**Group Information**

|  |  |  |
| --- | --- | --- |
| **Member name** | **Percent contribution** | **Activities completed by the member** |
| Nanda Rajaraman | 100 % | use case 1,2,3 BPM, traceability matrix |
| Abdoulaye Diallo | 100 % | use case 4,5,6 use case diagram |
| Tawfeeq Mohamed | 100 % | use case 7,8,9 |
|  |  |  |
| **Total** | 100 |  |

<Uber App Scheduling>

Version <1.0>

Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| <dd/mmm/yy> | <x.x> | <details> | <name> |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Table of Contents

1. Introduction 3

1.1 Purpose 3

1.2 Scope 3

1.3 Definitions, Acronyms, and Abbreviations 3

1.4 References 3

1.5 Analyst Certifications 3

1.6 Overview 3

2. Positioning 3

2.1 Business Opportunity 3

2.2 Problem Statement 3

2.3 Product Position Statement 3

3. Stakeholder and User Descriptions 3

3.1 Stakeholder Summary 3

3.2 User Summary [GSU.CIS:Optional] 3

3.3 User Environment [GSU.CIS:Optional] 3

3.4 Key Stakeholder or User Needs 3

4. Product Overview 3

4.1 Assumptions and Dependencies [GSU.CIS:Optional] 3

4.2 Licensing and Installation [GSU.CIS:Optional:not recommended] 3

5. Goal Model 3

5.1 <aGoal> 3

5.2 <anotherGoal> 3

6. Constraints [GSU.CIS:Optional] 3

7. Precedence and Priority [GSU.CIS:Optional] 3

8. Use-Case Model [GSU.CIS:Required] 3

8.1 Use-Case Diagram 3

8.2 Goal Use-Case Traceability 3

8.3 Use-Case <1> 3

8.3.1 Use-Case <1> Sequence Diagram <n> [m3] 3

8.3.2 Use-Case <1> Activity Diagram <n> [m2] 3

8.4 Use-Case <2> 3

8.4.1 Use-Case <2> Sequence Diagram <n> [m3] 3

8.4.2 Use-Case <2> Activity Diagram <n> [m2] 3

8.5 Use-Case <etc> 3

8.5.1 Use-Case <etc> Sequence Diagram <n>[m3] 3

8.5.2 Use-Case <3> Activity Diagram <n> [m2] 3

8.6 Object Model [GSU.CIS:Required] 3

8.6.1 State Diagrams [GSU.CIS:Optional] 3

9. Design Model [GSU.CIS:Only for design course] 3

10. Stakeholder Requests 3

# Introduction

## Purpose

The purpose of this document is to collect, analyze, and define high-level needs and features of Uber. It focuses on the capabilities needed by the stakeholders and the target users, and why these needs exist. The details of how Uber fulfills these needs are detailed in the use-case and supplementary specifications.

The introduction of the Vision document provides an overview of the entire document. It includes the purpose, scope, definitions, acronyms, abbreviations, references, and overview of this Vision document.

## Scope

The scope of this vision document is to provide a platform for users to find steady work and flexible hours driving for Uber. Uber drivers will have improved features to work with and get to choose hours throughout the week using scheduling software built into the Uber app. Uber riders can find reliable drivers at any hot hours of the day and reliable options such as UberX and UberXL to fit their needs.

## Definitions, Acronyms, and Abbreviations

Driver: Uber driver of the vehicle

ETA: estimated time of arrival

Schedule: Drivers can choose which to time block to start working

UberX: comfortable and affordable option with standard sedans

UberXL: Larger vehicles for groups (SUVs and minivans)

Uber Black: Premium service with luxury vehicles

Uber Comfort: cars with more comfortability (higher price than uber x)

## References

N/A

## Analyst Certifications

We, Nanda Rajaraman, Tawfeeq Mohamed, Abdoulaye Diallo, have analyzed these documents and believe that they:

* Comply with current UML syntax and best practices.
* Are internally consistent
* Meet the stakeholder needs, as we understand them

## Overview

This document contains the following sections: positioning, stakeholder and user descriptions, product overview, goal model, constraints, precedence and priority, use-case model, object model, and stakeholder requests.

# Positioning

## Business Opportunity

The business opportunity being met by this project is to enter the ride service market to provide a platform that is more user friendly and flexible to attract more drivers and riders.

## Problem Statement

|  |  |
| --- | --- |
| The problem of | limited scheduling flexibility for drivers |
| affects | drivers seeking control over their work hours |
| the impact of which is | lower satisfaction and reduced peak availability |
| a successful solution would be | a platform offering flexible work. |

## Product Position Statement

|  |  |
| --- | --- |
| For | drivers |
| Who | Need steady work and hours |
| The (Uber platform) | is a ride-sharing service |
| That | Connects riders with drivers swiftly and effectively and work with scheduling freedom |
| Unlike | Traditional taxis and public transportation |
| Our product | offers reliable, affordable, and fast service to anyone, anywhere |

# Stakeholder and User Descriptions

## Stakeholder Summary

|  |  |  |
| --- | --- | --- |
| **Name** | **Description** | **Responsibilities** |
| Customers  Drivers  Investors  Regulators and Government | The people that order the rides from their devices. Users look for affordability, quality, safety, and reliability.  Independent contractors using Uber to provide a service  Entities that help to provide financial resources to Uber’s growing platform.  Authorities that help ensure the legality and safety that Uber must provide to all involved. | Customers must ensure that the system provides an affordable ride that they can provide feedback on. They use the app directly to book and rate rides.  Ensure the vehicles are up to date and that pick up and drop off times are accurate.  Maintain the financial viability of the company while also monitoring vitals such as market demand, investment return, or even platform improvement.  Certify that Uber is complying with all local, state, and national safety regulations. |

## 

## User Summary

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Description** | **Responsibilities** | **Stakeholder** |
| Customers  Drivers  Premium Rider | The people that order the rides from their devices. Users look for affordability, quality, safety, and reliability.  Independent contractors that help transport customers from point A to point B.  People that are subscribed to the premium plan and order rides from their devices | Ensure that all rules are followed according to Uber’s Terms and Services. Identify and confirm that rider is matched with user on app.  Choose the hours that they would like to work through pre-determined scheduled hours. They also must follow Uber’s guidelines for service.  Ensure that all rules are followed according to Uber’s Terms and Services. Identify and confirm that rider is matched with user on app. | Rely on Uber for efficient transportation and a safe ride.  Depend on uber as a stable & Flexible form of income.  Rely on Uber for premium/efficient transportation and a safe ride. |

## User Environment [Optional]

## Key Stakeholder or User Needs [Optional]

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Need** | **Priority** | **Concerns** | **Current Solution** | **Proposed Solutions** | |
|  |  |  |  | |  |

# Product Overview

Uber is a mobile application for people to request rides and get to a destination as soon as possible. Uber has many different vehicle options that pertain to different users. It also provides drivers with features such as work scheduling to ensure they have a steady job at the time of need. It is usable by anyone with a basic grasp on smartphone and computer capabilities.

• The application encourages riders to request rides confidently and drivers to work frequently

• The application shows the user a choice of different options such as UberX, UberXL, and Uber Black, each having its own benefits

• The application provides the Uber driver with a scheduling service to book hours throughout the week and ensure that the driver can work a flexible schedule that suits their needs

## Context Diagram

DRIVER

RIDER

Premium Rider

## 4.2 Assumptions and Dependencies

* Users must have the ability to navigate the application or website
* The application must provide the rider with a driver at their request
* The different classes of Uber must be available
* The application must be running for Drivers to schedule work for later in the week
* Drivers will complete the ride efficiently and drop off the rider feeling safe and satisfied

## Licensing and Installation [Optional]

# Requirements Model

## 5.1 WHEN a user requests a ride, THEN match the user with an available driver offering the selected service type (UberX, UberXL, or Uber Black) within 2 minutes.

## 5.2 WHEN a driver schedules a work shift using the built-in scheduling software, THEN ensure the system confirms their time block availability within 1 minute.

## 5.3 WHILE a driver’s schedule is in an unavailable time block, THEN NOT allow them to go online to accept rides.

## 5.4 WHILE a rider is selecting a vehicle option, THEN NOT allow the system to match them with an unavailable vehicle type (e.g., UberX when only UberXL is available).

## 5.4 WHILE a driver is scheduled to work, THEN always provide them with available ride requests during high-demand hours (hot hours of the day).

## 5.5 WHILE a rider is in an active trip, THEN always display ETA and trip progress in real-time.

## 5.6 WHEN a driver’s scheduled shift ends, THEN stop matching them with new ride requests and log them out automatically.

## 5.7 WHEN a rider cancels a ride before pickup, THEN cease the driver assignment within 30 seconds and notify the driver.

## 5.8 G1: Provide flexible scheduling tools for drivers.

## 5.8.1: Ensure drivers can select and adjust their time blocks for the week.

## 5.9 G2: Offer vehicle options that fit different user needs.

## 5.9.1: Provide UberX for affordable rides, UberXL for larger groups, and Uber Black for premium services.

## EARS Ubiquitous

## 5.10 The system shall display available vehicle types (UberX, UberXL, Uber Black, Uber Comfort) based on the user's request and location.

## 5.11 The system shall notify drivers of upcoming shifts they have scheduled within the next hour.

## EARS Event-driven:

## 5.12 WHEN a driver goes online during a scheduled shift, THEN the system shall notify them of available ride requests in their area.

## 5.13 WHEN a rider selects UberXL, THEN the system shall ensure only larger vehicles are considered for the match.

## EARS Unwanted:

## 5.14 IF a driver’s scheduled shift ends, THEN the system shall log them out if they do not have an active trip.

## 5.15 IF no available drivers match the user’s requested vehicle type, THEN the system shall notify the user and suggest an alternative (e.g., switch from Uber Black to UberX).

## EARS State-driven:

## 5.16 WHILE the driver is logged in during a scheduled shift, the system shall prioritize matching them with ride requests.

## 5.17 WHILE a rider is in the trip confirmation screen, the system shall display available vehicle options based on current driver availability.

## EARS Optional:

## 5.18 WHERE the scheduling feature is included, the system shall allow drivers to block time slots to suit their availability.

## 5.19 WHERE Uber Comfort is selected, the system shall offer users higher comfort vehicles with amenities like extra legroom.

5.20 WHERE a rider decides to cancel an assigned ride, THEN the system shall promptly notify the driver of the cancellation and provide options for the rider in finding a new ride.

## User Story Requirement:

## 5.21 As a driver, I want to schedule my work hours so I can have flexibility throughout the week.

## 5.22 As a rider, I want to choose from various vehicle options (UberX, UberXL, Uber Black) so I can select the most appropriate ride for my needs.

# Constraints [Optional]

# Precedence and Priority [Optional]

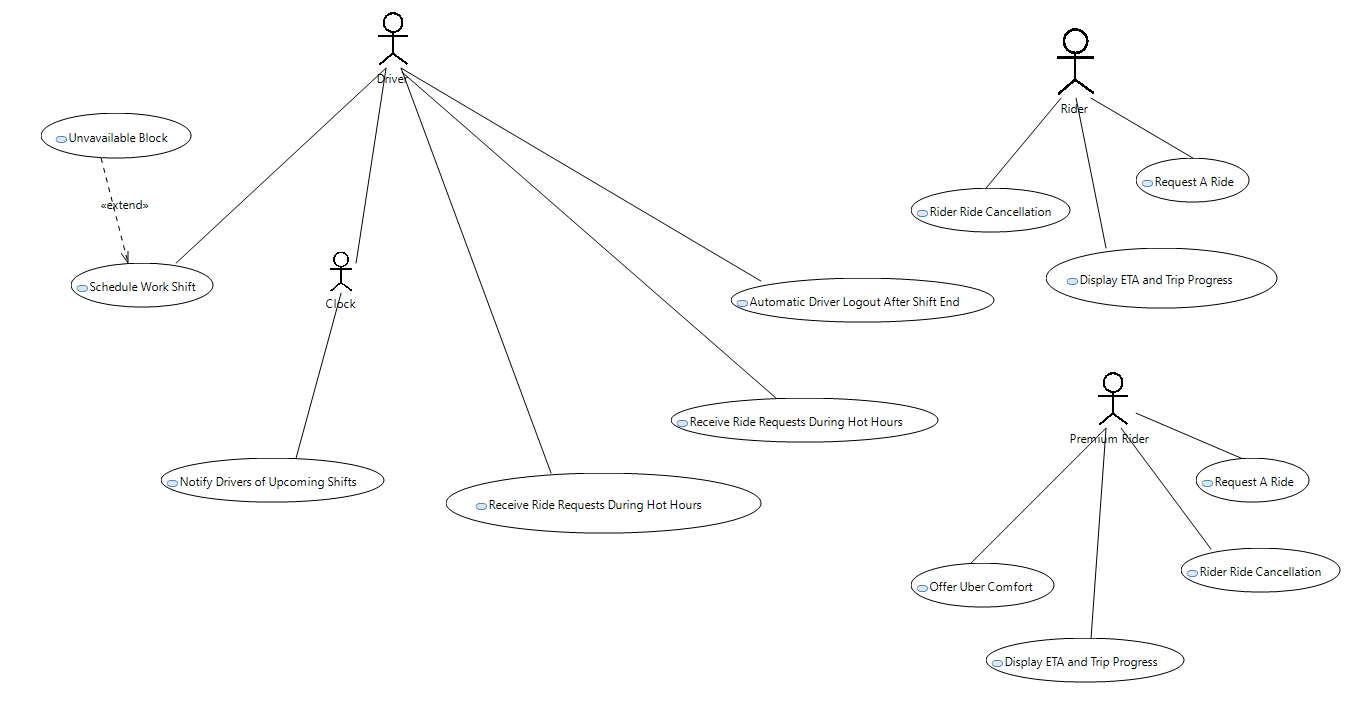
# Use-Case Model

[Place your use-case model here. You can use the RUP template for use-case documentation; however, once completed, they should be copied into this consolidated document.]

## Goal Use-Case Traceability

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **UC1** | **UC2** | **UC3** | **UC4** | **UC5** | **UC6** | **UC7** | **UC8** | **UC9** |
| **5.1** | Checkmark with solid fill |  |  |  |  |  |  |  |  |
| **5.2** |  |  |  |  |  |  |  |  |  |
| **5.3** |  |  |  |  |  |  |  |  |  |
| **5.4** |  |  |  |  |  |  |  |  |  |
| **5.5** |  |  |  |  |  |  |  |  |  |
| **5.6** |  |  |  |  |  |  |  |  |  |
| **5.7** |  |  |  |  |  |  |  |  |  |
| **5.8** |  |  |  |  |  |  |  |  |  |
| **5.8.1** |  |  |  |  |  |  |  |  |  |
| **5.9** |  |  |  |  |  |  |  |  |  |
| **5.9.1** |  |  |  |  |  |  |  |  |  |
| **5.10** |  |  |  |  |  |  |  |  |  |
| **5.11** |  |  |  |  |  |  |  |  |  |
| **5.12** |  |  |  |  |  |  |  |  |  |
| **5.13** |  |  |  |  |  |  |  |  |  |
| **5.14** |  |  |  |  |  |  |  |  |  |
| **5.15** |  |  |  |  |  |  |  |  |  |
| **5.16** |  |  |  |  |  |  |  |  |  |
| **5.17** |  |  |  |  |  |  |  |  |  |
| **5.18** |  |  |  |  |  |  |  |  |  |
| **5.19** |  |  |  |  |  |  |  |  |  |
| **5.20** |  |  |  |  |  |  |  |  |  |

## Use-Case Diagram



## Business Process Model

## A screenshot of a computer

## Use-Case <1: Request A Ride > High

|  |  |
| --- | --- |
| **Name** | Request A Ride |
| **Description** | A user can follow this to select preferred ride |
| **Goal** | When a user requests a ride, the system will match them with an available driver offering the selected service type (UberX, UberXL, or Uber Black) within 2 minutes. |
| **Pre-condition** | User is authenticated (logged into the system) and ready to request a ride. |
| **Post-condition** | User is matched with a driver, and ride details are provided (goal satisfied). |
| **User (Actor)** | **System** |
| 1. Enters destination | 1. System displays available ride options (UberX, UberXL, Uber Black |
| 1. User selects a service type. | 1. System processes the request and searches for available drivers. |
| 1. User confirms the request. | 1. System matches the user with an available driver 2. System sends the user ride details (driver info, ETA, etc.). |
| **Alternatives** |  |
| 1. No drivers available (step 4) |  |
| 4. change service type | 5. System displays available ride options (UberX, UberXL, Uber Black again) (back to step 6) |

## Use-Case <2: Schedule-Work-Shift > Medium

|  |  |
| --- | --- |
| **Name** | Schedule-Work-Shift |
| **Description** | Driver can use this to schedule shifts |
| **Goal** | |  | | --- | | When a driver schedules a work shift using the scheduling software, the system confirms their time block availability within 1 minute. |  |  | | --- | |  | |
| **Pre-condition** | |  | | --- | | Driver is authenticated and has access to the scheduling software inside the app. |  |  | | --- | |  | |
| **Post-condition** | Driver’s schedule is updated, and the time block is confirmed (goal satisfied). |
| **Driver (Actor)** | **System** |
| 1. Driver opens scheduling tool inside the app | 1. System displays available time slots. |
| 1. Driver selects preferred time block. | 1. System confirms time block availability. Displays confirm request. |
| 1. Driver confirms the shift. | 1. System schedules the shift and updates the driver’s availability. System provides a confirmation message to the driver. |
| **Alternatives** |  |
| Time slot is available (step 1) |  |
| 1. Driver goes back online | 1. **{Unavailable Block}** |

## Use-Case 3 < Unavailable Block> High

|  |  |
| --- | --- |
| **Name** | Unavailable Block |
| **Description** | A driver can follow this to be aware of the unavailable block error |
| **Goal** | |  | | --- | | When a driver’s schedule is in an unavailable time block, the system will not allow them to go online to accept rides. |  |  | | --- | |  | |
| **Pre-condition** | |  | | --- | | Driver is authenticated and tries to go online during an unavailable time block. |  |  | | --- | |  | |
| **Post-condition** | Drivers are prevented from accepting rides, and an error message is displayed (goal satisfied). |
| **Driver (Actor)** | **System** |
| 1. Driver attempts to go online | |  | | --- | | 1. System checks the driver’s schedule for availability. 2. System verifies if the current time block is available. 3. If unavailable, the system prevents the driver from going online. 4. System provides feedback: "Unable to go online during unavailable block." |  |  | | --- | |  | |
|  |  |
|  |  |
|  |  |

## Use-Case 4< Notify Drivers of Upcoming Shifts > Low

|  |  |
| --- | --- |
| **Name** | Notify Drivers of Upcoming Shifts |
| **Description** | The system notifies drivers of upcoming shifts they have scheduled within the next hour. |
| **Goal** | Ensure drivers are informed about their upcoming shifts to promote timely arrival. |
| **Pre-condition** | The driver has notifications for scheduled shifts on |
| **Post-condition** | The driver receives a notification about their upcoming shifts. |
| **Clock (Actor)** | **System** |
| 1. Time increment is 5 minutes | 2. The system checks for scheduled shifts within the next hour.  3. The system generates a notification for the upcoming shift and alerts the driver |

|  |  |
| --- | --- |
| **Clock (Actor)** | **System** |
| 1. Time increment is 5 minutes | 2. The system checks for scheduled shifts within the next hour.  3. The system generates a notification for the upcoming shift and alerts the driver |

## Use-Case 5< Receive Ride Requests During Hot Hours > Medium

|  |  |
| --- | --- |
| **Name** | Receive Ride Requests During Hot Hours |
| **Description** | The system provides ride requests to drivers scheduled to work during high-demand hours. |
| **Goal** | Ensure drivers are always provided with ride requests during hot hours. |
| **Pre-condition** | The driver is scheduled to work, and high-demand hours are active. |
| **Post-condition** | The driver receives ride requests. |
| **Driver (Actor)** | **System** |
| 1. The driver is scheduled to work. 2. The driver is active on the app during hot hours. | 1. The system monitors the demand in the area. 2. The system sends available ride requests to the driver. Displays “accept or reject”. |
| **Alternatives** |  |
| 1. No ride requests available (step 3) |  |
| 3. Driver turns on notifications for alerts | 4. The system sends an alert when new requests are available. |

|  |  |  |
| --- | --- | --- |
| **Driver (Actor)** | **Clock (Actor)** | **System** |
|  | 1. Time increments 1 minute | 1. The system updates the demand in each area. 2. The system sends available ride requests to preferred driver within area. Displays “accept or reject”. |
| 1. Driver accepts ride request |  | 1. System records driver acceptance 2. Update Customer information about impending ride 3. Present confirmation to Driver |
|  | **Alternatives** |  |
|  | 1. No ride requests available (step 3) |  |
|  | 3. Driver turns on notifications for alerts | 4. The system sends an alert when new requests are available. |

## Use-Case 6< Display ETA and Trip Progress > High

|  |  |
| --- | --- |
| **Name** | Display ETA and Trip Progress |
| **Description** | The system displays real-time ETA and trip progress to the rider during an active trip. |
| **Goal** | Provide the rider with real-time ETA and trip progress throughout the trip. |
| **Pre-condition** | The rider is on an active trip. |
| **Post-condition** | The rider views real-time trip progress and ETA. |
| **Rider (Actor)** | **System** |
| 1. The rider starts an active trip. 2. Rider clicks on the map | 3. The system displays the map |
| 4. The rider checks the trip status. | 5. The system displays real-time ETA and trip progress to the rider. |
|  |  |

## Use-Case 7 < Automatic Driver Logout After Shift End > Low

|  |  |
| --- | --- |
| **Name** | Automatic Driver Logout After Shift End |
| **Description** | When a driver’s scheduled shift ends, the system logs them out if they do not have an active trip. |
| **Goal** | Ensure drivers are logged out automatically at the end of their shift unless they have an active trip. |
| **Pre-condition** | The driver’s scheduled shift has ended. |
| **Post-condition** | The driver is logged out if no active trip is in progress. |
| **Driver (Actor)** | **System** |
| 1. Driver completes their scheduled shift. | 2. System checks if the driver’s scheduled shift has ended.  3. System verifies if the driver has an active trip.  4. If no active trip, the system logs the driver out. |

## Use-Case 8< Rider Ride Cancellation > Medium

|  |  |
| --- | --- |
| **Name** | Rider Ride Cancellation |
| **Description** | When a rider decides to cancel an assigned ride, the system allows them to do so and informs the driver of the cancellation. |
| **Goal** | Enable riders to cancel a ride when needed while notifying the driver and providing options for a new ride. |
| **Pre-condition** | The rider has been assigned a driver and a ride is currently scheduled. |
| **Post-condition** | The rider has been assigned a driver and a ride is currently scheduled. |
| **Rider (Actor)** | **System** |
| 1. Rider decides to cancel the ride. | 2. System prompts the rider to confirm the cancellation. |
| 3. Rider confirms cancellation. | 4. System updates the ride status to "Canceled." |
|  | 5. System notifies the driver of the cancellation.  6. System provides the rider with options to find a new ride. |

## Use-Case 9<: Offer Uber Comfort > Medium

|  |  |
| --- | --- |
| **Name** | Offer Uber Comfort |
| **Description** | When Uber Comfort is selected, the system offers higher comfort vehicles with amenities like extra legroom for free for premium riders |
| **Goal** | Provide users with an free option for more comfortable rides. |
| **Pre-condition** | The premium rider selects the Uber Comfort option. |
| **Post-condition** | The rider sees higher comfort vehicle options with added amenities listed as free because of subscription |
| **Premium Rider (Actor)** | **System** |
| 1. Rider selects Uber Comfort option. | |  | | --- | | 2. System identifies vehicles with higher comfort.  3. System displays available Uber Comfort vehicles for free. | |

# Object Model

A screenshot of a computer

Description automatically generated

# Stakeholder Requests [Optional]