# Concept Statement: Taxicab – A web app that offers location suggestions to drivers and also acts like ride-hailing apps: Uber and Lyft for customers

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# Problem Statement

Ride-hailing apps such as Uber and Lyft are so popular that many people use their services to commute between home and office. They established services across the US and in other countries[1][2]. Some people call taxis because they are cheaper than Uber's and Lyft's services. According to Anastasios Noulas, Uber has much more cheaper fares than Taxis does mostly when trips are long that they cost more than $35. Nevertheless, he also stated that short trips in which the fares are below $35 accounts for about 94% of taxi fares. Taxi is more likely to be a better option when the demand is high since Uber and Lyft will boost their fares during rush hours and high demand situation. Therefore, taking taxis when you commute between close locations is cheaper than taking Uber.

Getting a taxi is lot more difficult than getting Uber since the customers have to literally stand at the edge of sidewalks and wave their hands to stop an empty taxi that is available for services. We can't call taxi services with a push of a button. When the weather gets bad, this process is even more problematic.

# Existing solutions

- Currently there is no unifying services that help the customer to easily book a taxi. Even there are websites and apps that allow you to reserve a taxi, the user experience is terrible. Yellowcabnyctaxi.com allows you to book a ride, but the booking process and user interface are not very user friendly.
- There are apps on App Store[3] that provides booking services. However, they are not as widely available across the US as Uber or Lyft does. They are only supported in few states or just one state.

# Concept: Taxicab web app

Taxicab is a mobile-friendly web app designed to help people booking taxi services. Not only that, it also helps those taxi drivers to get more pick-ups and tips[4]. By analyzing datasets that

1) Full list of cities that Uber operates in: https://www.uber.com/cities/
2) Full list of cities that Lyft operates in: https://www.lyft.com/cities
3) iOS App Store only in this case
4) NYC Yellow Taxi Prediction: https://github.com/JustARafael/NYC-Yellow-Taxi-Prediction

contains times for pick-up and drop-off, amount of fair paid, tips given, weather condition, and bunch of other factors, we are able to provide reasonable solutions to taxi drivers and divert them to areas that have high demands. We can use machine learning algorithms such as clustering and regressions to get the best blocks for pick-up during specific day of the week and month, to find closest location within a driver-defined distance that offers highest tip based on times of the day and day of the week, and to predict tips based on pick-up location, distance traveled, and time spent.

1. GPS integrations: to locate user's current location and taxis nearby like Uber's and Lyft's real-time car services map.
2. The ability to save frequent destinations. This is something that yellowcabnytaxi.com doesn't offer because users don't have an account to log in and they have to type in pick-up address and destination address every single time.
3. Intuitive user interfaces that let users and drivers book a ride easily, get picked up effortlessly, or find the most optimal areas to pick up customers accurately.
4. An up-to-date database synchronizes with TLC trip record data[5] so that drivers can always get the latest and most accurate predictions to maximize their profits.

# User Story – User perspective

1. Rafael finished his work on a rainy day at a location where is no subway stations nearby. Worst case is: he didn't bring an umbrella with him today.
2. He took out his phone and booked a ride using Taxicab web app instead of Uber or Lyft because they increased the fares by four times the price during rush hours.
3. The app showed him taxis that are within certain distance of his current location, and he booked a ride by selecting his home address, a frequent destination he saved in his account. With push of a button, a booking is confirmed and completed.
4. He waited for several minutes and a cab arrived. He got home safe and sound instead of being soaked in the torrential rain.

# User Story – Driver perspective

1. Rafael owns a cab, and he drives on the street. He doesn't see any potential customers because he is driving in a residential area during rush hours.
2. He takes out his phone and opens Taxicab. He enters the desired distance for the search suggestions. Then he gets the result back within few seconds. The result shows that 3 blocks away from his current location has the largest chance of picking up a customer.
3. He drives to the designated location suggested by the app only to find out that there are a lot people waving their hands to get a taxi since there is an office building nearby and it is the time for them to get off the work and go home.

5) TLC trip record data: http://www.nyc.gov/html/tlc/html/about/trip_record_data.shtml
Reference:
http://www.consumerreports.org/personal-finance/uber-vs-taxi-which-is-cheaper/