# Introduction

**1.1 Purpose:**

Customer Relationship Management (CRM) is currently one of the most used notations in articles and studies dealing with computer applications. Nowadays it is very difficult for a company to convince a customer (a potential client) with only product or price arguments because of the strong competition in almost all market areas.

**1.2 Scope:**

1. Detecting the source of the User.
2. Listing of tourist places.
3. Calculating the optimal path with approximate fare, distance and time to travel.
4. Tracking the path and alerting the user if any divergence is occurred.
5. Fare Calculation.
6. Lodge a complaint.
7. Seasonal Classification.
8. Pop-up Images.

**1.3 Definitions, Acronyms and Abbreviations:**

CRM - Customer Relationship Management

GPS – Global Positioning System

API- Application Program Interface

**1.4 References:**

* International Journal of Emerging Technology and Advanced Engineering Website: www.ijetae.com (ISSN 2250-2459, ISO 9001:2008 Certified Journal, Volume 4, Issue 3, March 2014).
* 2009 3rd IEEE International Conference on Digital Ecosystems and Technologies Future Mobile CRM in Automotive and Tourist Area.
* C. Ebert, “Improving Validation Activities in a Global Software Development,” *Proc. Int’l Conf. Software* *Eng.*, IEEE CS Press, Los Alamitos, Calif., 2001.
* S. McConnell, *Software Project Survival Guide*, Microsoft Press, Redmond, Wash., 1998.
* E.A. Karlsson et al., “Daily Build and Feature Development in Large Distributed Projects,” *Proc. Int’l Conf. Software Eng.*, IEEE CS Press, Los Alamitos, Calif., 2000, pp. 649–658.

**1.5 Overview:**

Aim of our project deal with finding tourist attractions, optimal path finding for tourist attraction, suggestions for way of transportation, seasonal classification and if the tourist is opting for rented vehicle then calculation of the fare using optimal path distance calculation provided by Google Maps API.

This project also helps the tourist to lodge a complaint against the tourist guide’s, rented vehicle drivers for diverting the tourist and charging him unfair tariff & finding out emergency numbers for the particular city. Based on the complaint lodge by the passenger the reports are generated and submitted to the higher authorities. Whenever user reaches near to the tourist place images of that place pop-ups on his/her phone. Tourist will get the places list as per his location and places are fetched from database as well as Google maps. Seasonal classification of places is also provided i.e. places to be visited in summer season, winter season and rainy season, this feature will suggest user to visit that particular place which must be visited during that season.

1. **Overall Description**

## 2.1 Product Perspective:

Future Mobile Customer Relationship Management in the automotive industry and the tourism. The key profiles of future mobile communication are Interactive Broadband Protocols, Location Based Services and Individualized/Personalized Services mainly based on Multimedia information. These profiles are embedded in a three layer communicate model.

The grade of customer’s satisfaction is most relevant factor for the breakdown or the success of a company.

* 1. **Product Functions:**

**2.2.1 System Initialization:**

System gets initialized and detects the current position of the mobile handset of user.

**2.2.2 Listing Tourist Attraction:**

The source is detected using the current GPS location and the user is able to see the tourist places and attractions of that particular place/city.

**2.2.3 Tracking the Path:**

Once user has selected path, the system will track the path till user reach to the destination. If path is deviated from optimal path, then it will alert user reminding about the divergence.

**2.2.4 Fare Calculation:**

Once the destination is reached the exact fare for the journey is calculated.

**2.2.5 Lodge Complaint:**

If driver is not agreed with the fare calculated by the system and asking for more fare, user has the facility to lodge the complaint against the driver. The passenger can fill a small form having the details about him, the driver and his vehicle and the complaint he has against the driver. After filling all these information the user can upload this information to the central database and can send a SMS to higher authorities**.**

**2.2.6 Listing the Emergency Numbers:**

Based on the GPS location the emergency numbers will be fetched to help the tourist in emergency.

**2.2.7 Seasonal Classification:**

Seasonal classification of places is also provided i.e. places to be visited in summer season, winter season and rainy season, this feature will suggest user to visit that particular place which must be visited during that season.

## 2.3 User Characteristics:

There are two kind of user as follows:

1. **Customer**: These are users who use the application and they only have limited access as a user.
2. **Admin**: Admin has full control over application.

**2.4 General Constraints:**

* For full working of this application, user requires high configuration android device.

## 2.5 Assumptions and Dependencies:

**2.6.1 Assumptions:**

1. User must have basic knowledge to operate android phone.
2. For text-to-speech, speaker of smart phone (android phone) must be loud enough.
   * 1. **Dependencies:**
3. Requires well working internet connection.
4. Accuracy depends upon GPS device.
5. **Functional Requirements**

## 3.1 External Interfaces:

## 3.1.1 Hardware Interfaces:

## System requires following hardware interfaces:

* System: Intel P4, 2.4 GHZ, 40 GB HDD for installation.
* Memory: 512 MB memory, 256 MB ram
* Project’s server side system will be windows based supporting versions windows XP onwards.

## 3.1.2 Software Interfaces:

* Eclipse 3.7 Indigo.
* Android SDK.
* Android 2.3.
* Android GPS API.
* Java Standalone HTTP Server.
* Microsoft Access DB.
* UML.

**3.2 Functional Requirements:**

1. System must provide facility to store and update Customer.
2. System should maintain and link database for each user and manage their accounts.
3. System should continuously monitor action of each & every Sales Person and enable/disable on user demand.
4. System should maintain user roles in database.
5. The project can be used by any kind Business.

## 3.3 Performance Requirements

* **High Speed:**

System should process voice messages in parallel for various users to give quick response then system must wait for process completion.

**3.4 Design Constraints:**

* Error Recognition: Error should be easily recognized and get solved out.
* Speed: Recognition speed should be good enough. So that processing can be faster.

**3.6 Software System Attributes:**

**3.6.1 Extensibility:**

Extensibility allows new component to the system, replaces the existing once. This is done without affecting that component those are in their original place.

**3.6.2 Compatibility:**

Compatibility is the measure with which user can extend the one type of application with another. The presentation tool is compatible with any type of Operating system. Because of this its usability is highly flexible.

**3.6.3 Serviceability:**

In software engineering and hardware engineering, serviceability also known as supportability, is one of the aspects (from IBM's RASU (Reliability, Availability, Serviceability, and Usability). It refers to the ability of technical support personnel to install, configure, and monitor computer products, identify exceptions or faults, debug or isolate faults to root cause analysis, and provide hardware or software maintenance in pursuit of solving a problem and restoring the product into service.

**3.6.4 Feasibility Requirements:**

### Feasibility studies aim to objectively and rationally uncover the strengths and weaknesses of the existing business or proposed venture, opportunities and threats as presented by the environment, the resources required to carry through, and ultimately the prospects for success. In its simplest term, the two criteria to judge feasibility are cost required and value to be attained. As such, a well-designed feasibility study should provide a historical background of the business or project, description of the product or service.

Feasibility study is conducted after finding out the system’s objectives. In order to carry out the feasibility study the following steps should be completed-

* The user’s requirement
* Interpreting the existing system
* Analysis of the existing system
* Analysis of the modifications that are going to be implemented

After completing all the above points the feasibility study is carried out by considering the following points or we can say that following types of feasibility needs to be carried out-

1. Economical feasibility.
2. Operational feasibility.
3. Resource feasibility.

### Economic feasibility:

Economic analysis is the most frequently used method for evaluating the effectiveness of a new system. If the data is stored in a database then it will be easy job to search for required options any time. The use of Java and MYSQL does not require very high configuration of hardware. The software can be run on any system with Java Sphinx in minimum requirements. It reduces data entry errors, it can be easily handled by any staff, and it also helps in faster retrieval of data. Also the software though developed in GUI, it is very easy to operate and it is user friendly. Hence the software is technically feasible.

### Operational feasibility:

Operational feasibility is a measure of how well a proposed system solves the problems, and takes advantage of the opportunities identified during scope definition i.e. through previous developed Timesheet system and how it satisfies the requirement identified in the requirements analysis phase of system development.

### Resource feasibility:

This involves questions such as how much time is available to build the new system, when it can be built, whether it interferes with normal business operations, type and amount of resources required, dependencies etc.

1. **System Models**

**4.1 Use Case Diagram:**

