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| **International School**  Đồ Án CDIO  **CMU-CS 447**  Product Backlog  Version 1.0  Date: 05- April - 2025  Airline Reservation System  Submitted by  Nguyen Pham Anh Huong  Cao Minh  Le Minh Hieu  Nguyen Thi Thanh Huong  **Approved by**  **Capstone Project 1 - Mentor:**  Name Signature Date  Tinh, Le Van \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_04 - April- 2025 |

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# PROJECT INFORMATION

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| **PROJECT INFORMATION** | | | |
| **Project Acronym** | ARS | | |
| **Project Title** | Airline Reservation System | | |
| **Project Web URL** |  | | |
| **Start Date** | 5-Apr - 2025 | | |
| **End Date:** | 24 - May - 2025 | | |
| **Lead Institution** | International School, Duy Tan University | | |
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Table 1 - PROJECT INFORMATION

# DOCUMENT INFORMATION

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| --- | --- | --- | --- |
| **DOCUMENT INFORMATION** | | | |
| **Document Title** | Product Backlog | | |
| **Author(s)** | Group 3 | | |
| **Role** | Proposal\_v1.0 | | |
| **Date** | 5-Apr - 2025 | File name | Proposal\_v1.0 |
| **URL** | [https://github.com](https://github.com/sdateamdtu2020/sda-documents) | | |
| **Access** | Project and CMU Program | | |

Table 2 - DOCUMENT INFORMATION

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# REVISION HISTORY

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Version** | **Person(s)** | **Date** | **Description** | **Approval** |
| Draft | Minh, Hieu | 5-Apr - 2025 | Initiate document | x |
| 1.0 | All members | 12-Apr - 2025 | Finish content of document | x |
| 1.1 | All members | 19-Apr - 2025 | Update content & format | x |
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Table 3 - REVISION HISTORY

# INTRODUCTION

## PURPOSE

This document serves as the authoritative reference for the Airline Reservation System (ARS), establishing clear priorities and requirements for all stakeholders. It comprehensively defines the system's core functionalities including flight booking operations, passenger management workflows, and secure payment processing, while also outlining key technical specifications and business requirements that guide development decisions.

## SCOPE

Showing the user’s role.

Storing all the user’s requirements.

Giving a short description of all the functionality desired in the product.

Giving the priority of each feature of the product.

## DEFINITIONS, ACRONYMS AND ABBREVIATIONS

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| **Term** | **Definition** |
| ARS | Airline Reservation System |
| PNR | Passenger Name Record (Unique booking ID) |
| IATA | International Air Transport Association (Standards) |

Table 4 - DEFINITIONS, ACRONYMS AND ABBREVIATIONS

## REFERENCES

|  |  |  |
| --- | --- | --- |
| **No.** | **Document Name** | **Note** |
| 1 | ARS Proposal Document (v1.0) |  |
| 2 | IATA Airline Coding Standards (2023) |  |

Table 5 - REFERENCES

# PRODUCT BACKLOG

## USER STORIES

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ID** | **As a/an** | **I want to ...** | **so that ...** | **Priority** | **Status** |
| PB01 | Passenger | Search flights by date/destination | I can compare options. | **H** | **Done** |
| PB02 | Passenger | Book a seat and pay online | I can secure my travel plans. | **H** | **In Progress** |
| PB03 | Agent | Access a passenger’s booking via PNR | I can assist with changes/cancellations. | **H** | **To Do** |
| PB04 | Administrator | Add new flight schedules | The system stays updated. | **M** | **To Do** |
| PB05 | Passenger | Receive real-time flight status alerts | I can stay informed about delays/gate changes | **H** | **To Do** |
| PB06 | Agent | Access a waitlist management system | I can offer seats when cancellations occur. | **M** | **Done** |
| PB07 | Administrator | Generate revenue reports | I can analyze booking trends and performance. | **H** | **To Do** |

Table 6 - USER STORIES

## FEATURE DESCRIPTION

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID** | **Feature Name** | **Description** | **Priority** | **Status** |
| PB01 | **Flight Search** | -Filter flights by date ,destination , price and airline .  -Display real-time seat availability | **H** | **Done** |
| PB02 | **Booking System** | -Seat selection with interactive cabin map.  -Secure payment gateway integration (Visa, PayPal). | **H** | **In Progress** |
| PB03 | **Booking Management (Agent)** | -Modify/cancel bookings using PNR.  -Generate e-tickets and refunds. | **H** | **To Do** |
| PB04 | **Flight Management (Admin)** | -CRUD operations for flights (add/remove/update).  -Bulk upload via CSV. | **M** | **To Do** |
| PB05 | **Real-Time Flight Alerts** | -Automated push/SMS notifications for flight delays, gate changes, and boarding update  -Integrates with airline's operational database (real-time data feed) | **H** | **To Do** |
| PB06 | **Waitlist Management** | -Automated seat reallocation when cancellations occur  -Priority waitlist based on fare class/loyalty status | **M** | **To Do** |
| PB07 | **Advanced Reporting** | -Scheduled/dynamic reports on: Revenue by route/flight , Seat occupancy rates, Ancillary service sales | **H** | **Done** |

Table 7 - FEATURE DESCRIPTION