

# Güber



# Güber (Version 1.0)

## User Manual

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# 1. Glossary

**Taxi-** A motor vehicle licensed to transport passengers in return for payment of a fare and typically fitted with a taximeter.

**Speed limit-** the speed limit we follow is 45 mph.

**Fare -** the total cost of using Guber services for a taxi ride. Fares include a base price in addition to the distance traveled and time taken to reach a destination from pickup.

## 2. Taxi Cab Management

### 2.a Introduction

Güber Taxi Service offers convenient transportation for your commuting needs. Call a ride on demand and get to your destination with ease and speed. Schedule a ride in advance with reliability. Güber offers complete pickup and dropoff service with professional care. Enjoy comfortable rides and friendly drivers on your way. Our user interface is simple and easy to use, with world class customer support. When it comes to transportation, Güber is your #1 taxi service.

### 2.b Goals

The goal of Güber Taxi Service is to create an advanced and efficient taxi management system that can simultaneously direct multiple taxi cabs at a time while catering to different needs of the consumer. Güber Taxi Service should also be compatible with multiple locations and account for their different respective layouts. Taxi routes created by Güber should be efficient with reasonable rates while also staying within a 20 minute length. Customers should be able to book a taxi immediately or reserve one in the future, and the nearest available taxi will arrive on time.

### 2.c Main Features

#### On Demand Taxi

Customers are able to call a taxi anywhere from the city limits on demand. The nearest taxi will come pick up with speed and reliability. Passengers can choose from two different ride services:

1. **Guber Premium:** this taxi service will take you straight to your destination without picking up other passengers. This is the fastest option for those who wish to get to their destination as quickly as possible.
2. **Guber Shuttle:** this option allows other passengers along the destination route to join the same taxi. Riders can enjoy a more economical fare with this option. The shuttle service is recommended for those who are not in a rush and has made a reservation in advance.

#### Schedule a Ride

In addition to on demand taxi, customers can also schedule a ride in advance. The pickup location and destination will be needed. Users have the option to

input the pickup time, drop off time, or no preference. The option between Guber Premium or Shuttle can also be specified.

### **Calculate Cost**

With this feature riders can estimate the cost of their fare. The pickup and dropoff locations are used to calculate the base fare. The specified ride type will determine the final estimated price. Note that for Guber Shuttle, the final price may vary due to a change in the number of riders upon the calculation time.

### **Cancel a Ride**

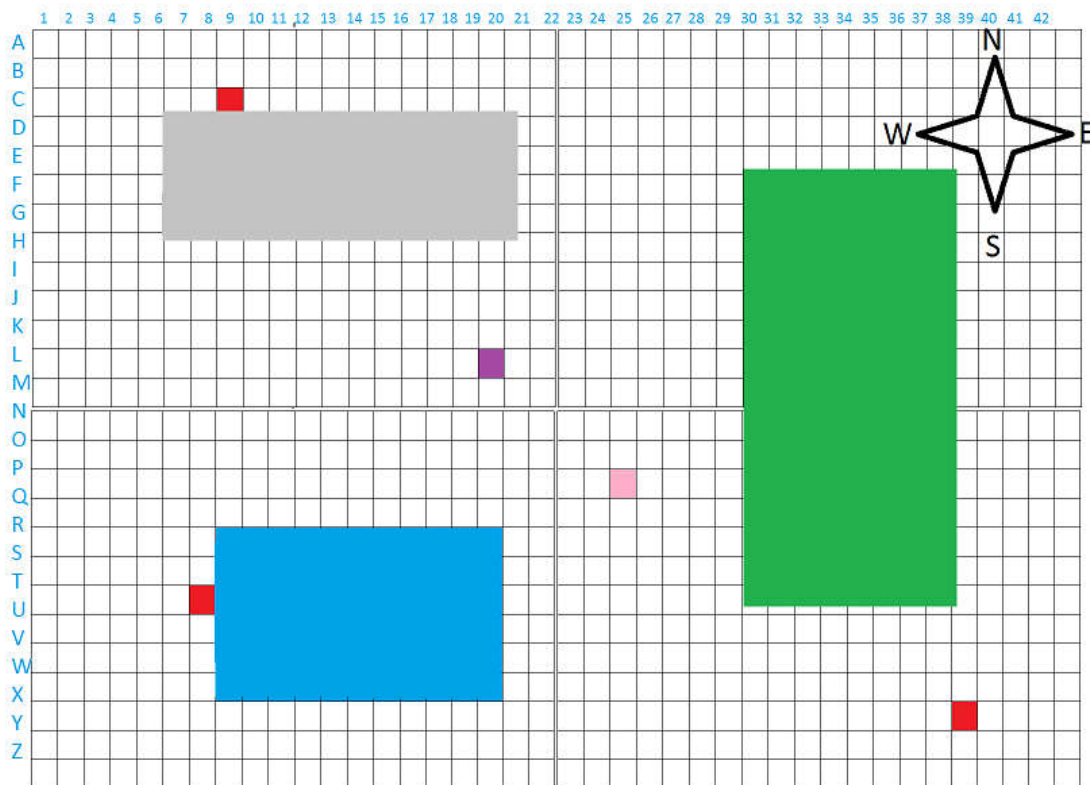
Users can cancel a ride on demand before the taxi arrives to the pickup location. However, once the customer has entered the vehicle, the total fare will be charged based on where the rider gets off the taxi.

### **Check Route and Location**

The optimal route and the location will be shown on the city map. Customers can confidently ride Guber Services knowing that the most efficient route will be taken.

## 2.d Application Screenshot

As seen in the screenshot below, the user will see a grid of the entire city of New Irvine. The red squares are the taxi stands. The purple square is where the user is. The pink square is the location of the taxi cab that is assigned to the user if they purchase a ride. The other colored blocks are terrain and scenery that are non-traversable.



## 3. Installation

### 3.a System Requirements

Operating System	Linux
CPU	Intel Pentium or better
GPU	Integrated Graphics Card or better
RAM	1 GB or more
HDD	1 GB or more
Software:	SSH client with X Forwarding

### 3.b Setup and Configuration

1. Type `./GuberClient <port number>` to run the application

### 3.c Uninstallation

1. Type `rm -rf Taxi_V1.0`, and the application folder will be removed from your current directory.



## 4. Program Functions and Features

### 4.a Functions

1. Guber Premium - Get a taxi to your destination in as little time as possible.
2. Guber Shuttle - Get a taxi to your destination, in-between stops possible.
3. Schedule Premium - schedule a Premium taxi in advance.
4. Schedule Shuttle - schedule a Shuttle taxi in advance.
5. Calculate Cost - Estimate the cost of the fair.
6. Cancel a Ride - cancel a scheduled, or current ride.
7. Check Route - Check the route the taxi will take to the destination.
8. Check Distance - Check the distance the taxi is from you.

### 4.b Detailed Description of Client and Server Communication

**User Input:** Guber Premium

**Program output:** Provide Start and End point

**User Input:** A3 D8

**Program output:** Taxi is available, Pickup 1:30 Dropoff 1:40 \$5.25 Type  
Confirm/Deny

**User Input:** Confirm

**Program output:** Thank you for choosing Guber, your ride will arrive shortly

### 4.c Detailed Description of Routing and Scheduling Algorithm

If user is scheduling

See if there is an available car at the nearest taxi stand

Yes: Tell user they can schedule and the price

If user agrees: reserve car

If user says no: do nothing

No: Check if there is an available car at 2nd nearest taxi stand

Yes: Tell user they can schedule and the price

If user is purchasing now

If Premium: Check if available car at nearest taxi stand

Yes: Tell user they can purchase and the price

user agrees: send car and decrement available cars at stand

user disagrees: do nothing

If Shuttle: Check for the nearest available shuttle or Taxi Stand

Yes: Tell user they can purchase and the price

user agrees:

If nearest is shuttle: send shuttle  
If nearest is stand: send and decrement  
user disagrees: do nothing

## 5. References

<https://en.oxforddictionaries.com>

## 6. Error Messages

***Taxi Unavailable:*** this message will appear if all taxis are currently occupied or cannot pickup the passenger within a reasonable time

***Invalid Pick Up Location:*** The user must enter a valid pick up location within the city limits. This means that the pick up address cannot be within landmarks, buildings, or any areas in which cars cannot pass through.

***Invalid Drop off Location:*** Similar to the previous error

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