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Travel Offline Virtual Support Through Locational Reminder and Suggestions using Data Analytics

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Abstract:-The combination of smart phone and web service is that the trend of the longer term data development and software applications. As the tourists are provided with printed guide booklet to find out interesting places during the visit. As the tourists are unaware of up to date information and proper navigation, tourists are not able to visit all the destinations. Mobile phones were normally used for communication purpose. Travel offline virtual support through vocational reminder and suggestions using data analytics. The web and Android application developed to show how the architecture works and has a lot of important features for tourists such as booking, maps and places, events, weather, travel partner and many others discussed in this paper. Nowadays mobile phones are used for various technologies like GPS and browsing over Internet. Mobile phones are equipped with various functionality. We can use these functionalities in our system. The proposed system provides many services to the users like displaying the shortest route between the sources and destinations the tourist specify. We are using data and web scrapping to get the data from the websites. we will be using various API available in market for maps and navigation purposes. The application gets the current location of the user through GPS in the form of longitude and latitude and this information is send to the server. Goal of this project is to guide the tourists to travel on their own. The web and Android application developed to show how the architecture works and has a lot of important features for tourists such as booking, maps and places, events, weather, travel partner and many others discussed in this paper.

Keywords:-Electronic Tourist Guide, Mobile Tourist Guide, Tourist Information System, Tourist Application, Android, GPS- Global Positioning System, Responsive Web Service, Smart Phone.

I. INTRODUCTION

While travelling tourists expect to get personalized access to tourism information at anytime, from anywhere through any internet enabled device. Mobile applications can provide the user with such a general access. With the evolution of technology, internet enabled devices have made it effortless to access information anywhere, anytime.

The task is to replace the hard copy tour guides books with mobile applications. We will also provide E-books to our customers. Travelers will use mobile applications and websites due to the benefit they present over hard copy books. With the r fast developments in technology, internet enabled devices offer many advanced features rather than making calls, so the number of smart phone users increases day by day, not only in urban areas but also in rural areas.

Tourist sat a new place always face problem finding the location of different facilities such as shop, hospitals, hotels, restaurants and bus stops. Our focus for this project is on software support for location based applications; we are not just interested in the location but also other elements of the user's context, such as memorable locations in view, attractions and equipment nearby, such as public telephones and toilets. In this paper we describe the processes involved in designing the Tourist Guide application and in particular we focus on the context sensitive features of the system as well as the reliability of the navigation system. When analyzing the tourism systems of other countries it was found that there have been many experimentation carried out regarding internet enabled application based tourism systems. The Location based services for mobile devices is an application that provides information and services to users based on their location. The tourism sector is viewed as one of the most important engines of growth and development in the Indian economy mostly from

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the northern part and as such, is a key focus in the Government's economical strategy. The web and Android application developed to show how the architecture works and has a lot of important features for tourists such as booking, maps and places, events, weather, travel partner and many others discussed in this paper. An offline version of android application for the system which won't need full time Internet connection get services and as soon as the application gets connected to Internet then the application should be automatically get synchronized with the real time service data. The system provide information query of the hotel, scenery, restaurant, traffic and so on. The system is a combination of devices and Internet services and will facilitate traveler the with all the information requires during the trip. In this paper we have proposed a system or mobile application which will track the current position of the user and send it to the server which will send the requested information for the nearby attractions.

II. PROPOSED SYSTEM

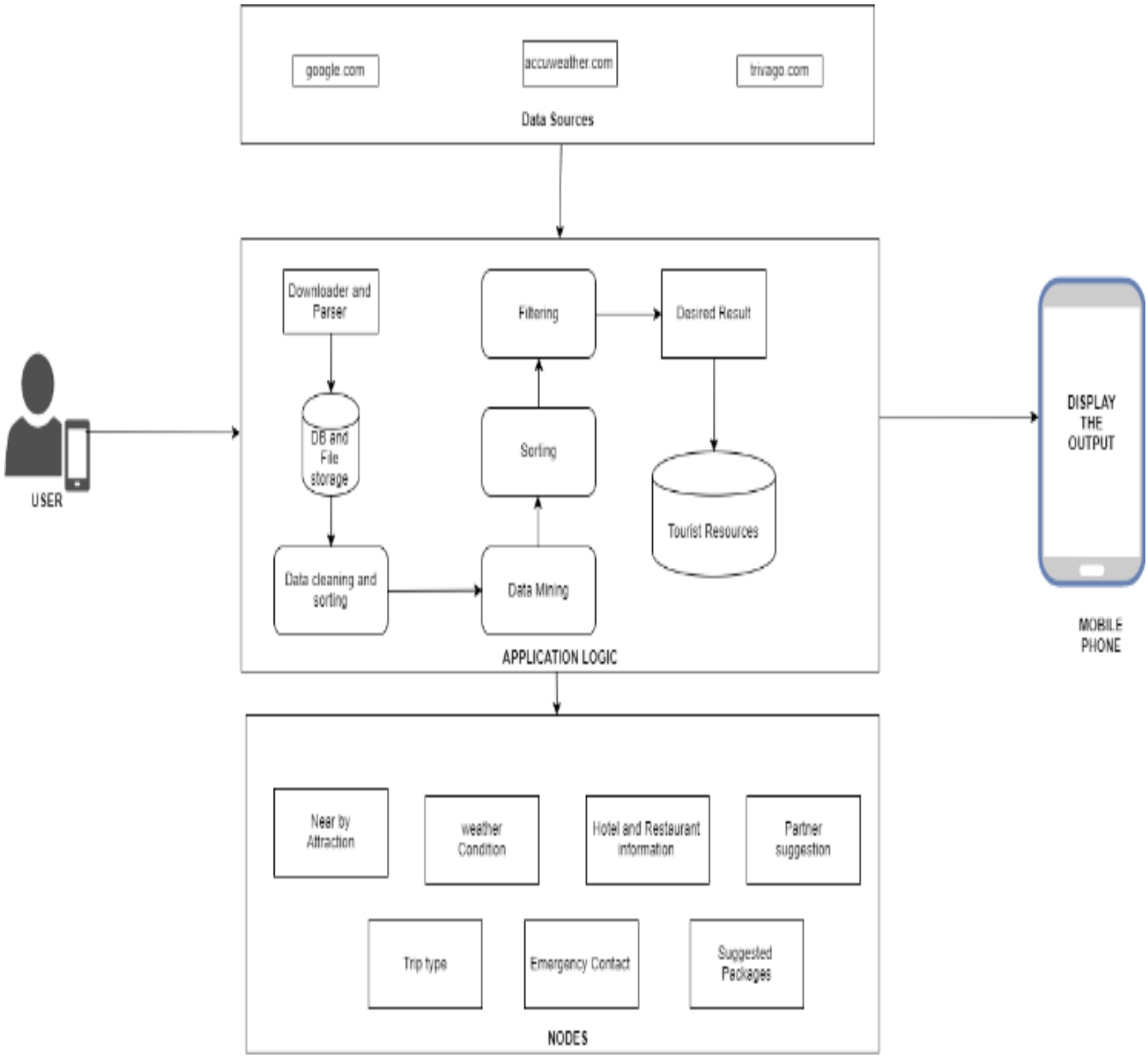

Fig. 1: Proposed System

The system focuses on travel off line virtual support through location reminder and suggestions using Data analytics. The proposed system has the following features:

1. Social Login: Social login is a sign in technology through which the users is authenticated on various applications and sites by connecting through a social site rather than entering again the ID and password on each website. Many people are now using social authentication which are publicly exposed authenticated sites or social media such as Google and Facebook.

2. Nearby Attractions: This feature of the proposed system helps the tourist to find the nearby tourist spots like shopping, adventures activities, hiking location, resorts and amusement park and many more.

3. Weather updates: Time to time updates regarding the climate will notified to the tourists. For regular updates of weather the tourist should have connected to internet.

4. Nearby Hotels: The system provides general information of hotel, restaurant, shops, hospitals, and companies. As well as the newest events of the plaza and shops. The system provides service of hotel, restaurant and cinema-ticket reservations. The system provides service of displaying the shortest path between the sources and destinations the visitors specify.

5. Trips types: The system will ask the user which type of trip is he/she is making like business trip, family trip or solo trip which is in trend and increasing day by day. According to the type of trip the tourist is making the system guides the researchers and guests that came for conferences to spend an easy tour in the country.

6. Partner Suggestions: As the tourist selects the type of trip, if the user select the solo trip this feature of our system will as for the user if he/she wants any partner for trekking.

7. Suggested packages: The system will provide the tourist packages based on the search location according to the type of trip the user is going to make.

8. Emergency Contacts: The system will provide the emergency contacts like Hospitals, Police station, Ambulance, Railway helpline, Woman helpline.

Flow of System

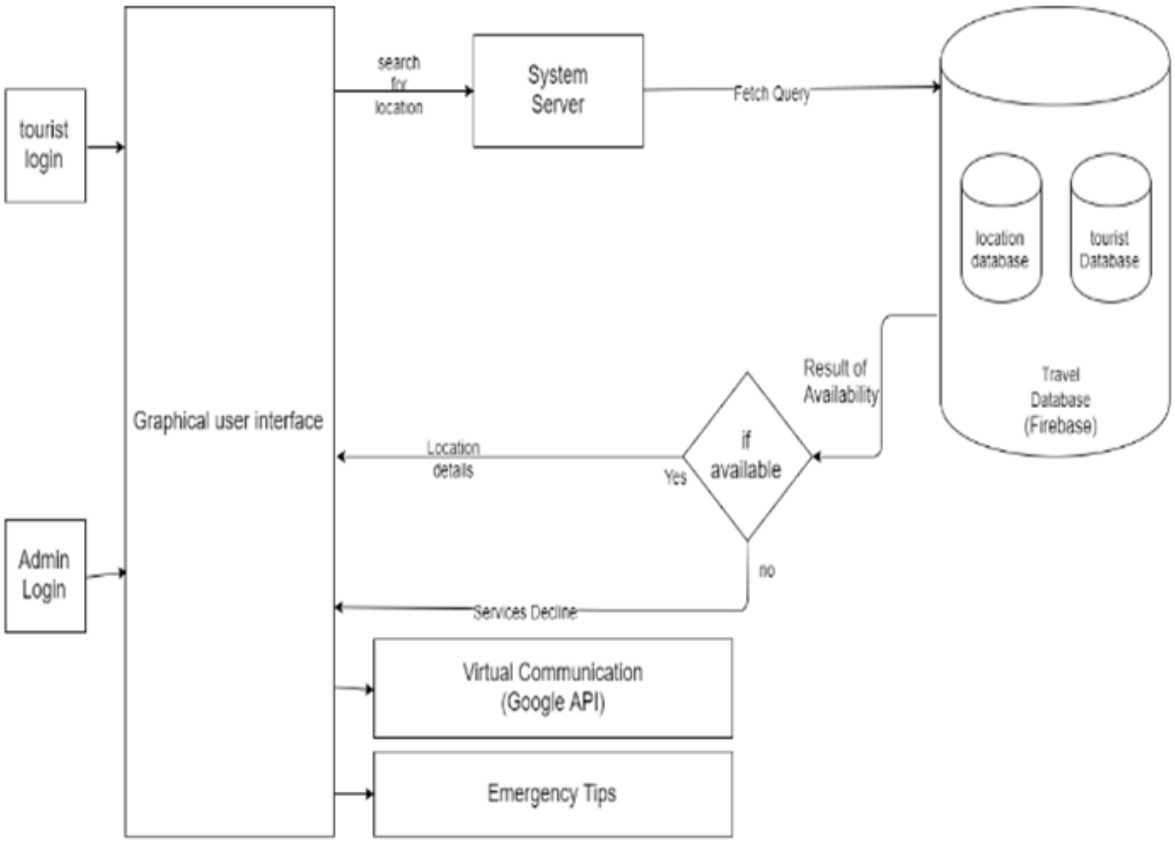

Fig. 2: Flow of System

III. LITERATURE SURVEY

Data can be referred as representing some existing information in a more better form for processing and analyzing. Data extraction is a process of retrieving data out of data sources that are unstructured or poorly structured. Generally, unstructured data sources include emails, web pages, spool files, etc. Hence, this process of extracting data from the web is referred to as Web Scraping. Web scraping, a type of data scraping, is a process of extracting data from the web world through various methods. With the help of web scraping services, the unstructured data is converted into structured data which is stored centrally. The aim of the web scraping is to obtain, store and analyze data.

A. A Web Scraper Composes of Two Parts

a). Data Extractor (to extract data from crawled links): After crawling all the web pages of a website, the links are filtered out from it. As there is a lot of unrelated data present on the web page, data extractor is used to extract the required data and convert it into a usable format.

b). Web Crawler (to crawl links) : A web crawler generally crawls a web page using recursive algorithms in which it scans the page first, finds the links present on the page which later is stored in a type of data structure. Then fetches the first page of that link, stores them into the same data structure and recursively repeats the process till all the links get crawled.

B. Some Web Scraping Techniques

- Tree-based: The nature of the web pages is semi-structured which is one of the most exploited features in the extraction of web data and can be represented as labeled ordered rooted trees. In this technique, labels represent the tags of HTML and the tree represents different levels of nesting elements which construct the web pages. This representation is generally referred as Document Object Model or DOM.

- Human Copy-paste: This is one of the most common techniques used by people who do not belong to a technical background. This human manual examination technique is quite helpful when websites scraping sets constraints or barriers to prevent human automation.

- HTTP Programming: A socket programming is used to retrieve web pages by posting HTTP requests to the web servers.

C. Web Mining

Web mining is an application of data mining techniques which aims at extracting useful data patterns and adopts most of the techniques of data mining to discover potentially useful information from the web. Web mining helps to evaluate the performance of a business by recognizing customer behavior which indirectly helps to boost business. It examines the content of the web and also the result of the search. Web mining is a part of Information Retrieval and Information Extraction systems and is a tedious task as the web source lack of structure which leads to problems such as information overloading.

There are two approaches to web content mining :

a). Database Approach :Multilevel databases are used to extract meta data from data at a lower level and is organized in a structured format.

b). Agent Based approach :Agent based approach directly mines the content of web documents by using three types of agents.

- Intelligent search agents : They automatically search according to the given query by using domain characteristics and profiles of the user.
- Information categorizing agents : They use different functions and techniques to retrieve data.
- Adapted web agents : They fetch data from well defined databases containing schema and attributes.

D. Algorithm For Finding Shortest Path

The Euclidean shortest path problem is computational problem given by a set of polyhedral obstacles in a Euclidean space, and it find the two point with no obstacles, the shortest path between this points is calculated.

The problem can be solved in polynomial time in a model of computation allowing addition and comparisons of real numbers, despite theoretical difficulties involving the numerical precision needed to perform such calculations. These algorithms are based on two different principles, either performing a shortest path algorithm such as Dijkstra's algorithm on a visibility graph derived from the obstacles propagating a wave front from one of the points until it meets the other.

In three and higher dimensions the problem is non deterministic hardness but there exist efficient approximation algorithms that run in polynomial time based on the idea of finding a sample of points on the obstacle edges and performing a visibility graph calculation using these sample points.

There are many results on computing shortest paths which stays on a polyhedral surface. Given two points s and t, say on the surface of a convex polyhedron, the problem is to compute a shortest path that never leaves the surface and connects s with t. This is a generalization of the problem from 2-dimension but it is much easier than the 3-dimensional problem.

Also, this problem can be made different, where the obstacles are weighted, i.e., one can go through an obstacle, but it incurs an extra cost to go through an obstacle. The standard problem is the special case where the obstacles have infinite weight. This is termed as the weight derision problem in the literature.

D. Algorithm for Data Compression

a). Lossy Data Compression Algorithm

Lossy compression is the data compression technique that uses approximations and limited data discarding to represent the original content. These techniques are used to reduce the size of the data for storing, transmitting and handling data .This technique is opposite to lossless data compression which does not degrade the data. The amount of data lost possible using lossy compression is much higher than lossless techniques.

Lossy compression technology often reduces file sizes significantly before degradation is noticed by the end-user. Even the degradation of the data is notice by the user, further data reduction may be desirable (e.g to reduce transmission time to reduce storage needs).

Lossy compression is most commonly used to compress multimedia data (audio, video, and images), especially in applications such as streaming media and internet telephony. By opposition, lossless compression is basically use for text and data files, such as financial records and text files. In many cases it is better to make a master lossless file which is to be used to produce new compressed files; for example, a multi-megabyte file can be used at full size to produce a full-page advertisement in a glossy magazine, and a 100 kilobyte lossy copy can be made for a small image on a web page.

IV. RELATED WORK

A. Trip Advisor

Trip Advisor, is a travel website company providing hotels and travel related booking . It also includes interactive travel forums. The website services are free to users, who provide most of the content, and the website is supported by a hotel booking facility and an advertising business model.

B. Rome2rio

Rome2rio is a multimodal transport search engine. Rome2rio's platform is capable of long-distance trip planning as well as intra-city trip planning. Users can input any address as the origin and destination and Rome2rio searches a database of flight, train, bus and driving routes and price options for travelling to that destination.

C. Triposo

Triposo is a social travel site and application . Triposo was released which included location-based software which allowed the application to tell the user recommendations depending on the weather, time, and other variables. The application has reportedly been downloaded 10 million times.

The application, available for iOS and Android, will show the user recommendations on where to go depending on information they've given to the application. This includes Facebook details. The application works without internet connection. In order for the application to work without connectivity, it downloads information about the users destination before departure.

V. CONCLUSION AND FUTURE SCOPE

The main aim of the research project was to develop a tourist guide system for tourist travelling. An important assumption made while developing the system was that the users have the basic idea about using an android mobile device and they are familiar with the English language. In order to use the location based services user needs to be in a place where the mobile device receives GPS data accurately. The system needs a better network connection for communication between the mobile device and the server. Otherwise it takes a long time to receive the data from database. The web and Android application developed to show how the architecture works and has a lot of important features for tourists such as booking, maps and places, events, weather, travel partner and many others discussed in this paper.

An offline version of android application for the system which won't need full time Internet connection get services and as soon as the application gets connected to Internet then the application should be automatically get synchronized with the real time service data. The system provide information query of the hotel, scenery, restaurant, traffic and so on. The overall system combines a smart phone and Internet services and will allow trip related tour and life for user. In this paper we have proposed a system or mobile application which will track the current position of the user and send it to the server which will send the requested information for the nearby attractions. In future this system can use for hotel booking and travel booking services.

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