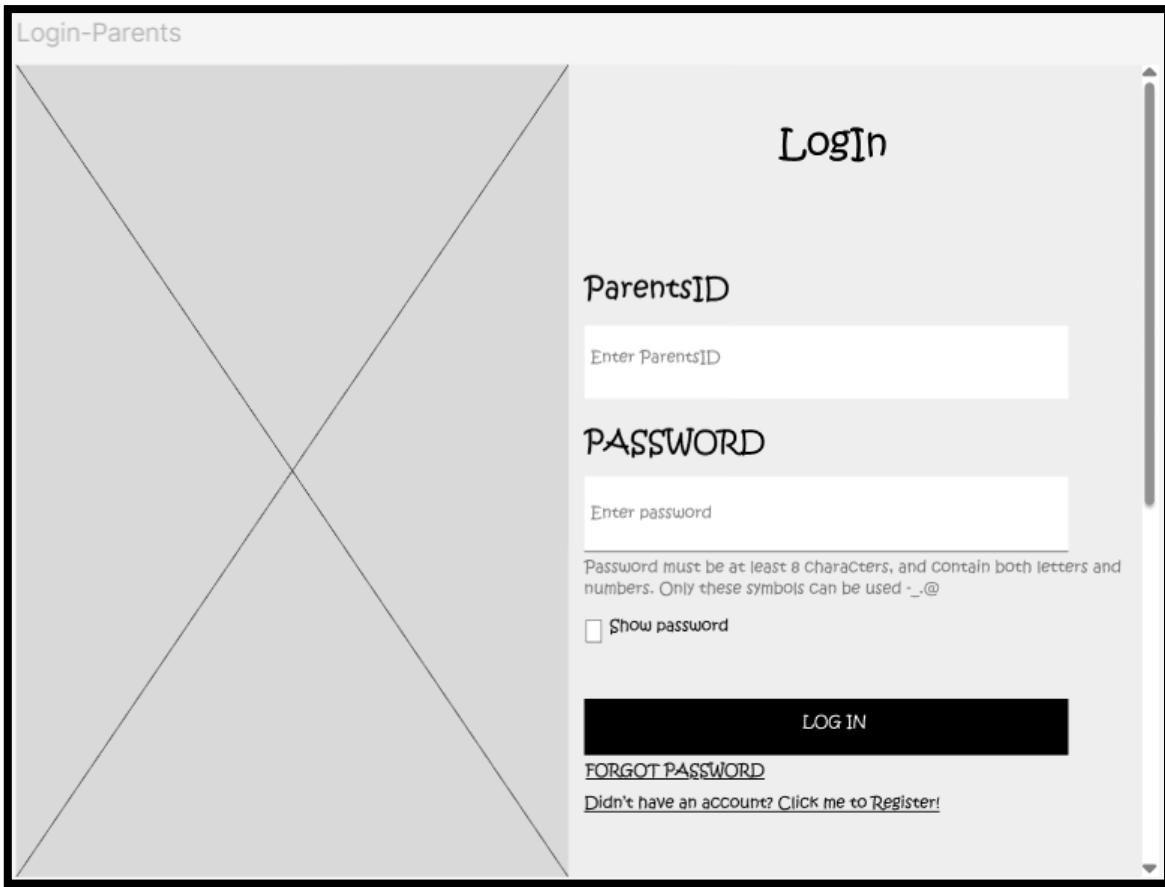
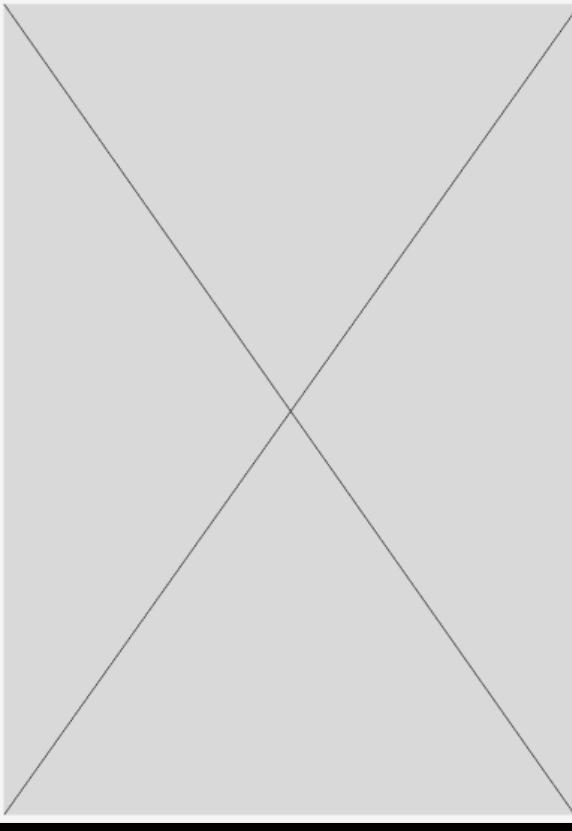


Figure 11: LogIn Page for Parents

This figure shows the Login Page for parents which allows users to access to the system using their StudentID, and password. This page consists of a “Show password” feature to ensure their password is entered correctly. Additionally, two links are provided which are “FORGOT PASSWORD” to assist users in recovering their accounts via email verification and “Didn’t have an account? Click me to Register” to allow new users to create an account.

Registrations-Parents



Registration

Username

Enter username

PASSWORD

Enter password

Password must be at least 8 characters, and contain both letters and numbers. Only these symbols can be used -_.@

Show password

CONFIRM

Re-enter password

Password must be same with above.

Show password

GENDER

Select your gender:

EMAIL

* Enter e-mail address

REGISTER

Figure 12: Registration Page for Parents

This figure shows the Registration Page for parents which allows new users to register themselves as parents. This page requires new users to enter their username, password, confirm password, gender and email address. An image is placed on the left as an interactive element which makes the registration process attractive.

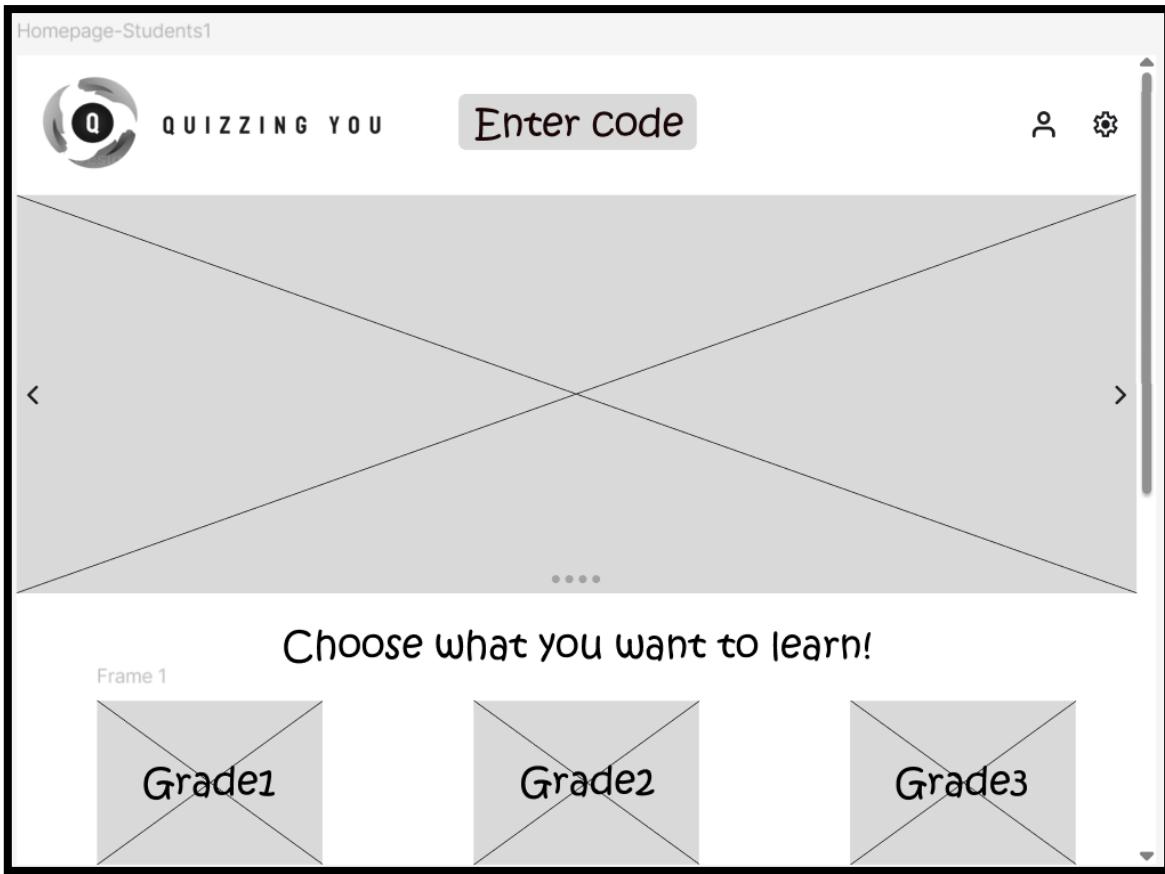


Figure 13: Students Homepage - Part 1

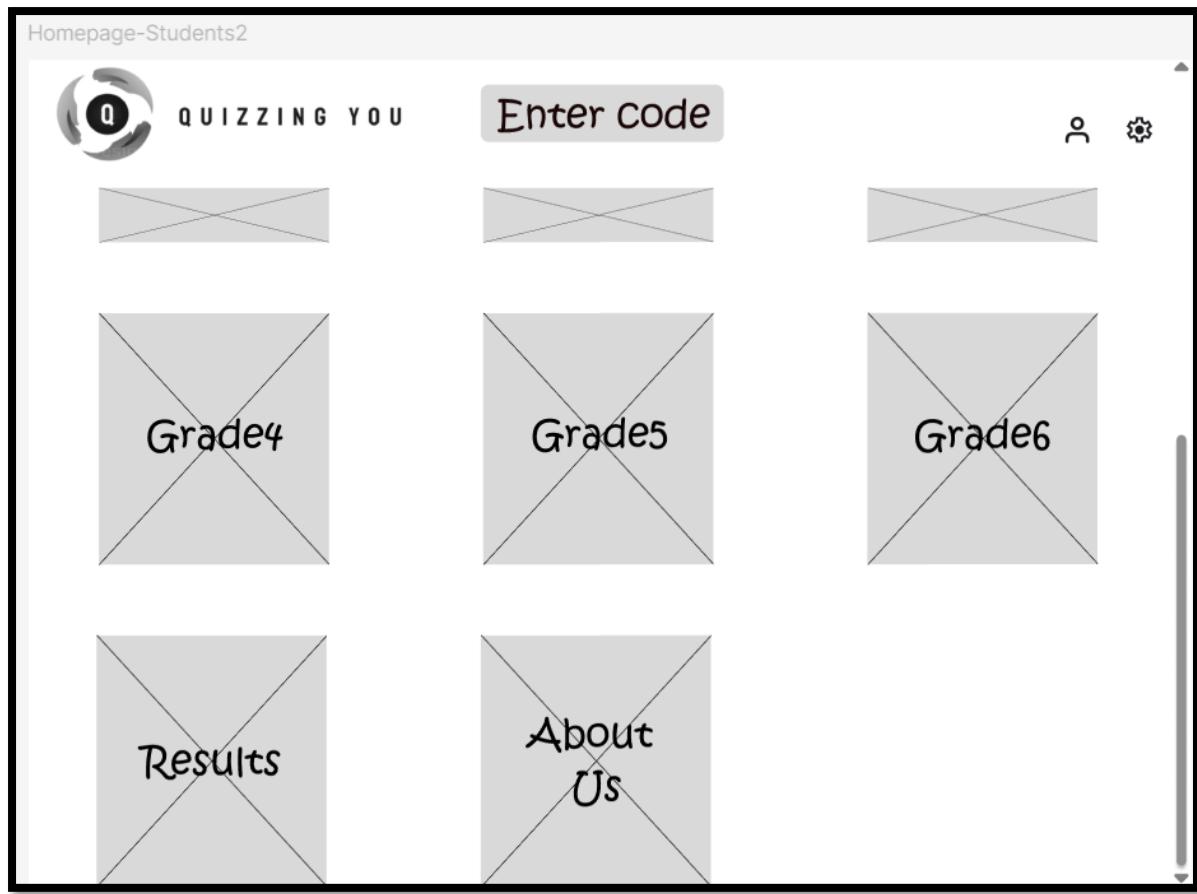


Figure 14: Students Homepage - Part 2

Figure 8 and Figure 9 show the Homepage for students. It consists of a stick-on-top navigation bar which allows user to enter the quiz code to start doing the quiz, visit their profile via the human icon, return to Homepage when they click the home icon, or access the settings menu through the settings icon. Hence, the middle section will display a scrollable collection of photos related to the website, accompanied by motivational quotes to inspire confidence in students. At the bottom, there are a few clickable boxes which can lead the students to access the quiz categorized by grade levels which are from Grade 1 to Grade 6.

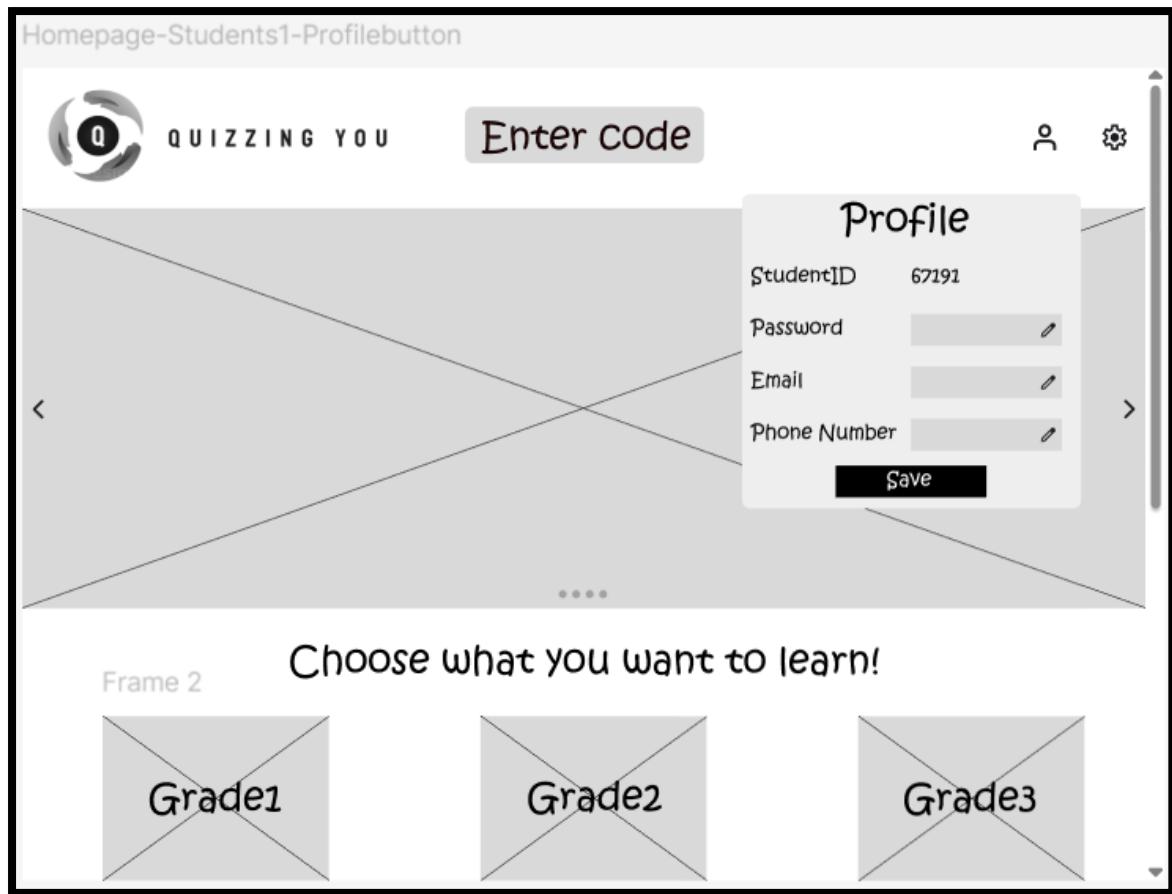


Figure 15: Manage Profile

This figure shows the homepage of students when they click the profile icon. When the profile icon is clicked, a profile menu will pop out. They may choose to edit their password, email and phone number by clicking the edit icon. After they edit their details, they may click the “Save” button to save their details. Hence, the StudentID is automatically generated by the system thus they are not allowed to edit their StudentID. Nevertheless, the StudentID will be shown for them.

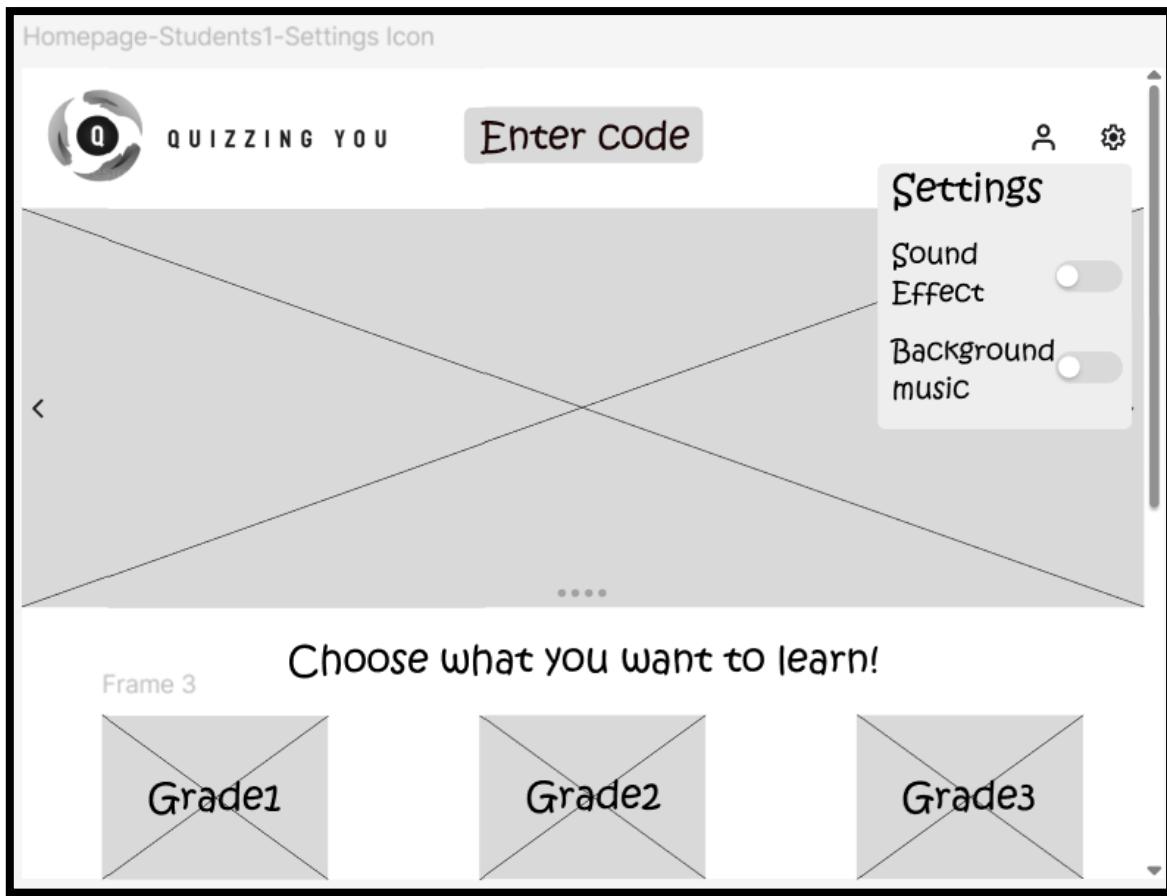


Figure 16: Settings

This figure shows the homepage of students when they click the settings icon. When the settings icon is clicked, a settings menu will pop out. They may choose to open or close the sound effects and background music of the webpage by clicking the toggle button.

Quiz-Grade1-ReadyMenu

Grade 1 Quiz starts now! Click the START when you are ready!!

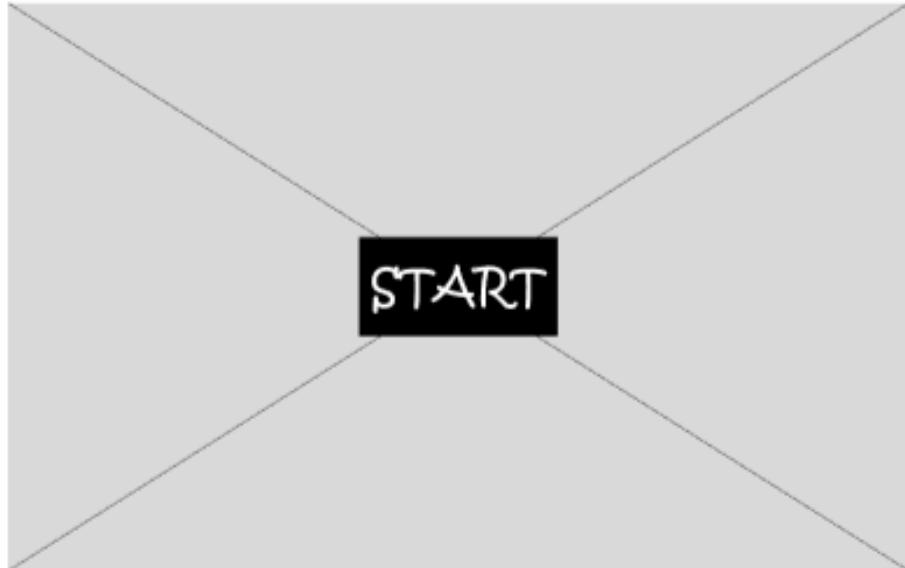


Figure 17: Ready Menu

This figure shows the Ready Menu for students which will be showing an interactive GIF or image inform the students that the quiz is about to start. This element helps to reduce stress of the children and create a relaxing ambience for them. When the children are ready, they may press the “START” button in the middle to start the quiz.

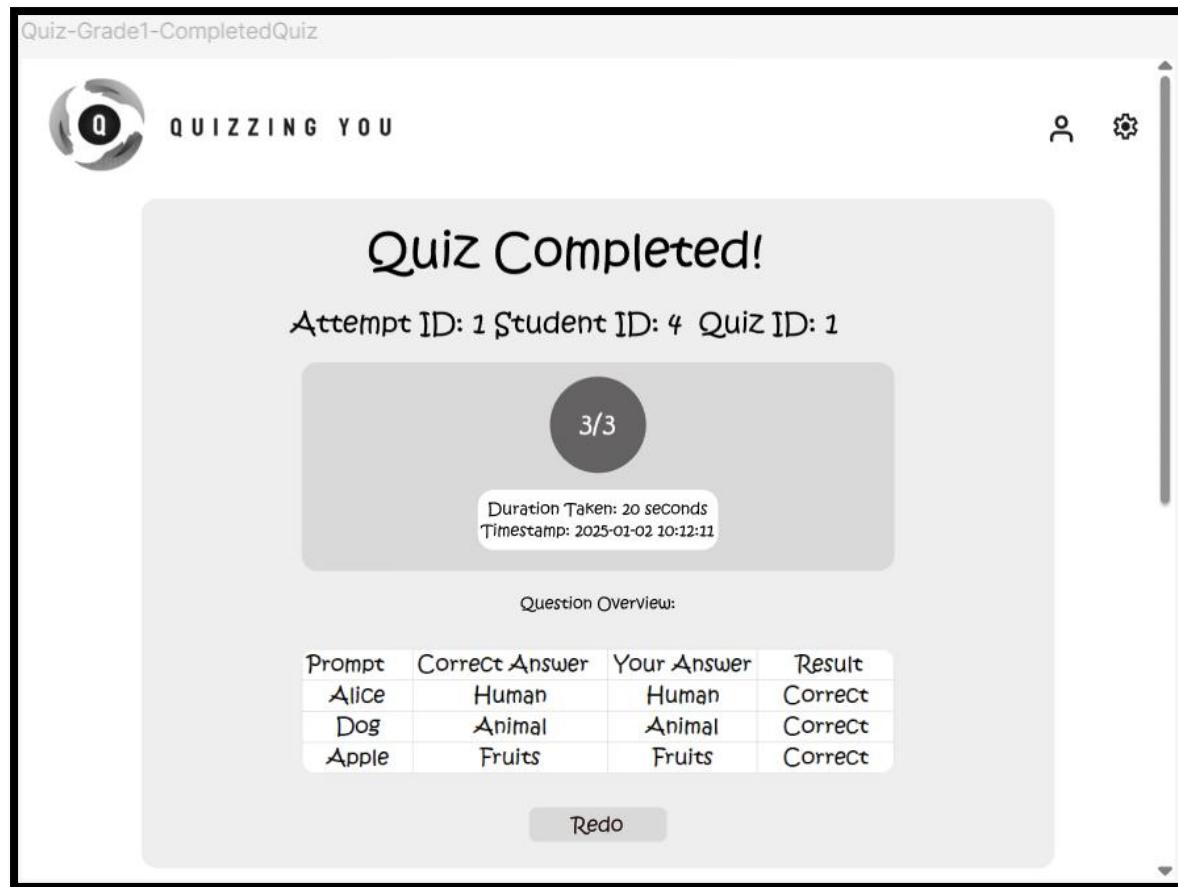


Figure 18: Quiz Results

This figure shows the Quiz Results page of the quiz. After the quiz is done, this page will be shown to the user, as well as the navigation bar will be displayed on the top. The results page will show the details such as AttemptID, StudentID, QuizID, score, duration taken, timestamp, and question overview. They may choose to review the quiz by scrolling through the content using the scrollbar. Besides, students may choose to redo the quiz by clicking the “Redo” button.

The figure displays a screenshot of a web-based quiz application titled "QUIZZING YOU". At the top left is a logo consisting of a stylized "Q" inside a circle with concentric arcs. To its right is the text "QUIZZING YOU". In the center, there is a button labeled "Enter code". On the far right, there are icons for user profile and settings. The main content area is titled "Quiz-Summary" and contains a table with the following data:

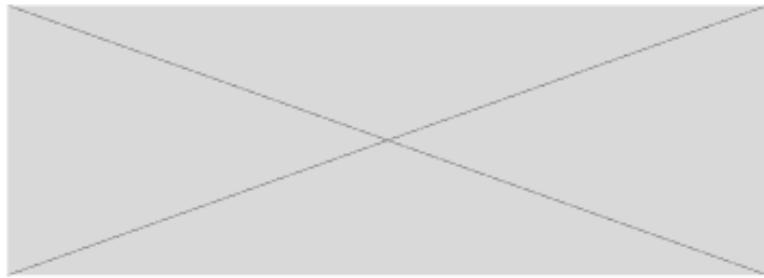
QuizID	Score	View	Attempt(s)	Date	Time	Duration
Q001	8/10		1	8/10/2024	10.30am	10 minutes
Q002	7/10		2	9/9/2024	12pm	20 minutes
Q003	4/10		1	8/5/2024	1.34pm	15 minutes
Q013	10/10		2	6/7/2024	9.32am	20 minutes
Q014	9/10		2	3/8/2024	5.23pm	15 minutes
Q020	6/10		3	10/8/2024	12.35pm	10 minutes
Q021	9/10		2	3/10/2024	7.18pm	15 minutes
Q022	6/10		1	15/6/2024	11.03am	10 minutes
Q025	9/10		3	3/11/2024	5.20pm	15 minutes
Q033	6/10		1	23/7/2024	4.23pm	10 minutes

Figure 19: Quiz Summary

This figure shows the summary page of quizzes that have been done by the students. The navigation bar is stick on top which allows user to start a new quiz by entering a code, visit their profile, return to the homepage, or visit the settings menu. The summary is shown in table format consists of details including QuizID, score, a view icon that can navigate the students to the results page, numbers of attempts for each quiz, as well as the date, time and duration of each attempt.

Quiz-Grade1-Question1

Grade 1-Question 1



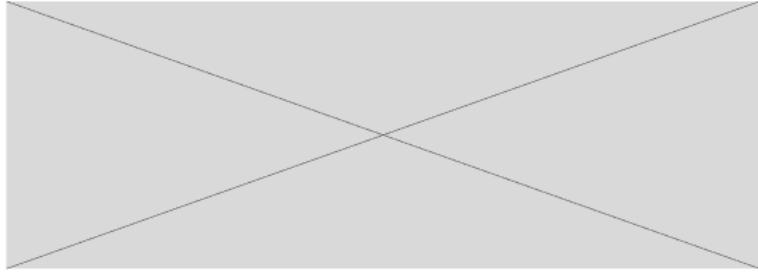
What is the animal of the photo?

- Tiger
- Elephant
- Cat
- Zebra

Figure 20: Example MCQ Question

This figure shows an example of Multiple Choice Question (MCQ). Each question will provide four answers, allowing students to choose their preferred answer from the given options.

Grade 1-Question 1



What is the animal of the photo?

- Tiger
- Elephant ✓ Elephants are the largest land animals and are known for their long, flexible trunks, which they use for picking up objects, drinking water, and making sounds. They are herbivores that live in groups led by females and can live up to 65 years.
- Cat
- Zebra

Figure 21: Example MCQ - Marked

This figure shows an example of a marked Multiple Choice Question(MCQ). Once students select their preferred option, the system will automatically evaluate the answer, indicating whether the answer is correct or incorrect. Besides, a brief explanation of the question will be displayed to enhance the understanding.

Grade 1-Question 2

Fill in the blanks.

Alice [] Ella went
to shopping mall
yesterday.

Figure 22: Example Fill-in-the-Blank Question

This figure shows an example of Fill-in-the-Blank question. Students are required to type their answer into the provided text box.

Grade 1-Question 2

Fill in the blanks.

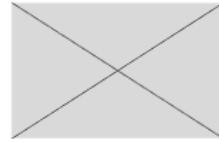
Alice and ✓Ella went
to shopping mall
yesterday.

Figure 23: Example Fill-in-the-Blank Question - Marked

This figure shows an example of a marked fill in the black question. The system will automatically evaluate and mark the answer once the students have entered their answer in the provided text box.

Grade 1-Question 3

Match the following.



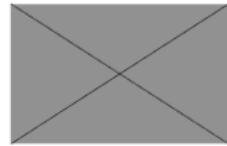
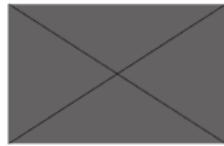
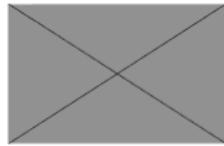
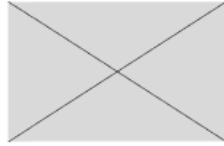
[Submit Quiz](#)

Figure 24: Example Matching Question

This figure shows an example of a matching question. Prompts are all shown on the left side while answers are all shown on the right side. Students are required to match the prompt with the correct answer by clicking the prompt first and then clicking the answer.

Grade 1-Question 3

Match the following.



[Submit Quiz](#)

Figure 25: Example Matching Question - Marked

This figure shows an example of a marked matching question. Once students have answered the questions, the system will automatically evaluate and mark the response. If the prompt and answer are matched, both will show green. Else, both will show red. By clicking the “Submit Quiz” button, it will lead user to the Quiz Summary page.

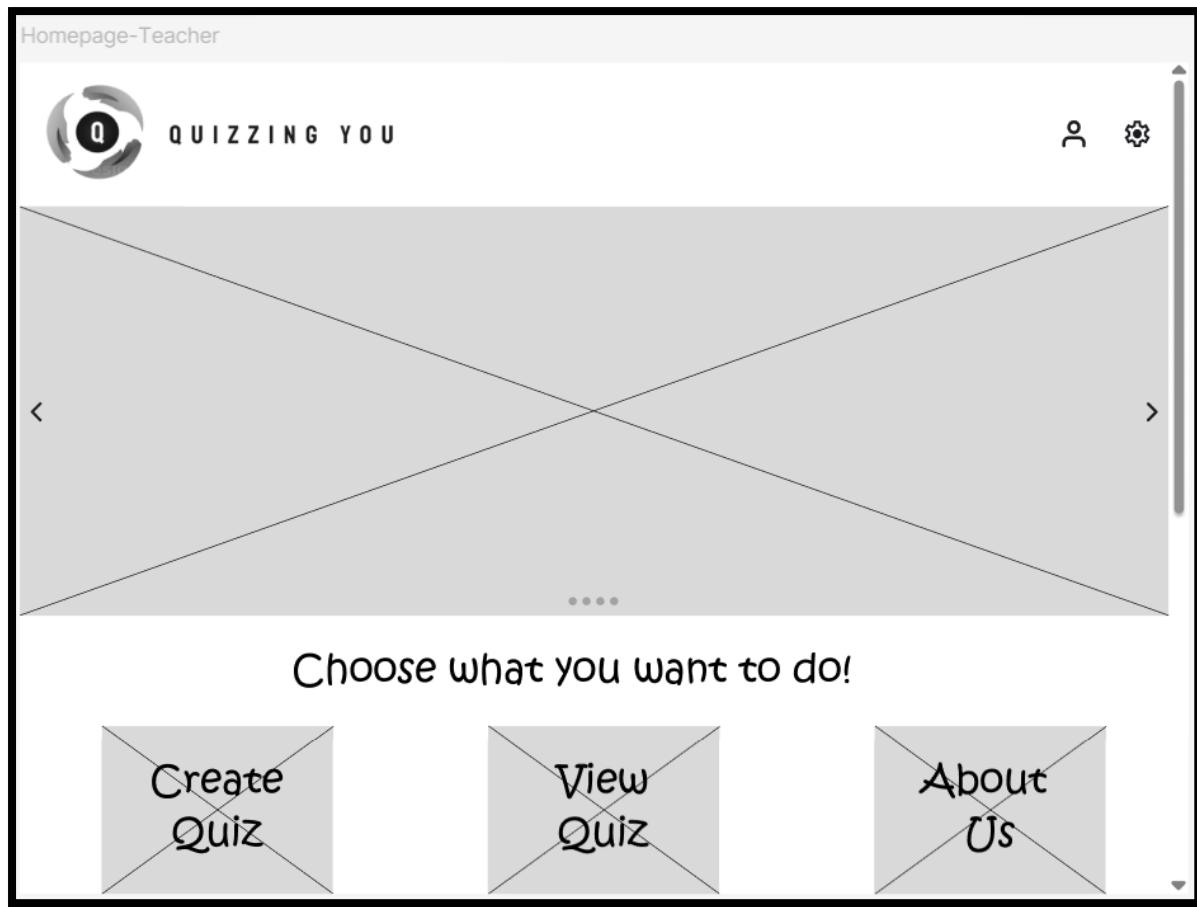


Figure 26: Teacher Homepage

This figure shows the Homepage for teachers. It consists of a stick-on-top navigation bar which allows user return to Homepage when they click the logo, visit their profile via the human icon, or access the settings menu through the settings icon. Hence, the middle section will display a scrollable collection of photos related to the website, accompanied by some features of the website that can make the quiz more interactive. At the bottom, there are a few clickable boxes that provide quick access to functions such as creating a quiz, viewing quizzes and checking the “About Us” section to know more about the website.

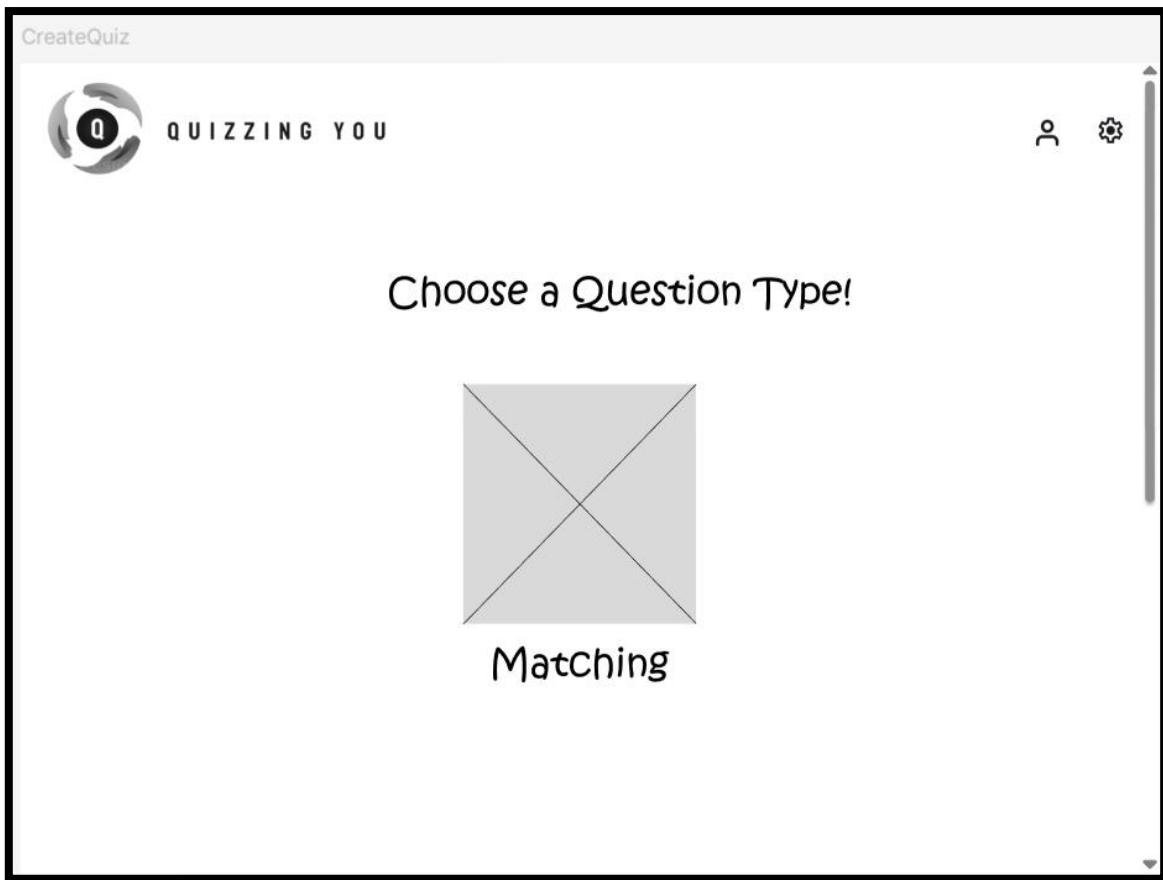


Figure 27: Create Quiz Page

This figure shows the Create Quiz page, having a stick-on-top navigation bar for quick access to the homepage, profile, and settings menu. Teachers are allowed to add questions by first selecting the type of question which is Matching.

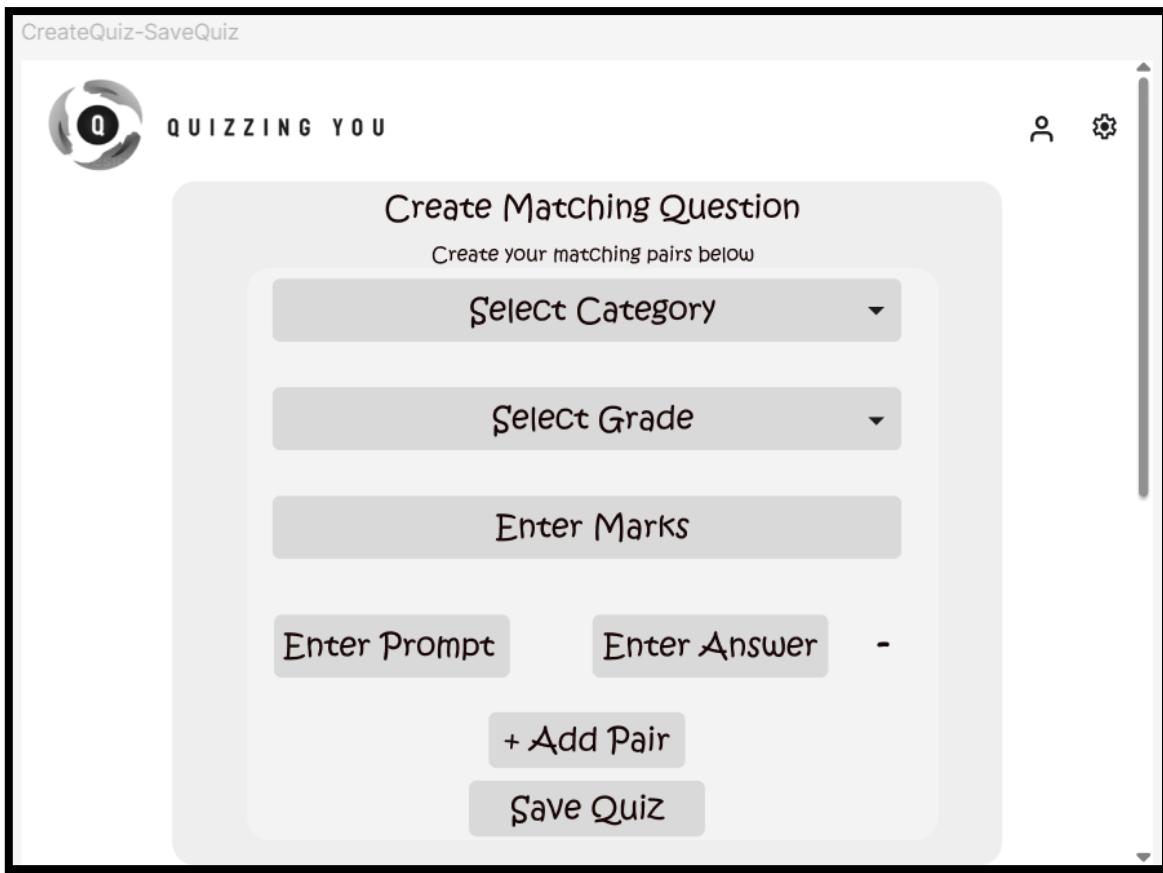


Figure 28: Create Matching Questions Page

This figure shows the page of creating a matching question. A stick-on-top navigation bar is displayed on this page as well. Teachers may select the category and grade by clicking the dropdown button. Besides, teachers are able to enter the marks too. Additionally, teachers will need to type the prompt and answer for the quiz. Teacher can choose to add more questions by clicking the “+ Add Pair” button or remove the questions by clicking the “-” button.

The screenshot shows a web application interface titled "View Lists". At the top left is a circular logo with a stylized letter "Q". To its right is the text "QUIZZING YOU". On the far right are two icons: a user profile and a gear. Below the header, the title "View Created Quiz" is displayed. A table follows, listing five quizzes with the following details:

QuizID	TeacherID	Type	Category	Grade	Prompt	Answer
1	1	Matching	Verb	2	Alice	Human
1	1	Matching	Verb	2	Dog	Animal
1	1	Matching	Verb	1	Apple	Fruits
2	2	Matching	Vocabulary	4	Malaysia	Country
2	2	Matching	Vocabulary	3	Car	Transport

Figure 29: View Created Quiz Page

This figure will display as the teachers click the “View Quiz” button at the Teacher Homepage. All created quiz will be shown in this page. Each published quiz will be displayed along with the details including QuizID, TeacherID, Type, Category, Grade, Prompt and Answer.

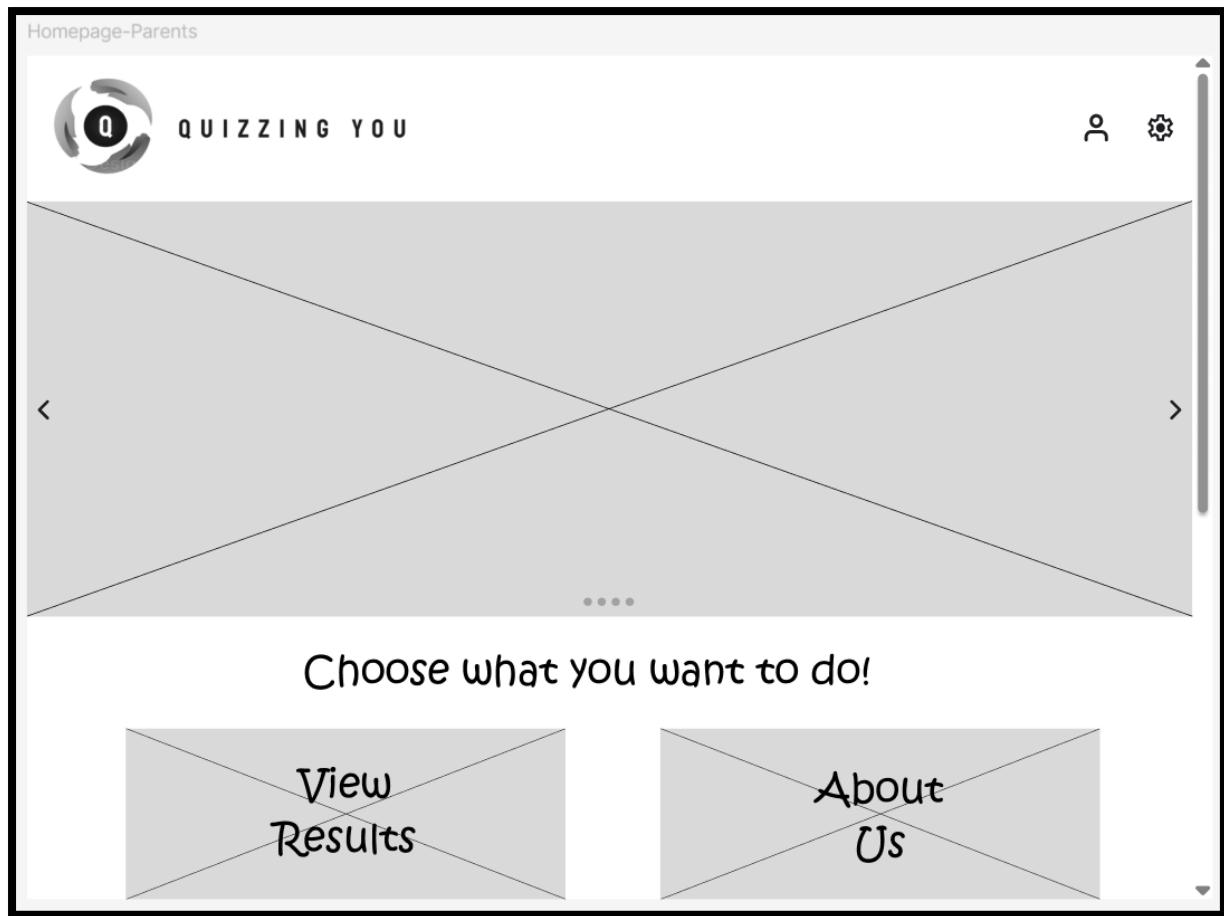


Figure 30: Parents Homepage

This figure shows the homepage of parents. It consists of a navigation bar that provides quick access to their profile, home and settings menu. Hence, the middle section will display a scrollable collection of photos related to the website. At the bottom, there are a few clickable boxes which can lead the parents to view the results of their children. Additionally, they may also click the “About Us” section to learn more about the website.

The screenshot shows a web-based application interface for parents to view their children's quiz results. At the top left is the title "Parents-ViewResults". In the center is a logo consisting of a stylized "Q" inside a circle with concentric arcs. To the right of the logo is the text "QUIZZING YOU". On the far right are two small icons: a gear and a user profile. Below the header is a search bar with the placeholder text "Enter StudentID". Underneath the search bar is a table with the following data:

QuizID	Score	View	Attempt(s)	Date	Time	Duration
Q001	8/10		1	8/10/2024	10.30am	10 minutes
Q002	7/10		2	9/9/2024	12pm	20 minutes
Q003	4/10		1	8/5/2024	1.34pm	15 minutes
Q013	10/10		2	6/7/2024	9.32am	20 minutes

Figure 31: View Results

This figure shows the page where parents can view the results of their children's quizzes. They are required to enter their children's StudentID. Once entered, a list of completed quizzes will be displayed including details such as QuizID, score, view icon, attempts, date, time and duration for each quiz. By clicking the view icon, parents may access and review the quiz to better understand their children's performance and progress.

Wireframe – Mobile

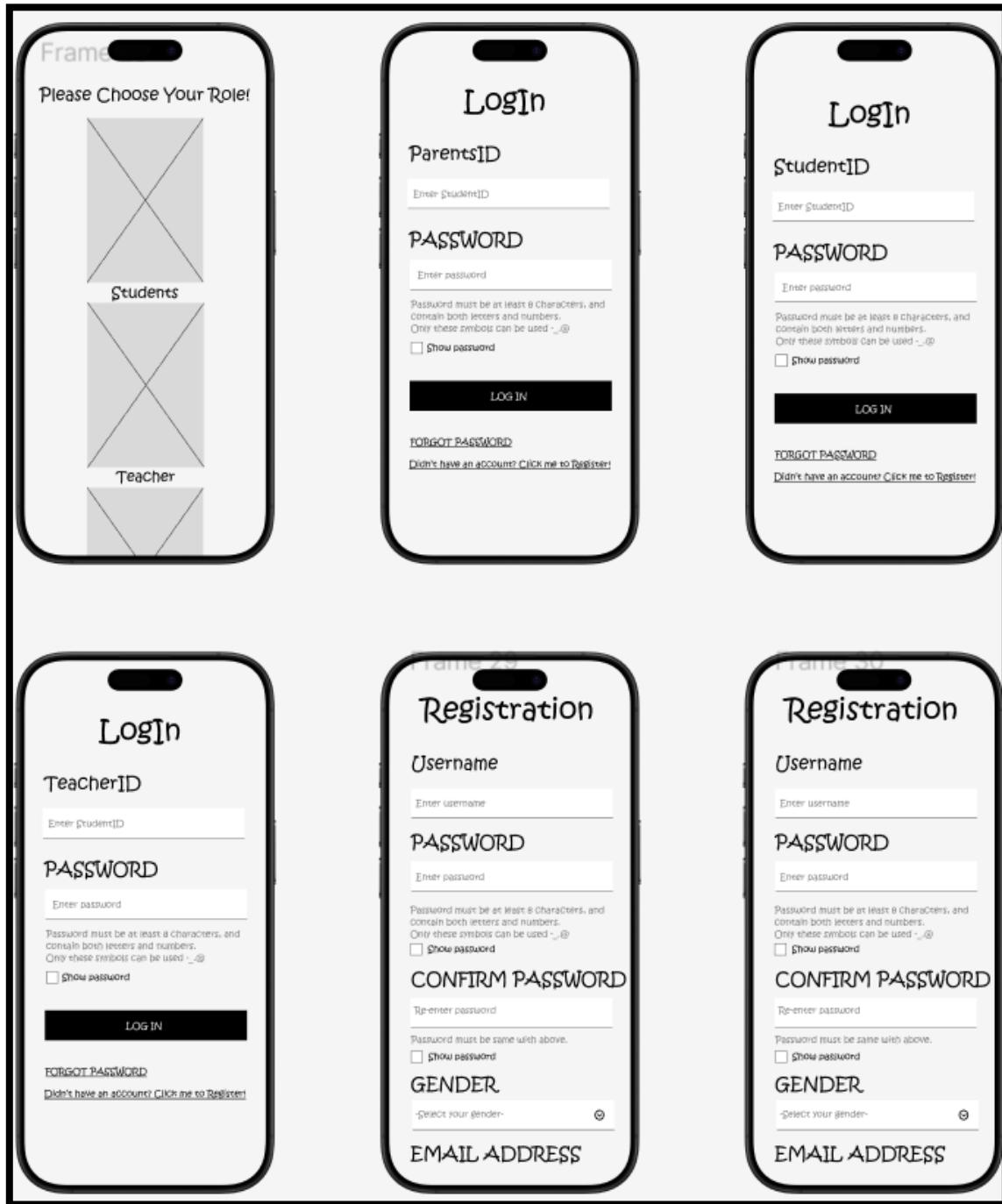


Figure 32: Mobile Wireframe - Part 1

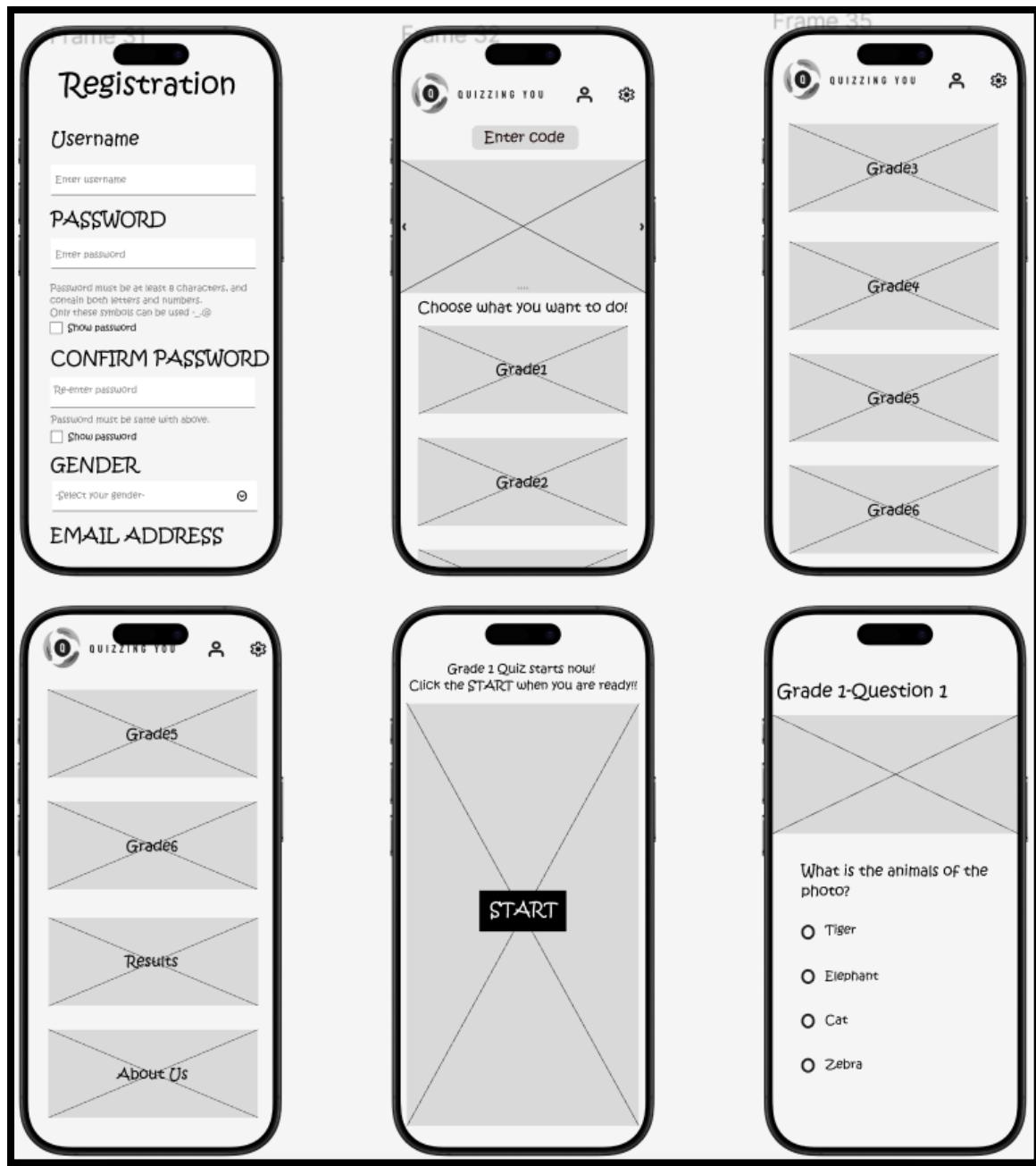


Figure 33: Mobile Wireframe - Part 2



Figure 34: Mobile Wireframe - Part 3

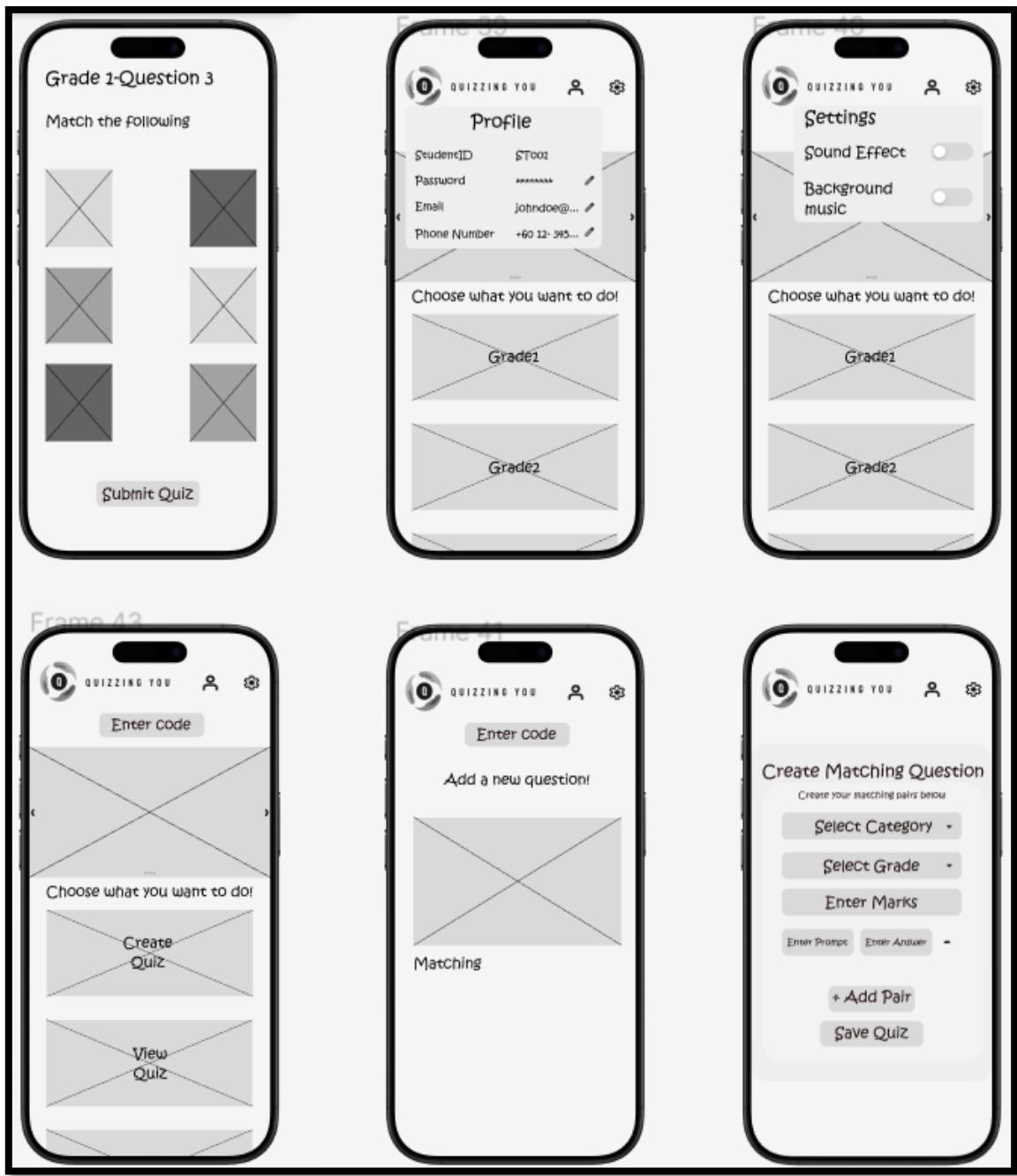


Figure 35: Mobile Wireframe - Part 4

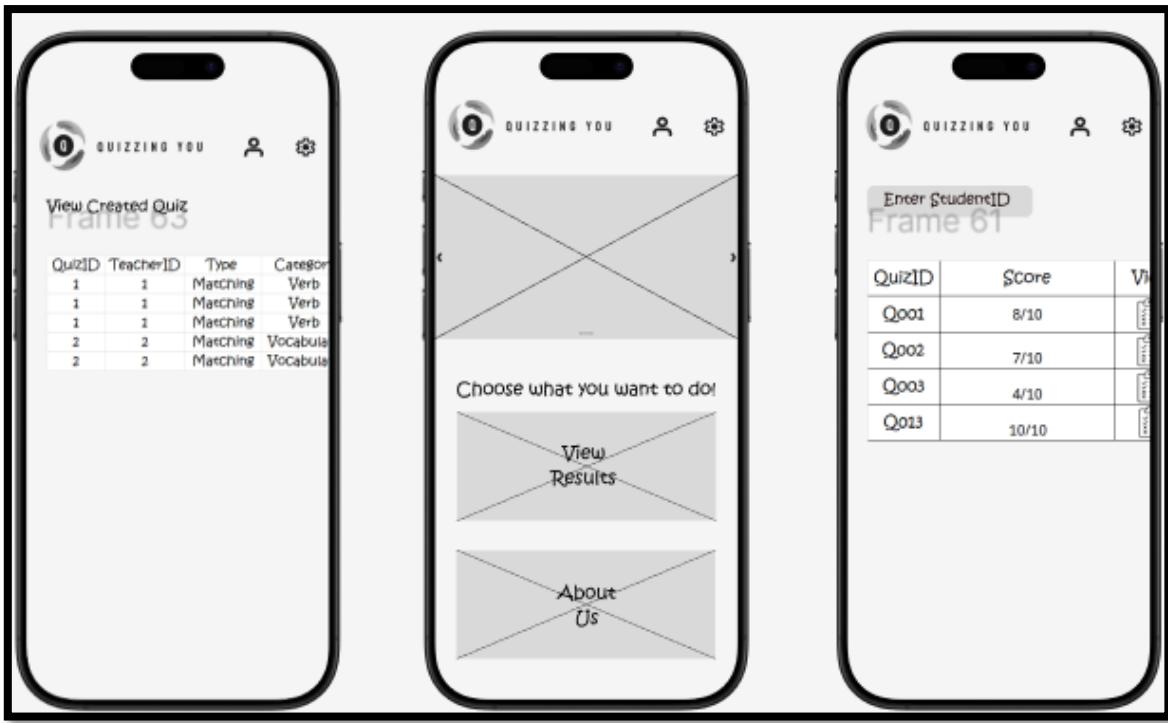


Figure 36: Mobile Wireframe - Part 5

Navigational Structure

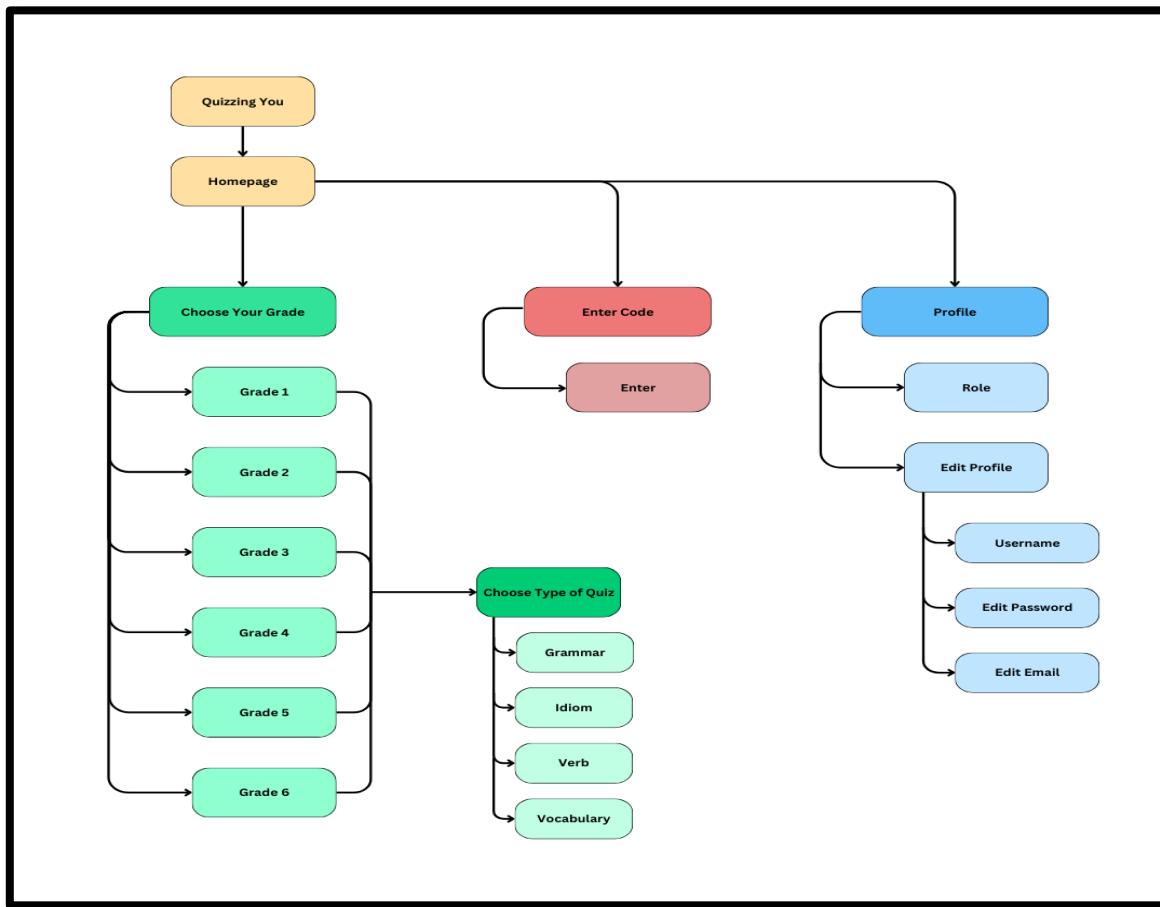


Figure 37: Navigational Structure

Implementation

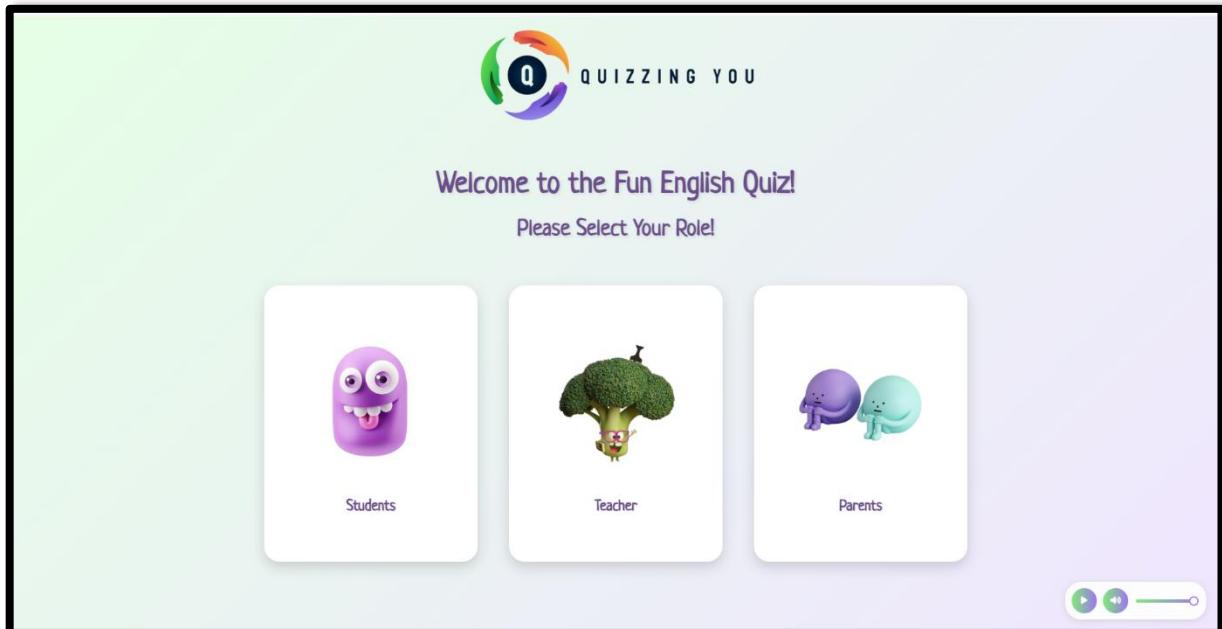


Figure 38: Landing Page

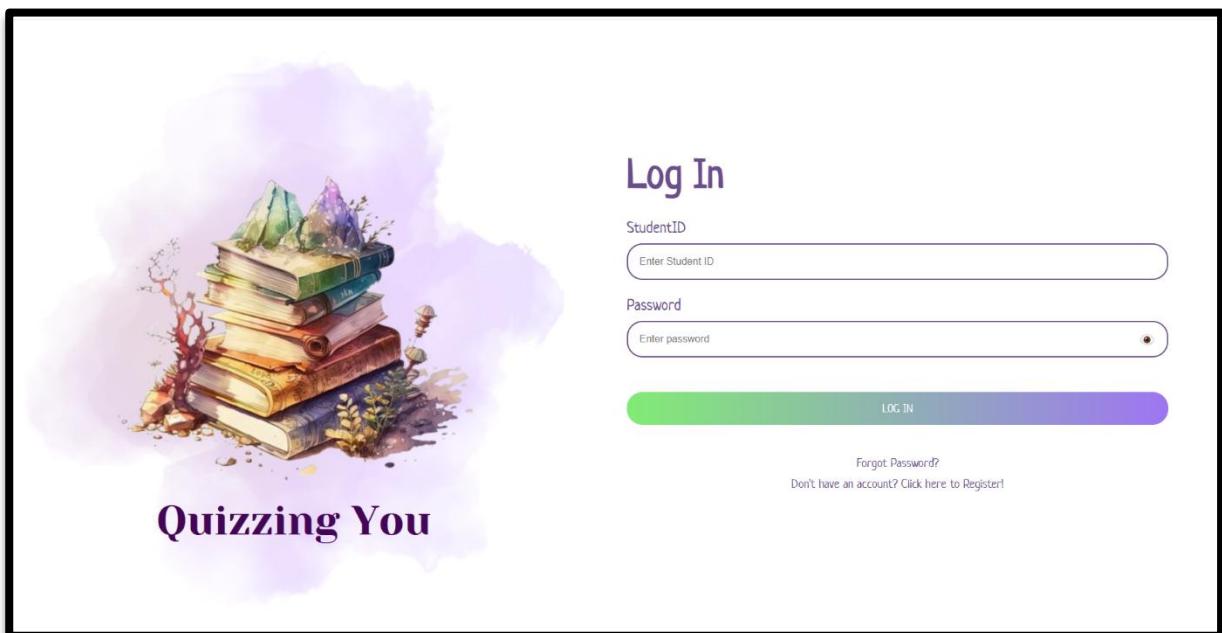


Figure 39: Login Page (Student)

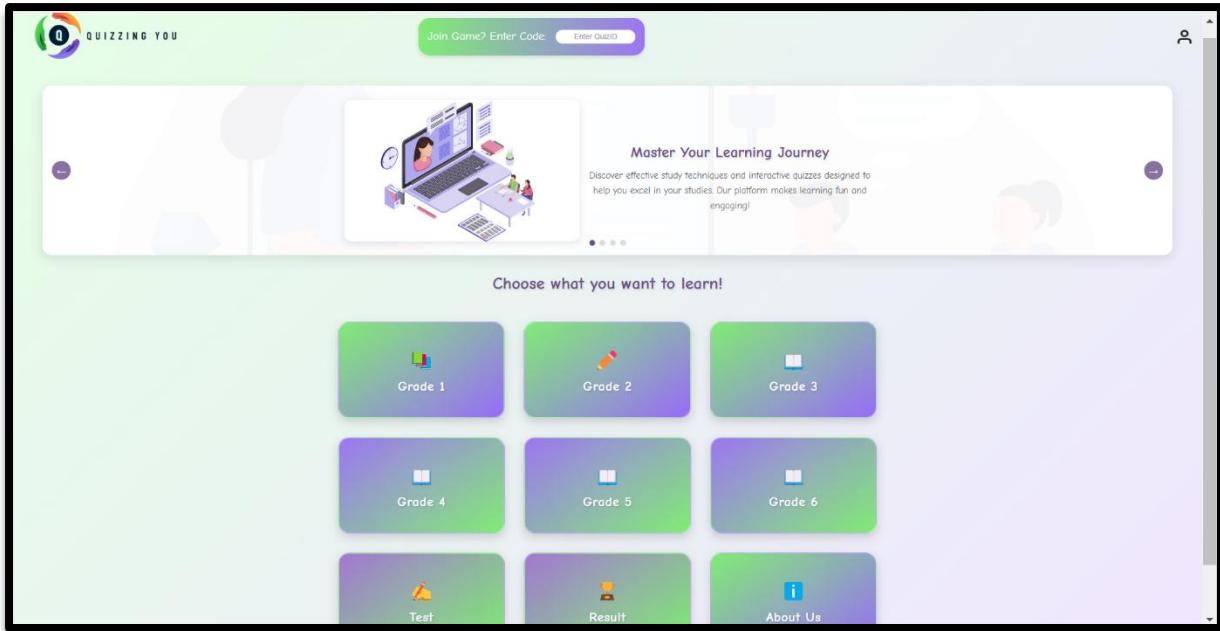


Figure 40: Student Homepage

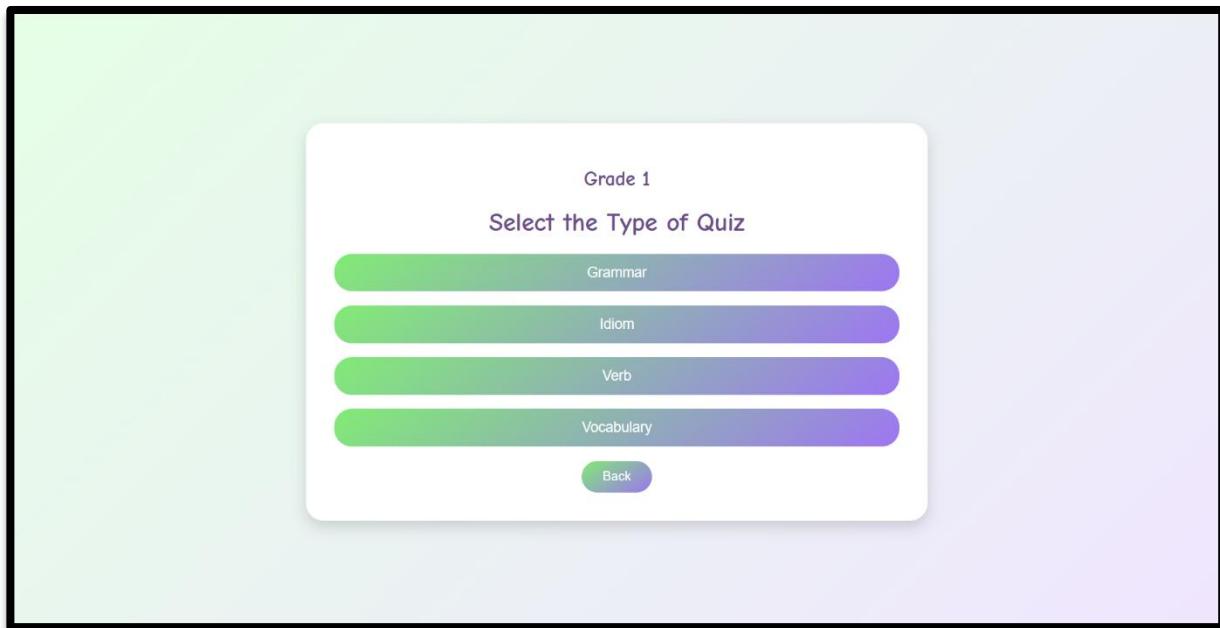


Figure 41: Quiz Mode Selection

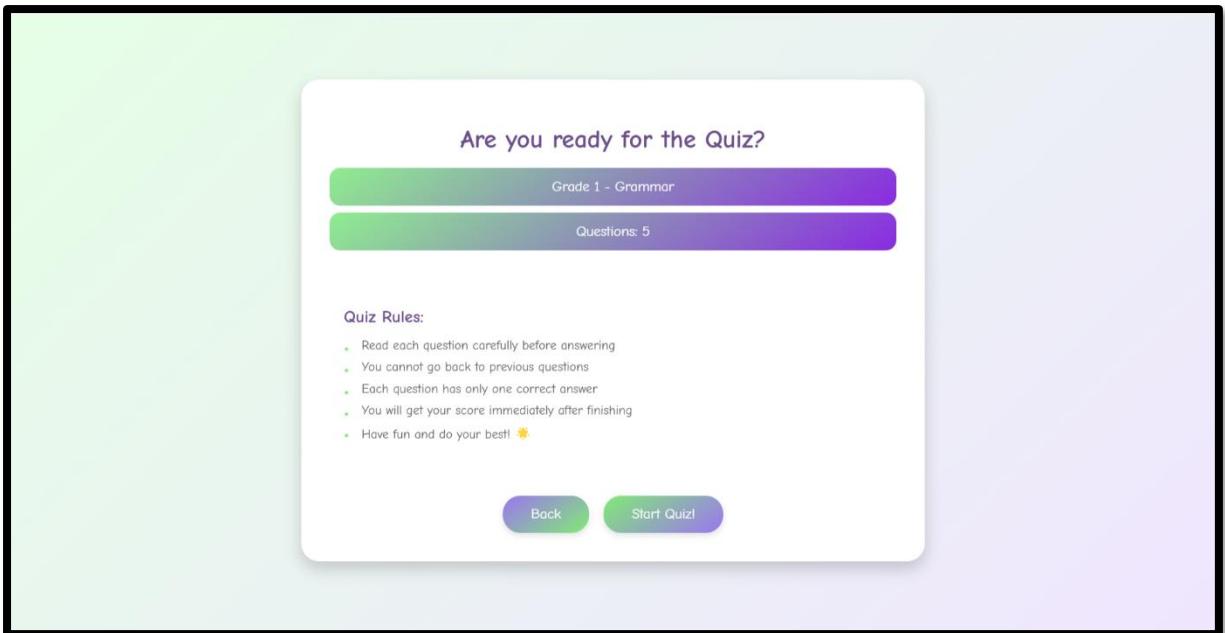


Figure 42: Ready Menu

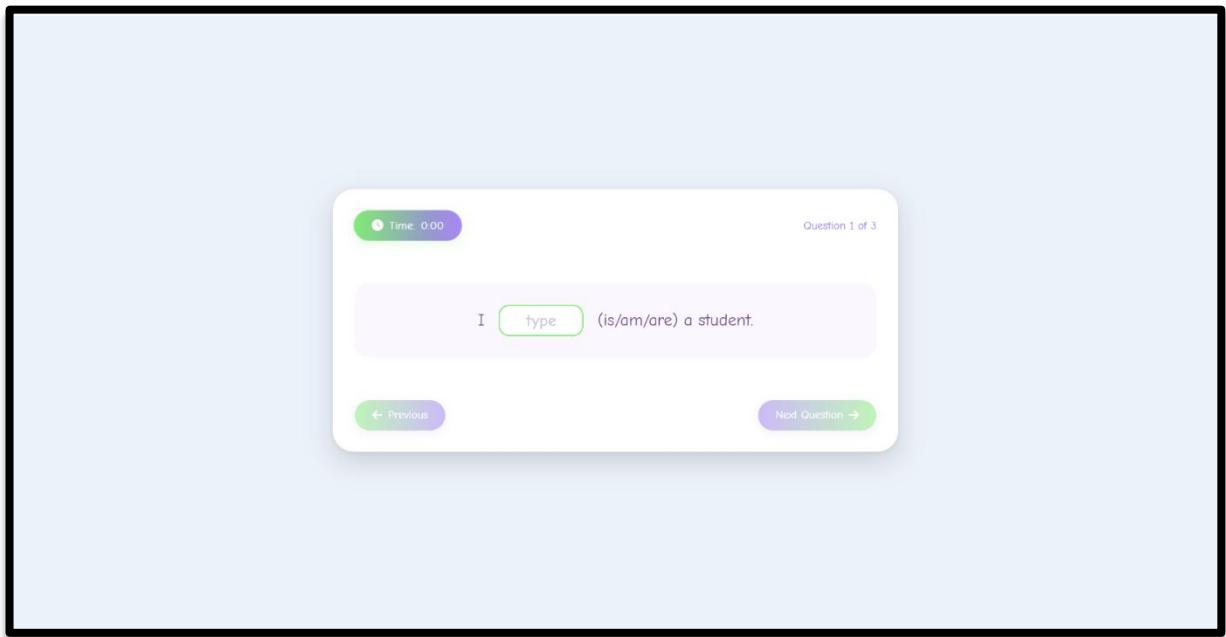


Figure 43: Quiz (Fill In The Blanks)

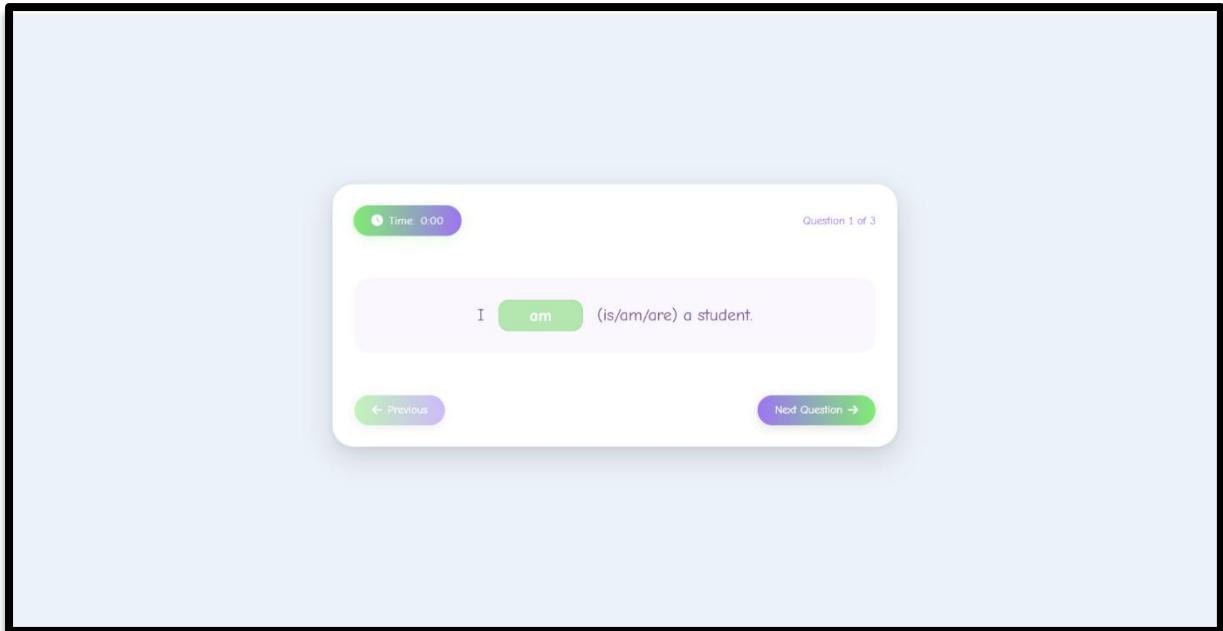


Figure 4442: True Response Indication

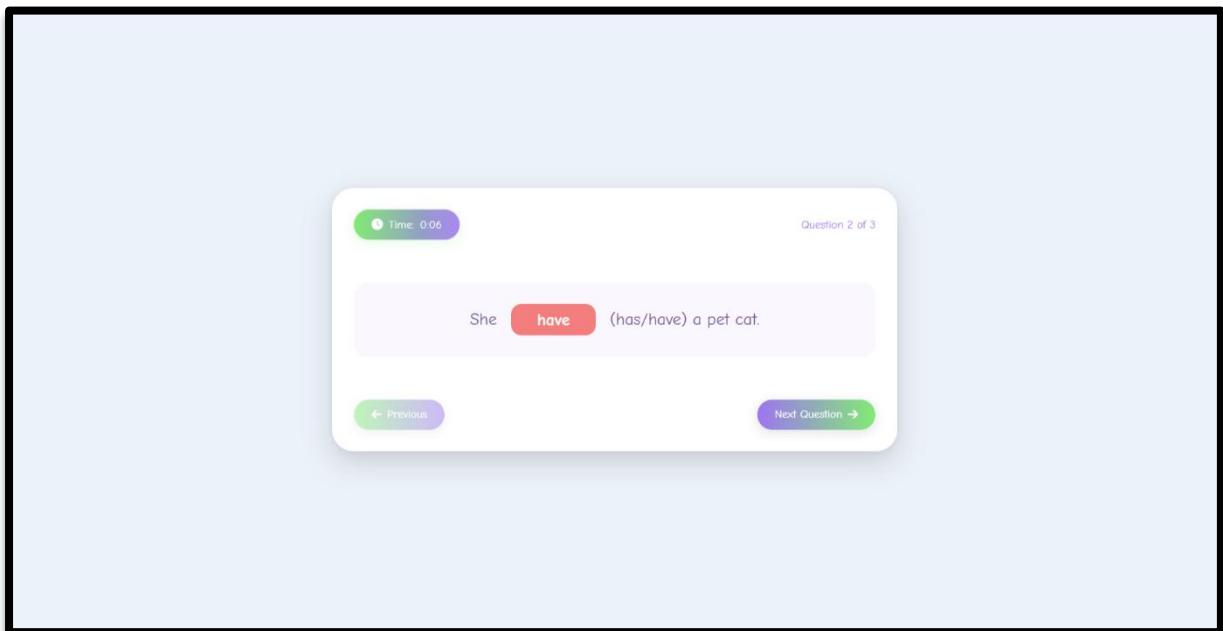


Figure 4543: False Response Indication

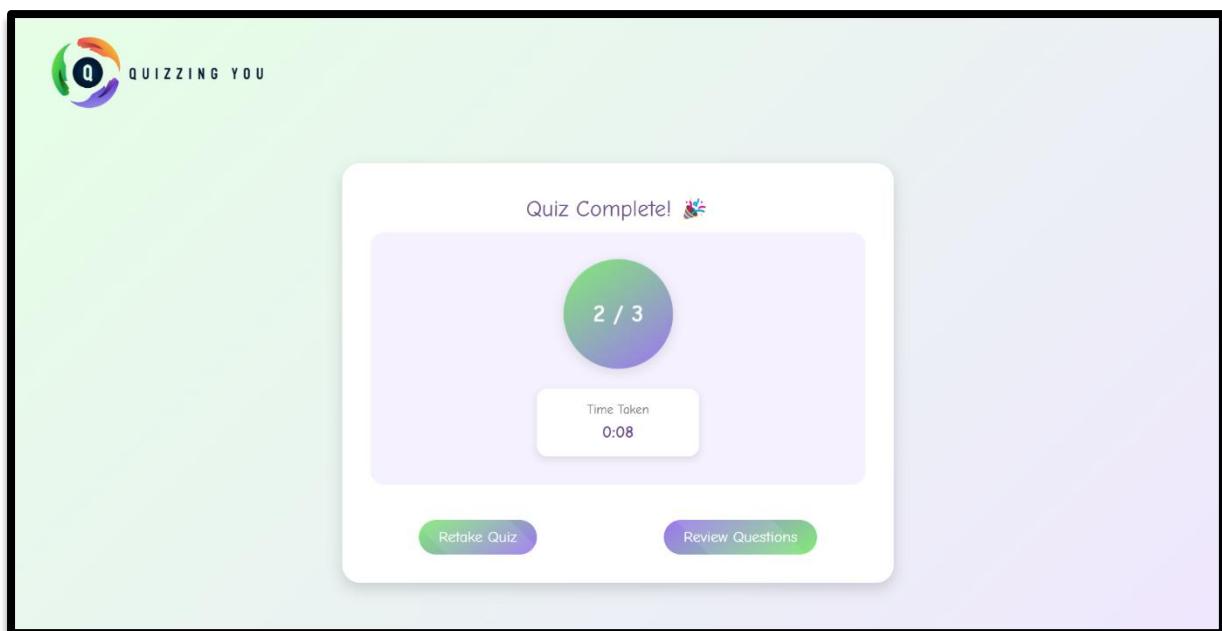


Figure 46: Quiz Summary

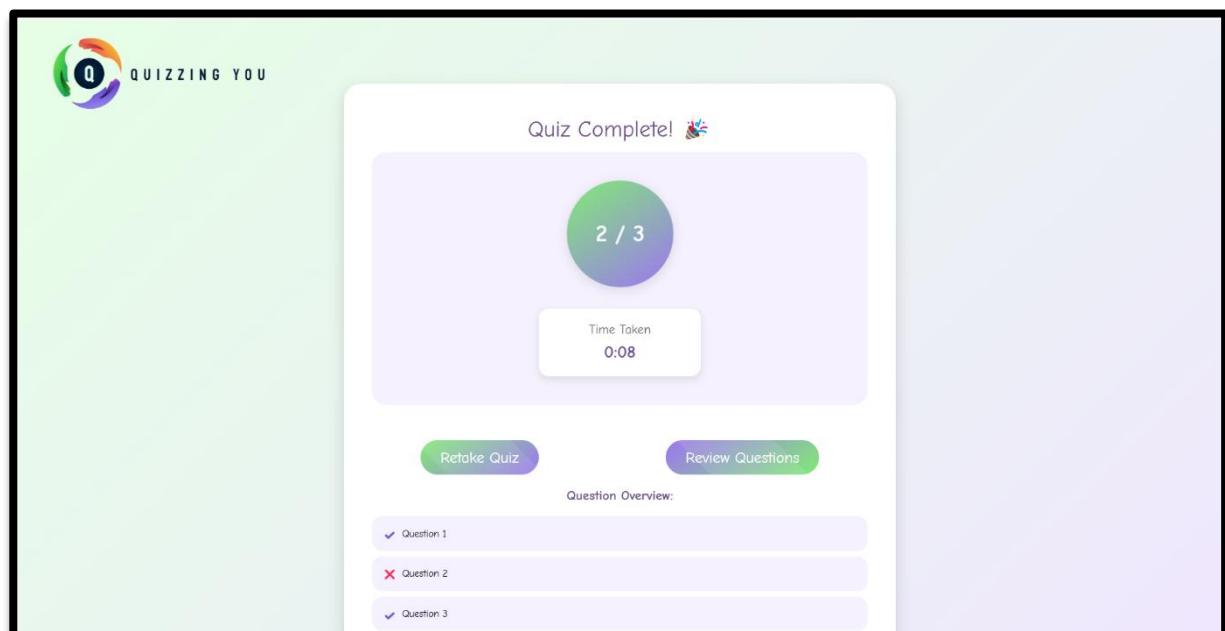


Figure 47: Review Question Clicked

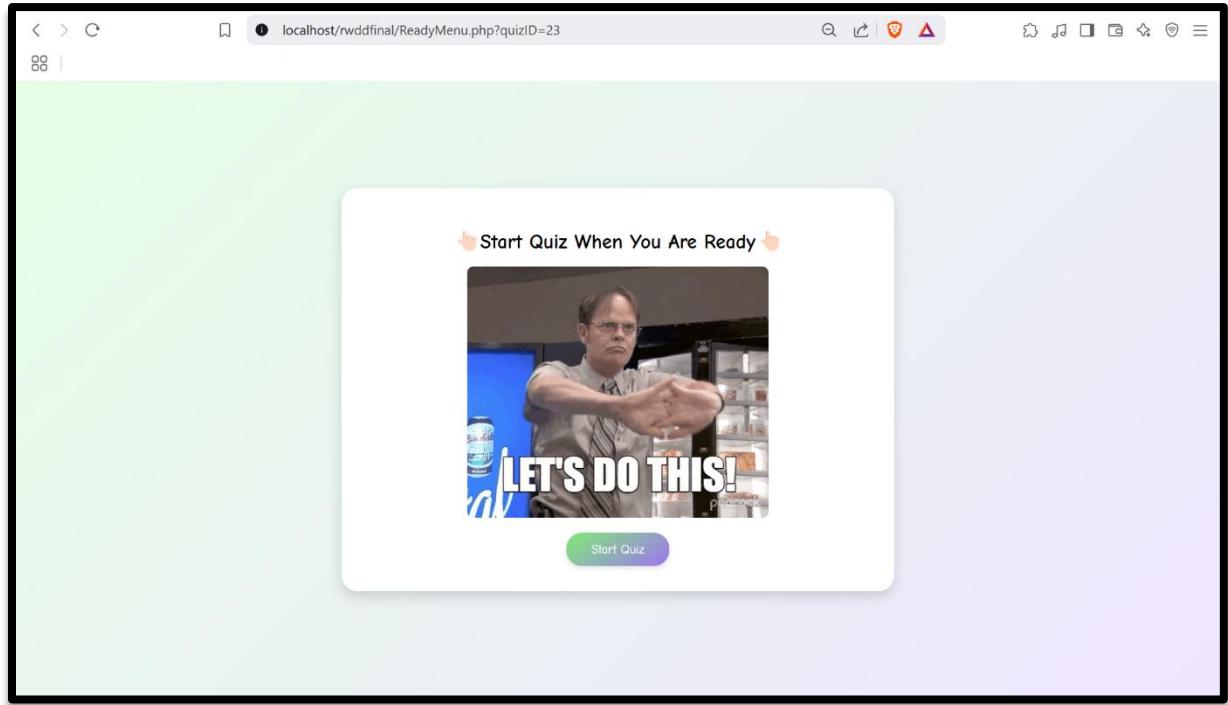


Figure 4844: Quiz (Searched)

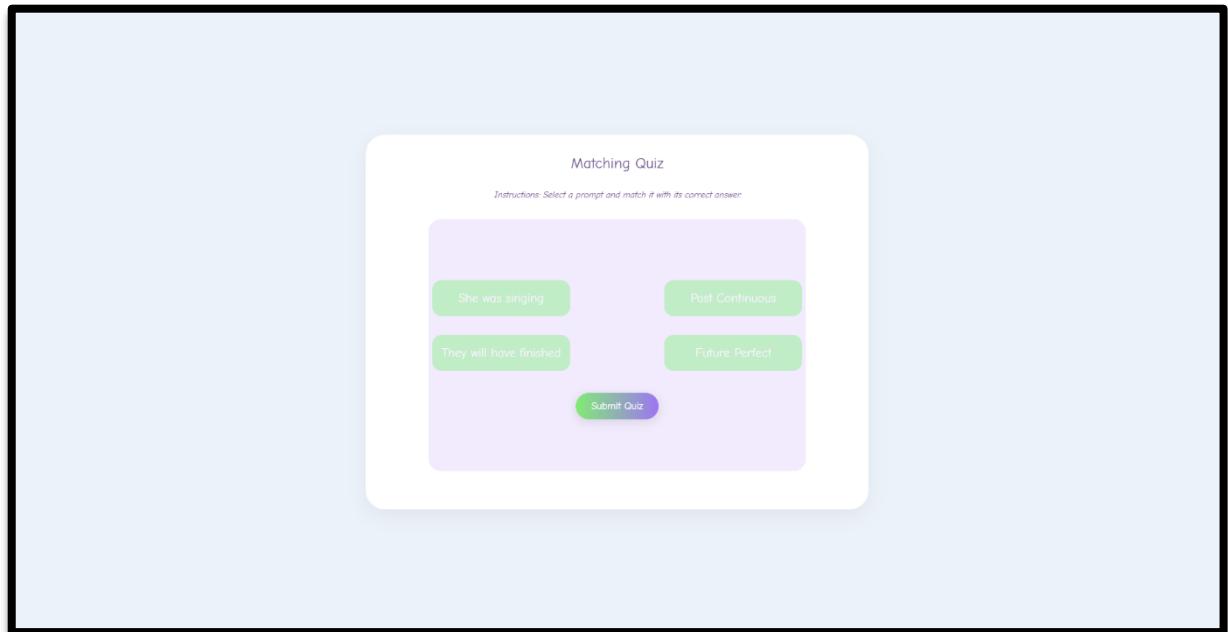


Figure 4945: Quiz (Matching)

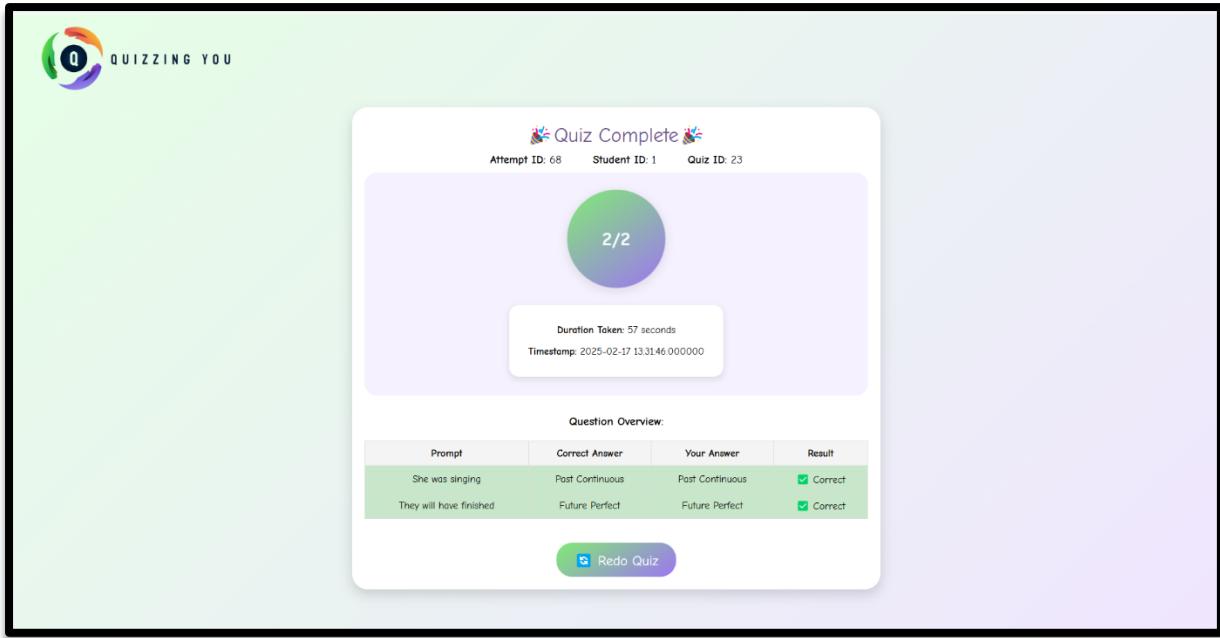


Figure 50: Quiz Summary (All Answer = true)

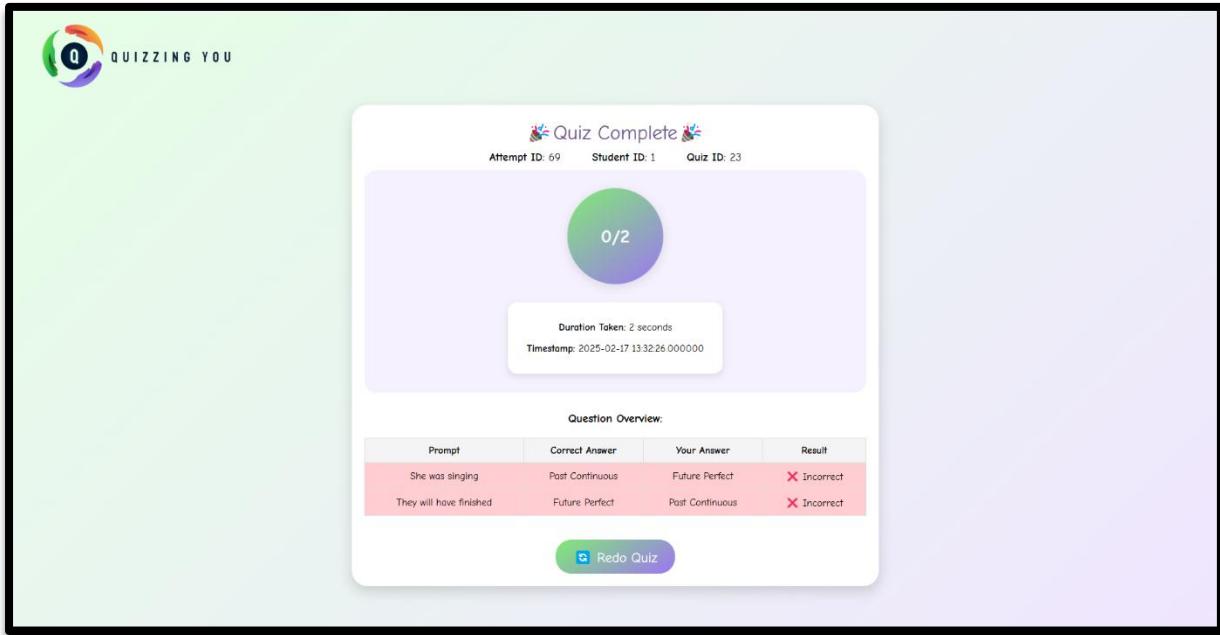


Figure 51: Quiz Summary (All Answer = false)

The screenshot shows the 'About Us' section of the Quizzing You website. At the top left is the logo 'QUIZZING YOU'. On the right side of the header is a user icon. The main title 'About Us' is centered above a white content box. The content box contains several sections: 'Quizzing You' (a brief description of the platform), 'Our Mission' (the mission statement), 'What We Offer' (a description of quiz formats), 'Why Choose Us?' (a list of five reasons with icons), and 'Join Us Today!' (a call to action). The background of the page is light green on the left and light purple on the right.

About Us

Quizzing You

Quizzing You is a web-based English quiz platform designed specifically for primary school students aged 7 to 12. It offers an engaging and structured approach to language learning, helping students enhance their English skills in a fun and interactive way.

Our Mission

At Quizzing You, our mission is to create an educational space where young learners can develop their English language skills through interactive quizzes. We strive to make learning enjoyable and accessible, empowering students to study independently while building their confidence in English.

What We Offer

We offer a variety of quiz formats, including Fill-in-the-Blank and Matching Words exercises, designed to be both engaging and interactive. The user-friendly interface makes it easy for students to complete quizzes, encouraging them to participate more willingly. Each quiz is tailored to different grade levels (ranging from 1 to 6 levels of difficulty) and covers key English topics such as Grammar, Idioms, Verbs, and Vocabulary.

Why Choose Us?

- 💡 Short learning curve
- 📅 Focus on educational growth
- 🌟 Makes learning both fun and effective
- ⭐ Supports academic success and development
- ✳️ Intuitive design for an easy-to-navigate user experience

Join Us Today!

Start your learning journey with us today and become part of a growing community that values knowledge and growth. Together, we can achieve more!

Figure 5246: About Us

The screenshot shows the 'Log In' page for parents. On the left is a decorative illustration of a stack of books with a floral wreath on top, set against a purple watercolor background. The title 'Log In' is at the top right. Below it are two input fields: 'Parent ID' with the value '1' and 'Password' with a redacted value. A large green gradient button labeled 'LOG IN' is below the fields. At the bottom right are links for 'Forgot Password?' and 'Don't have an account? Click here to Register!'

Log In

Parent ID
1

Password
.....

LOG IN

Forgot Password?
Don't have an account? Click here to Register!

Figure 5347: Login (Parent)

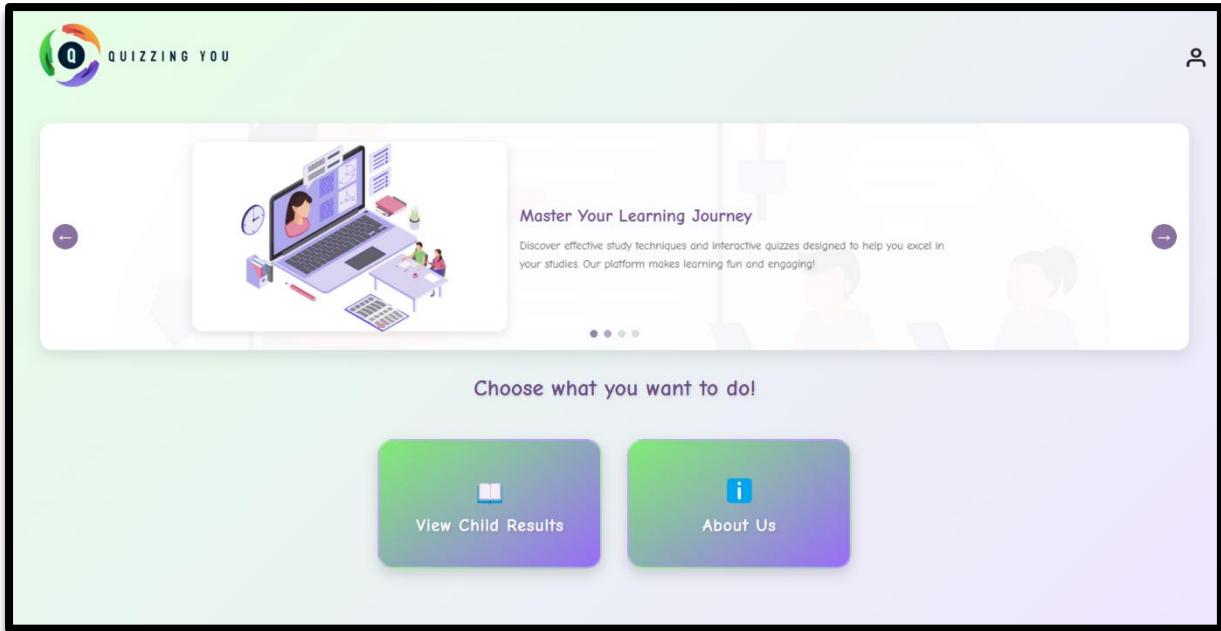


Figure 54: Parent Homepage

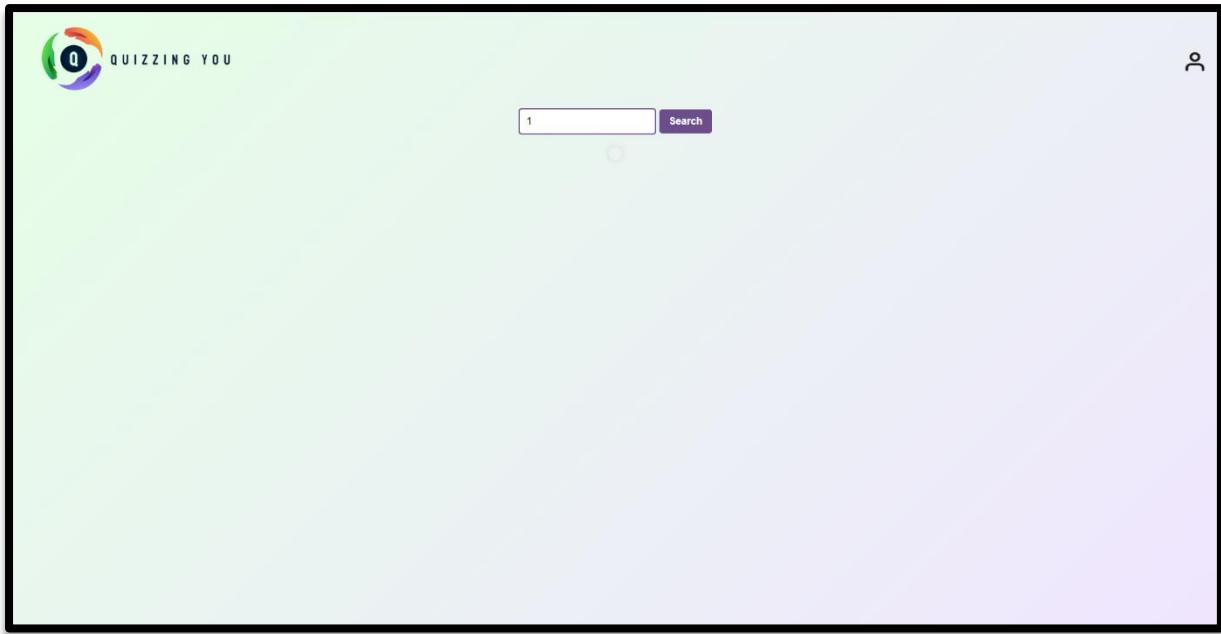


Figure 55: View Child Results

The screenshot shows a web application interface titled "QUIZZING YOU". At the top left is the logo, and at the top right is a user icon. Below the title is a search bar with the number "1" and a "Search" button. A table titled "Attempt ID" displays the following data:

Attempt ID	Student ID	Quiz ID	Date	Time	Score	Duration (min)
4	1	1	2025-02-04	10:20:16	5	5
5	1	5	2025-02-08	13:26:05	5	3
68	1	23	2025-02-17	13:31:46	2	57
69	1	23	2025-02-17	13:32:26	0	2

Figure 5648: View Child Results (Results)

The screenshot shows the "Teacher Homepage" of the "QUIZZING YOU" platform. At the top left is the logo, and at the top right is a user icon. The main content area features a central banner with the heading "Master Your Learning Journey" and a subtext: "Discover effective study techniques and interactive quizzes designed to help you excel in your studies. Our platform makes learning fun and engaging!". Below the banner is a section titled "Choose what you want to do!" with three buttons:

- Create Quiz** (Icon: Pencil)
- View Quiz** (Icon: Book)
- About Us** (Icon: Information)

Figure 5749: Teacher Homepage

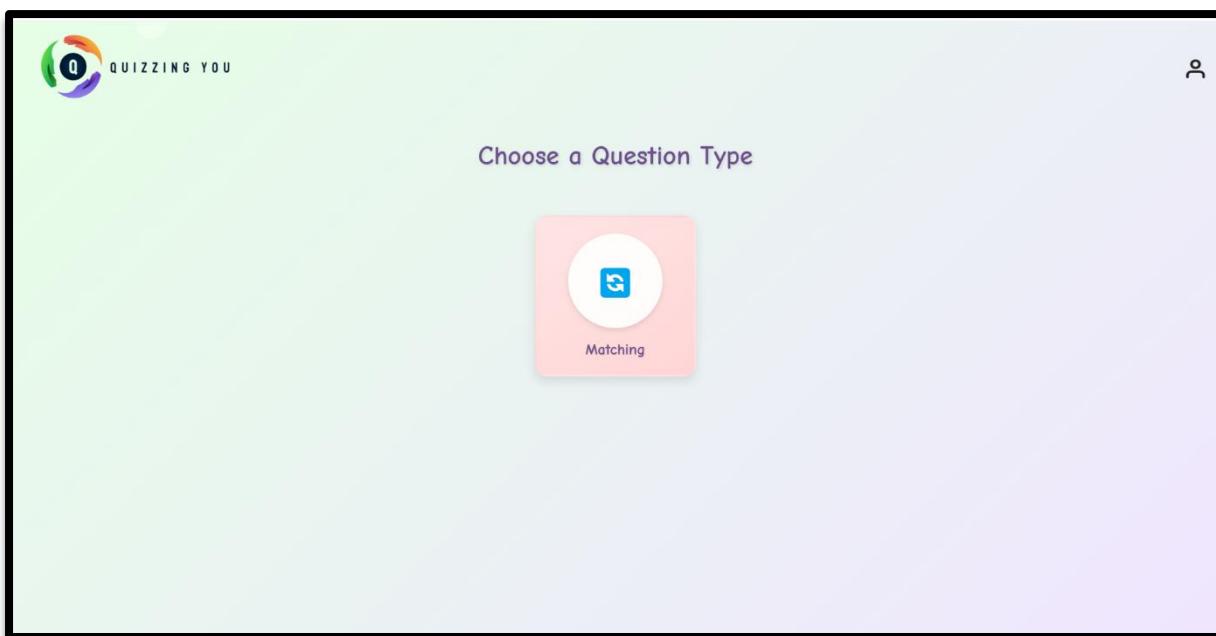


Figure 5850: Create Quiz

The screenshot shows the 'Create Matching Question' screen. At the top left is a back arrow labeled 'Back'. The title 'Create Matching Question' is at the top center, with the subtitle 'Create your matching pairs below' just below it. There are three dropdown menus: 'Verb' (set to 'Verb'), 'Grade 1' (set to 'Grade 1'), and '3' (set to '3'). Below these are two rows of four boxes each. The first row contains 'She' and 'runs'. The second row contains 'They' and 'run'. To the right of each row are red minus signs. At the bottom are two buttons: '+ Add Pair' (in a green rounded rectangle) and 'Save Quiz' (in a purple rounded rectangle).

Figure 5951: Create Matching Questions

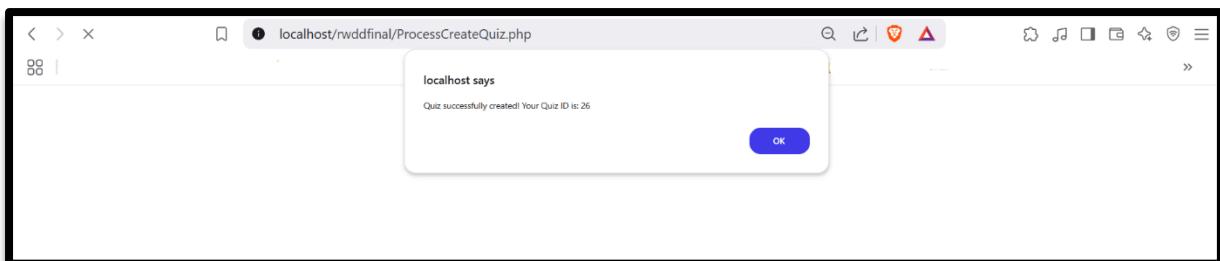


Figure 60: Msg: Quiz Created Successfully

A screenshot of a web application titled 'View Created Quizzes'. It features a table with the following data:

Quiz ID	Teacher ID	Type	Category	Grade	Prompt	Answer
25	3	Matching	Verb	1	She	runs
25	3	Matching	Verb	1	They	run
26	3	Matching	Verb	1	She	runs
26	3	Matching	Verb	1	They	run

Print

Figure 6152: View Created Quiz

A screenshot of the 'Quizzing You' homepage. On the right, there is a floating 'Profile' overlay with fields for 'ID' (3), 'Fullname' (Kalen), and 'Email' (kalen@gmail.com). Buttons for 'Reset Password' and 'Save Changes' are at the bottom. Below the overlay, a banner says 'Join Our Learning Community' with a subtext about connecting with learners. At the bottom, a call-to-action says 'Choose what you want to do!' with three buttons: 'Create Quiz', 'View Quiz', and 'About Us'.

Figure 62: Edit Profile

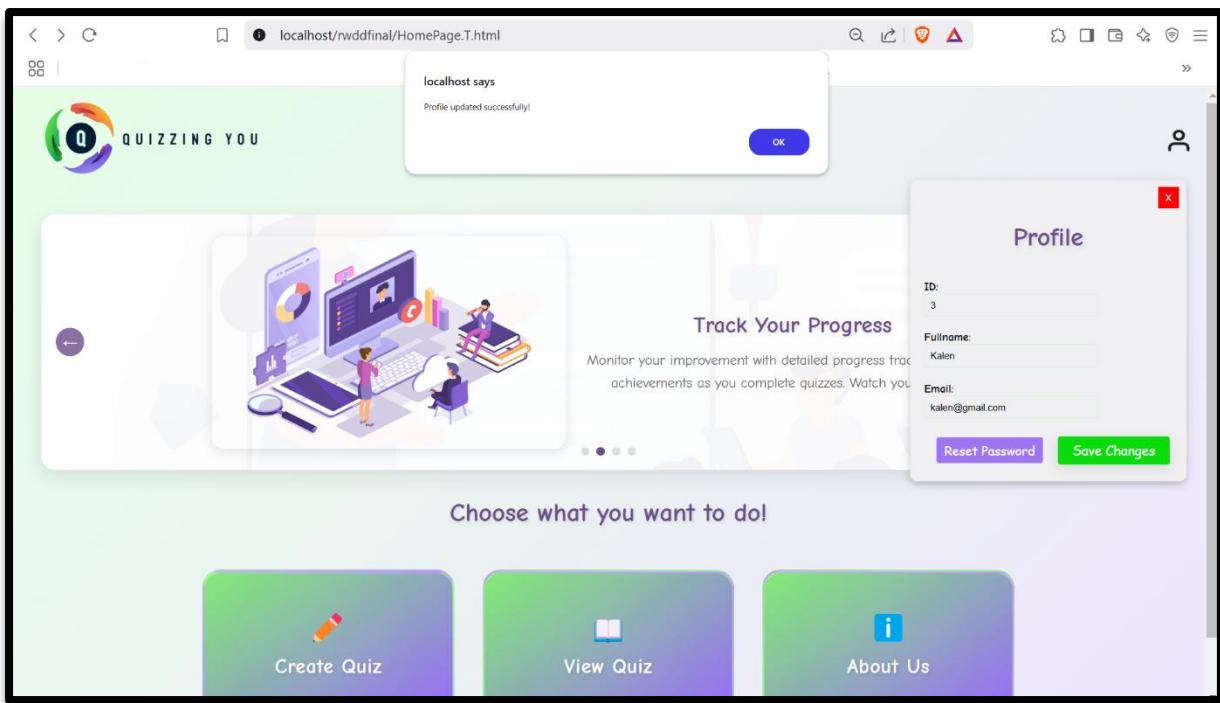


Figure 6355: Msg: Profile Updated Successfully

The screenshot shows a "Reset Password" page. It features a decorative illustration of books and flowers on the left. The title "Reset Password" is at the top. The form includes fields for "Teacher ID" (containing "3"), "New Password" (containing "*****"), and "Confirm Password" (containing "kalen@123"). There are checkboxes for "Show Password" (unchecked for New Password, checked for Confirm Password) and "Password must be at least 8 characters, and contain both letters and numbers. Only these symbols can be used: _-@.". A large green "RESET PASSWORD" button is at the bottom. A "Back to Login" link is at the very bottom.

Figure 6454: Reset Password a.k.a. Forgot Password

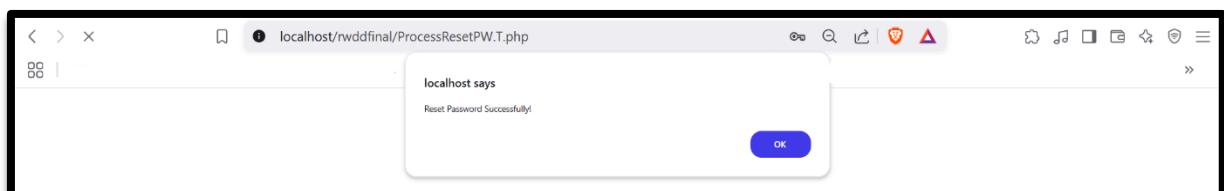
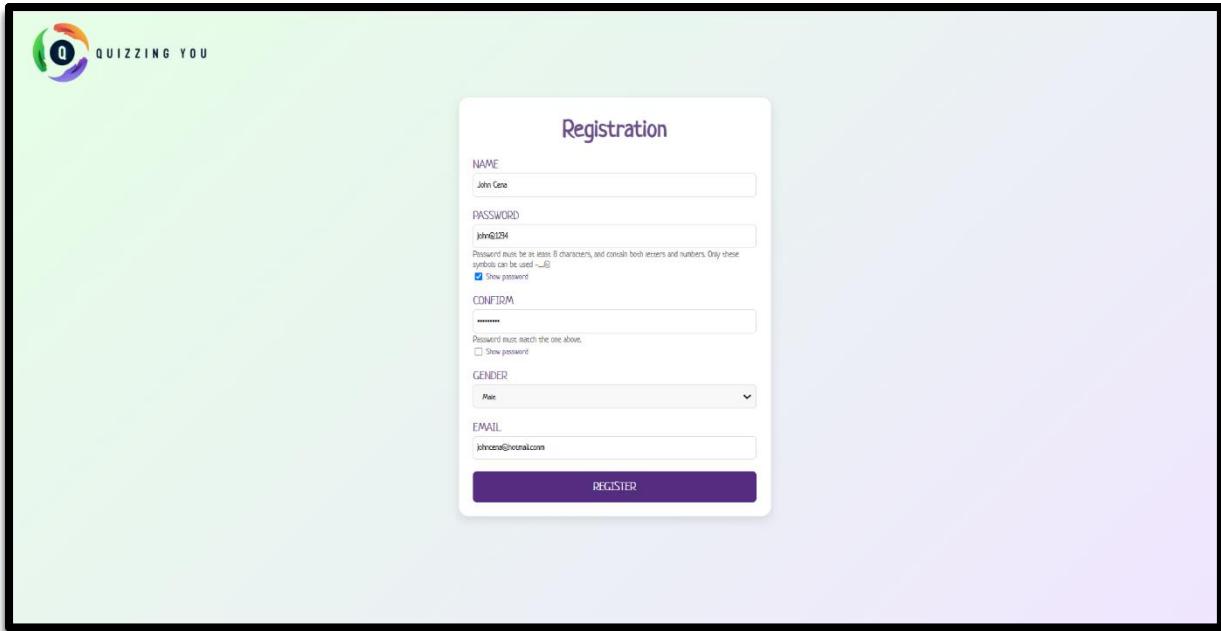


Figure 6553: Msg: Password Reset Successfully



The screenshot shows a registration form titled "Registration". The fields include:

- NAME: John Doe
- PASSWORD: john1234
Password must be at least 8 characters, and contain both letters and numbers. Only these symbols can be used ~!@#\$%^&*().
 Show password
- CONFIRM: (empty field)
- GENDER: Male
- EMAIL: john.doe@email.com

A purple "REGISTER" button is at the bottom.

Figure 6656: Teacher Registration

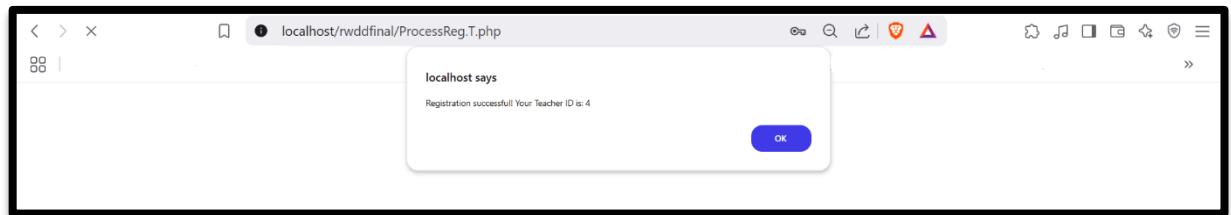


Figure 67: Registration Successful

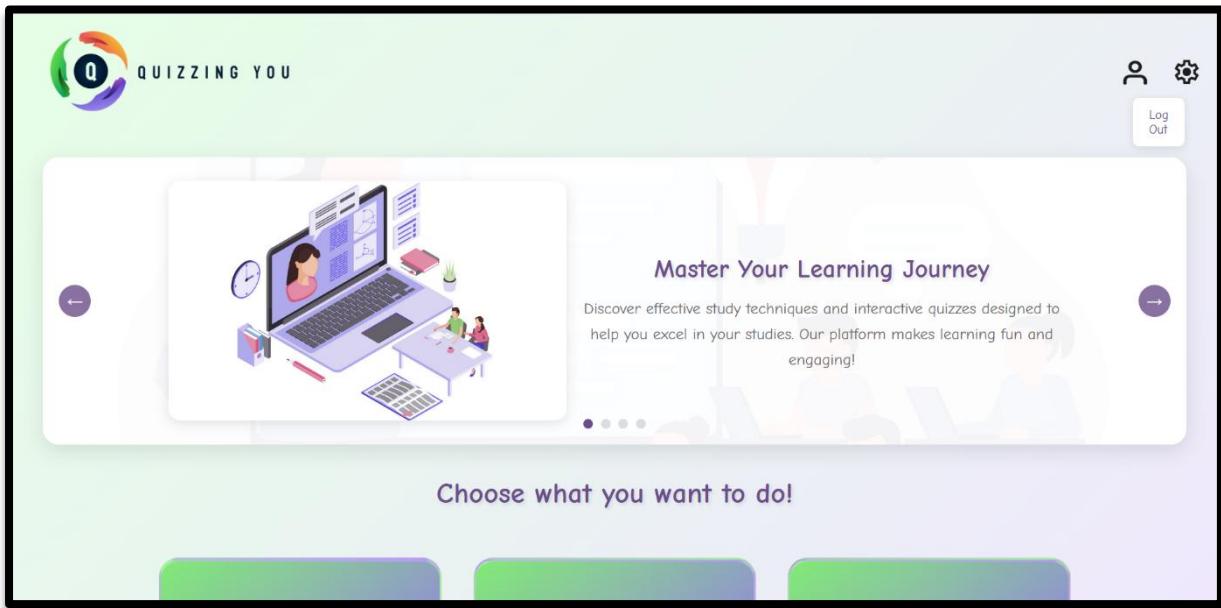


Figure 68: Logout

Conclusion

From the implementation section, it can be observed that Quizzing You is designed to be interactive and user-friendly. Students can easily access quizzes, whether default or prepared by their teachers, instantly with just a few clicks. The website's simplistic design lowers the learning curve, saving users more time learning English than figuring out how to use the website.

Simultaneously, the modes of the quizzes are also strategically selected and designed to ensure that teachers can prepare their quizzes smoothly and that the website can automatically mark them. This feature will significantly decrease the workload of teachers. Meanwhile, the website also records all quiz attempts done by students. This function allows students to review their English skills while parents monitor their children's performance.

Limitations

Security Issue

When resetting their passwords, users are not prompted to enter old passwords before entering their new passwords. The website will not be able to authenticate the users without the old password, meaning that anyone can change a user's password just by knowing their ID. This poses a critical security issue as anyone could just hijack an account by using the Forgot Password function to change the password of an existing account.

There are multiple precautions and solutions that could be implemented to overcome the security issue. First of all, the website should prompt users to enter their old password before allowing them to enter new passwords. This step is to allow the system to authenticate users before allowing the password change. Aside from prompting for password during registration, the system should also include security questions and their corresponding passwords so it could be used for user authentication in cases where users have forgotten their passwords.

To further enhance the security of the website, we can also implement one-time passwords (OTP) during the password recovery process and two-factor authentication (2FA) during the login process.

User Credentials During Logins

In the current login process, the only user identifier accepted is the user ID (classified according to roles: student/parent/teacher). In circumstances where users forget their user IDs, there is no way to recover their ID through the website nor will they be able to login. To overcome this issue, the website should also allow users to use their email address as their user identifier, given that email address records remain unique.

Workload Matrix

Word Documentation

Student	Task	Sign
Siew Zhen Lynn (TP076386)	Introduction	Celine.
Sim Tian (TP077056)	Design -Wireframe	<i>Sim Tian</i>
Yap Xin Ling (TP077224)	Design -ERD Diagrams	xinLing
Yeo Pei Wen (TP077057)	Design -Navigational Structure	<i>Pei Wen</i>
Yong Xuan Lyn (TP076797)	Design -Process Flow chart Implementation Conclusion	<i>Xuan Lyn</i>

System

Student/ Task	Siew Zhen Lynn (TP076386)	Sim Tian (TP077056)	Yeo Pei Wen (TP077057)	Yong Xuan Lyn (TP076797)	Yap Xin Ling (TP077224)
HTML	30%	20%	10%	20%	20%
CSS	30%	20%	20%	20%	10%
PHP	10%	30%	30%	20%	10%
JS	20%	20%	20%	20%	20%
MySQL	10%	20%	20%	20%	30%
	Celine.	<i>Sim Tian</i>	<i>Pei Wen</i>	<i>Xuan Lyn</i>	xinLing