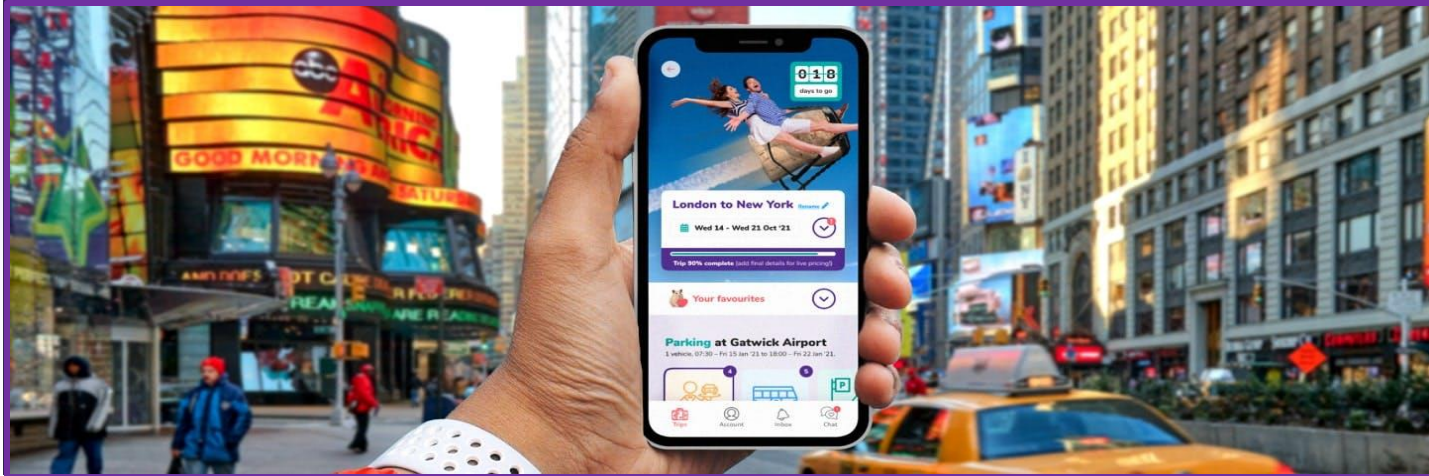


CS335 Group Project - Tourism App Development

Group Number: Group 55

Contributors:

Mac Kenzie Drake Pascual (M), Nikita Radzevicius (N)
and Randon Reddy (R)



Work Breakdown

- ↴ Report, System Tests, Use Case Diagram - **Randon Reddy**
- ↴ Wireframes, Architecture Diagram, Video Representation - **Nikita Radzevicius**
- ↴ PowerPoint Presentation, Class Diagram - **Mac Kenzie Drake Pascual**
- ↴ User Stories and Sequence Diagrams were divided between us. Description indicates who has contributed what.

Intro



Being tasked to create a software system with a theme in tourism, we decided to create a software system in the form of a tourism app and is based in cities with big tourism industries.



The users of our app would want features to enable easy access tourism across cities and allow businesses to attract potential customers.



Upon discussion, we decided to focus on three main different actors and how they would interact with our app based on their respective purposes.



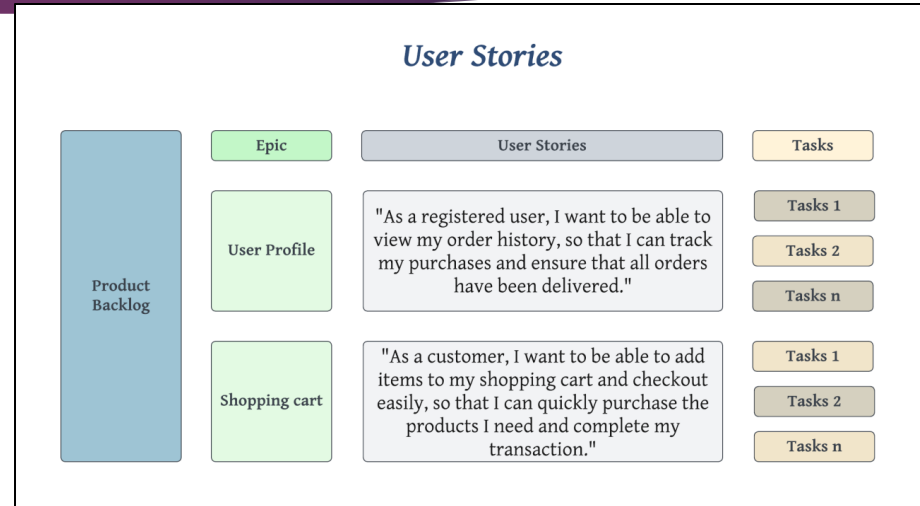
User Roles and Objectives

- **Tourist:** Exploring cities, managing travel logistics, and social interactions.
- **Accommodation Provider (AP):** Room listings, bookings, customer interactions.
- **App Developer (AD):** System maintenance, security management, and user support.



User Stories Overview

- **Importance of User Stories:** Define app functionality from the user perspective, crucial for targeting user needs effectively by their benefits.
- **Guiding Development:** User stories help create UML diagrams and testing scenarios, ensuring the app meets real user requirements in a real-world scenario.



User Stories - Tourists

- i. As an adventurous tourist, I would like a feature that lets me get pictures of unknown objects, landmarks, or destinations and instantly provides me with details about them as I scan them, such as their names, historical significance, and nearby attractions. With that, I can explore and learn more about the places I go. (M)
- ii. As a global tourist, I want a world clock time converter feature in my travel app. This will enable me to quickly inspect the differing time zones in various areas, confirming that I remain prepared and on time when traveling, wherever I may be in the world. (M)
- iii. As a budget tourist, I want an app with a converting/savings system. I would like to be able to effortlessly manage my spending across currencies using real-time exchange rates. I can monitor my spending and receive notifications about potential savings on flights and accommodation. I can also see what the exchange rate is between different currencies. (M)
- iv. As a tourist coming to Dublin for the first time, I would like an app with some sort of accommodation feature, where I can see a list of the local hotels, inns, and B&Bs along with the prices so I can compare them and get the best value alongside the closest hotel to the activities I want to go to. (N)
- v. As a tourist, I want an app that has features translating text and images on the go in multiple languages, as well as having an offline mode as I don't speak English very well and I may not always have Wi-Fi or data, having this would be helpful for my holidays so I can better navigate the city and shops. (N)
- vi. As a tourist going abroad by myself can be lonely, having an app that features social media or a feature that allows for the meetup of other tourists or locals in Dublin and communication with messages and photos, so that I can find others and make friends on holidays. (N)
- vii. As a tourist, getting around in a big city can be tiring when walking, it would be helpful to have an app where transport such as taxis, buses, and trains would be available to view along with their prices and timetables so that I can make it to my destination on time and in the most convenient fashion to me. (N)

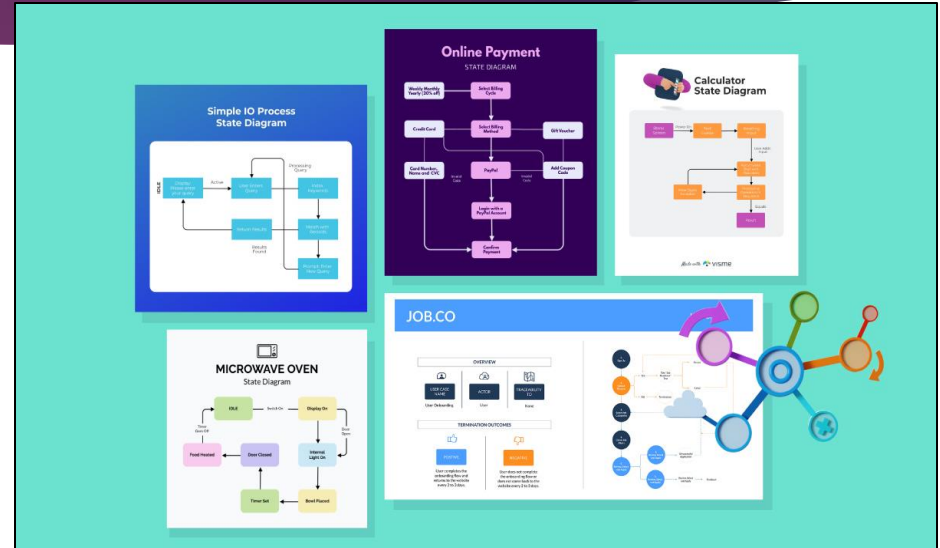
User Stories - Accommodation Providers & Developers

- viii. As an accommodation provider, I would like a platform to be able to post a listing of available rooms to occupy in the hotel, manage bookings, and offer specials to attract tourist. (R)
- ix. As an accommodation provider, I would like a platform to communicate with potential customers to answer any questions or inquiries. (R)
- x. As an app developer, I would like to access to app to manage suspicious accommodation listings, moderate tourist messenger groups and provide safety and security features to users. (R)



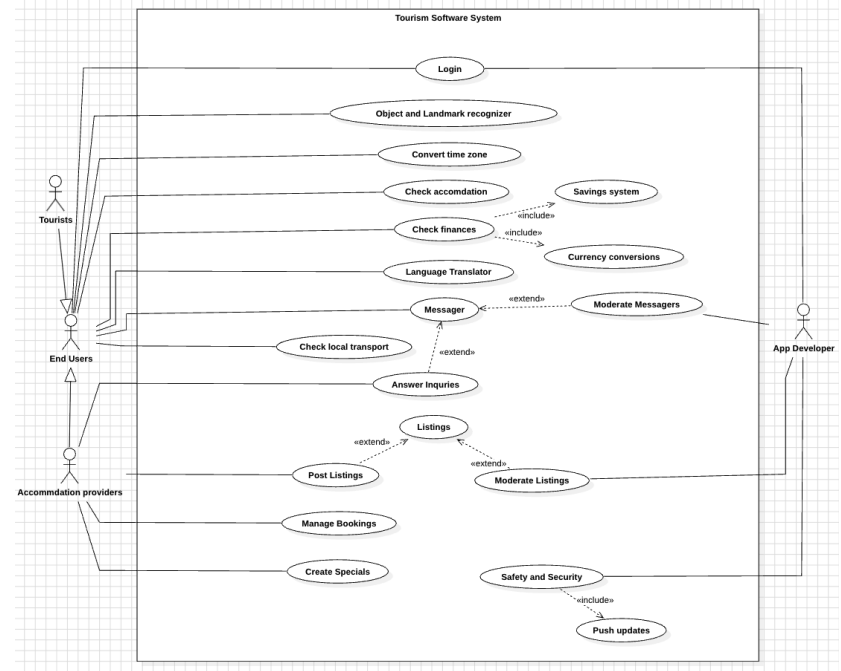
UML Diagrams Introduction

- **What are UML Diagrams?:** UML diagrams are graphical representations of software systems, used to visualize how system components interact and are structured.
- **Types Used:** Use Case, Sequence, Class, Architecture - each diagram type serves different purposes in showcasing system operations and user interactions.
- **Software Used:** StarUML



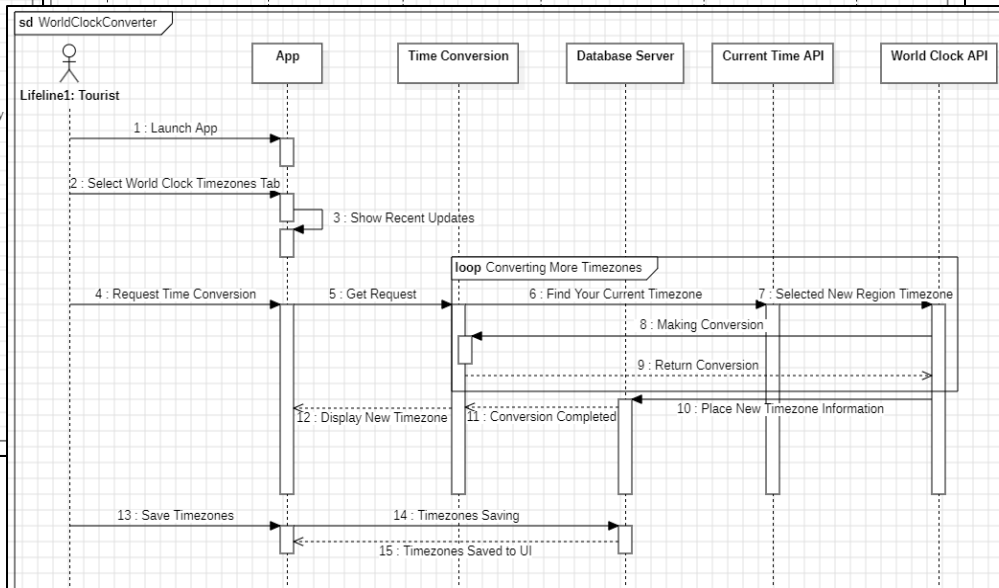
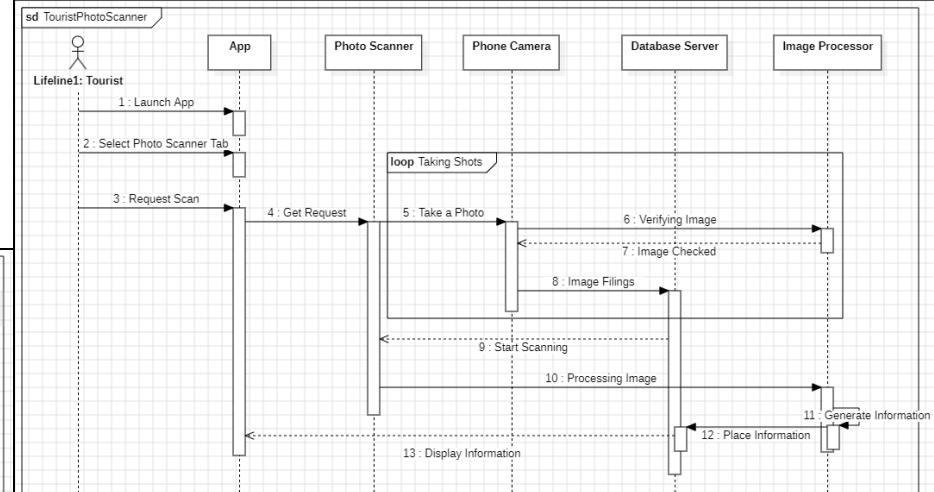
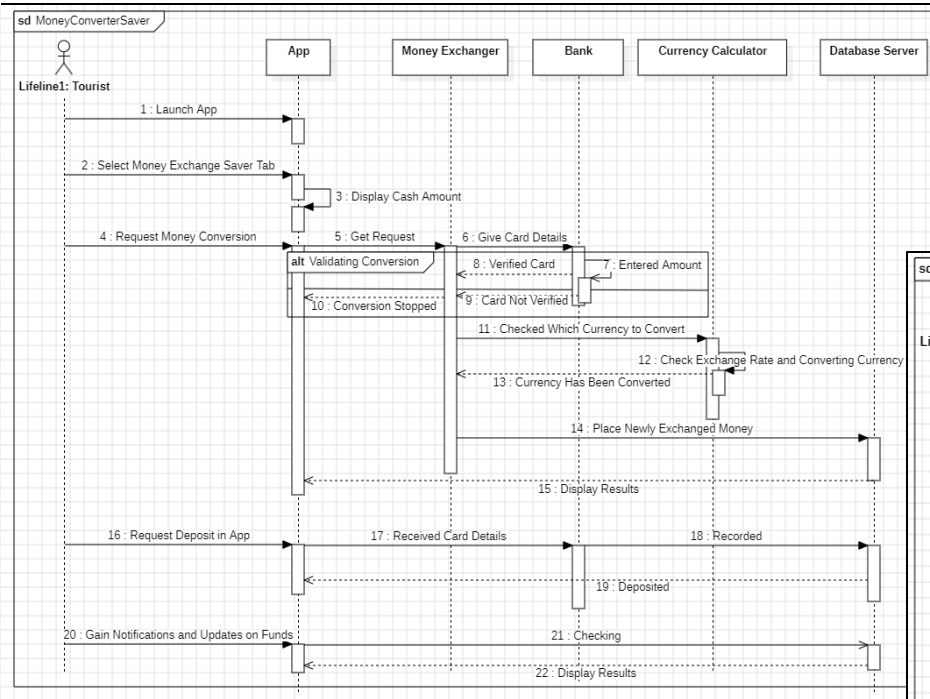
Use Case Diagram

- **Diagram Overview:** Use Case Diagrams to showcase system functionalities and interactions between users and the system.
- **Primary Actors:** Tourists, Accommodation Providers, and App Developers interact with the system, accessing various functions based on their specific needs.
- **Functionality Access:** Generalization in the diagram to group Tourist and APs as they both be able to access the same various actions and activities while however, APs have access to certain functionalities based on their needs as stated in the User Stories



Sequence Diagrams Part 1

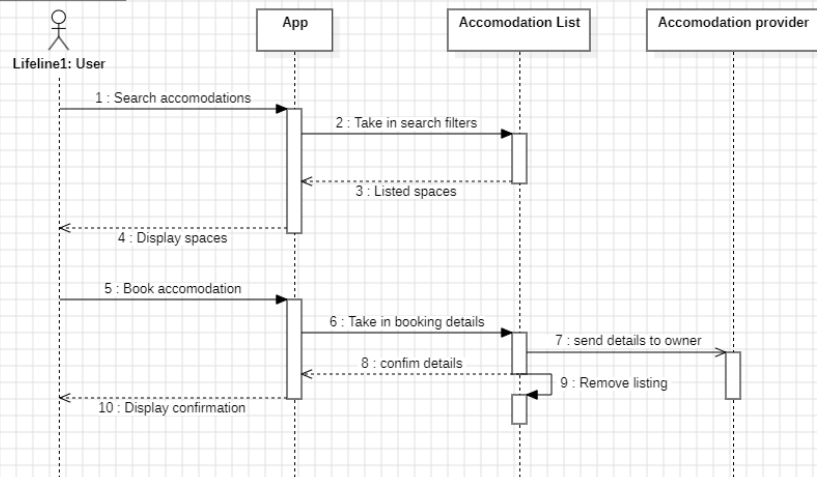
- ↓ **Tourist Photo Scanner:** Interaction between the AdventurousTourist and TouristPhotoScanner classes to process and display landmark details.
- ↓ **World Clock Converter:** GlobalTourist's interaction with TimeConversion class for adjusting time zones.
- ↓ **Money Converter Saver:** BudgetTourist and MoneyExchanger classes manage currency conversions.



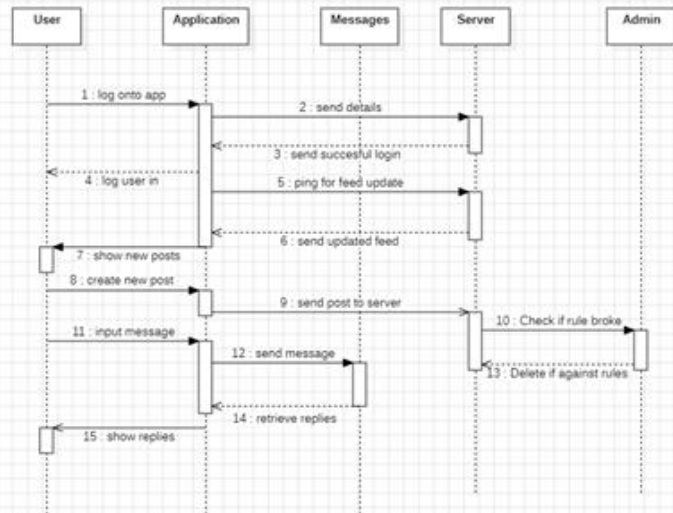
Sequence Diagrams Part 2

- ↴ **Accommodation Booking:** Facilitates booking process through Accommodation List class, connecting users and providers with real-time updates.
- ↴ **Translation:** Translates text and images via the Translation Database and Image Processor system, allowing feedback and iterative improvements.
- ↴ **Social Media:** Manages user logins and interactions, posting and messaging through the server and Messages system.
- ↴ **Transport:** Manages transport bookings and routings through the Transport server, ensuring timely and accurate travel for users.

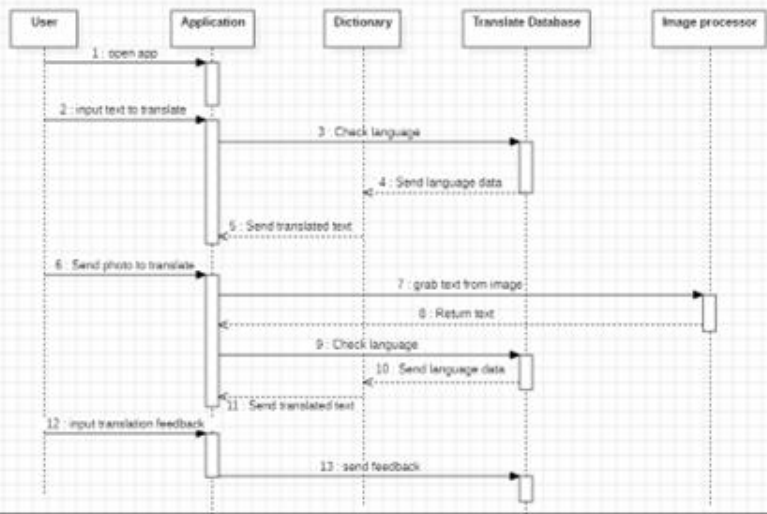
sd Accommodation booking



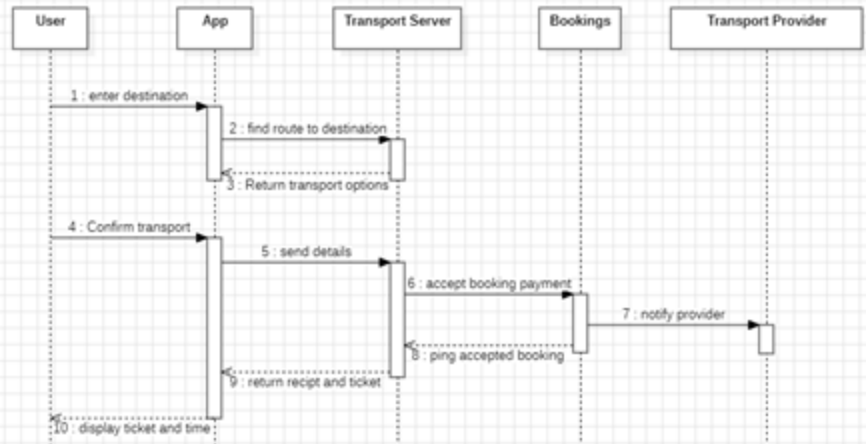
sd Social Media



sd Translator

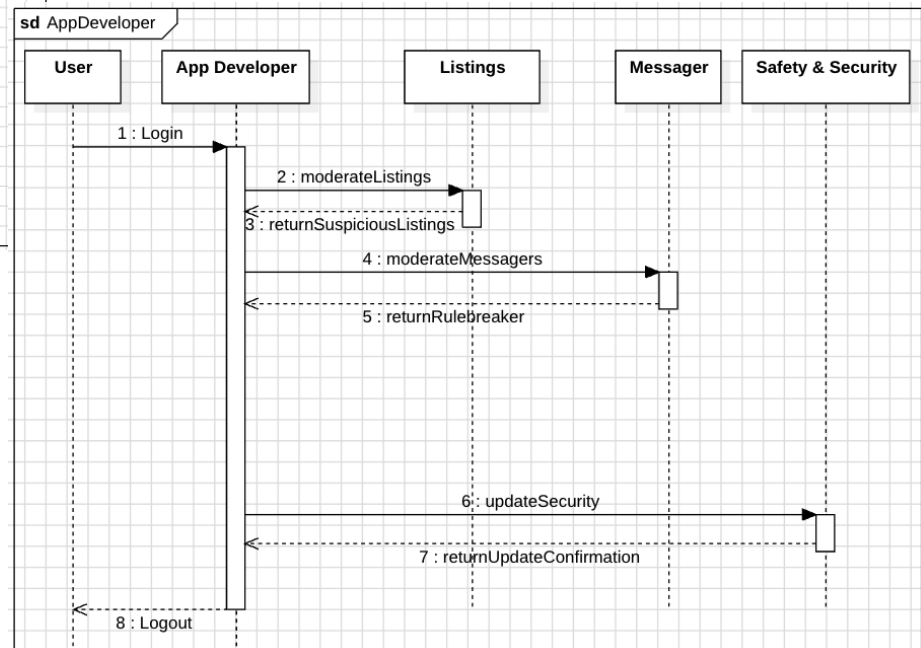
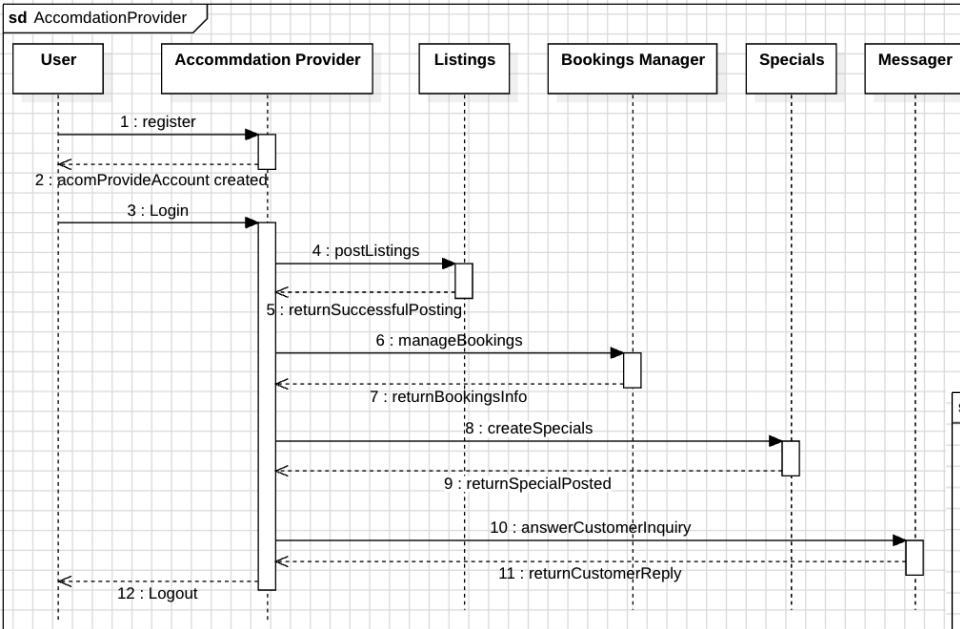


sd Transport

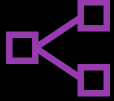


Sequence Diagrams Part 3

- ↴ **Accommodation Provider:** Handles listings and bookings management via the Listings and BookingsManager classes, enhances customer interaction and offers.
- ↴ **App Developer:** Oversees application security, listing moderation, and user interaction guidelines through the AppDeveloper and SafetySecurity classes.



Class Diagram



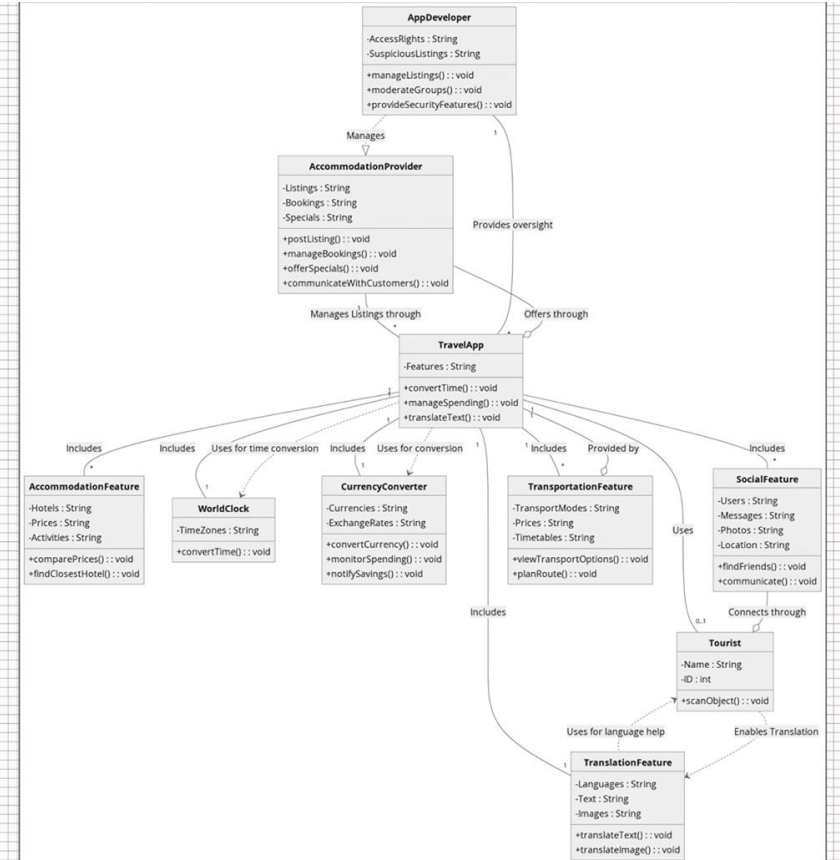
The travel app's structure is depicted in this class diagram, in which this lists classes and their relationships.



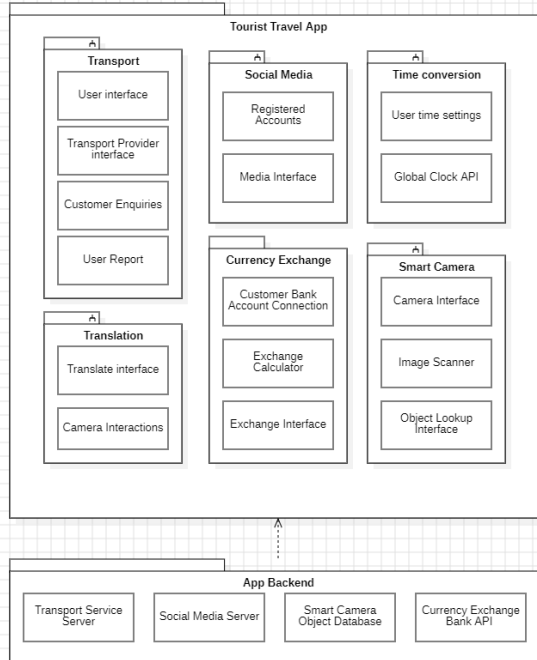
The TravelApp class is portrayed as the main class with attributes like currency conversion and time management.



It communicates with other classes and objects in AccommodationProvider, AppDeveloper and Tourist that all use the app, connecting to its various feature methods like AccommodationFeature, CurrencyConverter, etc.



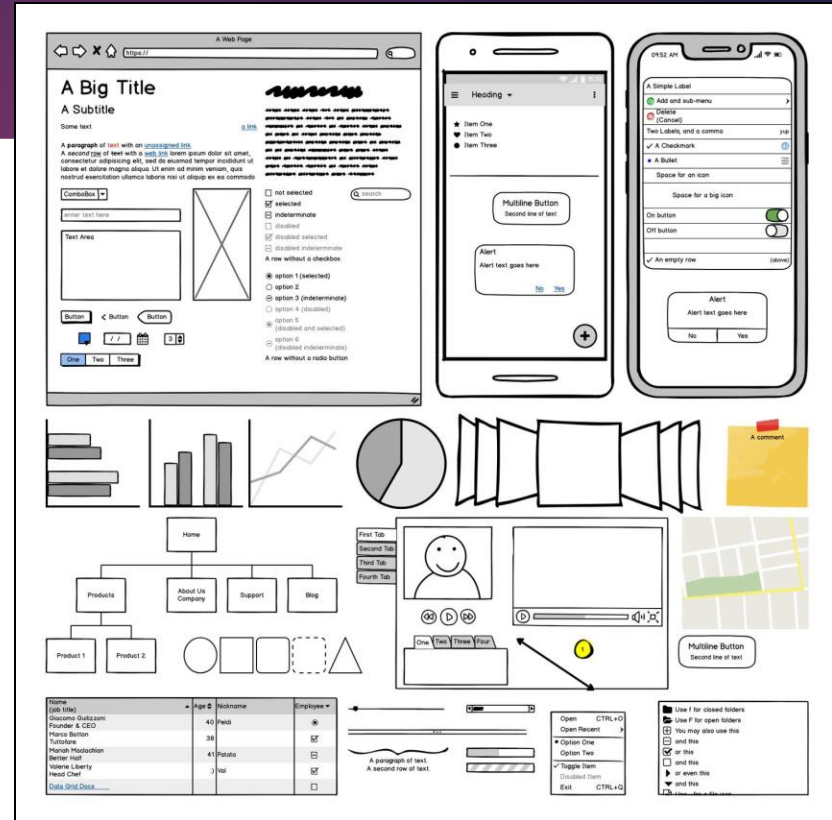
Architecture Diagram



- An architectural diagram is used to represent a system as an organized set of communicating components, in this diagram is composed of 6 sub-systems: The transport sub-system, translation sub-system, social media sub-system, currency exchange sub-system, time conversion sub-system, and smart camera sub-system.
- These sub-systems are connected to the application backend which hosts the databases and servers to provide data to the app.

UI Mockup

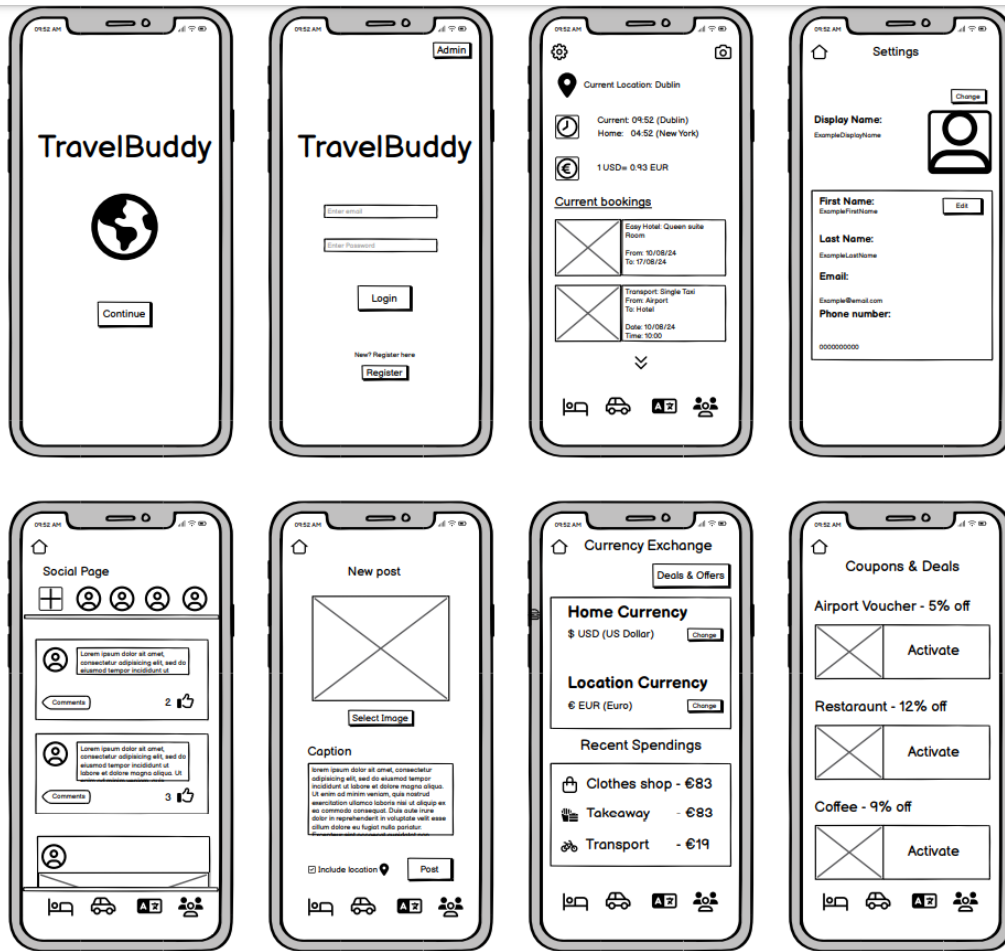
- **Design Principles:** Focus on user-friendly interface and intuitive navigation to enhance user interaction and satisfaction of the traveling experience in a new country.
- **Screenshot:** Visual preview of the UI mockup, highlighting the main features and layout designed for optimal user experience as functions demonstrated mostly in the UML Diagrams.
- **Software Used:** Balsamiq Wireframes

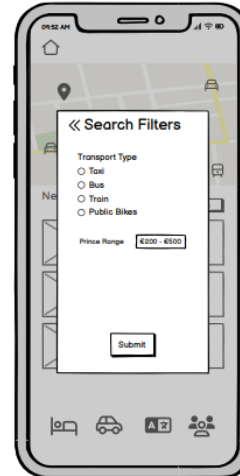
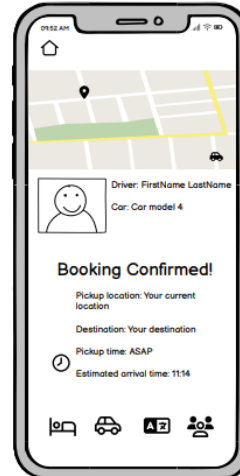
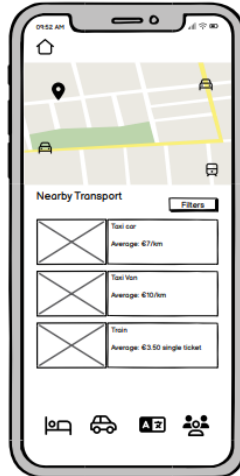
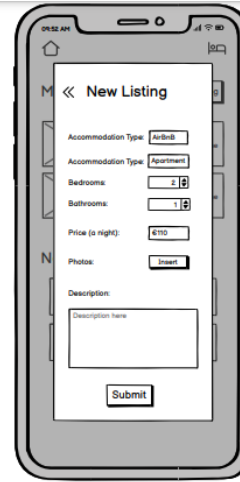
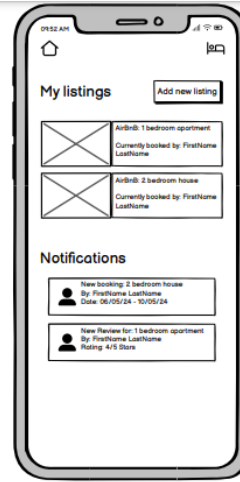
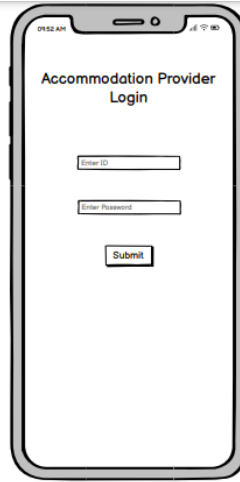
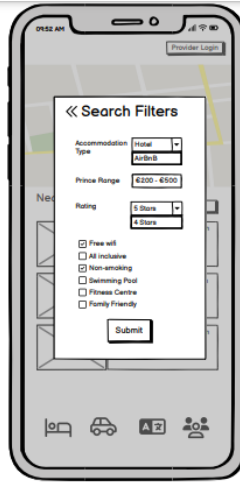


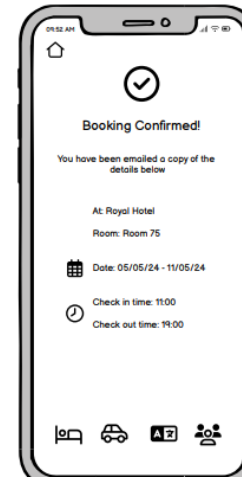
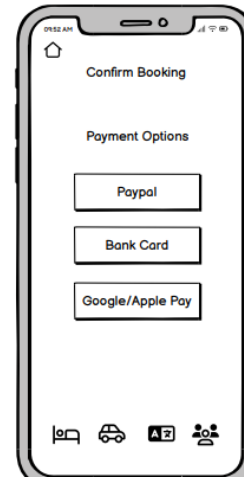
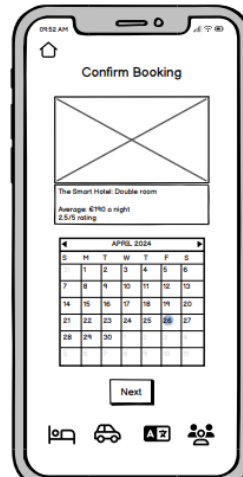
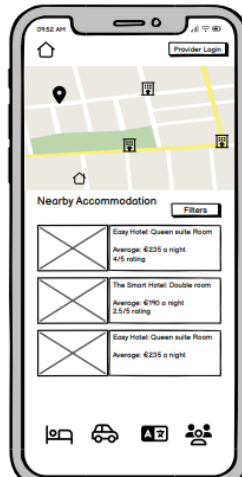
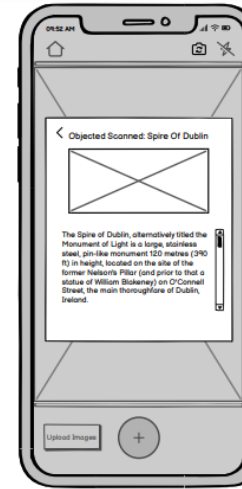
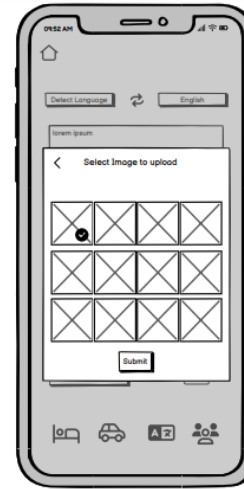
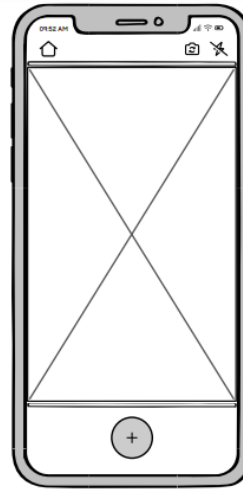
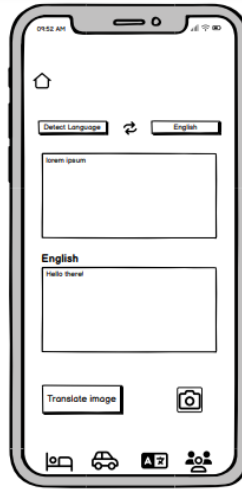
Mockup Description

- ↓ **Overview of App Wireframe:** Includes a login page, a main homepage, and four major features: accommodation search and booking, transportation options, translation services, and a tourist social media platform.
- ↓ **Accessibility Features:** Crucial features are always available from the bottom of the screen, providing a user-friendly experience with little navigation.
- ↓ **Additional Functionality:** Includes a currency converter with deals and coupons, as well as a settings tab for profile editing, which improves usability and accessibility.

UI Mockup







System Testing Overview

- **Purpose:** To verify that all functionalities meet user needs and system requirements through comprehensive testing.
- **Methodology:** Detailed steps in the testing process include unit testing, integration testing, and user acceptance testing to validate functionality and performance.

Test No.	Scenario	Test Step	Expected Result	Actual Outcome
1	As a tourist, verify that details about landmarks from pictures is received	Take picture of landmark and upload	App should return summarized information about pictured landmark	App returns summarized information of landmark
2	As a tourist, verify that time zones can be converted to other time zones	Input time in current time zone to desired one	App should return current time in desired time zone	App returns converted time in desired time zone
3	As a tourist, verify that exchange rate between two currencies is visible	Input amount to convert into current currency input field	App should return the equivalent amount in desired currency	App returns the equivalent amount in desired currency
4	As a tourist, verify that accommodation around a desired location is visible	Input desired location in input field	App should return lists of accommodation postings/availability	App returns lists of accommodation postings/availability
5	As a tourist, verify tests translates to other languages	Input text in native language into input field	App should return translated input test in desired language	App returns translated input test in desired language
6	As tourist, verify messengers send/receive to other users	Input text message in input field	App should return delivered symbol on sent message	App returns delivered symbol on sent message
7	As a tourist, verify public transport is shown and available	Input user current and desired location	App should return public transportation that's nearby	App returns public transportation that's nearby
8	As accommodation provider, verify that postings/listings uploads are successful	Input user's listing	App should return successful posting notification	App returns successful posting notification
9	As accommodation provider, verify messengers send to tourist	Receive tourist inquiry and input user message	App return delivered symbol on sent message	App returns delivered symbol on sent message
10	As App Developer, verify access to security and safety features and moderation tools	Input user login details	App should return successful login message and present tools	App returns successful login message and present tools

Test Scenarios and Results

- **Tests for Tourist Features:** Results for landmark identification, time zone conversion, and currency conversion tests, demonstrating functionality and accuracy.
- **Tests for AP and AD Features:** Evaluation of listing management, security tools, and overall system security, highlighting effectiveness and reliability.
- **Other Key Tests:** Social features, transport options, and translation accuracy are tested to ensure comprehensive app usability.

Conclusions and Next Steps

- **Achievements:** The app successfully integrates complex functionalities aimed at enhancing the tourist experience, streamlining accommodation management, and ensuring robust app security.
- **Future Developments and Reflection:** The Project helps us to explore and learn in the software development space for the first time. It gives us proper teamwork skills and organization for reaching targets before the actual deadline. Depending on the results, the project would ensure we adapt and improve in a real work environment such as our possible internships next year.



End