# ATILIM UNIVERSITY

## *2023-2024 FALL*

## *SE321*

## *Project – Phase 1*

**Travel Planner**

**CodeVista Technologies**

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# 1. Description of The Project

As CodeVista Technologies, we will develop a Travel planner project. Travel planning can be both an exciting and stressful process, and it is also a mobile and web-based application. Developing a travel strategy that fits your interests and budget may require some time, thought, and creativity. The goal of this project is to simplify, streamline, improve efficiency, and add enjoyment to the process of planning travel.

The project will include real-time updates, intelligent suggestions, and an easy-to-use interface. Users will find it simple to establish and maintain travel plans with the UI. Users will find it simple to establish and maintain trip plans with the UI. Users can make travel plans based on their hobbies, various concepts, and budgets with the assistance of intelligent recommendations. Real-time updates will provide users with up-to-date information about their travel plans. They can easily and quickly organize their travel plans and make reservations from a single location because transportation and lodging are integrated. Additionally, users can record their adventures with notes, photos, and moments that they will never forget by keeping travel diaries. The project will also include gamification elements to make users' travel plans more entertaining. For example, users will be able to earn rewards or different coupons as they complete their travel plans. This feature will make users more interested in the travel planning process and increase their motivation, and since the user can find many features in the same application, they will be able to reach their wishes more easily.

In the conclusion, Travel Planner is a tool that enhances travel experiences by offering digital advice that is specifically customized for travelers. Due to its several distinctive characteristics that are absent from other programs, the project stands apart from the rest. The project will be more unique, effective, enjoyable, and user-friendly with these elements. Travel Planner makes it easier, more enjoyable, and more personalized than ever for consumers to plan their travels.

# 2. Fact Finding Technique

The preferred fact finding method for the project is a questionnaire.

## 2.1. Questionnaire

### 2.1.1. Human-Created Content

We asked our customer the questions below.

1)How often do you use planner apps for travel?

2)Are special travel options sufficient for you?

3)What do you care about most when traveling?

4)What influences your decision when choosing a travel planner app?

5)Among the travel planner options you use most (Tripit, CityMaps2Go, Visit A City), which features are you not satisfied with?

### 2.1.2. ChatGPT- Generated Content

ChatGPT presented us with some details that we had not taken into consideration and overlooked in some of our questions.

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| *Link to Initial Prompt and ChatGPT output* | *https://chat.openai.com/share/1f7c0518-ac56-4eea-b8fc-8df730881a0e* |

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| *Link to Most Satisfactory Prompt and ChatGPT output* | *https://chat.openai.com/share/9f981ca9-cff9-4f11-92f5-59af776d8ada* |

### Lessons Learned

First, we prepared a text for ChatGPT stating the description and features of our project and asked it to prepare a questionary question based on this introduction. We were not very satisfied with the answers given because there were some questions that we would not focus on according to our characteristics. We changed our question style to find the most satisfactory answer. We expressed our wishes more specifically. The question style was more tailored to

our needs, and we were very pleased with the questions ChatGPT gave. The specific and clear answer to our question caused us to prepare more specific questions. these questions to ask more general and suitable questions for everyone and to proceed differently from other applications.

### 2.1.3. Output of the First Fact Finding Technique

1)How often do you use planner apps for travel?

2)Are special travel options sufficient for you?

3)What do you care about most when traveling?

4)What influences your decision when choosing a travel planner app?

5)Among the travel planner options you use most (Tripit, CityMaps2Go, Visit A City), which features are you not satisfied with?

6)Are you more interested in popular tourist destinations or off-the-beaten-track places?

7) What type of traveler are you?

8) What are your primary interests or activities when traveling?

9) Which devices do you use for trip planning?

10) Have you used any travel planning apps before?

### 2.1.4. Fact Finding Results

While preparing this survey, we paid close attention to what people needed and asking more customized questions. Our questions are as follows:
https://docs.google.com/forms/d/e/1FAIpQLSc5vDjhxH3VmJv4V6WuOgKU0_9P2I4MzZ8tQWIcZpEQCBLK9A/viewform?usp=sf_link

The answers to the questions asked are as follows:

https://docs.google.com/forms/d/e/1FAIpQLSc5vDjhxH3VmJv4V6WuOgKU0_9P2I4MzZ8tQWIcZpEQCBLK9A/viewform?usp=sf_link

Based on this questionnaire result, we found that people generally use this application less than we expected. We saw that they mostly log in from their smartphones. If we look at the survey answers, the users of the application are satisfied with what these applications offer. People generally plan their holidays by looking at the cost, but user experience and comments are equally important for them. We observed that they especially preferred popular areas and saw

that there were much more nature enthusiasts. Users are also disturbed by the lack of availability of many features at the same time. If we look at the travel content, the interests of each user are actually very different, but we saw that the slightly higher result was Local festivals/events.

# 3. Analysis

Below is the requirements list, actors, at least 1 use case based on requirements and actors, activity diagram, analysis class diagram and high-level project architecture definitions.

## 3.1. Requirements List

The requirements are given below. Accordingly, it is explained as Human-Created Requirements List and ChatGPT-Generated Requirements List.

### 3.1.1. Human-Created Requirements List

1)Every user is also a customer.

2)The developer has access to all features of the application.

3)Each user has a username and password. In this way, it logs into the application.

4)Every user can access old travel photos and information by creating a travel diary.

5)Each user earns individual points in proportion to the time they register.

6)Since every user is a registered customer, they have the chance to win a discount coupon within the application with the shake-and-win feature.

7)Each customer and user collect points throughout the journey and earns rewards based on the results of the points.

8)Every customer and user have payment methods such as cash, credit card and debit card.

9)Each customer and user can choose their preferred travel route.

10)Each user and customer can create a holiday route by determining their budget.

11)The user and customer can choose domestic or international travel.

12)The user and customer can also specifically choose the region they want to go to.

13)Users can choose more than one activity such as historical, artistic, nature activities.

14)Users and customers can choose modes of transportation such as plane, ship, train, and bus.

15)Users and customers can choose the type of accommodation such as hotel or rental house.

16)Users and customers can use the application by choosing the language they want.

17)Users and customers can choose a travel type individually or as a group.

18)Users and customers can choose the restaurant by choosing the cuisine they want.

19)The customer service representative helps troubleshoot problems when customers encounter a problem.

20)The customer representative provides service to customers who want to consult information.

21)Every customer can evaluate the application and their holiday experience after their holiday is over.

22)Developer can update new versions

23)Developer can develop new features

24)Admin can access system properties and make changes.

25)User and customer determine time for the trip.

26)Admin manages member transactions.

27)Admin and developer have shared access to system features.

28)If the user does not like or does not want to eat the food at the hotel, he can choose a restaurant according to the cuisine.

29) The user can choose the trip types as business trip, historical trip, cultural trip, summer trip, abroad trip, country trip, nature trip and pilgrimage.

30) The user can use postpaid or personal payment methods.

31)User can choose debit and credit card as payment method.

### 3.1.2. ChatGPT- Generated Requirements List

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|---|---|
| *Link to Initial Prompt and ChatGPT output* | *https://chat.openai.com/share/4a18614d-e2f6-4cb9-b972-37172235f567* |

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| *Link to Most Satisfactory Prompt and ChatGPT output* | *https://chat.openai.com/share/996428bb-229c-44d1-82c3-bd97c496a415* |

#### Lessons Learned

First, we told ChatGPT about our travel planning project and its features. and we asked about the requirements. His answers were too simple and unspecific. To optimize this question, we made a more detailed prompt. These prompts were generally questions about what exactly we would do. We were very surprised by his answer because it was very similar to the requirements we had identified, and we realized that there were a few more requirements that we had overlooked. We were able to find the answers closest to our needs with the best question format we asked and added them to our needs.

### 3.1.3. Requirements List

1)Every user is also a customer.

2)The developer has access to all features of the application.

3)Each user has a username and password. In this way, it logs into the application.

4)Every user can access old travel photos and information by creating a travel diary.

5)Each user earns individual points in proportion to the time they register.

6)Since every user is a registered customer, they have the chance to win a discount coupon within the application with the shake-and-win feature.

7)Each customer and user collect points throughout the journey and earns rewards based on the results of the points.

8)Every customer and user have payment methods such as cash, credit card and debit card.

9)Each customer and user can choose their preferred travel route.

10)Each user and customer can create a holiday route by determining their budget.

11)The user and customer can choose domestic or international travel.

12)The user and customer can also specifically choose the region they want to go to.

13)Users can choose more than one activity such as historical, artistic, nature activities.

14)Users and customers can choose modes of transportation such as plane, ship, train, and bus.

15)Users and customers can choose the type of accommodation such as hotel or rental house.

16)Users and customers can use the application by choosing the language they want.

17)Users and customers can choose a travel type individually or as a group.

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19)The customer service representative helps troubleshoot problems when customers encounter a problem.

20)The customer representative provides service to customers who want to consult information.

21)Every customer can evaluate the application and their holiday experience after their holiday is over.

22)Developer can update new versions.

23)Developer can develop new features.

24)Admin can access system properties and make changes.

25)User and customer determine time for the trip.

26)Admin manages member transactions.

27)Admin and developer have shared access to system features.

28)If the user does not like or does not want to eat the food at the hotel, he can choose a restaurant according to the cuisine.

29) The user can choose the trip types as business trip, historical trip, cultural trip, summer trip, abroad trip, country trip, nature trip and pilgrimage.

30) The user can use postpaid or personal payment methods.

31)User can choose debit and credit card as payment method.

32) Strict privacy controls for user data.

## 3.2. Actors

### 3.2.1. Human-Created Actor List

According to our observations in the travel planner project, the actors we determined are user, developer, customer, admin, and customer service assistance.

### 3.2.2. ChatGPT- Generated Actor Lists

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| *Link to Initial Prompt and ChatGPT output* | *https://chat.openai.com/share/ea59bf23-ec2f-41cd-9ce1-716d96ddb2ad* |

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|---|---|
| *Link to Most Satisfactory Prompt and ChatGPT output* | *https://chat.openai.com/share/8cc387d7-790d-44d8-bcdc-98dfa4a8fdfd* |

### Lessons Learned

We explained the application based on the requirements we had previously determined and asked ChatGPT what the actors could be, but it gave us more actors than we thought and many unnecessary and redundant actors that could not meet our requirements. We asked and corrected this question in a little more detail and explained our requirements step by step in more detail. As a result, the actors we had chosen were the same and we decided to add a few more actors. It was very logical to choose the most suitable actor. We overlooked the admin actor and thought he would be an indispensable actor in the project, so we got the answers we wanted.

### 3.2.3. Actor List

-User: It is an actor who is registered in the system and can log in and out and benefit from the system features.

-Customer: An actor who is not registered to the system but can benefit from system features.

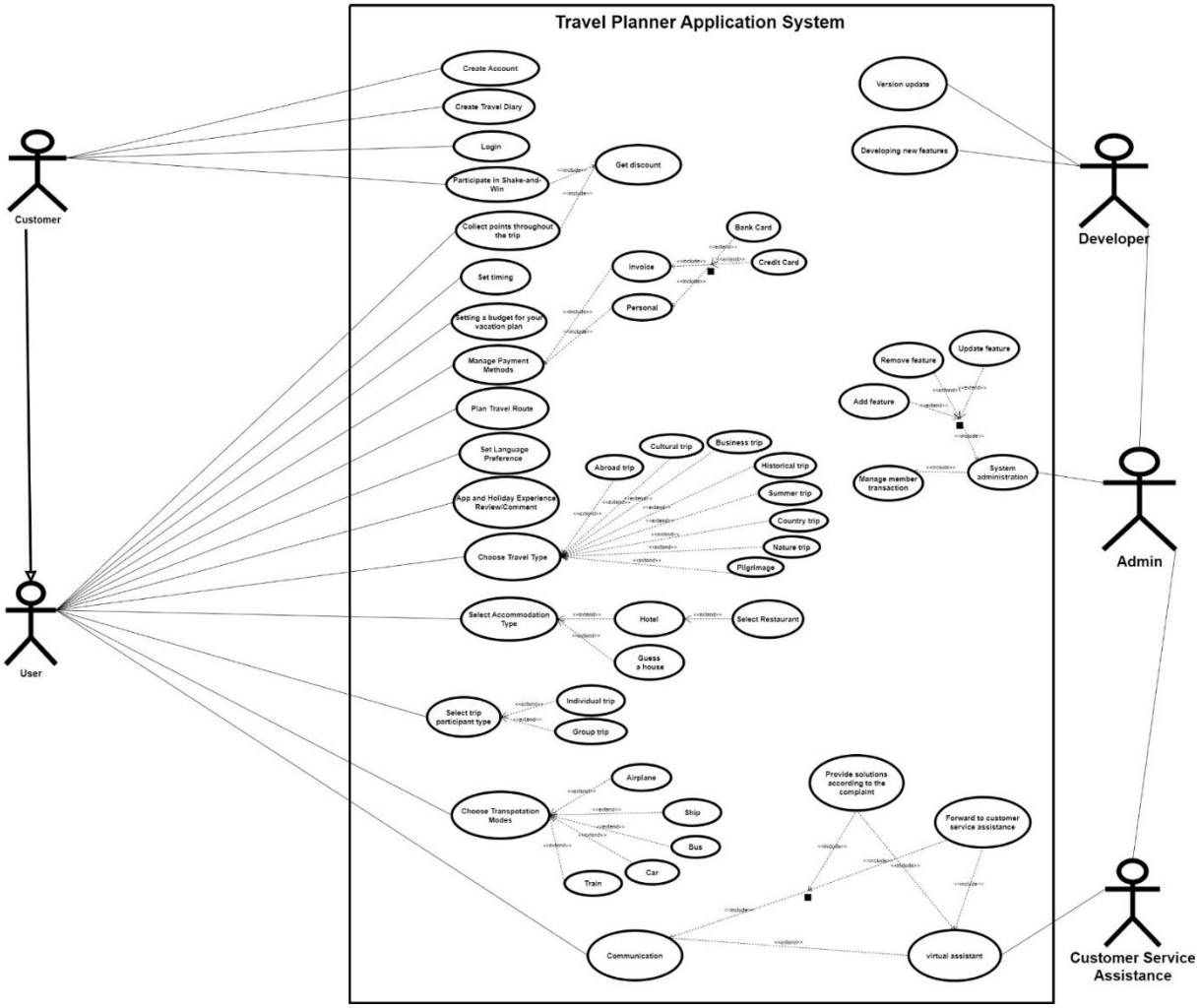
-Customer service assistance: It is the actor that all customers can reach when they encounter a negative situation or just want to get information.

-Developer: It is the actor who creates the system and makes system-related improvements.

-Admin: It is the actor who makes updates to the application and can access and manage all system features.

## 3.3. Use Cases

### 3.3.1. Human-Created Use Case Diagram




### 3.3.2. ChatGPT- Generated Use Case Diagram

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| *Link to Initial Prompt and ChatGPT output* | *https://chat.openai.com/share/59dd6e37-20ac-4ae1-ba1b-136877986d0f* |

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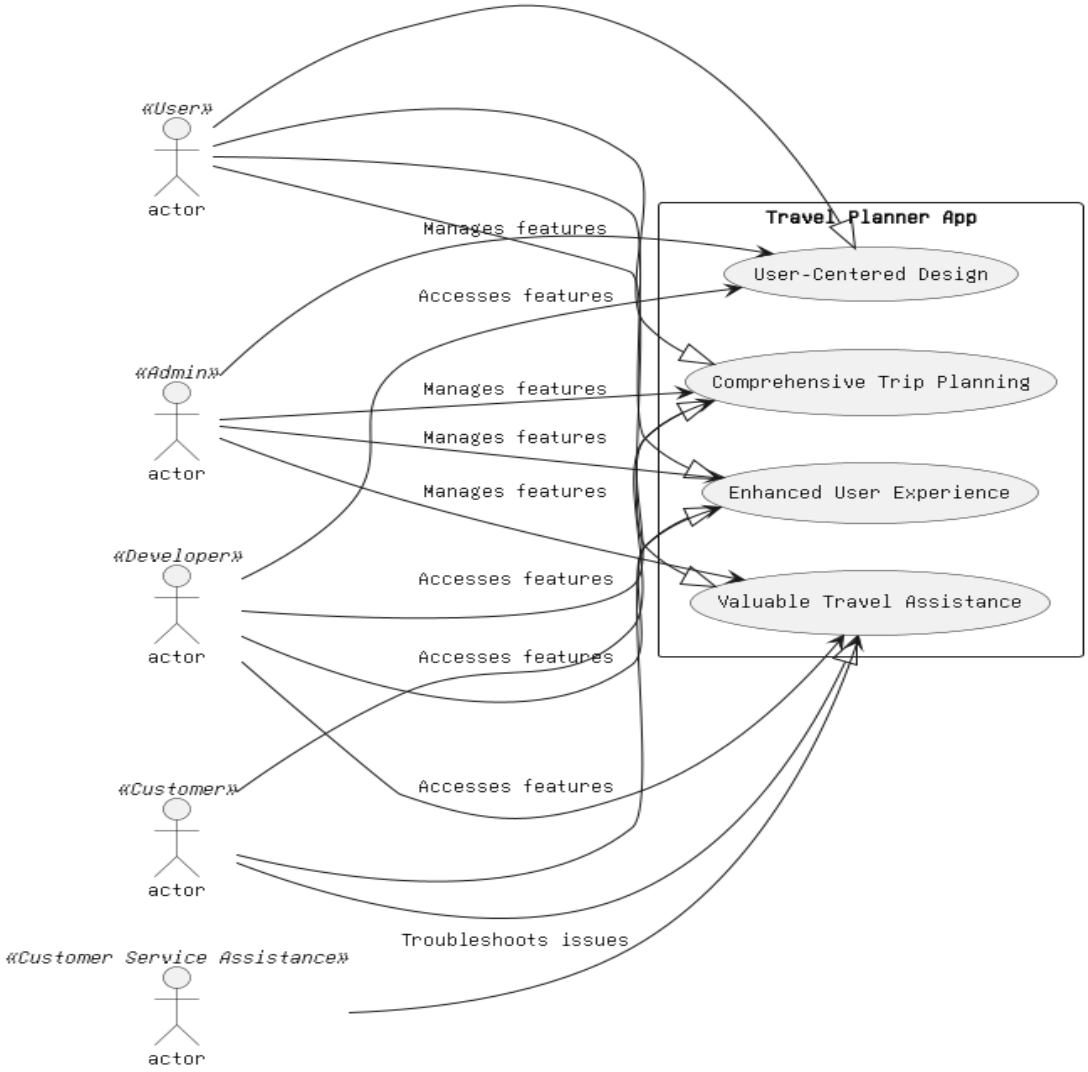
| *Link to Most Satisfactory Prompt and ChatGPT output* | *https://chat.openai.com/share/d1394a3e-7016-4a04-9e66-d0b7dc102d61* |

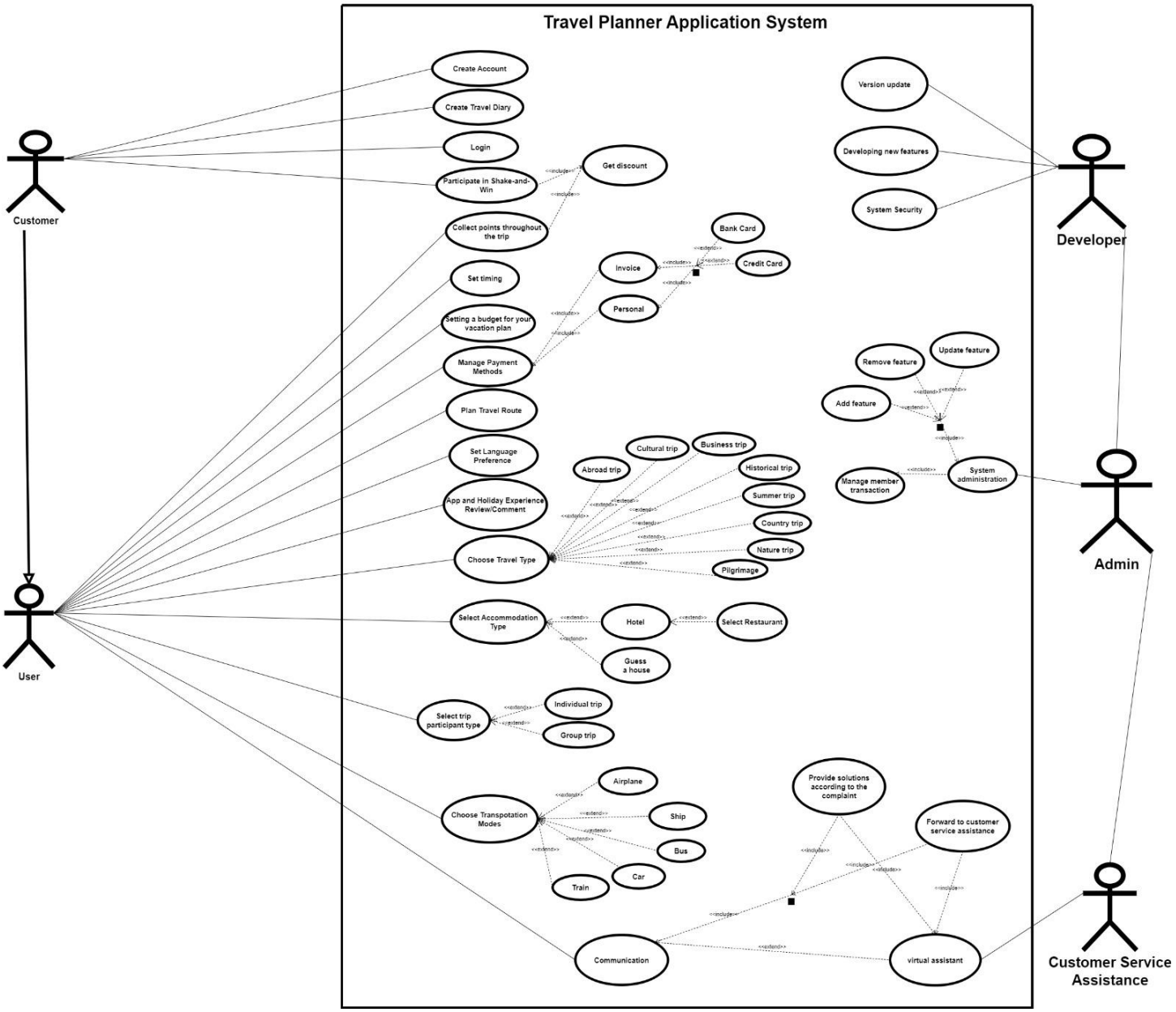
## Use Case Diagrams



## Lessons Learned

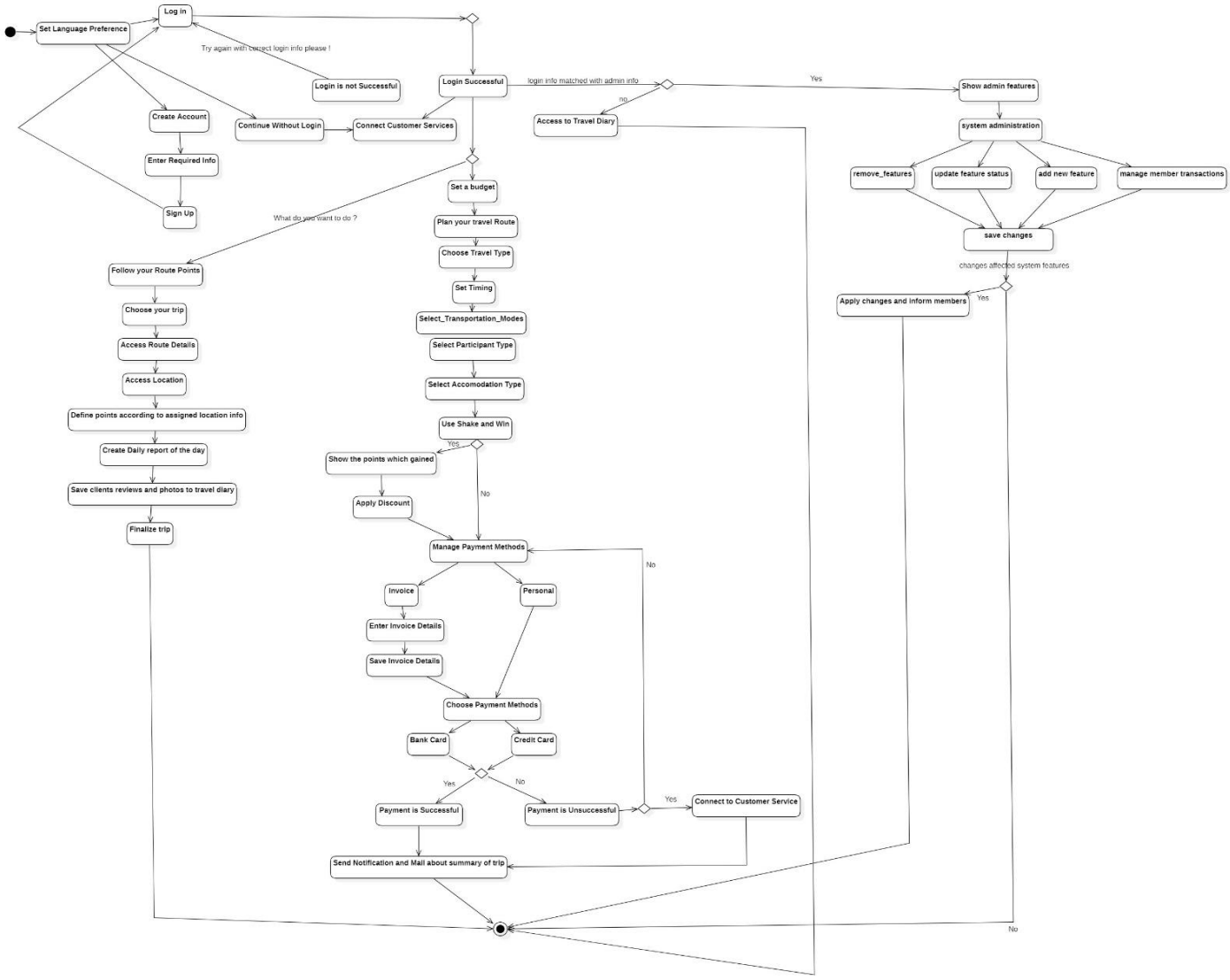
First, we gave ChatGPT our requirements and requested code in PlantUML format for a use case diagram. But it wasn't enough. Then, we asked it to create a "Use Case Diagram" in PlantUML format by describing the actors of our travel application, the main features of our application, and the relationships of the actors. After this question, we received an answer to the satisfaction section in our document. For this part, we got a printout as you can see. ChatGPT presented us with a very general and simple version of the diagram. We also showed the relationships established between the actors in detail. The requirement that we forget, as stated by ChatGPT, is system security. This is how we added our missing requirement. We think the Use Case we drew is correct. Therefore, we are finally sharing with you our latest USe Case Diagram, which is more detailed and understandable.

### 3.3.3. Use Case Diagram



## 3.4. Activity Diagram

### 3.4.1. Human-Created Activity Diagram




### 3.3.2. ChatGPT- Generated Activity Diagram

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| *Link to Initial Prompt and ChatGPT output* | *https://chat.openai.com/share/c11914a8-1ade-4f97-af78-97652adf7978* |

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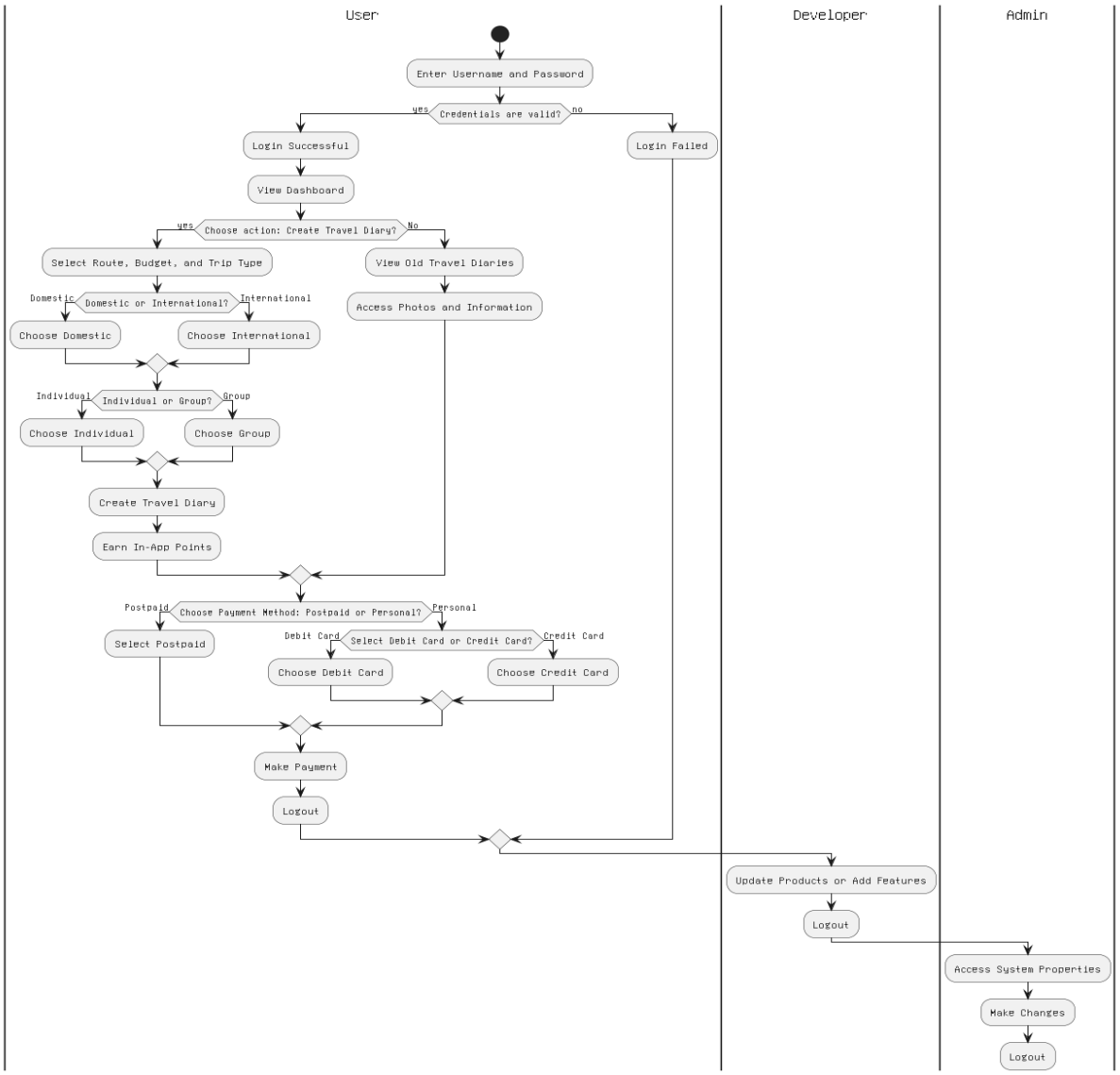
| *Link to Most Satisfactory Prompt and ChatGPT output* | *https://chat.openai.com/share/dcefb7da-3ee4-45a7-9d37-b82c8bf9ba2f* |

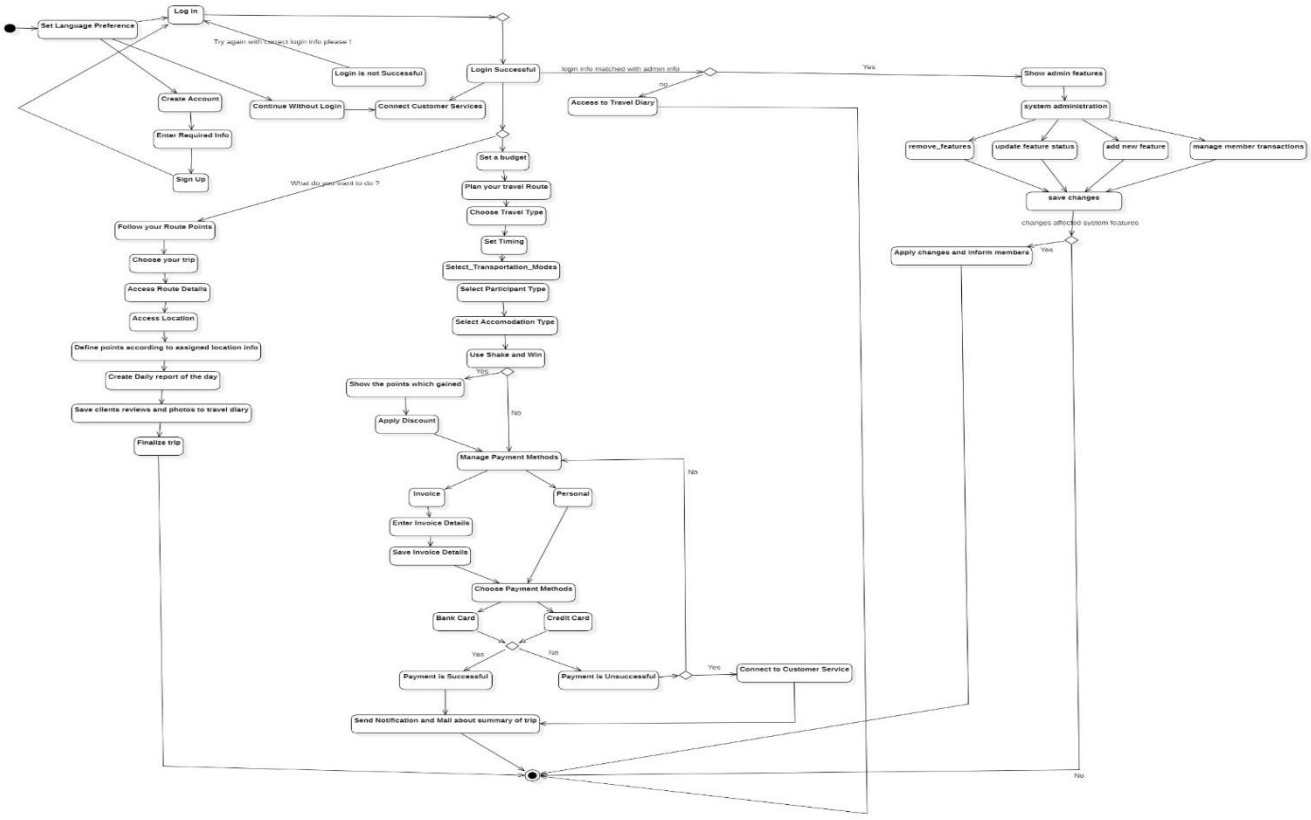
## Activity Diagrams



## Lessons Learned

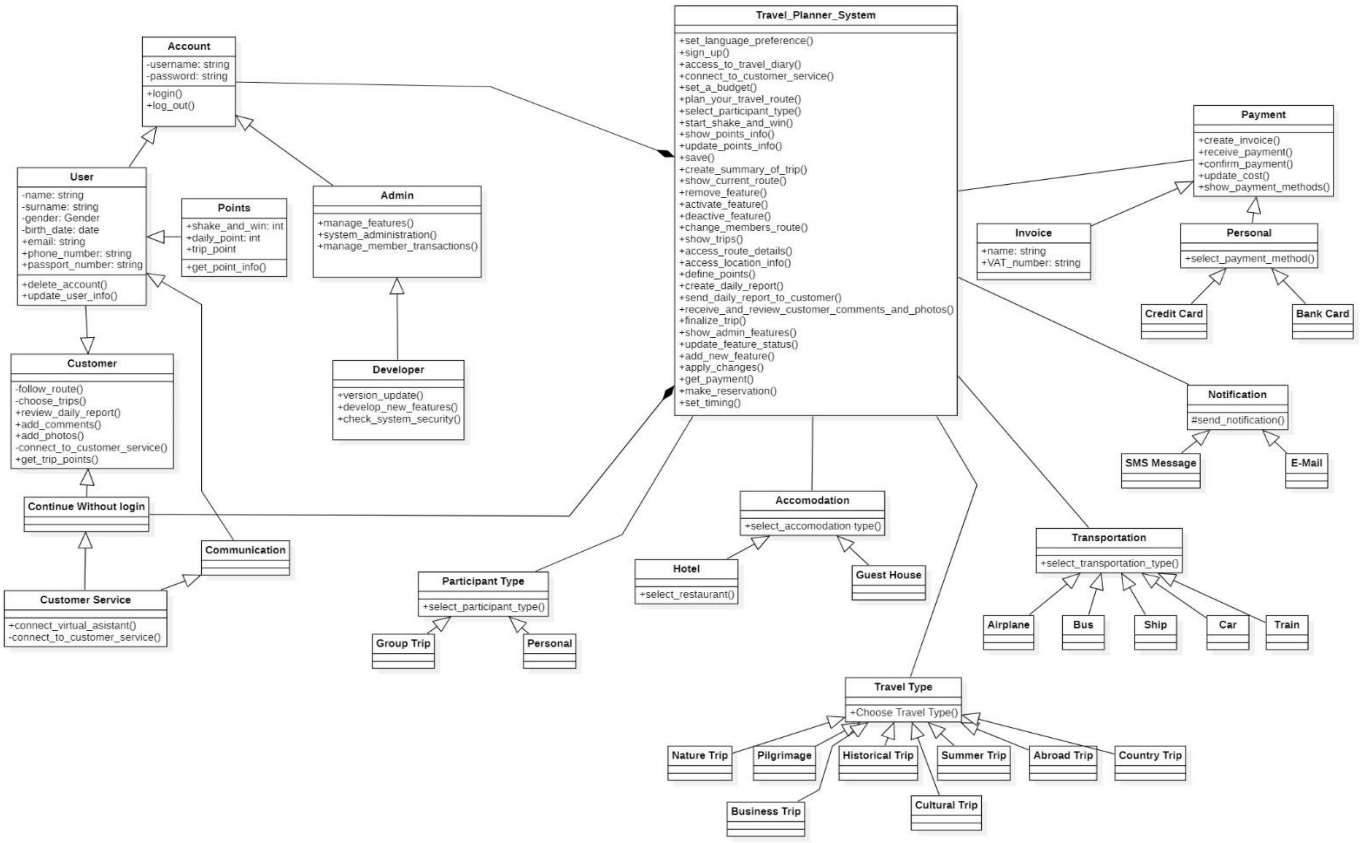
First, we gave ChatGPT our requirements and actors and asked it to create an activity diagram according to our application. We did not get a satisfactory result. Then, we created a scenario by specifically explaining what our actors did and in which situations. We wrote our scenario in detail and then asked him to create "an activity diagram in PlantUML format based on this scenario". The result was very similar to the diagram we prepared. However, we created a more detailed and conditions-appropriate activity diagram based on the ChatGPT answer, taking into account the flow that will occur when using the application, our requirements and the Use Case Diagram we created. To explain one difference, the majority of the diagram that ChatGPT creates is in User usage. However, in our diagram, we also specified the properties that only Customer has. Due to such differences, we prefer to use the Activity Diagram we prepared as the final one.

### 3.4.3. Activity Diagrams



## 3.5. Analysis Class Diagram

### 3.5.1. Human-Created Class Diagram




### 3.5.2. ChatGPT- Generated Class Diagram

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| *Link to Initial Prompt and ChatGPT output* | *https://chat.openai.com/share/3b31a6cc-9d57-4e5b-9602-7b76f5a78644* |

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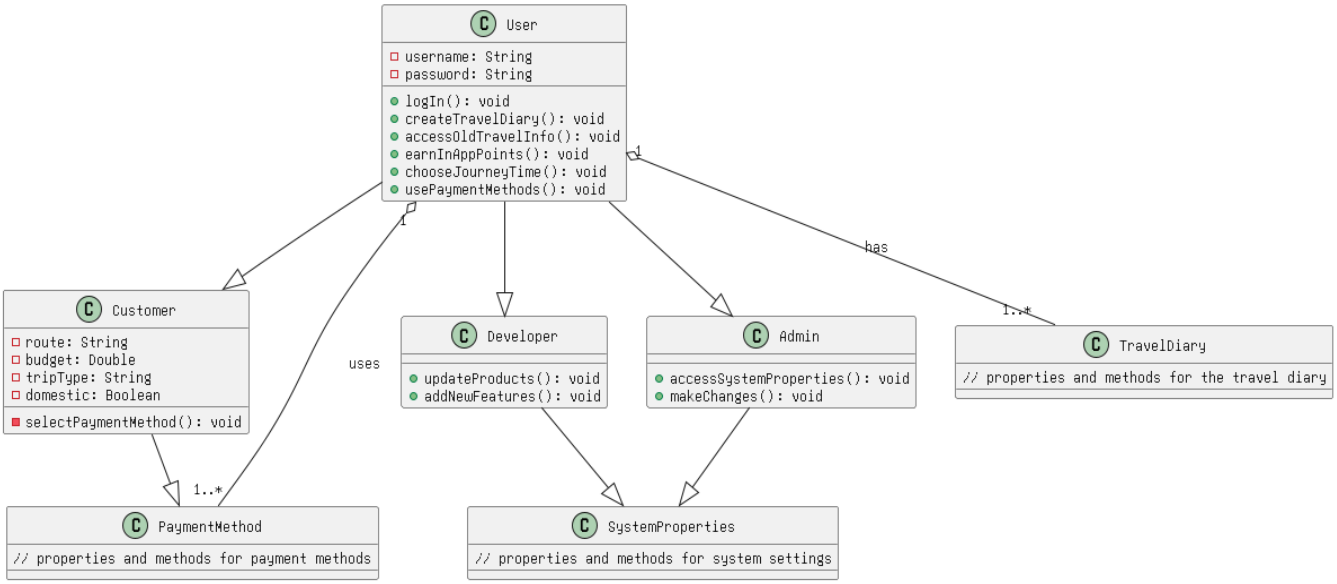
| *Link to Most Satisfactory Prompt and ChatGPT output* | *https://chat.openai.com/share/b8a96949-8d54-4151-8212-6fafa5e9a173* |

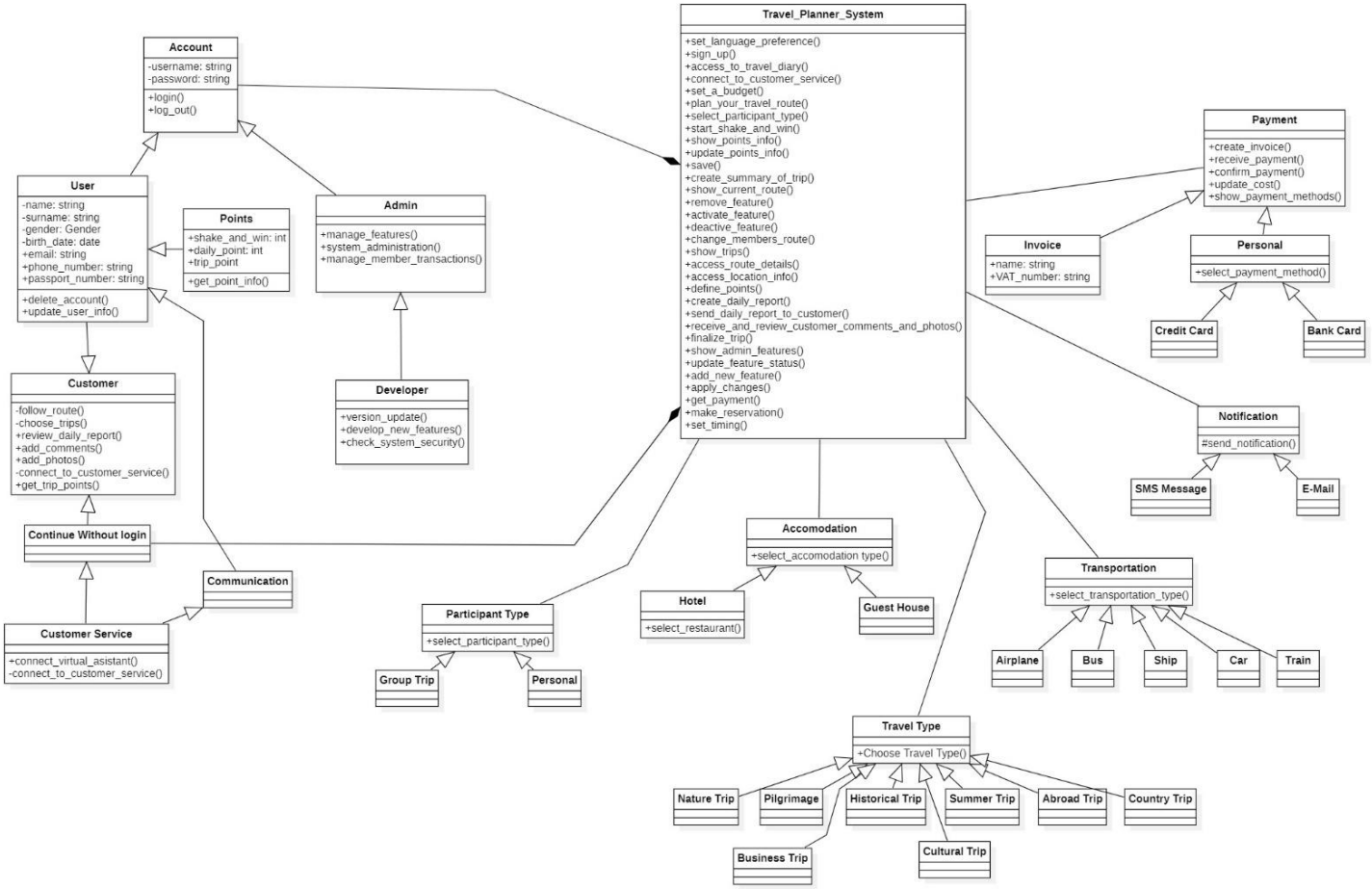
## Class Diagram(s)




## Lessons Learned

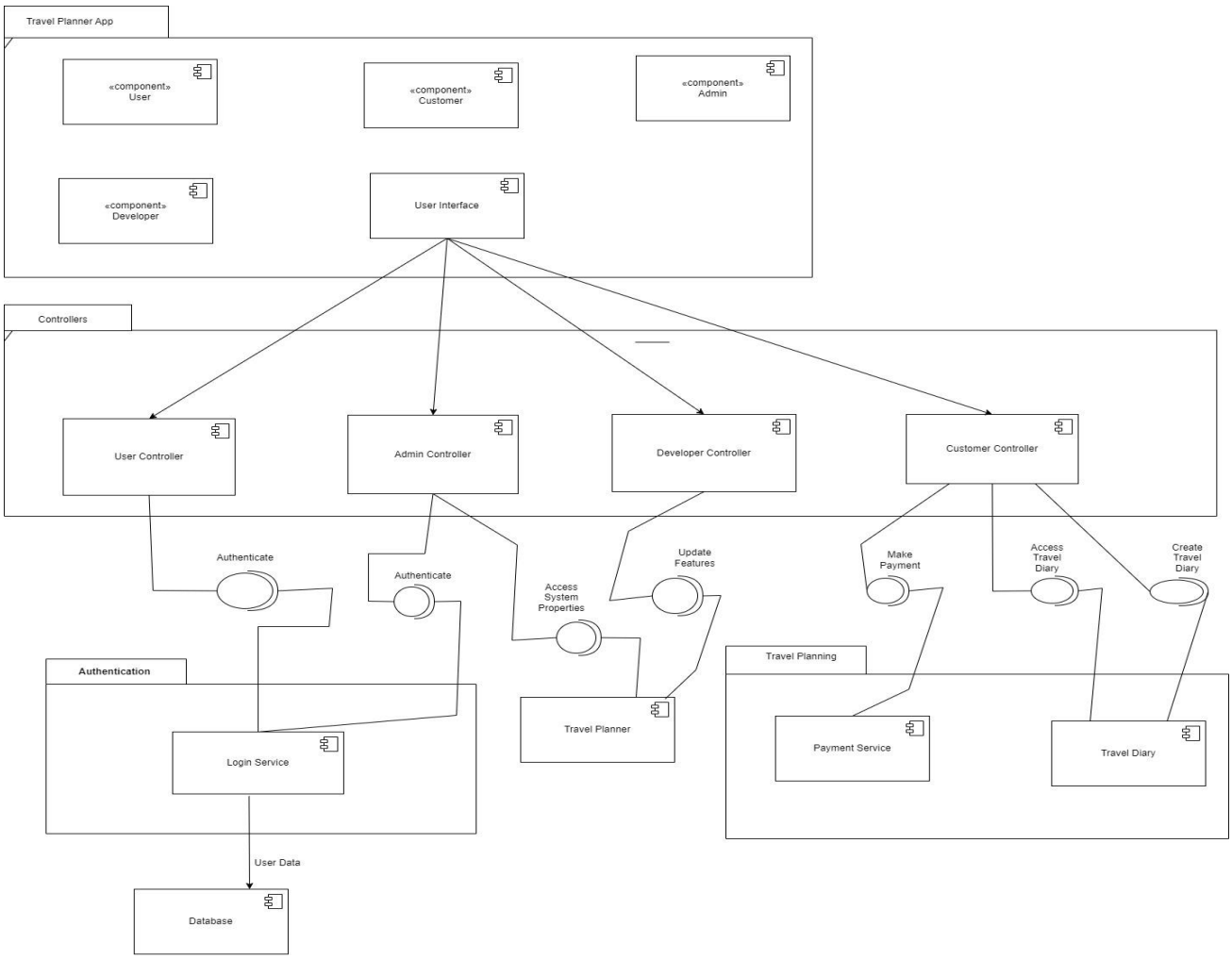
We drew our Class Diagram and created its features and relationships between classes, considering the Use Case Diagram and Activity Diagram we created before. Then, we asked it to create a Class Diagram for the initial prompt in our document, specifying our requirements and actors, but it was not enough. Then, we asked him to create a class diagram by explaining the scenario we created for our application. We obtained a very different result from the Class Diagram we created. We realized that the diagram we prepared had linked all the functions of our application in detail. Since the ChatGPT result is incomplete and incorrect according to the application content, we cannot do the step in our document, “We need to prepare by combining the ChatGPT result and our diagram”. For this reason and because we thought the Class Diagram, we prepared was correct, we chose to use our own diagram for the last shared image.

## 3.5.3. Class Diagram(s)



## 3.6. High-level Architecture (HLA)

### 3.6.1. Human-Created HLA




### 3.6.2. ChatGPT- Generated HLA

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| *Link to Initial Prompt and ChatGPT output* | *https://chat.openai.com/share/9a885761-3673-4359-91e4-014c3a01aa88* |

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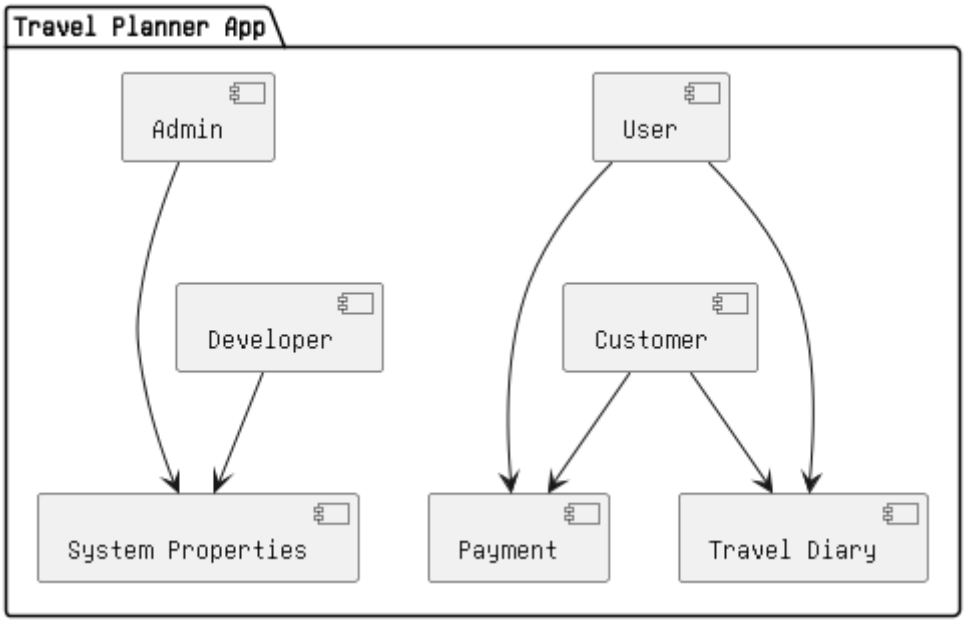
| *Link to Most Satisfactory Prompt and ChatGPT output* | *https://chat.openai.com/share/6953378e-f52d-4332-80de-51d6391e7b5e* |

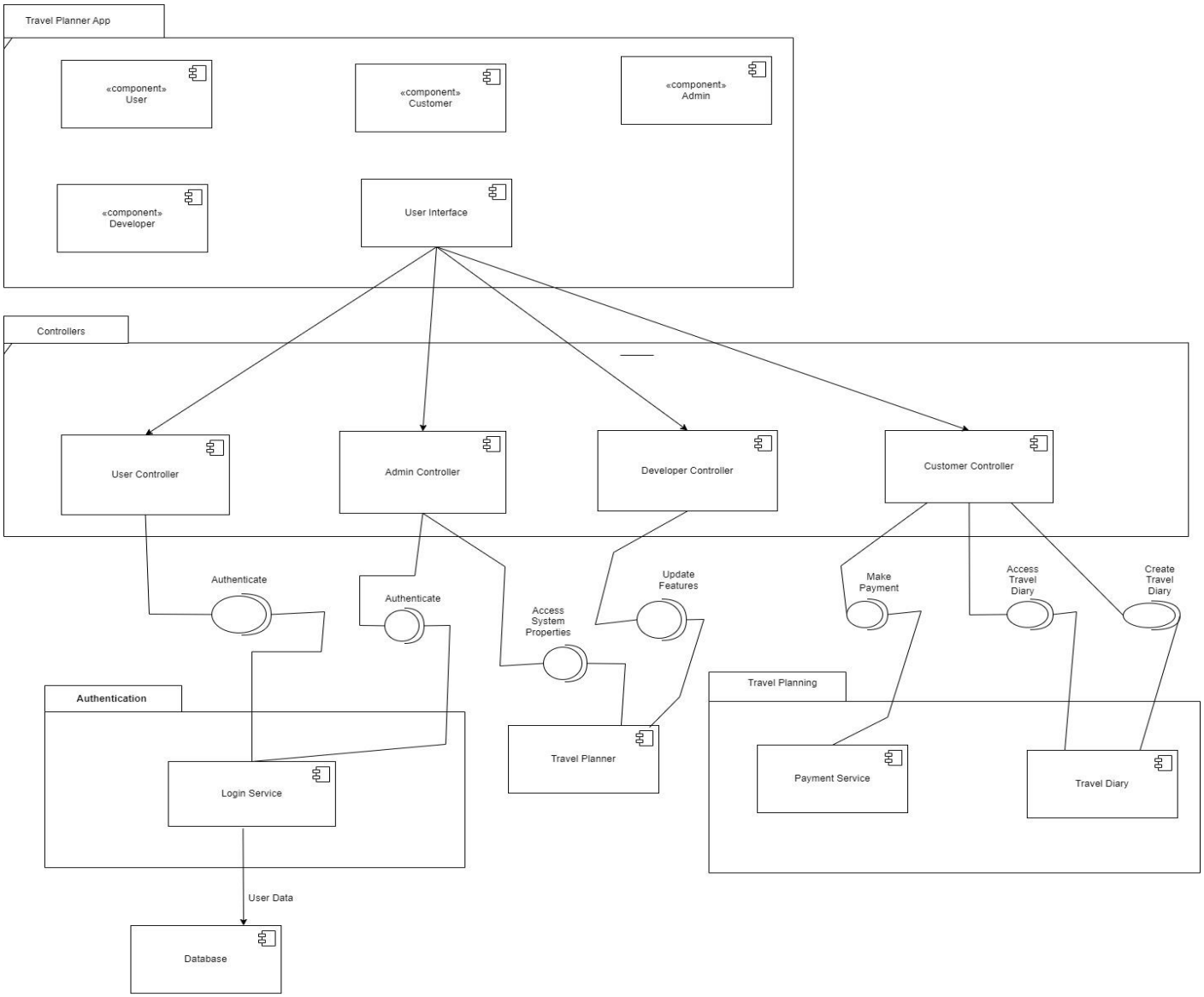
## High-Level Architecture




## Lessons Learned

For the High-Level Architecture step in our document, we created our component diagram considering our application. First, we asked ChatGPT to create a component diagram by giving our requirements and actors, and we could not get satisfactory results. Next, we asked for a Component Diagram in PlantUML format, as in the previous diagrams, describing our application and its functions and features. As a result, although ChatGPT created a diagram in an acceptable format compared to other diagram results, it was not enough for us. The diagram we prepared shows in more detail the components of our application and how these components are related. Therefore, for the final diagram version, we prefer to use our own diagram.

### 3.6.3. High-Level Architecture



# References

*Travel Booking LP*. (n.d.-b). https://www.tripit.com/web

Doğru, A. H., & Tanik, M. M. (2003). A process model for component-oriented software engineering. *IEEE Software*, *20*(2), 34–41. https://doi.org/10.1109/ms.2003.1184164

*What is Component Diagram?* (n.d.). https://www.visual-paradigm.com/guide/uml-unified-modeling-language/what-is-component-diagram/

*Activity Diagram - Activity Diagram symbols, examples, and more*. (n.d.). https://www.smartdraw.com/activity-diagram/