**MINI PROJECT**

**ON**

**AIRLINES SEAT RESERVATION SYSTEM**

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**1. Introduction**

Airlines Seat Reservation System will hold flight schedules and its fare tariffs, passenger reservations and ticket records. It saves time as it allows online procedure as users no longer to wait in a queue to book the flights. It is automatically generated by the server. Admin is the main authority who can do addition, deletion, and modification of flights if required.

The Airlines Seat Reservation System project is an implementation of a general Airline Ticketing websites, which helps the customers to search the availability of various airline tickets, along with the different classes available with the reservations. This project also covers various features like online registration of the users, modifying the details of the website by the management staff or administrator of the website, by adding, deleting or modifying the customer details, flights or packages information. In general, this website would be designed to perform like any other airline ticketing website available online.

**2. Aim and Objectives of the Application**

The main objective of the Airlines Seat Reservation System is to manage the details of Airlines Ticket, Flights, Customer, Booking, Counter, Venders. ... The purpose of the project is to build an application program to reduce the manual work for managing the Airlines Ticket, Flights, Bookings, Customer.

Develop a Computerized Airline Reservation and Ticketing System that will be able to solve the issues in the existing system regarding to the following categories:

A. Accuracy

B. Usability

C. Efficiency

D. Effectiveness

E. Speed

F. User - friendliness

**3. Problem Statement and Description**

**3.1 Problem Statement**

Airlines Seat Reservation System is based on the concept of reserving airline seats for the passengers. There is no login system available for this system, the user can freely use its feature. This mini project contains limited features, but the essential one.

**3.2 Project Description**

Talking about the features of this Simple system, the user has to select the seat class whether to choose Business or Economy class. Then the system displays available seats, and the user has to enter that particular seat number in order to reserve it. After reserving a seat, that particular seat won’t be available anymore for other users. The system does not create an external file to store the user’s data permanently.

**4. System Requirements**

This System is developed using C Programming language and different variables, strings, have been used for the development of code.

Tools Required:

1. Code Blocks

2. GCC Compiler

**5. Test Plan and Test Cases**

The main purpose of the test plan for the Airlines Seat Reservation System is to discuss the testing details of the use cases of the Airlines Seat Reservation System. The software project test plan also describes the objective, scope and approach of the software testing effort for the Airlines Seat Reservation System project. The test plan for the Airlines Seat Reservation System also indicates the personnel responsible for each task and also specifies the risks associated with the test plan.

**5.1 Objectives**

The main objectives of the test plan for the Airlines Seat Reservation System are as follows:

1. To identify the features of the system that will be tested.

2. To identify and define all the activities necessary to prepare for and conduct the

testing process on the Airlines Seat Reservation System

3. To define the pass/fail criteria for each item that will be tested

4. To identify the deliverables of the testing phase.

5. To define any suspension criteria and resumption techniques

6. To discuss the testing techniques being used to test the Airlines Seat Reservation

System.

**5.2 Definitions**

The following are some of the terms and definitions that are related to the test plan of the

Airlines Seat Reservation System:

• **Pass/Fail criteria:** Decision rules that are used to determine whether a software

item passes or fails a test.

• **Test:** A collection of one or more test cases

• **Test Item:** A software item that is an objective of testing.

• **Test Plan:** A document describing the scope, approach, resources and schedule of

the intended testing activities.

• **Test Summary Report:** A document summarizing the testing activities and

results.

• **Testing:** The process of analysing a software item to detect the differences

between the existing and required conditions.

**5.3 Test items**

This section of the test plan lists all the items of the Airline Reservation System project

that will be tested:

1. Search and book flights

2. Search and select a class

3. Search and pick a seat

4. Book a seat

**5.4 Approach**

This section of the test plan describes the overall approach for testing the Airlines Sear Reservation System project. The approach followed for testing the Airlines Seat Reservation System ensures that the major features of the project are adequately tested. The testing would

be carried out on the Airline Reservation System while logging into the system as a customer or a normal user of the system.

**1. UNIT TESTING:**

The Unit Testing is a test that tests each single module of the software to check for errors. This is mainly done to discover errors in the code of the Airline Reservation System. The main goal of the unit testing would be to isolate each part of the program and to check the correctness of the code. In the case of the Airline Reservation System, all the web forms and the C# classes will be tested. There are many benefits for this unit testing:

* The unit testing facilitates change in the code.
* It allows testing to be done in a bottom up fashion.

At the same time, unit testing has some disadvantages such as, it might not identify each and every error in the system.

**2. INTEGRATION TESTING:**

In Integration Testing, the individual software modules are combined and tested as a whole unit. The integration testing generally follows unit testing where each module is tested as a separate unit. The main purpose of the integration testing is to test the functional and performance requirements on the major items of the project. All the modules of the project developed individually would be combined together and tested as a whole system in the integration testing.

**3. REGRESSION TESTING:**

The Regression Testing is generally done whenever modifications are made to the source code of a project. The Regression Testing can also be defined as the process of testing changes made to the computer program and also makes sure that the older programming still works with the new changes. So, before any new version of a software product is released, the old test cases for the project will be run against the software with the changes made, to make sure that the old functionalities of the project still work.

**4. ACCEPTANCE TESTING:**

This testing is generally performed when the project is nearing its end. This test mainly qualifies the project and decides if it will be accepted by the users of the system. The users or the customers of the project are responsible for the test.

**5. SYSTEM TESTING:**

The system testing is mainly done on the whole integrated system to make sure that the project that has been developed meets all the requirements. The test cases for the system testing will be the combination of unit and integration tests.

**5.5 Test Cases**

The following are the test cases for the Airline Reservation System:

Test cases to search and book flight, to select a class, to search and pick a seat.

* **Incorrect Input:** Incorrect input in this case, would be incorrect search criteria entered or incorrect format of data entered into the data entry fields of the flight search and booking page.
* **Pass criteria:** A message has to be generated to the user indicating the wrong entry that he has made in the fields.
* **Correct Input:** A correct input would be entering the data into the data entry fields in a correct format.
* **Pass Criteria:** The pass criteria for this test case would be that the search would return valid results and then when the customer made the booking, the system has to generate a confirmation to the customer.

**6. Expected Results**

The results that are expected at the end of this project are:

1. People should always be able to book tickets on this platform.

2. There should be no errors in the booking class and seats.

3. All the errors are to be verified with the help of the test cases written.

4. The code always should display the seats that are available and help people to book seats according to their choice.

**7. Conclusion**

**8. References**