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## ON DEMAND VALET PARKING SYSTEM

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**Abstract:** A valet is usually an employee of the establishment, or an employee of a third party valet service. When there is a fee, it is usually either a flat amount or a fee based on how long the car is parked. Valet parking is most often offered (and is most useful) in urban areas, where parking is scarce, though some upscale businesses offer valet parking as an optional service, even though self-parking may be readily available. For example, in wealthy suburban areas of India like Mumbai, Bangalore Delhi, Pune some Malls, hospitals Restaurants and office spaces offer valet parking for the convenience of their visitors. In recent years emerging ride-on-demand services (eg. Uber or Didi) are penetrating into the market of traditional taxi service. In these new services mobile devices are a key enabler: they serve as the intermediary between customers and the service provider, tracking the locations and behaviour of both customers and service provider. We design android mobile application which helps eliminate the pain that vehicle owners face every day while parking in their city. We help you find secure parking spots in your city and provide valets on-demand who will assist in parking and attending to your vehicle. Valet parking system consists of thoughtfully crafted yet easily mastered software applications which are easy to use for technologically less oriented people to use ride on demand service. Our findings have made us understand the need of on demand valet service system in the metropolitan cities of India due to the increasing population and the subsequent increase in the vehicle traffic.

**Keywords:** Mobile services, On-demand Services.

### I INTRODUCTION

The recent emergence of app-based, on-demand ride services has sparked debate over their role in urban transport. In today's metropolitan cities, due to the increasing population and less area for parking, the on demand valet parking system will be a boon for people travelling by their own car. This project will be leading the charge on a new industry of on demand services that address a ubiquitous urban challenge: finding a parking spot. With the help of this project we will strive to make parking a vehicle both convenient and affordable. By removing cars from city centres, making better use of underutilized parking spots, and relieving the pain of parking for drivers, we can truly improve our customer's daily routines and relieve civic pain with an affordable, convenient, and fast service. Within our app, tell us where to meet you our Valet will be there when you arrive.

When you're ready to get your car back, schedule the return, and your car will meet you at the time and place of your choosing. In this paper, we explore valet parking's role in on demand mobile services, particularly in comparison with ride sourcing like Uber, Ola, etc, through a systematic on demand service model which will provide the best possible experience to the user.

### II RELATED WORK

There are expanding number of outing arranging administrations that propose open transport courses to clients with timetables and other data. A considerable lot of them are coordinated with continuous information about travel times, which can be consolidated with data stages in light of group sourced data [1], including movement blockage, prepare flag disappointments, and so forth. As of late, auto sharing of cabs or private vehicles has turned out to be progressively well known. Portable administrations are created to allot a

reasonable taxi or shared auto to each excursion in separation. Such versatile administrations can be considered as an augmentation of existing taxi calling administrations. They use methods for blurring a reasonable ride among an arrangement of applicant vehicles in view of specific criteria. Various worldwide arranging systems have been explored, for example, heuristic systems for the heap adjusting of accessible taxicabs to serve anticipated future request with bring down inertness.

Uber [4] is a versatile application like the taxi calling framework which empowers clients to ask for drivers keeping in mind the end goal to be transported. Customarily, one who needs to call a taxi normally needs to influence demand to a call to focus. With the Uber portable application, everything winds up noticeably less demanding and quicker. One can ask for an auto on the web, then monitor the auto's GPS area on a guide until the point that the auto comes to pick one up. The application gives toll estimation for the ride, with the goal that the client knows the cost ahead of time. At last, the client can pay effortlessly through the application so the requirement for money is disposed of. Uber likewise gives clients the chance to give input after a ride. Kutsuplus [5] is another transport benefit transport framework conveyed at Helsinki in Finland. The idea has been produced by Ajelo and is very like Uber however as opposed to getting a taxicab on-request you get a transport on-request. A us demands a transport on a versatile application picking the beginning stage, the goal, the takeoff time and the quantity of seats you need to book. Kutsuplus will at that point search for other individuals requesting a transport to a similar goal and will propose conceivable courses. Once the excursion is confirmed, the client can pay straightforwardly through the versatile application with a virtual wallet. The cost is not fixed as in standard transport travel. For each excursion recommendation after a request, the toll is shown. The toll can be part and ends up noticeably less expensive in the event that one books a transport for a gathering. Ajelo was a start-up organization that built up the calculation and was procured in November 2014 by Split [8] to send a common ride benefit in the United States.

### III PROPOSED SYSTEM

Our project is an on-demand valet parking service that aims to optimise the process of parking cars. Through the app, a user can request a valet to come to a designated spot (within their service location), take their vehicle, and park it in an enclosed space till the patron needs it again. In the following figure we can understand the flow of events, such as customer using its application for booking the valet, setting the time and location based on which they will be charged. They may also opt for value added services at this time. After this they will be sent to the payment page from where the

payment will be processed through the admin and sent to the valet service provider. Meanwhile the valet service provider will receive the request with time and location and act accordingly to assist the user to park their vehicle. Once the vehicle is handed over to the valet they will park the car in the nearest safe parking spot available and once the user demands its car back or as requested it will be dropped off to the user's desired location. Thus making this service fast convenient and affordable

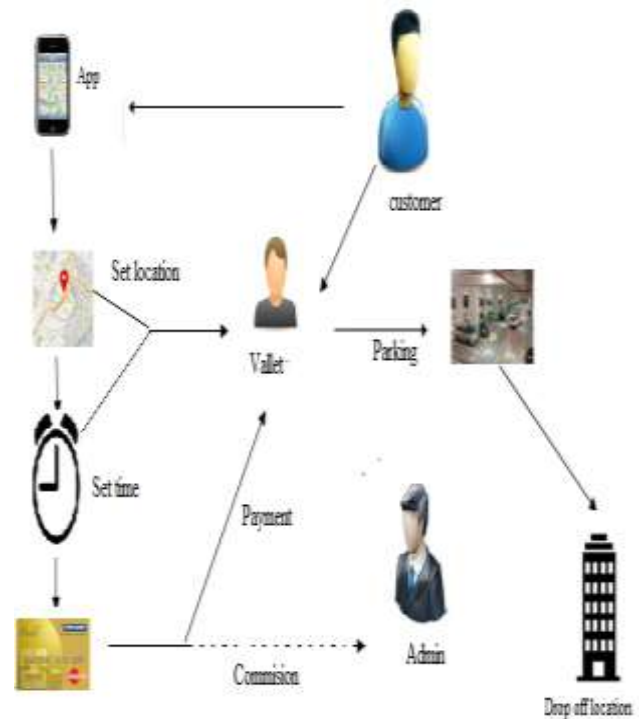


Figure 1: System Architecture

### IV METHODOLOGY

#### 1] User:

A registered customer wants to make a reservation (either one-time or recurring). After being authenticated by the system, the system will show a reservation form. The user will input all required information (date and time, length of stay, etc.) and submit. The system will then validate the information submitted and create the users reservation, storing the data in the database. She/he searches nearest valet parking. He/ she request to valet parking.

#### 2] Valet Service Provider:

Valet service provider collect the request goes to particular destination pick up vehicle and parking slot allotted.

#### 3] Admin:

A registered customer wants to change their account details (email, password, address, credit card info, etc.). After first being authenticated by the system, the customer will be presented with a pre-filled form with all of their existing information. The customer will make whatever changes

he/she wishes to make and submit. The system will validate the information and save it in the database.

Admin also control both modules. A system administrator wants to manage the garage remotely. After being authenticated by the system, the administrator will be presented with options to set parking prices, inspect usage history, as well as view current usage.

**V ALGORITHM**

**1] KNN algorithm**

K nearest neighbours is a simple algorithm that stores all available cases and classifies new cases based on a similarity measure (e.g., distance functions). KNN has been used in statistical estimation and pattern recognition already in the beginning of 1970's as a non-parametric technique.

- Determine parameter K= number of nearest neighbor.
- Calculate the distance between the query-instance and all training sample.
- Sort the distance and determine nearest neighbour based on the k<sup>th</sup> minimum distance.
- Gather the category of the nearest neighbour.
- Use simple majority of the category of nearest neighbours as prediction value of the query instance.

**KNN Pseudo Code**

kNN (dataset, sample)

- Go through each item in my dataset, and calculate the "distance" from that data item to my specific sample.
- Classify the sample as the majority class between K samples in the dataset having minimum distance to the sample.

**2] AES Algorithm**

You take the following AES steps of encryption for a 128-bit block:

- Derive the set of round keys from the cipher key.
- Initialize the state array with the block data (plaintext).
- Add the initial round key to the starting state array.
- Perform nine rounds of state manipulation.
- Perform the tenth and final round of state manipulation.
- Copy the final state array out as the encrypted data (cipher text).

**VI ADVANTAGES**

- Convenience
- Less Stress
- Security
- Traffic Flow
- Pampering

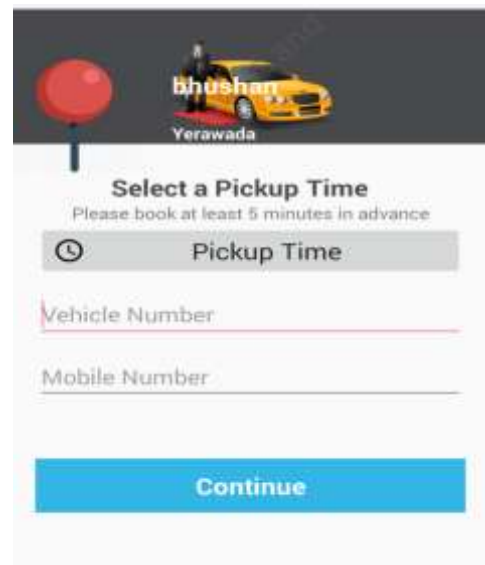
**VII RESULTS**

**1] Actual Service Providers Work**



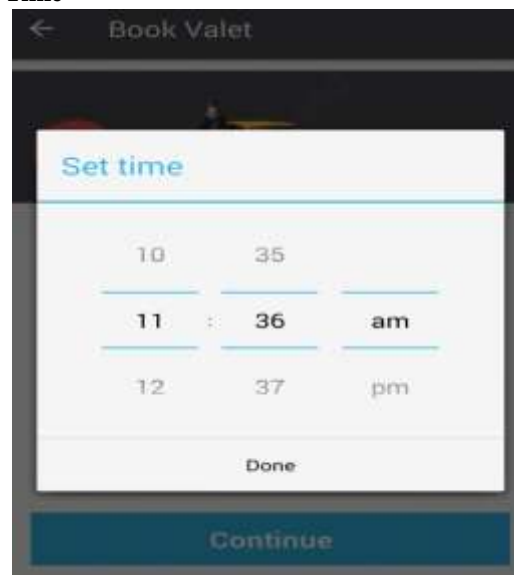
*Figure 2: Actual Service Providers Work*

**2] Book Vehicle**



*Figure 3: Book Vehicle*

**3] Set Time**



*Figure 4: Set Time*

4] User Details

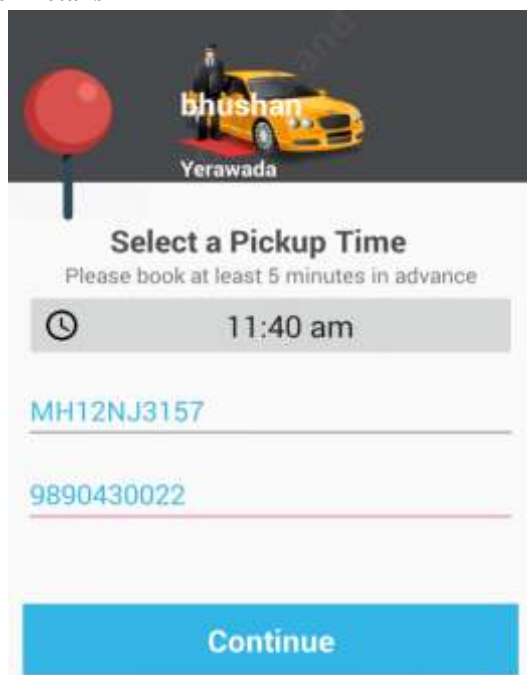


Figure 5: User Details

5] Confirm Booking

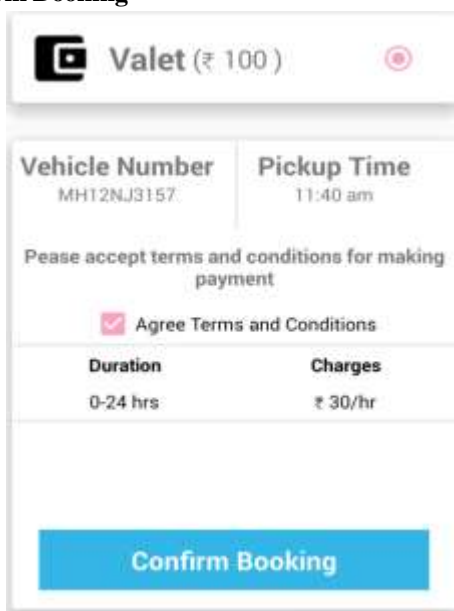


Figure 6: Confirm Booking

VIII CONCLUSION

As a relatively new on demand service option, Valet parking is not yet well understood in India. In this paper, we presented the scope of on demand Valet Parking system in the metropolitan cities of India. In this paper we have studied the potential of developing and using an on demand valet service system which helps provide easy parking solutions to the people in need of the service.

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