

Interest and Time Based Smart Travelling Guide using Data Mining

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Abstract - The purpose of developing this android application is to create a schedule for the traveler travelling to city and wanted to explore the city by specifying the time in hours. System then smartly analyzes the questionnaire and creates a schedule for traveler based on provided time. The development is done in technical language Java for Android Application for User/Traveler. First of all, traveler needs to register himself by filling up the details using android application. After successful registration, user can login now using login credentials which then proceed with questionnaire where application ask user about their likings and habits. Based on questionnaire, application smartly analyzes for the place based on user specified time. The application is capable enough to search the place automatically based on Location. This application also helps you to find the places nearby you or around the world. After searching a place, the map will show the details such as name, area, location, phone no. & kilometers from the current location of the user.

Key Words: Android, Travelling, Guide, Interest, Place & Locations.

1. INTRODUCTION

By 2022, South East Asia is expected to attract 115 million International tourist generating US156 billion in foreign visitor spending. To achieve this target, a usable online travel system is needed for promoting South East Asia. By obtaining the user's GPS location and highlighting it on a map, it becomes easier to stay oriented even for inexperienced travellers. As a consequence, people stare at their smart phone, follow the instructions, and try to discern the right instruction to make a turn, have come a common sight in urban areas. Because, tourism is the largest industry in the global world economy employing about 200 million people and serving 700 million tourists worldwide. Tourism industry is also responsible for generating an estimated 11% of the global gross domestic product (GDP) [4].

Therefore, one of the productive sectors starting to feel the changes brought about by the popularization of the Internet and the modernization of information systems is tourism. An (unfamiliar) traveller may experience difficulty in planning a route, due to the time availability and the complexity of finding a given route for travelling.

Our project eliminates the importance of a guide or local assistance in tourism as it provides plan based on users likings and time. It is an android based mobile application that can detect users current location and then it will take time as input ask some preferences, supplied by the user, form the basis of questionnaire any travel plans can be generated.

2. LITRATURE SURVEY

In general, these mobile tourism applications can be classified under two categories: Tour guide companions and recommendation systems [3].

1) Tour Guide Companions

A tour guide companion provides basic information about a place of interest. Travelers can enjoy interactive and personalized tours that match their interests. They can acquire better knowledge about the place (within walking distance) and explore the place at their own leisure using this application. Thus, mobile applications are equipped with pre-defined pathways to interesting sights [3].

2) Recommendation System

Recommendation systems, on the other hand, are for travelers to plan and select a suitable service option for their trip. This system calculates a traveler's preference based on his/her profile and current mobile location. Typical services supported are recommending hotels, sightseeing, restaurants, and tour plans. So, when a traveler enters his/her pre-specified needs into a recommendation system, a list of services closely matched will be shown to him/her[3].

3. PROBLEM STATEMENT

To create virtual travel guide in order to provide tour information and plan which will take the number of traveling hours and traveler's interest as input and produce the tour plan as an outcome.

4. OBJECTIVES

>The primary objective is to provide ease to the user while travelling, according to his/her convenience.

>It also aims to act as a virtual travel guide to the user which plans the tour according to the schedule provided by the user.

5. SYSTEM DESIGN

The flowchart of the system and use case is shown in figure 1 and figure 2 below.

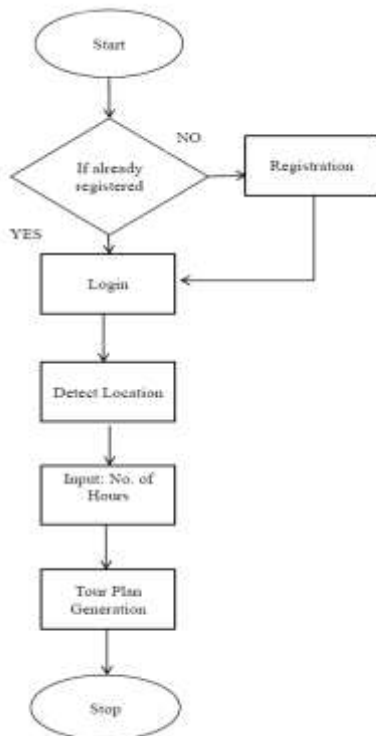


Figure1: System flowchart for the developed system

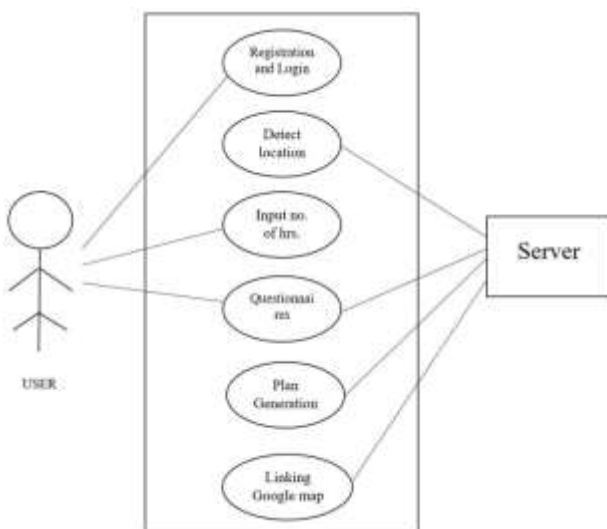


Figure 2: Use case diagram of the developed system

6. IMPLEMENTED DESIGN



Fig 1.1: Homepage of application

The welcome page (fig 1.1) appears as soon as the application is turned on. It gives the user an idea of the application that is how he is going to get the traveling experience through the application. Therefore, it consists of the tourist-friendly objectified picture.



Fig 1.2: Login of application

For any user to access the application needs to login (fig 1.2) into the application first, this is the login page here user can login to the system using their credentials such as

user name and password. It also provides a function to renew the password in case of forgetting the password.

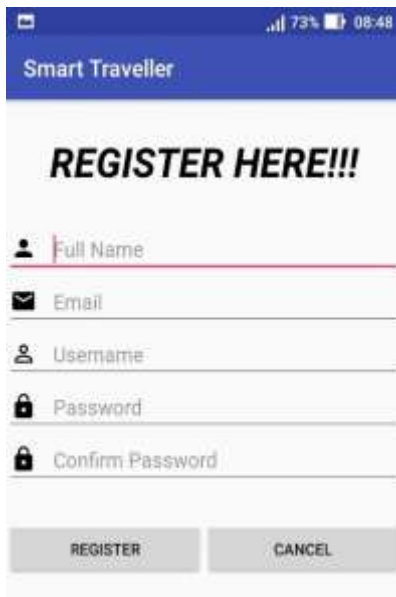


Fig 1.3: Registration page of application

If the user is new for the system and accessing it for the first time, they need to register (fig.1.3) themselves to the system and generate their username and password for logging into the application.



Fig 1.4: Input time page

As the system is based on concept of planning a tour for allotted time (fig 1.4), time is major input for this application. This page will ask user for the amount of time they have in terms of hours and minutes. It also provides option to scroll through, to enter the number of hours and

minutes. If the entered time exceeds 5 hours, then the user will not be feasible to choose all the tourist spots as it is not convenient to visit all the places in a long time plan.

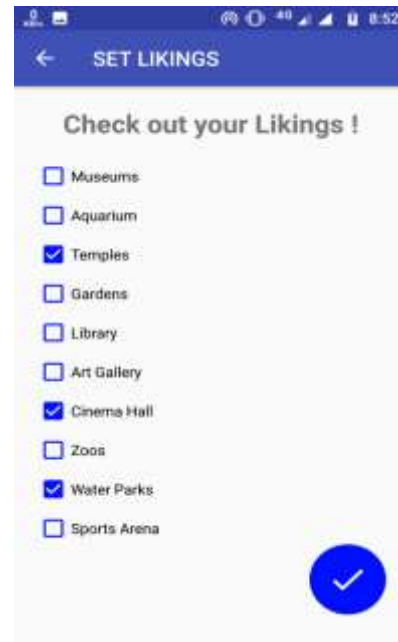


Fig 1.5: Selection of Interests in application

This option (figure 1.5) gives liberty to the user to choose his/her category of interests. They are free to select multiple interest areas and according to the selected input the output will be provided to the user as a generated path to the specific place with respect to the current location of the user. But the user can not choose all the places if he has provided the time with more than 5 hours.

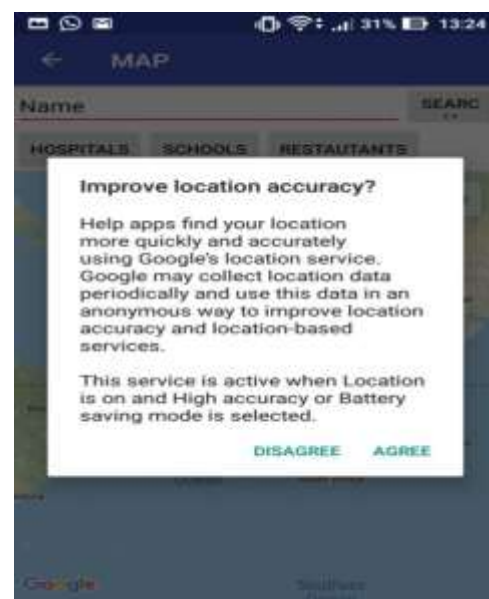


Fig 1.6: Location Accuracy in the application

This features in asking for the accuracy in the location services (figure 1.6). This lets the user to have precise information regarding the location where he/she wants to visit. This is done with the help of Google’s location service and can lead to better search results thus meticulously getting the details.

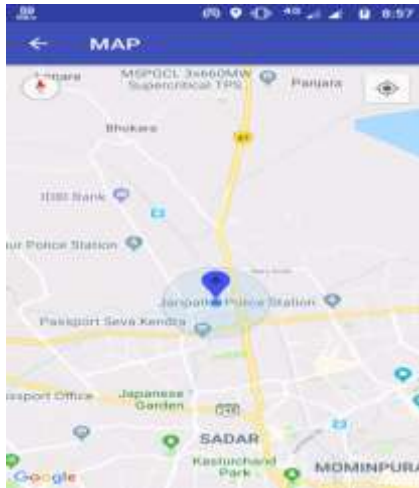


Fig 1.7: Current Location in the application

The current location of the user is determined and shown in figure 1.7. By clicking on the pointer the map points on the exact location of the user and starts determining the range set from that particular position. From the current location the nearby tourist spots are identified and mapped to generate the desired tour plan.

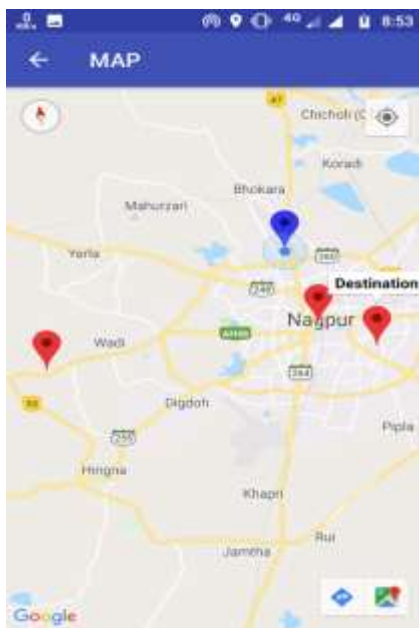


Fig 1.8: Locating the interested spots nearby in the application

Based on the interests provided by the user, the destination location will be appeared with respect to the user’s current location (figure 1.8). The location can be one or more than one. If the user clicks on the destination location, the option of generating path and viewing the place on maps will appear. When the user selects path generation, it will be redirected towards Google maps to get the path from its current location to the destination location. Otherwise, the place can be simply viewed over the map.

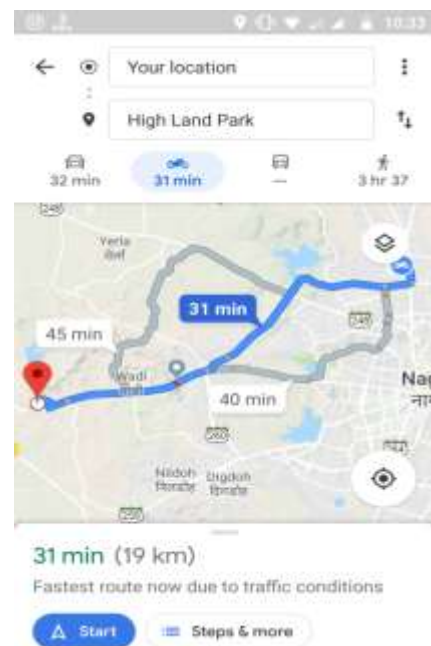


Fig 1.9: Path Generation

With respect to the current location, the path to the desired location is generated by redirecting to the Google maps after path generation is selected. This process is possible through the Google Maps API.

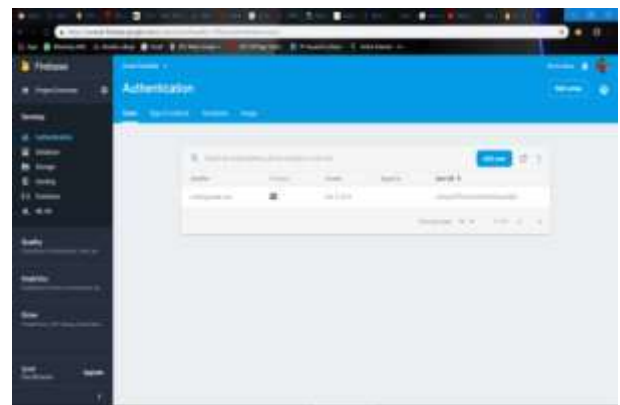


Fig1.10 : Database Record of Entered Users

This is the provision to the user that is successfully registered over the application. The database record in the firebase keeps track of the authentication that is to be provided to the user according to their credentials. It holds up the record of all the registered users over the application.

7. FUTURE WORK

This paper describes the Smart Travel Planner, a android based intelligent system which assists travelers in planning for their trips by providing them with a single application with a unified interface for accessing the overwhelming amount of travel-related information scattered throughout the internet and also enables them to create itineraries, calculate routes among several places, create profiles, set preferences, and block personal time slots. This system has been implemented as a mashup that retrieves and integrates information from several travel-related APIs, such as Google Maps API [7], Google Places API [6].

We plan to extend this system in several ways in the future: We intend to add additional functionality to the system by providing a hotel room reservation service, car rental options, transportation ticket purchase service (for train, bus, or plane), and email/mobile phone alerts about flight times and meetings, etc. We also plan to improve the "Calculate Route" function by taking current traffic and weather conditions [8].

8. CONCLUSION

Discussing about the problems faced by the tourists regarding their tour plan and schedule, we decided to develop an android application which will plan a tour for them by taking into considerations the input provided by them as number of days and their tour interests. The easily reachable places according to the interest are suggested to the user. Additionally, according to their current requirements, nearby places are suggested to them, ex: if tourist is feeling hungry nearby restaurants are suggested. This will eventually reduce manual planning of the hectic schedule and downloading number of applications each for different purpose, everything will be provided in a single application itself.

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