AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH

Prof. DR. KAMRUDDIN MD. NUR

Software Engineering

Section: E

Tourist Guide

Tourist guide application for giving assistance and directions to travelers

Semester: Summer 23_24		Section: E	Group Number:	
SN	Student Name	Student ID	Contribution (CO3+CO4)	Individual Marks
1	Tareq Hossain	**21-44876-2**	Project idea, Problem Statement, proposed solution, Diagram Designing, Gantt chart, WBS, Figma UI Prototype Design ,Package Diagram, Class Diagram, Sequence Diagram	

2	Toukir Ahmed	**21-44903-2**	Project idea ,Use case, Gantt Chart, WBS, Project Risk, Impact and risk level Activity Diagram,	
3	Nidan Alam	**22-47046-1**	Problem Statement,	
			Project Idea, WBS, Use Case, Project Risk ,Impact and risk level, Activity Diagram,	

Description of Student's Contribution in the Project work

Student Name: Tareq Hossain
Student ID: 21-44876-2
Contribution in Percentage 40 (%):
Contribution in the Project:

- Contribution Description 1
- Contribution Description 2

Tareq Hossain

_____ _____

Signature of the Student

Student Name: Toukir Ahmed
Student ID: 21-44903-2
Contribution in Percentage 35 (%):
Contribution in the Project:

- Contribution Description 1
- Contribution Description 2

Toukir Hossain

_____ _____
Signature of the Student

Student Name: Nidan Alam
Student ID: 22-47046-1
Contribution in Percentage 25(%):
Contribution in the Project:

- Contribution Description 1
- Contribution Description 2

Nidan alam

_____ _____
Signature of the Student

Project Proposal

Problem Statement: Sometimes tourists get into trouble when they travel without knowing about the place, such as they don't know how much it will cost to go to the place they want to visit, which season is suitable to visit the place and they don't have idea where to live in that place.

Objective:

· The app will help the travelers to get the details about his/her desired place.

· By this app visitors can book hotels and hire local guides.

· Users can get emergency services information like hospitals, stations etc.

· Users can choose desired places by seeing its costs and seasonal behaviors.

· Users can see the reviews of other visitors who visited the places.

· User can get smart recommendation

· User can get language assistance

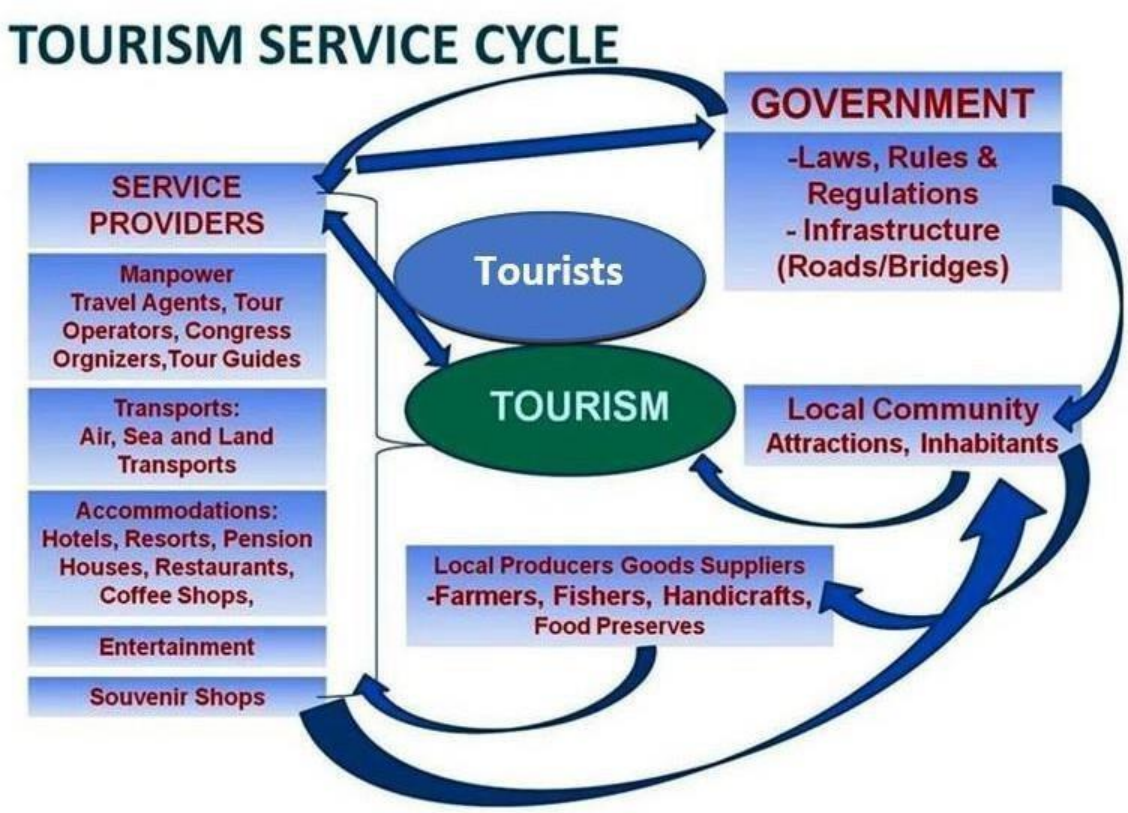
· User can see the reviews

· User can use community

Solution: In the Tourist Guide application, we will add a map where users can search the places they want to visit and get the location of the places, hotels and other emergency locations like hospitals, bus stations etc. Through this application, users can book hotels within their suitable budget range and also hire guides. We will add a user feedback option where users can see the reviews of other users who have already visited the places, by doing so users can get idea about the places and they can take decisions.

2. Software Development Life Cycle:

Process Model:



Analysis:

The nature and environment of the Tourist Guide application software project demand a flexible and iterative approach to development. Given the dynamic and evolving requirements, as well as the need for continuous feedback and adaptation, Agile Software Development emerges as the most suitable method for this project.

Reasoning:

Iterative Development: Agile methodologies, such as Scrum or Kanban, emphasize iterative development cycles. This aligns well with the evolving nature of the project, allowing for incremental enhancements and adjustments based on user feedback and changing requirements.

Customer Collaboration: Agile methodologies prioritize customer collaboration throughout the development process. In the case of Tourist Guide Application close collaboration local guides, hotel manager, and other stakeholders is essential to ensure that the software meets their needs effectively.

Flexibility: Agile methodologies offer flexibility in accommodating changes to requirements, priorities, and technical constraints. This is particularly beneficial for a project like Tourist Guide Application, where the exact specifications and functionalities may evolve over time in response to user feedback and emerging challenges.

Continuous Improvement: Agile methodologies promote continuous improvement through regular reflection and adaptation. This allows the development team to address issues promptly, refine processes, and enhance the quality of the software incrementally.

Database Operations and CRUD Operations: Agile methodologies support the integration of database operations and CRUD (Create, Read, Update, Delete) operations seamlessly into the development process. Database design and implementation can be iteratively refined as part of each development sprint, ensuring that the database schema aligns with evolving requirements and supports efficient data management.

Evidence:

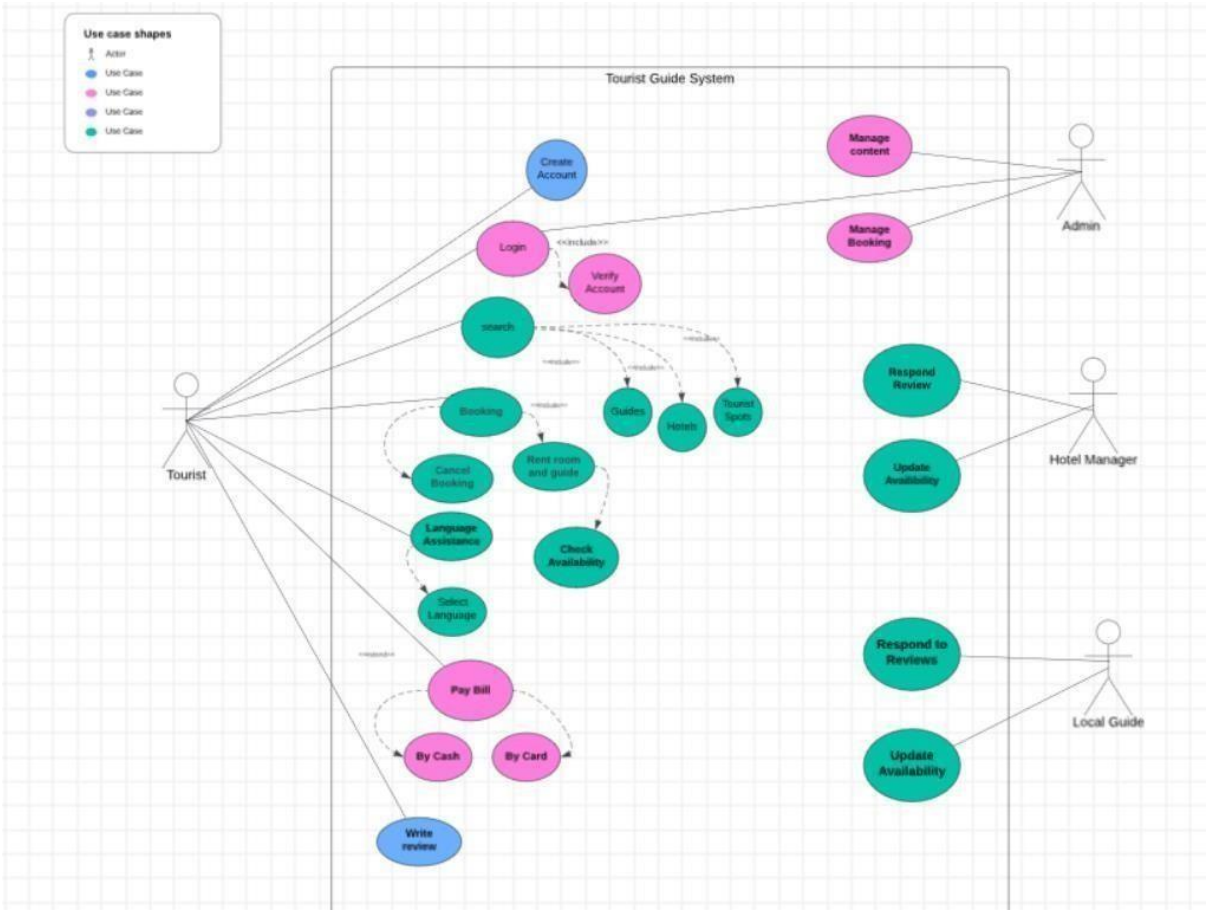
Case Studies: Numerous case studies demonstrate the successful application of Agile methodologies in projects involving database operations and CRUD operations, highlighting the adaptability and effectiveness of Agile approaches in such contexts.

Industry Best Practices: Agile Software Development has become widely adopted across various industries due to its proven effectiveness in delivering high-quality software that meets customer needs efficiently. This widespread adoption serves as evidence of the reliability and suitability of Agile methodologies for diverse software projects.

Feedback from Stakeholders: Feedback from stakeholders, including fishermen, rescue teams, and administrators, can provide valuable insights into the effectiveness of the Agile approach in addressing their needs and facilitating the development of the Tourist Guide Applicaion software.

In conclusion, Agile Software Development emerges as the best-suited method for developing the Tourist Guide Application software due to its iterative nature, emphasis on customer collaboration, flexibility, continuous improvement, and compatibility with database operations and CRUD operations. This approach will enable the development team to deliver a robust and adaptable solution that meets the evolving requirements of the project stakeholders.

USE-CASE Diagram:



WBS(WORK BREAKDOWN STRUCTURE) :

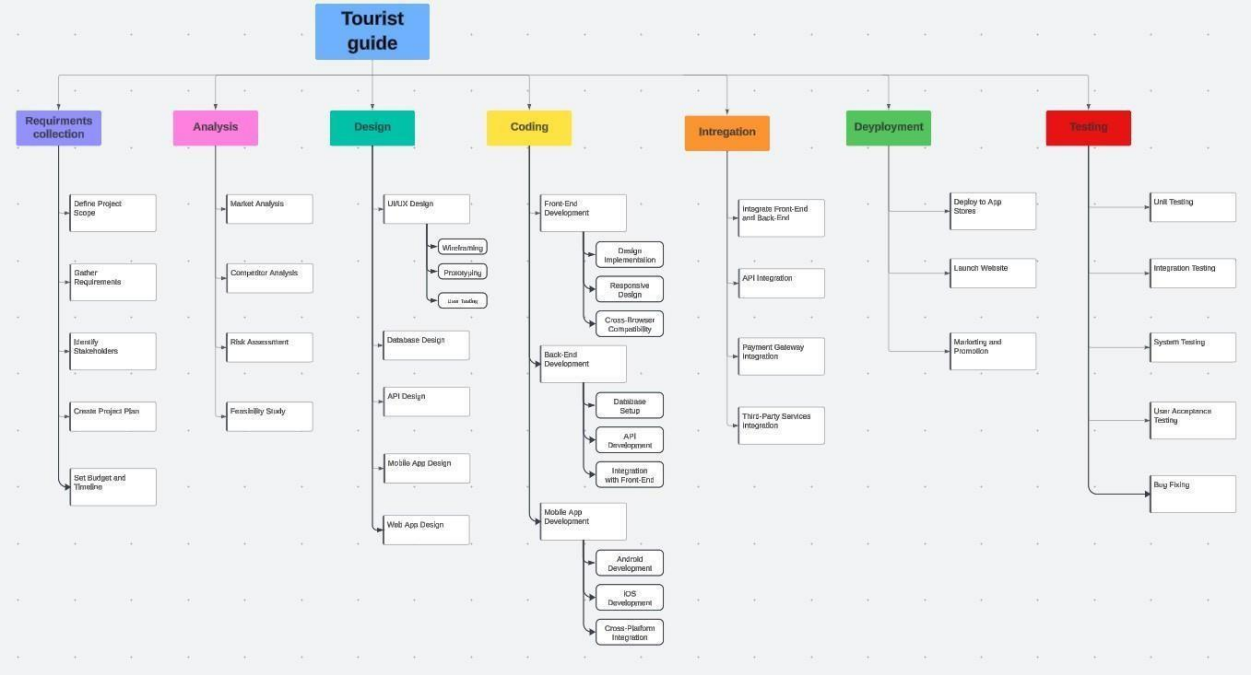
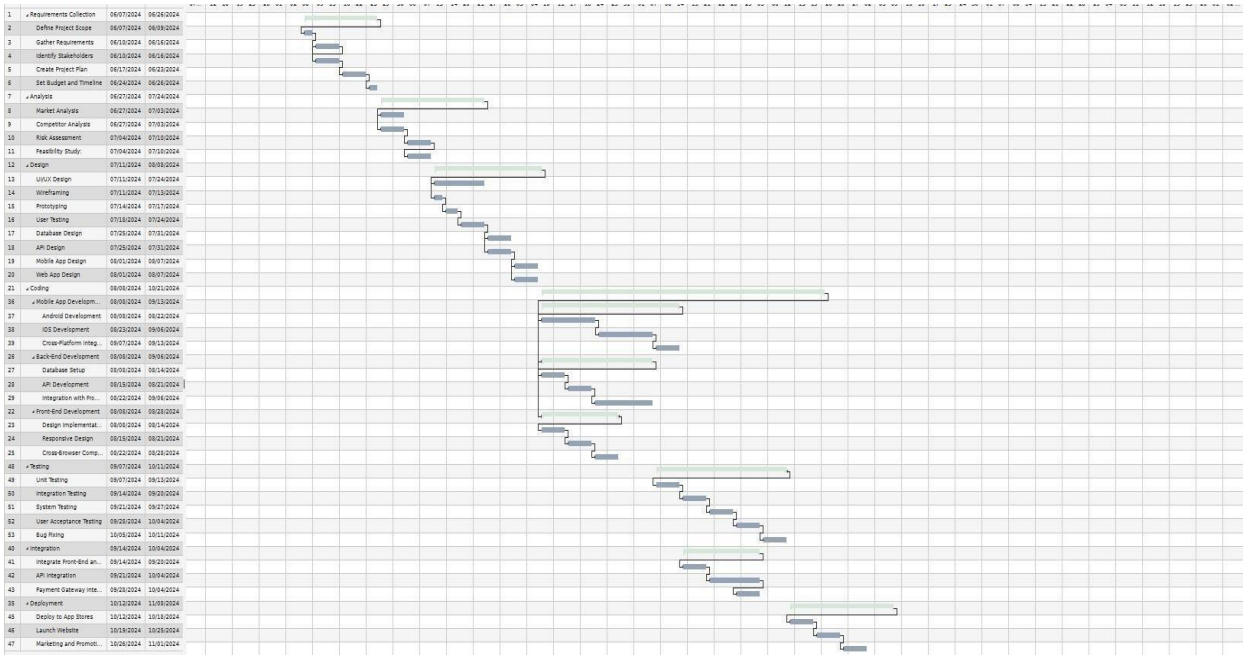


Figure : WBS divided into 7 major parts

Project Gantt Chart:



1	Requirements Collection	06/07/2024	06/26/2024
2	Define Project Scope	06/07/2024	06/09/2024
3	Gather Requirements	06/10/2024	06/16/2024
4	Identify Stakeholders	06/10/2024	06/16/2024
5	Create Project Plan	06/17/2024	06/23/2024
6	Set Budget and Timeline	06/24/2024	06/26/2024
7	Analysis	06/27/2024	07/24/2024
8	Market Analysis	06/27/2024	07/03/2024
9	Competitor Analysis	06/27/2024	07/03/2024
10	Risk Assessment	07/04/2024	07/10/2024
11	Feasibility Study:	07/04/2024	07/10/2024
12	Design	07/11/2024	08/08/2024
13	UI/UX Design	07/11/2024	07/24/2024
14	Wireframing	07/11/2024	07/13/2024
15	Prototyping	07/14/2024	07/17/2024
16	User Testing	07/18/2024	07/24/2024
17	Database Design	07/25/2024	07/31/2024
18	API Design	07/25/2024	07/31/2024
19	Mobile App Design	08/01/2024	08/07/2024
20	Web App Design	08/01/2024	08/07/2024
21	Coding	08/08/2024	10/21/2024
36	Mobile App Developm...	08/08/2024	09/13/2024
37	Android Development	08/08/2024	08/22/2024
38	IOS Development	08/23/2024	09/06/2024
39	Cross-Platform Integ...	09/07/2024	09/13/2024
26	Back-End Development	08/08/2024	09/06/2024
27	Database Setup	08/08/2024	08/14/2024
28	API Development	08/15/2024	08/21/2024
29	Integration with Fro...	08/22/2024	09/06/2024
22	Front-End Development	08/08/2024	08/28/2024
23	Design Implementat...	08/08/2024	08/14/2024
24	Responsive Design	08/15/2024	08/21/2024
25	Cross-Browser Comp...	08/22/2024	08/28/2024
48	Testing	09/07/2024	10/11/2024
49	Unit Testing	09/07/2024	09/13/2024
50	Integration Testing	09/14/2024	09/20/2024
51	System Testing	09/21/2024	09/27/2024
52	User Acceptance Testing	09/28/2024	10/04/2024
53	Bug Fixing	10/05/2024	10/11/2024
40	Integration	08/14/2024	10/04/2024
41	Integrate Front-End an...	08/14/2024	09/20/2024
42	API Integration	09/21/2024	10/04/2024
43	Payment Gateway Inte...	09/28/2024	10/04/2024
35	Deployment	10/12/2024	11/08/2024
45	Deploy to App Stores	10/12/2024	10/18/2024
46	Launch Website	10/19/2024	10/25/2024
47	Marketing and Promoti...	10/26/2024	11/01/2024

Figure : Gantt Chart (June – December)

Class Diagram

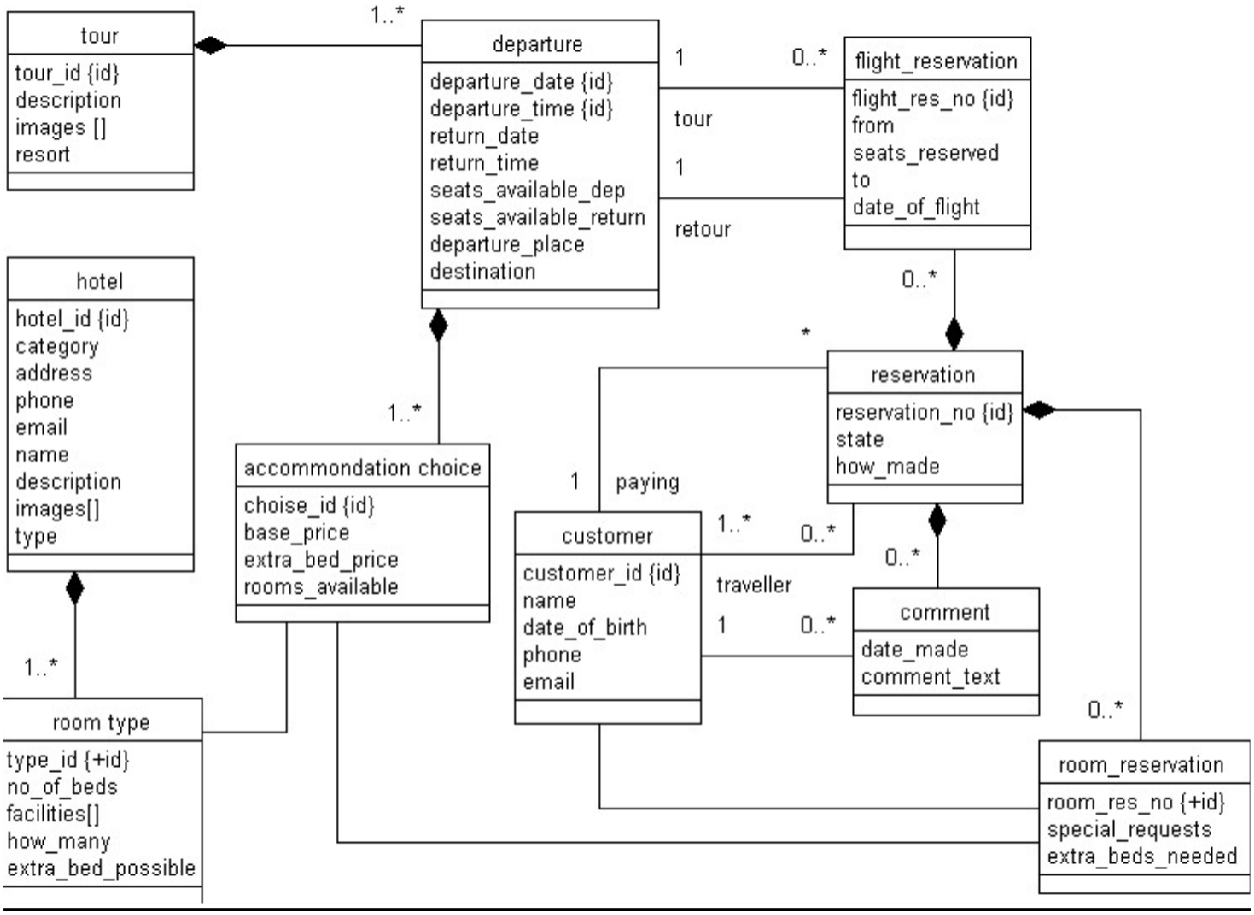


Figure : Class Diagram

Activity Diagram

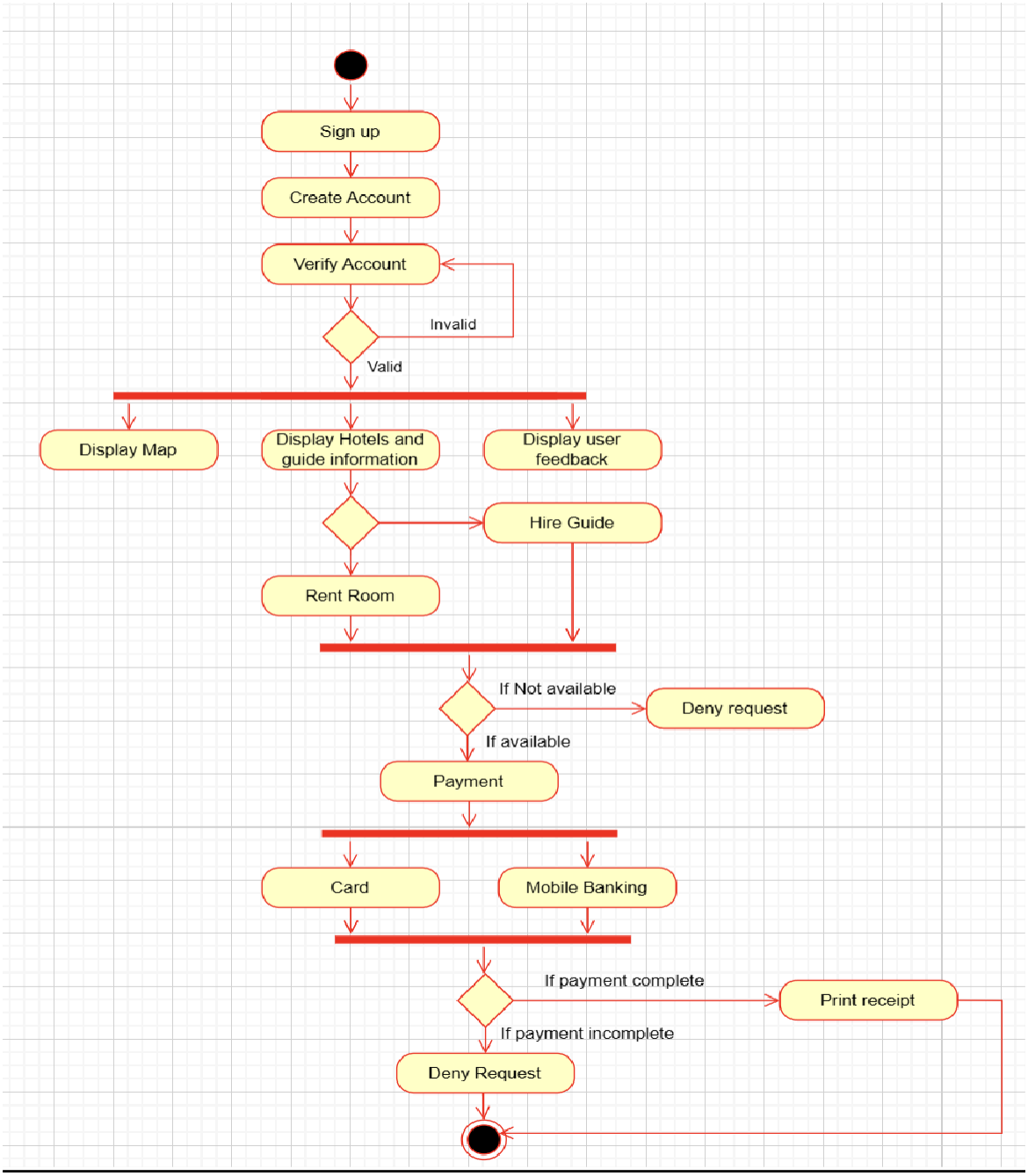


Figure: Activity Diagram

Package Diagram

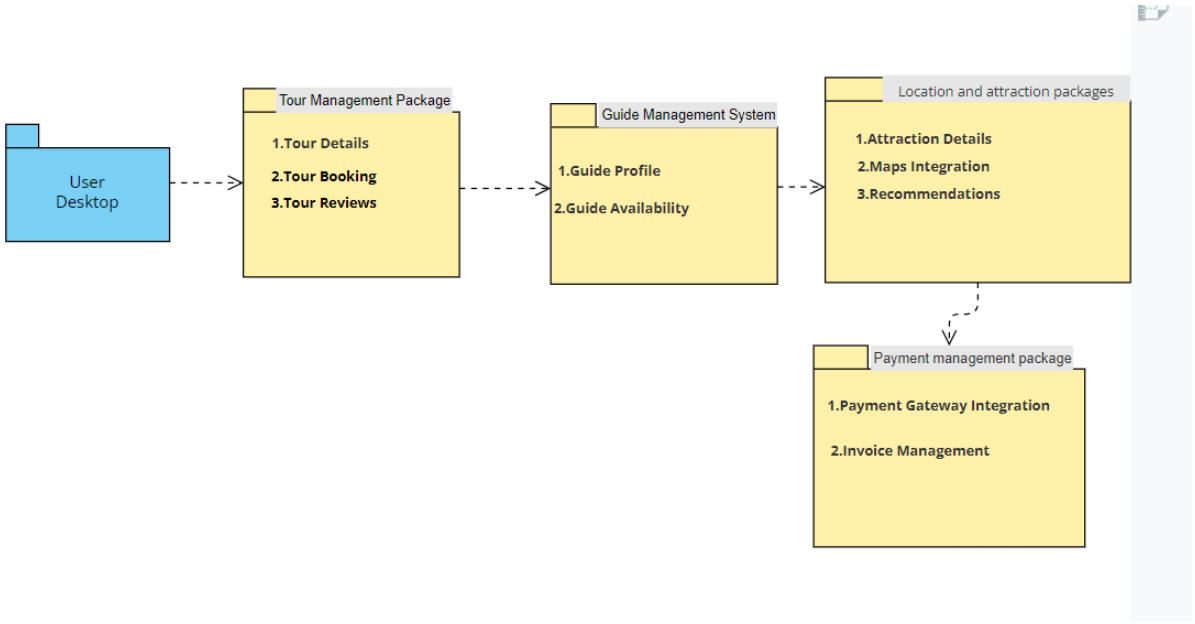


Figure: Package Diagram

Sequence Diagram

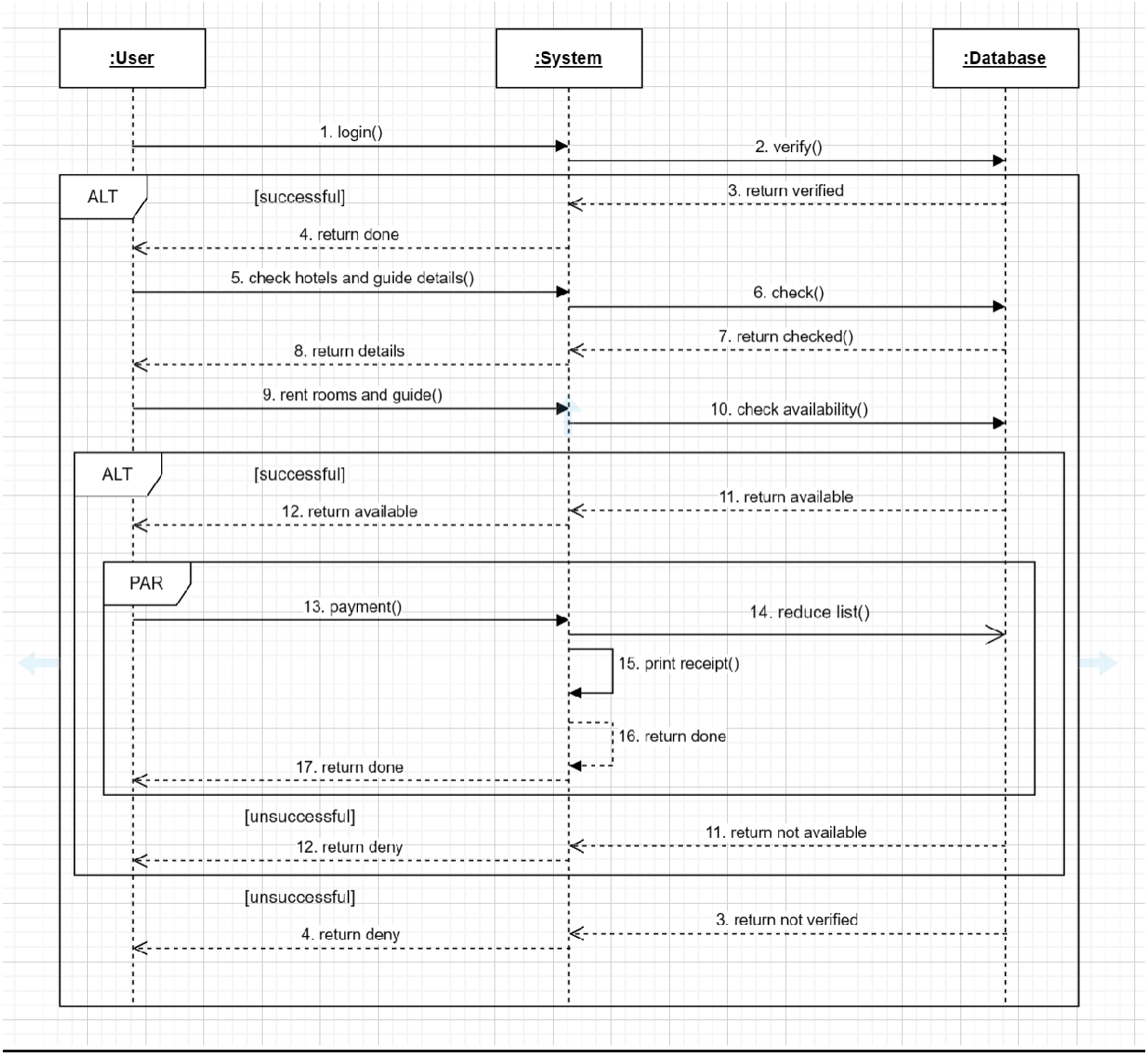


Figure : Sequence Diagram

Project Risk, Impact, Risk Level

NO	Description of Risk	Impact	Risk Response	Risk Level	Risk Owner	Notes
1	Health Emergency	Medical crises requiring hospitalization or preventing travel	Seek immediate medical attention, notify travel	High	Tourist/Medical Service	Ensure travel insurance covers medical emergencies
2	Lost Passport	Travel delays, the inability to pass borders or go back home	Contact embassy or consulate for a replacement, file police report if stolen	High	Tourist	Carry copies of important documents, store passport securely
3	Natural Disaster	severe disruption to travel schedules, potential for injury or loss of life	Observe evacuation protocols, stay updated with local news and authority	High	Local Authorities	Check weather conditions and emergency procedures for your destination
4	Theft of Belongings	Loss of valuables, disruption to plans, financial implications	Report to local authorities, contact travel insurance	Medium	Tourist/Local Authorities	Keep valuables in secure places, be aware of surroundings
5	Flight Cancellation	Travel schedule disruption, possible loss of reservations, or additional costs	Contact airline for rebooking, look for alternative travel options	Medium	Airline/Tourist	Always have backup travel options in case of cancellations
6	Transportation Strike	Unable to go within the destination, changes to the schedule	Check alternative transportation methods, contact tour operator	Low	Tourist/Tour Operator	Be prepared for changes in local transportation options
7	Language Barrier	Communication problems, miscommunications, and plan delays	Use translation apps or hire local guides, carry a phrasebook	Low	Tourist	Learning key phrases in the local language can be helpful
8	Hotel Overbooking	Accommodations unavailable, annoyance, and extra costs	Speak with hotel management and ask for assistance with rebooking or compensation	Low	Hotel Management/Tourist	Book accommodations through trusted platforms to avoid issues

Figure : Software Risk & Impact Level

Functional Requirements:

1. **Software Login**

Functional Requirements

1.1 The software shall allow users to login with their given username and password.

1.2 The login credentials (username and password) will be verified with database records.

1.3 If the login successful, the home page of the user account will be displayed.

1.4 If the username and/or password has been inserted wrong, the system will show invalid message.

Precondition: user have valid user id and password

2. **Payment**

Functional Requirements

2.1 Users can make payments through cards and Mobile Banking.
2.2 To make a payment, card and Mobile banking information are required.
2.3 If the card and Mobile Banking information (Pin) has been inserted wrong, the warning message will be sent by the system to the user's email address and if user enter wrong pin 3 times, the system will block the payment.

2.4 If the payment is successfully completed, a receipt will be generated and sent to the user's email address by the system.

Precondition: User must have valid card or Mobile banking information.

3. **Booking**

Functional Requirements

3.1 Users must have an account to login to the system.
3.2 After logging in to the system users find a portal named Booking.
3.3 User can book hotel room as per his need and budget
3.4 A local guide can also be booked with this application.

Precondition: User must need a valid user account.

4. **User Feedback**

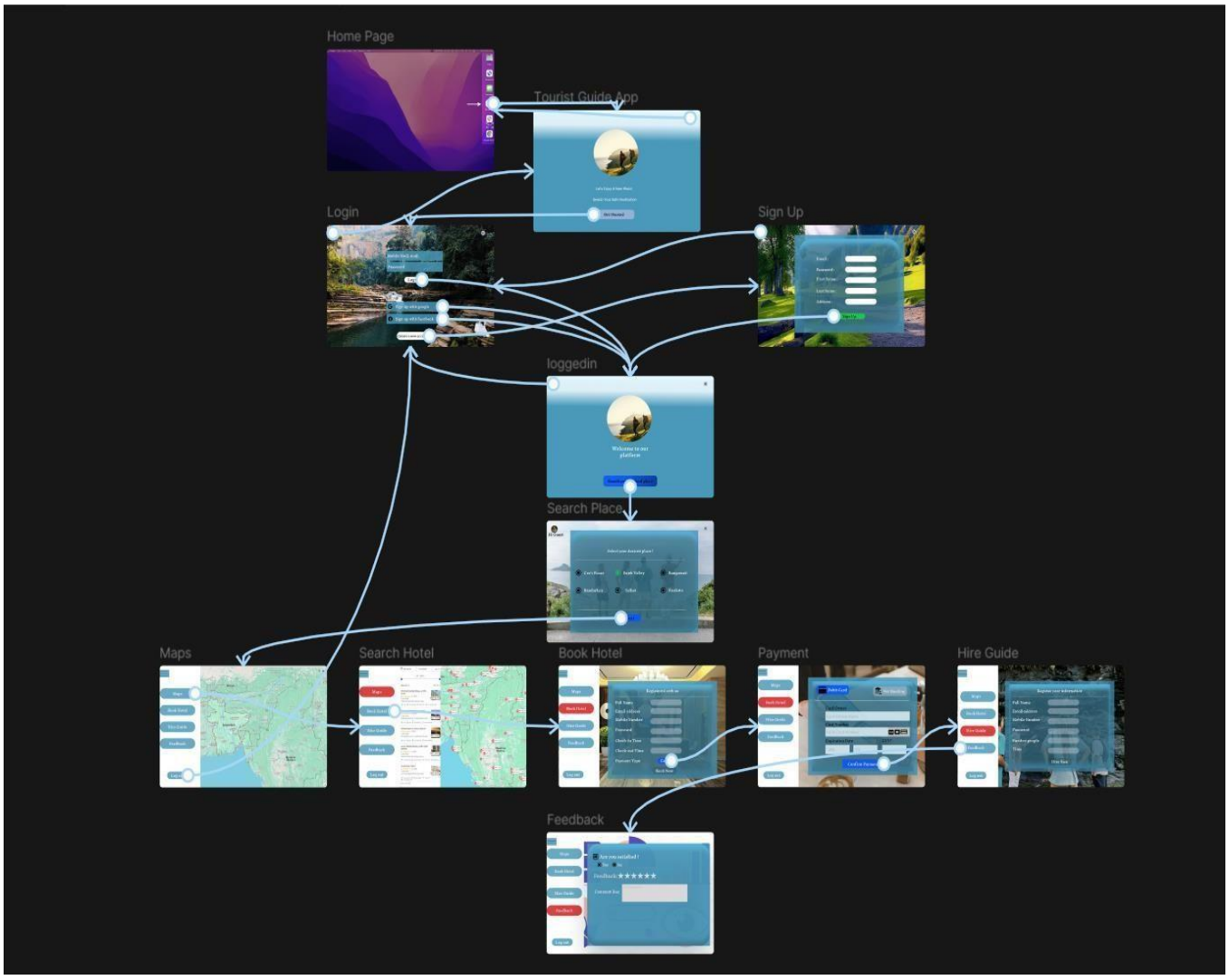
Functional Requirements

4.1 A registered user can give feedback.
4.2 The system will automatically send a notification to give feedback about the service to the user, who has already taken the service.

Precondition: Should be a valid user of this system.

Project UI design Playable Link:

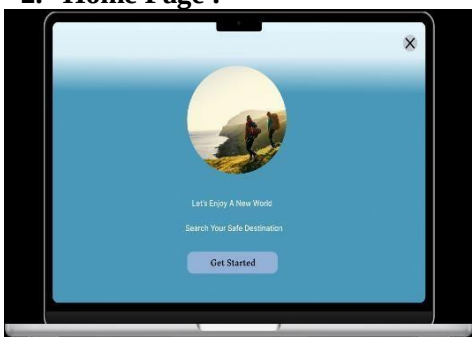
https://www.figma.com/design/cuLh9D0r7wQAQZPEyWsCAn/Microsoft-365-UI-Kit-(Community)?node-id=4472-124&t=jsSsWlGNg1UXei91-1



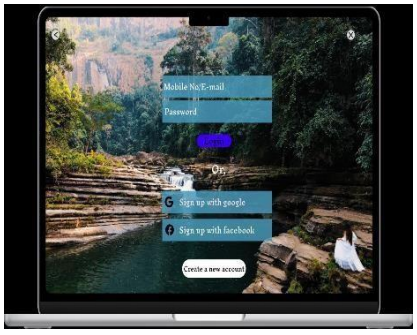
Prototype Model:

1.Select app:

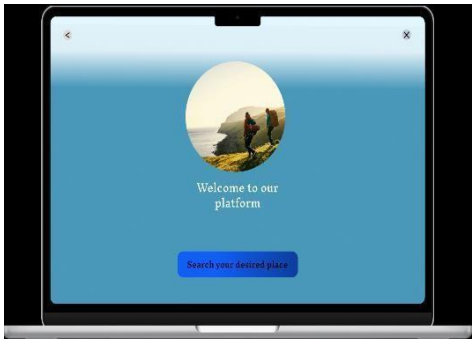
2. Home Page :



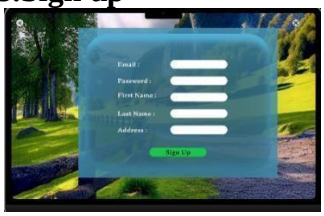
3.Login/Create a new account



4. Login Successful



5.Sign up



6.Search Place

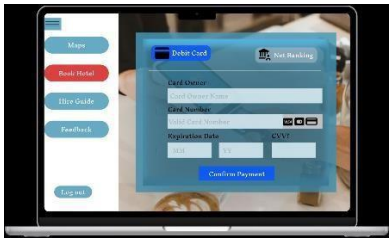
7.Maps

8. Search Hotel

9. Hotel Booking

10.Guide Hiring

11. Payment



12. User Feedback