# CSIT214 – IT Project Management

**University of Wollongong**

**Group Project Report**

**Project Title:  
FlyDreamAir – Customer Management and Booking System (Project 1)**

Submitted By:

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Date of Submission:  
30th May 2025

**Context**

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**Introduction**

**1.1 Justification for Choosing Project 1: Customer Management and Booking System**

**Context:** FlyDreamAir, a large airline with both international and domestic flights, is looking to modernize its operations by digitizing its business processes. One of the key areas in need of improvement is the **customer booking system**. Currently, FlyDreamAir's customer management and flight booking system relies on outdated technology, which leads to inefficiencies and increased operational costs.

**Project Description:** The objective of Project 1 is to develop an IT software system that will manage customers, allow them to book flights, manage flight reservations, select seats, and purchase in-flight services (such as food and drinks). By digitizing these processes, the airline hopes to reduce manual errors, improve customer satisfaction, and streamline its operations.

**Justification:**

* **Operational Efficiency**: The existing manual processes and legacy system are time-consuming and prone to errors. An automated system will streamline the booking process, reducing time spent on handling reservations and customer queries.
* **Customer Experience**: The new system will provide customers with an intuitive and user-friendly interface to manage bookings, seat selections, and in-flight services, improving their overall experience.
* **Cost Reduction**: By automating customer bookings and flight management, FlyDreamAir can reduce costs associated with manual processing, support staff, and potential errors in the current system.
* **Scalability**: As FlyDreamAir continues to expand, the new system will be scalable, allowing the company to easily integrate more services and handle a growing number of customers and flights.
* **Competitive Advantage**: Offering a modern, efficient, and user-friendly booking system will enhance FlyDreamAir's reputation in the competitive airline industry and attract more customers.

**Conclusion:** Choosing Project 1 aligns with FlyDreamAir’s goals of modernizing operations, improving customer service, and reducing operational costs. This project will provide both short-term and long-term benefits, making it a critical initiative for the airline’s growth and competitiveness.

**2. Project Management Artefacts**

**2.1 Business Case**

**Summary**

FlyDreamAir is a large airline operating on both international and domestic routes. The company is currently undergoing digital transformation to improve efficiency and customer service. One of the key pain points identified is the outdated, partially manual customer booking and management system. This business case outlines the rationale for developing a modern software solution (Project 1 – Customer Management and Booking System) that addresses these inefficiencies and positions FlyDreamAir for scalable growth.

**Situation Analysis**

Currently, FlyDreamAir uses legacy systems and manual processes for managing customer profiles, flight reservations, seat selections, and purchasing in-flight services. These systems lack integration and user-friendly interfaces, resulting in:

* High staff workload for routine tasks
* Increased errors in bookings and seat assignments
* Poor customer experience
* Limited scalability as customer base grows

A modern, centralized IT system would resolve these issues and align with the airline's strategic vision of becoming a fully digital organization.

**Cost vs. Benefit Analysis**

| **Aspect** | **Cost (Estimated)** | **Benefit** |
| --- | --- | --- |
| Development Resources | Medium (in-house + student team) | Up-to-date system with modern UI |
| Time Investment | ~6–8 weeks | Faster operations, fewer delays |
| Training Staff | Low | Improved workflow and satisfaction |
| Hardware / Hosting | Minimal (cloud-based) | Scalability & long-term savings |

**Total Cost:** Moderate (Time + Development effort)  
**Total Benefit:** High (Efficiency + Customer satisfaction + Competitive edge)

**Feasibility Study**

| **Feasibility Type** | **Assessment** |
| --- | --- |
| **Technical** | High – Tools like Python, HTML/CSS, GitHub, and basic databases (or file storage) are accessible and manageable for this scope. |
| **Economic** | High – Development done in-house reduces costs. Cloud or local hosting options make deployment affordable. |
| **Operational** | Moderate to High – Once implemented, the system will be intuitive for both staff and customers with minimal training needed. |

**2.2 Project Charter**

**Project Title:**

FlyDreamAir – Customer Management and Booking System

**Date of Authorization:**

March 28, 2025

**Project Manager Information:**

**Name:** Deon Pathrose Sunny  
**Email:** dps578@uowmail.edu.au

**Project Objectives:**

* To design and implement a centralized customer management and booking system for FlyDreamAir.
* To allow users to register, log in, manage bookings, select seats, and order in-flight services.
* To reduce manual errors and increase customer satisfaction through digital automation.

**Project Success Criteria:**

* A working prototype with key functionalities delivered on time.
* Successful demo and documentation submitted by Week 12.
* Feedback from client (tutor/supervisor) is positive.
* All deliverables are submitted

**Summary Schedule:**

| **Phase** | **Start Date** | **End Date** |
| --- | --- | --- |
| Planning & Requirements | April 1, 2025 | April 10, 2025 |
| Design & Prototyping | April 11, 2025 | April 18, 2025 |
| Implementation | April 19, 2025 | May 15, 2025 |
| Testing & Finalization | May 16, 2025 | May 29, 2025 |
| Submission | May 30, 2025 | May 30, 2025 |

**Summary Budget:**

Since the project is student-led and academic in nature, no financial costs apply. Resources such as GitHub, local development tools, and cloud-based file storage are free or already available.

**Planned Approach for Managing the Project:**

* Weekly meetings with minutes recorded.
* GitHub used for source control and collaboration.
* Tasks assigned based on roles (e.g., analyst, developer, tester).
* Microsoft Project used to track milestones and tasks.

**Roles and Responsibilities:**

| **Team Member** | **Role** | **Responsibilities** |
| --- | --- | --- |
| Deon Pathrose Sunny | Project Manager | Oversees progress, documentation, and scheduling |
| Ashlin Lal | Analyst / Developer | Requirement gathering, system design, core development |
| [Member 3 Name] | Designer | UI/UX design, layout, branding |
| [Member 4 Name] | Tester | Test functionality, bug reports, quality assurance |

**2.3 Project Scope Statement**

**Project Title:**

FlyDreamAir – Customer Management and Booking System

**Project Objective:**

The objective of this project is to develop an IT software system that will manage customer information, allow flight booking, enable flight reservations, seat selections, and facilitate the purchase of in-flight services. This system aims to enhance operational efficiency, reduce manual errors, improve customer satisfaction, and provide scalability for FlyDreamAir's growing operations.

**Scope Description:**

The FlyDreamAir Customer Management and Booking System will provide the following features:

* **Customer Management:** Manage customer profiles, including personal details, booking history, and preferences.
* **Flight Booking:** Allow customers to search for available flights, book tickets, and make payments.
* **Flight Reservations:** Enable customers to manage reservations, including modifications and cancellations.
* **Seat Selection:** Allow customers to choose seats and modify selections during the booking process.
* **In-flight Services:** Provide customers with the option to purchase in-flight services, such as food, drinks, and special amenities.

**In-Scope:**

* Development of a web application that supports customer registration, flight booking, and management of reservations.
* Integration with a payment gateway for processing flight payments.
* User interface design focused on ease of use for customers.
* Basic data storage for customer information (can use text files or simple databases).
* User authentication and account management.
* Customer support features (e.g., ticket cancellation, refund processing).

**Out-of-Scope:**

* Development of mobile applications (this project will focus solely on a web-based system).
* Advanced features such as dynamic pricing, AI-based recommendations, or complex reporting systems.
* Integration with external airline systems for live flight data (i.e., flight schedules and pricing).
* Implementing loyalty programs or membership benefits (this is part of another potential project).

**Constraints:**

* Limited resources due to the small team size.
* Project must be completed within the 9-week timeline.
* The system must operate within the existing FlyDreamAir IT infrastructure, which may have compatibility limitations.

**Assumptions:**

* The project will use a simple file-based storage system or a basic database for customer data.
* FlyDreamAir’s management will provide access to necessary resources and information for the project.
* Customers will have access to an internet connection to interact with the system.

**Acceptance Criteria:**

* The system must allow customers to book, modify, and cancel flight reservations.
* The seat selection functionality should be fully operational.
* The in-flight services section should allow customers to browse and purchase items.
* The application must pass all functional and usability tests before final delivery.

**2.4 Work Breakdown Structure (WBS)**

**Work Breakdown Structure (WBS)**

**Level 1: Project Title**

* FlyDreamAir – Customer Management and Booking System

**Level 2: Major Deliverables**

1. **Project Management**
2. **Requirements Gathering**
3. **Design**
4. **Development**
5. **Testing**
6. **Deployment**
7. **Documentation**

**Level 3: Tasks (Sub-Deliverables)**

**1. Project Management**

* **1.1** Kick-off Meeting
* **1.2** Weekly Progress Meetings
* **1.3** Risk Management
* **1.4** Team Management
* **1.5** Final Review and Handover

**2. Requirements Gathering**

* **2.1** Stakeholder Interviews
* **2.2** Business Process Analysis
* **2.3** Functional Requirements Definition
* **2.4** Non-Functional Requirements Definition
* **2.5** Use Case Development

**3. Design**

* **3.1** System Architecture Design
* **3.2** Database Design
* **3.3** User Interface Design (UI/UX)
* **3.4** Technical Design Specification
* **3.5** Design Review and Approval

**4. Development**

* **4.1** Frontend Development
  + **4.1.1** UI Development
  + **4.1.2** User Authentication
  + **4.1.3** Booking Interface
  + **4.1.4** Seat Selection
  + **4.1.5** In-flight Service Purchase Interface
* **4.2** Backend Development
  + **4.2.1** Database Implementation
  + **4.2.2** Payment Gateway Integration
  + **4.2.3** Flight Management System
* **4.3** API Development (if required)
* **4.4** System Integration

**5. Testing**

* **5.1** Functional Testing
* **5.2** Usability Testing
* **5.3** Performance Testing
* **5.4** Security Testing
* **5.5** Bug Fixing and Enhancements
* **5.6** User Acceptance Testing (UAT)

**6. Deployment**

* **6.1** Deployment Preparation
* **6.2** System Deployment to Production
* **6.3** Post-Deployment Support

**7. Documentation**

* **7.1** Technical Documentation
* **7.2** User Documentation
* **7.3** Final Project Report

**WBS Dictionary**

The **WBS Dictionary** provides additional details for each task in the WBS. Here's an example for some of the tasks:

**WBS Task: 1.1 Kick-off Meeting**

* **Description:** Initial meeting to align the team with the project goals, timelines, and deliverables.
* **Responsible:** Project Manager
* **Start Date:** [Insert Date]
* **End Date:** [Insert Date]
* **Dependencies:** None

**2.5 Risk Management**

* Risk identification
* Risk analysis (likelihood, impact)
* Mitigation strategies

**2.6 Cost & Effort Estimation**

* Use Function Points or COCOMO model (basic version is fine)
* Explain your assumptions

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