



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: SDLC model selection for Quiz & Earn: A Dual-Mode Quiz App
with Real-Time Rewards and Competitive Leaderboard

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

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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.

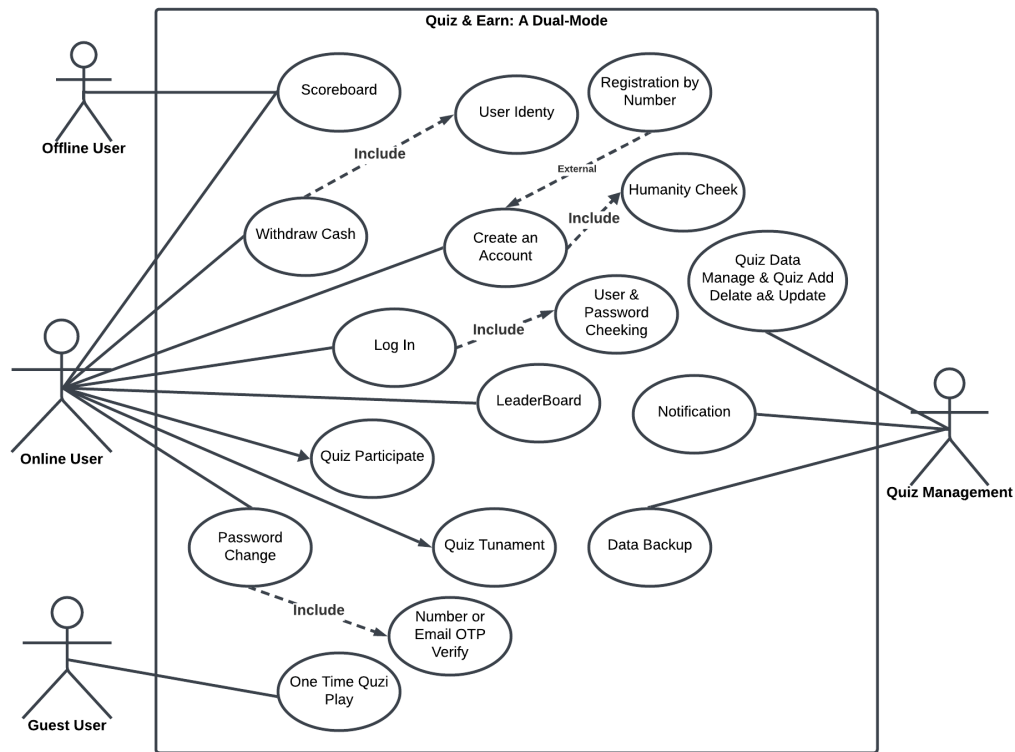
2.2 Use Cases

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