Green University of Bangladesh

Department of Computer Science and Engineering (CSE)
Semester: (Fall, Year: 2024), B.Sc. in CSE (Day)

Developing Use Case Diagram

Exprement Name: Develop UML Sequence and Communication Diagram

Course Title: Integrated Design Project I
Course Code: CSE-324 , Section: 213-D1

Students Details

Name	ID
Arman Hossain	221002624
Jannatul Ferdous	221902002
Afnan Khan Shopnil	221002570

Lab Date: 25 Nov 2024
Submission Date: 02 Dec 2024
Course Teacher's Name: Rusmita Halim Chaity

[For teachers use only: Don't write anything inside this box]

Lab Report Status	
Marks:	**Signature:**
Comments:	**Date:**

1 Objective

- To Learn Key Components of Use Case Diagram
- To Learn UML Use Case Diagram
- To Learn Lucidchart and UML Tool Usage
- To Learn About System Requirements Analysis
- To Learn About User and System Interaction

2 Procedures

2.1 Actors

An actor in a UML diagram represents an external entity interacting with the system. For this system, three types of actors are identified:

- **Online User:** Represents users logged into the system who can participate in quizzes, log in, manage accounts, and perform various operations such as changing passwords, withdrawing cash, and viewing leaderboard.
- **Guest User:** Represents users without accounts, allowing them limited interaction such as playing quizzes.
- **Quiz Management:** Represents administrative personnel who manage quiz data by adding, deleting, or updating quizzes, as well as overseeing notifications and system backups.

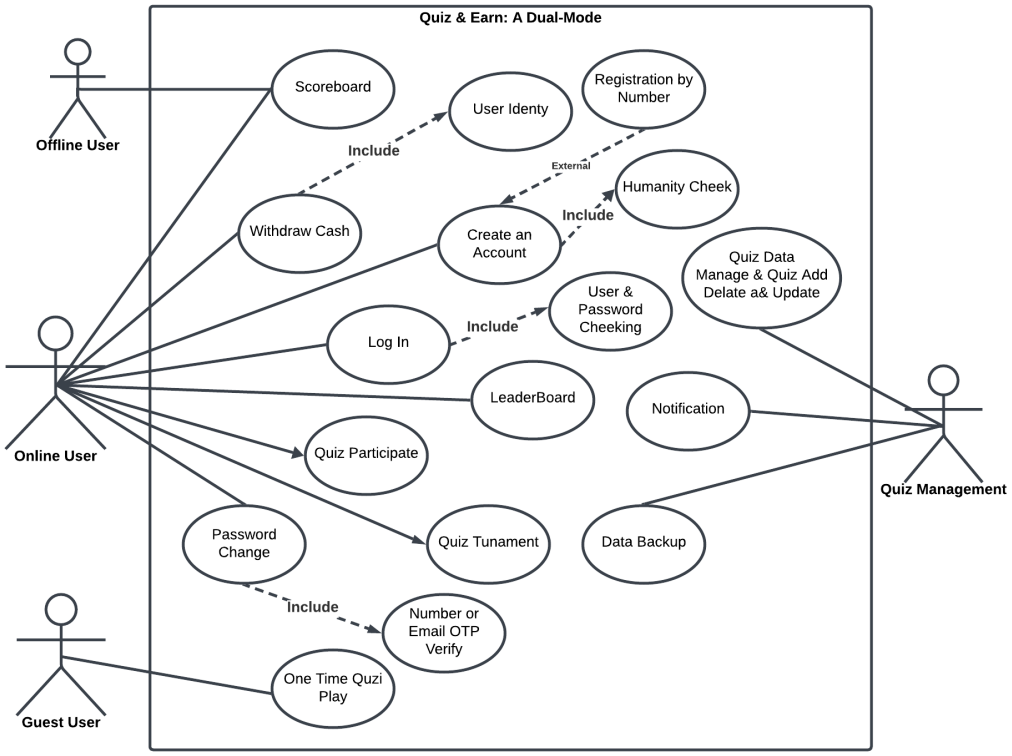
2.2 Use Cases

Each use case represents a system function or interaction initiated by an actor. The system supports multiple use cases, which are visualized as ovals in the diagram:

- **Log In:** Ensures access for registered users through user credential verification.
- **Quiz Participation:** Allows online users to engage in quizzes and tournaments.
- **Scoreboard and Leaderboard:** Displays user achievements and rankings.
- **Notification:** Updates users on system changes or alerts.
- **Withdraw Cash:** Enables users to redeem rewards from quizzes.
- **Data Backup:** Maintains system reliability by saving essential data.
- **Quiz Management:** Administers quiz content and system updates.

Sub-use cases like Number or Email OTP Verification and User & Password Checking are included in primary use cases where required.

3 Implementation



UML Use Case Diagram for Quiz and Earn: A Dual-Mode Quiz App

4 Discussion and Conclusion

This lab exercise provided hands-on experience in designing and implementing a UML Use Case Diagram for the *Quiz and Earn* system. The diagram effectively captures the functionality, interactions, and scope of the system, ensuring clarity for both developers and stakeholders.

Key takeaways include:

- Understanding the role of actors, use cases, and relationships in UML diagrams.
- Structuring complex systems into manageable and visually understandable components.
- The importance of reusable relationships (*Include*, *Extend*) for modular design.

This exercise strengthens the ability to document software systems visually, aiding both development and communication.

5 References