Sprint 3 – GUI Development Report

Student Name: Phone Pyae Kyaw
Student ID: A00091367

1. Introduction

Sprint 3 focuses on developing a Graphical User Interface (GUI) for the Booking System using JavaFX. This sprint enhances usability by allowing users to interact visually with the system.

2. System Overview

The Booking System manages Facilities, Equipment, and Hobbies. Users can view availability, book items, and release them through the GUI.

3. GUI Design

The GUI is built using JavaFX components such as ListView, Buttons, and Labels. It displays real-time booking status and system messages.

4. User Stories

- View all bookable items
- Book an available item
- Release a booked item
- View booking status
- Receive feedback messages

5. Class Design

The system follows object-oriented principles. BookableItem is an abstract class extended by Facility, Equipment, and Hobby. BookingSystem handles business logic while BookingSystemGUI manages the interface.

6. Implementation Details

JavaFX event handlers are implemented using lambda expressions. ObservableList is used to ensure automatic updates in the ListView when booking states change.

7. Testing & Results

The system was tested for booking, releasing, UI refresh, and error handling. All functionality worked correctly as shown in the screenshots below.

Screenshots

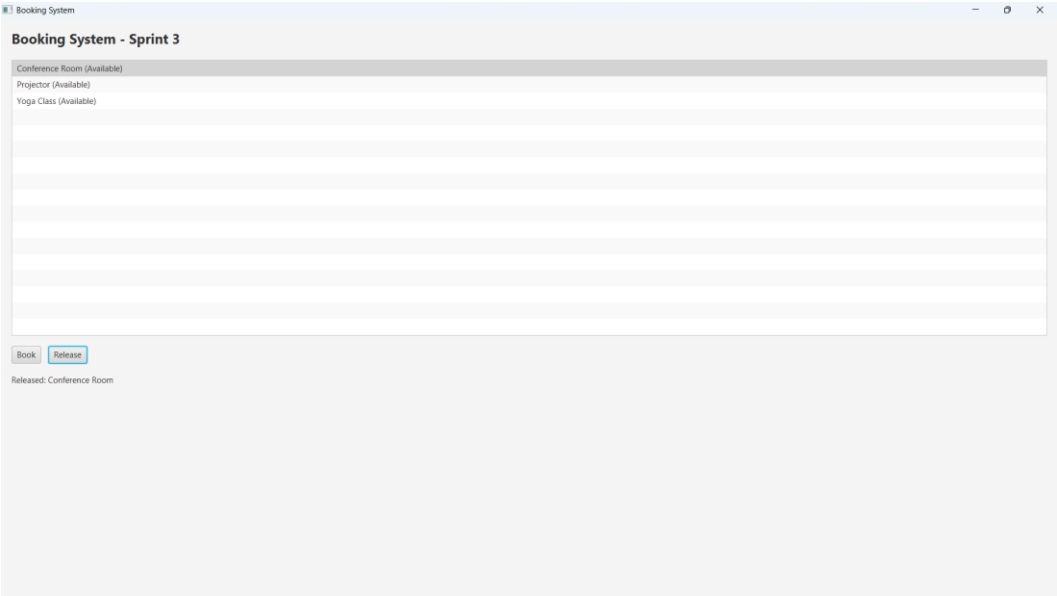

Figure: Screenshot 2026-01-14 030116.png

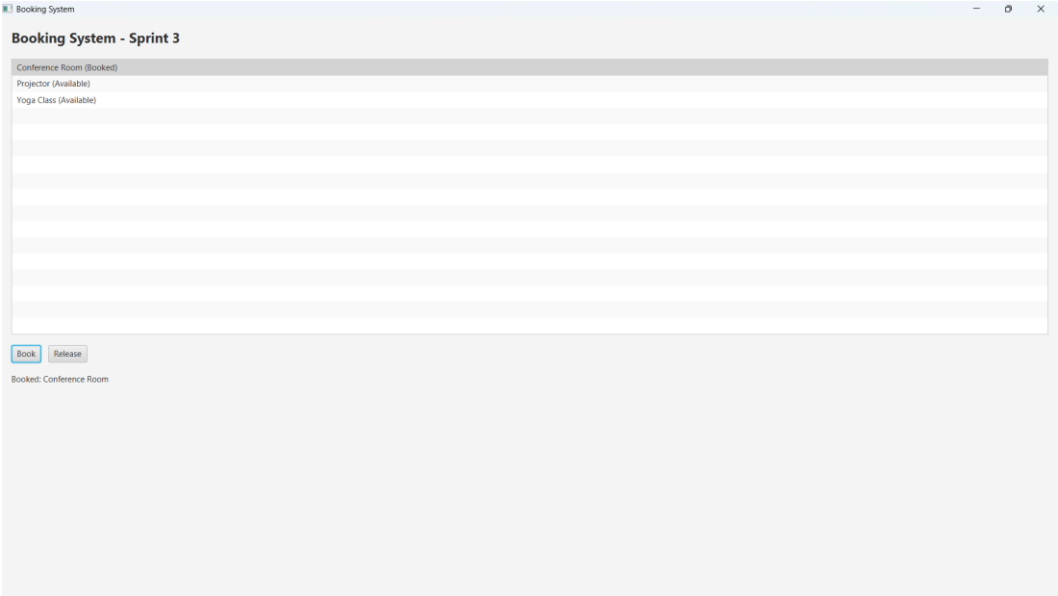

Figure: Screenshot 2026-01-14 030122.png

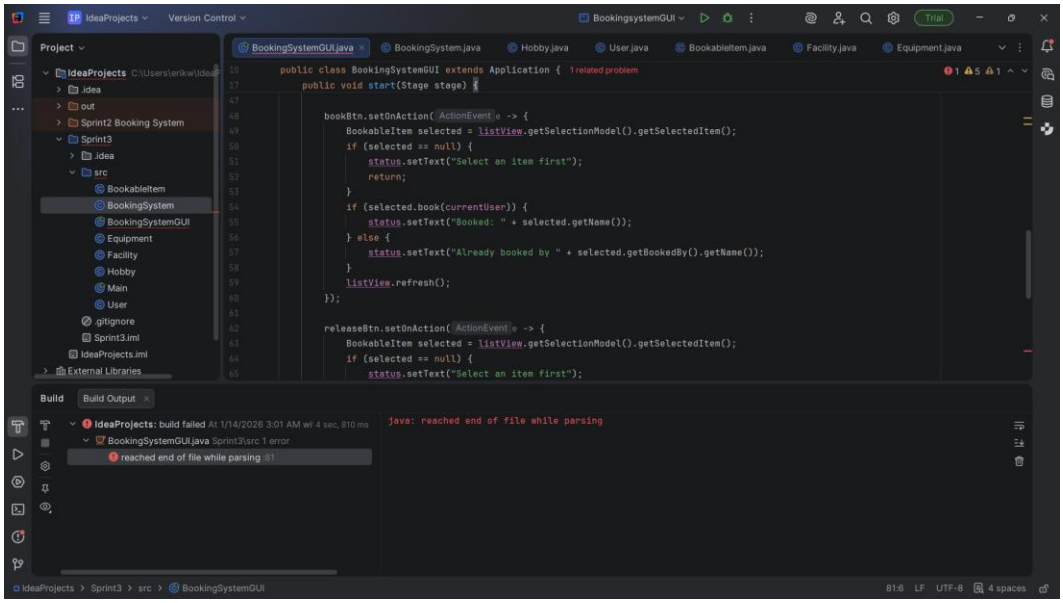

Figure: Screenshot 2026-01-14 030207.png

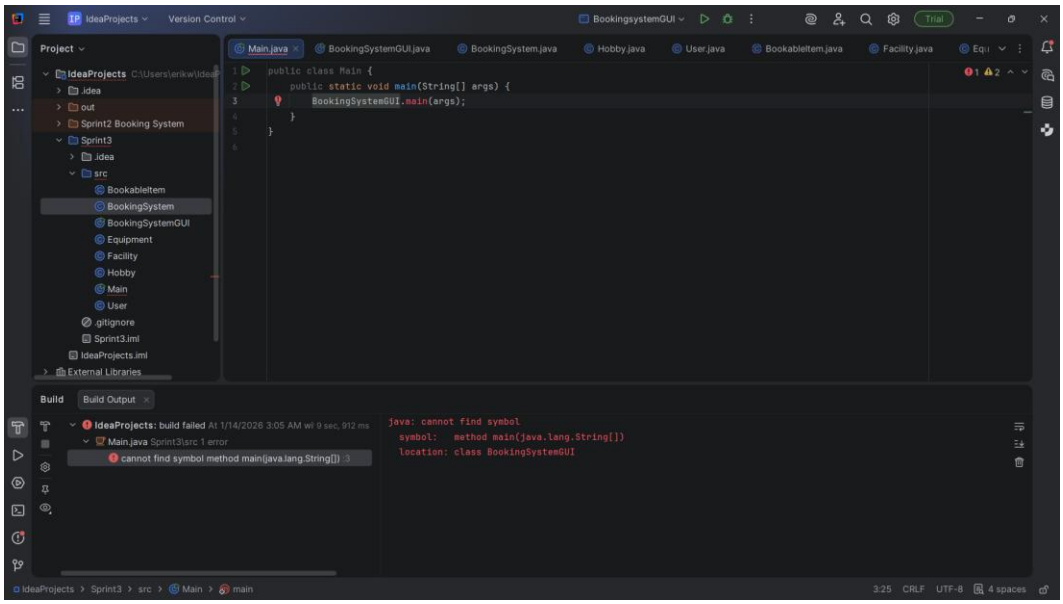

Figure: Screenshot 2026-01-14 030520.png

Figure: Screenshot 2026-01-14 030942.png

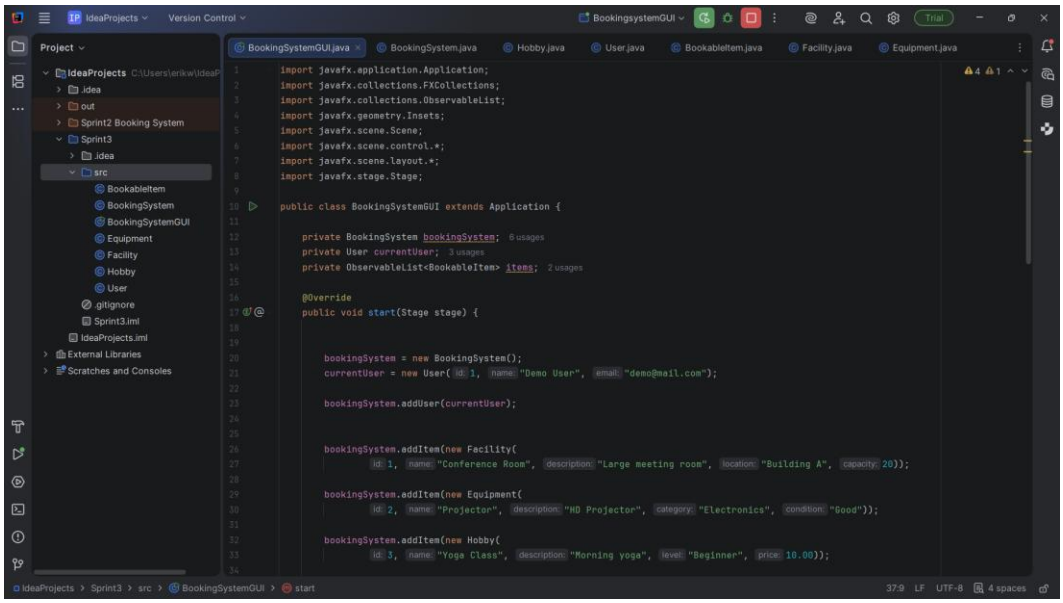

Figure: Screenshot 2026-01-14 031107.png

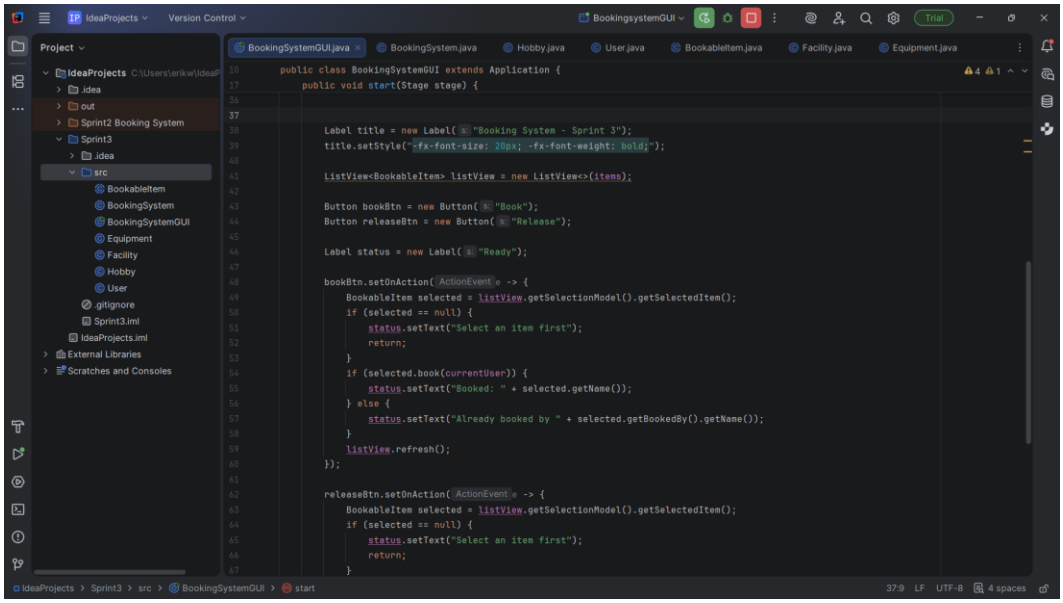

Figure: Screenshot 2026-01-14 031122.png

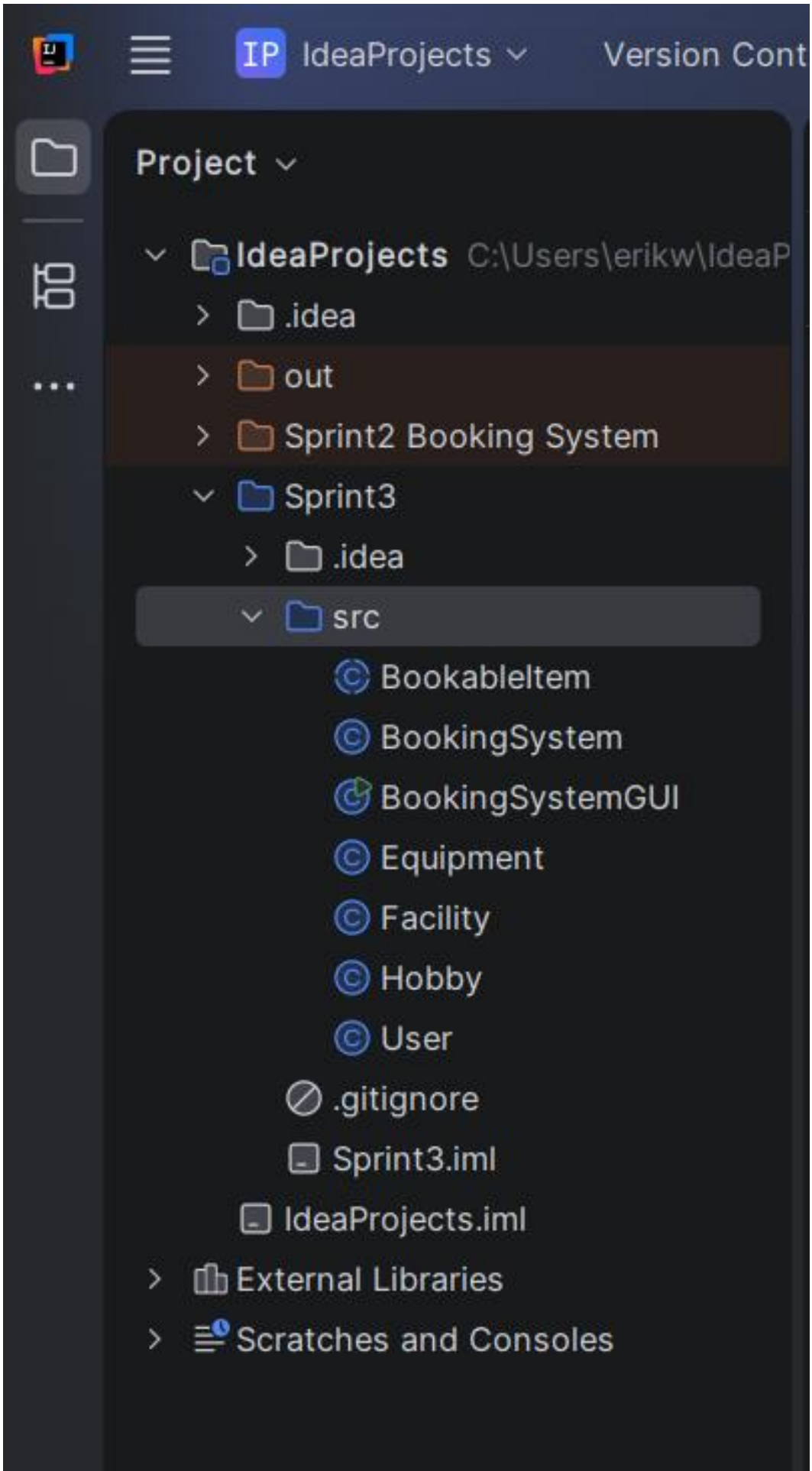
IP IdeaProjects
Version Cont
Project
IdeaProjects C:\Users\erikw\IdeaP
.idea
out
Sprint2 Booking System
Sprint3
.idea
src
BookableItem
BookingSystem
BookingSystemGUI
Equipment
Facility
Hobby
User
.gitignore
Sprint3.iml
IdeaProjects.iml
External Libraries
Scratches and Consoles

Figure: Screenshot 2026-01-14 031134.png

8. Conclusion

Sprint 3 was completed successfully with a fully functional JavaFX GUI. The system meets all requirements and is ready for submission.