

Offline Aerial Map System

Meetali Narwaiye¹, Navya Srivastava², Mukund Kute³, Prof. (Mrs) V. S. Paithankar⁴

Students, Department of Computer Engineering^{1,2,3}

Faculty, Department of Computer Engineering⁴

Smt. Kashibai Navale College of Engineering (SKNCOE), Pune, Maharashtra, India

Abstract: *Maps are the basic need of the day-to-day life. Since we can't travel or go to any unknown environments without any navigation. For exploring different areas or different countries we need to be guided in these environments. We can get guidance through online maps which are provided by map viewers, but in some areas, we don't get the network and we may get lost in the unknown places. In order to avoid those situations, we need offline maps which can provide us the proper directions and the view of the area. In this project, an offline aerial mapping application is developed. The application is able to display the map of the whole world while online or, display a pre-downloaded map while offline. So that aerial vehicles can navigate their path and avoid any sort of miss direction. By using GPS nearby vehicles position can be tracked down to avoid accidents. It satisfies the need even if we lack internet connection or stuck in a place with no network.*

Keywords: Offline, Open Street Maps, GPS, JVM, MySQL, Searching.

I. INTRODUCTION

Maps are used to display both cultural and physical features of the environment. Standard topographic maps show a variety of information including roads, land-use classification, elevation, rivers and other water bodies, political boundaries, and the identification of houses and other types of buildings. Some maps can provide us the information about weather details in it like the low pressure areas, high-pressure areas or the heavy rain areas, etc. The construction of maps is called cartography. The application needs further testing and can be implemented for a particular company or university using their own maps or editing the maps in OSM (open street maps). It can't be performed for large areas. Area should be limited.

II. LITERATURE SURVEY

In literature we could observe a project developed by Eduard Mikayelyan - as a platform for facilitating the Lund Challenge location based demonstrator of the HaptiMap project. The aim of is to make the Lund city sights more accessible. The library components of Nutiteq Maps were also used and studied. the application implementation does not accomplished thoroughly due to the lack of time and experience working with Android SDK.

Prithumit Deb, et al developed an application OFFLINE NAVIGATION SYSTEM FOR MOBILE DEVICES is a mobile application which also made use of speech recognition system to provide real time experience for user and does not just give an image but also permits user to get dynamically bit by bit information of location user queries about. It also provides further cost of reaching the destination in shortest route by cab or bus. We have not included this facility in our app as rates are more local and volatile in nature.

By late 2015 Google has rolled out its offline Google Maps search and turn-by-turn navigation for Android and IOS users enabling users with a non-existent or weak connection to get directions of destination required. It is observed that even Google Maps, which has a huge team and finances supporting it, is limited to display of maps when offline. Users face trouble, if a new location needs to be visited by the user, which was not already a known point. There is no fool-proof methodology to solve the problem, as there always exists a slight margin for error while using Geocoding having a dataset of the complete globe.

Every app needs to handle its offline problems in its unique way: Twitter permits one to view tweets offline, and a better offline support by Google to Gmail would help users of Yahoo Mail. With offline maps, we are much more fortunate.

In the market, HERE maps of Nokia looked to be promising in the same area but later on was taken over by a German based organization. Google offline services include that of ratings, contact information apart from business hours along

with voice directions. In fact Google Offline Maps makes use of Cells inbuilt GPS chip instead of antenna. The GPS system calculates location based on timed signals it receives from satellites orbiting the earth. It was observed by users that the biggest Google map downloadable offers a map of around half of the UK and also suggests you to use WiFi while downloading the bigger Maps as a measure of Cost cutting.

WiFi enables you to get located even in a place where very weak satellite transmissions are existing such as in a cellar of a Sky raiser building. Many researchers for the last a few years are working together as communities to build better, shared, tools and data for maps. The most well known tool of these is OpenStreetMap. And many tools that support different formats and devices for creating displaying maps that anyone would need sometime have been developed around OpenStreetMap. Its significant to stress here a few open-source projects that are predominantly significant for offline maps: Both MapBox or MapZen have browser-based 3D map rendering engines using WebGL but explicit offline support is not present in both. The Open Street Map community has a list of open data based open source native mobile apps.

III. PROBLEM DEFINITION

To build and implement Offline Aerial Map System. To study different offline map algorithm. And to implement offline map using aerial map. A number of factors that affect the requirements of the system are:

The system the application is executing on will have the required resources available as necessary. Another assumption is that the software and hardware components work in the same way as used while developing this project. The working in the organization will be well planned and organized. The data will be stored properly in database, which will help in retrieval of information as well as its storage. The level of accuracy in the proposed system will be higher. All operation would be done correctly and it ensures that whatever information is coming from the center is accurate. The reliability of the proposed system will be high due to the above stated reasons. The reason for the increased reliability of the system is that now there would be proper storage of information. The main objective of proposed system is to prevent data from duplication on server. This would assure economic use of storage space and consistency in the data stored. In manual system there are many problems to store the largest amount of information.

IV. REQUIREMENTS

A database is a system intended to organize, store, and retrieve large amounts of data easily. It consists of an organized collection of data for one or more uses, typically in digital form. One way of classifying databases involves the type of their contents, for example: bibliographic, document-text, statistical. Digital databases are managed using database management systems, which store database contents, allowing data creation and maintenance, and search and other access. Database architecture consists of three levels like External, Conceptual and Internal. The external level defines how users understand the organization of the data. A single database can have any number of views at the external level. The internal level defines how the data is physically stored and processed by the computing system. Internal architecture is concerned with cost, performance, scalability and other operational matters. The conceptual is a level of indirection between internal and external. It provides a common view of the database that is uncomplicated by details of how the data is stored or managed, and that can unify the various external views into a coherent whole.

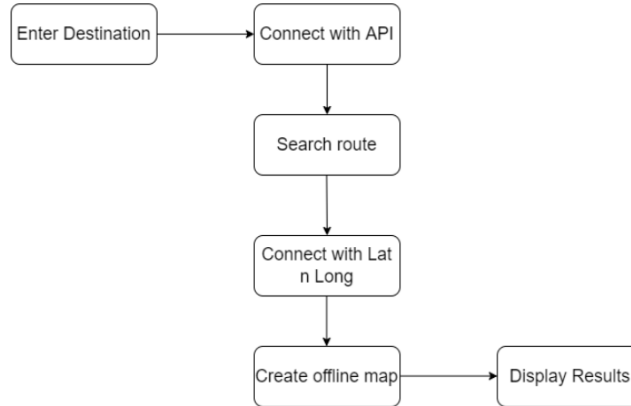
1. Database: MySQL relational database
2. Version: 5.1

V. IMPLEMENTATION DETAILS OF MODULE

The user should be able to create an account and login on the system using it. While logging in, the system should authenticate that it's the right user details. After logging in, users will have two options to choose one will be online part and other will be offline part. After that users have to upload the face image for mood detection. The user also play the music file based on mood detection result. The performance of the system lies in the way it is handled. Every user must be given proper guidance regarding how to use the system. The other factor which affects the performance is the absence of any of the suggested requirements. To ensure the safety of the system, perform regular monitoring of the system so as to trace the proper working of the system. An internal staff has to be trained to ensure the safety of the system. He has to be trained to handle extreme error cases. Secure Functional Requirements; this is a security related description that is integrated into each functional requirement. Typically this also says what shall not happen. This requirement artifact can



for example be derived from misuse cases. Only authorized doctor will be access this system. The system should be easy to operate and should be such that it can be developed within a short period of time and fit in the limited budget of the user.



VI. CONCLUSION

The main aim of this project was to design and implement an offline aerial mapping application. The application is able to display the map of the whole world while online or, display a pre-downloaded map while offline. So that aerial vehicles can navigate their path and avoid any sort of miss direction. By using GPS nearby vehicles position can be tracked down to avoid accidents.

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AUTHORS

First Author Meetal Narwaiye, Student at Computer Department, SKNCOE, Pune.
Email- meetalinarwaiye91@gmail.com

Second Author Navya Srivastava, Student at Computer Department, SKNCOE, Pune.
Email- navyasrivastava2@gmail.com

Third Author Mukund Kute, Student at Computer Department, SKNCOE, Pune.
Email- mukundkute2982@gmail.com

Correspondence Author Prof. (Mrs) V. S. Paithankar, Faculty at Computer Department, SKNCOE, Pune.