

UML Diagrams Report

Activity & Sequence Diagrams

Module: Software Engineering

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1 Exercise 1: Car Repair Management System

Exercise Information

Type: Activity Diagram with Partitions

Objective: Model the workflow for creating a repair record in a workshop management system.

1.1 Solution Diagram

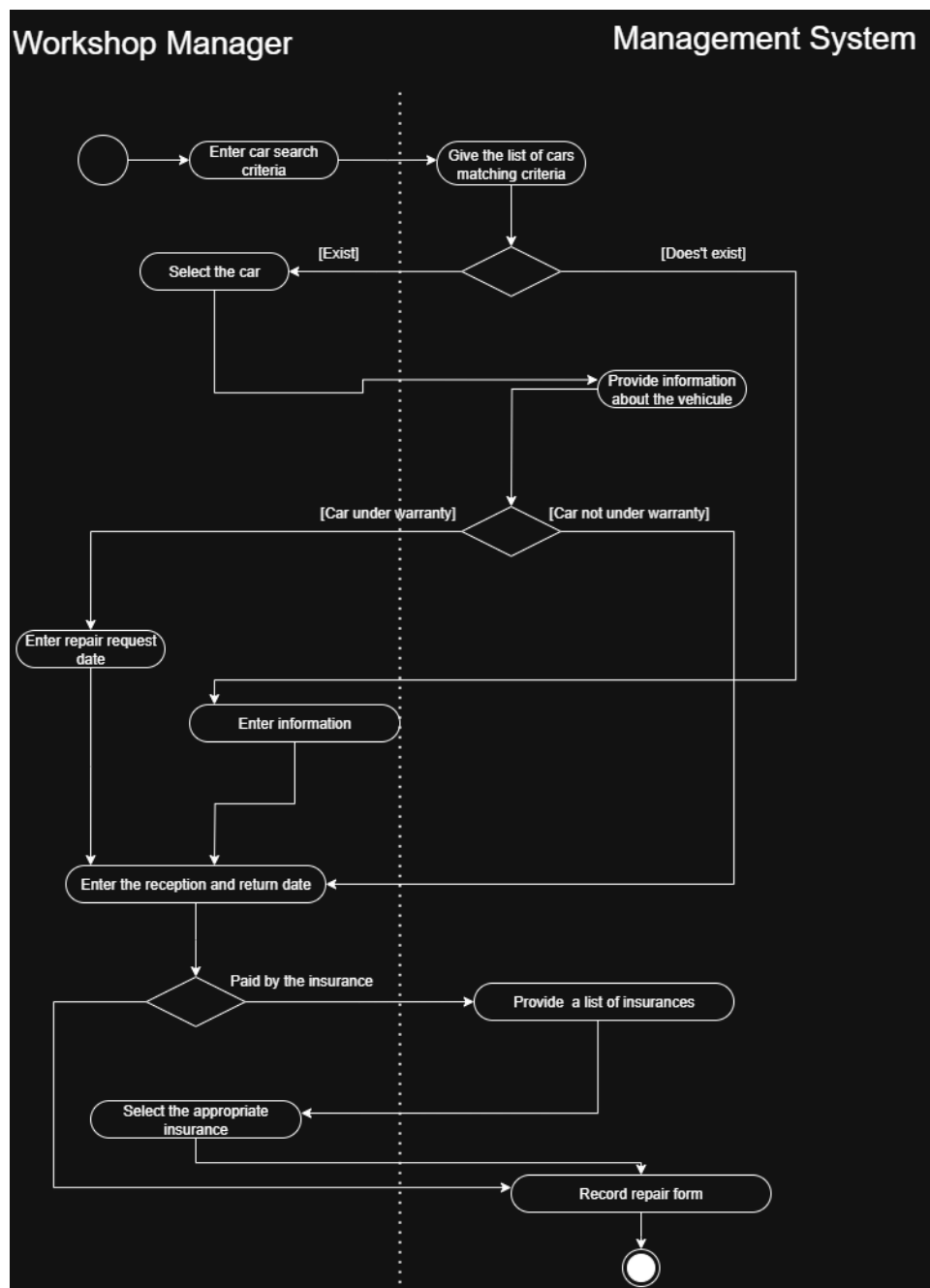


Figure 1: Ex1

2 Exercise 2: Minesweeper Game

Exercise Information

Type: Sequence Diagram

Objective: Model the behavior when a player reveals a cell.

2.1 Solution Diagram

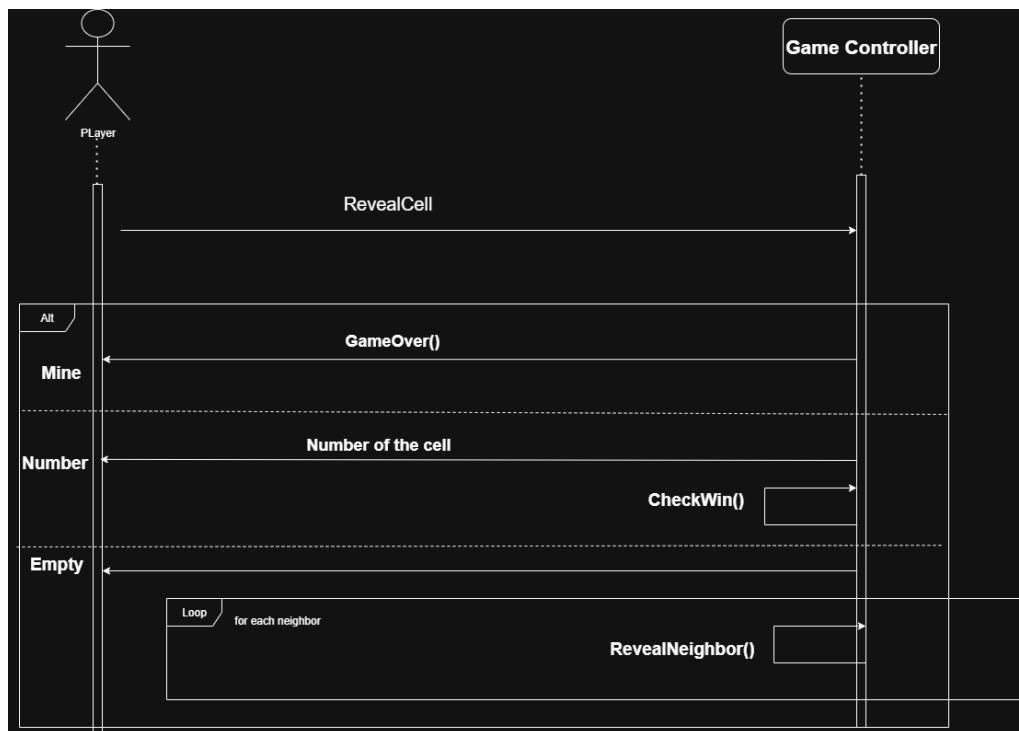


Figure 2: Sequence Diagram for Minesweeper Cell Reveal

3 Exercise 3: Chocolate Mousse Recipe

Exercise Information

Type: Activity Diagram

Objective: Represent a cooking recipe with concurrent activities.

3.1 Solution Diagram

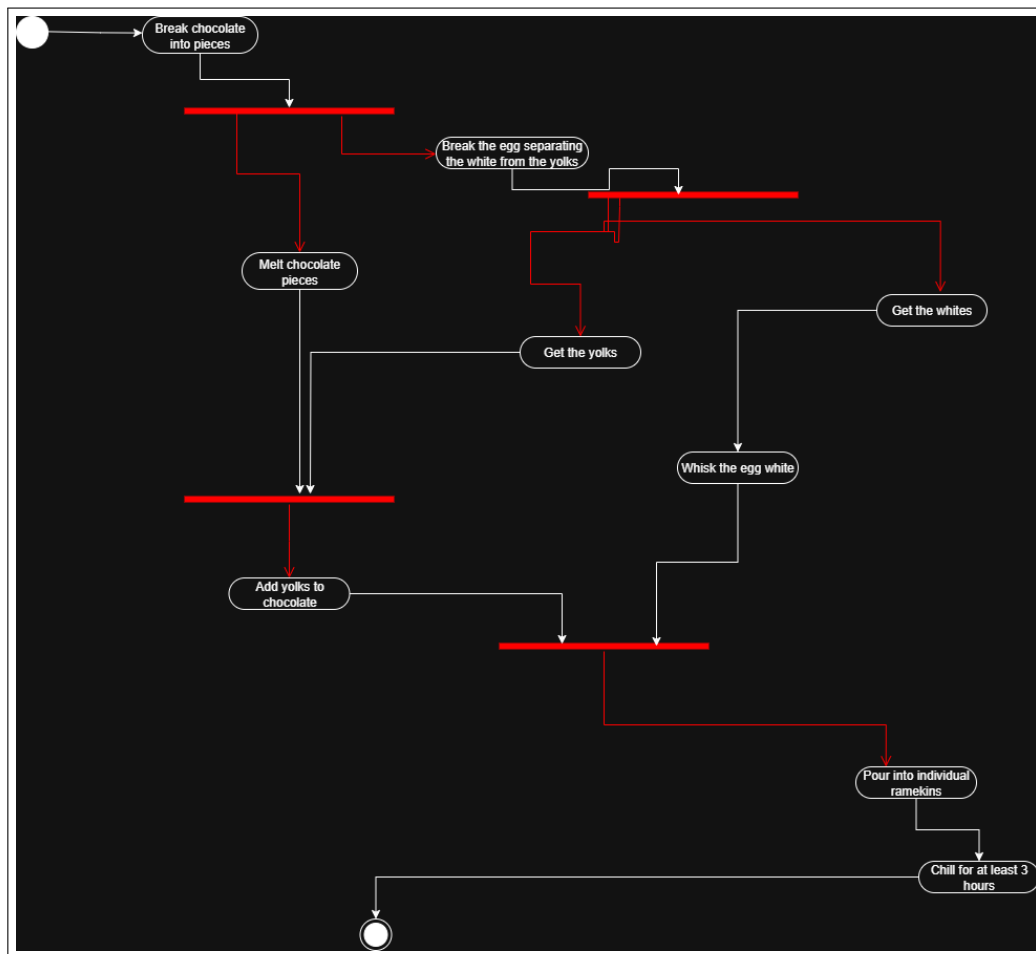


Figure 3: Activity Diagram for Chocolate Mousse Recipe

4 Exercise 4: Library Management System

Exercise Information

Type: Sequence Diagrams (2 diagrams)

Objective: Model the “Check Overdue” and “Borrow a Book” use cases.

4.0.1 Check Overdue Use Case

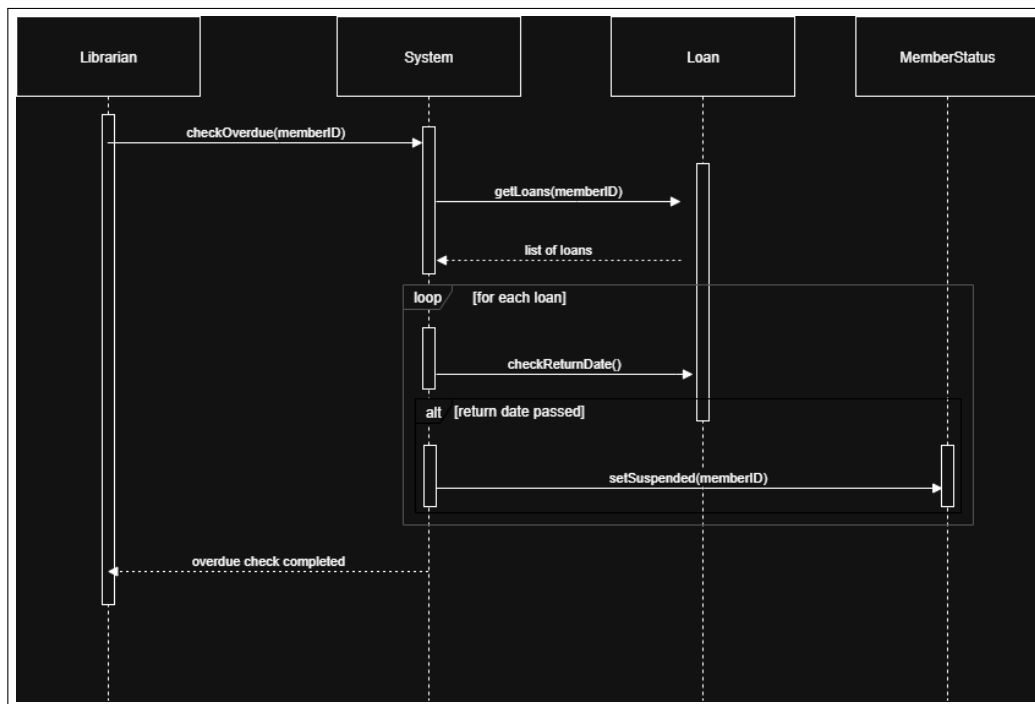


Figure 4: Sequence Diagram for Check Overdue Use Case

4.0.2 Borrow a Book Use Case

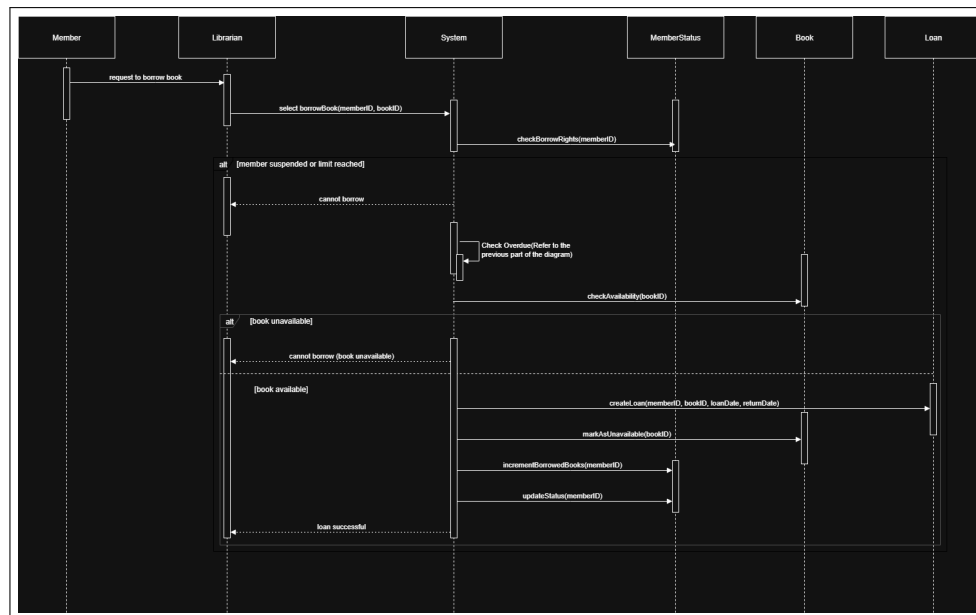


Figure 5: Sequence Diagram for Borrow a Book Use Case

5 Conclusion

All four exercises successfully demonstrate the application of UML activity and sequence diagrams to model various system behaviors, from business processes to game logic and library operations. These diagrams provide clear visual representations of:

- Complex workflows with decision points and concurrent activities
- Object interactions and message passing in sequence diagrams
- System behavior modeling for different application domains