Deliverable #1 Software Requirement Specification (SRS)

SE 3A04: Software Design II – Large System Design

Tutorial Number: T01
Group Number: G6
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1   Introduction

The following document is dedicated to showcasing the requirements of the taxi carpool app requested by a local taxi company. The app is dedicated to make rides cheaper and more convenient for their riders. This app is also meant to be a long-term project for the company, meaning this **SRS** is a living document which has the possibility of changing in the future. This document will explain the important stakeholders involved, requirements and viewpoints of each while also explaining the main functions of the app.

1.1   Purpose

This **SRS** is meant for developers, stakeholders and direct players in the planning and development of the app and should be understandable for all those involved. This **SRS** will further break down the functionalities, constraints, use cases and overall design of the project in further detail.

1.2   Scope

To develop this project the production of the main taxi request and offer app called TaxiCarPool, the Conversation Prompt Generator and a variety of databases will have to be produced. There will not be a need to produce a payment system into the app as this will be handled by the taxi company payment systems. The project will only project the cost of the ride but will not handle the payments as it is not part of the app's main functionality.

The TaxiCarPool app will perform the main functions of the app. This will include allowing users to request a carpool taxi, receive a list of possible rides to select and allow current rides to allow carpooling in their car. This product's objective is to perform the main functions of matchmaking users to a carpool to save money.

The Conversation Prompt Generator will randomly generate a conversation starter for the riders to use based on their profile. Their profile will specify if they want to use this feature and if so, what they are interested in. The generator will not be forced upon any of the users and can be switched off if desired. The goal of this product is to create a friendly environment when carpooling with others that one may not know. This function is mostly dedicated to benefit those who are carpooling to a further distance.

The creation of a database will hold all the necessary information for the app to function, making it easily

accessible and manageable. The information being stored can range from user information; name, email, phone number, to riding history, to preferences of taxi times, models, or other passengers.

1.3   Definitions, Acronyms, and Abbreviations

BE: Business Event is something that occurs between the client/stakeholder and the system.

SRS: Software Requirements Specification is a document that explains the requirements of the software being developed.

VP: Viewpoint, often in reference to a stakeholder/client interested in the system and how they view the business event.

CF: Creative Feature, an indication to one of the creative/innovative features

1.4   References

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1.5   Overview

This **SRS** is structured to first give background information about the app. This will include how the app will interface with the taxi companies, along with the general functionalities and assumptions that are being made. The document will then follow with showcasing one of the main business events and its related use cases. This will explain how the main function will work across different scenarios and stakeholders in a visual manner. This will be further expanded upon in more detail throughout the document. It will include more business events with a variety of viewpoints and scenarios for both the function shown in the use case diagram and other main function of the project. This document will conclude by explaining the non-functional requirements involving presentation, performance, usability, security, and maintainability notes of the project.

2   Overall Description

2.1   Product Perspective

The product being developed is an Android application which empowers the ability to book carpools via a user-friendly interface. The application will securely store customer personal information such as carpool request histories, and personal data inputted by the user. The product is not self-contained since its functionality depends on Google Maps for mapping integration. The product scope mainly covers a match making functionality to match potential carpoolers together. The feature will be implemented under a centralized

dispatcher which communicate with the mobile app and user's database. Fare determination will be covered under the scope of the app, however payment processing is external to the system. The general interaction can be visualized as follows:
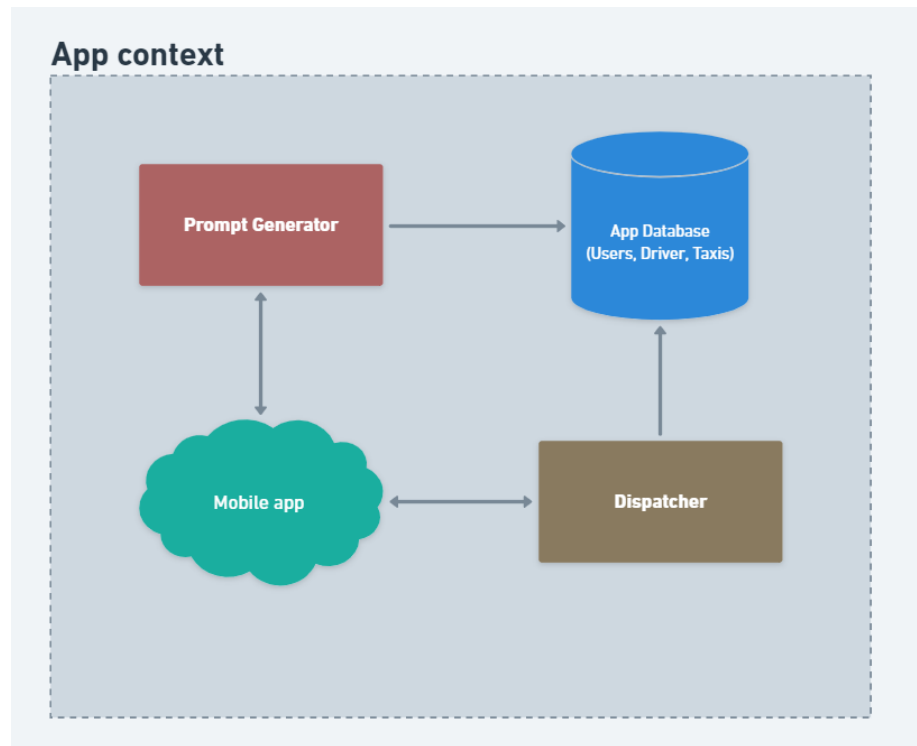
2.2 Product Functions
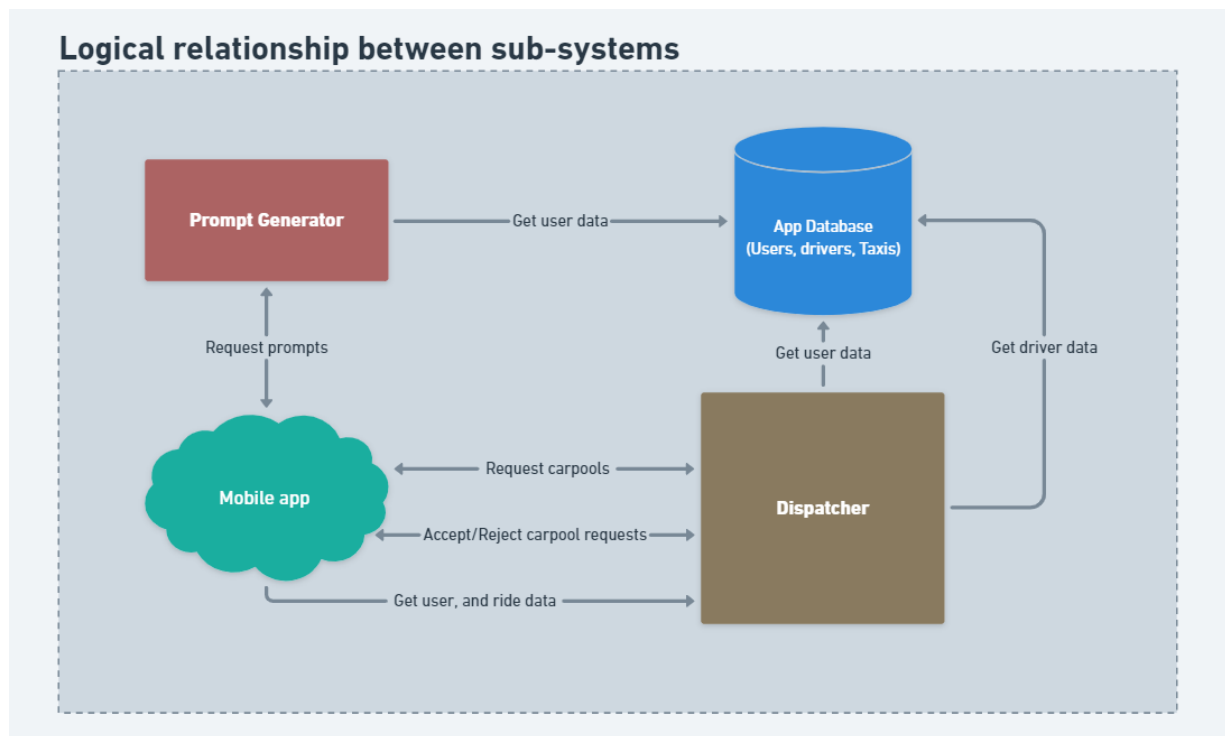
a) **User registration and profile editing:** Users can register to use the taxi service and later can edit or remove their information.

b) **Requesting taxi:** Users can enter search criteria to request a taxi. Based on the user's profile, the app will return a list of best-fit matches. Users choose the desired match and other carpooler will be notified.

c) **Reviewing offer:** The app displays offers information to the users to choose between.

d) **Taxi check-in:** Users can scan or enter the taxi ID when it arrives to check in and use the service.

e) **Fare calculation and display:** Trip prices are calculated, using a fixed rate per kilometer, and presented to the users before reaching their destination.

f) **Google Maps Integration:** The app interface will use Google Maps to visualize pick-up, drop-off loacation.

g) **Data encryption:** The software system will encrypt all messages when transmitting. Important information like password or user's postal code will also be encrypted when storing within the database.

h) **Trips rating:** After each trip, users can enter their rating to help improving the service.

i) **Prompts Generation:** Users of the taxi service can engage in a prompt-based game while carpooling. When the users activate prompts, the app will return a list of personalized prompts for carpoolers to engage with when they are on the same car.

2.3   User Characteristics

a) Riders should be comfortable with using Android mobile devices.

b) Riders might be sensitive with prices and therefore opt for carpools instead of regular taxi services.

c) Riders might be outgoing, socially engaged, and interested in meeting new people.

d) Riders are most likely live in a big city since taxi services are highly available, and parking fees are expensive.

e) Riders might have a busy schedule since taking public transport or maintaining their own car takes time and effort.

2.4   Constraints

a) **Geographical:** The app can only operate in Canada.

b) **Internet:** The app functionality relies heavily on the internet to book, checkin, and view taxi's location.

c) **Taxi Regulation:** Since the app is working in conjunction with the taxi provider, it must follow taxi law and regulation. For example, the fare structure used by the app must be approved by the Board of Transportation for some cities.

d) **Data Privacy Regulation:** Personal data stored within the app needs to be encrypted and processed in a way that complies with the Canadian Personal Information Protection and Electronic Documents Act.

e) **Technological:** Since the app is dependent on Google Maps, it can not extend to provide a better mapping experience than what Google Maps offers.

2.5   Assumptions and Dependencies

a) Assumptions

- Users have an android mobile device. If users use IOS or other operating system, the app would not be available.
- Users have a highly available internet connection. The app will not function when internet connection is not present.
- Drivers information are provided and available via the app's database. If the assumption does not hold, driver's data will be pulled from an external data source.
- Prices are determined via a fixed rate per kilometer.
- Payment processing is external and not under the scope of the application. If the assumption does not hold, an integration with external Payment Service Provider need to be implemented.

2.6   Apportioning of Requirements

a) Real-time trip tracking via Google Maps Interface.

b) Accurate personalized prompts based on user trip history, behaviour, and more.

3   Use Case Diagram
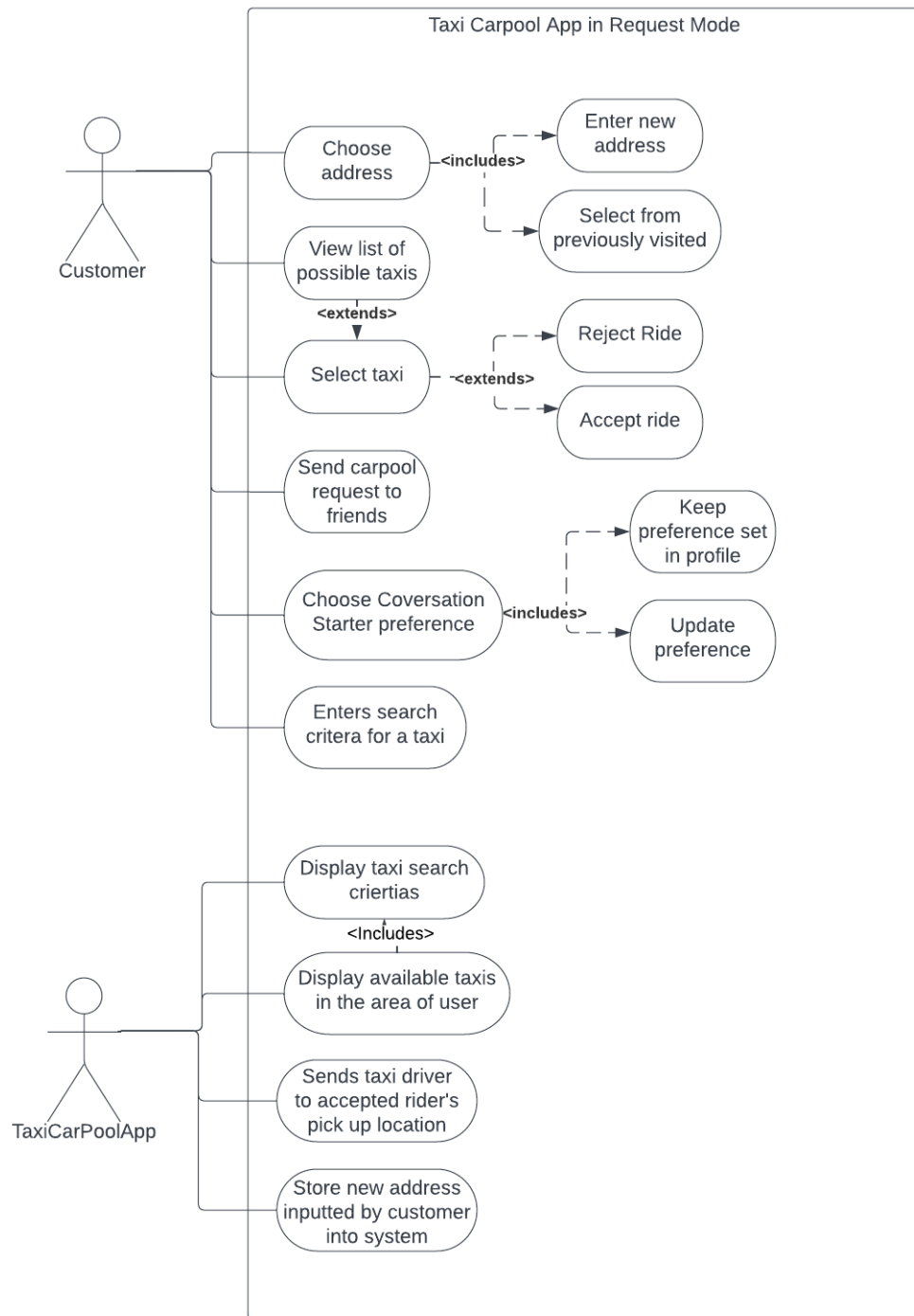
4 Functional Requirements

Note: Requirements in blue are "extra" and can be ignored in initial design stages

BE1. Customer creates new user profile

    VP1.1 Customers

        S_1 System asks for customer's information

        E_1 Customer inputs their information

           $S_{1.1}$ Certain information must be unique

        S_2 System asks customer to verify email or phone number

        E_2 Customer verifies email or phone number

        S_3 System stores customer profile in database

    VP1.2 Taxi company

        N/A

    VP1.3 Taxi drivers

        N/A

    VP1.4 Investors

        S_1 Every new 1000 sign-ups, system sends notification to investors

    VP1.5 Legal

        S_1 System securely stores user data to comply with GDPR privacy

    Global Scenario for **BE**1

        S_1 System asks for customer's information

        E_1 Customer inputs their information in all mandatory fields

           $E_{1.1}$ Certain information must be unique

        S_2 System asks customer to verify email or phone number

        E_2 Customer verifies email or phone number

        S_3 System registers customer profile as user in system

           $S_{3.1}$ System securely stores user data to comply with GDPR privacy

           $S_{3.2}$ Every new 1000 sign-ups, system sends notification to investors

BE2. Customer edits their profile

    VP2.1 Customers

        S_1 System asks customer to authenticate themselves

        E_1 Customer completes authentication process

        S2 System displays user profile

           $E_{2.1}$ Customer edits information

           $E_{2.2}$ Customer saves edits, given that all mandatory information is entered

        S_3 System saves user profile

    VP2.2 Taxi company

        N/A

    VP2.3 Taxi drivers

        N/A

    VP2.4 Investors

N/A

VP2.5 Legal

S_1 System securely stores user data to comply with GDPR privacy

Global Scenario for **BE**2

S_1 System asks customer to authenticate themselves

E_1 Customer completes authentication process

S_2 System displays user profile

$E_{2.1}$ Customer edits desired information

$E_{2.2}$ Customer saves edits, given that all mandatory information is entered

S_3 System saves user profile

$S_{3.1}$ System securely stores user data to comply with GDPR privacy

BE3. Customer deletes their profile

VP3.1 Customers

S_1 System asks customer to authenticate themselves

E_1 Customer completes authentication process

S_2 System asks customer to confirm they want to delete their account

E_2 Customer confirms they want to delete their account

S_3 System asks customer to verify email or phone number

E_3 Customer verifies email or phone number

S_4 Customer profile removed from database

VP3.2 Taxi company

S_1

VP3.3 Taxi drivers

N/A

VP3.4 Investors

N/A

VP3.5 Legal

S_1 System removes all user data to comply with GDPR privacy

Global Scenario for **BE**3

S_1 System asks customer to authenticate themselves

E_1 Customer completes authentication process

S_2 System asks customer to confirm they want to delete their account

E_2 Customer confirms they want to delete their account

S_3 System asks customer to verify email or phone number

E_3 Customer verifies email or phone number

S_4 Customer profile removed from database

$S_{4.1}$ System removes all user data to comply with GDPR privacy

BE4. Taxi carpool is requested

VP4.1 Customers

S_1 System asks customer to input their destination

E_1 Customer inputs destination

S_2 System asks customers to enter search criteria

E_2 Customer inputs search criteria

S_3 System returns best matches

E_3 Customer selects taxi to send their carpool request to

$S_{4.1}$ System sends customer's request to carpool offerer

$S_{4.2}$ Customers are returned to selection phase (i.e. after inputting destination) if request is denied, branch to S2

$S_{4.3}$ Customers notified if request is accepted

S_5 System shows location of designated cab

VP4.2 Taxi company

S_1 System computes estimated payment split based on taxi company's fares

S_2 System notifies taxi company of new carpool

VP4.3 Taxi drivers

N/A

VP4.4 Investors

N/A

VP4.5 Legal

N/A

Global Scenario for **BE**4

S_1 System asks customers to input their destination

E_1 Customer inputs destination

S_2 System asks customers to input search criteria

E_3 Customer inputs search criteria

S_4 System returns best matches

E_4 Customer selects taxi to send their carpool request to

$S_{5.1}$ System sends customer's request to carpool offerer

$S_{5.2}$ Customers are returned to selection phase (i.e. after inputting destination) if request is denied, branch to S2

$S_{5.3}$ Customers notified if request is accepted

S_6 System computes estimated payment split based on taxi company's fares

S_7 System shows location of designated cab

BE5. Taxi carpool is offered

VP5.1 Customers

S_1 System asks customer to scan QR code

E_1 Customer scans QR code

S_2 System asks customer to input offer information

E_2 Customer inputs offer information

S_3 System shows offer to other customers looking to join a taxi

E_3 Customer looking to join a taxi requests to join carpool

S_4 Dispatcher returns potential match, displaying updated estimated fare, distance, time, and optimality measure

$E_{4.1}$ Customer accepts match

$E_{4.2}$ Customer rejects match, return to S3

$E_{4.3}$ Customer aborts offer mode

S_5 System displays location on taxi

VP5.2 Taxi company

E_1 New offer sent to dispatcher

S_1 Dispatcher stores offer in pool of live offers

VP5.3 Taxi drivers

S_1 Driver is given pick-up location and directions (i.e. detour) for new customer in carpool

E_1 Driver follows directions of detour to pick-up carpooler

S_2 Once detour is complete and carpooler is in the taxi, system displays original destination with updated directions

VP5.4 Investors

N/A

VP5.5 Legal

N/A

Global Scenario for **BE**5

S_1 New offer sent to dispatcher

S_2 System asks customer to scan QR code

E_2 Customer scans QR code

S_3 System asks customer to input offer information

E_3 Customer inputs offer information

S_4 Dispatcher stores offer in pool of live offers

S_5 System shows offer to other customers looking to join a taxi

E_5 Customer looking to join a taxi requests to join carpool

S_6 Dispatcher returns potential match, displaying updated estimated fare, distance, time, and optimality measure

$E_{6.1}$ Customer accepts match

$S_{6.2.1}$ Driver is given pick-up location and directions (i.e. detour) for new customer in carpool

$E_{6.2.1}$ Driver follows directions of detour to pick-up carpooler

$S_{6.2.2}$ Once detour is complete and carpooler is in the taxi, system displays original destination with updated directions

$E_{6.2}$ Customer rejects match, return to S4

$E_{6.3}$ Customer aborts offer mode

S_7 System shows location of designated cab

BE6. Taxi carpool arrives at destination

VP6.1 Customers

S_1 System displays fare to each customer

E_1 Customer pays taxi driver [Out of scope for system]

S_2 Driver inputs that payment is complete

S_3 System prompts customer to rate the other customers they shared a ride with, with an option to leave a review

E_3 Customers input rating and optional review

S_4 System stores rating and review in customers' profile

VP6.2 Taxi company

S_1 Carpool offer is removed from list of active offers

E_1 Drivers obtain payment from customers [Out of scope for system]

E_2 Driver inputs that payment is complete

S_2 System records that payment is complete

VP6.3 Taxi drivers

E_1 Driver obtains payment from customers [Out of scope of system]

E_2 Driver inputs into system that payment is complete

S_2 System logs end of carpool

VP6.4 Investors

S_1 Every new 10 000 completed carpools, system sends notification to investors

VP6.5 Legal

N/A

Global Scenario for **BE6**

S_1 Carpool offer is removed from list of active offers

$S_{1.1}$ Every new 10 000 completed carpools, system sends notification to investors

S_2 System displays fare to each customer

E_2 Customer pays taxi driver

$E_{2.1}$ Drivers obtain payment from customers [Out of scope for system]

$E_{2.2}$ Driver input that payment is complete

S_3 Once payment approved, system prompts customer to rate the other customers they shared a ride with, with an option to leave a review

E_3 Customers input rating and optional review

S_4 System stores rating and review in customers' profile

S_5 System logs end of carpool

BE7. Carpoolers activate conversation prompts

VP7.1 Customers

S_1 Precondition: Carpool has started

E_1 Customers indicate that they want to enter prompts mode

S_2 Random prompt is generated

$E_{2.1}$ Customers interact between each other based on prompt

$E_{2.2}$ Customers select new prompt, branch to S2

$E_{2.3}$ Customers exit prompt mode

S_3 System displays location of taxi

VP7.2 Taxi company

N/A

VP7.3 Taxi drivers

E_1 Driver begins commute once new customer is seated in taxi

S_1 System registers that carpool has started

VP7.4 Investors

N/A

VP7.5 Legal

N/A

Global Scenario for **BE7**

S_1 Precondition: Carpool has started

E_1 Driver begins commute once new customer is seated in taxi

S_2 System registers that carpool has started

E_2 Customers indicate that they want to enter prompts mode

S_3 Random prompt is generated

$E_{3.1}$ Customers interact between each other based on prompt

$E_{3.2}$ Customers select new prompt, branch to S3

$E_{3.3}$ Customers exit prompt mode

S_4 System displays location of taxi

5 Non-Functional Requirements

5.1 Look and Feel Requirements

5.1.1 Appearance Requirements

LF-A1.   The colour scheme of the application must match the branding colours of the company
Rationale: For marketing purposes, the colour scheme within the app need to match the branding colours of the company so the brand becomes well-recognized and there is no confusion among users about the brand.

5.1.2 Style Requirements

LF-S1.   The UI must make important information obvious. All information that is relevant to the user must be displayed directly, not hidden or underneath/behind UI elements.
Rationale: Users are more likely to use and come back to mobile apps which have UIs that are clear, consistent and simple. This helps increase the user base and branding power of the app (Johns, 2022).

5.2 Usability and Humanity Requirements

5.2.1 Ease of Use Requirements

UH-EOU1.   The user must not encounter any unclear prompts from which they do not know how to proceed, all prompts must state exactly what needs to be done.
Rationale: If the app is prompting the user to do something, that prompt must be clear and easy to understand so it is easy for the user to use the app.

UH-EOU2.   The user must not encounter any errors while using the app, and if they do, what to do next must be obvious, it must state exactly what the user must do to proceed.
Rationale: The app must not show the user any errors while they are using it to prevent confusion and to make the app easy to use. On the chance an error does appear to the user, it must be clear on what the user has to do next to remove the error or continue. If the error is generic and confusing to understand, the app is no longer easy to use and leaves the user in confusion.

5.2.2 Personalization and Internationalization Requirements

UH-PI1.   The product will operate in both English and French and the user will be able to set their preferred language
Rationale: The app will be available only in Canada, so it needs to contain support for both the national languages of Canada and allow the user to choose their preferred language

UH-PI2.   The product will allow the user to set their preference for dark mode and light mode
Rationale: To make the app more personal, users must be able to customize the appearance to their liking. Its important for users to enjoy the appearance of the app so allowing them to personalize dark mode or light mode will help contribute to that.

5.2.3 Learning Requirements

UH-L1.   The product must be able to be used immediately without any training, with no learning curve required to learn how to effectively use the app.
Rationale: Mobile apps designed for general users should have no learning curve. Upon using the app for the first time, the app should be designed in such a way that the user immediately knows how to use it. If users take a while to learn how to effectively use the app, they will not come back to it.

5.2.4   Understandability and Politeness Requirements

UH-UP1.   The product must use standard English and French words that can be found in a standard
dictionary, with no slang or acronyms.
Rationale: The app is aimed to be used by anyone in Canada, so the symbols and language
used must be understandable by the general Canadian population. Using symbols and language
or slang that is specific to a certain group or culture would make the app hard to understand for
some of the target users.

5.2.5   Accessibility Requirements

UH-A1.   The product must provide captions for audio content to allow users with hearing impairments to
access that content.
Rationale: A successful mobile app should be accessible to all users, no matter what physical
impairments they may face. The app should allow users with hearing impairments to still access
any audio content within the app through captions, symbols or some other visual means so they
are still able to access the content.

5.3   Performance Requirements

5.3.1   Speed and Latency Requirements

PR-SL1.   All responses from the product to the user must be within 50 milliseconds
Rationale: The perfect latency is between 20 to 40 milliseconds (Schoenfelder). If all product-
to-user responses for our app are 50 milliseconds are better, this is an excellent latency and will
bring users back to the app.

5.3.2   Safety-Critical Requirements

PR-SC1.   All taxi services, drivers and other carpoolers will go through an external (out of app) safety
check before being allowed to offer rides or join carpools on the app.
Rationale: Our app connects users with random members of the public, whether that be taxi
drivers or fellow carpoolers. To ensure the safety of all users of the app, all drivers and carpoolers
will have to go through a safety verification process to verify their intentions and ensure that the
safety of the riders is guaranteed.

5.3.3   Precision or Accuracy Requirements

PR-PA1.   All monetary amounts displayed within the application must be accurate to two decimal places
Rationale: Given that this app will involve payments for the taxi rides, all payment amounts
will be displayed to two decimal places, which is accurate to the number of dollars and cents for
the transaction. For example, "the total cost of the ride is $3.40"

PR-PA2.   All times must be displayed in the form HH:MM PM/AM where HH is between 01 and 12.
Rationale: The app may show estimated time of arrival, which will be shown using the HH:MM
format, showing only the hours and minutes and not anything more. If the app showed seconds
or below it would be inaccurate and confusing for users. For example, "the estimated time of
arrival is 10:04 PM"

PR-PA3.   All distance measurements must be accurate to one decimal place.
Rationale: The app may show distance to a destination or how far the driver is from picking you
up. These should be shown with one decimal place as more decimal places would make it harder
to understand and would make it lose meaning. For example, "your driver is 3.2 km away"

5.3.4 Reliability and Availability Requirements

PR-RA1. The product must be available for use at all times when Internet is available, but will be unavailable for 5 hours a month for maintenance. The downtime will be in the middle of the night when the user activity is the lowest.
Rationale: An app that allows users to book carpool rides should be available 24/7 because users should be able to book a carpool at any time of the day on any day of the year. However, it is unrealistic that the app will be available 24/7, so there will be chosen periods of downtime that affect as little of the user base as possible.

PR-RA2. The product must perform without failure in 98% of use cases
Rationale: Failures are expected to occur in any software application, but if the app performs without failure for the majority of uses then it can be deemed to be a reliable application that only fails on the rare occasion. 98% is chosen because given the expected size of user base the app projects to have, a 98% failure rate would mean very few failures for a large set of users.

PR-RA3. The mean time to restore the product following a failure must not be greater than 10 minutes unless a malicious attack occurs, in which case the app will stay unavailable until the threat has been completely removed.
Rationale: When the product does fail, it should recover and become usable again within 10 minutes max, otherwise users will begin to question the reliability and usage of the app. If an attack causes the app to go down, 10 minute recovery time is unattainable, so the app will only be restored once the threat has been completely removed.

5.3.5 Robustness or Fault-Tolerance Requirements

PR-RFT1. The product must continue to be usable if external services it relies on go down, barring the Internet/cell tower failures.
Rationale: The app will rely on some external third party services, and it needs to be tolerant to faults in those systems. For example, if the app interfaces with an API from the taxi service and that API goes down, the app needs to continue to be usable. If an AWS region goes down and the app uses AWS cloud services, it must change to another region to ensure it continues to be usable. However if the Internet or cell towers go down, this is out of our control and the app will not be able to be used.

5.3.6 Capacity Requirements

PR-C1. The product must be able to handle up to 1000 users simultaneously at any given time
Rationale: Although the app will not start with 1000 concurrent users right away, 1000 is a good estimate as to how many concurrent users the app may have within a few years of business. Given that Uber, a similar ride sharing application has millions of concurrent users, 10000 is a realistic capacity limit for this app.

5.3.7 Scalability or Extensibility Requirements

Not applicable.

5.3.8 Longevity Requirements

Not applicable.

5.4 Operational and Environmental Requirements

5.4.1 Expected Physical Environment

Not applicable.

5.4.2 Requirements for Interfacing with Adjacent Systems

Not applicable.

5.4.3 Productization Requirements

OE-P1. The product must be distributed as an Android mobile application
Rationale: The product being developed is a mobile app, therefore it should only be distributed as a mobile app and nothing else.

5.4.4 Release Requirements

Not applicable.

5.5 Maintainability and Support Requirements

5.5.1 Maintenance Requirements

MS-M1. The product must be designed in a maintainable way by following the open-closed principle and strong object-oriented techniques. It will be designed in such that future changes are able to be easily added or removed (small changes take less than a week to implement)
Rationale: Writing maintainable software allows for quicker implementation and debugging. Iterations of the product will be able to be released faster if maintainable code and design principles are followed.

5.5.2 Supportability Requirements

Not applicable.

5.5.3 Adaptability Requirements

MS-A1. The product must be able to run on all versions of all Android mobile devices from Version 10.0 and onwards.
Rationale: Android makes up 69.74% of the mobile device market (statcounter). The product being built is a mobile application, so in order for the large majority of mobile device users to use the app, it must run on and Android. Furthermore, we are developing in Java which will only run on Android. Version 10.0 and onwards are the versions still maintained so the app should function on all versions from 10.0 onwards.

5.6 Security Requirements

5.6.1 Access Requirements

SR-AC1. General users of the application must not have access to identifying and private information of users that would allow them to be identified or hacked.
Rationale: The app is designed to be used by any member of the general public, members of the general public should not have access to private or sensitive information about other users or about the taxi services

5.6.2 Integrity Requirements

Not applicable.

5.6.3 Privacy Requirements

SR-P1.   The product must make the user aware that they are entering private information whenever they must so the user can make an informed decision on whether they want to include that information. **Rationale:** The user should be aware whenever they are entering personal or private information so they can make an informed decision on whether they want to enter that information.

SR-P2.   The product must guarantee that all private information is kept secure **Rationale:** Any private information from the user such as their password, address and other sensitive information should be secured through verified security measures, hashing, locking, encryption and authentication.

SR-P3.   All data and messages that are transmitted within the application must be encrypted **Rationale:** In the case that sensitive data is somehow accessed by unwanted parties, the data should remain private by being encrypted so it cannot be read.

5.6.4 Audit Requirements

SR-AU1.   All releases of the product must conform to the guidelines of the Android mobile app store (found here: https://play.google.com/about/developer-content-policy/) **Rationale:** Whenever an app is released to the app store, whether brand new or an updated release, it must go through the app store's review process. Audits must be done within the company before the app is released to ensure the app passes all guidelines.

5.6.5 Immunity Requirements

SR-IM1.   The product must implement security measures such as encryption of all messages and data transmitted and authentication to make it immune to infection from unauthorized malicious attackers **Rationale:** There are many types of malware that can attack software, SQL injections, trojan horses, viruses. The system must be immune to infection from all of these, to ensure data privacy and security is maintained at all times.

5.7 Cultural and Political Requirements

5.7.1 Cultural Requirements

CP-C1.   All numbering systems, road systems and any other systems must use the Canadian standard **Rationale:** The app will initially be launched in Canada only, so all systems will use the canadian standard. Metric system for numbering and measurements, Canadian road systems, everything that requires a national standard will use the Canadian standard.

5.7.2 Political Requirements

CP-P1.   The product must not use any emojis, language or symbols that could be considered offensive, such as any emojis involving skin colour, as well as common symbols that are globally known to be offensive. **Rationale:** Given that our app is designed to be used by anyone in the general Canadian population, we must ensure that no controversial language or emojis are used. Many cultural, ethnic and religious groups will exist within the userbase and some words or symbols or emojis might be offensive to a certain group, which must be prevented.

5.8 Legal Requirements

5.8.1 Compliance Requirements

LR-COMP1. The product must comply with Canadian Privacy Laws, specifically PIPEDA, which states that all identifiable information of a person should be kept private. (Office of the Privacy Commissioner of Canada, 2018)
Rationale: This app deals with lots of personal user information, so it must be implemented in a way that complies Canadian Privacy Laws, specifically PIPEDA as this is the act it falls under.

5.8.2 Standards Requirements

Not applicable.

A   Division of Labour

DELIVERABLE ONE - DIVISION OF LABOUR
01 Introduction + 03 Use case Diagram - Jennifer Ye
02 Overall Description - Nathan Luong
04 Functional Requirements - Jane Klavir
05 Non-functional Requirements - Areez Visram

FIVE STAR.
★ ★ ★ ★ ★

B Creative Features

Below is a list of creative/innovative features that were brainstormed by the team. The features that were ultimately chosen for implementation are bolded.

- Friends (preferred to carpool with friends)

- Pre-book (pre book carpools with others for big events)

- **Prompts + social games in the car (add preferences on what kind of level of socialness you want)**

- Emergency button (calls 911 automatically when pressed)

- In app payments (integrate with PSP's)