

# ONLINE AIR TRAVEL TICKET BOOKING SYSTEM

ITP\_WE\_B02\_01\_TW22



## PROPOSAL DOCUMENT

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# Contents

Introduction.....	4
• Client/Company Background.....	4
• Problem Statement.....	5
• Solutions.....	6
• Benefits of proposed solution.....	7
System Overview.....	8
System Functions.....	9/18
• Hotel Reservations.....	9/10
• Transport Services.....	11
• Tour Management.....	12
• Flight Details Management.....	13
• Flight Ticket Reservations.....	14
• Payment System Management.....	15/16
• Guider Management.....	17
• Customer Feedback.....	18
Tools and Technologies.....	19
• Tools and Technologies.....	20
Project Management Plan.....	21/22
• Gantt Chart.....	21
• Gantt Chart Summery.....	22
Work Breakdown Structure.....	23
References.....	24

## Introduction

SkySail is an online airline ticket booking service that allows customers to search, compare and book flights from a wide range of airlines around the world. The platform offers a user-friendly interface that enables customers to quickly and easily find the flights that meet their travel needs, including dates, destinations, and number of passengers.

Customers can search for flights based on a variety of criteria, including price, airline, departure time, and duration of the flight. SkySail provides customers with real-time availability and pricing information, allowing them to make informed decisions about their travel plans.

In addition to flight booking services, SkySail also offers customers the option to book hotels and rental cars, making it a one-stop-shop for all travel needs. The platform provides secure payment options and offers customer support throughout the booking process to ensure a hassle-free experience.

Overall, SkySail is a convenient and reliable online airline ticket booking service that provides customers with a wide range of options and excellent customer service.

## Client/Company Background

SkySail is an online airline ticket booking system that caters to a wide range of customers, including individual travellers, corporate clients, and travel agencies. The platform offers a user-friendly interface that enables customers to search and book flights from a wide range of airlines around the world.

SkySail's customer base includes travellers from different parts of the world who are looking for affordable and convenient travel options. The platform provides a range of services, including flight booking, hotel reservations, car rentals, and travel insurance, to meet the diverse needs of its customers.

In addition to individual travellers, SkySail also works with corporate clients to provide them with customized travel solutions that meet their specific requirements. The platform offers corporate clients access to special discounts, travel management tools, and dedicated customer support to help them manage their travel expenses effectively.

SkySail also works with travel agencies, providing them with access to its inventory of flights and travel services, as well as customized solutions to meet the needs of their customers.

Overall, SkySail has built a reputation as a reliable and affordable online airline ticket booking system, catering to a diverse range of customers from around the world.

## Problem Statement

- The consumer must approach us on their own.  
If passengers have any troubles or problems when using the online flight ticket system, they must contact assistance immediately. Customers may find this difficult since they may not know how to contact the proper department or individual.
- Actual payment  
Consumers who do not have access to a credit or debit card may find it difficult to make a purchase since they may not be able to pay with cash or a check in person. This might leave customers feel irritable and disenfranchised from the convenience of purchasing air tickets online.
- Flight booking cancellation.  
Consumers could find themselves in a difficult situation if they are unable to cancel a booking in time or get a replacement.
- Dealing with consumer concerns  
Customers might not have the opportunity to have their concerns addressed appropriately or may be forced to wait an unnecessarily long period of time for a response if the system does not provide an effective mechanism for recording and responding to client complaints, or if there is a shortage of customer support personnel.
- The Problems with Utilizing Many Platforms  
Using several platforms for booking rooms, transportation, and flights can result in decreased profitability for both hotels and airlines, in addition to diminishing consumer contentment and increasing customer turnover.

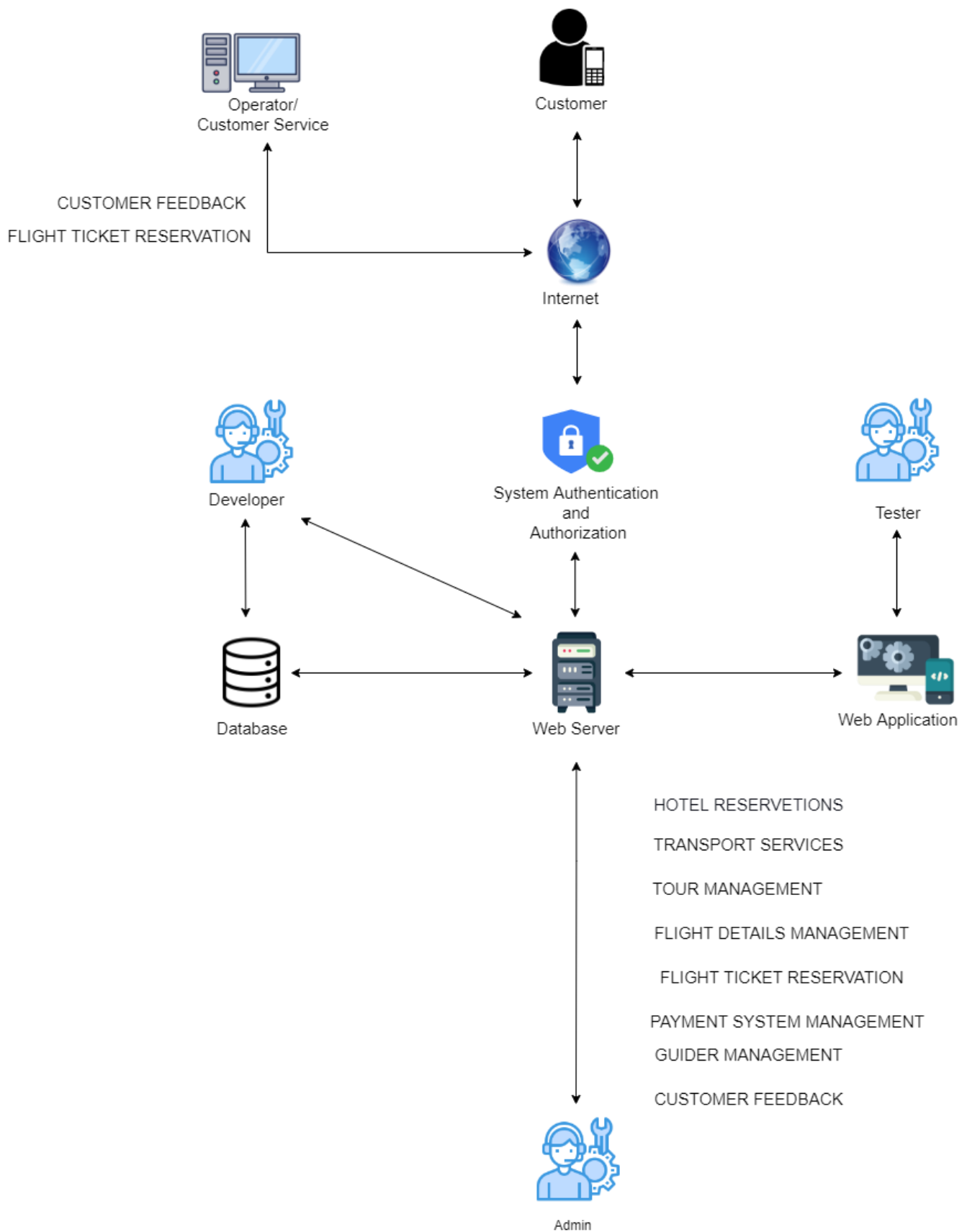
## Solutions

- Online booking platform  
Our system may give clients with a simpler and more successful online air ticket purchase experience by developing a safe, practical, and user-friendly interface for purchasing tickets. Consumers may also be able to use this platform to quickly arrange their travels and track their bookings.
- Providing more payment options  
We provide alternative payment choices, such as cash and check, to make the booking process smoother and more accessible. They can also partner with third-party payment processors such as PayPal to handle credit card payments, allowing clients to pay in their chosen method.
- Making Automated Tickets Cancellations  
Offer an automated cancellation system that allows customers to cancel their bookings within a certain time limit and gives them the option of getting a refund if necessary.
- Provide a help desk.  
This help desk should provide a full variety of customer support services, such as taking feedback, fixing technological issues, and advising on booking alternatives. This may aid in ensuring that consumers' needs are handled swiftly and effectively, hence improving their overall experience.
- Transport and Hotel Booking  
The problem of using several platforms to buy aircraft tickets, ground transportation, and hotel bookings might be alleviated by using a single platform that is compatible with numerous air travel and reserving facilities. This platform should make it easy and quick for customers to book all their services in one place, and it should also feature customer loyalty programs to promote booking and reduce customer churn.

## Benefits of proposed solution

- **Comparison shopping:** Online air ticket booking systems allow travelers to compare their needs such as available flights, prices, schedules across multiple airlines, without asking someone else. On the other hand, it is as similar as online shopping as it is comfortable to travelers, making it easier to find the best deal.
- **Convenience:** As with other online systems, the main advantage of online air ticket booking is convenience because it allows users to search for and book tickets independently and save time by avoiding the need to go to a travel agency or airline office. Users have 24/7 access to the internet and may make reservations at any time of day or night, allowing them to plan their entire trip according to their own tastes. As for the business, the system would not require a lot of human interaction, therefore it would not be necessary for the business to keep a lot of paid employees on staff.
- **Environmental benefits:** By eliminating the need for printed tickets and travel papers, online booking systems can help minimize paper waste and carbon emissions. so that there is no need to waste money on unnecessary items like papers, carbon, etc.,
- **Flexibility:** Internet reservation systems typically make it simple for travelers to modify their travel plans, such as changing the dates or times of their flights, without having to go to a travel agency or airline office. Furthermore, this online air reservation system also includes the capability that, regrettably, if a flight is delayed or cancelled due to unforeseen circumstances, the administrator will be able to contact passengers and resolve the situation through the system.
- **Savings:** As online travel businesses frequently provide discounted prices and special offers, purchasing airline tickets online can frequently be less expensive than doing it through a travel agent or airline office. Both businesses and consumers would find the online approach to be cost-effective.
- **Real-time data:** Internet booking tools give customers access to live data on flight availability, timetables, and costs, making it simpler for customers to plan their trips.

## System Overview





# System Functions

## HOTEL RESERVATIONS

Reserving a hotel through an online air ticket booking system entails a variety of responsibilities geared to monitor and manage all aspects of a hotel's operation. Data management at the hotel include developing multiple reports, updating current information, adding new information, and eliminating obsolete information. Consumers may browse the available hotels, find alternatives that are ideal for their needs, and book lodgings by perusing the available options. A hotel management system must strive to ensure that operations are efficient, effective, and compliant for both the hotel's guests and the hotel itself in order to be functioning.

### 1. Admin Management:

- **Managing hotel information:** This task comprises ensuring that all hotel-related data is correct, complete, and up to date. The administrator is in charge of handling information such as room availability, cost, amenities, rules, and services.
- **Updating new hotel information:** When the hotel introduces a new room, service, or promotion, the administrator must update the database with the necessary information. Specifics such as the new room's name, pricing, amenities, and availability should be included in this page. Rates, accommodations, policies, and anything else that has an influence on how the hotel operates may be updated.
- **Deleting hotel information:** If a room, service, or promotion is no longer available or has been discontinued, the administrator may need to remove it from the database. This makes it easy to maintain an accurate database that accurately depicts the hotel's current position.
- **Report generation:** Using the hotel's data, the administrator may generate several reports. These reports might contain statistics on occupancy rates, earnings, or labour productivity. These reports may be used to assess the hotel's performance, identify its weak spots, and make informed decisions.

## 2. Customer Management:

- **Viewing hotel information:** Customers may browse the numerous hotels, read their information, and compare them based on their preferences and needs. Location, hotel type, amenities, and pricing may all be considered.
- **Searching nearby hotels:** Clients may use google map as searching tool to find hotels with specific amenities or in specific areas. This makes it easy for customers to choose suitable hotels right away.
- **Reserving hotels:** A client can make a reservation after finding a hotel that fulfills their requirements. Based on its regulations and available rooms, the hotel will either confirm or refuse the reservation. Customers may also rate their stay, which the hotel can use to improve its offerings.

To summarize, creating a successful hotel reservation needs a comprehensive plan that coordinates all aspects of the hotel company while providing an exceptional guest experience. In the end, hotel reservation systems that are functional, efficient, and in accordance with rules will result in more lucrative businesses and delighted guests.

## TRANSPORT SERVICES

Transportation services in an online air ticket purchasing system provide several conveniences for both passengers and drivers. This system includes, among other things, ride scheduling, real-time tracking, payment processing, a rating and review system, safety features, and driver management capabilities.

- One of the key capabilities is the ability for passengers to plan rides with drivers, which is often done using a web application. By inputting the pickup location, destination, and other details, a driver who is available to pick up the passenger may be found.
- Passengers may monitor their driver's position and expected arrival time in real time. Travelers that use this service may be able to better organize their journeys and feel more secure while doing so.
- It manages payment processing for drivers and passengers that use a credit card, another electronic payment methods and cash payments. This not only makes it easier for customers to pay for their journeys, but it also ensures that drivers are paid safely and promptly.
- Riders of transportation services frequently rate and review their drivers and offer feedback on their experiences. Passengers are better able to pick drivers and ensure that drivers provide high-quality service this way.
- To ensure that customers feel comfortable and secure throughout their travels, transportation providers frequently offer safety measures like as insurance coverage and safety training.
- Driver management features, such as driver scheduling, performance tracking, and driver assistance, are also incorporated in transportation services to ensure that drivers have the resources they need to offer excellent service to clients.

## TOUR MANAGEMENT

Tour management is a service that given through our system to attract customers. From this section we provide tour packages that are related to each country. A tour package is divided into three parts: basic, standard, and premium based on airfare, accommodation, transport, and other services provided. The customer can choose any package that suits his needs in the country he wants to visit.

When it comes to system maintenance, a significant responsibility is given to the administrator. Only the Admin can create new tour packages, Update the details of the tour packages, and delete the existing tour packages and for that he must log into the system with the correct login credentials. The customer can do only view the available tour packages and select the desired package.

For a system like this, ensuring the accuracy of package information is highly imperative. Also, all details related to the package fees and other relevant information must be explicitly mentioned.

Here we have used a user-friendly interface and System admin provides a complete description of each package, location details, hotel and accommodation details, transport details, booking information, inclusions, and exclusions.

Incorporating features such as tour management in air ticket booking system is crucial for attracting customers and tour management system should be equipped to handle tour packages with accurate information.

## FLIGHT DETAILS MANAGEMENT

An essential aspect of a flight ticketing system is the managing flight details function, which enables airlines and travel agents to maintain and update flight information for their clients. The user can add, update, and delete flight information, including flight schedules, seat availability, prices, and other pertinent details, using a range of tools that are commonly included in this function.

Typically, only authorized workers with login credentials and access to the system's backend can use the managing flight details function. Having logged in, the user can access a list of all the flights that are currently in the database and take a variety of actions on each one, including changing the flight schedule, altering the cost and availability of seats, and managing flight delays and cancellations.

Making sure the system is current and correct is one of the most important parts of monitoring flight details. This means that any system modifications, such the addition or deletion of flights, should take effect right away. Also, the system must be capable of handling a high volume of updates and transactions, particularly during times of high travel demand.

To make managing flight details more effective, several flight ticketing systems offer automated tools that may execute basic operations such as changing flight schedules and pricing depending on established rules and criteria. This can lessen the effort for employees and lower the possibility of mistakes or inconsistencies in the system.

In general, any flight ticketing system must have the ability to manage flight details. While guaranteeing that the system is accurate and effective, it enables airlines and travel agencies to keep their consumers informed and up to date on flight information.

## FLIGHT TICKET RESERVATION

- To give customers a good booking experience and boost the chance of repeat business, the reservation system should be user-friendly, effective, and secure.
- Flight search: Customers can use this feature to look for available flights based on the dates, times, and locations of their choice.
- Seat selection: After choosing a flight, customers should have the option to pick their seats according to preference and availability.
- Passenger data: Customers should be asked to input their personal data, including name, contact information, and any special needs they may have.
- Payment processing: To enable customers to pay for their flight reservations, a secure payment gateway should be incorporated.
- Confirmation: Customers should get an email with all the information about their travel reservation after making the reservation and paying for it.
- No-shows and refunds: The cancellation and refund policy for flights should be made explicit, and customers should be made explicit.

## PAYMENT SYSTEM MANAGEMENT

Managing the payment system of an online air travel ticket booking website involves several steps to ensure smooth and secure transactions for customers. Here is a full description of how a payment system of an online air travel ticket booking website is managed:

- **Step 1: Payment Gateway Integration**  
The first step in managing the payment system is to integrate a secure payment gateway with the website. This involves partnering with a payment gateway provider that offers a secure and reliable payment platform that can process payments from various payment options.
- **Step 2: Payment Processing**  
Once the payment gateway is integrated with the website, the payment system can start processing payments from customers. This involves collecting payment details, verifying the information, requesting authorization from the customer's bank, and generating payment receipts.
- **Step 3: Fraud Detection and Prevention**  
To prevent fraudulent transactions, the payment system should implement fraud detection and prevention measures. This includes setting up rules and algorithms to identify suspicious transactions and flag them for further review or rejection. The payment system may also require customers to provide additional verification such as a CVV code, 3D secure, or biometric authentication.
- **Step 4: Payment Reconciliation**  
The payment system should also reconcile all payments made on the website to ensure that the correct amounts have been processed and received. This involves comparing the payment records with the booking records to ensure that all payments are accounted for and that there are no discrepancies.
- **Step 5: Payment Refunds and Cancellations**  
Managing refunds and cancellations is an essential part of the payment system. The website should have a clear refund policy that outlines the process for customers to request refunds or cancel their bookings. The payment system should also have a mechanism to process refunds and cancellations efficiently and in a timely manner.

- Step 6: Compliance with Regulations

The payment system should comply with relevant regulations and standards such as PCI-DSS (Payment Card Industry Data Security Standard) to ensure the security of customer payment information. The payment system should also comply with other regulations such as anti-money laundering (AML) and know your customer (KYC) requirements.

- Step 7: Reporting and Analytics

The payment system should provide reporting and analytics tools that enable the website to track payment transactions, revenue, and other relevant metrics. This data can be used to improve the payment system's performance, identify potential issues, and optimize the website's payment processes.

Overall, managing the payment system of an online air travel ticket booking website involves integrating a secure payment gateway, processing payments, preventing fraud, reconciling payments, handling refunds and cancellations, complying with regulations, and providing reporting and analytics tools. These steps ensure that the payment system provides customers with a smooth and secure payment experience while also helping the website optimize its payment processes.



## GUIDER MANAGEMENT

It links customer and Guider through the system.

But system didn't intermediary between customer and guider.

Before customer choose the guider, he can refer guider profile. When he can know better idea about guider. Such as customer feedback about guider, ratings, and guiding history.

Customer can choose guide according to his own decision .

When he successfully requires for the guider, he can see message like successful.

Customer must fill the form to get guider details. After he want to update his filling details, he can update it and he didn't want to guider when he can delete his require.

System has guider Management system because it useful to customer for finding guider.

In this proposal, we will explore the functional and non-functional requirements of a guide management module in a tourism management system and the benefits that it offers.

## CUSTOMER FEEDBACK

Customer feedback is crucial for businesses to improve their products and services, increase customer satisfaction, identify areas for improvement and stay competitive in the market.

The customer will be presented with a survey asking to rate their experiences while using the product and the relevant services, such as feedback on their flight experience, accommodation, staff politeness, food, and beverages, etc. Furthermore, the customer will be prompted to add any additional remarks or the option to contact a manager if needed.

The customer must have the option to rate their experiences on a scale of poor to excellent. The feedback would be recorded and saved on their profile, which can be updated if required, an authorized worker would then be able to review and comment on the review.

The system must be able to update the feedback right away and be able to record many responses from each customer. Furthermore, the process of filling out the survey should feel seamless and convenient. The survey form should be appealing and well designed. System admins should be notified right away if a customer were to request to contact a manager.

In conclusion, a customer feedback function is a necessity for a well-managed flight management system.

## Tools and Technologies



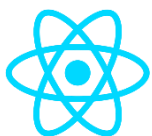
**Visual studio code** is the platform we used to develop the coding.



Source code management, team collaboration, and version control are managed using **GitHub**



**MongoDB** is the database program we use for this web application.



With **React Js** we code the front-end interface.



**Node Js** encodes the back-end.

## TOOLS AND TECHNOLOGIES

- Why **Visual studio code**? :

Visual Studio Code (VS Code) is a free and open-source code editor developed by Microsoft.

Visual Studio Code is designed to be highly customizable and adaptable to different programming languages and development workflows. Visual studio code is a well-known code editor for its versatility, flexibility, and ease of use.

*Which is why we believe Visual studio code is suitable for our system.*

- Why **Github**? :

GitHub is a powerful tool that offers a range of benefits for developers. It helps to streamline the development process, improve code quality, and foster collaboration and innovation. Furthermore, Github has a robust version control system, seamless integration with other tools, provides a platform for code review and encrypted security features.

*Which is why we believe Github is suitable for our system.*

- Why **MongoDB**? :

MongoDB is a powerful database known for its flexible data model, high performance, and scalability. It is particularly well-suited for applications that handle large volumes of data and require high levels of scalability and performance.

*Which is why we believe MongoDB is suitable for our system.*

- Why **ReactJS**? :

React is a powerful tool for building modern, dynamic web applications with complex user interfaces. It has an easy approach to manage and update the UI and the ability to build reusable UI components.

*Which is why we believe ReactJS is suitable for our system.*

- Why **Node JS**? :

Node.js is a versatile platform known for its performance, scalability, and efficiency. Making it an ideal choice for building a modern, high-performance web application.

*Which is why we believe Node JS is suitable for our system.*

# Project management plan

## GANTT CHART

TASK	WEEK NUMBER													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
REQUIREMENT GATHERING														
REQUIREMENT ANALYSIS														
FUNCTIONALITIES														
PROJECT CHARTER														
SCRUM ACTIVITY														
PROJECT PROPOSAL														
INTERFACE DESIGN														
CONCEPTUAL DATABASE														
PHYSICAL DATABASE														
CODING AND IMPLEMENTATION														
SYSTEM TESTING														
FINAL REPORT														

## GANTT CHART SUMMERY

First of all , we worked very hard to find a client , but it is very difficult to find a client for a system like online air ticket booking , so we had to assume a client and do this project. After that we conducted an extensive analysis of the existing online air ticket reservation systems in different countries through the internet. Also, to make the system unique we have come to a decision to integrate tourism with our system to attract customers to the system. After gathering the information, the team members collaborated to determine the functions that should be included in our system and allocated them among themselves. Since the same week was used to prepare the charter document , the second week was spent on functions and project charter work. After getting the charter approved, we had to spend the third week for the scrum activity. In the fourth week , we made the project proposal. Also, we are preparing the project presentation and hope to present it at the end of this week, and we must submit a user interface (UI) sketch of the system that is like the actual output within the next week. Also, the fifth and sixth weeks have been reserved for creating the conceptual database using ER diagrams and relational model and also to design the physical database. Due to the considerable time required for coding and implementation , a collective decision was made to allocate the period between the seventh and twelfth weeks for this purpose. And we do the system testing part between 9th-12th weeks. We hope to wrap up all aspects of the project , compile a final report and bring the project to a close within the last week.

## Work breakdown structure

	Name with Initials	Student ID	Work Allocated
1.	Withanachchy Y.R	IT21197482	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Client/Company background</li> <li>• System Overview</li> <li>• Implementing "Payment system management"</li> <li>• Making the final document</li> </ul>
2.	Yeshmantha W.N	IT21223976	<ul style="list-style-type: none"> <li>• Making the "Problem statement"</li> <li>• Implementing "Hotel reservation" system</li> </ul>
3.	Fernando W.A.T.A	IT21227004	<ul style="list-style-type: none"> <li>• Making "Solutions" for the problem statement</li> <li>• Implementing "Transport services" system</li> </ul>
4.	Chamika H.A.S.C	IT21235306	<ul style="list-style-type: none"> <li>• Benefits of proposed solutions</li> <li>• Implementing "Flight detail management"</li> </ul>
5.	Arthigan A	IT21385346	<ul style="list-style-type: none"> <li>• Implementing "Flight ticket reservation"</li> <li>• Making the Gantt chart</li> </ul>
6.	Vishvanath M.S.M.V	IT21295638	<ul style="list-style-type: none"> <li>• Implementing "Tour Management"</li> <li>• Making the Gantt chart</li> <li>• Making the Gantt chart summary</li> </ul>
7.	Jayasooriya J.A.T.N	IT21129162	<ul style="list-style-type: none"> <li>• Implementing "Customer feedback"</li> <li>• Tools and Technologies/summary</li> </ul>
8.	Hitinayaka.H.M.N.M	IT21228544	<ul style="list-style-type: none"> <li>• Implementing "Guider management"</li> </ul>

## References

We utilized a lot of references in order to make this project a success. This project is being built with the JAVASCRIPT language with React and Node Js. As a result, we were required to learn these languages and libraries. For learning these things, we referred lot of web sites.

YouTube videos we referred

- <https://youtu.be/5yEoh3toRyE>
- <https://youtu.be/Vf09gAb5tSo>
- <https://youtu.be/LQj7unKTlpo>
- <https://youtu.be/iwyGZdeOkZ4>

Websites we took inspiration from

- [https://www.srilankan.com/en\\_uk/lk](https://www.srilankan.com/en_uk/lk)
- <https://www.findmyfare.com/>
- <https://www.makemytrip.com/flights/>

Websites we referred when we were faced with challenges in making the website

- <http://www.udemy.com/>
- <https://stackoverflow.com/>
- <https://reactjs.org/>
- <https://www.w3schools.com/>

**2023/03/02**