

# ANDROID CITY TOUR GUIDE SYSTEM BASED ON WEB SERVICES

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**Abstract**— Now a day mobile phone is a necessary part of the people's life. The combination of the mobile phone and the Internet service is the trend of the future information development and software applications. There is continuously rising in a number of mobile computing applications, centered on the people's daily life. In such applications, location dependent systems have been detected as an important application. Such application which presents the architecture and implementation of such a location is commonly known as Smart Travel Guide. So in this paper we show the smart travel guide architecture and we propose a framework of Mobile tourist guide system for Android Mobile Phones that is able to provide tourism information to the mobile users conveniently. This framework introduces the three-layer architecture of Web development into mobile phone software development. Based on the three-layer architecture, the android based city tour guide system will develop.

**Index Terms**— Three-layer architecture, Android Mobile, map navigation, tour guide system, XML.

## I. INTRODUCTION

Tourism is a fast growing industry which contributes enormously to the growth of a country's economy and making the tourists feel at home is an integral part of making the industry grow. In such a fast moving industry keeping track of the various places of interest in a particular city can be highly cumbersome. The most plausible way to meet such an aim would be to tap the enormous resources available in the form of smart phones and the Internet. This would be the easiest way to provide assistance to tourists, thereby helping them know their way around in foreign places.

Android has a growing selection of third party applications, which can be acquired by users either through an App store such as Google Play or the Amazon Appstore, or by downloading and installing the application's APK file from a third-party site. The Play Store application allows users to browse, download and update apps published by Google and third-party developers, and is pre-installed on devices that comply with Google's compatibility requirements. The app filters the list of available applications to those that are compatible with the user's device, and developers may restrict their applications to particular carriers or countries for business reasons. Purchases of unwanted applications can be refunded within 15 minutes of the time of download and some carriers offer direct carrier billing for Google Play application purchases, where the cost of the application is added to the user's monthly bill. As of September 2012, there were more than 675,000 apps available for Android, and the estimated

Number of applications downloaded from the Play Store was 25 billion. Applications are developed in the Java language using the Android software development kit (SDK). The SDK includes a comprehensive set of development tools including a debugger, software libraries, a handset emulator based on QEMU, documentation, sample code, and tutorials. The officially supported integrated development environment (IDE) is Eclipse using the Android Development Tools (ADT) plugin. Other development tools are available, including a Native Development Kit for applications or extensions in C or C++, Google App

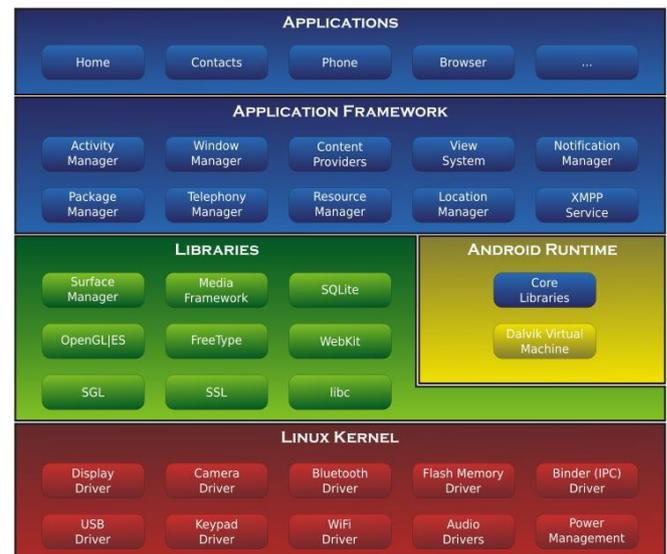


Figure 1: Android system architecture. Green items are written in C/C++; blue items are written in Java and run in the Dalvik VM

The Android software stack as shown in figure above can be subdivided into five layers: The kernel and low level tools, native libraries, the Android Runtime, the framework layer and on top of all the applications. The kernel in use is a Linux 2.6 series kernel, modified for special needs in power management, memory management and the runtime environment.

## 2. ANDROID LINUX

At present all are using **Android** which is a Linux-based operating system designed mainly for touch screen mobiles such as smart phones and tablet computers. Android is open source and the Google releases the code under the Apache License. In October 2008 the first android phone was sold. Android's linux kernel has further

architecture changes by Google outside the typical Linux kernel development cycle.

Android developers hinted that "the Android team was getting fed up with the process," because they were a small team and had more urgent work to do on Android.

### 3. LITERATURE REVIEW:

S .Bhattacharya, etal[1], proposed an approach that a tour guide application called Mobile Campus on android based mobile platform for SRM University campus. Near field communication (NFC) is a set of standards for smart phones and similar devices to establish radio communication with each other by touching them together or bringing them into close proximity, usually no more than a few centimeters. This tour guide application includes functionality such as locating current location of users, showing university campus map, route direction of university shuttle and gives small description & contact information of important places on campus.

P. Mateetal [2],they proposed system is an Android based Mumbai City Guide application which designed to process location based continuous query on the road network. Somebody when visit places such as Hotels, Colleges, Hospitals, and Schools do not need to hire special person who give guidance. If all the information must be available on a mobile device with the user customized format, then it's helpful to manage their valuable time effectively and efficiently.

U. Thakur etal [3], they proposed Tools such as augmented reality (AR) hold a vast potential in attracting and retaining visitors. The rise in smart mobile devices only boosts this further as it becomes possible to have information and tour generation at one's fingertips. In this paper, we first try to enlist all the limitations and challenges encountered while utilizing concepts of AR to develop a tour guide system. We describe various state-of-the-art AR applications that provide such service, having their own set of drawbacks, and we give a brief introduction to our proposed system.

AR-based tourism systems are presented in the paper, which include several methods and algorithms that can be used for image comparison required to recognize objects of interest.

### 3. .EXISTING SYSTEM

In Earlier tourism system, whenever a tourist visits famous spots, to know more about the place he hires a guide. The hired guide then narrates history of the place and there is no surety that all narrate story istrue. The visitor is not aware about location or place before going there, hence the whole information is hidden by visitors and that is the main disadvantage of visitors.

#### 3.1 Problem Definition of existing system:

In the tourism industry, tourist information is obtained mainly through newspaper, magazines, radio and other simple ways those are available easily. But problem is

that tourists are not able to get travel information timely when they are on the move.

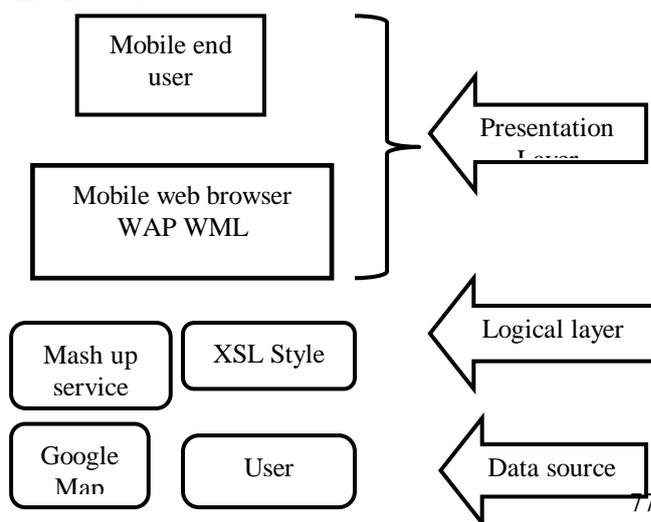
While today's mobile devices are becoming more intelligent, compared with PC, they still have the following limitations like small screen and tiny keyboard, limited CPU capacity, limited memory space, slow and fitful Internet connection. Many mobiles of recent decades have travel guide application. But the application on these mobiles works slow due to continues acquisition of the bandwidth. Therefore, the mobile end-user's operation is very difficult, and the contents display on the screen of mobile device is limited.

### 4. PROPOSED WORK:

In existing tourism system, whenever a tourist visits famous spots, to know moreabout the place he hires a guide. The hired guide then narrates history of the place. But in the proposed system we overcome this drawback; it doesn't require a physical guide. The Mobile application installed on the mobile of tourist can act as a guide. Additionally, the application would help user to find out the weather forecast of the place..Also in previous system it provides only individual functions in different application, for example if we required information about tourist places for that we access an internet to gate this information. Also like that if we required images or videos about that place then also we take help of internet. Hence this is very lengthy process to gate information like, images, videos, whether report etc. To overcome this drawbacks we are introduce a new application i.e. Android City Tour Guide System. In this city tour system all this features are implemented in one single application. So, that to implement this concept we use three tierGoogle Maps can identify and mark in the maps.XSL StyleSheet the data or contents from data sourcethat is XML format need to be transformed into WMLformat by the XSL Style Sheet. Therefore, Mobile serviceproviders can efficiently use existing resources to providebetter services [2].

### SYSTEM ARCHITECTURE:

The city tour guide system (CTGS) use three-layer architecture which is taking from Internet application development. In this paper we are using athree-tier architecture which includes presentation layer, logical layer, and database layer. Each is having its own importance. The architecture supports the automatic accessingof data from multiple, different sources into possibly a variety of different mobile devices.



**Figure 2: System Architecture**

**PRESENTATION LAYER:**

Presentation layer is the topmost layer in the system architecture through which user can interact with city tour guide system (CTGS). Presentation layer provide front page of application i.e. mobile end user and any internet browser i.e. mobile web browser.

**LOGICAL LAYER:**

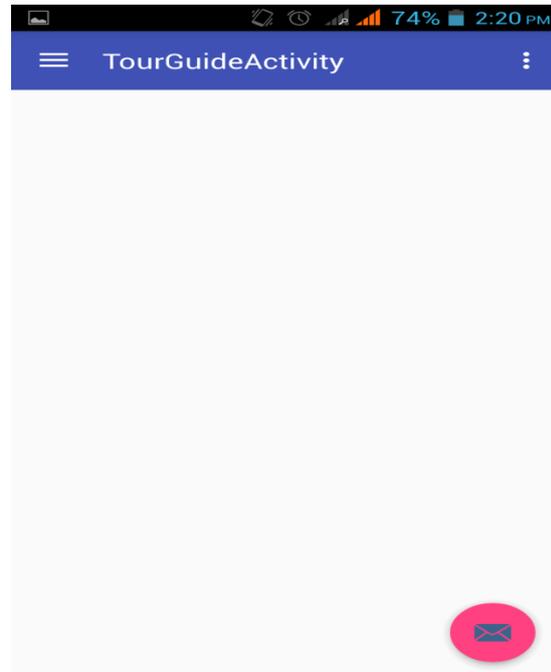
Logical layer is middleware interface between presentation layer and data source layer. Geocoding Widget converts end-user’s location information into latitude and longitude coordinates that Google Maps can identify and mark in the maps.

XSL Style Sheet the data or contents from data sources that is XML format need to be transformed into WML format by the XSL Style Sheet. Therefore, Mobile service providers can efficiently use existing resources to provide better services [2]

**DATA SOURCE LAYER:**

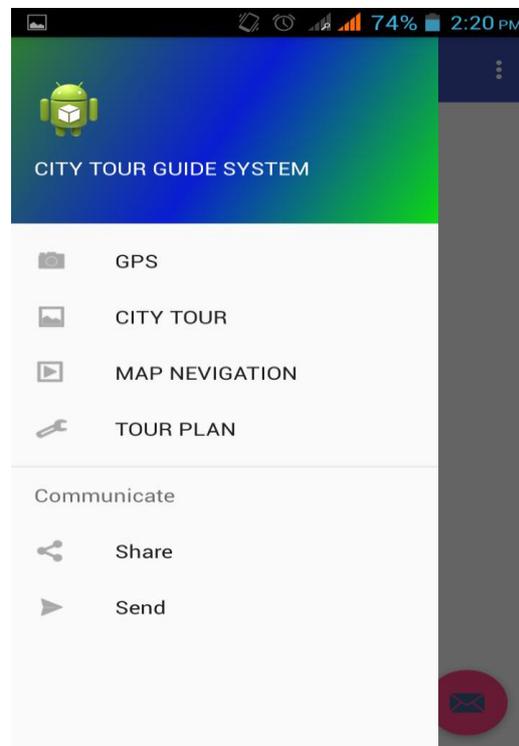
Data source layer is a back end layer in which the system information is stored. Data source layer give the response to the user request like information about tourist places, provide Google map, whether report etc. The tourist can share experience to enrich the information in the database. It is built using MySQL database. MySQL database has become the world’s most popular open source database because of its high performance, high reliability and ease of use [4]. Architecture which includes different layers as shown in below figure 2

**IMPLEMENTATION**



**Figure 3(a): Main page**

Above figure shows the actual working of City Tour Guide System (CTGS). Fig 3(a) shows the main page /front page of application, in that two icons are shown i.e. main function and setting. When user click on the main function then it display next page i.e. main activity shown in figure 3 (b).



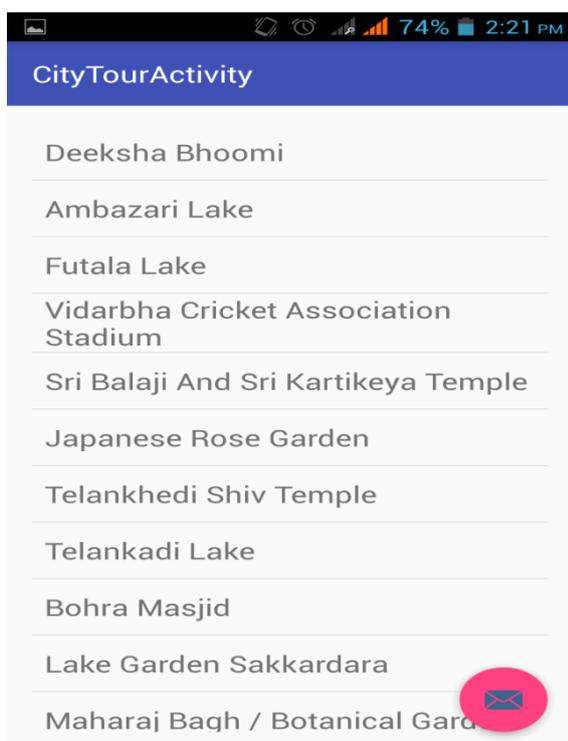
**Figure 3(b): Main Activity**

After clicking on main function this above window opened .In this four categories are given, this are GPS, CITY TOUR, MAP NEVIGATION and TOUR PLAN. When user click on city tour categories which is shown in figure 3(b) is

provided the list of different famous places of current city which is shown figure 3 (c).

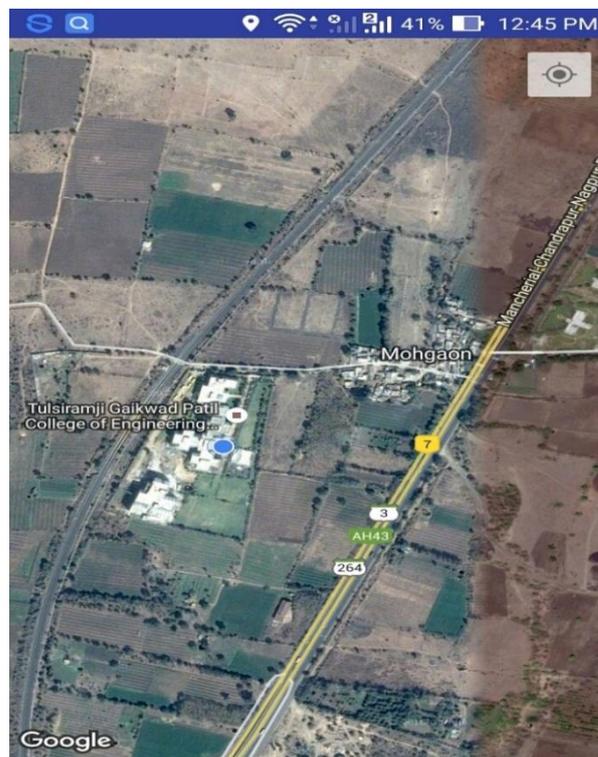
Also the map navigation category is shown in figure 3 (b) which is provided the current position of the user and also shows the nearest places whatever the user wants. A list of locations is displayed when the user is in a specific location he can get information about this location, hotels or restaurants in that location. Also, the user can display the map to see his location.

Tour plan shows service responsible for creating tour plans. In this if you want to arrange tour plans anywhere anytime we help in it giving best plans.



**Figure3(c): Famous Places**

Above figure shows famous places of city which are nearest to the current location of the user. For example if user in Nagpur city according to their current location shows famous places such as Deeksha bhoomi, futala lake etc.



**Figure 3(d): Map Navigation**

Above figure shows map by using this user find their current location and destination on which they want to reach. Also find the distance between current and destination location. For example in above figure user shows his or her current location i.e.Mohgaon.

**CONCLUSION:**

In this paper we presented an approach which overcomes the drawback of existing tourist guide system. For that we proposed method in that mobile device is the interface for users to access the city tour guide system (CTGS) service, with which mobile users can get tourism guidance information they need anytime and anywhere .user can attract towards its detailed information, including text, picture and video. User can search the nearby attractions after he or she configure the distance between the current location and the view spots.

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