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# ASSIGNMENT 1

## SAND 6221

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## Question 1

### **Elevating Passenger Satisfaction: A Systems Analysis and Design Approach**

#### Introduction:

The Airport Customer Relations Management System is an essential tool for airport management to ensure customer satisfaction and loyalty. The system will offer customers updates on flights, airport amenities, and services available at the airport, GPS navigation to various amenities and boarding gates and instant connection to medical and ambulatory services for any medical emergency. This report will detail the role of Systems Analysis and Design in the development of the Airport Customer Relations Management System.

#### What is System Analysis and Design?

System Analysis and Design is a methodology that is used to assess and improve systems. System Analysis is used to specify what a new system must achieve, while System Design explains how the resulting system will be implemented. In the context of the Airport Customer Relations Management System, System Analysis involves gaining an understanding of current operations, identifying requirements, and defining scope. At the same time, System Design focuses on creating a blueprint for the system to ensure that it meets the requirements and scope that were identified during the System Analysis phase.

#### Importance of conducting System Analysis and Design properly:

System analysis and design are crucial for the Airport Customer Relations Management System to align with the airport's goals, cater to customer needs, and integrate seamlessly with existing infrastructure. By carefully analysing requirements and designing a user-friendly interface, the system can enhance customer satisfaction and loyalty. It ensures that the system is tailored to meet the airport's and its customers' needs, is functional and user-friendly, and is delivered within the set timeline and budget. System Analysis and Design also help to identify potential risks and issues early in the development process, allowing for their mitigation before they become major problems.

#### Activities Conducted as Part of System Analysis:

- Identify the needs of the airport and customers.
- Define goals and objectives.
- Conduct stakeholder interviews, and customer surveys and speak to airport staff to gather expectations and requirements.
- Analyse existing airport processes and customer feedback to identify weak points and areas of improvement.
- Identifying constraints and risks.
- Develop risk response plans.
- Assess the feasibility of the proposed solution.
- Ensure usability and accessibility.

Activities Conducted as Part of System Design:

- Develop system architecture and database design to support information management and navigation capabilities.
- Define system modules and their interactions to ensure seamless integration of information and services.
- Specifying hardware and software requirements.
- Configure hardware resources, network infrastructure, and security protocols.
- Consider accessibility and responsiveness.
- Implement authentication and authorisation mechanisms.
- Conduct usability testing to validate the design and gather user input for refinement.

Motivation for Iterative Approach:

It is recommended to use an iterative approach for the development of this system to receive continuous feedback. This approach involves dividing the system development into different stages, with each stage being tested and refined before moving on to the next one. By adopting this approach, any issues can be identified and resolved at an early stage, and feedback from users and stakeholders can be incorporated into the development process.

Conclusion:

Systems Analysis and Design play a crucial role in the development of the Airport Customer Relations Management System. Properly conducting Systems Analysis and Design ensures that the system is tailored to meet the unique needs of customers and can adapt to technological advancements. This leads to a solution that enhances airport operations and customer satisfaction.

Our company is fully committed to providing a tailored solution that fulfils all the requirements of the airport. Our iterative approach enables us to remain flexible and responsive throughout the development process, resulting in a system that improves customer experience and airport operations. We are confident that our expertise and experience in systems development make us the perfect candidate for creating the new system for the airport.

Assumptions:

1. The management of the airport is familiar with Systems Analysis and Design.
2. The budget and timeline for the project have been established.
3. The system will be developed using modern technologies to ensure responsiveness and accessibility.

## Question 2:

### Q.2.1

1. Airport staff (operational stakeholders):

They are operational stakeholders involved in the day-to-day operations of the airport. Their input is crucial for understanding operational requirements and ensuring the smooth integration of the system.

2. Passengers (external stakeholders):

Passengers are the ultimate consumers of the airport system. However, they are classified as external stakeholders as they are not a part of the airport organisation. They have a significant interest in the performance and user-friendliness of the system, but they do not actively participate in its development or management.

3. Customs and Immigration Authorities (executive stakeholders):

Interfaces with the system for processing passenger data and facilitating immigration procedures may be required by agencies responsible for immigration and customs clearance at international airports.

4. Emergency Services (operational stakeholders):

Emergency response agencies, such as fire departments, medical services, and law enforcement, are critical stakeholders in providing emergency capabilities and integrating with the incident management system.

5. Airport Management (internal and executive stakeholders):

The individuals who are part of the organisation that owns and operates the airport are considered internal stakeholders. These stakeholders are responsible for providing strategic direction and requirements for the system. They also fall into the category of executive stakeholders because they play a key role in decision-making regarding the airport's operations and investments.

**Question 3:****Q.3.1.**

1.

**Event:** A passenger needs to check-in for their flight.

**Use case:** Online check-in.

**Description:** This use case allows passengers to access up-to-date information about their flight, including departure/arrival times, gate information, and any delays or cancellations.

2.

**Event:** A passenger needs to find their gate.

**Use case:** GPS navigation to the boarding gate.

**Description:** This use case provides GPS-based navigation to help passengers navigate within the airport, guiding them to the boarding gates.

3.

**Event:** Passenger wants to access airport amenities.

**Use case:** Explore Airport Amenities.

**Description:** This use case allows passengers to explore and access information about various amenities available at the airport, such as restaurants, shops, lounges, and services like currency exchange or baggage storage.

4.

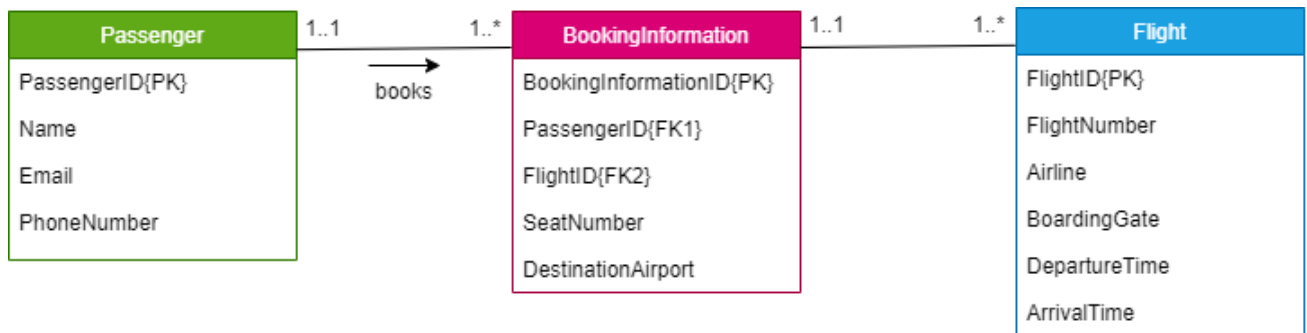
**Event:** A passenger has a medical emergency.

**Use case:** Request Medical Services.

**Description:** This use case enables passengers to request immediate medical assistance in case of a medical emergency or any health-related concerns. It connects them to the necessary medical services and ensures timely response.

## Q.3.2.

<b>Use case name:</b>	Online Check-in	
<b>Scenario:</b>	Development of an Airport Customer Relations Management System for a local airport that has recently upgraded its infrastructure to accommodate international flights. The system aims to enhance customer satisfaction by providing updates on flights, airport amenities, navigation assistance, and instant connection to medical services.	
<b>Triggering event:</b>	Anticipated increase in tourist traffic following infrastructure upgrades.	
<b>Brief description:</b>	In response to the anticipated increase in tourist traffic following infrastructure upgrades, a local airport is investing in a new Airport Customer Relations Management System. This system aims to enhance customer satisfaction by providing timely updates on flights, airport amenities, navigation assistance, and access to medical services. Stakeholders include airport management, airline representatives, passengers, airport staff, and technology providers. The system must address exception conditions such as invalid reservation information and technical issues to ensure smooth operations.	
<b>Actors:</b>	Passenger	
<b>Related use cases:</b>	None	
<b>Stakeholders:</b>	Airport staff Passengers Customs and Immigration Authorities Emergency Services Airport Management	
<b>Preconditions:</b>	Passenger has access to the airport's CRM system via a kiosk or mobile application. The passenger has a valid flight reservation.	
<b>Postconditions:</b>	The passenger has successfully checked in for their flight.  The passenger possesses a valid boarding pass, either in printed or electronic format.	
<b>Flow of activities:</b>	<b>Actor</b>	<b>System</b>
	Passenger selects the "Online Check-in" option on the CRM system. The passenger enters reservation information and confirms. The passenger reviews flight details and confirms check-in. The passenger prints or saves the boarding pass.	The system prompts the passenger to enter flight reservation information. The system verifies reservation information against the flight database. If the reservation is valid, the system displays flight details. The system generates a boarding pass with a barcode or QR code. The system confirms successful check-in and provides additional information.
<b>Exception conditions:</b>	Invalid Reservation Information: If the passenger enters incorrect or invalid reservation information during online check-in, the system should provide an error message and prompt the passenger to re-enter the correct information.  Technical Issues: If there are technical issues with the system, such as server downtime or connectivity problems, the system should provide appropriate error messages and inform passengers of alternative check-in methods.	

**Question 4:****Q.4.1.**

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