1 Introduction

1.1 Purpose:

Aim of this project deal with finding tourist attractions, optimal path finding for tourist attraction, suggestions for way of transportation, 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.

1.2 Acronyms and Abbreviations:

CRM - Customer Relationship Management

GPS – Global Positioning System

1.3 Project 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.

1.4 References:

- 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.

- www.zslinc.com
- http://crm.ittoolbox.com/documents/
- http://crm.ittoolbox.com

2 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.

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2.2 Product Features:

Features:

1. **System Initialization:**
   System gets initialized and detects the current position of the mobile handset of user.

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.

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.

4. **Fare Calculation:**

   Once the destination is reached the exact fare for the journey is calculated based on different parameters stated above.

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**.**

6. **Listing the Emergency Numbers:**

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

2.3 User Classes and Characteristics:

There are two kind of user as follows:

1. **User**: These are users who use the application and they only have limited access as a user.

2. **Admin**: Admin is responsible for adding the emergency numbers. He has full control over application.

2.4 Design and Implementation Constraints:

2.4.1 Design Constraints:

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

2.4.2 General Constraints:

a. For full working of this project requires High Quality GPS device

2.5 User Documentation:

a. Currently we will be using Java to develop application to access Computer.
b. GPS enabled phone is required.

2.6 Assumptions and Dependencies:

2.6.1 Assumptions:

1. User must have basic knowledge of computer and audio devices.
2. Audio device of user must be loud enough.

2.6.2 Dependencies:

1. Speed of the data transfer may vary depending on processing speed.
2. Accuracy depends upon GPS device.
3. More the accuracy of GPS more will be accuracy of application program.

3 System Features

3.1 Generic application program:

1. The system makes CRM application with Server and Sales person and Distributor as Client. Distributor can view all the day working of sales person as customer order, location of sales person.

2. All software products should incorporate accessibility features efficiently.

3.2 Unknown command error:

Customer will receive error message alerts when an unspecified command comes into system. ERROR message will be sent on Server.

3.3 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.

4 External Interface Requirements

4.1 Hardware Interfaces:

System requires following external interfaces:

- 2.4 GHZ, 80 GB HDD for installation.
- 512 MB memory.
- Intel P4 with 256 MB ram
- Project's server side System will be windows based supporting versions windows XP onwards.

4.2 Software Interfaces:

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

5 Non Functional Requirement

1. Secure access of confidential data (user's details).
2. High Scalability. The solution should be able to accommodate high number of customers and brokers. Both may be geographically distributed.
3. Flexible service based architecture will be highly desirable for future extension.
4. Better component design to get better performance at peak time.

5.1 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.

5.2 Safety Requirements

The data safety must be ensured by arranging for a secure and reliable transmission media. The source and destination information must be entered correctly to avoid any misuse or malfunctioning.

5.3 Software Quality Attributes

Maintainable software should have:

1. Encourage in-code documentation (XML docs in javadoc, etc.)
2. Use a wiki to maintain the documentation.
3. Unit Tests = Good for documenting specifications
4. Comments = Good for documenting design decisions.

5. Unit Tests + Comments = Good for documenting specifications and design decisions that means easily maintainable software.
6. Faster feedback from any changes made to the system.
7. Providing better transparency into the changes happening to the system.
8. Propagating environmental changes and code changes more rapidly while maintaining control.
9. Ease integration issues by dealing with them earlier in smaller chunks.

5.4 Security Requirements:

Secure access of confidential data (user's details). Information security means protecting information and information systems from unauthorized access, use, disclosure, disruption, modification or destruction.

The terms information security, computer security and information assurance are frequently incorrectly used interchangeably. These fields are interrelated often and share the common goals of protecting the confidentiality, integrity and availability of information; however, there are some subtle differences between them.

1. User password must be stored in encrypted form for the security reason.
2. All the user details shall be accessible to only high authority persons.
3. Access will be controlled with usernames and passwords.
4. Voice database must secure.

5.5 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.

5.6 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.

5.7 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.

5.8 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

5.8.1 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.

5.8.2 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.

5.8.3 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.