



*Green University of Bangladesh*

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

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## **Develop UML Sequence Diagram**

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**Exprement Name:** Develop UML Sequence and Communication Diagram

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

Students Details

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*Submission Date: 07 Dec 2024*

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**Lab Report Status**

**Marks:**

**Signature:**

**Comments:**

**Date:**

# 1 Objective

- To understand the key components of UML Sequence Diagrams.
- To learn how to model system behaviors using Sequence Diagrams.
- To analyze interactions between system components during runtime.
- To effectively visualize and document system functionality for stakeholders.

## 2 Procedures

### 2.1 Purpose of Sequence Diagram

The Sequence Diagram represents the dynamic behavior of a system by illustrating how objects interact with each other through message exchanges. This aids in visualizing and understanding the sequence of actions for each use case.

### 2.2 Components of the Sequence Diagram

#### Actors

- **User:** Initiates interactions by logging in, selecting quizzes, and requesting rewards.

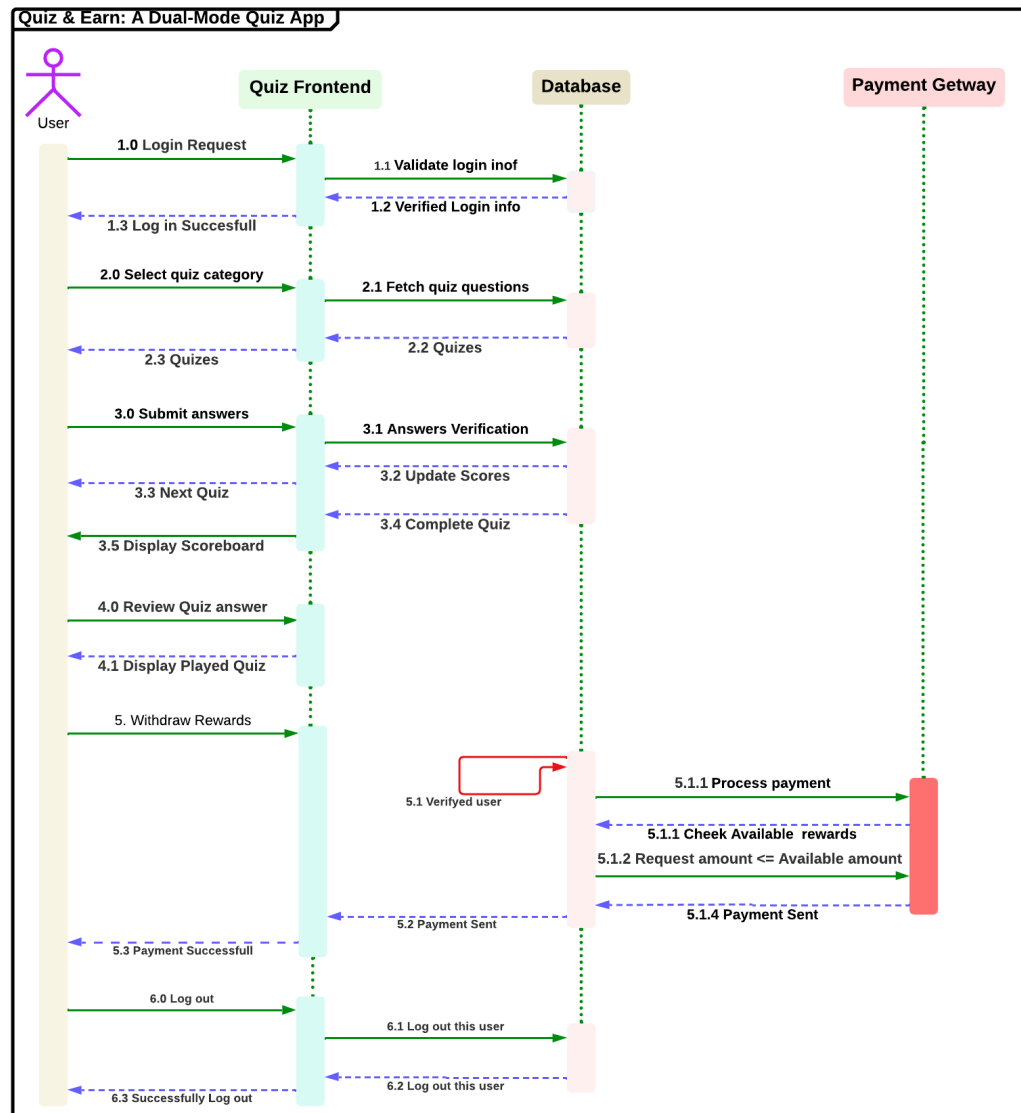
#### Objects

- **Quiz Frontend:** Handles user interactions like quiz selection and answer submission.
- **Database:** Verifies login credentials, fetches quiz data, and updates scores.
- **Payment Gateway:** Processes reward withdrawal requests.

#### Messages and Lifelines

The diagram includes messages for login verification, quiz selection, answers submission, reward withdrawal, and logging out. The lifelines visually represent the activity span of each component.

### 3. Implementation



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

### 4. Discussion and Conclusion

The Sequence Diagram provides a step-by-step representation of how the **Quiz and Earn: A Dual-Mode Quiz App** functions. By modeling user-system interactions, the diagram highlights:

- The clear flow of messages and events between system components.
- Efficient payment gateway integration for reward withdrawals.
- Enhanced understanding of system requirements, aiding stakeholders and developers.

### **3 References**

1. Course materials from *Integrated Design Project I (CSE-324)*.
2. Online resources and tutorials on *UML Sequence Diagrams*.
3. Documentation guidelines provided by the instructor.