IJARCCE ISSN (O) 2278-1021, ISSN (P) 2319-5940

International Journal of Advanced Research in Computer and Communication Engineering

ISO 3297:2007 Certified ⁜ Impact Factor 8.102 ⁜ Vol. 12, Issue 4, April 2023

DOI: 10.17148/IJARCCE.2023.12412

Android Tourist Guide

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Abstract: Presently, people have come to the stage where they feel that it is impossible to live without a mobile phone. It has become a necessary part of their life. Due to this, mobile applications which are useful in day to day lives are in demand. We have a mobile application for every single thing. Therefore, we propose the architecture of a mobile application which acts as a guide for the tourists when they are visiting any unknown place in Karnataka. This model will be for travellers who wish to travel in many areas of Karnataka. Unlike the other apps, the business will offer the utmost coverage of many areas. The speciality of this application is, it does not require internet connection. The application shows the history of the particular place as soon as you enter the name of the place with the location and also one of the advantages is, it will show the nearest hotels for refreshment and lodging. We also have done a market analysis, competitive analysis and future enhancements to the application.

Keywords: Android tourist guide, GPS, GIS

I. INTRODUCTION

The Android Tourist Guide App offers a complete guidance for travellers even without actual guides. This will provide all types of travellers a cost-free guidance and also it is capable of working without an internet connection. The app ensures security for the users. This project is mainly beneficial for the tourist's having no idea about the places they want to visit. By providing a Geographic based information system the tourists get a better guidance of the places they want to visit. This proposed application does not require any internet access and thus eliminates the disadvantage of single point failure. By making the application GIS based, it includes many advantages as the user can view the required location on a map and accordingly estimate the time that will be required to reach the final destination. The system gives the basic details that will be required such as an image of that place along with basic details like the address, contact no etc. The user can also zoom in and zoom out to seek a better view.

II. PROBLEM STATEMENT

Currently, people from different geographical locations have access over the maps through the internet. Accessibility of the internet is generally hindered. Therefore, users of these map applications find it difficult to view the locations when required. In the present scenario, especially where the broadband is of good quality one can access the map and get the display of locations from point A to B instantly. Customers are also happy using this internet-based map application.

We feel that the internet connectivity is an issue for tourists or people from other countries and states. Due to this it is difficult to use internet-based map applications. Connectivity issues also lie in remote places like villages. So, GPS based maps would be really helpful for the above-mentioned purpose. In addition to the GPS based maps, users can also get complete information about a particular place including the nearby hospitals, bus stops, restaurants etc. This project/app is mainly beneficial for the tourist's having no idea about the places they want to visit.

III. OBJECTIVES

1) To identify different online maps used by customers.
2) To identify people who use maps without the internet.
3) To identify problems faced by customers using internet-based maps.
4) To develop an app based on the above-mentioned technology.

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IV. REVIEW OF LITERATURE

[1] Hanjie Shu Spring (2010) says the primary objective of this project was to ascertain more about the mobile city guide which uses Android platform. Author has also built a prototype of the city guide which consists of functions such as locating POI's (point of interest) on a map, locating the location of the users, providing direction to POI's etc. Author have used tools like API SQLite, Content Resolver, XML, API Location Manager for developing the prototype.

[2] Mi Hu & Yu Weng (2016) the objective of this paper was to develop a mobile application which acts as a guide in the museums. The primary goal of the application was to provide a variety of functions which would benefit both museums and visitors. Authors have used various tools for the development of the application such as, Android studio, Hierarchy viewer and Android virtual device Nexus 5 which was used for program automatic testing, Android SDK and JDK, Java programming language, Photoshop CS3. They provided a new feature in the application 'online travel tool' field. The only limitation which we found in this application is that it is limited only to museums.

[3] P K Jithin et al., (2018) The main objective of this project was to develop an android mobile application which would help tourists to find places instantly. Authors have developed this project using Java as front end and SQL as back end. The limitations which we found in this project was, it is only restricted to Tamil Nadu and it requires the internet to function.

[4] Todd Simcock et al., (2003) This project provides a location-based tourist guide application. They have focused on the factors like buildings in view, attractions, public toilets, telephones booths nearby. This project shall only be used by the visitors of the Mawson Lakes campus of University of Australia and the North Terrace precinct in Adelaide city centre which is a limitation.

[5] Smirnov et al., (2014) Authors have developed a mobile application called "Tourist assistant-TAIS" based on the Smart-M3 platform. The primary idea of this platform or application is that the formed smart space is independent of device, domain and vendor. It is also an open source which can be accessed at Source forge. The application has been developed using tools like Jaa KPI library, Android Java Development Kit.

V. MARKET ANALYSIS

The market of the application includes vacationers who are both local and from far-away places including other countries. So, the market is primarily segmented as per age and family status.

The key market segments for Android Tourist Application are described below as:

Young people: Aged from 21 to 40 who are high on energy search for a variety of places like mountains and beaches.
Elder people: Aged above 40 who seek peace and search for pilgrimage.
Families: Couples or individuals with children require a mixture of relaxation for parents and lively activities for youngsters.

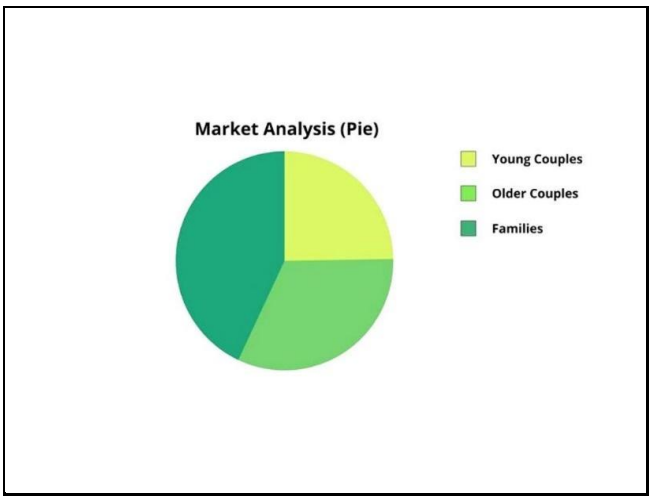

Fig 5.1 Market Analysis

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VI. COMPETITIVE ANALYSIS

Competitors in Karnataka State include:

- Karnataka tourism:

They provide descriptive information, pictures along with distance from the current location. Marketing for this business focuses on a mixture of older groups and young individuals.

- Tour to Karnataka:

They offer information in different segments like Bangalore, Mangalore (places), Cuisines, and Festivals. This application is 5 years old.

Android Tourist Application features a competitive edge up the knowledge sharing. The effort of this application is high customer retention rate.

VII. SYSTEM ARCHITECTURE

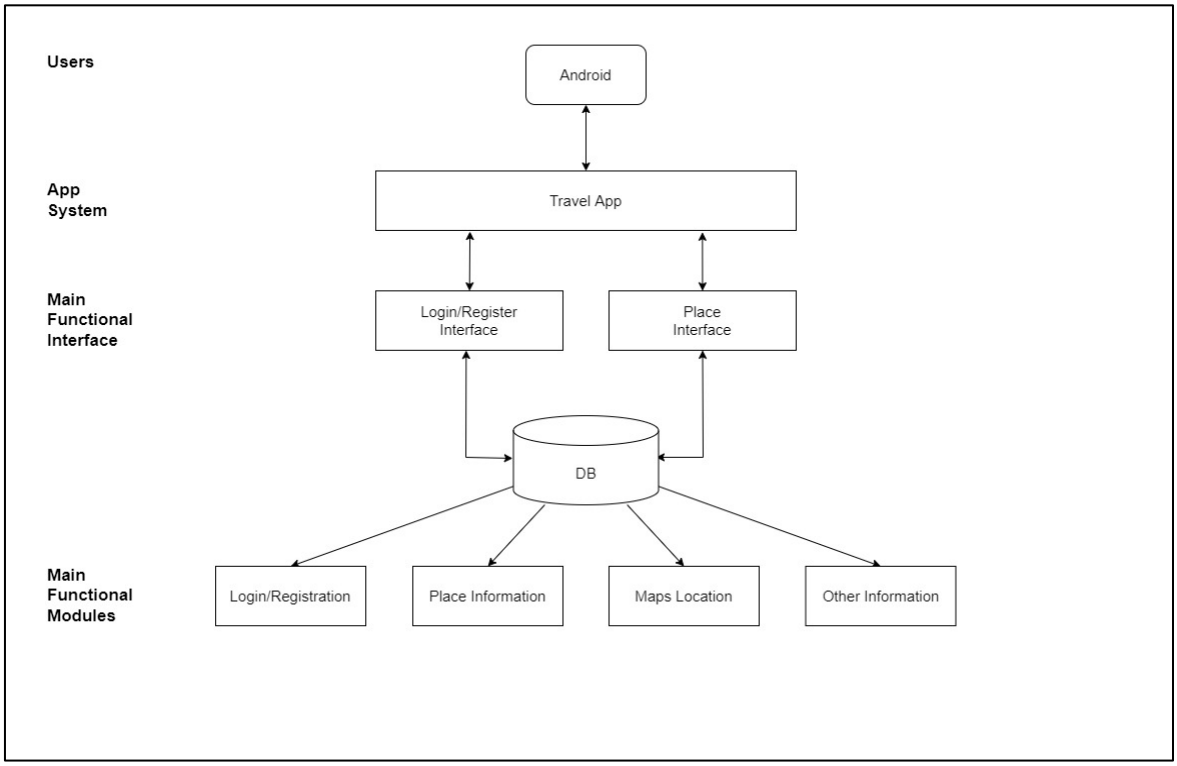

Fig 6.1 System Architecture

The Application System is a travelling app which is aimed at android users. There are 2 main functional interfaces, Login/Register interface and Place interface. The Main functional modules are Login/Registration Place information Maps location and other information regarding the places.

All the information from each module is stored in database and users can retrieve them. Here the users will download the app on their android phones. They will register into the app. They can search for the places, maps and other information like nearby restaurants in this app. The pre-stored information will be retrieved to the users.

VIII. TOOLS USED

- Java
- SQLite
- Android Studio

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IX. DATABASE DESIGN

In Database we can see four partitions, they are:

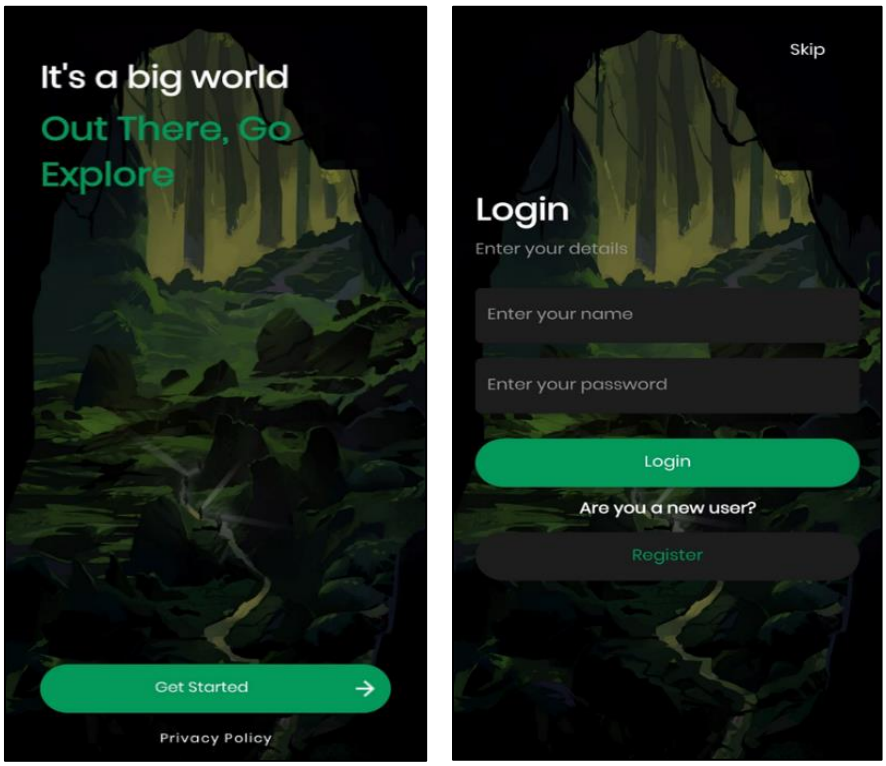
- Login/Registration
- Place information.
- Map's location
- Other information.

All the information from each module is stored in the database and if any user wants to do any of the above activities, all the data will be retrieved from the database only.

In Login/Register Interface, if a user wants to add a new place, he/she must register and log in to the application. After that they will be permitted to add the places.

In Place Interface, the user is not necessarily need to login he/she can go through different place that will be shown in the application and select the place where they want to go and use maps that are already fixed with the destination and other data like History of the place, nearby restaurants, hotels and emergency needs etc.

X. IMPLEMENTATION



When the application is downloaded, the above shown screen will appear where the user has to register using the email id and set a password for logging in.

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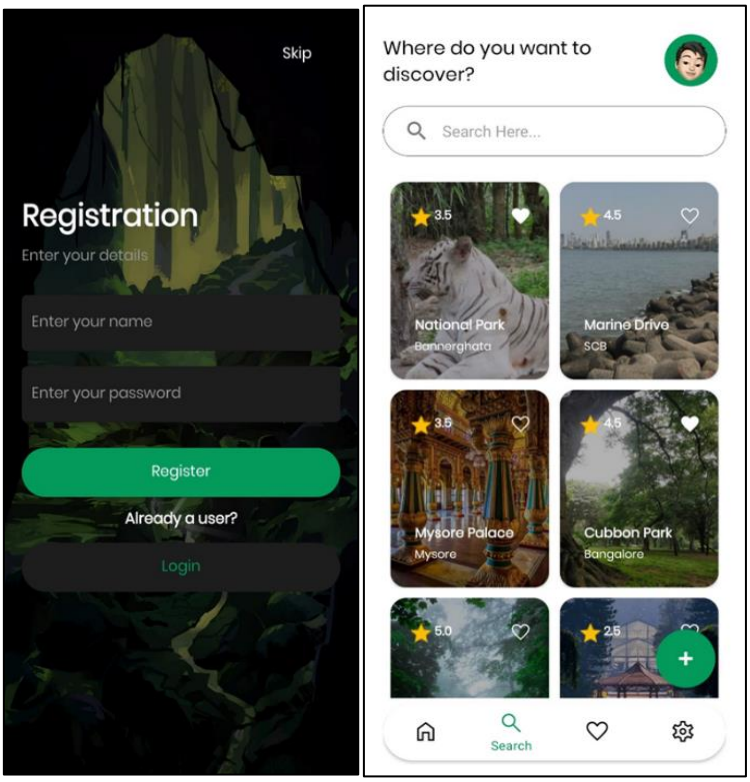
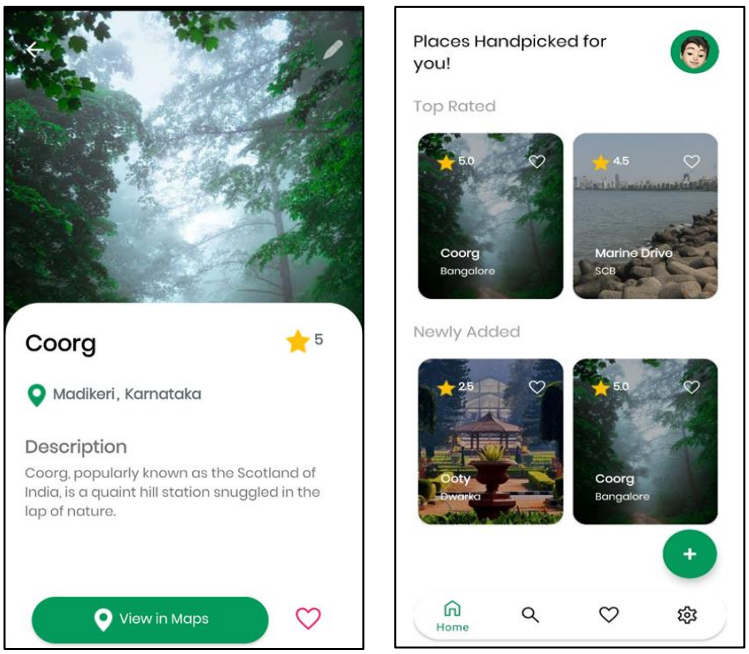


When the registration is complete, the user has to use the user id and password to log in to the application. After logging in, there will be various places as suggestions which will get automatically updated based on the searches the user makes. Users can either use the suggestions given in the app or search other places they like in the search bar. Places will be shown with the ratings which will be helpful for the users to decide the better place to visit.



When a user selects one place, another screen will be opened which has the description of the place, nearby hotels, ratings of the place, directions etc. Users can view the directions by clicking on 'View in Maps'. Users can also save the place for later by clicking on the heart button in the bottom right corner of the screen.

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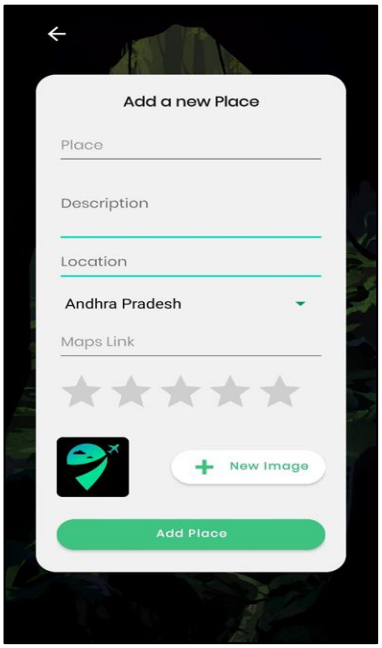

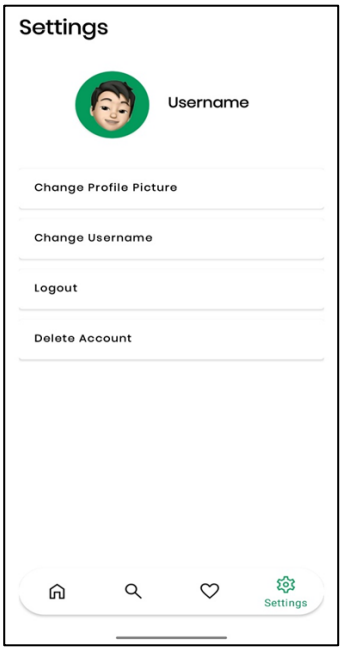

If any place is not included in the app, the users can add the place by clicking on the 'plus' icon in the bottom right corner of the home and search screen. To add any place, the users have to write the description, location, ratings etc. Users have to insert the map link of the place and can add images of the place if any. In the settings, users can change their profile picture, username etc.

XI. CONCLUSION

The tourist guide application is an important tool for a traveler. Most of the traditional methods are time consuming and require skilled human resources who are supposed to guide the tourist in the field. The main purpose of the proposed project is to ensure to save the time of tourists, provide proper guidance and directions to the tourist. The tourist guide system provides an easy-to-use menu where users can select different buttons according to their needs. They select directions, locations, distances and some other options according to their needs. The user can use these services using Internet, Global Positioning Systems (GPS) and Google maps. The Google maps are interactive so the user can easily locate the places and the map draws a line to show proper direction. These lines help to reach the destination. The user can also get the latest weather forecast information of the city. This tourist guide uses the latest maps which can display locations on the basis of latitude and longitude provided by users.

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