VISVESVARAYA TECHNOLOGICAL UNIVERSITY

JNANA SANGAMA, BELAGAVI – 590 018

An Internship Project Report
on

Airline Reservation System

Submitted in partial fulfillment of the requirements for the VIII Semester of degree of **Bachelor of Engineering in Information Science and Engineering** of Visvesvaraya Technological University, Belagavi

by

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An Institute with a Difference

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2021-2022

RNS INSTITUTE OF TECHNOLOGY

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CERTIFICATE

Certified that the Internship work entitled ***Airline Reservation System*** has been successfully completed by Vibha T **(1RN18IS122)** a bonafide student of **RNS Institute of Technology, Bengaluru** in partial fulfillment of the requirements of 8th semester for the award of degree in **Bachelor of Engineering in Information Science and Engineering** of **Visvesvaraya Technological University, Belagavi** during academic year **2021-2022**. The internship report has been approved as it satisfies the academic requirements in respect of internship work for the said degree.

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External Viva

Name of the Examiners	**Signature with Date**
1. _____	**1.** _____
2. _____	**2.** _____

DECLARATION

I, **VIBHA T [USN: 1RN18IS122]** student of VIII Semester BE, in Information Science and Engineering, RNS Institute of Technology hereby declare that the Internship work entitled **Airline Reservation System** has been carried out by us and submitted in partial fulfillment of the requirements for the *VIII Semester degree of* ***Bachelor of Engineering in Information Science and Engineering*** *of Visvesvaraya Technological University, Belagavi* during academic year 2021-2022.

Place : Bengaluru

Date : 09.01.2022

VIBHA T

(1RN18IS122)

ABSTRACT

Airline reservation System is a computerized system used to store and retrieve information and conduct transactions related to air travel. The project is aimed at exposing the relevance and importance of Airline Reservation Systems.

It is projected towards enhancing the relationship between customers and airline agencies using ARSs, and thereby making it convenient for the customers to book the flights
as when they require such that they can utilize this software to make reservations.

This software has two parts. First is user part and the administrator part. User part is used as a front end and administrator is the back end. Administrator is used by airline authority. It will allow the customers to access database and allow new
customers to sign up for online access.

ACKNOWLEDGMENT

Any achievement, be it scholastic or otherwise does not depend solely on the individual efforts but on the guidance, encouragement and cooperation of intellectuals, elders, and friends. Several personalities, in their own capacities have helped us in carrying out this project work. We would like to take this opportunity to thank them all.

We are grateful to **Dr. M K Venkatesha,** Principal, RNSIT, Bangalore, for his support towards completing this mini project.

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We thank **Mr. Ramesh Kumar**, Designation, TechieAid, for providing the opportunity to be a part of the Internship program and having guided me to complete the same successfully.

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ABBREVIATIONS

Acronym	Description
ADO	Active X Data Object
SQL	Structed Query Language
MSSQL	Microsoft SQL Server
HTML	Hypertext Markup Language
CSS	Cascading Style Sheets
CLR	Common Language Runtime
IE	Internet Explorer
VB	Visual Basics

ISO	International Organization of Standardization
ANSI	American National Standard Institutes

1. INTRODUCTION

C# is a general-purpose, object-oriented programming language that is structured and easy to learn. It runs on Microsoft's .NET Framework and can be compiled on a variety of computer platforms.

C# is a boon for developers who want to build a wide range of applications on the.NET Framework Windows applications, Web applications, and Web services—in

addition to building mobile apps, Windows Store apps, and enterprise software. It is thus considered a powerful programming language and features in every developer's cache of tools.ADO.NET is a set of classes (a framework) to interact with data sources such as databases and XML files. ADO is the acronym for ActiveX Data Objects. It allows us to connect to underlying data or databases. It has classes and methods to retrieve and manipulate data.The following are a few of the .NET applications that use ADO.NET to connect to a database, execute commands and retrieve data from the database.

• ASP.NET Web Applications

• Console Applications

• Windows Applications

Merits of C#:

• Being an object-oriented language, C# allows you to create modular, maintainable applications and reusable codes.

• Easy to develop as it has a rich class of libraries for smooth

implementation of functions.

• Enhanced integration as an application written in .NET will integrate and interpret better when compared to other NET technologies

• As C# runs on CLR, it makes it easy to integrate with components written in other languages.

• It’s safe, with no data loss as there is no type-conversion so that you can write secure codes.

• The automatic garbage collection keeps the system clean and doesn’t hang it during execution and cross-platform support as it requires to run on NET Framework

1.1 BACKGROUND

The "Airline Management System" has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and, in some cases, reduce the hardships faced by this existing system. Moreover, this system is designed for the need of the company to carry out operations in a smooth and effective manner.

The application is reduced as much as possible to avoid errors while entering the data. It also provides an error message while entering invalid data. No formal knowledge is needed for the user to use this system. Thus, by this all it proves it is user-friendly. Airline Management System, as described above, can lead to error free, secure, reliable, and fast management system. It can assist the user to concentrate on their other activities rather than concentrating on the record keeping. Thus, it will help organizations in better utilization of resources.

Every organization, whether big or small, has challenges to overcome and manage the information of Airline, Ticket Booking, Schedule

Location, Payment, Registration. This system is designed to assist in strategic planning and will help you ensure that your organization is equipped with the right level of information and details for your future goals. Also, for those busy executives who are always on the go. Our systems come with remote access features, which will allow you to manage your workforce anytime, always. These systems will allow you to better manage resources It may help collect perfect management in detail. In a brief time, the collection will be obvious, simple, and sensible. It also helps in current work relative to the Airline Management System. It will also reduce the cost of collecting the management & collection procedure will go on smoothly.

1.2 REQUIREMENTS

Software Requirements

Name of Components	Specification
Operating System	Windows 10
Language	HTML, CSS, C#, JavaScript, Bootstrap
Database	MSSQL
Browser	Chrome, IE
Integrated Development Environment	Microsoft Visual Studio 2019, Microsoft SQL Server 2019

Fig No.1.2.1

Hardware Requirements

Name of Components	Specification
Processor	10TH Gen CORE i7 Processor
RAM	8GB
Hard Disk	512 GB SSD

Fig No. 1.2.2

2. SYSTEM DESIGN

2.1 CURRENT DESIGN

The current module was having static data and minimal operations made available to the client for visual and read the information about the services and its information offered Airline company. It had various information like about the company, Services. Ticket Reservation and Contact details rendered in the single web page of the application. company. It had various information like about the company, Services. Insurance and Contact details rendered in the single web page of the application

2.2 PROPOSED DESIGN

The existing web application has been enhanced to make the application more interactive and make user friendly with add-on functionalities. The features like user login and registration have been made available along with Home, About, Services, Ticket Booking, Contact and Payment options for the client. The Payment module has been incorporated to make the payment service easy. As the client selects the services to be opted the cumulative charges are displayed, and user can make the payment without any hassle. The registered users are granted an access to the Payment module. The Home, About, Services, Ticket Reservation and Contact sections are enhanced with dynamic data to provide better details of each service and its offerings.

3.1 TABLE DESCRIPTION

1. Migration History:

Table Schema: The Schema generated in Microsoft SQL server Management Studio

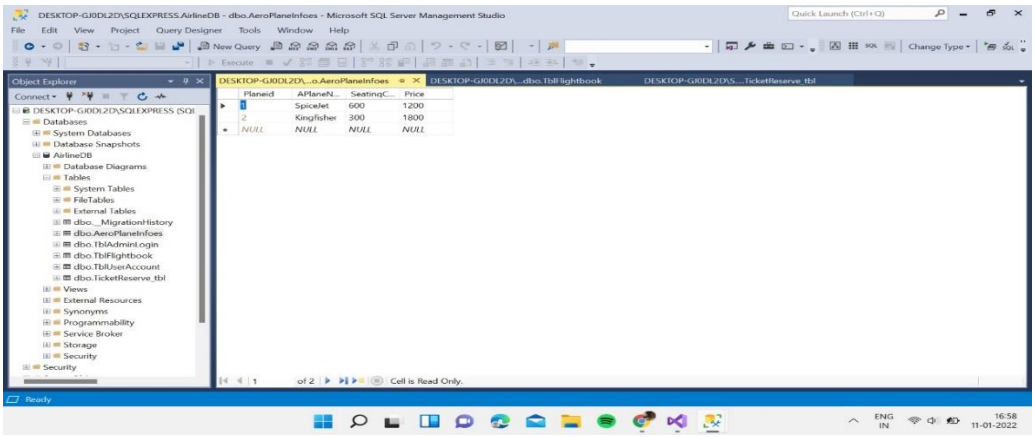


Fig No. 3.1.1

Table Structure: The data population with sample data in Microsoft SQL Server Management Studio is as below

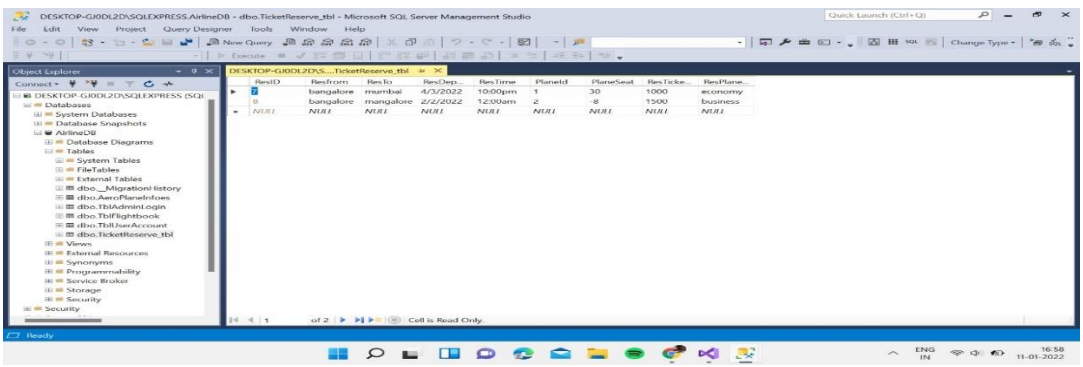


Fig No.3.1.2

2.ASP Net Roles: Table Schema: The Schema generated in Microsoft SQL Server Management Studio

Table Structure: The data population with sample data in Microsoft SQL Server Management Studio is as below

4. IMPLEMENTATION

ADMIN

Login Page:

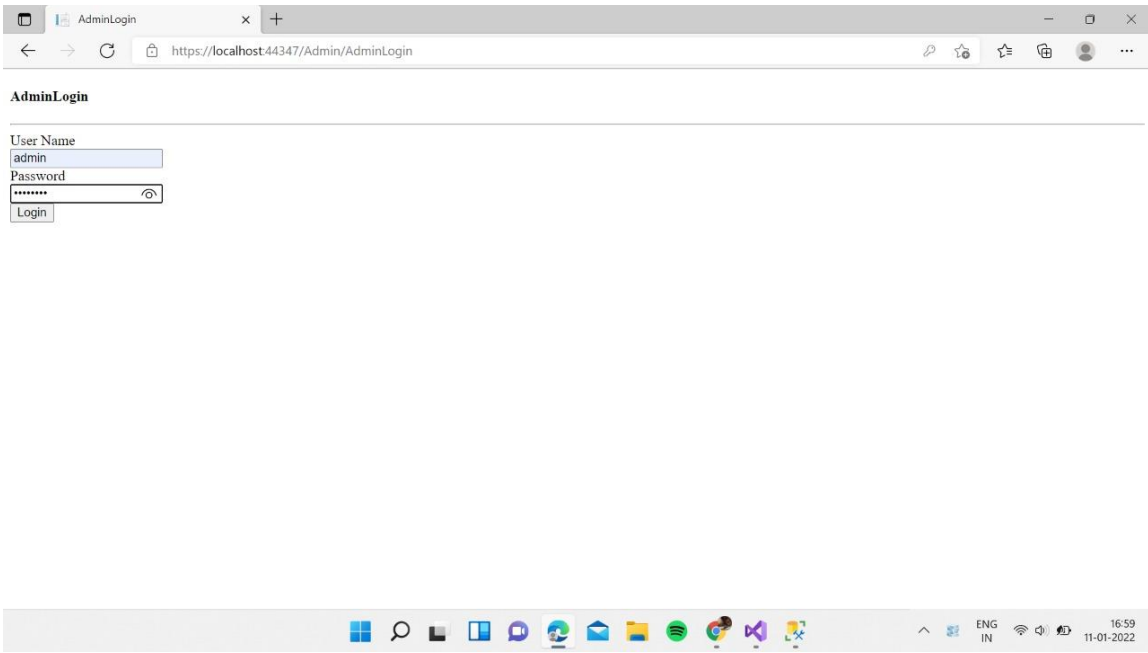


Fig No. 4.1.1

The login page is available for the user and it provides with 2 options user and admin. The user can choose the options from the dropdown menu

Admin Page:

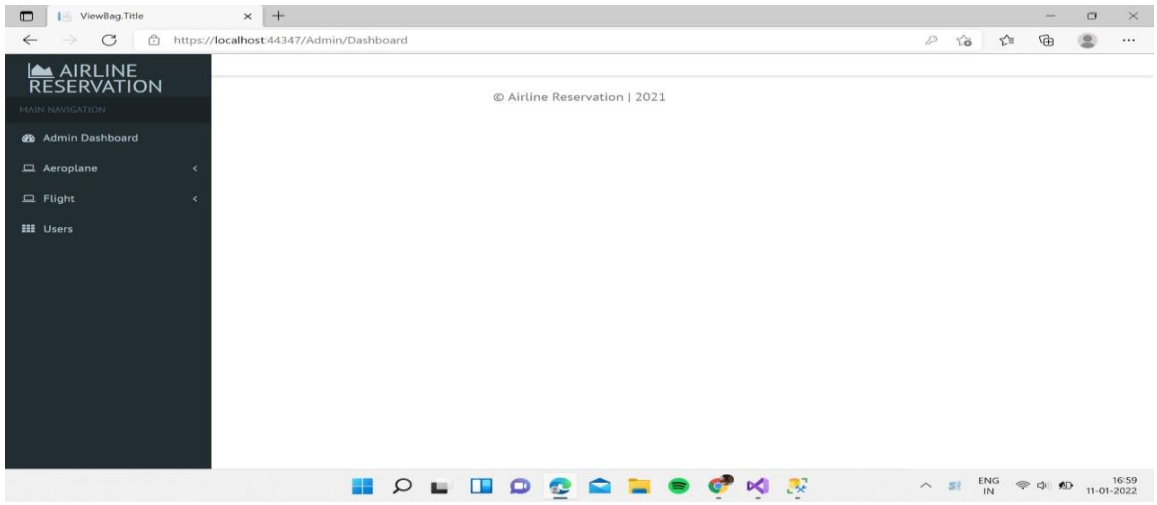


Fig No. 4.1.2

This page consists of the options available for the admin like, add flight details, add schedule.

Add Aircraft:

This allows the admin to add aircraft details like ID,Name,number of seats in each section, price.

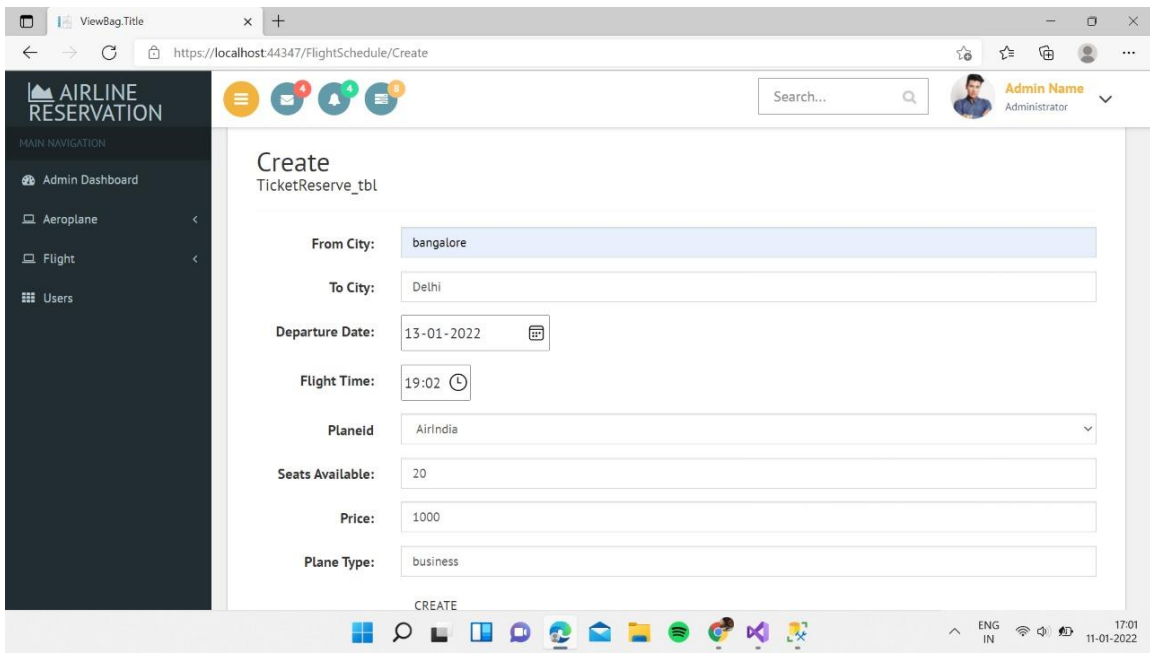


Fig No.4.1.3

Add Flight:

This allows the admin to add flight ID,Name,Timings, Price,etc.

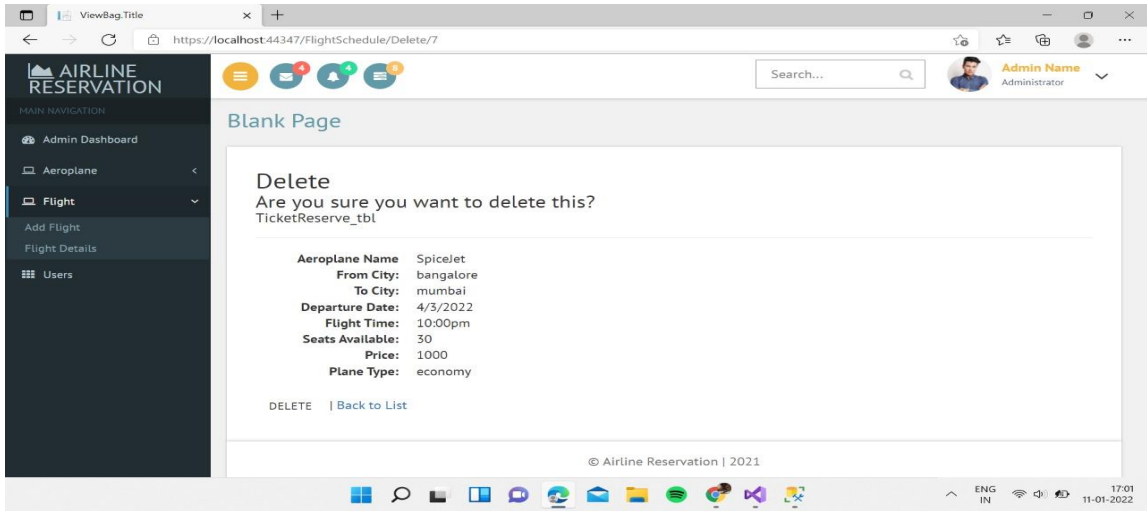
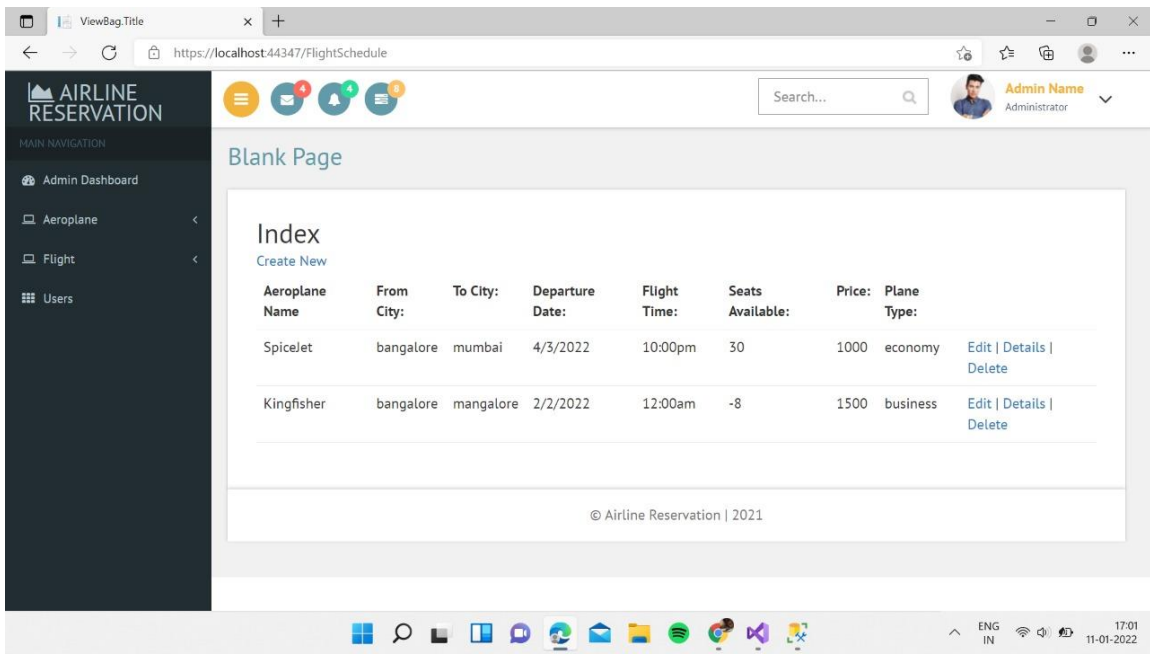


Fig 4.1.4

Add Schedule:

This allows the admin to add Schedule ID,Flight ID,Flight date,,etc.It also allows the admin to edit,check details, or delete it



Delete Flight Details:

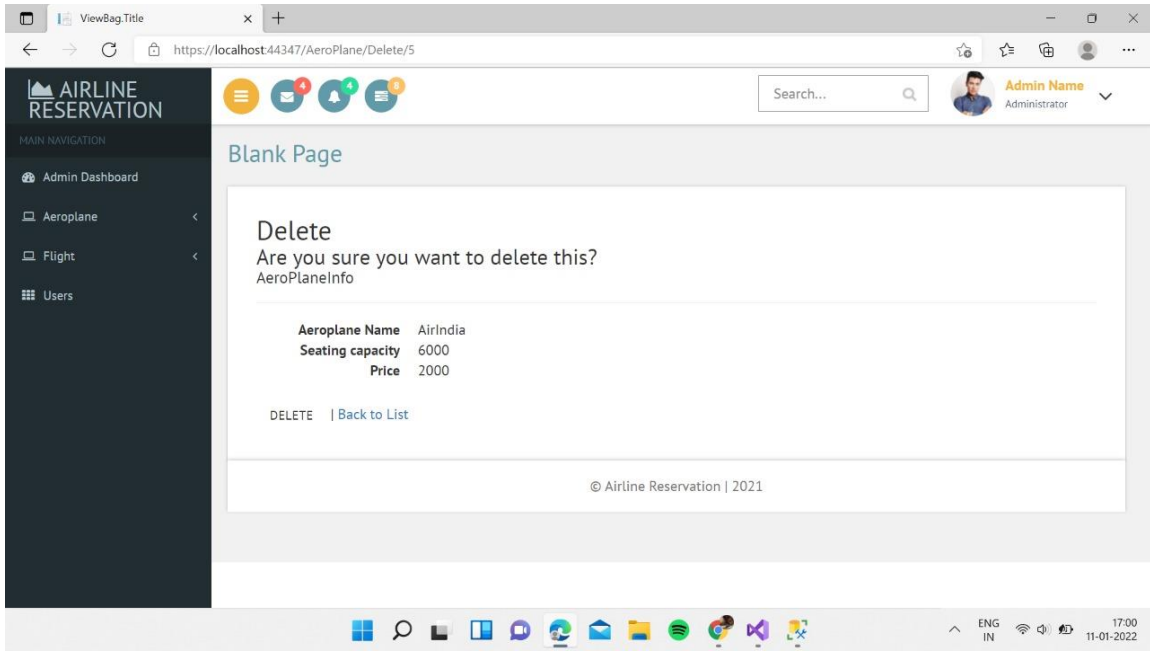


Fig No.4.1.6

Check Flight Details:

This displays all the available options to the user

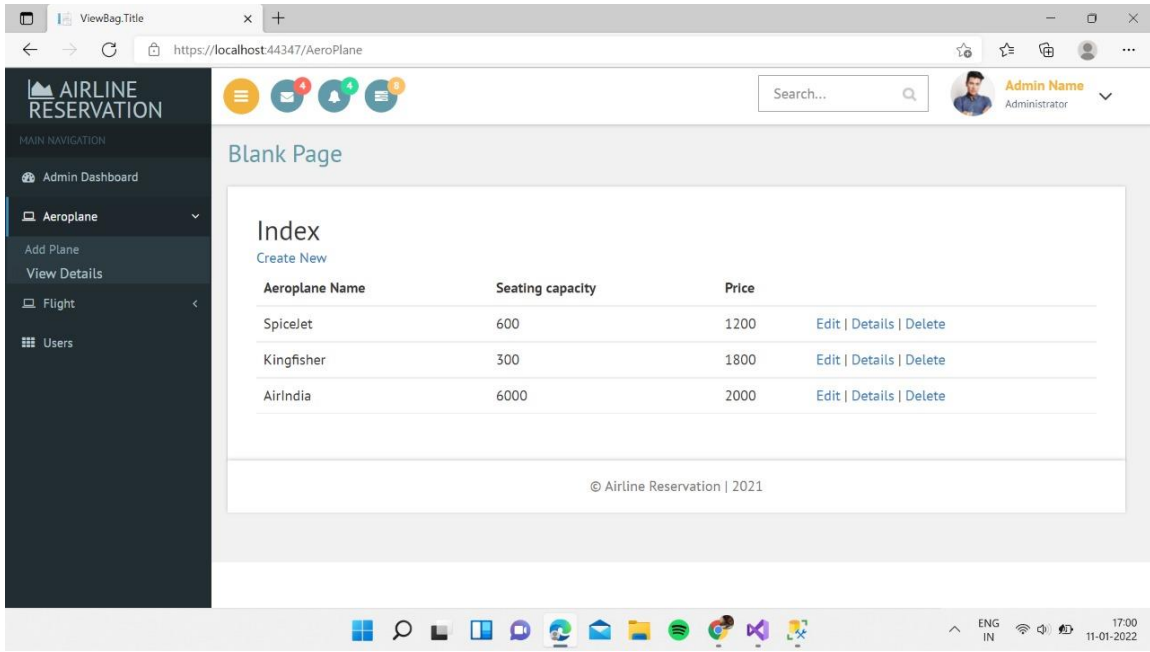


Fig No. 4.1.7

Create Airplane Details:

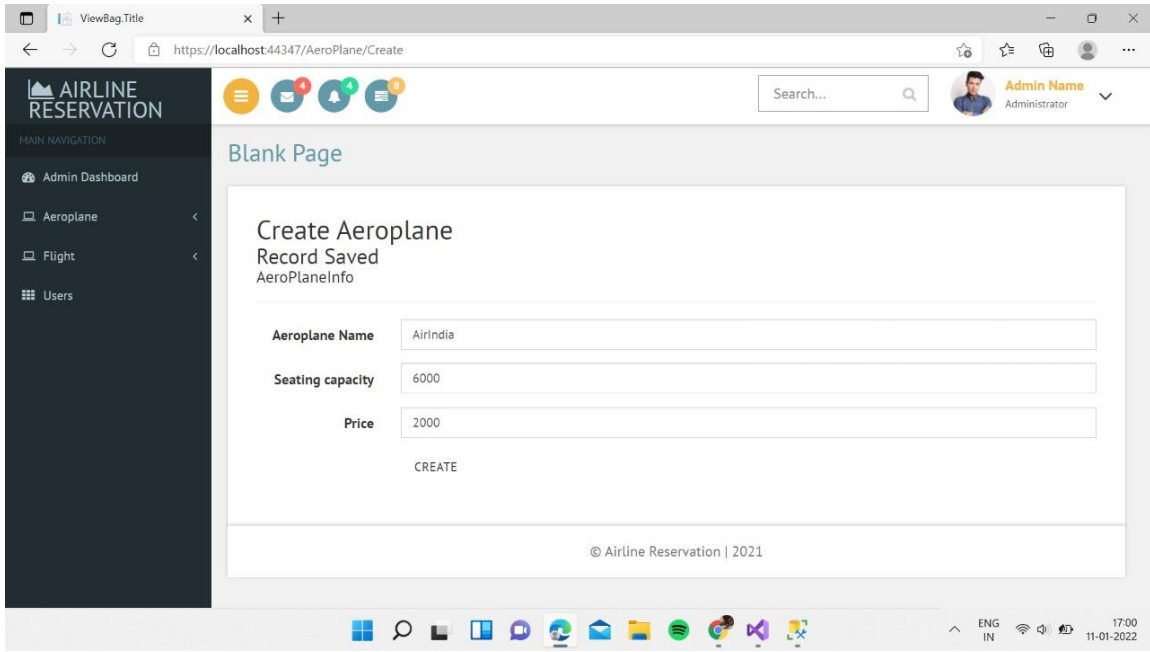


Fig No. 4.1.8

The user is allowed to enter the flight name,number of seats,price,etc.

4.1 USER INTERFACE IMPLEMENTATION

The front-end is built using a combination of technologies such as Hypertext Markup Language (HTML), JavaScript, Boot strap and Cascading Style Sheets (CSS). Front-end developers design and construct the user experience elements on the web page or app including buttons, menus, pages, links, graphics and more.

4.1.1. Hypertext Markup Language

Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript it f forms a triad of cornerstone technologies for the World Wide Web. Web browsers receive

HTML documents from a web server or from local storage and render them into multimedia web pages, HTML, describes the structure of a web page semantically and originally included cues for the appearance of the document.

HTML elements are the building blocks of HTML pages. With HTML constructs, images, and other objects, such as interactive forms, may be embedded into the rendered page. It provides a directly. means to create structured documents by denoting structure l semantics for text such as headings, paragraphs, lists, links, quotes and other items.HTML elements are delineated by tags, written using angle brackets. Tags such as <img>
and <input/> introduce content into the page Others such as ... surround and provide information about document text and may include other tags as sub -elements.Browsers do not display the HTML tags but use them to interpret the content of the page.
HTML can embed programs written in a scripting language such as JavaScript which affect the behavior and content of web pages. Inclusion of CSS defines the look and layout of content.

4.1.2 Cascading Style Sheets

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language. Although most o f ten used to set the visual style of web pages and user interfaces written in HTML and XHTML, the language can be applied to any XML. document, including plain XML, SVG and XUL,and is applicable to rendering in speech, or on other

media. Along with HTML and JavaScript, CSS is a cornerstone technology used by most websites to create visually engaging web pages, user interfaces for web applications, and use interf aces f or many mobile applications. CSS is designed primarily to enable the separation of presentation and content, including aspects such as the layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple HTML pages to share formatting by specifying the relevant CSS in a separate css file, and reduce complexity and repetition in the structural content.

4.1.3 JavaScript

JavaScript is the Programming Language for the Web. It can update and change both HTML and CSS. JavaScript can calculate, manipulate, and validate data. JavaScript is a dynamic computer programming language. It is lightweight and most used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities. JavaScript was first known as LiveScript, but Netscape changed its name to JavaScript, possibly because of the excitement being generated by Java. JavaScript made its first appearance in Netscape 2.0 in 1995 with the name LiveScript. The general-purpose core of the language has been embedded in Netscape, Internet Explorer, and other web browsers.

4.1.4 Bootstrap

Bootstrap is a free and open-source CSS framework directed at responsive, mobile -first front-end web development. It contains CSS- and (optionally) JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components.

• Bootstrap is the most popular HTML, CSS, and JavaScript framework for developing a responsive and mobile friendly website.

• It is free to download and use.

• It is a front-end framework used for easier and faster web development.

• It includes HTML and CSS based design templates for typography, forms,buttons, tables, navigation, modals, image carousels and many others.

• It can also use JavaScript plug-ins.

• It facilitates you to create responsive designs.

4.2 BUSINESS LOGIC IMPLEMENTATION

In the module to implement the middle layer and the scenario logic and the method calls between the user interface and database. The major functionality of the project has been taken care.

4.2.1 C#

C# is a programming language developed by Microsoft that runs on the .NET Framework.

.NET is a free, cross-platform, open-source developer platform for building many different types of applications. With .NET, you can use multiple languages, editors, and libraries to build for web, mobile, desktop, games, and IoT..NET is a software framework that is designed

and developed by Microsoft. The first version of the .Net framework was 1.0 which came in the year 2002. In easy words, it is a virtual machine for compiling and executing programs written in different languages like C#, VB.Net, etc. • The language is intended to be a simple, modern, general-purpose, object oriented programming language. • The language, and implementations thereof, should provide support for software engineering principles such as strong type checking, array bounds checking, detection of attempts to use uninitialized variables, and automatic garbage collection. Software robustness, durability, and programmer productivity are important

. • The language is intended for use in developing software components suitable f or deployment in distributed environments.

• Portability is very important for source code and programmers, especially those already familiar with C and C++.

• Support for internationalization is very important.

• C# is intended to be suitable for writing applications for both hosted and embedded systems, ranging from the very large that use sophisticated operating systems, down to the very small having dedicated functions.

• Although C# applications are intended to be economical with regard to memory and processing power requirements, the language was not intended to compete directly on performance and size with C or assembly language.

4.3 DATABASE IMPLEMENTATION

The data store has been designed and developed by creating the entity relation diagram and schema design. The table structure and its underlying backend layer has been implemented using Structured Query Language using MSSQL Server.

4.3.1 MSSQL Server

Microsoft SQL Server is a relational database management system developed by Microsoft. As a database server, it is a software product with the primary function of storing and retrieving data as requested by other software applications—which may run either on the same computer or on another computer across a network (including the Internet). Microsoft markets at least a dozen different editions of Microsoft SQL Server.

4.3.2 SQL

SQL is a short-form of the structured query language, and it is pronounced as S-Q-L or sometimes as See-Quell. This database language is mainly designed for maintaining the data in relational database management systems. It is a special tool used by data professionals for handling structured data (data which is stored in the form of tables). It is also designed for stream processing in RDSMS. You can easily create and manipulate the database, access, and modify the table rows and columns, etc. This query language became the standard of ANSI in the year of 1986 and ISO in the year of 1987.If you want to get a job in the field of data

science, then it is the most important query language to learn. Big enterprises like Facebook, Instagram, and LinkedIn, use SQL for storing the data in the back end.

• The basic use of SQL for data professionals and SQL users is to insert, update, and delete the data from the relational database.

• SQL allows the data professionals and users to retrieve the data from the relational database management systems.

• It also helps them to describe the structured data.

• It allows SQL users to create, drop, and manipulate the database and its tables.

• It also helps in creating the view, stored procedure, and functions in the relational database.

• It allows you to define the data and modify that stored data in the relational database.

• It also allows SQL users to set the permissions or constraints on table columns, views, and stored procedures. SQL architecture that is used to depict the query execution by the SQL engine

5.TESTING

wrong name or Password

It displays an error message in case of wrong entering of the credentials.

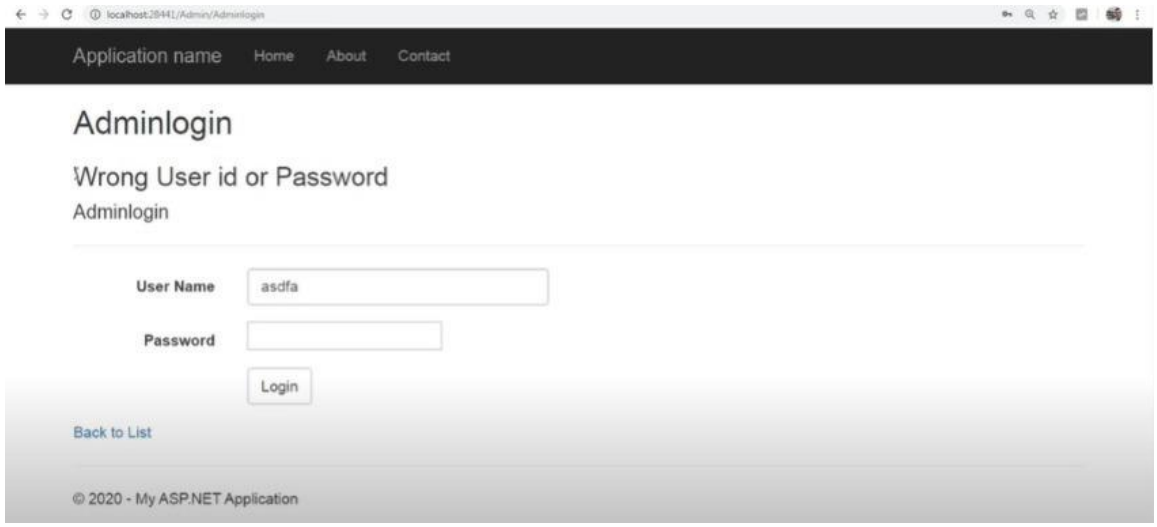


Fig No. 5.1.1

Edit the entered details:

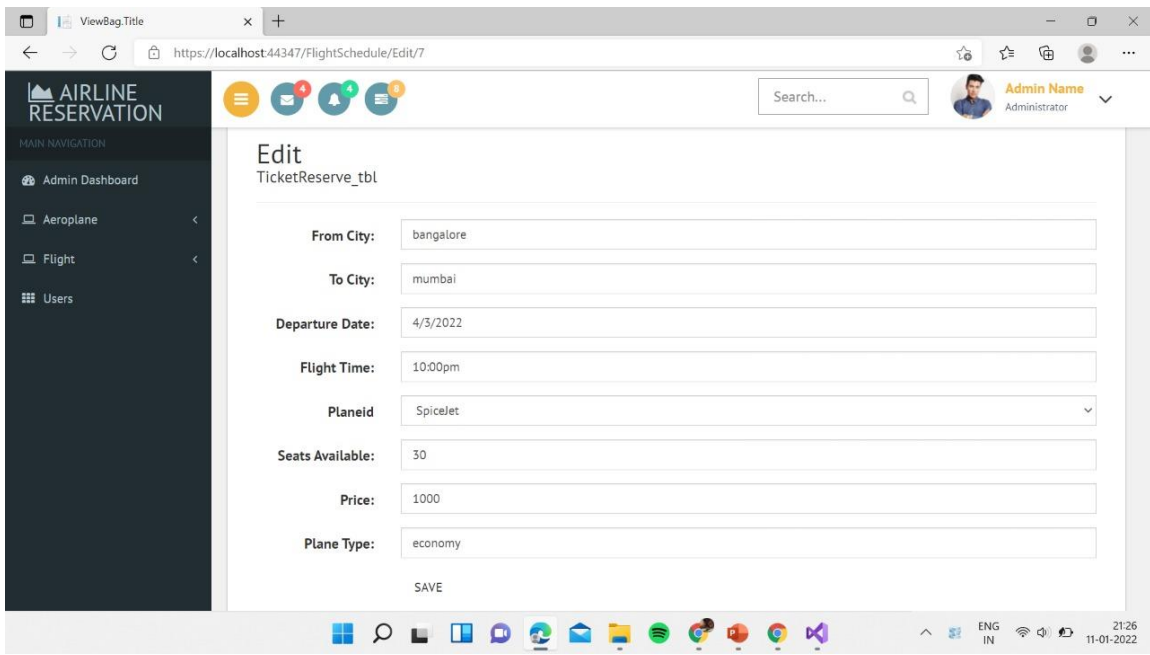


Fig No. 5.1.2

6. FUTURE ENHANCEMENTS

- As a Future Enhancement we have decided to further enhance with a seat reservation available. It is to fulfill passengers request to sit where they prefer. They are allowed to choose their seat whether near to window's seat or in the middle.
- This project can be upgraded by adding more options such as Ticket editing and more admin operations.
- Payment options and document checking such as ID proofs can be added.
- Applications can be upgraded by improving performance as per user feedback.

7.CONCLUSION

The airline reservation system has been away of minimising the clerical work which is almost a routine and consumes the most precious time this airline reservation system has been attempt to help the user to minimize his workload along with minimised in the paperwork and saving time the system has been developed in a way to make it user friendly it provides an online message and an error detection and error messages every time the user needs any person having got little bit of window based experience can run the system without any pain as a future enhancement we have decided to further enhance with the seat reservation available it is to fulfil request of the passenger. The user can make quick transactions using UPI, Gpay,PhonePay ,etc. We can work more towards the appearance of the pages so it would look more appealing.

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