# Name: Tehreema Jilani

# Reg no: SP23-BSE-041
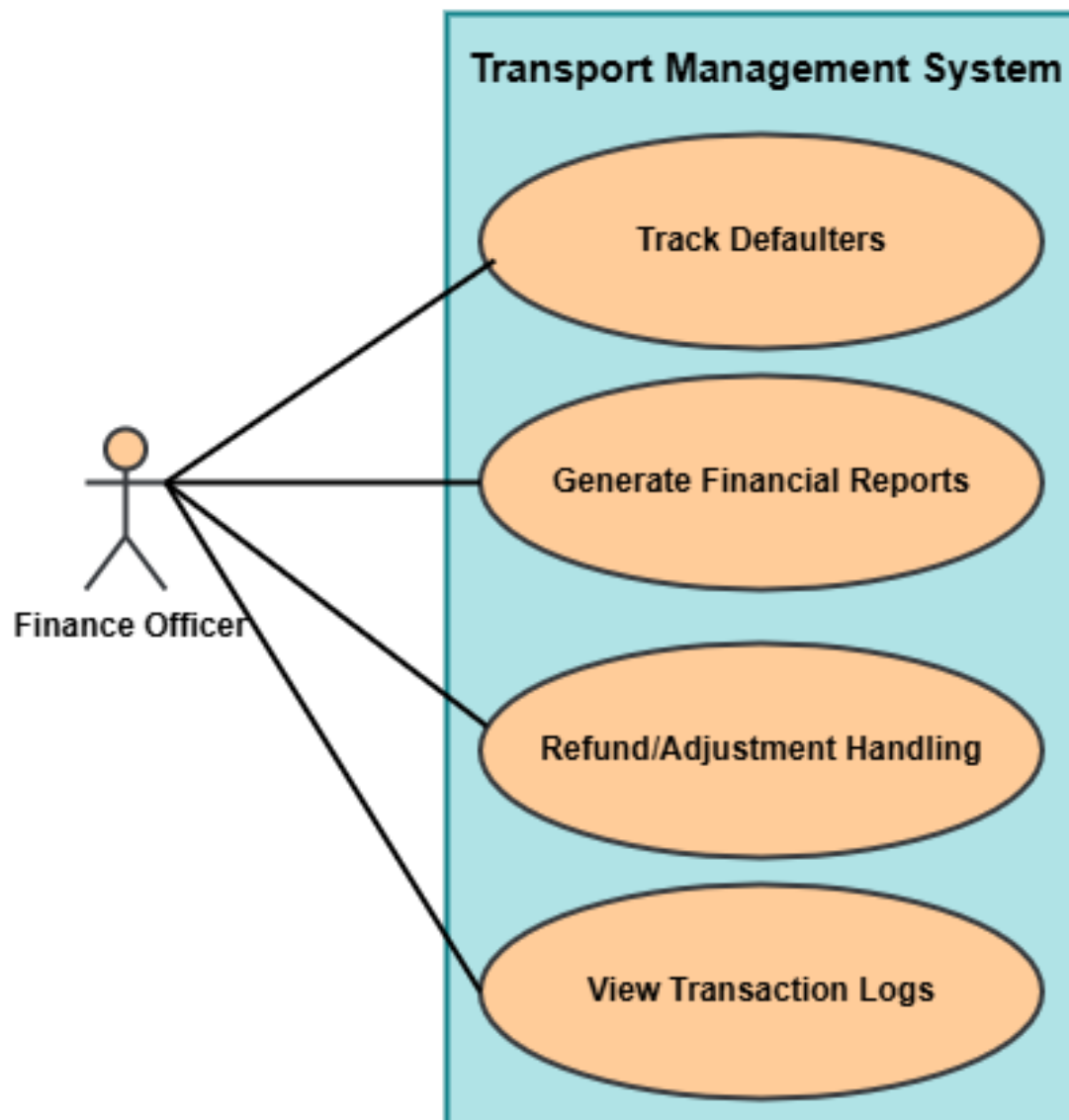
# Class: BSE-5B

# Assignment No 01

**Contents**

**CHAPTER 01: USECASE DIAGRAM**

## Transport Management System

- Track Defaulters
- Generate Financial Reports
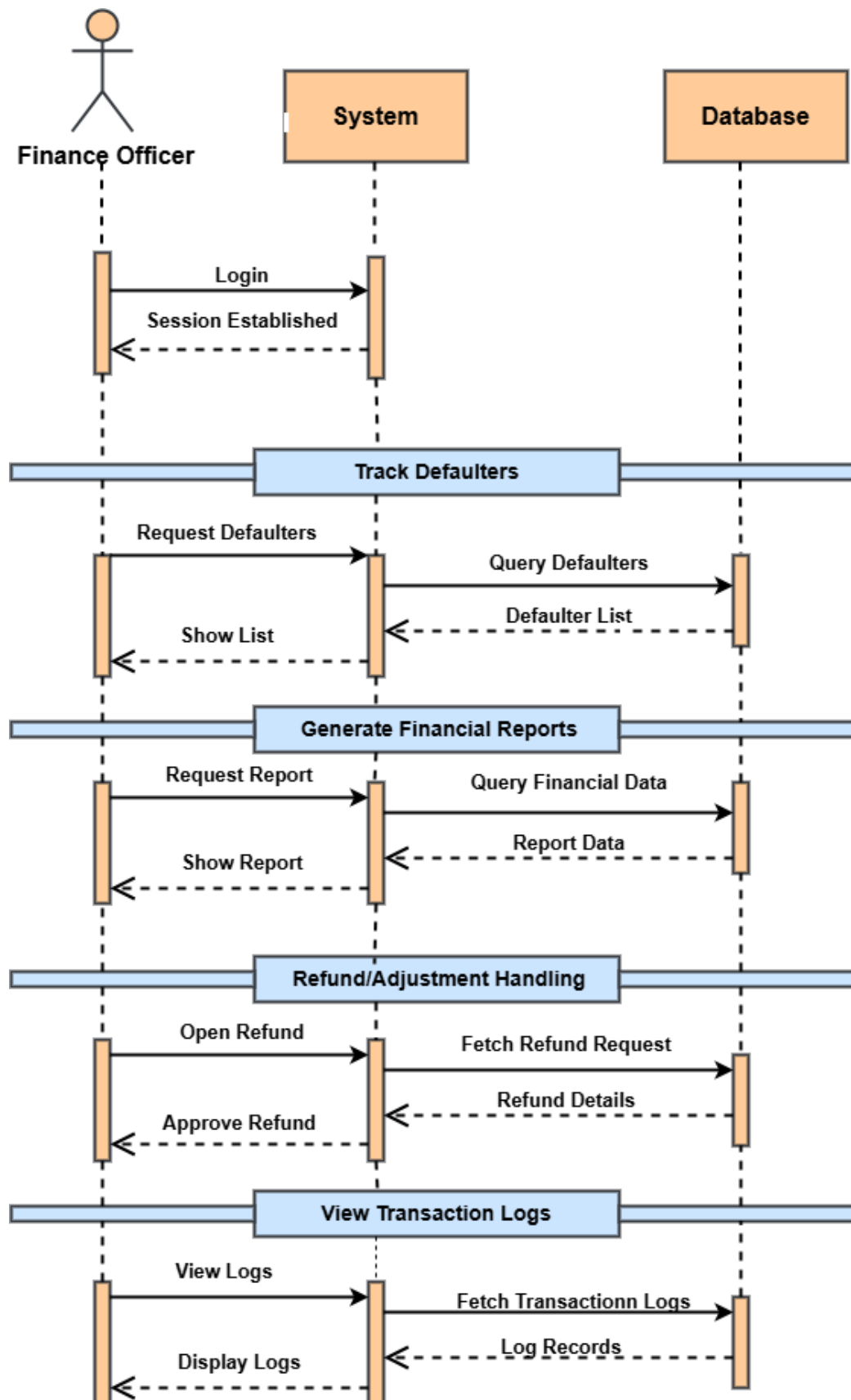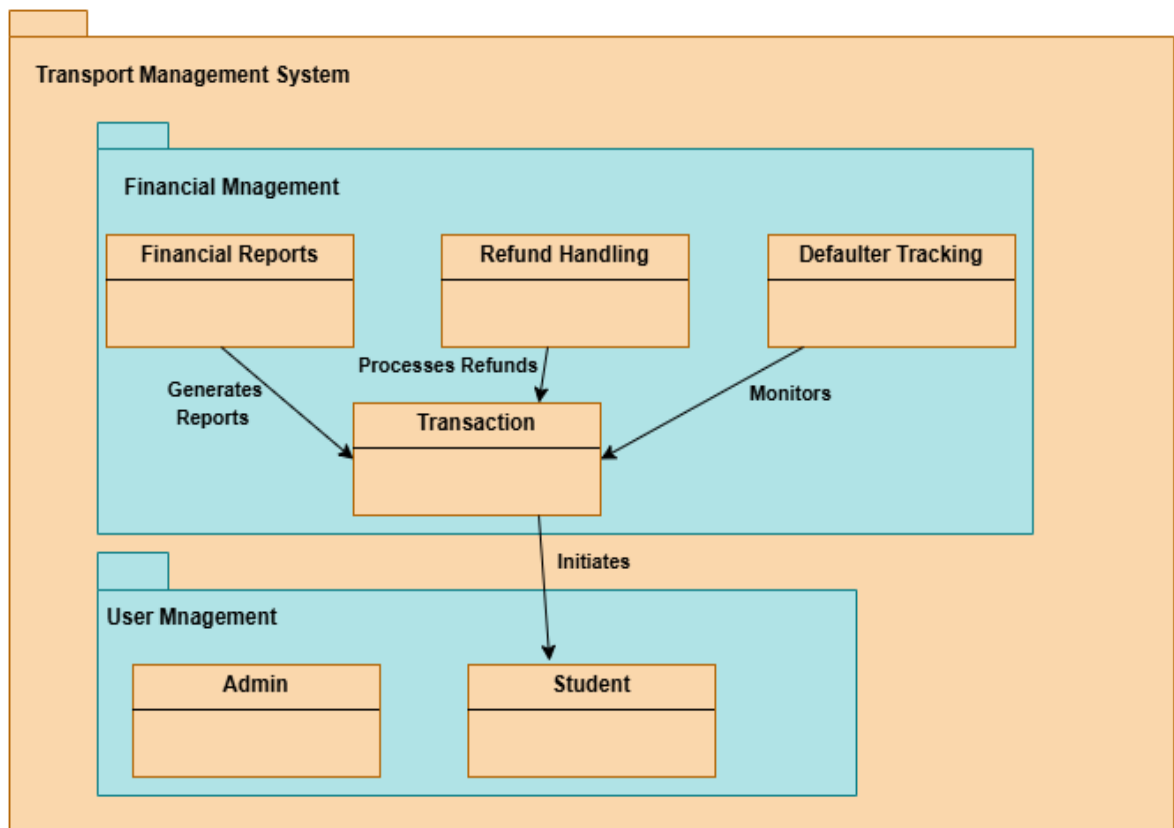- Refund/Adjustment Handling
- View Transaction Logs

Finance Officer

## CHAPTER 02: FULLY DRESSED USECASE

| Field | Track Defaulters | Generate Financial Reports | Refund/Adjustment Handling | View Transaction Logs |
|---|---|---|---|---|
| Use Case ID | UC-FIN-05 | UC-FIN-06 | UC-FIN-07 | UC-FIN-08 |
| Primary Actor | Finance Officer | Finance Officer | Finance Officer | Finance Officer |
| Trigger | Officer clicks "Track Defaulters" | Officer requests report | Officer initiates refund | Officer selects "View Logs" |
| Preconditions | Officer is logged in | Officer is logged in and authorized | Refund request exists | Log records exist |
| Post conditions | List of defaulters is shown | Report is generated and shown | Refund is handled | Logs are displayed |
| Normal Flow | 1. Officer selects2. System queries DB3. Show list | 1. Officer requests2. System queries data3. Show report | 1. Officer opens refund2. Fetch request3. Approve/Reject | 1. Officer clicks logs2. Fetch logs3. Show logs |
| Alternative Flow | 3a. No defaulters → Show message | 3a. No records → Show "No data" | 3a. Officer rejects request | 2a. No logs found |
| Exceptions | DB unreachable → Error | Report fail → Error shown | Invalid request → Error | Log system down → Error |
| Business Rules | Only finance officers access | Authorized users only | Refunds must be valid | Logs are view-only |
| Assumptions | DB is updated regularly | Format is predefined | Requests are authentic | Logs are properly maintained |

# CHAPTER 03: SYSTEM SEQUENCE DIAGRAM

# CHAPTER 04: PACKAGE DIAGRAM

**Transport Management System**

**Financial Mnagement**

| Financial Reports | Refund Handling | Defaulter Tracking |

Generates Reports — Transaction — Processes Refunds — Monitors

Initiates

**User Mnagement**

| Admin | Student |

# CHAPTER 05:  COLLABORATION DIAGRAM (SEQUENCE DIAGRAM)

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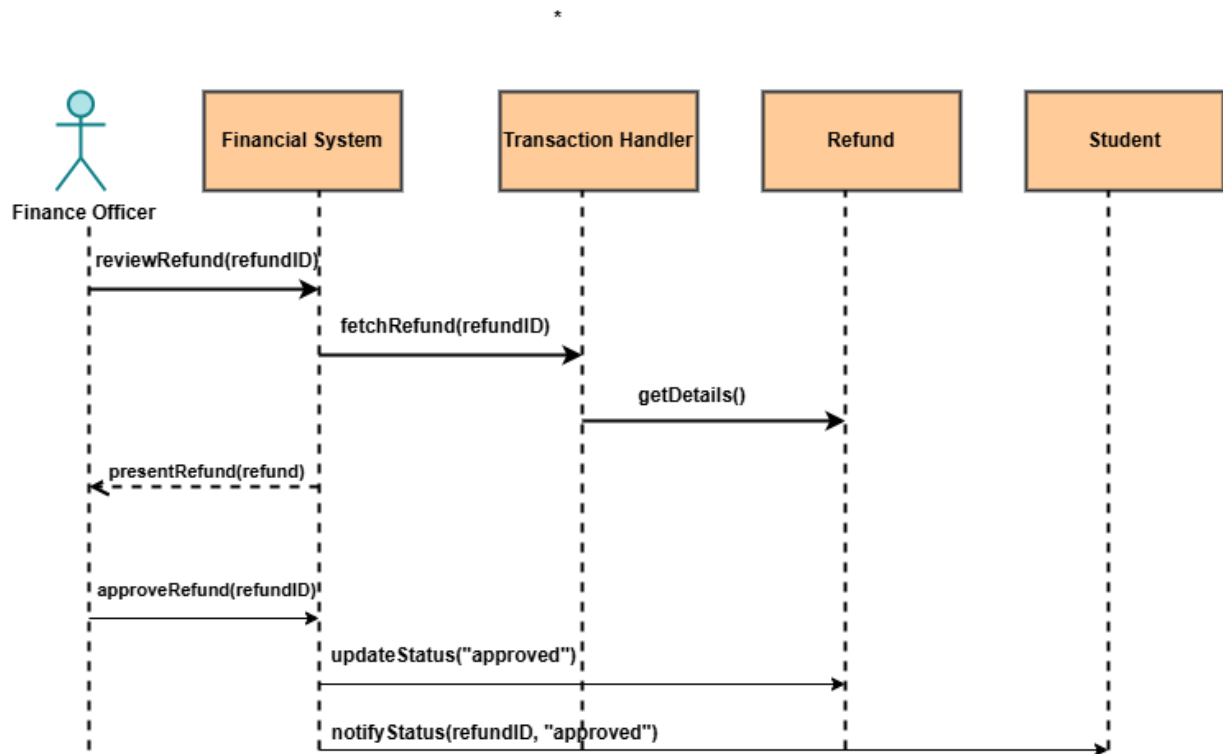
# CHAPTER 06: CLASS DIAGRAM

**Student**

- studentID: String
- name: String

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+ submitRefund(): void
+ viewStatus(): void

**FinancialSystem**

- systemID: String
- refundRecords: List

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+ receiveRefund(): void
+ updateStatus(): void
+ notifyStudent(): void

1        *    submitRefund()

1     notifyStudent()

processRefund()     1

*

**Finance Officer**

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1

**TransactionHandler**

- handlerID: String

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+ fetchRefund(): void
+ sendToFinanceOfficer(): void
+ processRefund(): void

sends a refund

**Refund**

- refundID: String
- studentID: String
- amount: Double
- status: String

---

+ updateStatus(): void

*

approveRefund()

*

**Chapter 7: Implementation & Testing**

This chapter typically covers how the system is developed, tested, and finalized. Here's a structured breakdown you can use:

**1. Implementation Approach**

- Technology Stack: List programming languages, frameworks, and databases used (e.g., HTML, JavaScript, MySQL).

- Development Methodology: Briefly describe whether you used Agile, Waterfall, or Iterative development.

- Modules Developed: Highlight key system components (e.g., transaction handling, refund processing).

**2. Code Structure & Functionality**

- Folder Structure: Show a simple breakdown of how code files are organized.

- Key Functions: Describe core logic like defaulter tracking, financial reporting, refund processing.

- Integration Details: Mention how different modules interact with each other.

**3. Testing Strategies**

- Unit Testing: Validating individual functions (e.g., refund calculations).

- Integration Testing: Ensuring modules work together smoothly (e.g., tracking defaulters and generating reports).

- User Acceptance Testing (UAT): Confirming the system meets user requirements with test cases.

**4. System Deployment**

- Deployment Process: Steps to install and configure the system.

- Security Considerations: Highlight database encryption and user authentication.

- Backup & Recovery: Explain how data protection is managed.

**5. Challenges & Solutions**

- Performance Issues: Any speed optimization techniques used.

- Bug Fixes: Mention significant debugging efforts and resolutions.

- Future Improvements: Suggest potential system enhancements.