

FIT5171 Project

Airline Reservation System

2023

Abstract

A flight booking system automates the flight booking process to help book flights online, considering the availability of seats from various flights.

It is essential to have a reliable and efficient booking system for an airline company. At the same time, it is critical to ensure that the booking system provides comprehensive information so that customer experience can be improved. One of the key aspects for the business is to secure reliable and efficient customer service. However, it is difficult to deliver a quality software solution without testing playing a major role in it.

1. Functional Specification

This is a small software implemented in Java and your team has been contracted to validate the functional requirements and prove the quality of the Software. Using TDD approach, you can extend the codebase where needed. We have provided following classes:

- Airplane
- BuyTicket
- ChooseTicket
- Flight
- FlightCollection
- Passenger
- Person
- Ticket
- TicketCollection

You will also develop a test plan through the course of this project.

2. Main Technologies

Each project team will have the following tools/systems set up for it. Some of these systems will be hosted on a server provisioned by the university, while some others will be external systems.

- Java SDK v15-18 (<https://www.oracle.com/java/technologies/downloads/>)
- IntelliJ (<https://www.jetbrains.com/student/>)
- [Gitlab repository](#) (phase 1, 2 & 3)
- Gitlab CI (phase 2 & 3)
- SonarQube (<http://sonarqube.org/>) (phase 3)

3. Schedule

This project will be divided into three parts:

- initial test planning and project setup,
- refined test plan and unit/integration testing and

- software quality and further testing.

You will continually add functionality to the project and test it. An overview of the three assignments is as follows.

Phase 1 (5 marks) Initial Test Planning and Project Setup: develop a test plan, correctly set up a maven project, write test code.

- Due week 4 (Friday 4:30 pm, 24th March 2023)

Phase 2 (15 marks) Refined test plan and Unit/Integration Testing: perform unit testing on the system and develop a plan for integration testing.

- Due week 8 (Friday 4:30 pm, 28th April 2023)

Phase 3 (20 marks) Software Quality and Further Testing: continue to write unit tests and integration tests for the system. These tests will also need to be automatically executed on the continuous integration server. Software quality measures and monitoring will also be part of this phase.

- Due week 11 (Friday 4:30 pm, 19th May 2023)