Airline Reservation and Flyer Management System

Raj Kumar S[1] and Prof. Sanila S[2]

Student, IV semester, MCA[1]

Assistant Professor, Department of Computer Applications[2]

Sree Narayana Institute of Technology, Kollam, Kerala, India

Abstract*: Airline reservation and flyer management system is a web-based application designed for a specific airline company. It provides a platform for frequent fliers to register and manage their flights, including the utilization of miles earned through the airline's frequent flyer program. The application allows frequent fliers to log in and input all the necessary details related to their travel within the airline company. The airline offers a range of domestic services to various locations, and users can easily search for available flights and book seats on their preferred flights. The payment for the bookings can be conveniently made online. Upon successful payment, users receive a ticket with a unique ticket number and comprehensive travel details. It is important to note that the airline company exclusively offers booking and ticketing services to individuals who have registered with their frequent flyer program. In case of any changes or cancellations, the system provides a ticket cancellation feature. Users can cancel their booked tickets, and this functionality also extends to travelers who are associated with a registered user. This ensures flexibility and convenience for all parties involved. Overall, the Magical travels streamlines the flight booking and management process for frequent fliers, while offering a secure and user-friendly interface for accessing and utilizing the airline's services. The website may utilize various technologies and frameworks, such as React, HTML, CSS, JavaScript, and server-side languages, to create a seamless and engaging user experience.*

Keywords: HTML, CSS, JavaScript.

I. INTRODUCTION

The traditional airline reservation and flyer management system refers to the legacy systems used by airlines before the advent of modern computerized reservation systems. These systems were typically based on manual processes and paper-based records. Passengers would make reservations by calling the airline or visiting a ticketing office in person, where airline agents would manually check flight availability, write down passenger details, issue tickets, and maintain physical records. This manual approach often led to inefficiencies, longer processing times, and a higher risk of errors. The traditional airline reservation system lacked the convenience and speed offered by modern computerized systems and was limited in terms of scalability and real-time information access. Passengers can now make reservations online , now it is essential for airlines as it streamlines the entire booking process, improves customer experience, optimizes revenue generation, and enhances operational efficiency. By automating reservation procedures, centralizing passenger data, and integrating ancillary services, the system simplifies the booking experience for passengers while allowing airlines to offer personalized services and increase ancillary revenue. It also provides valuable insights through data analysis and reporting, enabling airlines to make informed decisions, optimize operations, and maintain a competitive edge in the dynamic aviation industry**.** An Magical travels (Airline reservation and flyer management system)is a software solution that allows airlines to manage their reservations, ticketing, and passenger information efficiently. It serves as a central hub for handling the entire booking process, from initial reservation to passenger check- in and beyond. The primary objective of an airline reservation and flyer management system is to simplify the reservation process, enhance customer experience, and optimize airline operations. It provides a seamless platform for travelers to make flight bookings, manage their itineraries, andaccess relevant information, while enabling airlines to streamline their operations and maximize revenue.

Copyright to IJARSCT
www.ijarsct.co.in

DOI: 10.48175/IJARSCT-12932

175

ISSN
2581-9429
IJARSCT

There are mainly 3 modules

- Admin
- User
- Flight mileage evaluation

The administrator manages the ticket reservation service of various flights. The administrator manage flight scheduling like source and destination of the flight. Enter departure date and arrival date of the flight The administrator manage fare like business class fare, first class fare and economic class fare The administrator add seat capacity of the flight like seat available for the business class, seat available for the first class and economic class.users of the application are travelers and commuters who want to go from one place to another or users that are driving a trip and want to find passengers. The passengers will need to enter their source and destination apart from various other details to be able to book a ticket. Enter travel details – The flier needs to enter the details of his travel like Ticket number, destination, and source to be clam eligibility for flight mileage claims. The first step is to choose an airline loyalty program that you want to evaluate. There are many different airline loyalty programs, and each program has its own set of rules and benefits. Once you have chosen a loyalty program, you need to collect information about the program's rules and benefits. This information can typically be found on the airline's website or in its loyalty program brochure. The next step is to determine the earning rate for the loyalty program. This is typically expressed as a certain number of miles earned per dollar spent on airfare flight. For example, if the earning rate is 1 mile per dollar spent and your flight costs $500, you would earn 500 miles. Some loyalty programs offer elite status, which provides additional benefits such as bonus miles, upgrades, and lounge access. If you have elite status, you will earn more miles than someone who does not. Finally, you should consider the redemption options for the loyalty program. Some programs offer better value for certain types of redemptions, such as flights or hotel stays, so it's important to evaluate the program based on your specific needs.

II. METHODOLOGY

The development methodology for this web-based application involves a structured process encompassing requirement gathering, system design, database development, user authentication, integration of the airline's frequent flyer program, and the creation of an intuitive user interface. This facilitates seamless registration and management of flights for frequent fliers, including the utilization of earned miles. The application supports essential CRUD (Create, Read, Update, Delete) operations, enabling users to input travel details, search for available flights, book seats, and make online payments. Upon successful transactions, users receive unique tickets with comprehensive travel information. Notably, the airline exclusively offers booking and ticketing services to registered frequent flyer program members, while the system further provides a flexible ticket cancellation feature extendable to associated travelers. This comprehensive approach ensures an efficient flight booking and management experience, fostering convenience and security in utilizing the airline's services. Modules includes admin, user, Flight mileage evaluation

III. EXISTINGANDPROPOSEDSYSTEMS

The existing Airline Reservation and Flyer Management System is a robust web-based application developed for a specific airline company. This comprehensive system provides a user- friendly interface for frequent flyers to register and efficiently utilize their accumulated miles for booking flights within the airline's extensive domestic service network. The system incorporates a secure user authentication module that allows frequent flyers to create and access their personal accounts. Once logged in, users can seamlessly navigate through the application to enter and manage their travel details. To book a flight, users can utilize the powerful search functionality, which enables them to specify their desired destinations, travel dates, and passenger information. The system then retrieves real-time flight availability information, presenting users with a comprehensive list of options tailored to their preferences. Users can conveniently select their preferred flights and proceed to the online payment gateway, ensuring a secure and hassle-free transaction process. The proposed system ensures the complete freedom for users, where user at his own system can log on to his website and can book his ticket. Proposed system allows only registered users to book the tickets, view timing and cancel their tickets. In this proposal the entire work is done on online and ticket with id is also provided for passengers as a print document. Here passengers can send their queries suggestions

Copyright to IJARSCT
www.ijarsct.co.in

DOI: 10.48175/IJARSCT-12932

176

ISSN
2581-9429
IJARSCT

through a feedback form .To debug the existing system, remove procedures those cause data redundancy make navigational sequence proper to build strong password mechanism.

A. Limitations of the Existing System

- Manually goes to the airport and book his ticket
- Downloading the ticket from as paper document , filling it manually and submitting it at airport
- Booking the ticket at some particular registered ticket counters in online and cannot upload and download the latest updatesless security

B. Advantages and Features of the Proposed System

- User friendliness provided in the application with various controls
- The system makes the overall project management much easier and flexible
- and it provides high level of security with different level of authentication.

IV. BACKGROUND

Technologies used in this Project:

React.js, more commonly known as React, is a free, open-source JavaScript library. It works best to build user interfaces by combining sections of code (components) into full websites. Originally built by Facebook, Meta and the open-source community now maintain it. Laravel is an open-source PHP framework, which is robust and easy to understand. It follows a model-view-controller design pattern. Laravel reuses the existing components of different frameworks which helps in creating a web application. The web application thus designed is more structured and pragmatic. MySQL is a relational database management system (RDBMS) that runs as a server providing multi-user access to a number of databases. MySQL is a popular choice of database for use in web applications and is an open source product

V. FUTURE ENHANCEMENT

Airlines could use customer data and machine learning algorithms to offer personalized recommendations to flyers based on their travel history, preferences, and other factors. For example, the system could suggest seat upgrades or travel packages based on the customer's previous purchases and travel behavior. To make the travel experience more convenient, airlines could develop apps that allow customers to manage their reservations, check-in, and access boarding passes from their mobile devices. This would eliminate the need for customers to print out paper tickets or wait in long check-in lines at the airport. Airlines could use RFID technology and other tracking systems to provide customers with real-time updates on the location of their luggage. This would help to reduce the number of lost or delayed bags, and give customers greater peace of mind when traveling. Airlines could partner with other travel-related companies to offer customers a more comprehensive travel experience. For example, they could offer rental car or hotel bookings through their reservation system, or provide recommendations for local attractions and activities at the customer's destination. Airlines could use data analytics to create more targeted and effective loyalty programs, offering rewards that are tailored to each customer's needs and preferences. They could also explore new ways of rewarding customers for their loyalty, such as offering discounts on future flights or providing access to exclusive airport lounges.
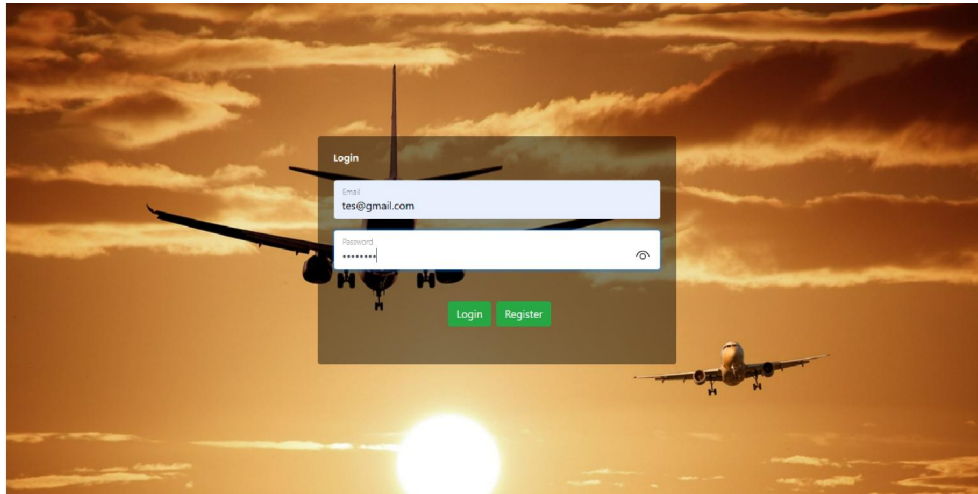
VI. RESULTS AND DISCUSSIONS

Copyright to IJARSCT
www.ijarsct.co.in

DOI: 10.48175/IJARSCT-12932

ISSN
2581-9429
IJARSCT
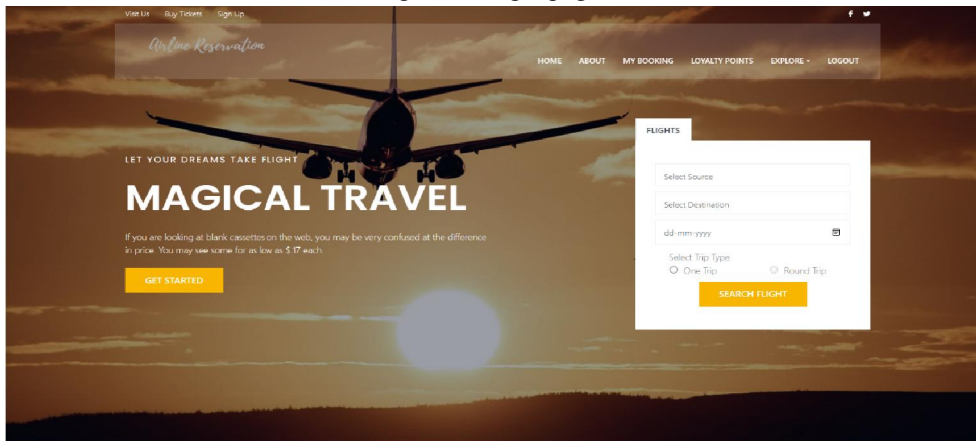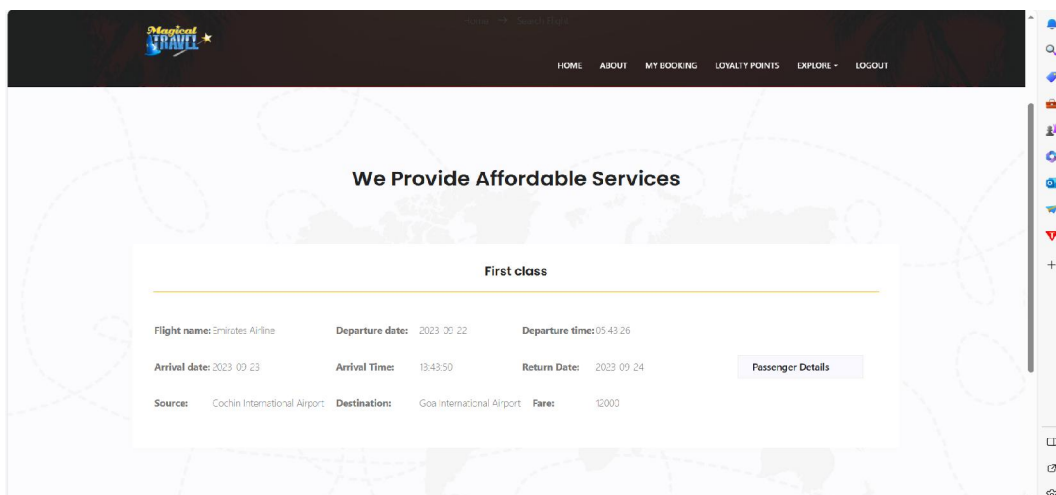
177

Figure 1: Login page
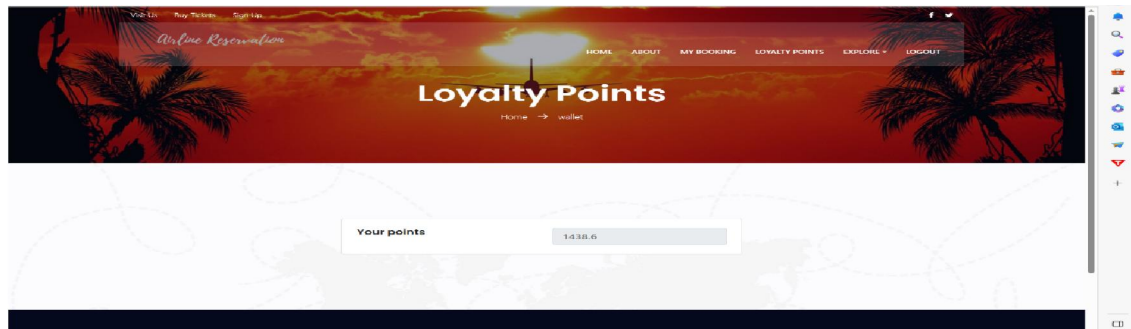

Figure 2: Home page

Figure 3:Services

Figure 4: Loyalty

VII. CONCLUSION

Airline Reservation and Flyer Management System for the specific Airlines company has successfully addressed the needs of frequent flyers and streamlined their travel experience. The web-based application allows frequent fliers to register and utilize their accumulated miles for flights. The system offers a user-friendly interface that enables easy login and entry of travel details. Users can search for domestic flights to various locations and book seats for their preferred flights. Convenient online payment options ensure a smooth transaction process, and upon successful payment, users receive tickets with unique ticket numbers and comprehensive travel details.The implementation of the frequent flyer program ensures that booking and ticketing services are exclusively available to registered users, adding value to their loyalty. The system also accommodates ticket cancellations, providing flexibility for changes in travel plans. Notably, ticket cancellations can be made for accompanying travelers who are booked under a registered user, further enhancing the user experience. Throughout the project, various testing methodologies, such as black box testing, white box testing, output testing, user acceptance testing, top-down testing, and bottom-up testing, have been employed to ensure the reliability, functionality, and usability of the application. These testing approaches have validated the system's adherence to requirements, proper integration of modules, generation of accurate outputs, and positive user experience. Overall, the Airline Reservation and Flyer Management System project has successfully delivered an efficient and user-centric solution that caters to the specific needs of frequent fliers. The system's capabilities, from registration to utilizing miles, flight search, seat booking, online payment, ticket issuance, and cancellations, have significantly improved the airline company's services and customer satisfaction.

REFERENCES

[1]. "Aviation and Space". Retrieved on May 20, 2012 from Microsoft Encarta Premium 2009 Encyclopedia
[2]. "Computerized Reservation System". Retrieved on May 14, 2012 from http://en.wikipedia.org/wiki/Computer_reservations_system.htm.
[3]. Airline,2012http://www.enotes.com/topic/Airline_Reservations_Systemretrieved on23.May2012
[4]. Alter, S. L. (1980). Decision support systems: current practice and continuing challenges Reading, Mass., Addison-Wesley Pub
[5]. C. Winston, S. Morrison (1995): "The Evolution of the Airline Industry", Brookings Institution Press, South Dakota, Cf. p. 61-62, Computer Reservation Systems
[6]. Diane (1993) Computer Reservation Systems: "Action Needed to Better Monitor the CRS Industry and Eliminate CRS Biases", DIANE Publishing Company, ISBN1568069774
[7]. European Parliament: "More Competition in Airline Reservation System – With for Consumers," Sept. 4, 2008 retrieved on June 6, 2012 from http://www.ehow.com/about_5122697_airline-reservation-systems.html.
[8]. Finley, P. N. (1994). Introducing decision support systems. Oxford, UK Cambridge, Mass., NCC Blackwell; Blackwell Publishers.
[9]. Global (2012) http://www.businessdictionary.com/definition/Global-Distribution-System- GDS.html accessed on May 26, 2012

[10]. Henry R. Luce (2001) "The Rise of the American News Media" The Johns Hopkins University Press (July 12, 2001)

[11]. James a. O"Brien (2001). Management information system

[12]. M. J. Smith (2002): "The Airline Encyclopedia, 1909 – 2000". Scare crow Press, New York

Copyright to IJARSCT
www.ijarsct.co.in

DOI: 10.48175/IJARSCT-12932

ISSN
2581-9429
IJARSCT

180