1. INTRODUCTION

Tourism is an important, even vital, source of income for many countries. Its importance was recognized in the Manila Declaration on World Tourism of 1980 as "an activity essential to the life of nations because of its direct effects on the social, cultural, educational, and economic sectors of national societies and on their international relations."[1][2]

Tourism brings in large amounts of income into a local economy in the form of payment for goods and services needed by tourists, accounting for 30% of the world's trade of services, and 6% of overall exports of goods and services.[3] It also creates opportunities for employment in the service sector of the economy associated with tourism.[4]

The service industries which benefit from tourism include transportation services, such as airlines, cruise ships, and taxicabs; hospitality services, such as accommodations, including hotels and resorts; and entertainment venues, such as amusement parks, casinos, shopping malls, music venues, and cinemas. This is in addition to goods bought by tourists, including souvenirs, clothing and other supplies.

The tourism industry of India is economically important and grows rapidly. The World Travel & Tourism Council calculated that tourism generated INR6.4 trillion or 6.6% of the nation's GDP in 2012. It supported 39.5 million jobs, 7.7% of its total employment. The sector is predicted to grow at an average annual rate of 7.9% from 2013 to 2023.[5] This gives India the third rank among countries with the fastest growing tourism industries over the next decade.[6] India has a large medical tourism sector which is expected to grow at an estimated rate of 30% annually to reach about ₹ 95 billion by 2015.

According to provisional statistics 6.29 million foreign tourists arrived in India in 2011, an increase of 8.9% from 5.78 million in 2010. This ranks India as the 38th country in the world in terms of foreign tourist arrivals. Domestic tourist visits to all states and Union Territories numbered 1,036.35 million in 2012, an increase of 16.5% from 2011.[7] The most represented countries are the United States (16%) and the United Kingdom

(12.6%). In 2011 Maharashtra, Tamil Nadu and Delhi were the most popular states for foreign tourists. Domestic tourists visited the states Uttar Pradesh, Andhra Pradesh and Tamil Nadu most frequently.[8] Chennai, Delhi, Mumbai and Agra have been the four most visited cities of India by foreign tourists during the year 2011. Worldwide, Chennai is ranked 41 by the number of foreign tourists, while Delhi is ranked at 50, Mumbai at 57 and Agra at 65 and Kolkata at 99.[9]

The Travel & Tourism Competitiveness Report 2013 ranks India 65th out of 144 countries overall. The report ranks the price competitiveness of India's tourism sector 20th out of 144 countries. It mentions that India has quite good air transport (ranked 39th), particularly given the country’s stage of development, and reasonable ground transport infrastructure (ranked 42nd). Some other aspects of its tourism infrastructure remain somewhat underdeveloped however. The nation has very few hotel rooms per capita by international comparison and low ATM penetration.[10] The World Tourism Organization reported that India's receipts from tourism during 2012 ranked 16th in the world, and 7th among Asian and Pacific countries.[11]

In 1994, the United Nations identified three forms of tourism in its Recommendations on Tourism Statistics:[12]

Domestic tourism: involving residents of the given country traveling only within this country.

Inbound tourism: involving non-residents traveling in the given country.

Outbound tourism: involving residents traveling in another country.

In India; the number of domestic tourist visits to states and union territories registered an increase of about 20% during the year 2012 over 2011 as compared to an increase of about 16% in the corresponding period last year.   
  
According to the latest statistics on tourism in India released by ministry of tourism, the number of domestic tourist visits to the states and union territories was 1,036 million in 2012 as compared to 865 million in 2011 and 748 million in 2010.[13]

**1.1 IDENTIFICATION OF NEED**

# As the technology grows into our day-to-day life, smart phones plays a major role. As the survey reveals, India ranks third among the top countries for smartphone users with an estimated 117 million subscribers, behind only China and the US. But the penetration of smart phones as a percentage of mobile users in India is pegged at just 10 per cent, the lowest among the top 30 smart phone markets, according to the latest ‘Internet trends 2014’ report by Mary Meeker, partner at the venture capital firm Kleiner Perkins Caufield & Byers (KPCB).[14]

### When it comes to the internet usage through mobile phone alone, India have 519 million users. Its says that this is driven by falling handset prices and rise in smartphone penetration, data subscribers in India are likely to grow an average 25% every year to reach 519 million by 2018 fiscal, a report by Morgan Stanley said.

### In its report on India's telecom sector, Morgan Stanley said it believes internet users will rise to 330 million in 2016 financial year, driven by falling handset costs, higher smartphone penetration, faster bandwidth and higher internet content or online services.[15]

### Here it opens up a platform to reach millions of people to promote and provide services that help both the user and the provider in tourism area. Sadly we don’t find enough resources and services in this area in our country.

**2. LITERATURE SURVEY**

Tourism is the travel for recreation, leisure, religious, family business purposes, usually of a limited duration. Tourism is commonly associated with trans-national travel, but may also refer to travel to another location within the same country. The [World Tourism Organization](http://en.wikipedia.org/wiki/World_Tourism_Organization) defines tourists as people "traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes"

Though these are the cases the applications in the mobile market dedicated for tourism are very few.

The related applications are:

2.1 Foursquare[16]

Foursquare is a local search and discovery service [mobile app](http://en.wikipedia.org/wiki/Mobile_app) which provides a personalised local search experience for its users. By taking into account the places a user goes, the things they have told the app that they like, and the other users whose advice they trust, Foursquare aims to provide highly personalised recommendations of the best places to go around a user's current location.

The service was created in late 2008 and launched in 2009 by [Dennis Crowley](http://en.wikipedia.org/wiki/Dennis_Crowley) and [Naveen Selvadurai](http://en.wikipedia.org/wiki/Naveen_Selvadurai). Crowley had previously founded the similar project [Dodgeball](http://en.wikipedia.org/wiki/Dodgeball_%28service%29) as his graduate thesis project in the Interactive Telecommunications Program (ITP) at [New York University](http://en.wikipedia.org/wiki/New_York_University). [Google](http://en.wikipedia.org/wiki/Google) bought Dodgeball in 2005 and shut it down in 2009, replacing it with [Google Latitude](http://en.wikipedia.org/wiki/Google_Latitude). Dodgeball user interactions were based on [SMS](http://en.wikipedia.org/wiki/SMS) technology, rather than an application.[[4]](http://en.wikipedia.org/wiki/Foursquare#cite_note-4) Foursquare was the second iteration of that same idea, that people can use mobile devices to interact with their environment. Foursquare was Dodgeball reimagined to take advantage of the new smartphones, like the iPhone, which had built in GPS to better detect a users location.

**2.2 POCKET GUIDE[17]**

• Tours offered by local experts - browse more than 400 tours guided by people who make sure you see the most exciting places.   
  
• share your experiences - during your pocketguide, the world’s leading audio city guide application, gives you tours by voice, revealing the best stories, insider hangouts and must-see sights in close to 100 major cities and tourist destinations. The app determines your location and a recording of your personal tour guide describes where you are – you don’t need to touch your phone or read from the screen. All the tours are developed by local experts who know their cities inside-and-out. You can choose from different themed tours, or just wander around the city and let pocketguide inform you when an interesting site is nearby. The app can also record your trip: with one click you can create an amazing 3d video of the sights you see on your travels.

You can use the gps-activated voice tours for free as long as your phone is online, but that means you will have to pay roaming charges. If you pay to download the tours, you can use them offline, and save on the cost of roaming. We charge a small fee for downloading the offline features because we need to reimburse the tour guides and cover our development costs.

tour you can take photos and add comments; from this pocketguide automatically creates a 3d video which you can easily share with your friends  
• find great places - if you are tired, let our guides recommend you the best nearby   
• offline map - get a free offline map and navigate in the city easily while avoiding roaming charges.

available cities:

cairo, cape town kyoto, melbourne, seoul, shanghai, singapore, sydney, wellington boston, chicago, new york, washington d.c., daytona beach, las vegas, los angeles, miami, orlando, salt lake city, san fransisco, toronto, vancouver

**2.3 GUIDE-PAL CITY GUIDEs[18]**

The brand GuidePal app is destination pocket Concierge.

- Professionally curated destination guides.  
- Curate your own guides and share with friends.  
- Follow your friends' best tips and guides.  
- Make the guides available off line with high resolution map.  
- Book your in destination services such as tours and activities,  
tickets, table reservations.  
- Flight and hotel bookings.

Over 50 major cities featured

What [Guidepal](http://guidepal.com) city apps are not is the equivalent of having a guidebook on your smartphone. Guidepal gives no actionable advice on hotels or transportation. There’s nothing on history, culture or language. Their coverage of attractions is, to put it kindly, uneven. (Guidepal’s San Francisco guide mentioned the Chinatown in Oakland but was oddly silent on the larger and more interesting Chinatown in San Francisco itself).

So what’s cool about Guidepal’s apps?

The restaurant. Guidepal only reviews around a dozen restaurants and drinking spots in each city, yet they have a knack for making marvelous recommendations across a variety of cuisines and price ranges. In [Bangkok](http://travel.spotcoolstuff.com/thailand/bangkok) they found the relatively unknown bar at the [Arun Residence](http://travel.spotcoolstuff.com/bangkok-thailand-hotels/review/best-luxurious-and-budget-rooms/arun-residence), in [Cape Town](http://travel.spotcoolstuff.com/south-africa/cape-town) they suggest Moyo and in [London](http://travel.spotcoolstuff.com/england/london), Rochelle Canteen made their list; each establishment is a Spot Cool Stuff favorite.

**2.4 OTHER RELATED WORKS**

**Prizmo OCR[19]**

Prizmo is a universal photo-based scanner app that lets you scan and recognize text documents, business cards, and images, and then export them as PDF/Text, vCard, or JPEG/PNG. Prizmo relies on state-of-the-art technologies, like a highly accurate OCR, real-time page detection, and beautiful image cleanup. Using iCloud, you can even shoot the picture on your iPhone, and finish editing on your iPad or Mac. All of this in an elegant and intuitive user experience.  
  
Prizmo is made for everyone, and is thus fully compatible with VoiceOver. It provides voice guidance to help position your iPhone when taking document pictures, and will find the text orientation automatically if it's turned left, right or upside down. Prizmo's quick capture mode provides a fast path from picture to speech synthesis for an improved workflow, and it provides a high-quality voice reader (individual voices available as in-app purchases).

**3. SYSTEM ANALYSIS**

**3.1 EXISTING SYSTEM**

The existing system on the mobile platform has scattered information of places and food joints. These mainly focus on the revenue based reviews like the best hotels , restaurants etc.Only seldom do these apps have OCR. Or other Augmented Reality based apps.

**3.2 PROBLEM STATEMENT**

The information in the existing system is limited to certain major cities and also many places and note-worthy landmarks are ruled out from it. The information is not up-to date and not easy for the users to understand. All this application supports only the English language that makes it hard for domestic travelers to use.

**3.3 PROPOSED SYSTEM**

Inncity is an android-based mobile application. It uses the advanced features of the modern android platform to perform an Augmented Reality. The primary goal of the Inncity application is to act as an personalised tour guide with AR from the start to end. It uses the mobile’s GPS positioning system to pinpoint the use’s location and provides the required details to the user.

The OCR in the application helps the user tackle the problem of coping up with colloquial languages by providing useful translation to the user on the go.

**4. FEASIBILITY STUDY**

**4.1 TECHNICAL FEASIBILITY**

The application works on any average mobile device, which has GPS, Camera and Internet access. The application works with all versions of android and independent of device form factors. Works well with even the newest member of the android OS and the earlier versions

**4.2 OPERATIONAL FEASIBILITY**

The user does not require sound knowledge on android to operate the application. The app requires only the minimal operations of gestures (3-4) to access/host information.It uses the device's GPS and Internet Access to accurately spot the locations without users effort. The installation of the application is easy and uses minimum resources of the device.

**4.3 ECONOMIC FEASIBILITY**

The development of this application is highly economically feasible since it uses the open source softwares for development. The deployment of the app is nearly zero cost since it is build up on the android platform. The cost for data transfer over the Internet varies among the users according to their data plans.

**5. COST ESTIMATION**

Cost estimation is one of the most important steps in project management. A cost estimate, establishes the base line of the project cost at different stages of project development. A cost estimate at a given stage of project development represents a prediction proved by the customer.

A cost estimate is calculated by using the unit of cost method of estimation. A successful project is delivered on time and cost acquired in completing the project is critical to the project leader. Estimates are carried out at various stages of a software project.

|  |  |
| --- | --- |
| **TASK** | **PERCENTAGE OF OVERALL EFFORT** |
| Software planning | 5% |
| Software requirements | 10% |
| Software design | 25% |
| Coding & unit testing | 25% |
| Integration testing | 20% |
| Validation testing | 15% |
| Total | 100% |

**6. SOFTWARE ENGINEERING PARADIGM USED**

**Android**

Android is an operating system based on the Linux Kernel and designed for touch screen mobiles devices such as smart phones and table computers .The user interface of Android is based on direct manipulation, using touch inputs that loosely corresponds to real world actors like swiping, tapping, pinching and reveres pinching to manipulate on screen object. Android allows user to customize their home screens with shortcut to applications and widgets. Android become the most popular mobiles OS, having the largest installed base and is a market leader in most counter including US .The version history of Android mobile OS began with the release of Android beta, An Android open nature has a large community of developers and enthusiasts to use the open source code as a foundation for community driven project which add new features to the advanced users or Android to devices which uses officially released other OS.

Java

Java Android applications are developed using the Java language. Java is a very popular language developed by some micro system. Developed long after c and C++.Java incorporates many of the powerful languages while addressing of their drawbacks. Still programming languages are only as powerful as their libraries. These libraries exist to help developers built application. Java is easy to learn and understand and its object oriented .Its designed to be platform independentand secure, using virtualmachines. Java is a platform independent language, with many programming language we need to use a compiler to reduce our code down into machine language that the device can understand. But for this different device use different machine language. That is the code is notportable. But this is not the case of java. Javacompiler converts the code from human readable java source files to byte code. These we interpreted by a java virtual machine, which operates much like a physical CPU might operate on machine code, to actually execute the compiled code. Java is secure because a virtual machine can encapsulate, contain and manage code execution in a safe manner compared to languages that operate in machine code directly.

**7. REQUIREMENT SPECIFICATIONS**

7.1 FUNCTIONAL REQUIREMENT

In [software engineering](http://en.wikipedia.org/wiki/Software_engineering) (and [Systems Engineering](http://en.wikipedia.org/wiki/Systems_Engineering)), a functional requirement defines a function of a [system](http://en.wikipedia.org/wiki/System) and its components. A function is described as a set of inputs, the behavior, and outputs (see also [software](http://en.wikipedia.org/wiki/Portal:Software)). Functional requirements may be calculations, technical details, data manipulation and processing and other specific functionality that define what a system is supposed to accomplish

The following are the functional requirement of our project

* Augmented reality

Augmented reality (AR) is a live direct or indirect view of a physical, real-world environment whose elements are augmented (or supplemented) by computer-generated sensory input such as sound, video, graphics or [GPS](http://en.wikipedia.org/wiki/GPS) data. It is related to a more general concept called [mediated reality](http://en.wikipedia.org/wiki/Mediated_reality), in which a view of reality is modified (possibly even diminished rather than augmented) by a computer. As a result, the technology functions by enhancing one’s current perception of reality.

* Map navigation

Google Maps Navigation is a [mobile application](http://en.wikipedia.org/wiki/Mobile_app) developed by [Google](http://en.wikipedia.org/wiki/Google) for the [Android](http://en.wikipedia.org/wiki/Android_%28operating_system%29) and [iOS](http://en.wikipedia.org/wiki/IOS) [operating systems](http://en.wikipedia.org/wiki/Operating_systems) that was later integrated into the [Google Maps](http://en.wikipedia.org/wiki/Google_Maps_%28application%29) mobile app. The application uses an [Internet connection](http://en.wikipedia.org/wiki/Internet_connection) to a [GPS](http://en.wikipedia.org/wiki/GPS) navigation system to provide [turn-by-turn](http://en.wikipedia.org/wiki/Turn-by-turn_navigation) voice-guided instructions on how to arrive at a given destination.

7.2 NON-FUNCTIONAL REQUIREMENTS

In [systems engineering](http://en.wikipedia.org/wiki/Systems_engineering) and [requirements engineering](http://en.wikipedia.org/wiki/Requirements_engineering), a non-functional requirement is a [requirement](http://en.wikipedia.org/wiki/Requirement) that specifies criteria that can be used to judge the operation of a system, rather than specific behaviors. This should be contrasted with [functional requirements](http://en.wikipedia.org/wiki/Functional_requirements) that define specific behavior or functions. The plan for implementing functional requirements is detailed in the [system design](http://en.wikipedia.org/wiki/Systems_design). The plan for implementing non-functional requirements is detailed in the [system architecture](http://en.wikipedia.org/wiki/Systems_architecture).

Security

* + The app provides security and maintains the credibility of the events posted by user by providing the users with unique username and password.

Usability

* + The GUI (Graphical User Interface) helps the user go through the app with ease and with minimal taps.

Reliability

* + If the application is interrupted, the user will be able to restart it with displaying the last confirmed output of the user.

Supportability

* + The app will be compactable with any future changes in the remote server provided with the data format remains the same.

The user should be able to upgrade the maps on the phone without re-installing the app; this procedure will only require restarting the app.

7.3 USE CASE DIAGRAM

A use case diagram at its simplest is a representation of a user's interaction with the system and depicting the specifications of a [use case](http://en.wikipedia.org/wiki/Use_Case). A use case diagram can portray the different types of users of a system and the various ways that they interact with the system. This type of diagram is typically used in conjunction with the textual [use case](http://en.wikipedia.org/wiki/Use_Case) and wioften be accompanied by other types of diagrams as well.



User



Use Case



Relationship

8. SYSTEM SPECIFICATIONS

The term system specification refers to a detailed functional and non-functional description of a system. This term can also be defined as an explicit set of requirements that need to be satisfied by specific system. System specification includes software and hardware specification of project.

8.1 SOFTWARE SPECIFICATION

* + Front end: Java android
  + Back end: MySql PHP
  + OS : Linux Ubuntu , Android 4.2
  + Coding :Java
  + IDE :Eclipse

8.1.1 Java

Java Android applications are developed using the Java language. Java is a very popular language developed by some micro system. Developed long after c and C++.Java incorporates many of the powerful languages while addressing of their drawbacks. Still programming languages are only as powerful as their libraries. These libraries exist to help developers built application. Java is easy to learn and understand and its object oriented .Its designed to be platform independentand secure, using virtualmachines. Java is a platform independent language, with many programming language we need to use a compiler to reduce our code down into machine language that the device can understand. But for this different device use different machine language. That is the code is notportable. But this is not the case of java. Javacompiler converts the code from human readable java source files to byte code. These we interpreted by a java virtual machine, which operates much like a physical CPU might operate on machine code, to actually execute the compiled code. Java is secure because a virtual machine can encapsulate, contain and manage code execution in a safe manner compared to languages that operate in machine code directly.

8.1.2 Mysql

Mysql also called My Sequel" is (as of March 2014) the world's second most widely used open-source relational database management system (RDBMS). It is named after co-founder Michael Widenius's daughter. The MySQL phrase stands for Structured Query Language . The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL was owned and sponsored by a single for-profit firm, the Swedish company MySQL AB, now owned by Oracle Corporation .MySQL is a popular choice of database for use in web applications, and is a central component of the widely used LAMP open source web application software stack (and other 'AMP' stacks). LAMP is an acronym for " Linux, Apache , MySQL, Perl /PHP/Python." Free software open source projects that require a full-featured database management system often use MySQL. For commercial use, several paid editions are available, and offer additional functionality. Applications which use MySQL databases include: TYPO3 , MODx , Joomla , WordPress , phpBB , MyBB, Drupal and other software. MySQL is also used in many high-profile, large-scale websites , including Wikipedia , Google(though not for searches), Facebook ,Twitter , Flickr, and YouTube.

8.1.3 Linux Ubuntu

Ubuntu is aDebian-based Linux operating system, withUnity as its default desktop environment( GNOME was the previous desktop environment). It is based on free software andnamed after the Southern African philosophy of Ubuntu (literally, "human-ness"), which often istranslated as "humanity towards others" or"the belief in a universal bond of sharing thatconnects all humanity". According to some metrics, Ubuntu is the most popular desktop Linux distribution. SeeInstalled base section. Development of Ubuntu is led by CanonicalLtd. ,a company based on the Isle of Manand owned by South African entrepreneur MarkShuttleworth . Canonical generates revenuethrough the sale of technical support and otherservices related to Ubuntu . The Ubuntuproject is publicly committed to the principlesof open source development; people areencouraged to use free software, study how itworks, improve upon it, and distribute it.

8.1.4 Android

Android is an operating system based on the Linux Kernel and designed for touch screen mobiles devices such as smart phones and table computers .The user interface of Android is based on direct manipulation, using touch inputs that loosely corresponds to real world actors like swiping, tapping, pinching and reveres pinching to manipulate on screen object. Android allows user to customize their home screens with shortcut to applications and widgets. Android become the most popular mobiles OS, having the largest installed base and is a market leader in most counter including US .The version history of Android mobile OS began with the release of Android beta, An Android open nature has a large community of developers and enthusiasts to use the open source code as a foundation for community driven project which add new features to the advanced users or Android to devices which uses officially released other OS.

8.1.5 Eclipse

In computer programming Eclipse is an integrated development environment (IDE) .It contain a workspace and an extensible plug-in system for customizing the environment written mostly in Java ,Eclipse can be used for developing application .The eclipse software development kit(SDK) ,which includes the java development tools ,is meant for java developers .Users can extend its abilities by installing plug-ins written for the Eclipse platforms ,such as development for other programming languages and write and contribute their own plug-in modules.Eclipse SDK is a far and open source software.

8.2 HARDWARE SPECIFICATION

* + RAM : Minimum 1GB
  + Hard disk :Minimum 40GB
  + Processor : Intel Pentium IV and above
  + Android phone/ Emulator :Version 4.2 with minimum 3.2 MP Camera

8.2.1 Ram

Random Access Memory is a form of data storage .it allows stored data to be accessed directly in any random order. Today random access memory takes the form of integrated circuits. Strictly speaking modem types of DRAM are not random access as data is read in bursts, although the name DRAM/RAM has sheet .In addition sensing as temporary storage and working space for the OS and application RAM is used in numerous other ways.

8.2.2 Hard disk

A hard disk drive is a data storage device used for storing and returning digital information using rapidly rotating disk coated with magnetic material .A hard disk containdata even when power off .Data is read in a random access manner, mainly individual blocks of data can be stored or returned in any order rather than sequentially .Hard disk became the dominant secondary storage device for general purpose computer.The primary character of an HDD are its capacity and performance .Capacity is specified in unit prefixes corresponding to powers of 1000 ,a 1-terabyte has the capacity of 1000 gigabyte(GB ,where 1 GB= 1 billion bytes) .

8.2.3 Processor

A processor is logic circuitry that responds to and process the basic instruction that drive a computer .Here we use Pentium 4 processors or above. Pentium 4 is a line of single core desktop and laptop central processing unit introduced by Intel on November 2000 .The two classical matrices of CPU performance is IPC and clock speed .while IPC is difficult to quantify due to the bench mark application instruction, clock speed is a simple measurement yielding a single absolute number .The Pentium 4 had the fastest clock speed.

8.2.4 Android Emulator

The android SDK includes a mobiles devices emulator –a virtual mobile device that runs on computer .The emulator develop and test Android application without any physical device .The android emulator writes all of the hardware and software features of a typical mobile device ,except that is cannot place actual phone calls .It provides a verity of controllers which we can press using mouse or keyboard to generate words for the application .It also provides a screen in which our application is displayed ,together with any other active Android application .

8.2.5 Android Phones

Android phones are smart phones running on Google open source Android operating system .All android phone do share some common features .All of them have touch screen ,All computer with a desktop that is made up of a certain number of screens that we can customize .

9. SYSTEM DESIGN

System design is the process of defining the architecture, components, modules and data for a system to satisfy specific requirements.

9.1 MODULE DESCRIPTION

INPUT CHOICE:

The user has to input his/her personal interest and time duration .

SUGGESTIONS :

Suggestions are provided for the user to choose from in order to visit places.

AUGMENTED REALITY:

The augmented reality in the app provides the user with a location based augmented reality.

OCR:

Optical character recognition to provide the user with language translation

9.2 SYSTEM ARCHITECTURE

A system architecture or systems architecture is the [conceptual model](http://en.wikipedia.org/wiki/Conceptual_model) that defines the [structure](http://en.wikipedia.org/wiki/Structure), [behavior](http://en.wikipedia.org/wiki/Behavior), and more [views](http://en.wikipedia.org/wiki/View_model) of a [system](http://en.wikipedia.org/wiki/System).[[1]](http://en.wikipedia.org/wiki/Systems_architecture#cite_note-1) An architecture description is a formal description and representation of a system, organized in a way that supports reasoning about the [structures](http://en.wikipedia.org/wiki/Structure) and [behaviors](http://en.wikipedia.org/wiki/Behavior) of the system.

A system architecture can comprise system [components](http://en.wikipedia.org/wiki/System), the externally visible properties of those components, the relationships (e.g. the behavior) between them. It can provide a plan from which products can be procured, and systems developed, that will work together to implement the overall system. There have been efforts to formalize languages to describe system architecture, collectively these are called [architecture description languages](http://en.wikipedia.org/wiki/Architecture_description_languages) (ADLs)

9.3 WORKING PRINCIPLE

Our application is meant to bridge this barrier and make tourism more effective for both the parties. Our application acts as a VIRTUAL GUIDE for the visitor from start to end. AUGMENTED REALITY feature implemented in the app guides the tourist with ease. It provides suggestions of tourist places based on the user's preferences, which are time to spend, his/her interests, budget and destination. Multi-Language recognition. It provides OPTICAL CHARACTER RECOGNITION for the easy comprehension of colloquial languages.

Our software is done in ANDROID PLATFORM targets these needs, of the tourist it can suggest details of the site (using GPS) and a description of places in the android APP, and with the GPS, MOBILE DATA, the AUGMENTED REALITY and OCR facilities of the app makes it easy to pin point this locations and the tourist can find this location directly, travel or do other sight seeing

9.4 DATA FLOW DIAGRAM

A data flow diagram (DFD) is a graphical representation of the "flow" of data through an [information system](http://en.wikipedia.org/wiki/Information_system), modeling its process aspects. A DFD is often used as a preliminary step to create an overview of the system, which can later be elaborated.[[2]](http://en.wikipedia.org/wiki/Data_flow_diagram#cite_note-2) DFDs can also be used for the [visualization](http://en.wikipedia.org/wiki/Data_visualization) of [data processing](http://en.wikipedia.org/wiki/Data_processing) (structured design).

A DFD shows what kind of information will be input to and output from the system, where the data will come from and go to, and where the data will be stored. It does not show information about the timing of processes, or information about whether processes will operate in sequence or in parallel (which is shown on a [flowchart](http://en.wikipedia.org/wiki/Flowchart)).

**LEVEL 0**

LEVEL 1

9.5 ER-DIAGRAM

In [software engineering](http://en.wikipedia.org/wiki/Software_engineering), an entity–relationship diagram (ER diagram) is a [data model](http://en.wikipedia.org/wiki/Data_modeling) for describing the data or information aspects of a business domain or its process requirements, in an abstract way that lends itself to ultimately being implemented in a [database](http://en.wikipedia.org/wiki/Database) such as a [relational database](http://en.wikipedia.org/wiki/Relational_database). The main components of ER diagram are [entities](http://en.wikipedia.org/wiki/Entities) (things) and the relationships that can exist among them, and databases.

Fig:ER- diagram

9.6 DATABASE DESIGN

A database is a collection of interrelated data stored with minimum redundancy to serve many users quickly and efficiently. The general way is to make information accessing easy, quick, inexpensive and flexible for the user. In the database design several objectives are considered controlling redundancy, ease of learning and use, data dependence, more information at low cost, accuracy and integrity are some of them.

In this phase, information from the ER-diagram is used to design the database. The entities in the ER-diagram represent the table that have to be created and the attributes represent the fields that are in each table.

LOCATION

Figure 9.1 ER - Diagram

9.6.1 LOCATION TABLE

|  |  |  |  |
| --- | --- | --- | --- |
| FIELD NAME | DATA TYPE | CONSTRAINTS | DESCRIPTION |
| LOC\_ID | Int | PrimaryKey | Location Id |
| GEO\_LAT\_LONG | Varchar | Not Null | Geo – Coordinates |
| GEO\_LAT | Varchar |  | Latitude |
| GEO\_LONG | Varchar |  | Longitude |
| LOC\_NAME | Varchar | Not Null | Location Name |

Table No: 9.1 Location Table

9.7 INPUT DESCRIPTION

It is the process of converting a user’s intended input for an android application to implement the program specifics. Here in this android application we collect input from user, proper validation checks are performed in the input page to check whether the user had not left the required field blank or incorrect data has been placed if so, message will be generated by the application. The application uses the following inputs.

User

1. Area of Interest
2. Preferred Time Duration
3. Start Location
4. End Location

Global Positioning System

1. Latitude
2. Longitude

Visuals

1. Captured image

The description of the above are as follows:

1. Area of Interest

This takes in consideration the user’s area of interest or of preference while visiting a new place. This could include Entertainment, Shopping, Cinemas, Historic Places etc.

1. Preferred Time Duration

The total time the user intends to spend on his/her current tour.

1. Start Location

His current and initial location.

1. End Location

His final and intended location.

1. Latitude

The latitude specifies the north – south position of a point on the earth’s surface.

1. Longitude

The longitude specifies the east – west position of a point on the earth’s surface.

1. Captured Image

The image from which it recognises characters or alphabets

9.8OUTPUT DESCRIPTION

1. List View

Suggestions are provided to the user using a list view.

2. Augmented Reality

Location based Augmented Reality provides the user with navigation options.

3.OCR

OCR translates the image to characters and possibly provides translation to other languages

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