



# **Implementation of Android Application to Search nearby Places with GPS Navigation Technology**

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**ABSTRACT:** Android Mobile became an important part of day to day life. People depend on mobile application for searching places like hotels, hospital and shopping things. There are many applications in market which serves these purposes. On the behalf of these applications there are many applications for different different purposes. To reduce such complexity and memory required for each separate application a new application is needed. The application such as integrated all in one. This project proposed such application which satisfies our day to day needs. In this application all data is link through Google. So there is no need to maintain separate data base. This data base is redirect as per user requirement. The complex algorithm and programming is done by using eclipse software. Java scripting is a main coding language is used. In this application flash screen and other screen is designed through Photoshop and other screen viewer software. This application is facilities to find required nearest places from your GPS location. This application can be scaled in 1 to 50Km range to find out required places. Whats here places application is also integrated with customer reviews to bases on stars. This review is useful to first time trying people.

**KEYWORDS:** Linuxkernel, Androidsystem, Java Programming Language, Mobile Handset ,eclipse Android Software.

## **I.INTRODUCTION**

Google launched Androids in 2007, to advance open standards for mobile devices. Androids is an Apache free software platform with an open source license for mobile devices based on Linux. Its software stack for mobile devices includes an operating system, middleware, and key applications. Application framework defined the common structure of programs in the specific domain. The Android software development kit (SDK) supports authoring applications with rich functionality. Like the iPhone, it can handle touch screens, accelerometers, 3D graphics, and GPS as well as collaboration among applications like email, messaging, calendars, social networking, and location-based services. Essentially, a framework is a component that can be reused; it set the architecture of applications and incorporated as a set of abstract classes and the cooperation of their instances. [1]

Android is an open source operating system based on Linux kernel and launched by Google. Unlike PC operating system, mobile phone operating systems are constrained by their hardware, storage space, power dissipation and mobility conditions. Compared with the development of applications on PC, there are some different features of applications on mobile phone operating systems. This paper introduced the basic architecture and application framework of Android operating system, gives a detailed description of main structure of Android applications and the methods of developing applications based on Android application framework.

Android supports a relatively large subset of the Java Standard Edition (SE) 5.0 library, implying reduced migration cost from Java desktop applications. It also supports several third- party libraries. Similarly to Java ME, application development is powered by popular Java integrated development environments (IDEs) such as Net Beans and Eclipse. Android provides inherent support for modular service-oriented applications and inter application communication.



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Android offers a fresh take on the way mobile applications interact with users, along with the technical underpinnings to make it possible. But the best part of Android is the software that you are going to write for it.

Android is running on the Linux kernel and its applications are written by Java programming language, so Android applications are running on a Java virtual machine named Dalvik virtual machine. Dalvik virtual machine has been redesigned and optimized by Google for the hardware features of mobile devices. In Android system, there is a tool named dx, included in the Android SDK, transforms the Java Class files (which compiled by a regular Java compiler) into the .dex format. The .dex format files integrate all Java class files and delete redundant information in every Java class files.

This project presents Google map implementation and client review facilities. This application is mostly used for consumer who is travelling to another city or new place. The application finds the relative place's distance from consumer's current position and generates the Google map.

## II. RELATED WORK

A detailed description of Android application framework from the prospective of developers is introduced in the Android platform and application. A simple music player is provided as instance to illustrate the basic working processes of Android application components. Guidance to understanding the operation mechanism of Android applications and to developing applications on Android platform is provided [1]. An innovative research approach to design and develop mobile consumer applications across communication network is presented in which the design involves mobile client that receives services provided by the base station server connected to database server. Target consumer applications implemented were Electronic Health Record (EHR) and Utility billing application which tested for correctness and analyzed for performance with varying input data type and size. The applications are also verified and validated by porting on a mobile device that runs Android operating system [3]. The proposed research finds use in upcoming mobile based consumer applications for achieving increased cost-effectiveness, scalability and ease of use. Initially mobile phones were developed only for voice communication but now days the scenario has changed, voice communication is just one aspect of a mobile phone. Two such major factors are web browser and GPS services. Both of these functionalities are already implemented but are only in the hands of manufacturers not in the hands of users because of proprietary issues, the system does not allow the user to access the mobile hardware directly. But now, after the release of android based open source mobile phone a user can access the hardware directly and design customized native applications to develop Web and GPS enabled services and can program the other hardware components like camera etc. The LBS application can help user to find hospitals, school, gas filling station or any other facility of interest indicated by user within certain range. Just like a GPS device its location will also be updated as soon as user changes his/her position [3].

## III. SYSTEM ARCHITECTURE

Android application development is a new trade in market. Here an application is developed when users requirement. To develop an android application different steps and protocol are need to follow. This chapter consist of block diagram & overview of android application. Also this gives breif introtion of android GPS based android application.

### 1. Proposed Block Diagram

Architecture incorporates component blocks for services extended to the clients provided by the server that interacts with database storage unit as shown in Fig 1.

The top (first) layer includes Client-Side Software that is developed using Android (SDK/OS) which is specific to certain roles, for instance and field operators in GPS Searching Application. The roles/actors in mobile near places application include Searching operators and consumers/users. In the second layer Android application makes its interaction through XML (Extensible Mark-Up Application, where in Operators can view the patient details which also includes diagnostic images by just entering place or Capturing Data from their Android Mobile device.

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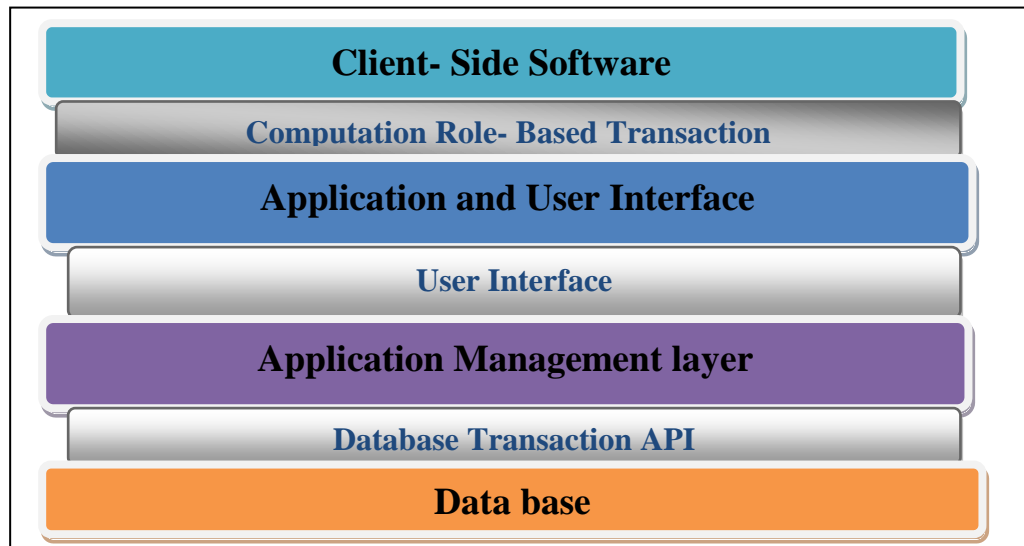


Fig. 1 Architecture of android application

## 2. Functional overview:

A core feature of Android is that one application could use component element that belong to another application (if the component is permitted using). In order to achieve such functions, Android system must launch the application while any part of the application is asked and instantiate Java objects that being asked. Unlike most operating system, there is no single point that the system can enter in an Android application (for example, there no main ( ) function in an Android application). Instead, each component is a different point through which the system can enter an application and instantiate component object independently. [2] [4] [6].

There are four different types of application components. Each type serves a distinct purpose and has a distinct lifecycle that defines how the component is created and destroyed.

### a. Activity

An activity represents a single screen with a user interface. The activities in an application work together to form a cohesive user experience, but each one is independent of the others. As such, a different application can start any one of these activities. An activity is implemented as subclass of Activity. The particular form that an activity show users and the amount of activities in an application depend on how the developer design the application. In a multiple activities application, typically, one activity is specified as the "main" activity, which is presented to the user when launching the application for the first time. Each activity can then start another activity in order to perform different actions. Each time a new activity starts, the previous activity is stopped, but the system preserves the activity in a stack (the "back stack"). [2][5][6].

### b. Service

A service is an Android component that runs in the background to perform long-running operations or to perform work for remote processes and does not provide a user interface. An activity can connect or bind a service that is running. (if the service is not running, launch it). When connected to a service, the activity can communicate with the service through the interface that the service exposed. Like other application components, service components alwaysrunning in the main thread of an application by default. So for the intensive or blocking operating a service performs (may slow down activity performance), it is usually start anew thread inside the service.[2].

### c. Content providers

Content providers provide data share mechanism among applications. The data that be shared could in the file system, a SQLite database, or any other persistent storage location anApplication can access. A content provider is implemented as a subclass of Content provider, it defines the data format it supported and provides a set of method to enable other applications to query or modify the data. But an application does not call these methods immediately, instead, it call



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these methods by an object named Content Resolver. Content Resolver can communicate with every Content Provider. Content Resolver cooperated with Content Provider to manager IPC (inter process communication) while sharing data.

## d. Broadcast Receivers /

Broadcast Receivers is in charge of the reception of system wide broadcast and take response aiming at the information that a broadcast transmitted. Many broadcasts originate from the system—for example, a broadcast announcing that the screen has turned off, the battery is low. Applications can also initiate broadcasts. There could be any number of Broadcast Receivers in an application and each Broadcast Receiver implemented as a sub class of Broadcast Receiver. Although broadcast receivers don't display a user interface, they may create a status bar notification to alert the user when a broadcast event occurs. More commonly, though, a broadcast receiver is just a "gateway" to other components and is intended to do a very minimal amount of work. [2].

## e. Intent:

Three of the four component types—activities, services, and broadcast receivers—are activated by an asynchronous message named intent. Intents bind individual components to each other at runtime no matter the component belongs to the same application. Intent can create with an Intent object, which defines the messages by which can activate either a specific component or a specific type of component. For activities and services, intent defines the action to perform and may specify the URI of the data to action. For broadcast receivers, the intent simply defines the announcement being broadcast. The other component type, content provider, is not activated by intents. Rather, it is activated when targeted by a request from a Content Resolver. [2]

## IV. LOGIC FLOW

1. This flow chart working out the splash screen pop in the application that you start the application there work in the Main activity file.
2. This file is the main file of the working application created class and main part of the application.
3. Main activity file is called to this sub file design the screen of splash screen in the activity\_main
4. The application Main Screen is subdivided into search bar along with grid logo and setting option.
5. Search Bar helps the user to find nearby places by typing the query string in the search bar option.
6. Grid logo displays the list of nearby places which user has searched in the grid format for improving the readability.
7. Setting option will enable the user to have customized settings for current location, range within which places to be searched and map location settings.
8. It sets the current location by accessing the GPS facility, also user can set the range of 1 to 50 km within which various places can be searched and it also helps to generate the map of the searched places.
9. If user wants to search customized option which is available on the grid menu screen then click on the option logo available on menu screen for example hospital.
10. After clicking on the logo, list of nearby locations is displayed with detailed information.
11. It opens the current location to map nearby places.
12. Information regarding distance, timing and address of the nearby places is also displayed on the android device screen.
13. Click on “take there” option and it opens the direction of current position to where user wants to go and also Google map is generated.

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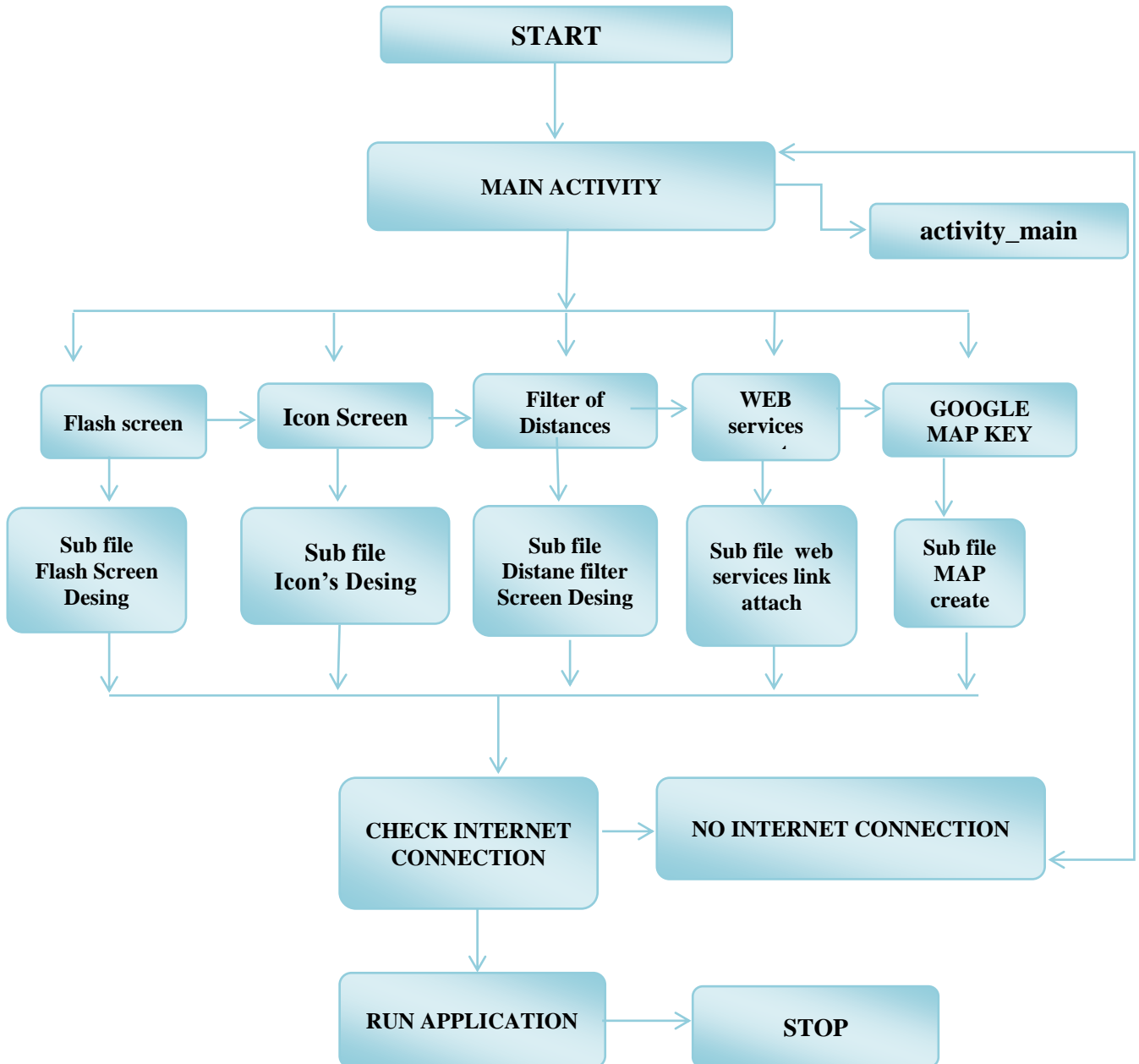


Figure 2: Logic Flow For Application Development

## V. RESULTS AND DISCUSSIONS

This chapter highlights the results of the project & the snapshots for each of the activities are shown along with the discussion of each activity describing its working. Each snapshot describes every single step of the WhatsHerePlaces Application. Seven main activities as well as the options provided to the users in each activity such as menu options and the activities which are created on the click. Result information table is shown below.



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| Feature    | Setting                | Advance           |
|------------|------------------------|-------------------|
| Range      | 1-50Km                 | Accuracy 0.02km.  |
| Google map | Sink information       | Generate map      |
| Filters    | Hotels, hospital ,etc. | Based on stars    |
| Reviews    | Consumer review        | Place Information |

Table 1. Result Information

## VI.CONCLUSION

The proposed Android as a full, open and free mobile device platform, with its powerful function and good user experience, rapidly developed into the most popular mobile operating system. A detailed introduction of Android application framework and the working principal of Android applications finally, a near place on the android platform was put forward to illustrate this mechanism. The research work presented in this involves new service based design approach for implementing two of the popular consumer applications on Android system. One of them is utility search places application for client and it is implemented for large collection data form Google.

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