UNVERSITY OF DELHI

INNOVATION PROJECTS 2015-16

FINAL REPORT

1. PROJECT CODE: **SHC-309**

2. PROJECT TITLE : **Real Time Android Application for Travel Convenience**

3. NAME OF COLLEGE/INSTITUTION**: Shivaji College**

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Real Time Android Application for Travel Convenience

SHC-309

Abstract

Parking facilities are an integrated component of the roadway system. It is the first experience that people have while traveling to a destination.

Parking has become a problem in Delhi-NCR regions. As per traffic survey conducted by the Centre for Science and Environment (CSE) it was found that 5.7 lakh vehicles that enter Delhi daily is close to or more than the total number of vehicles that get registered in Delhi in a year. There is a need for systematic parking system.

Insufficient parking spaces, lack of knowledge about available parking spots force commuters to park vehicles on roads and at unauthorized parking places. No real-time information about parking is available to users.

Insufficient knowledge about nearby garages in case of break down worsens our travel woes.

We need to have a single integrated solution to overcome travelling problems encountered on daily basis. A solution that makes travel stress free, that not only saves time but gasoline too.

Introduction

As Delhi is progressing and becoming a hub for corporate and occupational opportunities, the number of commuters have increased. Roads are filled with vehicles. Growing number of cars and finding a place to park them is one of the Delhi's biggest nightmares.

Vehicles are parked on the roadside. Because of congestion on roads commuters do not find parking space. It leads to a host of other problems – encroachments, road rages and even murders. As the number of cars in Delhi is growing, there is an urgent need for having systematic parking solution.

In the wake of this problem, we decided to come up with a solution that could minimise parking problems. Since a lot of time, energy and resource is lost in finding a suitable parking location, we have come up with an efficient tool for searching parking spaces, fuel pumps and garages in and around an area with the help of Global Positioning System (GPS).

Thus, our team devised the application **Usher**, which is an integrated solution to overcome all the travelling problems encountered in daily life. This application reads the user's location thus providing sufficient parking details like name, authority, capacity, timings, and peak hours, contact and pricing charges.

The user is also provided with other utilities like fuel pumps and garages which could prove to be very useful while travelling long distances.

Objectives

The Innovation project proposed to develop a single integrated solution to overcome travelling problems encountered on daily basis. A solution that makes travel stress free, that not only saves time but fuel too.

- Our aim objective was to design an android app "**Usher**" that will be available on google play store.
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- The application aims to provide a platform for getting parking information of locations situated in Delhi. It will allow users to filter available parking based on various parameters such as fare, distance from destination or the user's current location, types of parking available etc.

- It will also help them to navigate to their desired parking spot.

- The application also provides information regarding garages in case of a breakdown. We can filter garages on basis on brands handled.

- Information regarding fuel stations.

Economic Benefit

The study of Economics aims at making ‘the best optimal use of available resources’ i.e maximisation of one’s satisfaction is the key to ultimate happiness in a cost-effective manner. **Usher** provides precisely that. **Usher** app aims at the user’s maximum satisfaction derived from choosing the best parking slot, garages for emergency repairs and servicing and petrol pumps and gas station (fuel stations).

Usher allow us to choose the best alternative thus saving time, energy and money, it is also lucrative when it comes to business expansion. **Usher** also provides prospective for advertisement of places like malls, theatre, shops, clubs etc. Since travelling problems have been compounding continuously, new areas and special spots could be developed for the same thus expanding business and investment in this sector. **Usher** application can generate revenue from advertisements appearing in the app. Eventually we can include the feature of pre-booking of parking spots online.

If the roads are not congested and traffic is smooth, it will lead to smooth and safe functioning of the roads. People would have an incentive to move out of their houses and travel. As economists say that ‘the individuals would be satisfied and would be at their equilibrium’. Individuals will be encouraged to work more without much hassle as they would not have to worry about parking spaces, emergencies and the like which are an extra burden while travelling. When a country’s citizen is happy, the economy will progress better.

Methodology

- To understand user needs. Questionnaire was designed. Data from 500 people were collected. Questions were based on parking problems faced by the people or whether they think there is a need of an app indicating parking places within vicinity.
- Review of existing applications.
- Design of databases
- In the initial phase, data was collected from nearly 260 authorised parking locations in Delhi/NCR, managed by SDMC, NDMC, DDA, metro and mall parking.

- The details included – opening and closing hours, busy hours, capacity, price, incremental price, contact details and authority under which it is maintained. We updated our database by mentioning the parking details along with its coordinates.

- Data about service stations (garages) and fuel stations located in Delhi /NCR, was collected from online sources

- Design of user interface.

- Testing and optimization of App designed.

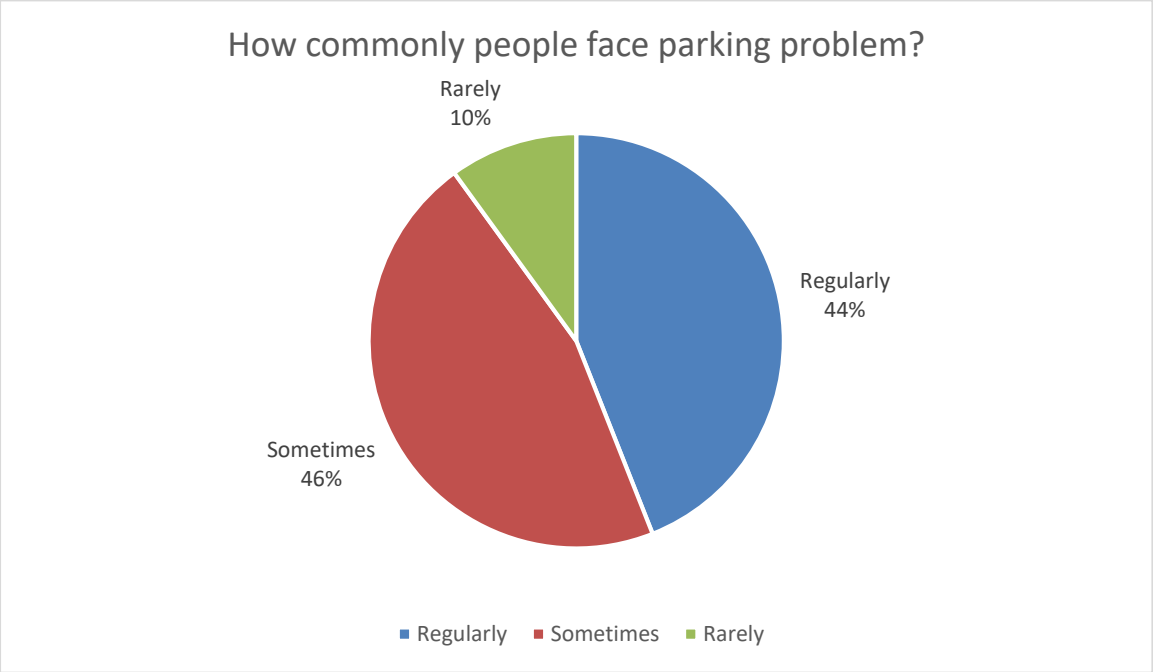
- Uploading the android app at Google play store

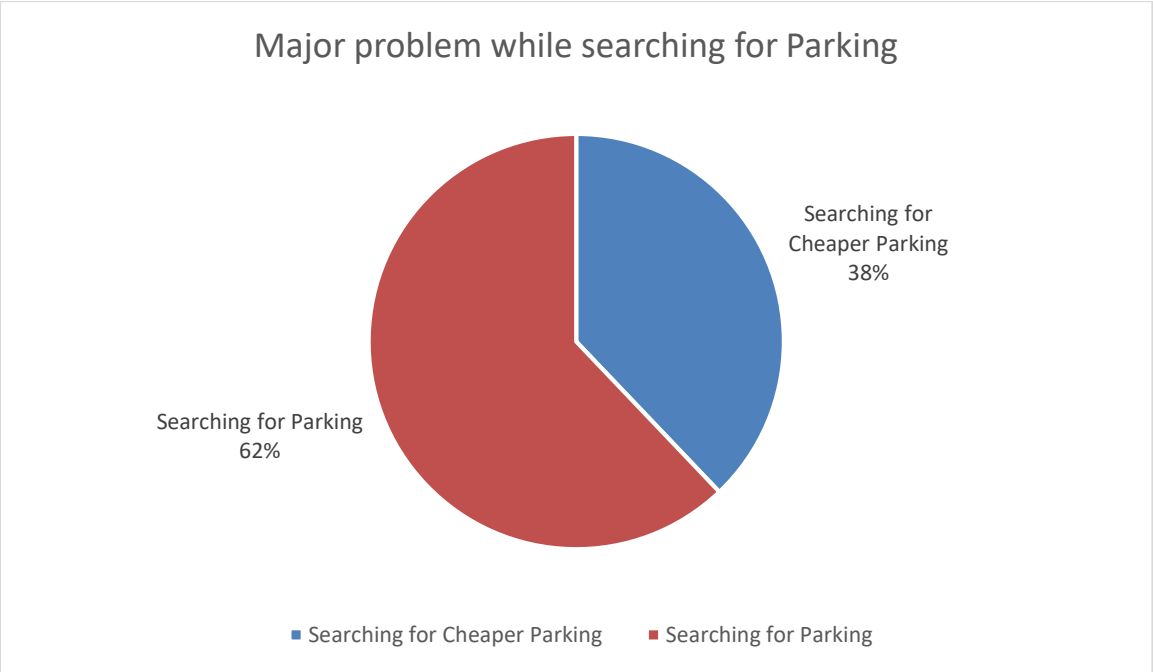
- Design of **Usher** website to provide online support.

Methodology, Result And Discussion

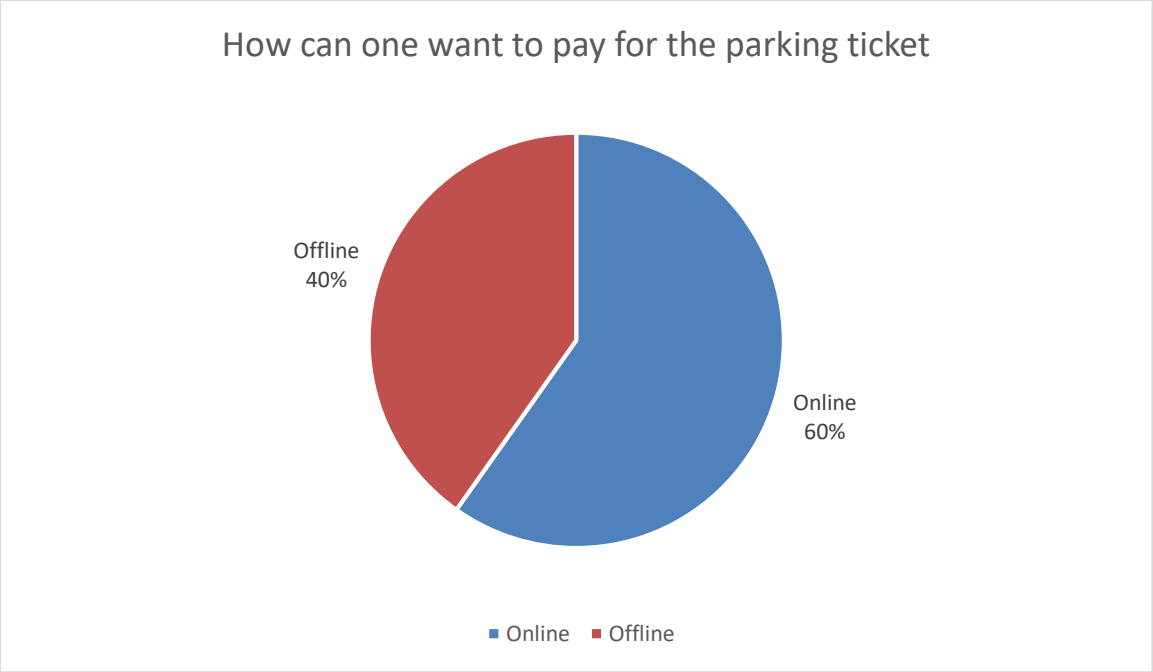
To understand user needs, Questionnaire was designed. Data from 500 people were collected. Questionnaire was specially designed to get an unbiased response through a mix of open and close ended questions. User response were analysed. They helped in understanding the feasibility and scope of the project.

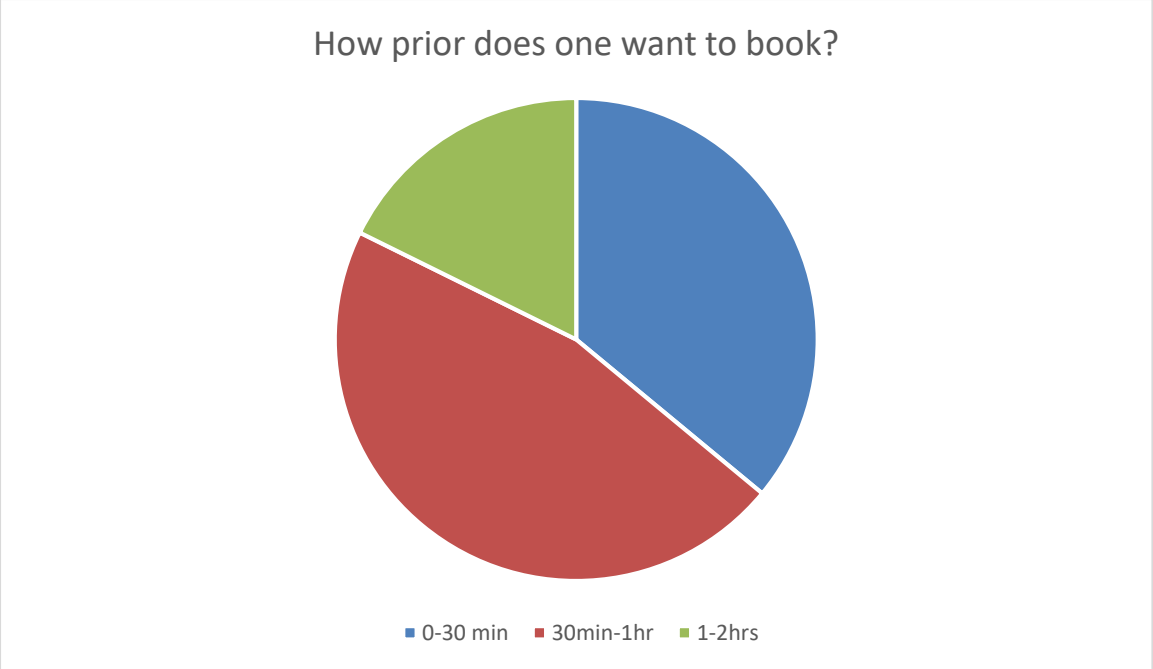
Analysis of Questionnaire

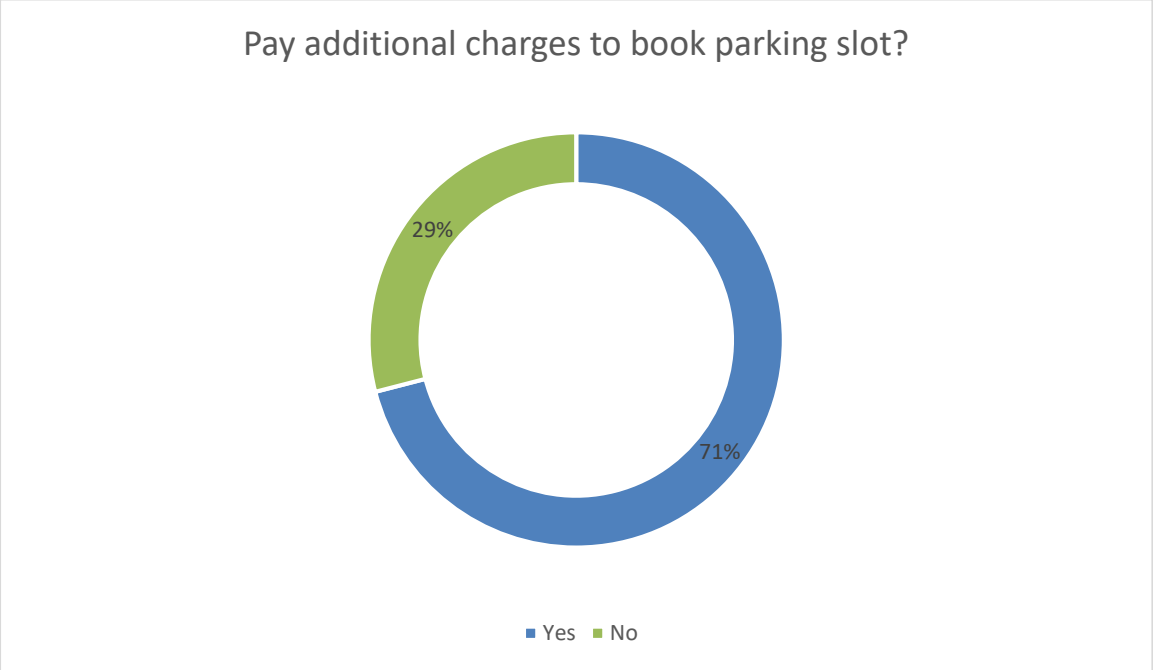




Above observations highlighted the existence of parking problem and user's need for an application, that provides accurate information regarding parking spots.







Responses to the questionnaire, showed feasibility of the application and suggested user inclination towards pre-booking and online payment for parking spots. These can ultimately be implemented with upgradation of infrastructure and technology at parking spots around the city.

It was decided to review existing applications available for assisting parking. At the start of the project, only one application PParke, was operational in Bengaluru. Many new such application came during the time of the project so analysis on these applications were done.

PParke

- The application allows user to pre book parking slots online, at selected places in Bangalore.
- The application has expanded services to Mumbai, Delhi and Chennai. App only provides parking information. Data was found to be inaccurate for many sites.

Parkitekt Bangalore

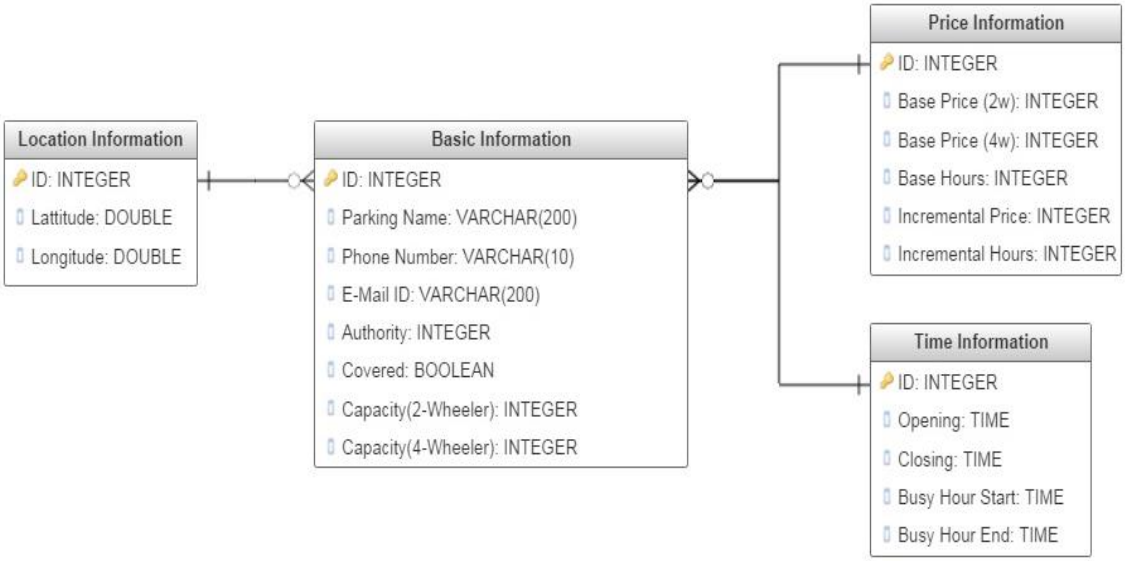
- It helps in finding parking spaces – at venues like popular restaurants, entertainment arena's, business districts.
- Available for only Bangalore users.

Constapark

- It is an on-demand valet parking service to provide parking at selected parking sites.
- At present this service is available in Bangalore only.

Study of available applications highlighted shortcomings, helped in defining primary objectives of the project.

Database Schema for Parking was designed, keeping in mind information needed by travellers which was relevant for parking especially those in NCR region.



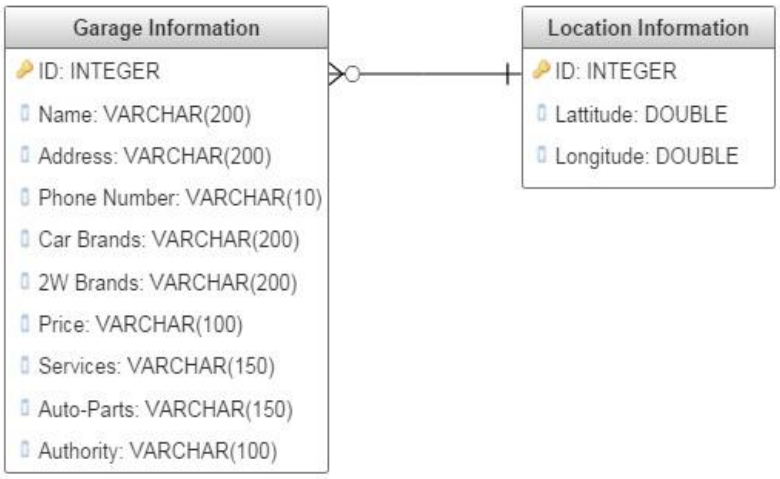
PARKING DATABASE SCHEMA

Base Price indicates the minimum parking charges, **Incremental Price** indicate incremental charges added hourlyBusy hour Start-Busy hour End indicates peak hours and can suggest probability of finding a parking at those sites.

Covered indicates whether it is a covered or an open parking.

Latitude and Longitude are the co-ordinates of the parking at an accuracy offset of 10-15m taken by the Global Positioning System.

Likewise, Databases to store Garage information were also designed. Information regarding Garages that may assist users in case of breakdown.



GARAGE DATABASE SCHEMA

Car Brands define the list of Car Brands whose servicing are supported by the given Garage same for 2W Brands where 2W stands for 2-Wheeler.

Services provide the list of services offered by the Garage and Price define the standard pricing for these services.

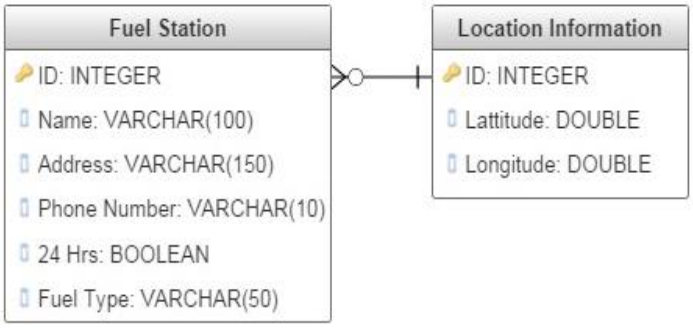
Authority defines the name of the owner/organization the garage belongs to.

Location as before corresponds to the Geographical Location in terms of Longitude and Latitude of the Garage according to the corresponding address provided.

Auto-Parts gives a standard list of parts which are provided / available for both repair and purchase to be installed to the vehicle.

Another type of information which is not generally available is the location of Fuel Stations, though Google Maps provide this information but fail to provide additional

relevant data on it such as type of fuel available, which is an essential piece of information which one should know prior to visiting the fuel station.



FUEL STATION DATABASE SCHEMA

Fuel Type lists the list of all types of fuel available at the fuelling station and the data also shows whether the station is a 24hrs operational or not.

Keeping these parameters and elements of information in mind, data was collected by the Data Collection team.

Data on some 260 parking spots in NCR regions were collected over the period of a year including those of SDMC, NDMC, DMRC and DDA. Parking data was also collected of those under the control of private authorities such as malls and shopping complexes.

Data on nearly 360 fuel stations were collected mainly of those under the control of Indian Oil, Bharat Petroleum, HP and Indraprastha Gas Limited. Data was also cross checked via official websites of these companies.

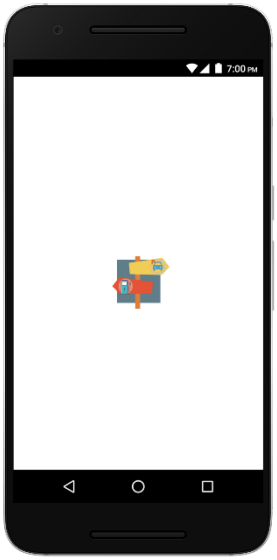
Information on around 360 garages were added to the database, along with relevant information acquired from various sources.

Geographical Co-ordinates of these sites were determined using GPS device either by visiting these places or through online data available. This data will be used to assist users to navigate to these sites.

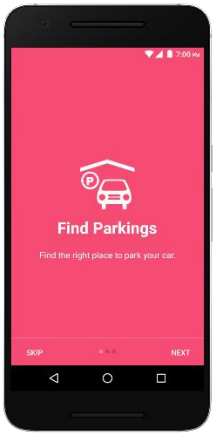
Design of User Interface

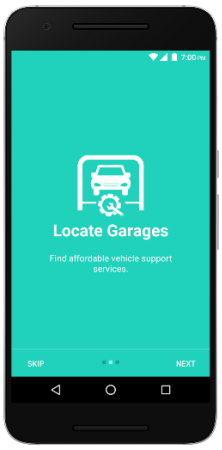
The following screens were designed for displaying different features of **Usher**

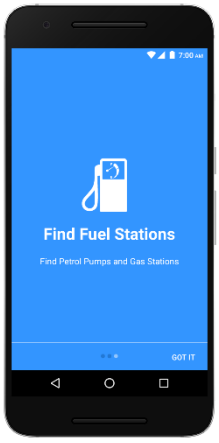
1.) Launch Screen



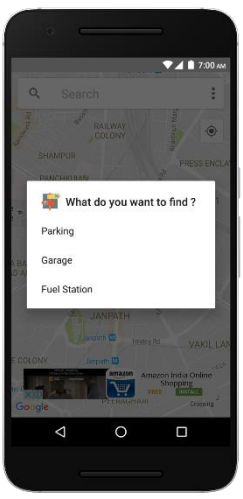
2.) On launching the app for the first time, a slideshow of **Usher's** main features appears, giving an overview to the user.







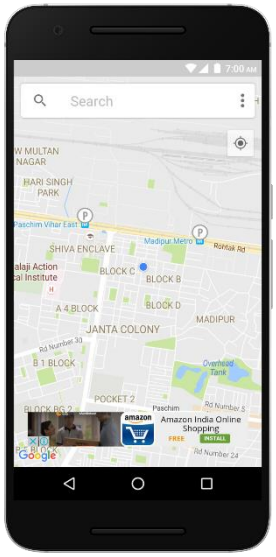
3.) Dialog box to choose search option



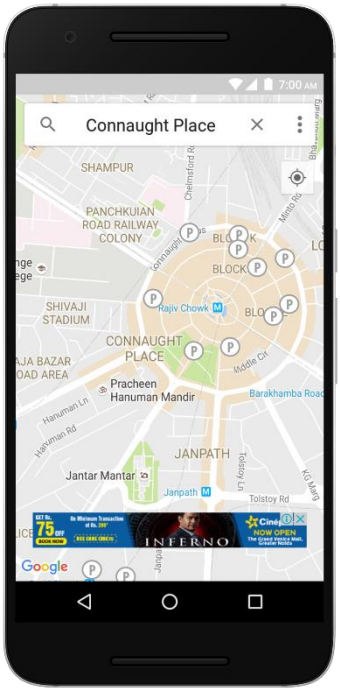
1.) Based on user's choice, the app shows either Parking, Garages, or Fuel Stations.

I. **Parking** -

A. In case of parking,
App shows Google Map
Containing some Markers
to indicate nearest parking
places.
A blue circle indicates
user's current location.
The app automatically
Focuses to user current
Location.
A user can focus the app
To his/her location
anytime by pressing the
my location button
located below the search bar
manually.

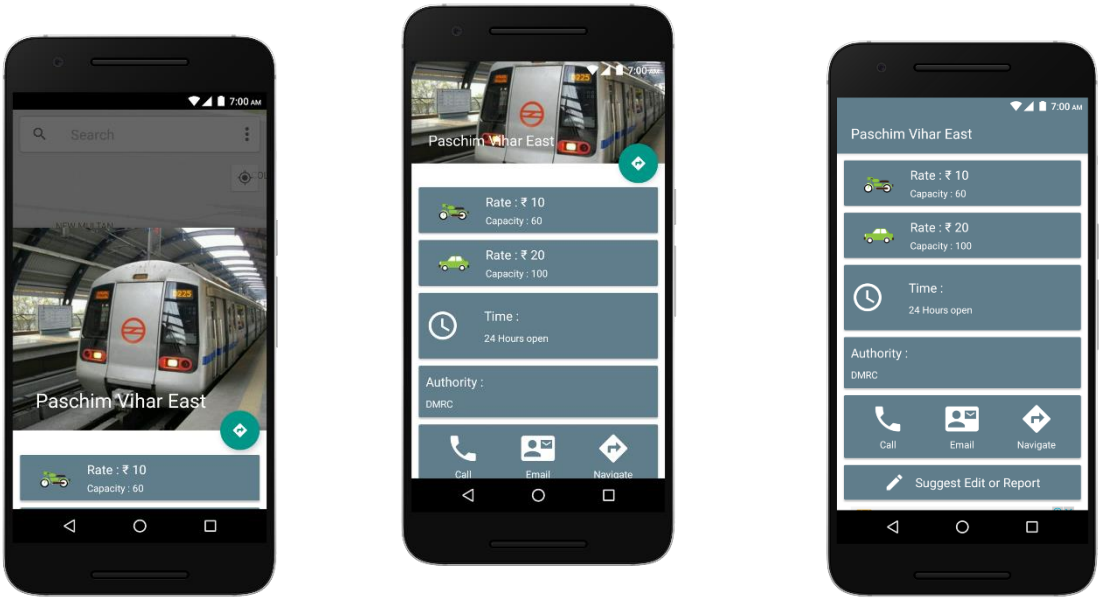


B. Users can also search for parkings at different locations, using the search box.



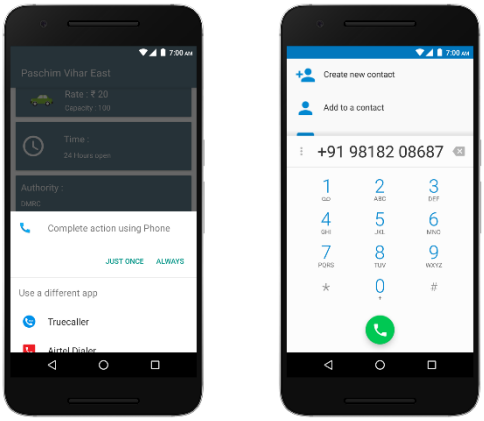
C. Details of Parking Place appear on tapping the markers.

D. On choosing a marker a bottom Sheet appears. The screen can be swiped up to view the complete details.

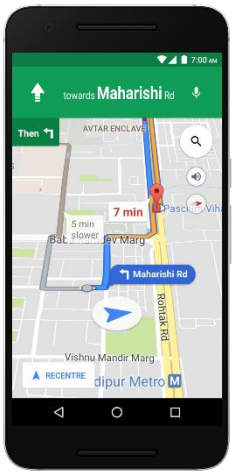


User can find details like Capacity and Price, Timings, Authority etc. The screen contains three buttons

1. Call – by pressing this button users can call the concern person at that parking place.

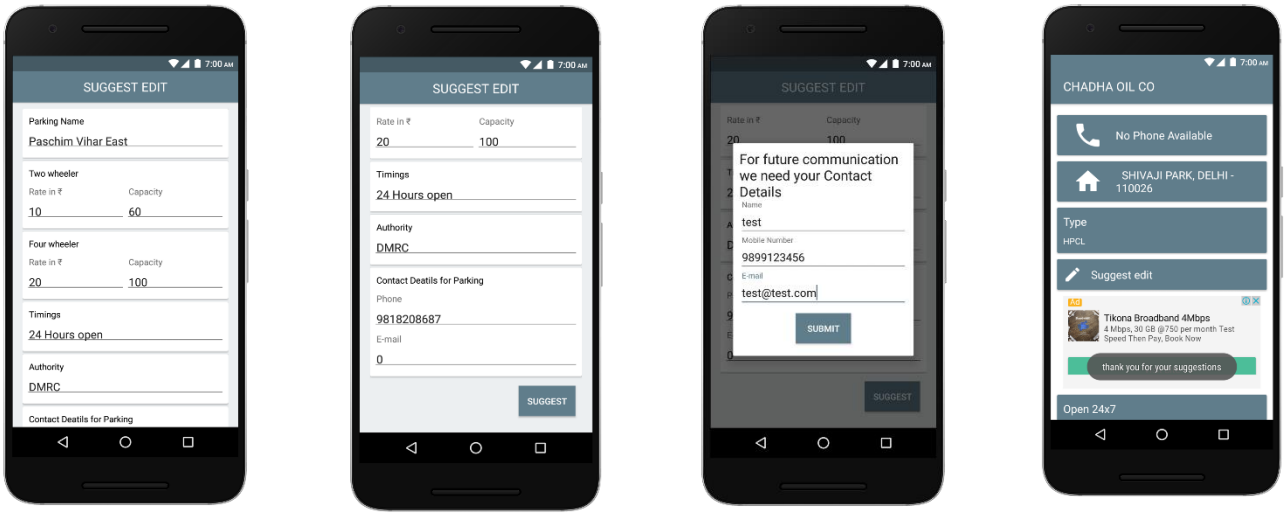


2. E-mail – User can also write an e-mail to the concern person.
3. Navigate – User can Navigate to desired location using services provided by Google Maps.



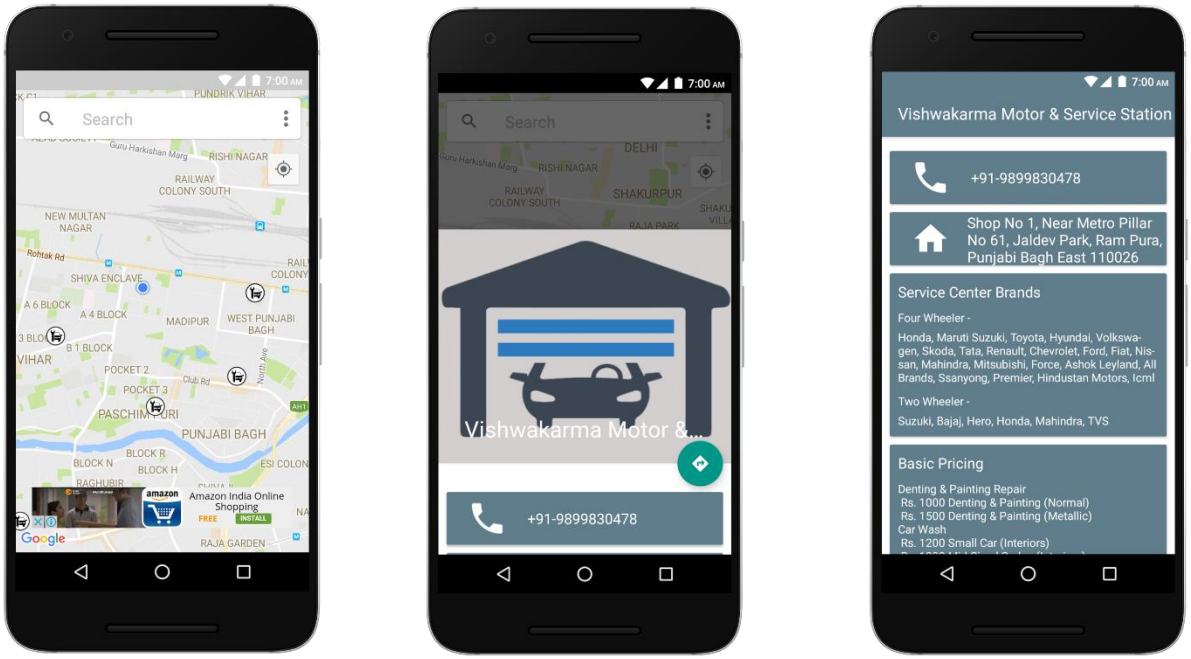
4. There is also a Button to suggest edits or report any incorrect data.
   On choosing the option, user will be presented with a screen to suggest changes and updates.

As the user presses submit button a Toast will appear with message “thank you for your suggestions” to confirm the submission.



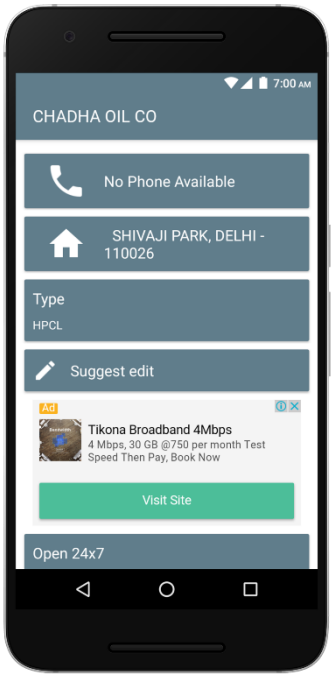
II. Garages –

- In case of garages user will also get similar experience.

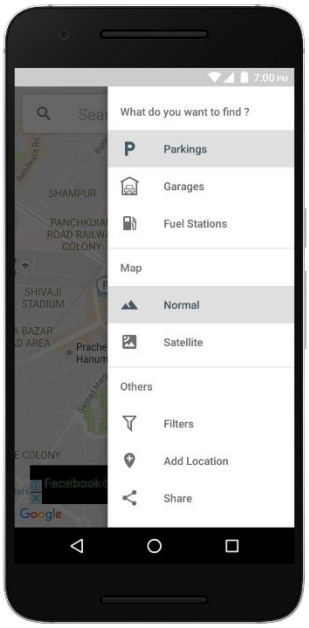


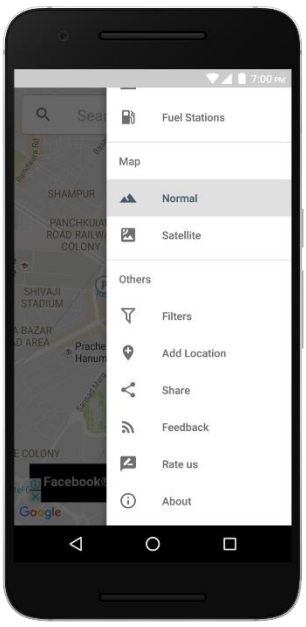
- User can see address, service brand support for both two-wheeler and four-wheeler, pricing list, services and parts offered at the garage.
- User can navigate using Google Map and can also call to concern person at that garage.
- User can also suggest edits or report details.

III. **Fuel Stations** –



- For Fuel Stations, users are provided with following details
  1. Phone number
  2. Address
  3. Type
  4. Open 24/7
- User can also suggest edits or report details.





2.) Menu –

I. User can switch between Parking, Garages, Fuel Stations any time.

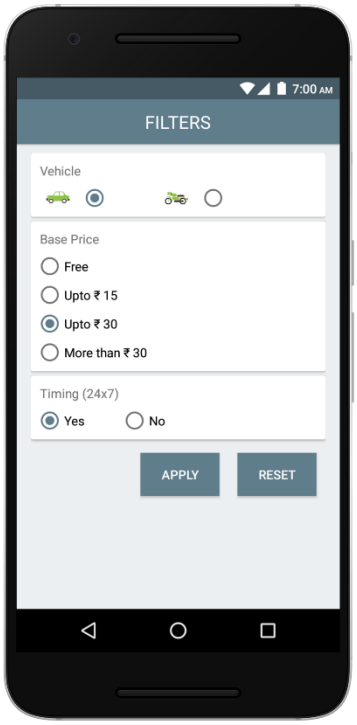
II. Another menu has been designed where, a user can switch between Normal and Satellite View of the Map.

III. In the third Section, there are various features
Filters - user can filter the results.

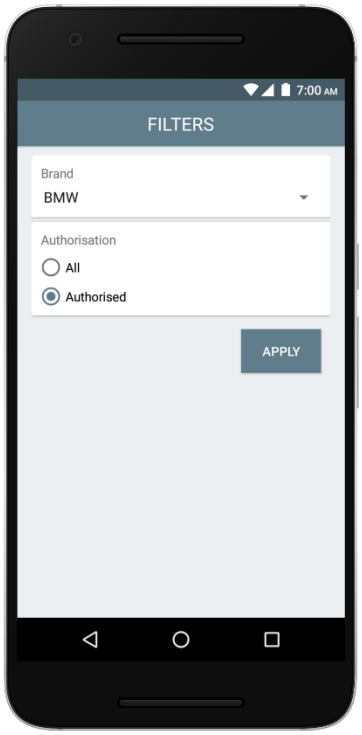
- Add Location – User can add their own parking place, garages and fuel stations
- Share – by using this button a user can share the download link on various platforms.
- Feedback – a user can send feedback using an e-mail client to **Usher.**
- Rate us – user can rate **Usher** on Google Play.
- About – will direct the user to a webpage showing details about **Usher**.

3.) Filters –

I. Parking



II. Garage



Innovation Expected

1. **Usher** introduces a unique platform for getting information regarding different authorized parkings, nearby garages as well as fuel pumps.

2. The application shall create awareness about authorized parkings sites, garages, fuel stations.

3. The app covers several authorized parkings:

    a) Public parkings

        1)DMRC

        2)SDMC

        3)NDMC

        4)DDA

    b) Private parkings

        1)Malls

        2)Cinema halls

4. **Usher** is different from other parking applications in several ways:

- **Usher** provides complete details of parking, garages, petrol pumps with phone numbers. It provides a single integrated solution for travel convenience.
- It is a free app that can be easily downloaded.
- It shows updated rates of parking places.
- Details of services provided by garages.
- Navigation to desired site is provided through Google maps.
- Usher app aims to provide maximum user satisfaction, derived from choosing the best parking slot, garages for emergency repairs and servicing and fuel stations.

Conclusion and Future direction

With the increase in traffic, the problem of parking has become worse even more. Shortage of parking leads too unauthorized parkings making streets narrower thereby leading to traffic jams. Increase in traffic means more number of breakdowns in a day, which also leads to jams.

Analysing these problems, our team has developed a single app for all travelling related problems experienced by travellers while commuting. The app provides a single interface by providing all relevant information that user needs to make their travel easy. The app provides all the information about the parking like parking charges, their timings, distance from the user, contact information etc. It also provides information about garages and nearby fuel stations.

In future, this app could be used to show actual availability of parking spots at current time. Online booking of parking spots could be done. The app could be extended for other cities.

References

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2. delhi.gov.in/wps/wcm/connect/doit_transport/Transport/Home/Vehicle+Registration/
3. https://www.pparke.in/
4. https://www.**constapark**.com/

Innovation Project SHC 309 was selected for display on the Foundation Day of the University, May 1, 2016

Media Coverage

DU students develop app for hassle-free parking

The young brains of the smartphone generation have come up with a new travel convenience app for the people who spend hours stuck in traffic, looking for a decent parking space.

The economics and B-tech students from Shivaji college developed a travel convenience app which was a part of their project given by Delhi University

Riya.Sharma
@timesgroup.com

On a busy weekend, when we are out with our family or friends, one problem that most of us face is the non-availability of a proper parking space. Most of the fights in the residential areas as well as on the road take place because of a parking spot. Keeping this issue in mind, the students of Shivaji College recently launched Usher, a travel convenience app for Android users.

As part of the Innovation Project by Delhi University, these students decided to work on an app that provides people with the information of the available parking areas, fares, parking types, nearby garages as well as gas stations. The app, that has been developed by ten students of Economics (Hons) and B Tech (Computer Engineering) can help users find an alternative parking space depending on their location with the help of specific filters.

"As eco students, our task was to go to different sites and collect the data regarding the fares, capacity of a parking place and parking types. We went to authorized as well as unauthorized parking areas and found out that people prefer to use the unauthorized ones more than those allotted by the Delhi Development Authority (DDA), Municipal Council (NDMC) and Delhi Metro Rail Corporation (DMRC). We also found out that there are no peak hours as such, and people can park anywhere and anytime without thinking about the inconvenience it can cause to others," says Enakshi Chakravorty, economics student.

She adds, "We also found out that the parking areas in Noida Sector 15 and 16 Metro stations are the busiest. The app gives options depending on your location, when you do not have any place to park your vehicle."

The students of B tech, who developed the app say that since nobody from the team had worked on Android earlier, it was difficult for them to develop it. "We took help from our teachers and read a lot before developing the app. A lot of detailed research was done on our part to get everything right," says Himanshu Anand, one of the B Tech students.

Abha Vasal, one of the faculty members, says, "There were days when people were not very welcoming in giving us the data. Most of the time, they would think that we were going to take a parking contract which is why we are asking for the information. Plus, these are all college students – they didn't take offs and worked during the summer and winter breaks as well. I have seen them going to collect data to far off places after their classes without complaining. As teachers, we also ensured that we keep their morale high."

Coverage in Delhi Times, 24 October , 2016

DU college comes up with app to look for amenities

KUNDAN JHA

NEW DELHI: Whether you're looking for a parking lot, a fuel station, a car garage, or the nearest and cleanest public restroom, an android-based application developed by the students of the Delhi University's (DU) Shivaji College can help you explore all these in the Capital with ease.

The mobile-based application development initiative is one of the important projects out of 15 projects of the Shivaji College which was approved by the DU under its flagship innovation programme. The DU has granted around Rs 4.5 lakh for the project.

The app advancement project is being carried out by a 13-member group including students and teachers from B Tech and economics streams.

Professor Abha Vasal, who is supervisor of the app development team, said: "We have compiled mass data related to parking, fuel stations, garage and similar other services and putting together all of them, we have come up with this app. We have tried to make it favorite NCR-centric app so that wherever you are you can have the city at your fingertips," Vasal added.

Vasal, who teaches Bachelor of Computer Sciences (BCS) in the college, said: "We have already worked on the economic viability of our project, as the economic viability partner Kamlesh Yadav, who was associated with Samsung, has designed a model of revenue generation. In his revenue design, there are two kinds of income generation strategies, first by advertising and second by selling it to platform agencies.

"We have already paid 'Play Store', a hosting platform on mobile for such app, from where the consumer will be able to download the app," Prabhat, a B Tech student who is associated with the programme said. "The app will be available for free to the consumers and it will work on android," said Neha, another student of the innovation team.

MillenniumPost
Apr 06, 2016 Page No : 4

'यूजर' एप के जरिए लोगों को मिलेगी पार्किंग की जगह

पार्किंग खोजने की समस्या होगी दूर

- एप से आस-पास पार्किंग की जगह खोजने में होगी आसानी
- ऐप पर जल्द ही मिलेगी पेट्रोल पंप की जानकारी

नई दिल्ली, संवाददाता। दिल्ली में गाड़ियों की संख्या दिन प्रतिदिन बढ़ती जा रही है और साथ ही साथ सबसे बड़ी समस्या गाड़ियों की सही जगह पार्क करना भी है। ज्यादातर लोग अपनी गाड़ी सड़क पर ही पार्क कर देते हैं। अधिकतर लोगों को यहां पता ही नहीं होता कि आस-पास डीडीए व एमसीडी पार्किंग कहां-कहां है। इसी दिशा में दिल्ली विश्वविद्यालय के शिवाजी कॉलेज के छात्रों ने एक एन्ड्रॉएड एप 'यूजर' बनाया है। जिसकी मदद से आस-पास पार्किंग की जगह जो उपलब्ध है उसके बारे में पता लगाया जा सकता है। और साथ ही वहां तक जाने का रास्ता भी बताता है यह एप।

अगर बीच रास्ते में गाड़ी खराब हो जाए तो एप के द्वारा पास के गैरेज के बारे में भी इस एप के द्वारा पता लगाया जा सकता है। यह एप यात्रा करते वक्त अत्यंत सुविधा जनक है। अगर हमें पहले से ही गाड़ी खड़ी करने की जानकारी हो तो जनता अपनी गाड़ी यू सड़कों पर नहीं खड़ा करेगी। 'यूजर' में बहुत जल्द ही आप पेट्रोल पंप के बारे में भी जानकारी प्राप्त कर सकते हैं। इस एप को डाउनलोड करने के लिए गूगल प्ले स्टोर पर जा सकते हैं और वहां usher लिखकर आप इस एप को डाउनलोड कर सकते हैं और इसकी सुविधा का लाभ उठा सकते हैं।हिमांशु आनंद, प्रभात कुमार, शिवानी बडोला, मुकुल यादव, शुभम गोयल, आकाश भट्ट, सुचिता गर्ग,श्रेया खुराना, हरिओम अरोरा जैसे छात्रों ने मिलकर इस एप को बनाया है।

DU Students Develop an App to Solve Parking Problems

October 26, 2016 04:55 PM 2 minute read , Others , Shivaji College (New Delhi) , University of Delhi

Like Share Tweet

A group of students of Shivaji College, University of Delhi, have come up with an idea to deal with one problem almost everyone faces every day - the parking problem. These students have developed an app named Usher, that is a travel convenience app for the Android users.

An Innovation Project of the Delhi University allows for students to work on ideas that are out-of-the-box and can be put to use. Hence, these bunch of students decided to make an app that provides the user with information on the availability of parking areas, fares, nearby garages, gas stations and parking types.

Also read: Know Why Delhi Cops are Stealing DU Students' Phones!

Ten students from Economics (Hons) and B.Tech (Computer Engineering) streams developed the application that will help users find parking spaces based on their location and with the use of specific filters.

What did the students do?

- Visited different sites to collect data regarding capacity of parking space, parking type and fares.
- Visited unauthorised as well as authorised areas allotted by DDA or the Delhi Development Authority, DMRC or the Delhi Metro Rail Corporation and NDMC or the Municipal Council.
- Problems caused because of parking done by people anywhere anytime as per their convenience.

Also read: DU Students Break World Record, Build World's Largest Pyramid using 57,000 Plastic Cups

These students were extended support by their teachers and indulged in detailed research activities for the same. The developers event faced challenges while gathering data, but nonetheless invested all their time and energy (even after classes and in summer/winter breaks) to come up with this helpful innovation!

All we can say is 'Kudos!'.

https://www.collegedekho.com/news/du-students-develop-an-app-to-solve-parking-problems-2616/

बुधवार, 2 नवम्बर 2016 | 22:16 IST

DU छात्रों ने बनाया एप, पार्किंग की समस्या से मिलेगा छुटकारा

aajtak.in [Edited By: आरती मिश्रा]
नई दिल्ली, 24 अक्टूबर 2016 | अपडेटेड: 15:47 IST

उशर एप

दिल्ली में पार्किंग की समस्या आम हो चुकी है. बढ़ती गाड़ियों से वीकेंड पर यह समस्या और जटिल हो जाती है. ऐसे में DU के छात्रों ने ऐसा एप विकसित किया है जो लोगों की इस समस्या को दूर कर रहा है.

इस एप का नाम है 'उशर' और शिवाजी कॉलेज के छात्रों ने डेवलप किया है. एंड्रायड यूजर्स के लिए लॉन्च किए गए इस एप में पार्किंग से जुड़ी सारी जानकारियां हैं.

हाथ के हुनर से गरीब बच्चों के चेहरों पर मुस्कान लाती है गिरिजा

DU के इनोवेशन प्रोजेक्ट के तहत ही छात्रों ने इसे विकसित किया है. इस एप में आपकी लोकेशन के हिसाब से वहां और आसपास के एरिया में उपलब्ध पार्किंग एरिया, किराया, पार्किंग टाइप, आसपास के गैरेज और गैस स्टेशनों की जानकारी मिलती है. इसे इकनॉमिक्स ऑनर्स और बी.टेक कंप्यूटर इंजीनियरिंग के छात्रों की टीम ने बनाया है.

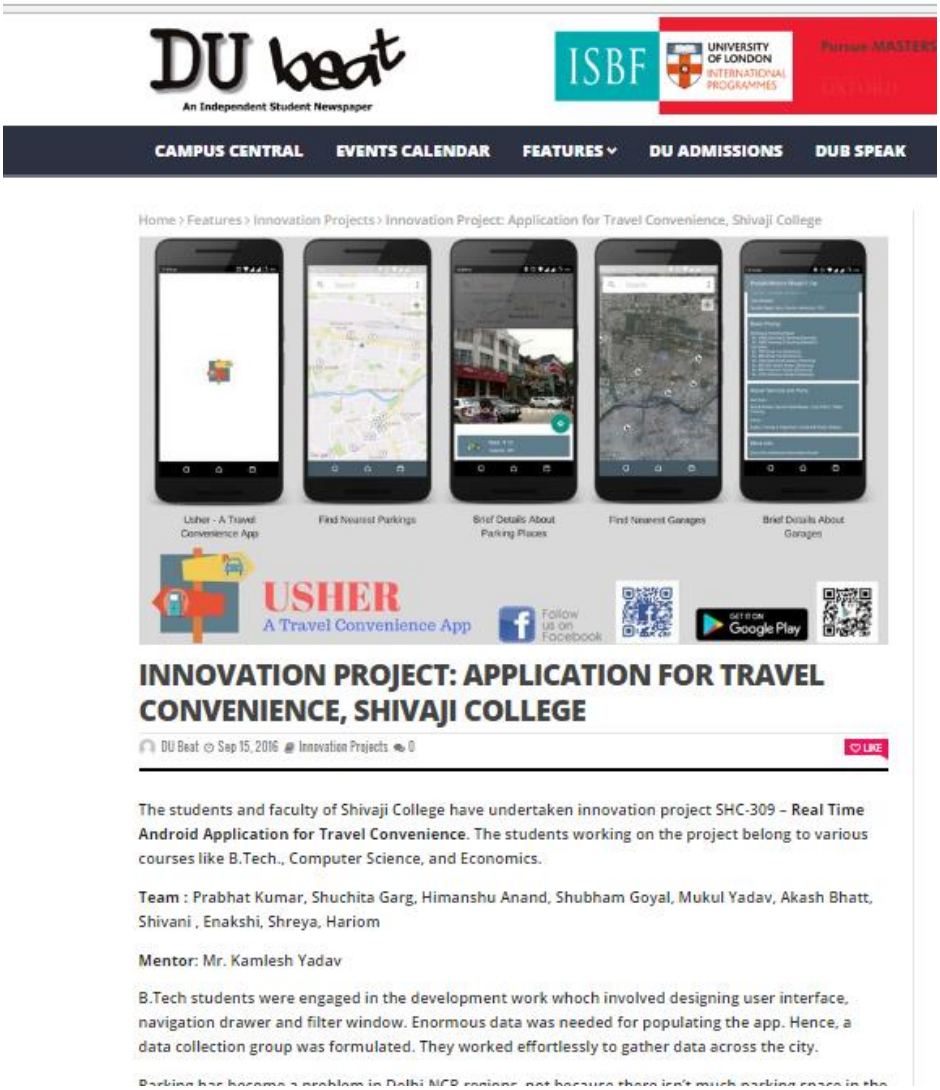
संबंधित खबरें

IIT गांधीनगर के छात्रों ने बनाई गरीब बच्चों के लिए लाइब्रेरी

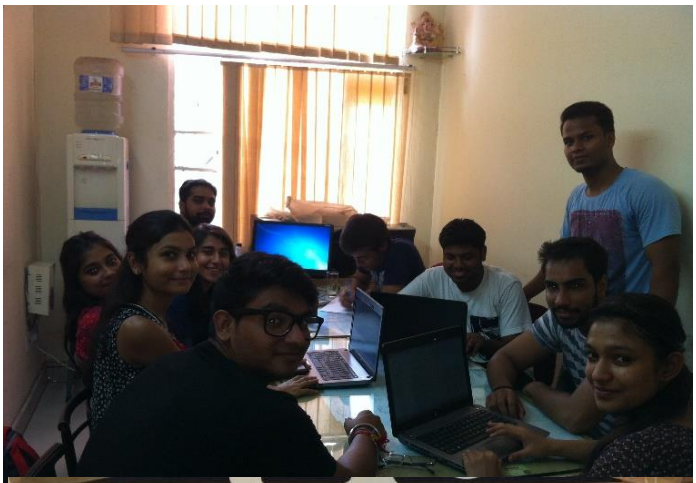
अद्भुत, बंगलुरु के लड़के ने पानी पर तैरने वाला फोन बनाया...

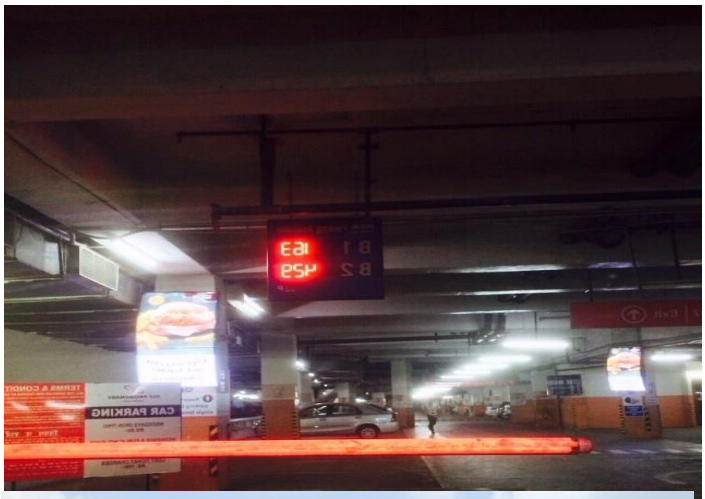
ये हैं वो शख्स, जिनसे 'दंगल' में आमिर खान का किरदार प्रेरित है...

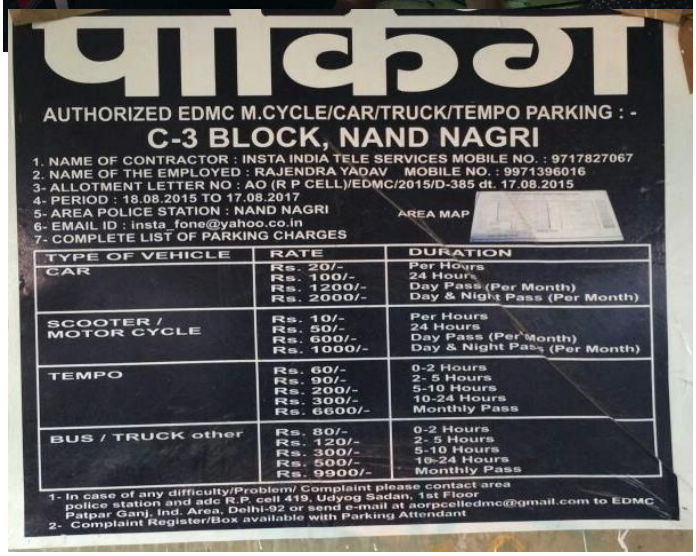
http://aajtak.intoday.in/education/story/delhi-university-students-made-app-for-parking-issues-1-894035.html



http://dubeat.com/2016/09/innovation-project-application-for-travel-convenience-shivaji-college/







Pictures of team at work

Appendix

NAME : EMAIL ID. :

1. How commonly do you face parking problem?

☐ Regularly ☐ Sometimes ☐ Rarely

2. Are you using any Parking App at present, if yes please mention.

3. Do you think there is a need for Parking convenience App ?

☐ Yes ☐ No

4. If online parking reservation system is available. How prior would you want to book a parking space before reaching the destination

☐ 0-30 min ☐ 30 min – 1 Hour ☐ 1-2 Hour

5. Any feature you feel should be there in the App that provides information about organised parking system?

6. Will you like to reserve a parking slot if there are charges for reserving time ?

☐ Yes ☐ No

7. How do you want to pay for reserving a parking spot ?

8. What information do you think the App should provide regarding unorganised parking places (parking by MCD, Delhi Metro, DDA,NDMC) ?

9. Your major problem in parking is :

☐ Searching for parking ☐ searching for cheaper parking

10. In case of a breakdown of your vehicle , would you like the APP to assist in locating garage location facility(Utility services etc.)?

☐ Yes ☐ No

11. Any travel related problem you experience in daily life, while travelling in your private vehicles?

Utilization Certificate

Innovation Project 2015-16

Project Title : Real Time Android Application for Travel Convenience SHC-309

Audited Financial Statement under Innovation Project scheme

College: Shivaji College

Project Investigators: Ms. Preeti Sharma, Ms. Anshu Chopra, Ms. Abha Vasal, Ms. Mamta Datt

Grant Sanctioned Rs	(In figures) Rs 4,00,000/- (In Words) Four Lakhs Only		
Equipments/Consumables	1,25,000/-	42,066/-	82,934/-
Travel	80,000/-	10,630/-	69370/-
Stipend	1,20,000/-	1,20,000/-	-
Honorarium	25,000/-	25,000/-	-
Stationery	20,000/-	16,000/-	4,000/-
Contingency	30,000/-	13,849/-	16,151/-
Total amount utilized Rs. (In figures and words)	2,27,545/-		
Amount remaining Rs. (In figures and words)	1,72,455/-		

Certified that out of Rs. 4,00,000/- Four Lakh only (In figures and words) sanctioned to Innovation Project Code SHC-309 ,Rs 2,27,545/- Two lakh twenty seven thousand five hundred forty five has been utilized during the period of the project. The remaining amount Rs. 1,72,455/- One Lakh seventy two thousand four hundred fifty five only (In figures and words) is being returned back to the University.

(ANSHU CHOPRA) (PREETI SHARMA) (ABHA VASAL)

Signature of Project Investigators

04.11.16

VIPUL CHAWAN & ASSOCIATES Chartered Accountants M. No. 518146 NEW DELHI

Financial Audit Clearance and Stamp of Charted Accountant

Signature of Principal

University of Delhi

RC/2015/9435 31 August, 2015

The Principal,
Shivaji College
Ring Road, Raja Garden,
New Delhi-27

Subject: - **Innovation Projects 2015-16**

Dear Principal,

The University of Delhi is pleased to announce the third round of the undergraduate research initiative in colleges, Innovation Projects 2015-16. You will be glad to know that the following project submitted by your college has been selected for award

Project Code: SHC 309
Project Title: Real Time Android Application For Travel Convenience

The distribution of grant under different budget heads as below:

Sr. No.	Budget Head	Amount
1.	Equipment/Consumables	Rs 1,25,000/-
2.	Stipends	Rs. 1,20,000/- (1000x10x12)
3.	Travel	Rs 80,000/-
4.	Honorarium	Rs 25,000/-
5.	Stationery/Printing	Rs 20,000/
6.	Contingency	Rs 30,000/-
	Total	Rs 400,000/-
Rs 4 lakhs (Rupees four lakhs only)		
Amount to be released in first phase by Finance Branch- Rs 2,50,000/		

Budget head No. 1 and half of the remaining grant will be released as the first instalment. The second and final instalment will be released after submission of half-yearly report (by 15 February 2016), satisfactory review and recommendation of release of the second instalment.
Please refer to the detailed guidelines for implementation of the project. Any queries may be addressed to- innovationprojects1516@gmail.com.

With best wishes,

Yours sincerely,

Prof. Malashri Lal