System Study

❖ REQUIREMENT ANALYSIS

➢ Project Overview

The Online Airport Management System is a comprehensive digital solution aimed at enhancing airport operations and passenger experiences. This user-friendly system streamlines processes, offers real-time flight information, online check-in, and personalized services, making travel convenient and efficient. It improves safety, ensures data security, and reduces environmental impact. Users can book flights, track baggage, and access various services through this platform. Admins can manage flights, staff, and payments, while service providers can allocate tickets and handle luggage.

The project helps the customers to search the availability and prices of various airline tickets, along with the different packages available with the reservations. This project designs and implements airport management system Supported by a well-designed database, all available air flight information is integrated together and can be accessed easily through a single point. A friendly user interface is provided so that various combinations of search criteria can be fetched from user and generates corresponding database search statements. The airport management system provided both customer and administration interfaces with the latter used for administration purposes.

In summary, the system transforms airport management by providing efficiency, real-time information, and a better passenger experience, benefiting all stakeholders.

➢ To what extend the system is proposed for?

The proposed Online Airport Management System is designed to cover a wide range of functionalities and operations within an airport environment. Its scope extends to various aspects of airport management and passenger services, making it a comprehensive solution. Here are some key areas to which the system is proposed:

1. Flight Management: The system is designed to handle flight scheduling, booking, and management, including the addition, editing, and deletion of flights.

2.Passenger Services: It offers online check-in, personalized seat selection, baggage tracking, and handling status, as well as access to schemes, offers, and a chatbot for queries.

3.Payment and Refund: Users can make secure online payments for bookings, and the system handles cancellations, refunds, and insurance services.

4.Staff Management: The system assists in managing airport staff, including duty assignments and general staff management tasks.

5. Real-time Information: Passengers and airport personnel have access to real-time flight information, delays, and updates, reducing confusion and enhancing the overall passenger experience.

6.Safety and Emergency Management: It helps manage security and emergencies, facilitating quicker responses with automated incident reporting and improved communication.

7. Accessibility: The system is accessible anytime and anywhere, enabling users to access it from any internet-enabled device, enhancing flexibility for customers and staff.

8. Data Security: Robust security measures are implemented to protect sensitive customer data, financial information, and operational details.

9. Environmental Sustainability: The system contributes to environmental sustainability by reducing paper usage and optimizing routes.

The proposed system aims to cover a wide range of airport management functions, from flight scheduling and passenger services to staff management and safety. It's designed to enhance efficiency, improve the passenger experience, and ensure the overall smooth operation of airports.

- **Who owns the system?**

The Online Airport Management System is owned and operated by the aviation authorities and management team responsible for the respective airport. It is a collaborative effort between airport administrators, flight service providers, and other stakeholders involved in airport operations. The system is designed to streamline airport management, enhance passenger experiences, and improve overall efficiency. Ownership and responsibility for the system are vested in the airport authorities who oversee its implementation, maintenance, and continuous improvement. The aim is to provide a reliable and user-friendly digital platform that benefits both airports and passengers, making air travel safer and more convenient.

- **Specify the Viewers/Public which is to be involved in the System?**

Passengers:

- Passengers are the primary users of the system.
- They can register and log in to the system.
- Passengers can search for flights, book tickets, and make online payments.
- They have the option to select personalized seats during the booking process.
- Passengers can track their baggage and view the handling status.
- Access to view schemes, offers, and promotions.
- Utilize the chatbot for inquiries and assistance.
- Process cancellations, refunds, and insurance requests.

Administrators:

- System administrators have special privileges and responsibilities.

- They can log in to the system with administrative credentials.
- Administrators oversee flight management, including the ability to add, edit, or delete flights.
- They manage staff, including staff assignment and details.
- Administrative access to payment and cancellation details.
- They update schemes, offers, and promotions within the system.

Flight Service Providers:

- System administrators have special privileges and responsibilities.
- They can log in to the system with administrative credentials.
- Administrators oversee flight management, including the ability to add, edit, or delete flights.
- They manage staff, including staff assignment and details.
- Administrative access to payment and cancellation details.
- They update schemes, offers, and promotions within the system.

General Public (Limited Access):

The system may also provide limited access to the general public.This access might include viewing flight schedules, available promotions, or general information about the airport and its services.

System Developers and Maintenance Personnel (Limited Access):

Developers and maintenance personnel may have access to the system for the purpose of maintaining and updating the software, ensuring its functionality and security.

- **List the Modules included in your System?**

1. User

2.Admin

3. flight management

User

- Log In, Register
- Flight booking
- Personalized seat
- Online Payment
- Baggage Tracking & handling status
- View schemes and offers
- Chat bot for queries
- Cancellation
- Refund
- Insurance

Admin

- Log In
- View user details
- Flight management [Add/Edit/Delete]
- Staff management
- Payment & cancellation details
- Update Schemes and offers

Flight Service Providers

- View user details
- Ticket Allocation
- Seat management
- Luggage management
- Staff Duty Assignment
- Staff Management
- View customer review, rating

- **Identify the users in your project?**
  In the Online Airport Management System project, there are several user roles with distinct responsibilities. There are

1.User:

Function: Regular passengers or travellers who use the airport's services.

Responsibilities:

- Log In and Register for the system.
- Book flights.
- Select personalized seats.
- Make online payments for bookings.
- Track baggage and view handling status.
- View schemes and offers.
- Interact with a chatbot for queries.
- Request cancellations, refunds, and insurance.

Interaction: Interacts with the system to book and manage their flights, inquire about services, and make payments.

2.Admin:

Function: Administrators or airport staff responsible for managing the airport's operations and the Online Airport Management System.

Responsibilities:

- Log In to the system with administrative privileges.
- View user details and manage user accounts.
- Manage flight-related information (Add/Edit/Delete flights).
- Handle staff management and scheduling.
- Manage payment and cancellation details.
- Update schemes and offers to passengers.

Interaction: Access and manage the system to ensure smooth airport operations, handle staff, and monitor passenger interactions.

3.Flight Service Providers:

Function: Airlines and related service providers operating within the airport.

Responsibilities:

- View user details (likely related to their services).
- Allocate tickets to passengers.
- Manage seat assignments.
- Handle luggage management.
- Assign duties to staff.
- Manage staff within their service areas.
- Monitor and respond to customer reviews and ratings.

Interaction: Interact with the system to coordinate their services, allocate resources, and handle customer feedback.

- **System is related to which firm/industry/organization?**

  The Online Airport Management System is related to the aviation industry, specifically to airports and airline operations. This system is designed to improve the overall efficiency and passenger experience within airports by offering a digital platform for managing various aspects of airport operations. It is applicable to both small and large airports, and it can benefit airport authorities, airline companies, passengers, and other stakeholders involved in airport management and services.

- **Details of person that you have contacted for data collection?**

  I have made a system study on existing online websites like ,
  - MakeMyTrip
  - Yatra
  - Cleartrip
  - Goibibo
  - AdaniOne

- **Questionnaire to collect details about the project?**

1) What about the seating arrangement in flight?

For airplanes having a seating capacity of more than 50 but less than 101 passenger two flight attendants. For airplanes having a seating capacity of more than 100 passenger

two flight attendants plus one additional flight attendant for each unit (or part of a unit) of 50 passenger seats above a seating capacity of 100 passengers.

2)How long does it take to book a flight?
Less than 15 minutes pass between their starting to fill in the search form and a ticket appearing in their mailbox.

3)Can you provide information on the technologies and tools used for development?
The Project uses HTML/CSS for the front-end and Python Django for the back-end. These technologies are chosen for their reliability and scalability in wed development

4) How flight reservation system boosts the sales of airlines?
Reservation System shoots up the sales of an airline company and gives a competitive edge. The primary reason for choosing flight reservation system is to increase the number of bookings of the flight ticket. Online Flight Reservation System is very easy to integrate with the website.

5) What Are the Differences Between Travel Classes on Airline Flights?
There are four classes of travel you can find on airline flights all over the world: economy, premium economy, business, and first.

6). Free cancelation of flight ticket is available or not?
YES, you can cancel your flight for free within 24 hours.

7) What is RPK?
That shows the number of kilometres travelled by paying passengers.

8) What are customer looking airline booking?
Timeless, meals, helpfulness, comfort.

❖ FEASIBILITY STUDY

Feasibility is defined as the practical extent to which a project can be performed successfully. To evaluate feasibility, a feasibility study is performed, which determines whether the solution considered to accomplish the requirements is practical and workable in the software. Information such as resource availability, cost estimation for software development, benefits of the software to the organization after it is developed and cost to be incurred on its maintenance are considered during the feasibility study. The results of the feasibility study should be a report that recommends whether or not it is worth carrying on with the requirements engineering and system development process.
If a system does not support the business objectives, it has no real value to the business. The objective of the feasibility study is to establish the reasons for developing the software that is acceptable to users, adaptable to change and conformable to established standards.

Various other objectives of feasibility study are listed below.

- To analyse whether the software will meet organizational requirements.
- To determine whether the software can be implemented using the current technology and within the specified budget and schedule.
- To determine whether the software can be integrated with other existing software.

The information assessment phase identifies the information that is required to answer the three questions set out above. Once the information has been identified, you should question information sources to discover the answers to these questions.

➢ Economical Feasibility

The software's potential to generate revenue for the company is determined by the feasibility study. It takes into account things like the price of developing the programme, the anticipated costs for the hardware and software, the price of carrying out the feasibility study, and more. The method being developed is financially feasible in the context of booking flights. The web-based approach reduces the need for paper-based procedures, saving money. The generated data is precise and available at all times. The organisation must decide on the necessary period. This approach can be applied to the airline sector, allowing customers to quickly and without hassle book tickets, making it economically viable.

1.Do the resource needed exist?
The system's front-end technologies, including HTML, CSS, and JavaScript, are standard web development tools readily available. The use of Python as the back-end programming language and the Django framework is a common and well-supported choice for web application development. Furthermore, internet connectivity and data storage infrastructure are widely accessible, making it feasible to implement the system's features. Overall, the

required technological resources are available and in line with industry standards, supporting the feasibility of the project.

2.Will the proposed airport service or initiative lead to better use of resources to improve Airport outcomes, when compared with other options?

The proposed Online Airport Management System is likely to lead to better use of resources and improved airport outcomes when compared to traditional options. By leveraging smart digital tools and real-time information, the system streamlines operations, optimizes resource allocation, and enhances the passenger experience. Automation and efficient data management reduce manual tasks and minimize delays. The system's accessibility from anywhere, data security, and reduced paper usage align with modern standards and sustainability goals, making it a more resource-efficient and effective solution for airport management.

- **Technical Feasibility**

The goal of the technical feasibility study is to ascertain whether the user needs can be satisfied within the allotted budget by assessing the available resources, technology, and timeline. A web-based programme, the online airport management system makes use of Python, Django, HTML, CSS, and JavaScript. These technologies are easily accessible, and anyone may learn the skills required to use them. In addition, programming apparatus, tools, and IDEs that support the selected technologies are needed. Additionally, hosting space is easily accessible. The hardware and software that are already in use can be used to implement the given requirements. These technologies can be easily implemented and have manageable system development time constraints.

Data management, security measures, and environmental considerations align with industry standards. It has the potential to significantly enhance airport efficiency, passenger experience, and safety through the effective utilization of web and database technologies. These elements lead to the conclusion that the suggested project is technically viable.

1. Do the stakeholders have the expertise needed?

Stakeholders in the Online Airport Management System project must possess expertise in various areas, as indicated by the project's technical requirements. Knowledge of web development technologies such as HTML, CSS, and JavaScript is essential for the front-end development. Proficiency in Python, particularly within the Django framework, is necessary for the back-end development. Additionally, stakeholders should understand database management and security measures for data protection. Expertise in aviation operations, security protocols, and passenger services would be valuable for system design and functionality. Collaborative efforts from individuals with diverse skills and knowledge are crucial to successfully implement and maintain this complex system.

2. Are additional resources needed in the Airport Management System including infrastructure, skills-sets or job aids?

The implementation of the Online Airport Management System may require additional resources.

.**Infrastructure:** To support the system's online functionality, airports may need to invest in robust internet connectivity and server infrastructure. This ensures smooth data transmission and system reliability.

Skills-Sets: Airport staff and administrators may need training to effectively use the system and manage its components. This includes training in Python, Django, and web technologies for backend development.

Job Aids: The introduction of the system may require the creation of user manuals, training materials, and support channels to assist staff and users in navigating and troubleshooting the system.

Overall, while the proposed system offers substantial benefits, it necessitates additional infrastructure, training, and support resources to ensure its successful implementation and operation within the airport environment.

3. Is the Airport Management System ready in terms of the technology required?

The Online Airport Management System appears well-equipped in terms of technology requirements. It utilizes modern web technologies, including HTML, CSS, JavaScript, and the Django framework for its front-end and back-end development. These technologies are suitable for building a user-friendly, efficient, and secure system. Additionally, the system's focus on real-time information, data storage, and analysis aligns with contemporary technological capabilities. However, successful implementation will also depend on factors such as infrastructure, integration with external systems, and adherence to security standards, which need to be addressed to ensure the system's readiness.

- **Operational feasibility**

Operational feasibility means evaluating whether a suggested project or system can practically function within the current operational environment. It includes inquiring questions like: Can we run this system with our existing resources? Will it blend into our daily workflow smoothly? Is it simple for our team to utilize and oversee? Essentially, it's about guaranteeing that the suggested solution is a suitable fit for how the organization operates, and it won't result in significant disruptions or inefficiencies when implemented. If the response is affirmative, it's operationally feasible.

The operational feasibility of the Online Airport Management System is evident in its potential to significantly enhance airport operations. It addresses key challenges in the existing manual system, offering real-time information, improved passenger services, and enhanced safety measures. The streamlined processes, including real-time flight information, online booking, and luggage handling, are operationally efficient. Moreover, the system's user-friendly design and accessibility from any internet-enabled device make it convenient for both passengers and staff. The computerized data management saves time and allows administrators to work more efficiently. Overall, the proposed system demonstrates strong operational feasibility by promising to make airports more efficient and passenger-centric.

1.Do existing system procedures and protocols support the new service or initiative?

The existing airport management system relies on manual processes, paper-based methods, and fragmented communication. These outdated procedures and protocols do not adequately support the new Online Airport Management System initiative. The proposed digital tool aims to streamline operations, provide real-time information, enhance the passenger experience, and improve safety, which are not effectively facilitated by the existing manual system. The transition to the new system is essential to overcome these limitations and bring about a more efficient and passenger-centric airport management approach.

2.How will key collaborators be involved?

Key collaborators in the Airport Management System project will include airport authorities, airlines, and software development teams. Airport authorities will provide the necessary infrastructure and data access for real-time flight information. Airlines will collaborate by integrating their systems with the platform to offer online services and updates. Software development teams will design, develop, and maintain the system, ensuring it meets the needs of all stakeholders. Regular communication and cooperation between these collaborators are essential to the project's success, ensuring that the system effectively streamlines operations, enhances safety, and improves the passenger experience within the airport ecosystem.

- **Behavioural Feasibility**

The feasibility study evaluates how well the programme will handle user needs and business issues. It takes into account things like the availability of human resources (the software development team) and imagines if the software will perform and run as planned after installation. This study includes a component to determine how well-liked the system is by the users. For effective system use, this also entails giving users the necessary training. It's critical that consumers find the system easy to use and consider it a valuable resource. Effective introduction and system acquainting techniques are essential for user acceptance. Maximising the use of the resources at hand, such as people, time, and form flow, is the goal of the suggested mode of operation.