Mobile Computing #CSE535
Endsem Project Report

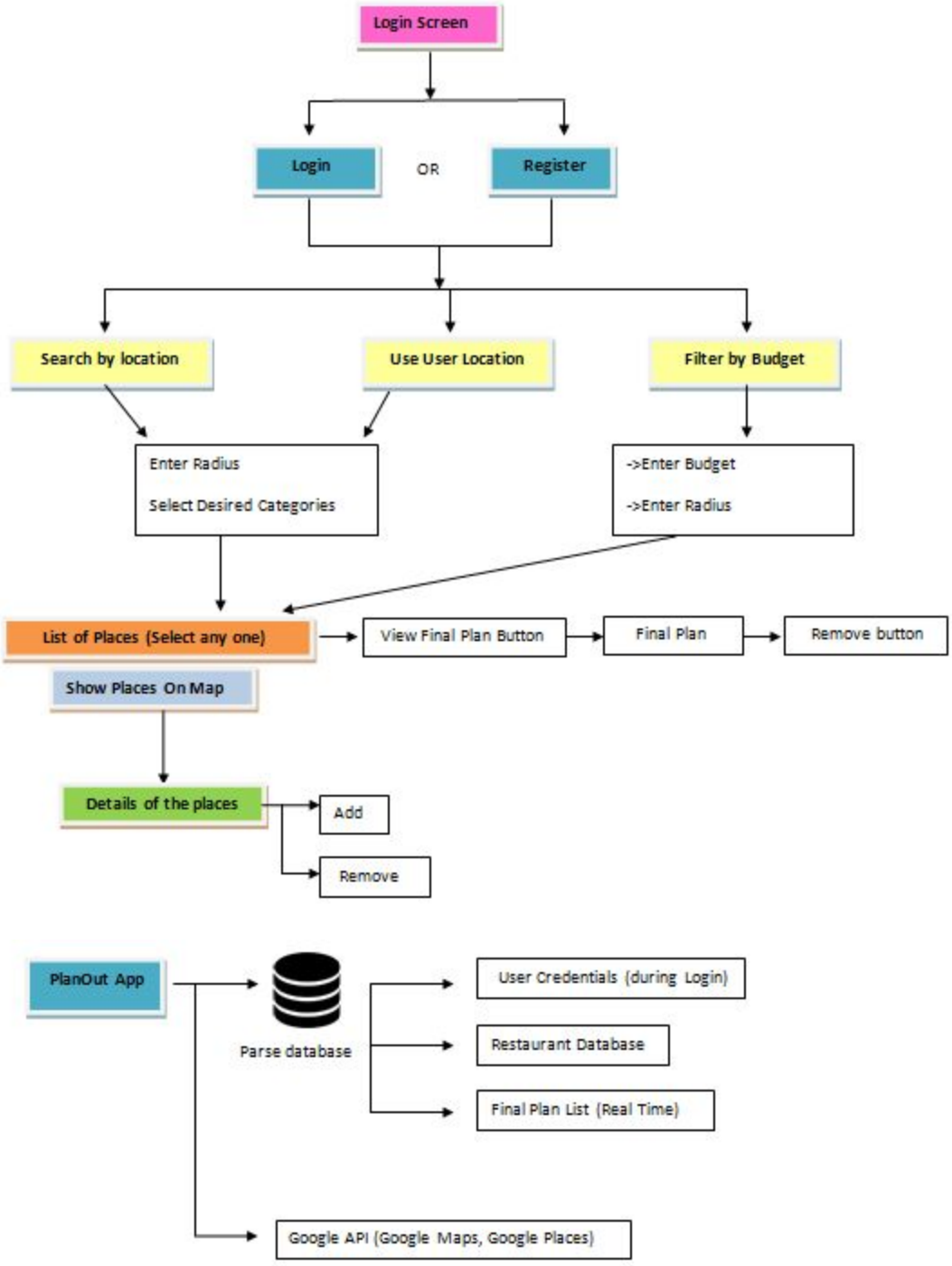
Title: Plan Out

Objective

There are many apps available which allow the user to search for specific cafes, restaurants or other places to visit. However, in spite of the availability of this information, planning a day out in the city can be a hard task.

Our objective is to create an app which not just provides ideas and suggestions to those looking to plan out a day in the city, but also plans out your day for you, depending on your location and the kind of places you are interested in visiting(monuments, amusement parks, restaurants, night clubs). It will provide useful information about the various places in the vicinity, in order to make your visit informative and pleasant.

Architecture diagram



Hardware and Software Prerequisites
Platform: Android 4.0 and above.
Library Dependency: Parse-1.11.0 Library

Link to source code and executable
Link to project : https://drive.google.com/open?id=0B8-2RoLFBa10NldjbjRHYnJSQ1U
Link to external jars need to be imported:
https://drive.google.com/open?id=0B8-2RoLFBa10YmcyUmx6TUQzaW8
Also import google play services jar to the project.

Summary of the Midsem demo

- Login/Authentication had been done using Google+, complete with null checks.
- A splash screen for the app had been designed and integrated into the project.
- The user's location is determined using the GPS sensor.
- The Google Places API had been successfully integrated into the project to display a list of nearby places on the basis of category chosen by the user.
- Filtering of search results according to radius had been implemented.
- User can filter results based on his own interests from different categories.
- Details about the places to visit had been displayed.
- The distance between user's location and the place selected is calculated and displayed.
- Exception handling in case the user is not connected to the internet had been implemented.

Comments:

1. Future prospects of the app seems in feasible to achieve
2. Look for an alternative/solution for the same
3. No additional functionalities presented apart from the login and database maintenance .

Progress after the Mid-sem demo

Login/Authentication: The login and authentication has been implemented using cloud services. Earlier we had the authentication through google+, however to explore something different, we decided to try a new form of login using Parse.

Data processing and reporting of results

1. The first activity which shows up, after the login screen is that of the location search, which gives us three options to choose from, here we will be going with ‘Search by location.’ The next activity gives the user an autocomplete search box, to enter a location of his/her choice, to search for nearby hangout places. The next activity allows the user to choose the categories based on his interests, and also he defines the radius, that is the distance from the location selected, of places to be displayed. The places that satisfy the above criteria, are displayed in a listview, and tapping on each item, gives the individual information(address, phone no.) about that place. The data here, is fetched from Google Places API. On the individual place info activity, we can add or remove the place from our plan list.

2. In the same location search activity immediately followed by the login screen, we will choose ‘use user location.’ The app then automatically detects the user location and the same ‘Pick your category‘ activity pops up. Similar to the previous use case, again the categories and radius has to be filled in, and everything after, remains the same, except the fact, that the places displayed are based on the location detected by the application.

3. In the location search activity, this time we choose the Filter By Budget option. The next activity makes the user enter the budget and radius filters. On the basis of this, restaurants(only) are displayed in the listview activity. Here, the data is fetched from the database made by us on a cloud platform. It is limited to only 5 kms from IIIT Delhi. No category option is available, when budget is included in our application.

Use Cases:

1. Login screen sign up
    - On the login screen, first sign up.
    - Enter the credentials asked by the app.
    - After logging in, you can test any of the use cases.
2. Logging in, and wrong login details check
    - Logged in using, the username and password, we used to sign up.
    - First we gave wrong login details, the username was wrong, whereas the password was correct, the app gave an error in the form of a dialog box “Invalid login parameters.”
    - This time, the correct Username was entered, ‘akshay punhani’ and password ‘hello’.
    - The application authenticates the login, and since the credentials were correct, it moved to the location search activity.
3. No Internet Connection
    - Select the Search By Location option.

- If the mobile device is not connected to the internet, it will show an alert dialog box with “Please connect to Internet connection.”, before proceeding on to the next activity screen.

4. Searching for a location in New Delhi and displaying art galleries
    - Select the Search By Location option.
    - In the autocomplete search box, type in Janakpuri, New Delhi.
    - In the radius box, enter 3 km.
    - Select category ‘Art Gallery’ and press proceed.
    - Displays a list of art galleries in and around janakpuri within 3km radius.
    - The distance of the place selected is calculated from user location.
5. Searching for a location in Mumbai and displaying Shopping malls
    - Select the Search By Location option.
    - In the autocomplete search box, type in Bandra Kurla Complex, Mumbai.
    - In the radius box, enter 6 km.
    - Select category ‘Shopping Mall’ and press proceed.
    - All the nearby malls are displayed, the distance of all these places is around 1200 kms from the user location.
6. No Internet Connection(in user location detection)
    - Select the Use User Location option.
    - If the mobile device is not connected to the internet, it will show an alert dialog box with “Please connect to Internet connection”, after the pick the category activity, that is after pressing the proceed button.

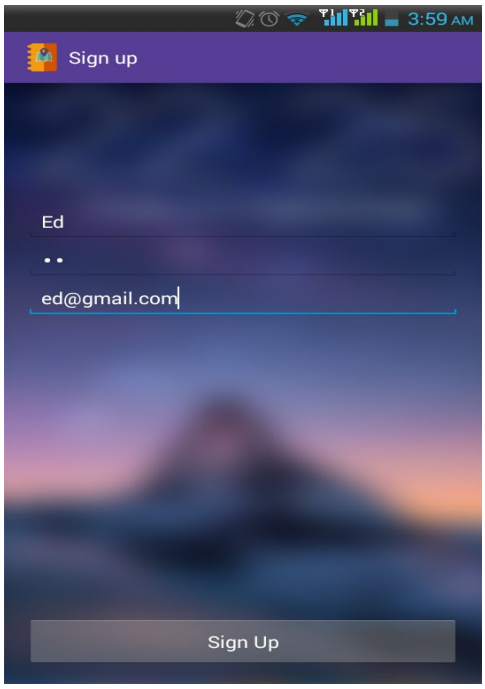
7. No Internet Connection(in budget selection activity)
    - Select the Filter by Budget option.
    - If the mobile device is not connected to the internet, it will show an alert dialog box with “Please connect to Internet connection.”, after pressing the proceed button, similar to the previous use case.
8. Searching for places using user location and displaying Monuments
    - Select the Use User Location option.
    - In the radius box, enter 10 km.
    - Select category ‘Monuments’ and press proceed.
    - All the nearby Monuments are displayed, the distance of all these places is around 2km from user location.
9. Searching and adding to plan
    - Select the Search By Location option.

- In the autocomplete search box, type in IIIT Delhi, New Delhi.
- In the radius box, enter 10 km.
- To show diversity in categories, select bars and night clubs.
- Add any one of the displayed ones to your plan.
- For example, you can add, “Bora Bora Tikki Bar” distance= 7.4km from the user location. From the same activity remove “Bora Bora Tikki Bar”.
- Press the back button, and see the plan, “Bora Bora Tikki Bar” won't be there.
- To add it back, go the “Bora Bora Tikki Bar” option in the list and press add to plan, and then view the plan again.

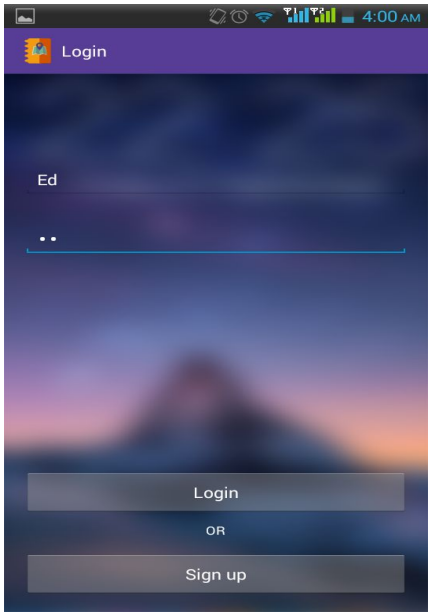
10. Searching for places with budget filter
    - We select the Filter By Budget option.
    - The radius is to be taken as 5, and the budget is entered as 500.
    - Out of the places displayed, ‘Sardaar ji Malai Chaap wale’ is selected and its info displayed.
    - Next, we add the above restaurant to our plan list, and ultimately we can see it in our plan, which is stored on a cloud database.
11. When GPS is not enabled.
    - Select the User Location option.
    - Pick Restaurants category and enter radius as 5 kms.
    - As soon as you press the Proceed button, is shows a dialog which asks user to enable the GPS.
12. Searching restaurants near Nehru place
    - We first select the Search By Location option.
    - We choose the location to be Nehru place, New Delhi.
    - The radius is taken to be 5, and the categories selected are restaurants and monuments.
    - Out of the places displayed, ‘Pebble Street’ is selected and its info displayed.
    - Next, we add ‘Pebble Street’ to our plan list, and ultimately we can see ‘Pebble Street’ in our plan, using the button on the previous screen.

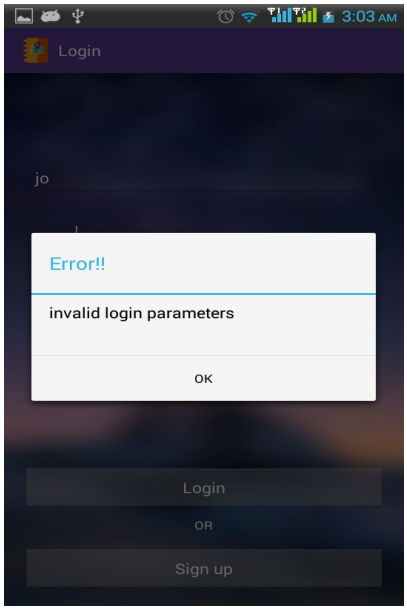
Wireframes

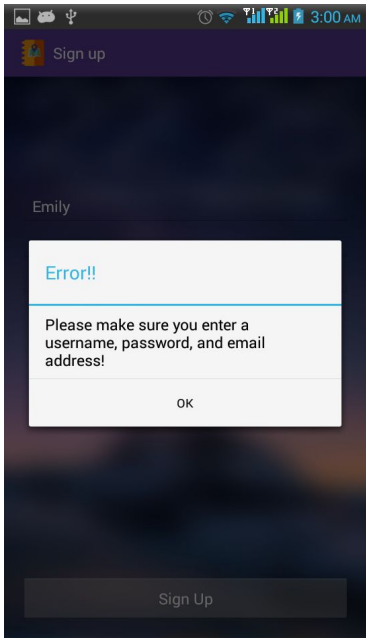
Use Case 1:

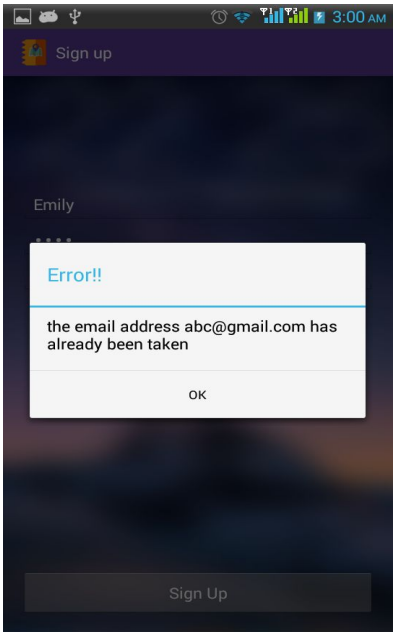


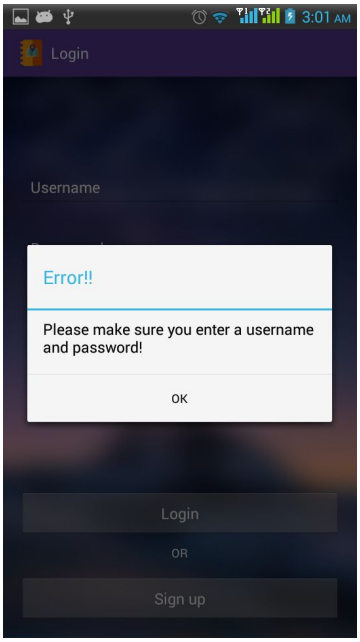
Use Case 2:



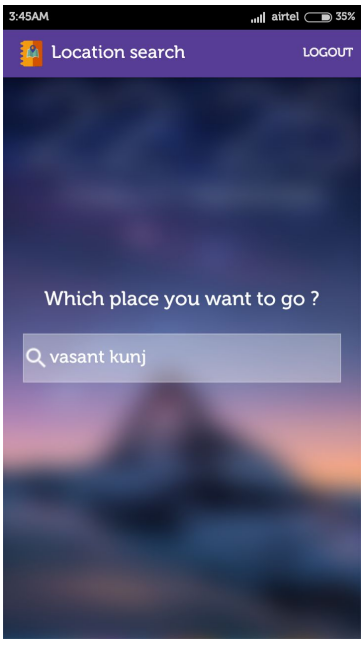


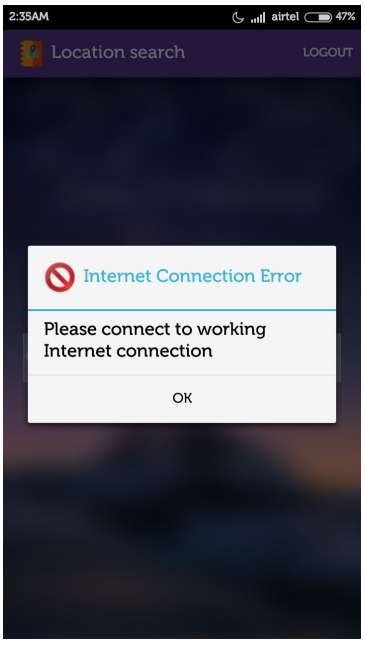

3:00 AM
Sign up
Emily
Error!!
Please make sure you enter a username, password, and email address!
OK
Sign Up


3:00 AM
Sign up
Emily
Error!!
the email address abc@gmail.com has already been taken
OK
Sign Up

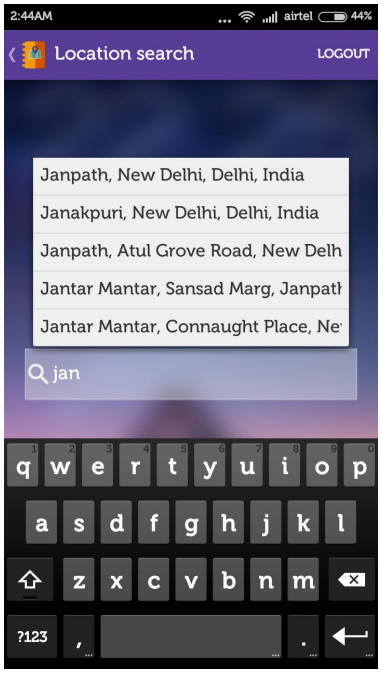

3:01 AM
Login
Username
Error!!
Please make sure you enter a username and password!
OK
Login
OR
Sign up

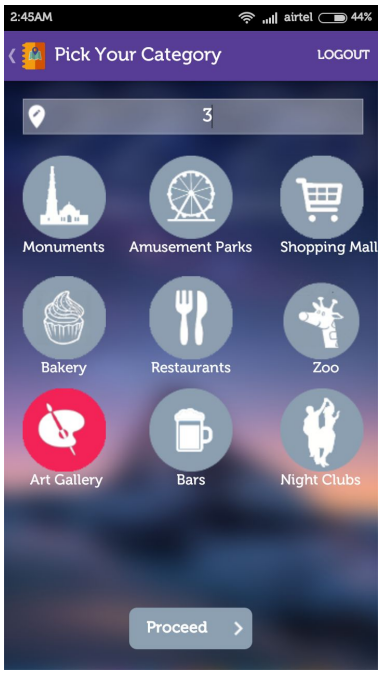
Use Case 3:

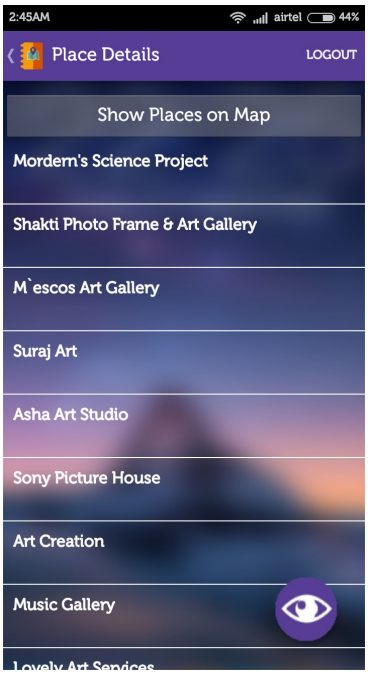

3:45AM
airtel 35%
Location search
LOGOUT
Which place you want to go ?
vasant kunj


2:35AM
airtel 47%
Location search
LOGOUT
Internet Connection Error
Please connect to working Internet connection
OK

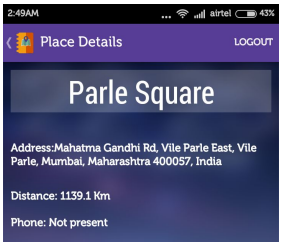
Use Case 4:

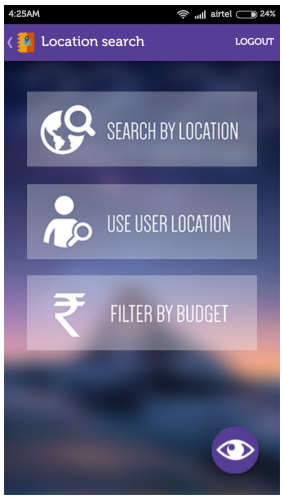


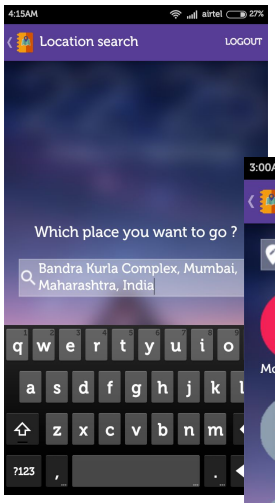


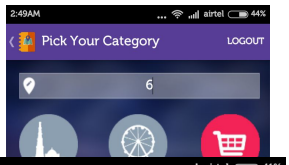


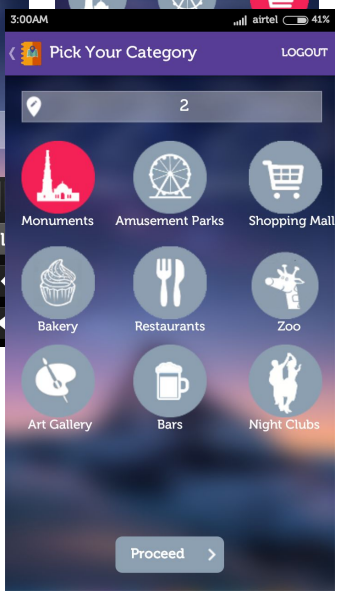
Use Case 5:

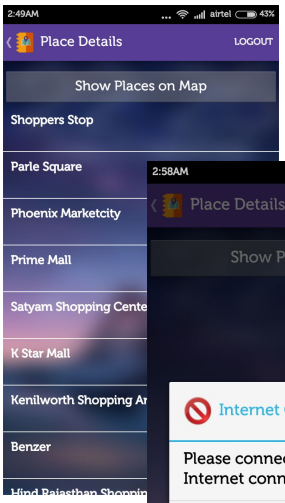


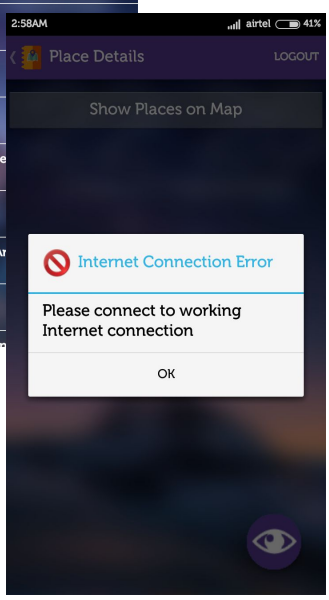






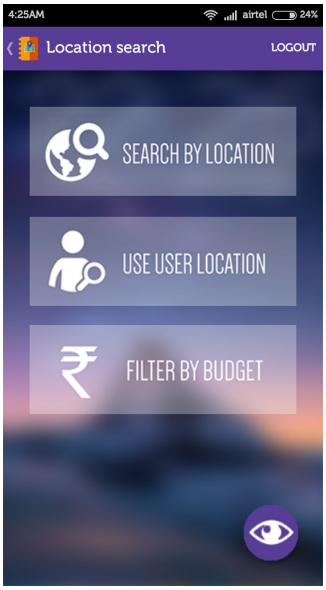




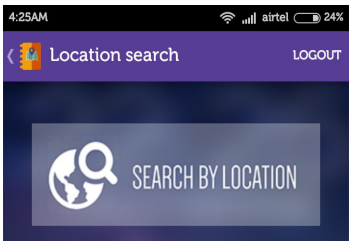


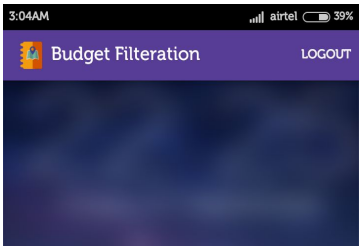
Use

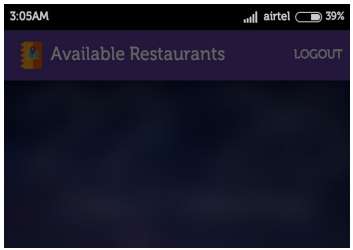
Case 6:



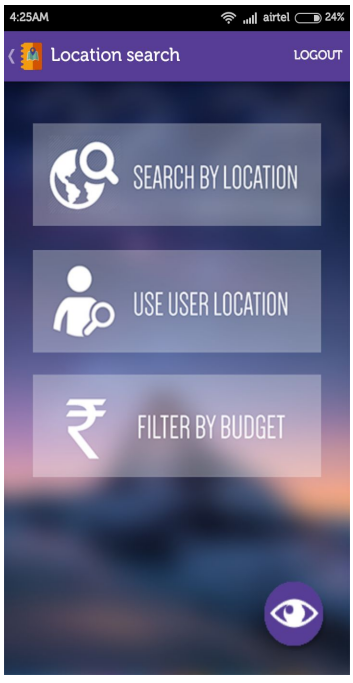
Use Case 7:

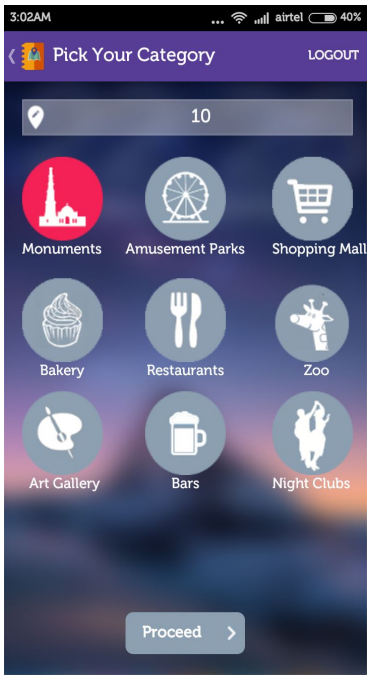


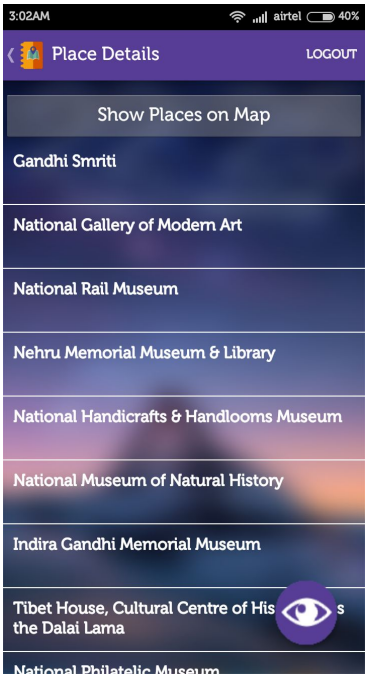




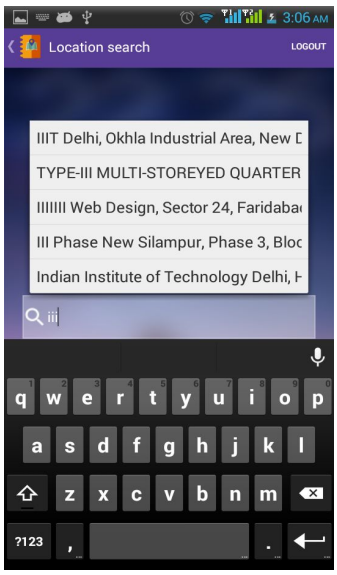
Use Case 8:

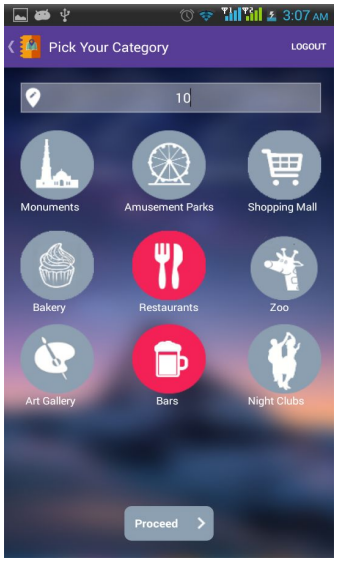

4:25AM
airtel 24%
Location search
LOGOUT
SEARCH BY LOCATION
USE USER LOCATION
FILTER BY BUDGET

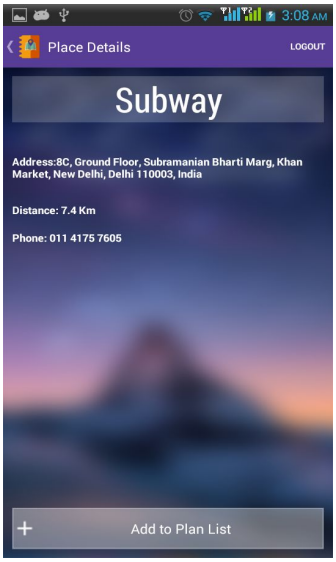

3:02AM
airtel 40%
Pick Your Category
LOGOUT
10
Monuments
Amusement Parks
Shopping Mall
Bakery
Restaurants
Zoo
Art Gallery
Bars
Night Clubs
Proceed

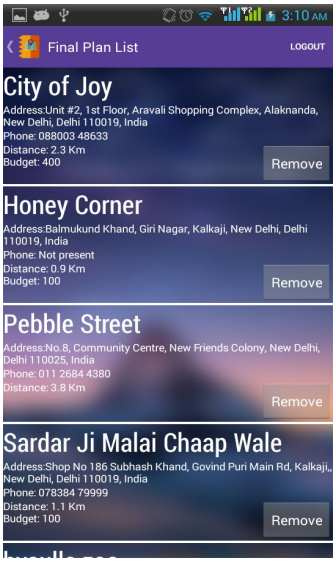

3:02AM
airtel 40%
Place Details
LOGOUT
Show Places on Map
Gandhi Smriti
National Gallery of Modern Art
National Rail Museum
Nehru Memorial Museum & Library
National Handicrafts & Handlooms Museum
National Museum of Natural History
Indira Gandhi Memorial Museum
Tibet House, Cultural Centre of His
the Dalai Lama

Use Case 9:

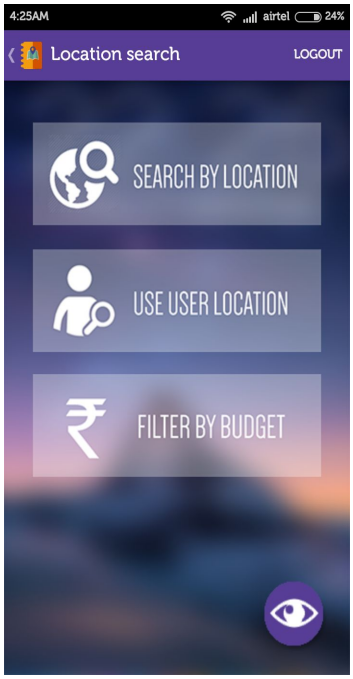


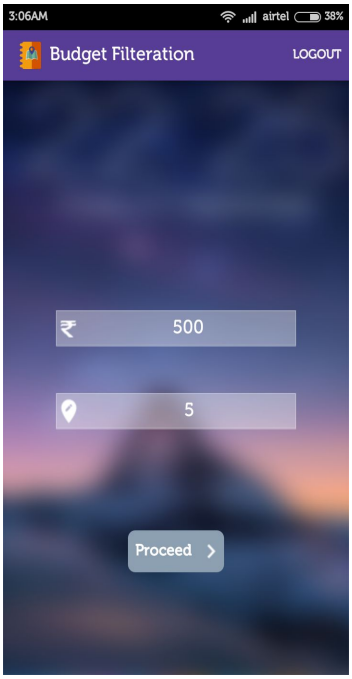


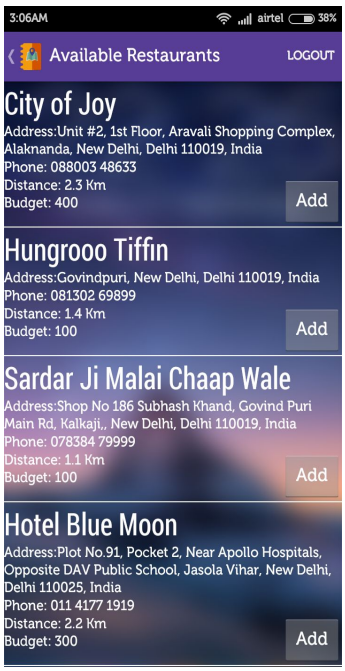


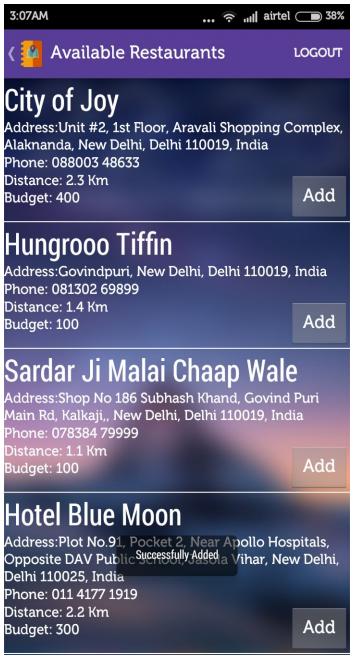


Use Case 10:

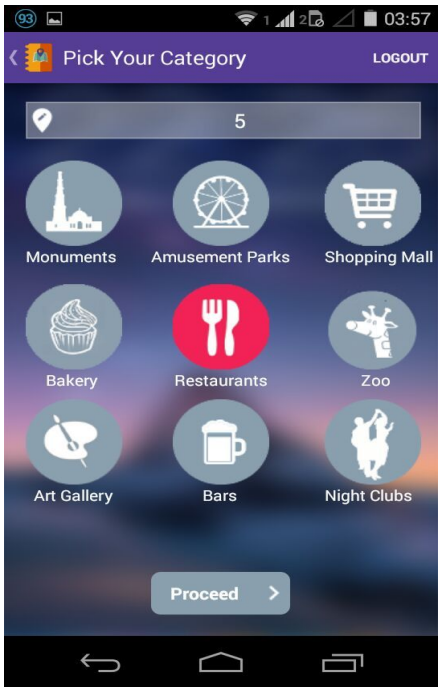

4:25AM
airtel 24%
Location search
LOGOUT
SEARCH BY LOCATION
USE USER LOCATION
FILTER BY BUDGET

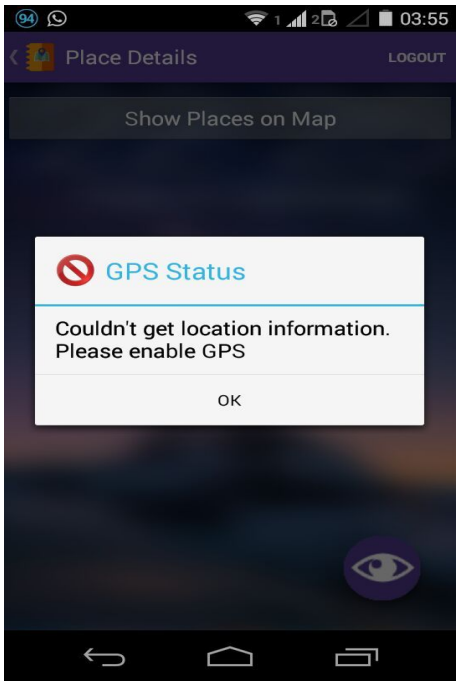

3:06AM
airtel 38%
Budget Filteration
LOGOUT
500
5
Proceed


3:06AM
airtel 38%
Available Restaurants
LOGOUT
City of Joy
Address:Unit #2, 1st Floor, Aravali Shopping Complex, Alaknanda, New Delhi, Delhi 110019, India
Phone: 088003 48633
Distance: 2.3 Km
Budget: 400
Add
Hungrooo Tiffin
Address:Govindpuri, New Delhi, Delhi 110019, India
Phone: 081302 69899
Distance: 1.4 Km
Budget: 100
Add
Sardar Ji Malai Chaap Wale
Address:Shop No 186 Subhash Khand, Govind Puri Main Rd, Kalkaji,, New Delhi, Delhi 110019, India
Phone: 078384 79999
Distance: 1.1 Km
Budget: 100
Add
Hotel Blue Moon
Address:Plot No.91, Pocket 2, Near Apollo Hospitals, Opposite DAV Public School, Jasola Vihar, New Delhi, Delhi 110025, India
Phone: 011 4177 1919
Distance: 2.2 Km
Budget: 300
Add

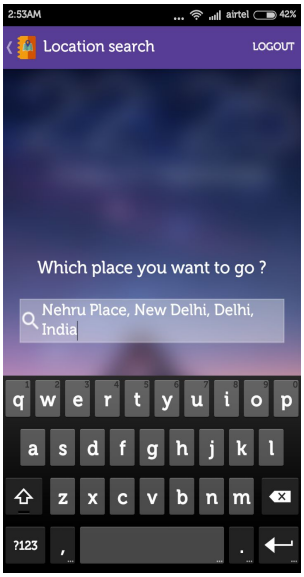

3:07AM
airtel 38%
Available Restaurants
LOGOUT
City of Joy
Address:Unit #2, 1st Floor, Aravali Shopping Complex, Alaknanda, New Delhi, Delhi 110019, India
Phone: 088003 48633
Distance: 2.3 Km
Budget: 400
Add
Hungrooo Tiffin
Address:Govindpuri, New Delhi, Delhi 110019, India
Phone: 081302 69899
Distance: 1.4 Km
Budget: 100
Add
Sardar Ji Malai Chaap Wale
Address:Shop No 186 Subhash Khand, Govind Puri Main Rd, Kalkaji,, New Delhi, Delhi 110019, India
Phone: 078384 79999
Distance: 1.1 Km
Budget: 100
Add
Hotel Blue Moon
Address:Plot No.91, Pocket 2, Near Apollo Hospitals, Opposite DAV Public School, Jasola Vihar, New Delhi, Delhi 110025, India
Phone: 011 4177 1919
Distance: 2.2 Km
Budget: 300
Add

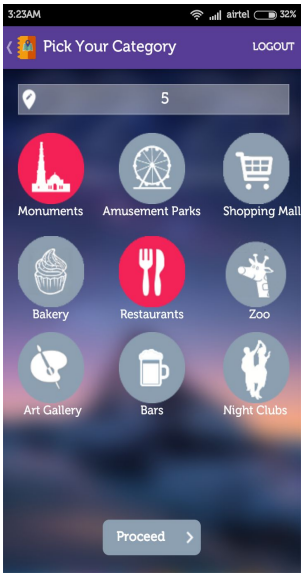
Use Case 11:

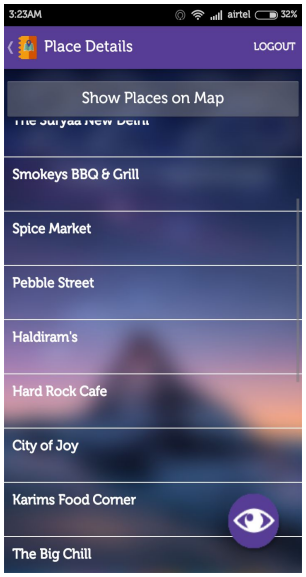

03:57
Pick Your Category
LOGOUT
5
Monuments
Amusement Parks
Shopping Mall
Bakery
Restaurants
Zoo
Art Gallery
Bars
Night Clubs
Proceed

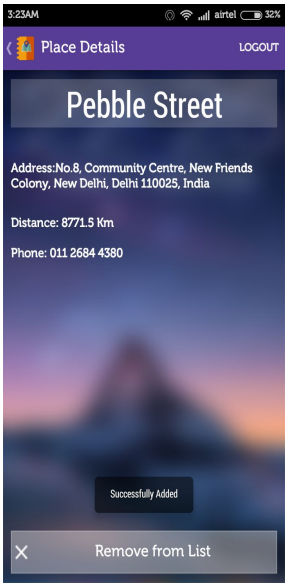

03:55
Place Details
LOGOUT
Show Places on Map
GPS Status
Couldn't get location information. Please enable GPS
OK

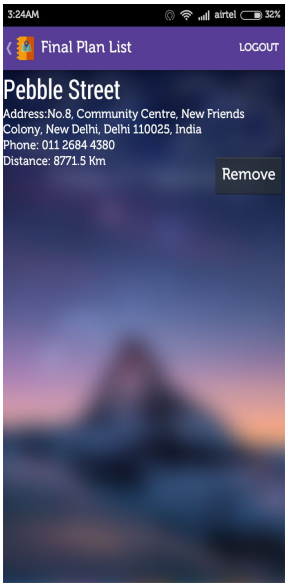
Use Case 12:











Additional work

- When the user runs the app for the first time, a guided tour of the app is presented to him, which guides him through each activity screen.
- The user is given information about the following: How to use the app, what each button and search box does, and what details about the places are presented to him.
- Apart from the guided tour, in terms of innovation, we implemented the login and authentication using cloud services from parse.com.
- Along with the login, log out option was also implemented using parse, on all the activities, which is visible on the action bar. Hence the user can logout from the app anytime he wants.

Unfinished tasks

- As part of the after midsem milestones, we weren't able to finish the categorization of the search results, according to the type of place.
- Also, we failed to display the Google map of the individual places selected in the plan, but we have displayed the map of the search results as a whole, in order to facilitate a more informed choice by the user.