

User Manual

For

StraightOuttaTinyTown

Software version 0.01

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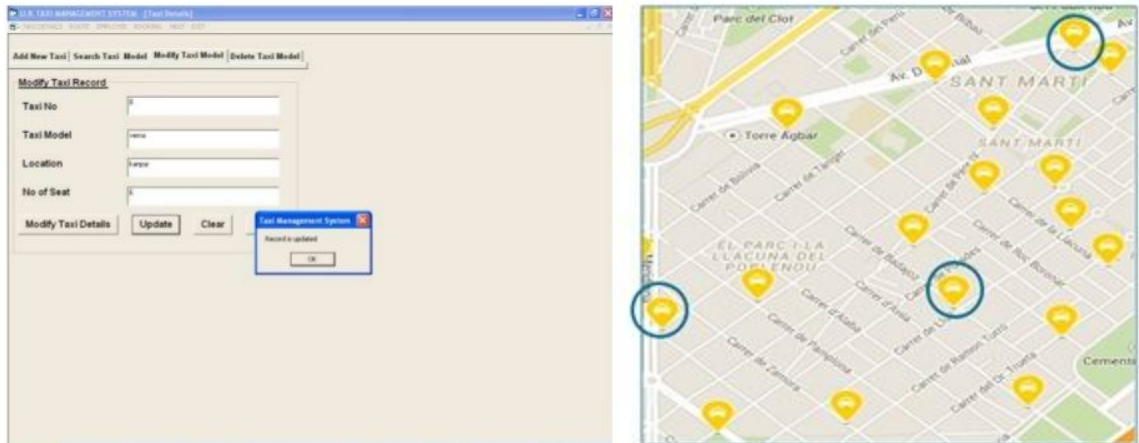
Glossary

1. **Taxi cab stands:** location where the taxi cabs line up waiting for passenger. They are usually located at high-traffic locations like airports, train stations, universities, etc.
2. **Client-server model:** the model of software application that partitions task and workloads between the providers of a resource or service, called servers, and service requesters, called clients.
3. **Client app:** the software application that accesses a service made available by a server. It's usually used by clients and operate on sending request and data to another program to process.
4. **Central management server:** the software program that provides services and functionalities to other program or devices (clients). A single central management server can provide resources to multiple clients.
5. **Internet protocol:** the principal communications protocol or simply the set of rules about formatting data which is sent over the Internet or other network.
6. **Rider Request:** a request sent by the customers to the server.
7. **Real-time:** live interactive interface of server status or simply the actual time during a process or event.
8. **Pick-up:** pick up customers at certain locations.
9. **Drop-off:** drop off customer at destinations.
10. **First-class ride:** customers choose to ride alone, no other parties in the cab.
11. **Economy ride:** multiple parties in the cab, up to the maximum occupancy of the cab car .
12. **Location-aware (GPS based):** a device and technology component that can determine its physical location and deliver that information to another application.
13. **Income:** customers pay with credit cards at the time of reservation.
14. **Expenses:** the amount taxi drivers must be compensated for driving, but not for waiting.
15. **Resulting revenue:** the amount income minus expenses.
16. **Communication interface:** a software application that is designed to enable one device or application to telecommunicate with another device.

17. **Configuration file:** a file that contains data or configuration information about an application, a device or user.
18. **Fare:** the total amount of money that user have to pay after a ride.
19. **Blocks:** the area bounded by 4 streets in a city, usually have the length of a quarter of a mile apart.

1 Taxi Cab Management

1.1 Usage scenario



1.2 Goals

The main purpose of our company is to provide a brand new way of accessing taxis. Instead of actually going to a taxi stop to find a ride, the users are able to request taxis over a client server which saves time and the trouble of not knowing taxi availability. The goal of our company is to create a taxi cab management system and a complimentary user-based client application that provides the user with user-friendly graphical interface and allows the user to request for a taxi from any location to any location within the defined city bounds. The core of this program is its server-to-client communication system. The client server sends requests from the users to the main server for management and the server checks for any available taxis within the closest range of the user that requested the taxi and sends this information back to the client server along with pricing, estimated time of arrival and taxi location tracking to the user.

1.3 Features

The two major components of our program are the main server and the client server. The main server is the brain and butter of the program, while the client server provides a user-friendly graphical user interface that allows the user to send requests to the main server. Some features of the client server are the graphical user interface, which is an easy to read fill in the blank interface that asks the user for information such as the time they would like to be picked up, the location and destination, the choice of choosing to ride alone for a larger fee or to ride along with other customers. Once the request is confirmed and there are taxis available, then the client server will provide the user with information such as price, estimated time of arrival, and also the option to request the current location of the taxi. The main server also provides a graphical interface of the city map that shows the current location of all the taxis as well as the information of the taxis

such as how many customers are onboard, and the routes that the taxis will take to get to the customers. Most of the main server will be automated in which it calculates the information required for managing all of the taxis. The automated system include features such as finding the best route for a taxi to get from point A to point B, constantly tracking the location of the taxis, and managing multiple requests and efficiently organizing taxis to provide the most efficient assignment of taxis.

2 Installation

Terminal Download (PuTTY):

<http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>

2.1 System requirements, compatibility

Linux-based Operating System with Internet connectivity to access remote servers provided by University of California Irvine. Hostname(s): zuma.eecs.uci.edu, crystalcove.eecs.uci.edu, laguna.eecs.uci.edu

*TCSH shell on remote server

2.2 Setup and configuration

Before installing our program, we require you to download Xming from the following link: <https://sourceforge.net/projects/xming/> in order to run the graphical user interface (GUI) that StraightOuttaTinyTown offers! Xming operates for both the client and server (back-end) portions of our program.

To access the remote server where this program resides along with the src, bin, Makefile, type into the command line, ssh username@zuma.eecs.uci.edu or username@crystalcove.eecs.uci.edu to set the hostname/username. *Note, the username is provided in the email of purchase confirmation. Once this command completes, you will be prompted to enter the server and type yes to gain access. The terminal will request a password which is provided in the email of purchase confirmation. Once in the server, finally type ./server port XXXX and ./client port XXXX with the two port numbers being the same in order for the client and server to establish a secure connection. Now, you have StraightOuttaTinyTown operating!

2.3 Uninstalling

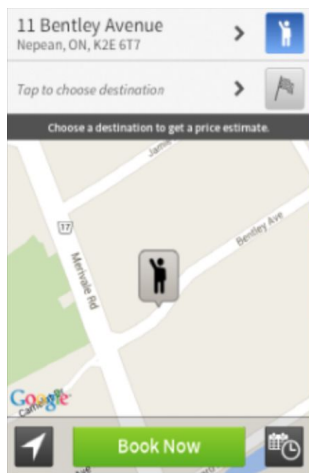
To uninstall this program, type into the command line make clean to remove all executable files and exit the terminal. Also, to delete Xming, navigate to Programs and Features and uninstall.

3 Taxi Program Functions and Features

Here we have laid out all the features and functions available for your use.

3.1 Function 1: Request Taxi - Customer hails a taxi using the client app.

- User input (App): 'Current Location', 'Destination', 'Single or Carpool Rider'.
- Program output (Server): 'Taxi #', 'Estimated Time of Arrival (ETA)'
- Screen shot:



3.2 Function 2: Track- Locate the position of your taxi

- User input (App): 'Taxi Number'
- Program output (Server): 'Coordinates of Taxi # entered'
- Screen shot:



3.3 Function 3: Fare Calculator- Estimates total fare of trip from point A to B.

- User input (App): 'Location', 'Destination'
- Program output (Server): 'Estimated Fare: \$xx.xx'
- Screen shot:

Estimated Distance

2 miles

Estimated Fare

\$9

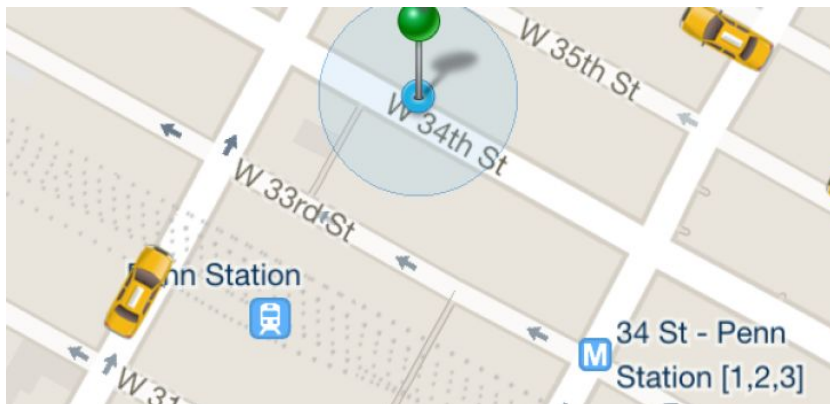
3.4 Function 4: Display Map- Shows a visual representation of the city and taxis enroute.

- User input (App): Click 'Display Map'
- Program output (Server): Opens window with the map
- Screen shot:

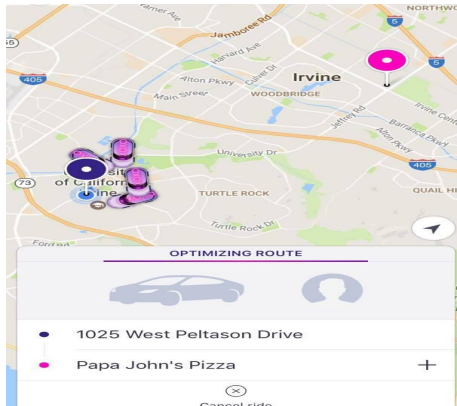


3.5 Function 5: Closest Taxi- Assigns taxi in vicinity of carpool request with capacity to passenger

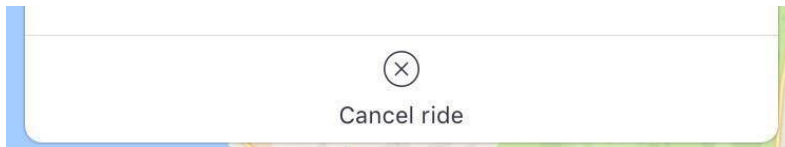
- User input (App): User just needs to select a carpool ride.
- Program output (Server): 'Taxi #', 'Estimated Time of Arrival'
- Screen shot:



- 3.6 Function 6: Efficient Route- Analyzes location/destination and calculates time efficient route
- User input (App): User enters in the usual entries of Location, Destination, Single or Carpool.
 - Program output (Server): Returns enroute taxi with a programmed, direct (if not carpool) and fast route to destination.
 - Screen shot:



- 3.7 Function 7: Cancel Trip- This function can be used to cancel a scheduled/ requested trip.
- User input (App): Customer simply enters 'Cancel' into request entry box..
 - Program output (Server): Returns cancel confirmation with taxi number and a fare \$0.00.
 - Screen Shot:



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Warranty

Thank you for your interest in the products and services of The Furious 5.

This Limited Warranty applies to the products, and only for products, purchased from The Furious 5.

What does this Limited Warranty cover?

This Limited Warranty covers any defects in any products under normal usage during the Warranty Period.

During the Warranty Period, The Furious 5 will repair or replace, at no charge, products or parts of a product that proves defective because of improper operation, under normal use and maintenance.

What will we do to correct problems?

The Furious 5 will either repair the product at no charge, using new solutions to solve the issue.

How long does this coverage last?

The Warranty Period for products purchased from The Furious 5 is 180 days from the date of purchase.

What does this limited warranty not cover?

This Limited Warranty does not cover any problem that is caused by:

- Conditions, malfunctions, or damage not resulting from defects that were caused by The Furious 5.

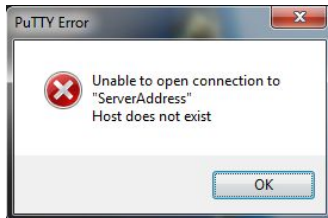
What do you have to do?

To obtain warranty service, you must first contact us to determine the problem and the most appropriate solution for you.

Messages You Might Encounter

- **“Unable to open connection to “. Host does not exist”**

The SSH client was not able to connect to the server. Ensure that you have a stable internet connection and that you are connecting to the correct servers. If the error message still persists, contact the server administrator.



- **“Server Request Failed”**

Your request to the server failed, check your internet connection.

- **“Could not determine your location”**

The location you inputted is invalid, check your internet connection and make sure location settings are turned on.

- **“Destination does not exist”**

The destination that you inputted does not exist on the map, make sure your spelling is correct.

- **“You need to choose “/Single”/ or “/Carpool”/”**

You need to pick between “Single” and “Carpool” in order to complete the request.

- **“Taxi # does not exist”**

You entered an invalid taxi #, make sure you are entering a valid taxi #.

- **“Insufficient funds”**

You have insufficient funds to pay a taxi.

- **“Estimated Time of Arrival (ETA)”**

The estimated time of arrival of your taxi.

- **“Coordinates of Taxi #”**

Displays the coordinates of the Taxi # you are looking up.

- **“You have arrived at your destination”**

The taxi has arrived at the destination you requested.

- **“Estimated Distance”**

Displays the estimated distance from point A to point B.

- **“Estimated Fare”**

Displays the estimated fare from point A to point B.

- **“Trip canceled”**

Confirmation that your trip is canceled.

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