

Trip Planner – A Quick App for Travellers

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Abstract — In a hectic lifestyle, every individual desires to travel and explore their dream destinations but does not have adequate time to do the required groundwork in organising a complete vacation. For enhancing performance, the focus is on the travel plan. Prior planning before any travel is important for saving time and money so that within the stipulated time maximum places could be covered. A powerful, simple and, easy-to-use android application-based system to plan on-the-go is proposed to plan a vacation much quicker and efficiently. The users can view the near-by suggested tourist attractions, restaurants to dine-in, hotels for accommodation all together in the given travel budget using an advanced shortest path algorithm which saves time and money efficiently. It lists a comprehensive CMS of all the go-to places in that particular locality. Users will be given an option to manage destinations by adding or removing destinations depending upon user interests using Google Maps. Also, the proposed system estimates and provides various travel options from any part of the country and corresponding expenses. Thus, planning on-the-go is finally achievable.

Keywords: Travel planning, Android application, Comprehensive CMS, Google Maps.

I. INTRODUCTION

Travelers typically waste time deciding or planning their holidays. Given the situation, the proposed android application focuses on identifying the most critical support for travelers in order to improve and provide them with a useful tool to schedule their trip in a timely manner. In general, tourists want to see the most famous monuments and historical sites in a given region.

To accomplish this, the proposed android application will automatically display and set up user's direction of travel. By pre-selecting a central location, the system aids a newcomer to town or someone who wishes to explore the city. During the login process, the user is expected to enter their interests and preferences. After that, the user can choose to enter his or her current location manually or let the device do so. Then, they will personalize their plan of action by wish listing the locations they might wish to go to. Currently, the app can easily analyze the user's desires and expectations, as well as the fundamental location the user wants to visit, and design a route with the easiest traveler spot around the chosen location. The device employs the Google Maps API to generate a list of all the places in the vicinity of the chosen site, along with all relevant details. Before being shown to the user, all of the position area units are sorted based on scores, distance, and a variety of alternative constraints.

II. LITERATURE REVIEW

There are a variety of alternative connected surveys that have already been printed. A variety of similar trip planning approaches has been discussed in related work session. These approaches aim at exploring tourist trip applications that are designed and produced for a broad audience.

In [4], there is a closely related survey that compares a few of the current tour planning framework approaches. Furthermore, tour recommender applications are seeing an increase in the availability of auto-mated routing. The importance of offering be-spoke touristic tour design with appropriate latency is emphasized.

The City Trip Planner described in [5] is the most innovative integration framework for web-based tour-guide support. This paper analysis is extended by the proposed approach, which adds additional functionalities.

In [1], minimal survey is given for analysis of 4 representative mobile tour guides. These applications area units compared supported their ability to supply information regarding transport, security, POIs and weather. The system proposed a framework that includes a classification of tour services, and delivery aspects. But it doesn't offer specific trip design.

Another survey [3], it evaluates 8 travel systems that support a catalogue. It includes modules such as community options, security, personalization. But, none of the offer functionalities for touristic trip de-signing, that stands out from other papers.

The two smart cities IoT technologies [2]: the first is energy and heat management, which uses a variety of tools to optimise energy consumption both in regions where citizens reside and industrial areas. The following is the second submission for public transportation regulation of the cruise, which uses a variety of tools to include driving recommendations that are environmentally friendly.

Smart Intelligent tourism systems [6] describes how business enterprise destinations, their industries, and their Visitors are increasingly reliant on emerging types of ICT that allows the transformation of large amounts of data into value propositions. The text of the document begins by defining good business enterprise, then goes over current good tourism patterns before laying out its technical and business foundations. This is often accompanied by a review of the benefits and drawbacks of running a successful company. The term was introduced to cities for identifying campaigns aimed at promoting the use of victimisation technology in novel ways to enhance resource management, efficient and transparent governance, property, and quality of life.

III. OBJECTIVE AND AIM

Aim is to develop a system that analyses the customer's preferences, as well as the approximate distance that the user is willing to travel, and to provide them with a variety of options in Google Maps from which the user can choose a specific location to maximise their time.

Objective: The proposed Android application is primarily intended to assist a newcomer to town or someone who wishes to uncover the locality on a regular basis at their leisure by pre-selecting a central location.

IV. MOTIVATION

Any business enterprise or established agencies may use this method to assist their customers or agents in achieving a competitive advantage over paper-based maps. When a user first logs in, they are asked a series of questions that help them to narrow down their search for locations. The locations are shown on charts, which provide a clear picture of the situation and directions from one location to the next.

If the user is new to town and has no idea where to go, the system will display all nearby hotels, tourist attractions, and hotels on the map. The customer receives a complete read of the plan right away, with the highest level of accuracy. The need for an android application would significantly shorten the period spent hunting for locations and procuring feed-back for each of the spots, making it less difficult and allowing for faster decision-making.

V. WORK DONE/PROPOSED SYSTEM

5.1 Problem Description

As the name implies, "A Trip Planner Android Application" takes the approach of analysing the likes and dislikes of the user and thus estimating distance that the consumer is curious about the area and wants to learn more about it and offer entirely distinct options under Google Maps starting from which the user has an ability to choose specific location in order to get the best out of their time. The proposed method can be primarily used for assist a newcomer to town or someone who wishes to uncover the locality on a regular basis at their leisure.

An Android application is suggested as part of the proposed scheme. The user interface was designed and developed using Android Studio. The recently posted application had number of issues with trail optimizations. This subject was chosen after being inspired by a project called Android based Smart City, which can be implemented or used by any company or establishment agency associated with business enterprise to assist their customers or agents by acquiring advantage more than a map printed on paper. Several aspects of the cited paper have been improved, and all data is stored in Fire-base for database connectivity.

5.2 Proposed Framework

5.2.1 Android Studio

Google's Android app package comes with an integrated development environment (IDE) called Android Studio, based on JetBrains' IntelliJ computer code and tailored to android development. There are nine Java backport options in Android External.

5.2.2 Android Overview

Although IntelliJ claims that Android Studio supports all released Java versions, including Java 12, Android Studio does not. The extent to which Android Studio supports Java versions up to Java 12 is unknown.

5.2.3 Why use Android Studio?

Additional options in Android Studio that improve productivity when developing android apps include:

5.2.3.1 A feature-rich mortal with a versatile Gradle-based build framework.

5.2.3.2 A seamless environment where you can build for all Android devices.

5.2.3.3 A wide range of research methods and frameworks.

5.2.3.4 There are some tools called connect tools. These tools identify various issues related to usability, reliability, versioning, and performance metrics.

5.2.3.5 It is C++ compatible of which Android NDK toolkit is available.

5.2.3.6 Google Cloud Platform support is built-in, making it easy to incorporate Google Cloud communication and App Engine.

It is easy to work with Firebase since it has no tables or help requests, providing a leg up on the competition across conventional databases. When an update to the information is made (for example, a new statement is added), all linked purchasers can now be up-dated as soon as possible.

5.2.4 APIs of Google Maps

APIs of Google Maps permits maps to be supplemented and adds map details to the Android application that is provided by Google Maps. The API has connections to Google Maps servers and is responsible for uploading data as well as displaying and handling gestures on maps. To add markers, API calls are often used and apply it to a plain map, which improves interaction with the user.

5.3 System Architecture

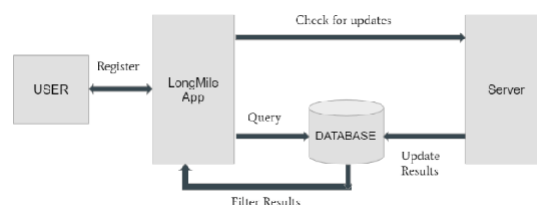


Fig.1 System Architecture

The one who communicates with the Android application in order to obtain a daily travel schedule or some other additional details.

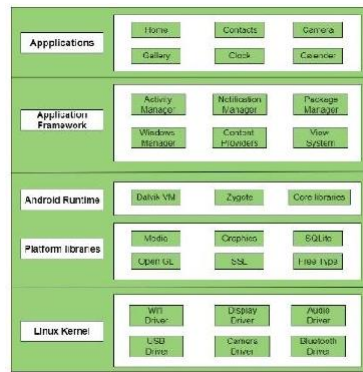


Fig.2 Android Component View

The higher layers of the framework are used often when compared to the lower layers. Figure 2 purpose is to understand the working components without code.

5.2.3 Firebase

Google acquired Firebase, a web and mobile development application platform, in 2004. It offers cloud-based applications as well as real-time data-bases. Developers may use the API services which allows information from the framework to synchronise among users and store in cloud.

Front end

This is the software on the screen. To display preferences and other components, interaction between backend of the application and the user has been communicated, as well as adjustments were made to the displayed output as a result.

Algorithm

In this section software's choices are made based on user reviews, as well as backend resources, are considered, as they may have an impact on the actual output to be shown.

Services

Services are the name for all of the application's context operations. This entails obtaining information from the server, calculating approximate distances, and determining the shortest path, all of which the server is capable of providing.

Respondents location moderator

A utility that is tasked with gathering the user's approximate status and, as a result, displaying nearby amenities.

Storage management

The system does not have access to the internet on a continuous basis. This permission is required in order to store information regionally in order to keep track of future plans.

Connectivity manager

The group responds to concerns about network access. As the network link shifts, it also notifies the applications.

VI. RESULTS & DISCUSSION

The proposed trip planner android application helps the users to view the near-by suggested tourist attractions, restaurants to dine-in, hotels for accommodation all together in the given travel distance which saves time and money efficiently.

This Android application is enforced in some modules as mentioned below:

6.1 Google Map Analysis

Three categories are considered i.e., Tourist attractions, restaurants and utilities. Depending on the current or specified location, nearby locations are shown as per preferences differentiating between the three categories.

Figure-3 is the application differentiating all the three categories

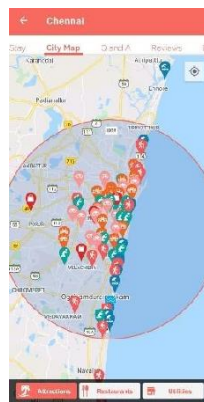


Fig.3 Google Map Analysis Module

6.2 City CMS

Every city or locality is provided with a description which includes Food & Restaurants section, how to reach section, Hotels & accommodation and best to visit section. Figure-4 module is maintained to put information all together about a particular location.

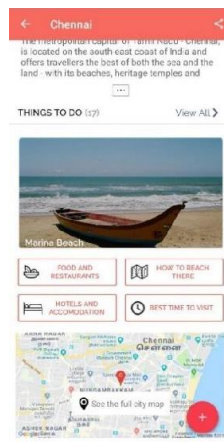


Fig.4 City CMS Module

6.3 How to Reach

This feature helps in providing information for people who would want to check on transportation details from one city to another by three means i.e., air-plane, train and bus.

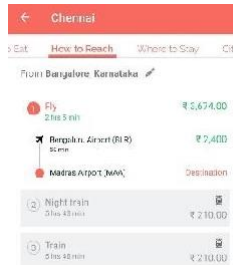


Fig.5 How to Reach Module

6.4 Wishlist & Recently Browsed

As per Figure-6, users are given an option to wish list certain localities and view them later according to their convenience.



Fig.6 Wishlist Module

And, as per Figure-7, the list of recently viewed cities or localities are displayed which makes it easy for the user to review the places later.



Fig.7 Recently Browsed Module

6.5 Navigation Panel

Navigation Panel is used to switch between different modules available in the application. Figure-8 gives the details about all the modules that are involved in the android application.

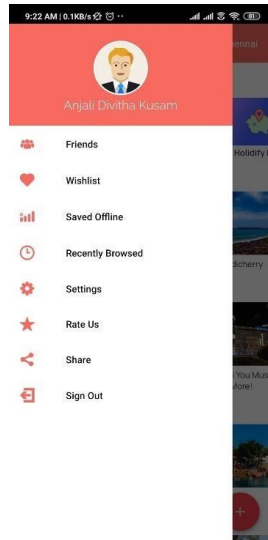


Fig.8 Navigation Panel Module

VI. CONCLUSION AND FUTURE WORK

The majority of people do not use cutting-edge soft-ware and spend a significant amount of time manually preparing their vacations. As a result, the proposed Android application enables visitors to make the most of their limited time while also planning their stopover.

Under Future work, the proposed system can be further integrated with popular social medias in order to make it easy for the users to share the travel plan and further details.

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