UNIVERSITY OF WESTMINSTER

INFORMATICS INSTITUTE OF TECHNOLOGY

Informatics Institute of Technology

in collaboration with

The University of Westminster

# Object Oriented Programming Principles

5COSC019C.1

Module Leader: Mr. Poravi Guganathan

## Ticket Booking Simulator

| | |
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# Class Diagram

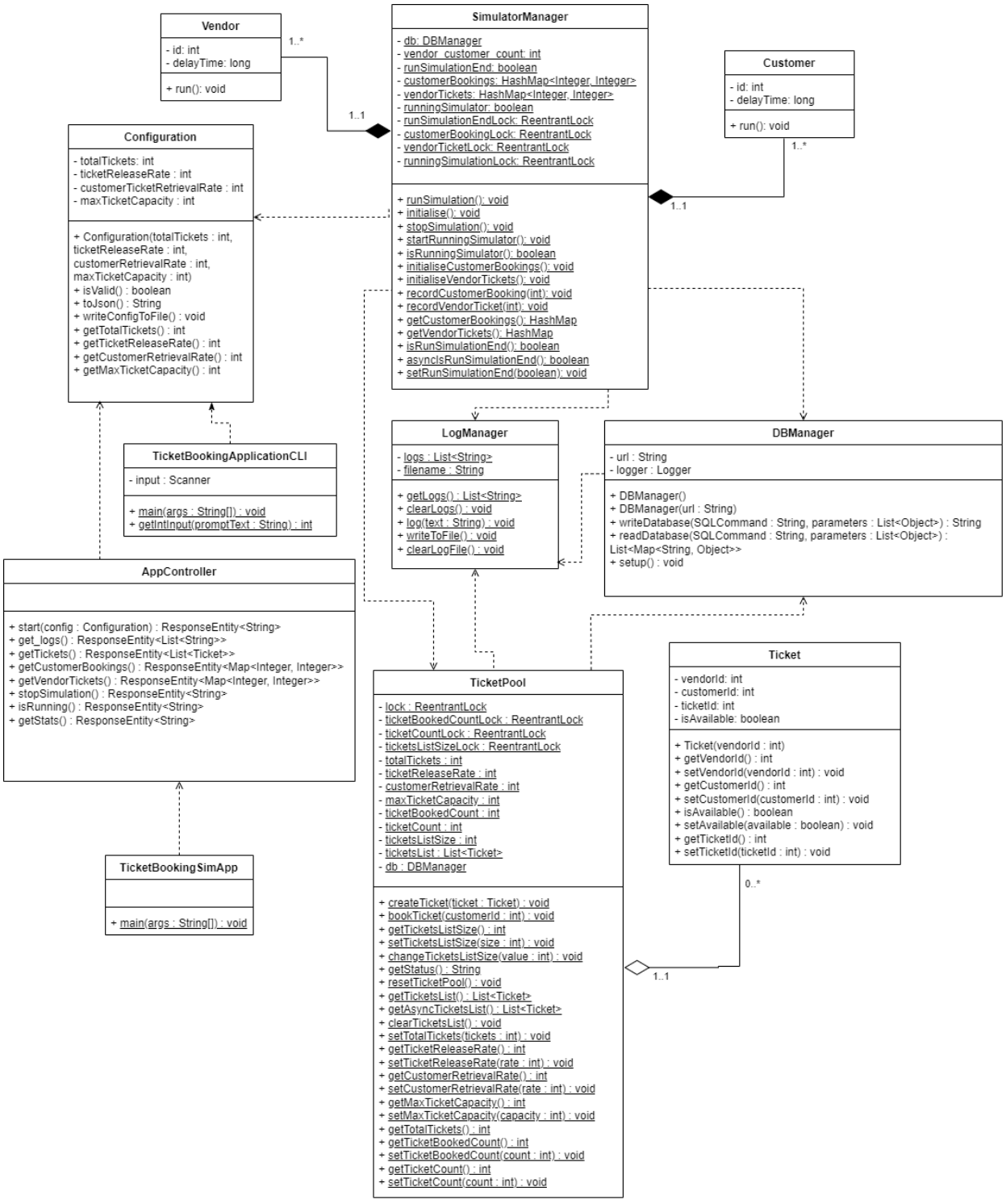


*Figure 1: Class Diagram for the Ticket Booking Simulator*

# Sequence Diagram

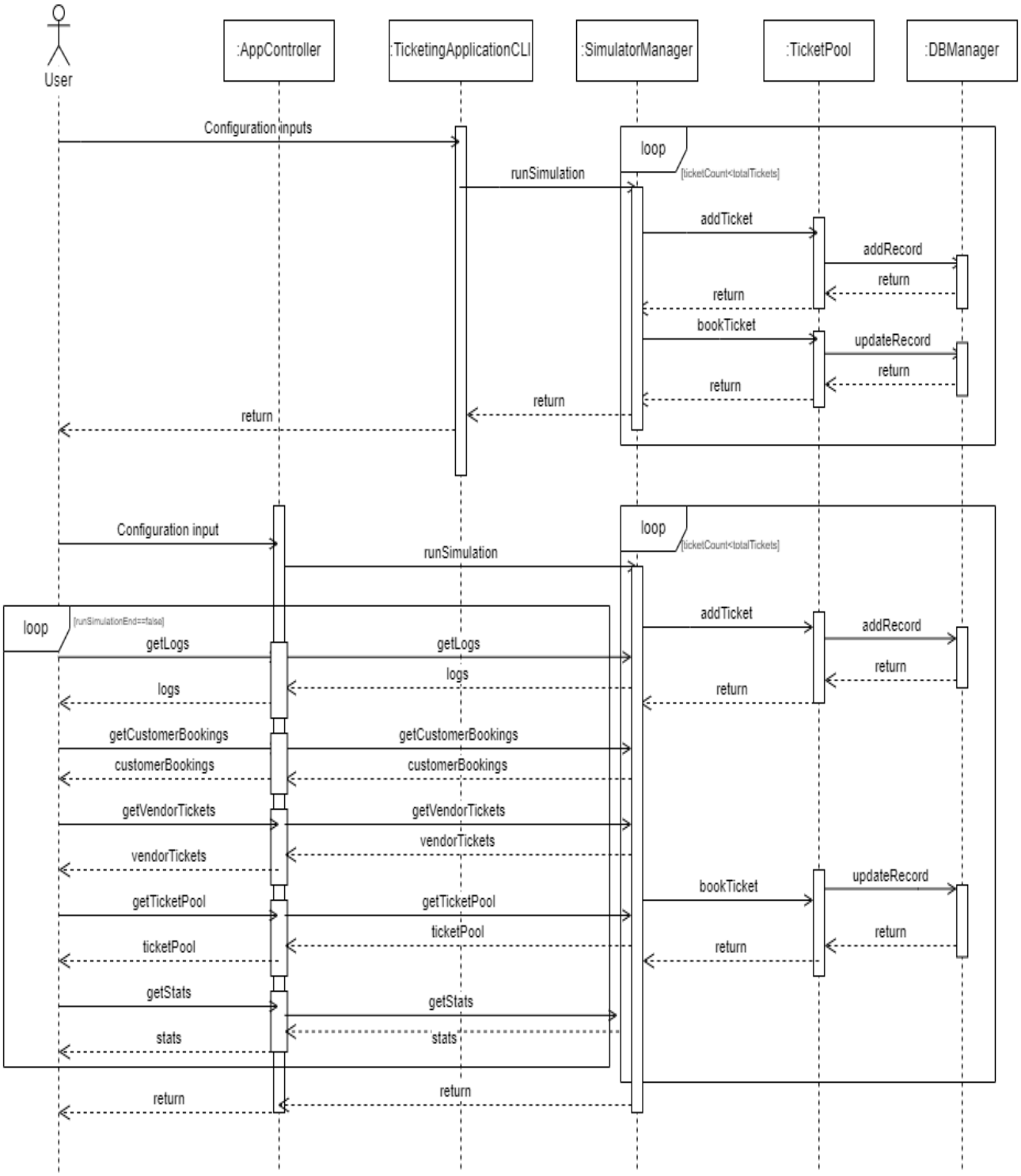


*Figure 2: Sequence Diagram for the Ticket Booking Simulator*

# `Test Case Report

*Table 1: CLI Test Case*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| SCREEN NAME | | Command Line Interface | | | | | | |
| PREPARED BY | | Vethum Buthgamuwa | | | | | | |
| DESIGNATION | | Tester/Developer | | | | | | |
| DATE | | 6/12/2024 | | | | | | |
| | | | | | | | | |
| SCENARIO ID | 1 | SCENARIO DESCRIPTION | Validate the user input and run the ticket booking simulation | | | | | |
| | | | | | | | | |
| S.NO | TEST CASE ID | TEST CASE DESCRIPTION | PRECONDITION | TEST DATA | EXPECTED RESULT | POSTCONDITION | ACTUAL RESULT | STATUS (PASS/ FAIL) |
| 1 | TC_CONFIGURATION_VALIDATION_001 | Verify the system accepts valid inputs | CLI is Running | totalTickets: 100 ticketReleaseRate: 10 customerRetrievalRate: 5 maxTicketCapacity: 50 | The simulation starts running | Simulation is Running | The simulation started running | Pass |
| 2 | TC_CONFIGURATION_VALIDATION_002 | Verify the system handles values less than 1 for the configuration input without crashing | CLI is Running | totalTickets: 100 ticketReleaseRate: -5 customerRetrievalRate: 5 maxTicketCapacity: 0 | The simulation re-prompts the input. | Input re-prompted | Input re-prompted | Pass |
| 3 | TC_CONFIGURATION_VALIDATION_003 | Verify the system handles non-numeric values for the configuration input without crashing | CLI is Running | totalTickets: 100 ticketReleaseRate: 10 customerRetrievalRate: 5 maxTicketCapacity: abc | The simulation re-prompts the input. | Input re-prompted | Input re-prompted | Pass |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

*Table 2:Simulation Execution Test Cases*

| SCREEN NAME | | Simulation Execution | | | | | | |
|---|---|---|---|---|---|---|---|---|
| PREPARED BY | | Vethum Buthgamuwa | | | | | | |
| DESIGNATION | | Tester/Developer | | | | | | |
| DATE | | 6/12/2024 | | | | | | |
| | | | | | | | | |
| SCENARIO ID | 2 | SCENARIO DESCRIPTION | Tests various conditions that arise while the simulation is running. (Applies to both CLI and Web Application) | | | | | |
| | | | | | | | | |
| S.NO | TEST CASE ID | TEST CASE DESCRIPTION | PRECONDITION | TEST DATA | EXPECTED RESULT | POSTCONDITION | ACTUAL RESULT | STATUS (PASS/ FAIL) |
| 1 | TC_MAX_TICKET_CAPACITY | Verify the system handles maximum ticket capacity reached. | CLI or web application is Running | totalTickets: 200 ticketReleaseRate: 70 customerRetrievalRate: 4 maxTicketCapacity: 5 | Maximum ticket capacity reached message. | No additional tickets are created, and the simulation continues | System blocked additional ticket creation | Pass |
| 2 | TC_TOTAL_TICKETS_REACHED | Verify the system handles total ticket count reached. | CLI or web application is Running | totalTickets: 100 ticketReleaseRate: 10 customerRetrievalRate: 5 maxTicketCapacity: 50 | Total ticket count reached message was displayed. | No additional tickets are created, and the simulation continues | System blocked additional ticket creation | Pass |
| 3 | TC_NO_TICKETS_AVAILABLE | Verify the system handles no tickets available for customer when the ticket | CLI or web application is Running | totalTickets: 100 ticketReleaseRate: 5 customerRetrievalRate: 30 maxTicketCapacity: 50 | A message saying no tickets available for customer will be displayed. | Tickets will not be removed | A message saying no tickets available for customer will be displayed. | Pass |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | pool is empty. | | | | | | |

*Table 3: User Interface Test Cases*

| SCREEN NAME | | User Interface | | | | | | |
|---|---|---|---|---|---|---|---|---|
| PREPARED BY | | Vethum Buthgamuwa | | | | | | |
| DESIGNATION | | Tester/Developer | | | | | | |
| DATE | | 6/12/2024 | | | | | | |
| | | | | | | | | |
| SCENARIO ID | 3 | SCENARIO DESCRIPTION | User Interface Functionality is tested | | | | | |
| | | | | | | | | |
| S.NO | TEST CASE ID | TEST CASE DESCRIPTION | PRECONDITION | TEST DATA | EXPECTED RESULT | POSTCONDITION | ACTUAL RESULT | STATUS (PASS/ FAIL) |
| 1 | TC_CONFIGURATION_VALIDATION_001 | Verify the system accepts valid inputs | Web Application is Running | totalTickets: 100 ticketReleaseRate: 10 customerRetrievalRate: 5 maxTicketCapacity: 50 | The simulation starts running. | Simulation is Running | The simulation started running | Pass |
| 2 | TC_CONFIGURATION_VALIDATION_002 | Verify the system handles values less than 1 as inputs for configuration values without crashing | Web Application is Running | totalTickets: 100 ticketReleaseRate: -5 customerRetrievalRate: 5 maxTicketCapacity: 0 | The web app shows an alert saying the value must be greater than or equal to 1 | Simulation does not run | The web app shows an alert saying the value must be greater than or equal to 1 | Pass |
| 3 | TC_CONFIGURATION_VALIDATION_003 | Verify the system handles non-numeric inputs for configuration | Web Application is Running | totalTickets: 100 ticketReleaseRate: 10 customerRetrievalRate: 5 maxTicketCapacity: abc | The application does not allow the user to enter a value | Simulation does not run | The application does not allow the user to enter a value | Pass |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | values without crashing | | | that is not a number. | | that is not a numbe r. | |
| 4 | TC_CONFIGURATION_VALIDATION_004 | Verify the system handles empty inputs for configuration values without crashing | Web Application is Running | totalTickets: [Blank] ticketReleaseRate: 10 customerRetrievalRate: 5 maxTicketCapacity: [blank] | The web app shows an alert saying the relevant field cannot be empty. | Simulation does not run | The web app shows an alert saying the relevant field cannot be empty. | Pass |
| 5 | TC_STOP_FUNCTION | the user clicks the stop button while the simulation is running. | The simulation is running. | Click stop button | The simulation stops running and shows an alert saying Ended. | The simulation stops running | The simulation stops running and shows an alert saying Ended. | Pass |
| | | | | | | | | |

# Links

1. GitHub Repository Link: https://github.com/vethumIIT/Tickets-Booking-Simulator.git
2. Video Demonstration Link: https://youtu.be/sPbViCDCplQ?si=cqemlFH2b1U90iBo