

# Android Based Food Service Locater Using GPS

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**Abstract-**Modern hand held devices like mobile phones, embedded devices, smart phones, tablets are becoming powerful as years are passing by. Dramatic breakthroughs in power with various number of additional features included in these devices, opened the doors to commercial possibilities. In particular most cell phones include cameras, processors compatible to PCs from only a few years ago, and internet access. However, even with all these additional features, there are only few applications that allow much passing them the environmental information plus location based services.

Nowadays mobile devices become more similar to PCs and they will come to replace objects that we carry around like checkbooks, cameras, planners, credit cards, mp3, and more. In short, we use these to fulfil our daily life /daily routine tasks. An application that matches to this category is Restaurant Finder Application developed for Android Phones.

The major objective of this Android application named as "Restaurant Finder Application" is to create a full-fledged Android application which can locate a various restaurants based on nearby location and type of cuisine wanted by the user. The user can find all the restaurants in the city and can also make a choice of the best restaurant based on the reviews and rating and cuisine he/she chooses to enjoy. The user can also search best restaurant around his /her area using his/her devices GPS. This application is with beautiful user interface that will attract user and makes it more user friendly. The Project is developed using Android Studios(2.2). Android has its own virtual machine "Dalvik virtual machine" which enables this Android application to run on any device and makes it an open source application. For user interface we have worked \

OnXML (extensible Markup Language) and for logics we have used java programming.

The android is an operating system that is developed for small devices like mobiles and is rapidly gaining market share, with dozens of smart phones and these days android is also used in devices like tablets, televisions.. It is a mobile operating system that uses a modified version of the Linux kernel 2.6. Android was developed by Google as a segment of the Open Handset Alliance, a clique of more than 30 mobile and technical companies running to open up the mobile handset atmosphere. Direct manipulation mostly depends on Android's user interface, by means of touch gestures that slackly resemble to real-world actions, such as tapping, swiping, and pinching, to operate on-screen objects, beside with a virtual keyboard for text input. In totaling to touchscreen devices, Later on Android TV for televisions, Android Auto for cars were developed by Google.

**Keywords-** Android, Dalvik virtual machine, GPS, Java, XML, Location-Based Services, API

## 1. INTRODUCTION

1.1 Let's put some thinking caps and think for a while...

Think you are visiting a city like Delhi and it's your first time and on a travel tour and you have no clue that where to go for delicious food as per your hunger and also where that satisfy your pockets?

You are standing somewhere and have no clue about the nearest spots to hang out. Now what will you do?

LBS (Location-Based Services) allow application to track the mobile's present location. This includes location tracked from the Global Positioning System (GPS) satellite constellation and yes it's not only limited to that.

The API is treated as "optional" APIs application can still be used without using the Location-Based API.

For example, an Android application can never be written without using the Intent and Activity APIs, but the application may not always need to know where user is, therefore need of the Location-Based Services API will not be used. In this way, the LBS API is optional and the Activity API is not.

Android is an operating system created on the Linux kernel. The Android Open Source Project (AOSP) is a project which is responsible for creating android system and it is led by Google.

This system is divided in 4 ways as described in the following graphic. An Android application developer usually works with the two layers on top to for creation of new Android applications.

1.2 It can be divided as follows:

- **Applications** - Numerous default application, like the Browser, Camera, Gallery, Music, Phone and more are handled by Android Open Source Project
- **Application framework** - An API which permits high-level interactions in Android applications with the help of Android system.
- **Libraries and runtime** - Here the libraries are present for many same framework functions, like, data storage, graphic rendering, web browsing. It also contains the core Java libraries and Android Runtime, for running Android applications.
- **Linux kernel** - It is a Communication layer for the basic hardware.

1.3 Android is open source software for mobile devices that includes an operating system, middleware and key applications based on Linux and Java. In 2005 android developer was purchased by Google, and was launched in 2007. Android open-source code was released under the Apache which was certified by Google. Android has adequate no. of developers writing applications all over the world. Developer tried their logic of their application in java code and designs their user interface in XML. In Feb 2012, 450,000 apps were existing for Android but the estimated number of downloads since Dec, 2011 was more than 10 billion. More than 300 million Androids in use and above 850,000 devices activated every day. Most of the people are using Android.

### Why this Domain?!?!?

Because of its scope, this domain has lots of scope. In today's world everyone has powerful smart portable devices.

And no need to handle big data.

And is very Cost effective application for smooth run and there will be no need of care about the dynamicity of data.

## 2. WHAT IS RESTAURANT FINDER?

2.1 The objective of "Restaurant Finder Application" is to create a full-fledged Android application which could locate a list of restaurants based on the location & type of the cuisine entered by the user. The user not only finds the entire restaurant in the city, but also he can make a choice of the best restaurant based on the rating. The user can also map the location of the restaurant on Google Maps available to the user on the phone & find the path from his current location or from any other location to the restaurant. The user has the provision to make a call directly to the restaurant and can also obtain the detailed review provided by the others users.

2.2 The user interface is simple and very understandable. The user does not have to be expert to understand this application it can also be used by command man who do not know anything about Android. The colors are decided in such a way that user can understand where to give input and also can understand output easily. Hints are there to help the user for providing the correct input.

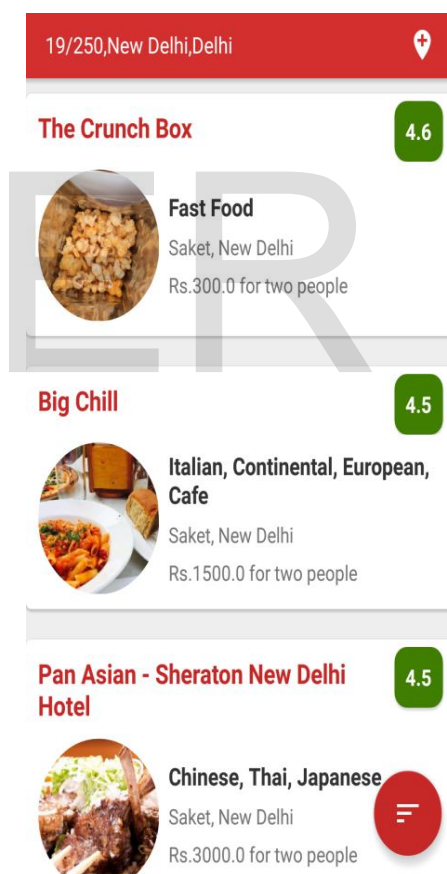
2.3 There following are main screens and features in this Android application.

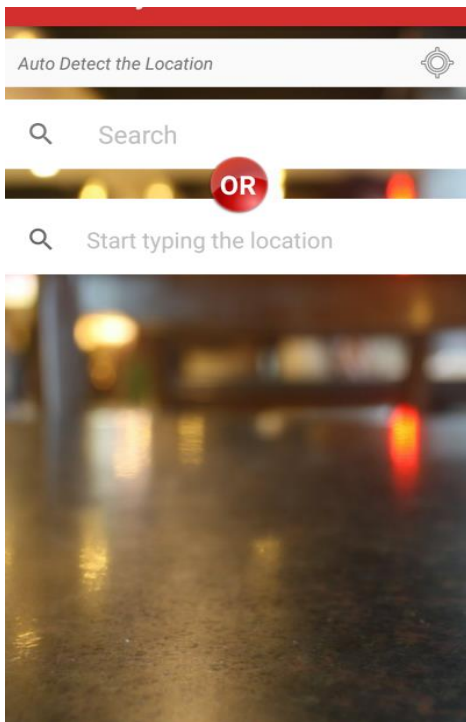
- Splash Screen
- Home Screen(with two input boxes and GPS detection)
- Screen with list of all restaurant near by your area detected by GPS
- Profile Of each Restaurants
- Sorted by rating screen of Restaurants
- Sorted by cost screen of Restaurants
- Sorted by distance screen of Restaurants
- History results screen

## 3. WORKING

3.1 Following points describe the working of "Restaurant finder application":

- When user open application there will be splash screen (which is set through java code and multithread concept is being used here) for few seconds
- Next screen will be home screen where you can see three sections:
  1. GPS (that uses your device GPS to locate restaurants nearby your area)
  2. Next box is search(here you can search the restaurants you want to go in you can check their menu ,rating etc.)
  3. you can check in this box by typing the location where you want to go
- All these three input boxes is provided with hints and uses "Zomato" API to search for restaurants reviews ratings etc.
- You can decide now by looking at the reviews where to visit according to your hunger and cost and ambience.





#### 4. FINDINGS

4.1 During this project there are many things that we have faced. In cities such as like Delhi, Mumbai, etc. majority of population are professional, industrialist, who has lots of money but have no time to waste. These type of people usually have their breakfast, lunch and dinner problems as they have no time for themselves or they are unmarried or the couple both are working. They come across is that they have no time so they go to restaurant they see first. And what happen after that they don't like the food or the food is too costly out of their budget or they don't like the ambience. These finding motivated us to build an application for these people so that we can save time and money. Later on we realized that communities like students, workers etc. can also find our application useful and that give us idea to put a search box as well for specific finding by the user. The user reviews and the restaurant ratings are the most important data for a system.

#### 5. CONCLUSION

5.1 This is our primary attempt of mobile developed application with use of "Zomato" APIs which gave us a primary understanding of development

process and challenges faced during this process. The key aim of the project is to deliver an ease to use application for searching the restaurants. Through this people can save their time and can find a better restaurant. Here, the developers are able to create this type of application with their own database to improve the quality content and to make his app as little bit faster. The importance of this app can be seen here as when the user is not having the facility of internet, the user can search offline as well. There are many improvement that are to be done in this application but as of now whatever we have come up is performing as per standards and is up to the mark. The application has been implemented and tested on real devices.

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