iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 10 **Issue:** VII **Month of publication:** July 2022

DOI: https://doi.org/10.22214/ijraset.2022.45621

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 10 Issue VII July 2022- Available at www.ijraset.com

Searching Nearby Sites Using Google Maps

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***Abstract:** We can now offer a far better match between the buyer and seller thanks to the growth and popularity of the several property search engines. In this project, we'll create a responsive web application that works on all devices and lets users search and filter data on neighboring sites. Our system allows users to search by text and fuzzy matching, which is supported to broaden the scope of searching, to simplify the input process. Along with a navigational map indicating the quickest path to the target places, Google Earth will provide detailed information about all the associated properties and real estate firms. Users are advised to utilize replacements from the same class if the desired attributes don't appear to be readily available. This system uses GPS to track the user's location and provide information about all the local properties. Our user study provides concrete evidence of how simple and easy to use our system. Keywords: Web application, Google Map, GPS, properties.*

I. INTRODUCTION

Google Maps is a client application and web mapping platform that it offers. It provides real-time traffic information as well as satellite imagery, aerial photos, street maps, 360-degree interactive bird's-eye views of streets (Street View), and routes for travelling by foot, vehicle, bike, air (in beta), and public transportation. More than one billion people worldwide utilized Google Maps each month as of 2020.

Where 2 Technologies' Lars and Jens Rasmussen created Google Maps, which was originally a C++ desktop application. In October 2004, Google purchased the business, which was eventually turned into a web application. In February 2005, Google Maps was introduced after additional purchases of a real-time traffic analyser and a geographic data visualisation firm. The front end of the service makes use of JavaScript, XML, and Ajax. With the use of its Application User Interface (API), Google Maps makes it possible for users to embed maps on other people's websites. It also provides a surveyor for businesses and other organisations in numerous nations across the world. Google Geographer, which allowed users to cooperatively update and enhance the services' global mapping, was discontinued in March 2017. The business stated that these features would be moved to the Google native Guides initiative, thus crowdsourcing contributions to Google Maps were not cancelled.

The abbreviation of GPS is Global Positioning System which is the only fully functional Global Navigation Satellite System (GNSS). Utilizing a constellation of a minimum of twenty-four Medium Earth Orbit satellites that transmit precise microwave signals, the system allows a GPS receiver to work out its location, speed, direction, and time. Other similar systems are the Russian GLONASS (operational as of 2010), the upcoming European Galileo positioning system, the proposed COMPASS navigation system of China, and IRNSS of India.

A 3D representation of Earth is created by Google Earth using primarily satellite photos. By overlaying satellite images, aerial photographs, and GIS data onto a 3D globe, the programme creates a map of the entire planet that enables users to view cities and landscapes from a variety of perspectives. By entering addresses and locations, or by using a keyboard or mouse, users can navigate the planet.

The programme is now available for download on smartphones and tablets, where it may be used with a stylus or touch screen. The tool allows users to include their own material using Keyhole Markup Language and share it through other channels, such as blogs or forums. Google Earth is a client of the Web Map Service and is able to display a variety of images superimposed on the earth's surface. Currently covering more than 97 percent of the globe, Google Earth has accumulated 10 million kilometers of Street View data in 2019.

The project was created to overcome the problems that existed with the active manual system. This project is backed in an effort to end and, in some circumstances, lessen the difficulties the current system faces. Additionally, this approach is designed to meet the user's actual need for very smooth and efficient operation execution.

The maximum number of entry errors are decreased by this application. Additionally, when entering incorrect information, it displays error messages. The system can be used by the user without formal data. This demonstrates that it is user-friendly.

The project is intended to aid with strategic planning and will enable you to make sure that your company has the appropriate amount of knowledge and information for its upcoming objectives. Additionally, our system offers a remote access capability for

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executives who are constantly on the go. This will enable you to manage your employees from anywhere at any time. You'll be able to better control the resources thanks to this system.

II. RELATED WORKS

This project involves creating an Android tracking or monitoring application that uses GPS to track the user's present location and prior location at predetermined intervals. Unlike other tracking systems, this one lets users save their present location and utilize the Google Map API to find their way back there from anywhere. If they are unable to recall the old location, data mining can be used to ascertain the new location [1].

This project focuses on location-based emergency medical care, or LBS. LBS is a technology that uses GPS to determine a user's current location in order to deliver various data and services. It enables users to share their location with friends and co-workers. Using this mobile application, the user will be able to see nearby hospitals, ambulances, pharmacies, police stations, and all other required medical services. By providing both online and offline information, this software enables the user to hunt for emergency assistance even when they aren't connected to the internet [2].

Nowadays a large vary of applications uses GPS technology. This application tracks your vehicle and monitors it on an everyday basis. This chase system can inform the user concerning the vehicle's location and also the route traveled by it, and this data are often monitored from any remote location. It conjointly includes an online application that shows user the precise location of the target. In this system the target is often half-tracked in any climate, each GPS and GSM technologies are employed in this technique [3]. By obtaining a number of raw surveillance films and using our algorithm to analyze them in the absence of the necessary field circumstances, the usefulness of the suggested method was proved. The experimental findings demonstrate that the suggested visualization technique yields encouraging outcomes and is efficient in communicating important information while obviating the need to extensively search through a vast amount of video data [4].

In this research, we tend to suggest a framework for UAV navigation in GPS-denied environments with assistance from Google Maps. Georeferenced navigation makes it possible to localise without drift and does not require loop closures. The UAV position is initially determined using correlation, which is potentially an easy and cost-effective way. Then, in subsequent frames, we frequently employ optical flow to extrapolate its location. We often obtain inter-frame translation through use after employing either homonym decomposition or motion field, and HOG alternatives are utilised for registration on Google Map. We often employ a particle filter to perform a coarse-to-fine search to locate the UAV. Because this approach avoids drift in dead-reckoning and the little localization error confirms our approach's effectiveness as a GPS complement, offline testing using aerial images captured by the quadrotor platform produces promising results [5].

We frequently employ geospatial applications in this project to provide detailed data about the characteristics of unique things that exist in the real world. Web-based GIS applications are rapidly evolving, and applications range from geotagging to geolocation capabilities. In order to create a web-based 3D application, we frequently combine Google Maps and the Google Earth API. We can obtain detailed information about the selected location that is in 3D perspective by saving the attribute knowledge in XML databases. And thus gives the user a first-person perspective of the world, more realistic experience, and the information they need. In addition to 3D structures, the user will learn about any roads, streets, and city names here. Because this application allows us to read, analyze, and create maps using our own geographic knowledge, it can improve the efficiency of GIS [6].

III. EXISTING SYSTEM AND PROPOSED SYSTEM

A. *Existing System*

The current system has been exhausted by manual site visits. For the purpose of obtaining the information related to a certain website, the client/user must independently travel to the locations. The user won't be able to gather much information about the features and rating specifics of a certain site through a manual visit to the website.

B. *Proposed System*

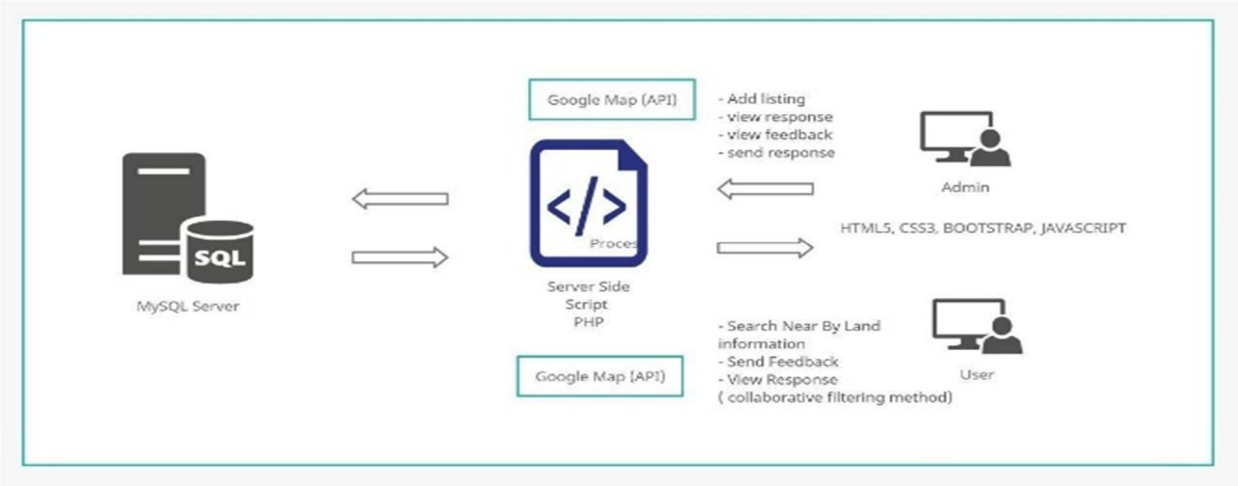
In the suggested system, we plan to create a web-based application that makes use of the Google API and enables users to seek for local websites. Without the involvement of third parties, the user of this website can obtain information about a chosen property, such as its location and valuation information.

The user of this web-based application can view all of the local locations' details on the map.

Additionally, the user is given the option to list the properties by including location and detail information. The collaborative filter method used in this method also offers user interest-based attributes, which is advantageous for the suggested system.

IV. METHODOLOGY

The application's front end is created using HTML, JavaScript, CSS, and the Bootstrap framework. This programme aids in increasing the user's convenience and system efficiency, so that each user may quickly comprehend how the application works. User and admin are the two primary modules in this project that play the most important roles. The administrator will run the website, take client feedback, and respond. The user will access and search nearby site data that displays the PIN code for the available location. The data also includes site number, size, and evaluation information. Users can use Chabot to search nearby sites. The modules in our project's middle layer can communicate with the database. In order to mediate between the user and the database, PHP is used. The database effectively maintains the information, making it simple for the user to get and view the data. The data is stored using a MySQL database. To establish the database architecture and save the data in the database, an efficient analysis is conducted.



Methodology

V. IMPLEMENTATION

During the implementation phase, the physical system specifications are transformed into a usable and trustworthy outcome. A fully functional system will be the aim of the system implementation phase, which necessitates careful planning, investigation into the limitations of the current system, design of transitional ways, evaluation of transitional styles, and change over procedures, where each deliverable is completed in the order of importance. This process results in a system that runs accurately. The complexity of the system analysis and design effort required just for implementation will rise as the system is evolved. The implementation phase addresses problems with nascence, libraries, quality, performance, and debugging. The product itself is the final output. The system was built in accordance with the specifications from the earlier phases during the implementation phase. Writing code, doing code reviews, running tests, choosing components for integration, and configuring are all included in this. PHP object-oriented programming is used to develop a web application for report generating. It is a method that provides a technique to modularize programs by dividing memory space for both data and functions, which may be used as templates for instantly producing duplicates of such modules. The MVC architecture is being used for this project. HTML, CSS, and BOOTSTRAP are used to create user interface. Both the controller and the model use Java classes, however the model only has the connectivity portion. The user data and activity application are stored using Google Live Information.

Implementation steps

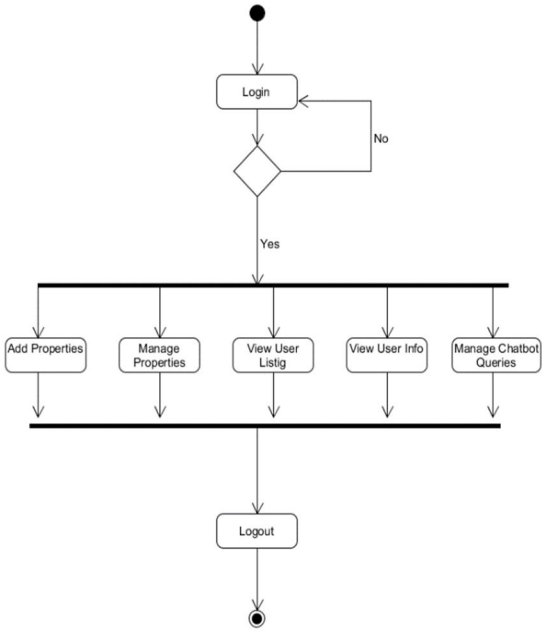
1) The next phase toward a solution to the issue is implementation. Here, it is determined on the specifics, such as the coding language to be used, the database to be used, and so forth.

2) Putting theoretical knowledge into practice is the responsibility of the implementation phase. It could entail the whole implementation of a computer system or just the setup of a single tiny subsystem.

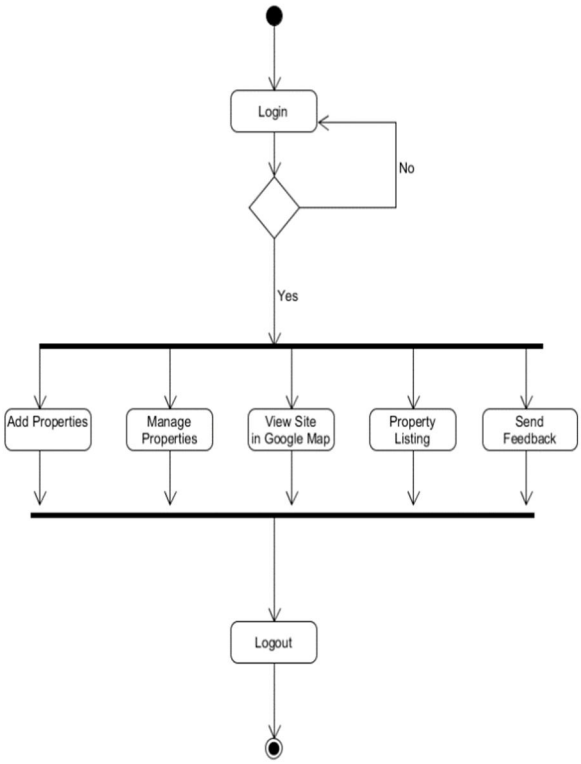
3) The project's implementation phase spans the time from the approval of the tested design to its successful operation, assisted by the right user and manual activities.

4) It requires extensive planning because it affects the entire organizational structure. Beginning with the project's inception, planning for implementation should be done.

5) It necessitates in-depth understanding of the new system, people demands, and hardware and software specifications. The new system with this knowledge must be created by the analyst alone. He has no executive authority, but he can plan, schedule, and coordinate.



Admin activity diagram



User activity diagram

VI. CONCLUSION

In this paper, a web application that was created with the use of the Google Maps API, Google Earth, JSON, MySQL Server, and PHP is illustrated. These tools are extremely dependable and open source. With the help of this design, users may easily display their properties on a website and even take those listings down. The data of other properties on the website may also be checked by the user. The user can communicate with the programme via a Chabot. Additionally, the user can use the map to view the details of all the neighbouring locations. By utilising collaborative filtering, user interest-based websites or other properties are recommended to other users as an alternative. This project is a mobile-friendly, responsive web view application that can look up information about local sites. Our technology enables users to search by text supported to broaden the scope of searching, simplifying the input procedure. We improved the application's rich user interface to make it easier to examine property information on a Google Map. In order to include property information that gives the site prominence in Google Maps, we also integrated the Google Earth concept. A navigation map displaying the best route to the target sites is presented in the Google map together with detailed information about related properties and real estate companies. User can send a message to request further details about the attribute.

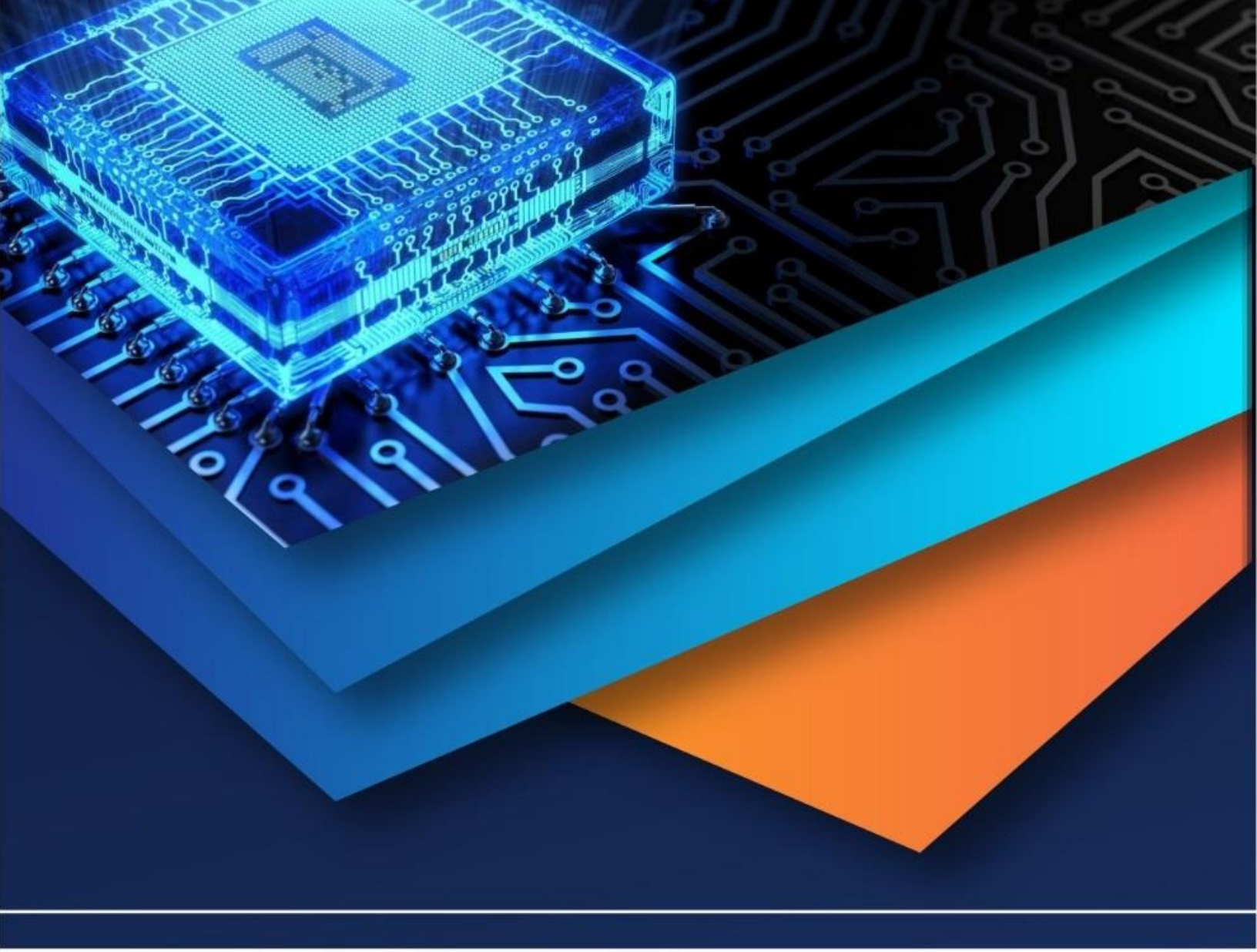
VII. FUTURE ENHANCEMENT

1) In future we can include real time property buying option.
2) Addition to this we can also add property details and other important details.
3) We can add more data security methods by using cloud storage.
4) We can implement same application by using mobile application technology.
5) In future we can enhance to manage the property rental information.
6) The map can also display the time and distance between the user's position and the site.

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