

# Airline Reservation System

**Sakshi Bochare, Bhure Ankita, Tele S. N.**

IT Department

V. A. P. M Almala, Maharashtra, India

skshbochare@gmail.com and ankitabhure6@gmail.com

**Abstract:** *The Airline Reservation System is a web-based or desktop application designed to automate the process of booking, managing, and scheduling airline flights. It allows customers to search for available flights, book tickets, manage reservations, and receive confirmation digitally. The system also provides administrative features for airline staff, including flight management, passenger lists, and seat allocation. By integrating databases and real-time updates, the system ensures efficient handling of flight details, passenger information, and payment transactions. This project aims to improve user convenience, reduce manual work, and enhance operational efficiency in the airline industry.*

*The Airline Reservation System is a computerized system developed to manage air travel bookings and streamline the reservation process for both customers and airline staff. This system enables users to search for flights, check seat availability, book or cancel tickets, and make secure payments online. It provides a user-friendly interface for customers and an administrative panel for airline employees to manage flight schedules, pricing, seat arrangements, and passenger data.*

*With the rise of digital transformation in the travel industry, the system is designed to reduce manual workload, minimize human error, and increase operational efficiency. It integrates essential modules such as user registration, flight management, reservation handling, payment processing, and report generation. Additionally, it ensures data integrity and real-time updates through the use of a centralized database system.*

*Security features are implemented to protect user data and transactions, while the backend supports scalability for high-volume traffic. The system may be deployed as a web or mobile application to improve accessibility for users across the globe.*

*In conclusion, the Airline Reservation System enhances the travel booking experience, automates critical airline functions, and contributes to a more organized and efficient aviation operation.*

**Keywords:** Airline Reservation System

## I. INTRODUCTION

Background of study Many people are travelling with airplanes, either as means of daily transportation to and from work or when going on vacation, to mention a few. To make reservations for such travels, airline companies' websites holds the functionality for the user to book a travel himself. A functionality which these websites lack is the option for the user to set up specific requirements for a travel, such as; minimal travel time or travel distance(Jarvenpaa L. S, 1996). The purpose of this project is to develop an easy-to-use airline reservation system, which accommodates these functionalities. In addition, the system should also be of use for travel agencies. These should have the same functionalities in the system as the private users, but with the difference of also having a minimum spanning tree at their disposal, thus enabling them a greater understanding of the flight network

Statement of the problem The management of Airline in Nigeria for example has over the years attracted poor patronage as a result of errors inherent in the system. It is no longer a new thing that loss of customers' goods is now the order of the day; the reasons are not far-fetched. Due to this manual procedure involved in Airline management, clients have 4 | Page no other option than to be at the mercy of these error prone procedures. The method of information storage is poor. This limits the number of official documents accessible by the customers because the system is not capable of managing old items of reservations which could be of use to the customer at any time. There is little or no



security control system where the customers' goods, documents and classified information of the customer could be safeguarded from unauthorized access.

**Purpose of the study** This project is aimed at exposing the relevance and importance of the Airline reservation system (ARS). It is projected towards enhancing the relationship between customers and airline agencies through the use of ARSs, thereby easing the flight ticketing and selling process and all air travelling operations.

**Aim and Objectives** The aim of the project is to design and implement the software which helps the Airline System employees to issue reservation tickets for various Air flights and maintain the records of various passengers and provide quick services to the passengers. The objectives include:

To maintain consistency among different access modes, e.g. by phone, by web, at the information desk and across different physical locations.

To minimize repetitive work done by the system administrator and reservation clerks. 3. To maintain customer information in case of emergency.

To Increase awareness among frequent travelers about various special offers and discounts. 5. To minimize the number of vacant seats on a flight and maximize flight capacity utilization. To maintain the capability to adopt a flexible pricing policy.

**Significance of study** The significance of Airline reservation system is the computerization of the activities of the organization. It helps to facilitate the daily operation of the organization. The economy of the organization is affected positively because of the computerization of their operation. 5 | Page The findings of this research will also help the management to increase the income generation and smooth running of the everyday activities. This presentation will be beneficial to all those who make use of Airline flight information system (ARSs), flight operators, air travelling operators, travel agents and airline agencies.

## **II. METHODOLOGY**

- A survey on the mode of operation of aero land agency in ikeja in order to create bases for a new proposed system.
- A general review of the existing system so as to spot the bottle neck, correct them and the procedure in a new solution.
- A system design which cut across designing software and a new system operation. i.e. operation manual.

### **Scope of Study**

This study is restricted to the full operations of Airline reservation with respect to online airline ticketing portal for travelling services provider.

### **Working of Project**

The users can easily purchase an e-ticket by going to the ticket sale website, searching and selecting the destination, entering the details such as name, way of travel, luggage information and dates and finally making the payment via bank cards, bank transfer or through online payment companies. The e-ticket is then emailed or texted on the telephone of the customer.

While previously travel agents and airlines assisted customers in making ticket purchases, today with the improved internet system, it is getting easier and easier to book the flights on your own. After the customer makes the purchase, the electronic record and the details of the ticket are saved into the airline's database. The database is integrated with the passenger service system, which is then connected to the airports, airlines, travel agencies for sharing real time information.

### **Advantages of airline reservation system:**

The reason why more and more people are purchasing their flight tickets online is because of the many advantages and conveniences online flight booking system has to offer. Opposed to the traditional way of purchasing tickets through



travel agents' office, online reservation today provides the access to hundreds of flight paths, their prices and other services at the click of a button. This can be very important for the customer in order to find the best possible deal and the most convenient connection. Online system of booking flight tickets gives more control to the customers in terms of their holiday planning and helps them make informed decisions. The system of searching the flights is so easy, that anybody with a computer and internet access can easily search connections, compare prices and purchase any connection they wish to. Not only this, but this method is much faster, easier, hassle-free and convenient. Many flight companies these days also provide other services such as airport transfer, accommodation services, car hire and airport parking. The customers can also take advantages of frequent discounts, promotions and other offers from the airlines through subscribing to their email or simply by viewing their website. The clients can also fully be aware of the various policies of the company such as cancellation, baggage rules and others. and can easily make use of those services. Online flight booking not only provides easy and fast services to the customer from the convenience of computer from anywhere in the world, but often also provides services at more reasonable prices.

**Disadvantages of Airline reservation system:**

Online airline reservation system has its own set of limitations as well. Prospective clients in Asia and other parts of the world where the connection speed and availability is poor may find it hard to access the website of flight companies and book tickets. In much of the less developed part of the world, besides internet connectivity, the limited knowledge and access to technology can also hinder the chances of using this service. As a result, many people in the developing world still use the traditional method of purchasing tickets from the offices of travel agents. Machine failures such as lost connection or unresponsive program can sometimes also cause the disappearance of all the flight itinerary. Furthermore, the customer might not be able to get correct or enough information from the website alone as it is not done face to face with a person who knows everything about the connections, offers and company policies. Then there is also the issue of security: it is sometimes possible that somebody can steal your credit card information but developers are improving the security of the system more and more with the advancement of technology.

**III. METHODOLOGY AND SYSTEM ANALYSIS OF THE EXISTING SYSTEM**

The Research Methodology The creation of database management system (DBMS) which ensure that computer records are kept up to date and made available on demand to those who need them for planning and operational purpose. The level of success achieved in carrying out this research work is owed to the methodology adopted. A research methodology is a systematically programming approach of a well-defined procedure that should be followed in carrying out a thorough research work .and adequately suitable methodology would ensure a very detailed research work and ensure a higher degree of accuracy and efficiency is adopted. In other to attain quite a reasonable acceptance of the research works we made use of the internationally accepted software engineering model, which is Structured System Analysis and Design Methodology.

**IV. CONCLUSION**

The software package "Airline Reservation System" provides convenient online uploading the report from executives and viewing that report by the managing director in an online fashion. To input the data in a highly validated manner and generating the different reports, this involves complex process that was being done on a based manner.

This package is designed and developed in a compact manner, which is ready to meet the user's specification and to serve them in an effective as well as in an enhanced manner. The actual problem has been observed with keen interest and it has been defined and analyzed in such a way that it never causes choice to the user.

More ever the limitation that has been prevailing in the existing system had been overcome to suit the need of the user. High precision and care has been taken to design the data base, input forms an output reports since they should be given due importance which could otherwise to serious consequences thus affecting the whole system.



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