

Problem Statement:

In today's digital age, many travel companies and users still face challenges in booking trips smoothly and efficiently.

These challenges include:

- The need to visit travel agency branches in person.
- Difficulty comparing flight prices and dates.
- Lack of real-time flight availability information.
- Problems with payment processes and booking confirmation.

Proposed Solution:

We propose developing an electronic travel booking system (Travel Booking System) that allows users to:

- Search for flights or ground flights based on destination and date.
- Compare prices and choose the appropriate flight.
- Book and pay online.
- Receive instant notifications of booking confirmation or changes.
- Manage your booking (modify, cancel, track your trip).
- The system will be available via a web and/or mobile application for increased accessibility.

Stakeholder Analysis:

Stakeholder	Description	Classification
Users (Travelers)	are people who will use the system to book their flights.	Primary/External
Travel company employees	are employees responsible for managing trips and reservations.	Internal/Administrative
The system administrator	is responsible for maintaining and operating the system and verifying data availability.	Internal/Technical
Transportation companies	Airlines or bus companies that provide flight information and fares.	External/Service Provider
System developers	The software development team responsible for building and maintaining the system.	Internal/Development
Project owners	are the entity that owns the system and is responsible for the project's revenues and outputs.	Internal/Investment

Requirements sources:

Source	justification
User interviews	to understand current challenges and their experiences using reservation systems.
Travel company employees	to determine which internal processes should be supported by the system.
Competitor products	to analyze standard features and improve user experience.
Domain documents	to obtain general specifications and official requirements in the travel industry.
International UX/UI standards	to ensure ease of use and user acceptance.

The second stage: extracting and defining requirements

First: Requirements Elicitation Methods

We chose three methods to elicit requirements:

1. Interviews

Reason for choosing them:

They allow us to obtain detailed and direct information from key stakeholders and accurately understand their needs.

Mechanism/Steps:

- Identify key stakeholders (users, travel company employees).
- Prepare targeted questions.
- Hold individual sessions and collect feedback.
- Analyze answers and categorize requirements.

Sample questions:

- What challenges do you currently face when booking flights?
- What features would you like to see in a digital reservation system?
- How would you prefer to pay? Would you like to receive notifications about the trip?

Participants:

- 5 end users
- 2 reservation staff
- They were chosen because they would actually use or manage the system.

2. Competitive Analysis

Reason for choosing them:

To discover the features offered by other systems and ensure we are not missing important requirements.

Mechanism/Steps:

- Select 3 popular websites/apps (e.g., Booking.com, Trip.com).
- Analyze their user interfaces, features, strengths, and weaknesses.
- Extract common and proposed requirements.

Expected Outputs:

- Easy-to-use interfaces.
- Precise filtering systems (by price, date, destination).
- Support for group bookings.

3. Online Survey (Questionnaire)

Reason for choosing:

To quickly gather feedback from a large number of users.

Mechanism/Steps:

- Design a survey using Google Forms.
- Distribute it across social media platforms.
- Data Analysis (Quantitative Statistics).

Sample Questions:

- How satisfied are you with your current booking systems?
- Do you prefer online payment or cash on arrival?
- Do you use a mobile app or a website?

Participants:

100 potential users from different age groups.

Second: Identify and classify requirements

Classification by type:

Category	Requirements
Business Requirements	Enabling customers to book flights easily - Reducing employee intervention - Increasing sales
User Requirements:	Easy interface - Selecting flight dates - Instant notifications - Multiple language support
System Requirements:	Payment gateway integration - Flight booking database - Real-time response

Distinguishing between requirements:

Functional requirements: Login/Register

- Search flights
- Choose a flight and pay
- Receive confirmation by email or text message
- View, modify, or cancel your reservation.

Non-Functional Requirements - The system must respond within less than 2 seconds

- Arabic and English language support
- Data security using HTTPS
- Compatibility with all browsers and mobile devices.

Formal presentation method:

- ◆ Example of job requirements:

#	Job requirement	priority
F1	The user must have the ability to register	High
F2	User can search for a flight by date and destination.	High
F3	The user can cancel the reservation within a period not exceeding 24 hours.	Medium

Example of non-functional requirements:

#	Job requirement	Type	priority
N1	Response time should not exceed 2 seconds per request.	performance	High
N2	Data must be encrypted using SSL.	safety	High
N3	The system must support mobile devices and tablets.	compatibility	Medium