

ANDROID SMART TRAVELLER GUIDE USING VIRTUAL ASSISTANT

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Abstract - Now a day mobile phone is a necessary part of the people's life. With the advancement in the technology, the role of the guide is being taken by the different services and applications. In this project we are making an android based mobile application that can be used as a guide by the tourists. The main idea of this project was to design a system that will run on Android smart phones and web browsers which will be helpful when visiting new places. Based on its advanced computing capabilities and ubiquity, the smart phone has rapidly been adopted as a tourism travel tool. User can decide his/her requirements such as a type of place, time duration, type of hotels, temples, entertainment places and the system will find a path that fulfills those criteria. Also, we add message notification and feedback about the application.

Key Words: Travel, Planning, Navigation, Artificial Intelligence, Mobile Phones

1. INTRODUCTION

The main objective of the application is to generate trip plan to the tourists according to their number of days and the places where they want to go. This application is very useful for the tourists to plan their trip easily. It is an android based mobile application that can be used as a trip advisor for tourists. Sometimes people do not have enough time to prepare themselves or to spend few hours in one city without planning this before. The fact is that people do not have enough time for planning. Most of the peoples ask their friends or select some trip advisor to organize the plan. For these problems our application is helpful to peoples for planning the trip correctly and efficiently. The typical tourist guide applications support for choosing current position and destination and the applications will provide possible paths to reach the destination using route maps. It will generate the trip plan present in the database regarding that places. Our application also sends the message notification for the tourists to move from one place to another place. Therefore, we introduce a dynamic position detection agent system with the use of Navigation and the artificial intelligence. Also, the tourists can decide his/her requirements such as a type of place, hotels, temples, entertainment places and malls and

the system will find the path that fulfills those criteria using route maps. Also, we add the feedback and reviews about the application.

2. REQUIREMENTS ANALYSIS

2.1 Hardware Description

Hardware description is a specialized computer language that includes a textual description consisting of operators, expressions, statements, inputs and outputs. Instead of generating a computer executable file, the hardware description compilers provide a gate map. The gate map obtained is then downloaded to the programming device to check the operations of the desired data.

A. Windows based PC

Windows is a series of operating systems developed by Microsoft. Each version of Windows includes a graphical user interface, with a desktop that allows users to view files and folders in windows. For the past two decades, Windows has been the most widely used operating system for personal computers PCs.

B. Android Based Smart Phones

Android is a smartphone operating system (OS) developed by Google. It is used by a variety of mobile phone manufacturers including Motorola, HTC and Sony Ericsson. Each version features slightly different functionality and user interface, and recently-launched software may or may not work on older versions of the OS. Android is an open-source operating system which means that any manufacturer can use it in their phones free of charge.

2.2 Software Description

It is a set of instructions and associated documentation that tells a computer what to do or how to perform a task or it can mean all the software on a computer, including the applications and the operating systems.

A. Android Open Source

Android is a Linux-based can operating system widely used for mobile devices. It was developed by the Open Handset

Alliance, led by Google and other companies. It is the largest growing operating system for mobile devices. When a developer develops an app for android, then the application can run on any of the android powered devices.

B. SQLite

SQLite is a relational database management system and contrast many other database managements. SQLite is not a client-server database engine. SQLite uses a dynamically and weekly typed SQL syntax that does not guarantee the domain integrity. This stores the entire database as a single cross-platform file on a host machine. SQLite read operations can be multitasked though writes can only be performed sequentially. The code for SQLite in the public domain and thus free for use for any purpose, commercial or private and SQLite is a compact library.

3. MODULE DESCRIPTION

A module description provides detailed information about the module and its components, which is accessible in different manners. The included description is available by reading directly, by generating a short html-description, or by making an environment check for supported components to check if all needed types and services are available in the environment where they will be used. This environment check could take place during registration/installation or during a separate consistency check for a component.

3.1 Location details database

This is a Database consists of Locational details based on the city. Details about sightseeing places in that city, types of hotels and restaurant in that city, and various details about that city. I can be manually feed by the backend person and also it can fetch details from social medias and rank it as per user review.

3.2 Trip Planning System

It reads the form filled by the user and analysis the database and generate the trip plan with all details. In this planning system the tourists can also change their trip plan, suppose if the trip plan is not satisfied for the tourist.

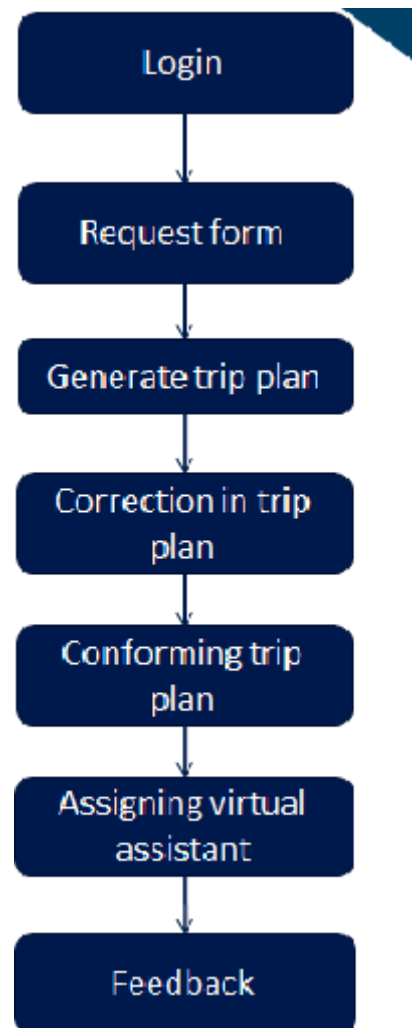
3.3 Virtual Assistant by Messaging

As per the Trip plan generate it will guide the user about travelling and staying and reminding about schedule. It will be alive on real time and assist the user about the plan.

4. PROPOSED SYSTEM

Application will act as a virtual guide which will helps user in various ways. Our application will consist a form which

require the user detail such as kind of place you want to visit, type of the hotel you need to stay, what type of food you need to take, count of days you need stay in the city and etc. System then smartly analyses the questionnaire and then I will generate Trip plan with site seeing details and Restaurant details for staying and hotel details for taking food as per user wise. Not only the app will generate the trip plan and also it will act as a trip virtual guide until the whole trip gets completed.



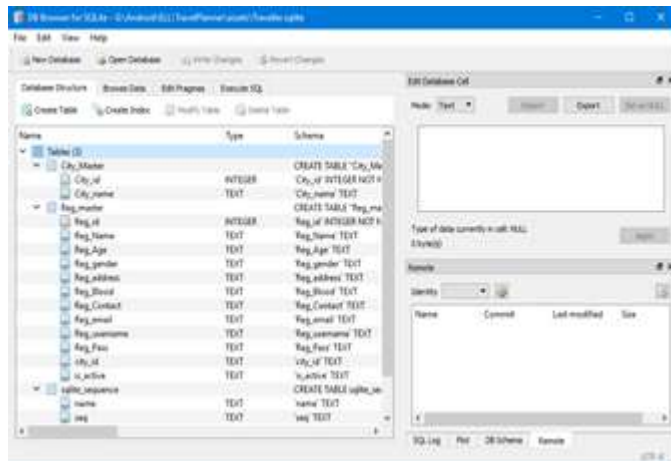
5. DATABASE EMPLOYED

SQLite is an embedded SQL database engine. Unlike most other SQL databases, SQLite does not have a separate server process. SQLite reads and writes directly to ordinary disk files. A complete SQL database with multiple tables, indices, triggers, and views, is contained in a single disk file. The database file format is cross-platform-you can freely copy a database between 32-bit and 64-bit systems or between big-endian and little-endian architectures. These features make SQLite a popular choice as an Application File Format. SQLite databases files are a recommended storage format by the Us

Library of Congress. Generally, feedback issued from the tourists will be helpful to know about the application.

5.1 Database structure

DB Browser for SQLite (DB4S) is a high quality, visual, open source tool to create, design and edit database files compatible with SQLite. It is not complex to implement in Android Application.



6. IMPLEMENTATION

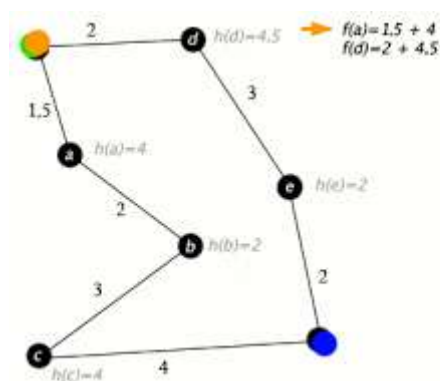
6.1 Shortest Path Algorithm

Shortest path algorithm is the family of algorithm designed to solve the shortest path problem. The shortest path problem is something most people have some intuitive familiarity with two points A&B. This can take different forms and so different algorithms are needed to be able to solve them all. The shortest path algorithm typically operates on some input graph 'G'. This graph is made up of a set of vertices 'V' and edges 'E' that connect with them. This is used to find the shortest path for the places. Shortest path algorithms have many applications. Mapping software like Google maps makes use of shortest path algorithm. They are also important for road networks, operations and logistics research. Google maps for instance you put in a starting point and an ending point and will share the shortest path problem. In common presentations of Dijkstra's algorithm, initially all nodes are entered into the priority queue. This is, however, not necessary: the algorithm can start with a priority queue that contains only one item, and insert new items as they are discovered (instead of doing a decrease-key, check whether the key is in the queue; if it is, decrease its key, otherwise insert it). [5]:198 This variant has the same worst-case bounds as the common variant, but maintains a smaller priority queue in practice, speeding up the queue operations



6.2 A * Heuristic Algorithm

A * is an informed search algorithm, or a best-first search algorithm, which means that it solves problems by searching among all possible paths to the solution for the one that gives the smallest cost (least distance travelled, shortest time), and among these paths it first considers the ones that lead most quickly to the solution. It is formulated in terms of weighted graphs. Starting from a specific node of a graph, it constructs a tree of paths starting from that node, expanding paths one step at a time, until one of its paths ends at the predetermined goal node. A * is a computer algorithm that is widely used in path finding and graph traversal, the process of plotting an efficiently directed path between multiple points, called nodes. It is widely used because of its performance and accuracy



7. CONCLUSION

As per we filtered the problem statements from the existing system, we going to provide the solution by virtual guide employed with artificial intelligence. This application provides specialty of user desired cities including their weather conditions. This application displays a menu with main categories available in the city and by clicking the categories it will display the details and also it makes of sightseeing information according to sightseeing category.

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