

Project Contribution Document

Project Name: Airline Booking System

Team Members:

- **Andrea Joyce Sequeira**
 - **Atharva Kamble**
 - **Neha Balaji**
 - **Nishi Pancholi**
 - **Aziz Vohra**
 - **Satyajit Das**
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Individual Contributions

Andrea's Contributions:

1. Design Patterns Implemented:

- **Singleton + Factory:**
 - Implemented the eager singleton pattern in the AirlineFactory to produce the Airline object.
- **Facade:**
 - Created the SaveAndLoadFacadeAPI to hide complexities of saving and loading data, integrated it into the Airline object.

2. Integration Support & presentation:

- Resolved integration errors that occurred when merging code from all six teammates.
- Helped in creating slides for the presentation, explaining how singleton and Façade design pattern are applied

Atharva's Contributions:

1. Design Patterns Implemented:

- **Adapter:**
 - Created the CurrencyAdapter to allow clients to view flight prices in various currencies.
- **Bridge:**
 - Separated abstraction (TicketFeature) from implementation (SeatChangeFeature and MealPreferenceFeature) for flexibility in extending functionality.

2. Documentation, GitHub repository creation & presentation:

- Participated in creating the project documentation, detailing each team member's contributions and the overall project design.
- Created a GitHub repository and added all team members as contributor to manage and push code changes
- Helped in creating slides for the presentation, explaining how Adapter and Bridge design pattern are applied

Neha's Contributions:

1. Design Patterns Implemented:

- **Command:**
 - Developed the Command interface and concrete command classes like BookTicketCommand and CancelTicketCommand.
- **Builder:**
 - Developed the FlightBuilder class for constructing Flight objects and CustomersBuilder class for Customers objects.

2. Presentation & documentation:

- Created a PowerPoint presentation explaining the project flow and how each design pattern was applied.
- Participated in creating the project documentation, detailing each team member's contributions and the overall project design.

Nishi's Contributions:

1. Design Patterns Implemented:

- **Decorator:**
 - Implemented FlightUpgradeOptions and various decorators like ExtraLegRoom, ExtraLuggage, and PremiumUpgrade.
- **State:**
 - Developed the FlightStateAPI with possible states such as Scheduled, OnBoarding, InTransit, etc.

2. Documentation & presentation:

- Participated in creating the project documentation, detailing each team member's contributions and the overall project design.
- Helped in creating slides for the presentation, explaining how Decorator and State design pattern are applied

Aziz's Contributions:

1. Design Patterns Implemented:

- **Prototype:**
 - Implemented the TicketPrototype interface and Booking class with the cloneTicket() method for cloning bookings.
- **Observer:**
 - Designed the observer pattern with classes like EmailObserver and SMSObserver for notifying observers of changes in the subject's state.

2. Documentation & presentation:

- Participated in creating the project documentation, detailing each team member's contributions and the overall project design.
- Helped in creating slides for the presentation, explaining how Prototype and Observer design pattern are applied

Satyajit's Contributions:

1. Design Patterns Implemented:

- **Strategy:**

- Developed the DiscountStrategyAPI with interchangeable algorithms for applying discounts to airline prices.

2. Documentation, presentation & bug fixing:

- Participated in creating the project documentation, detailing each team member's contributions and the overall project design.
- Helped in creating slides for the presentation, explaining how Strategy design pattern is applied.
- Identified and fixed bugs in the project, ensuring smooth functionality and improving overall performance.