Smart Location Finder

A Project Work Synopsis

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SUBMITTED BY:

MURLI BHATNAGAR – 18BCS4089
HARSHIT TANEJA – 18BCS4103
NAMAN PARASHAR – 18BCS4107
KRITICK SHARMA – 18BCS4105
YASHASVI BAKSHI – 18BCS4069

Under the supervision of

Mr. NEHA AGGARWAL

CHANDIGARH UNIVERSITY
Discover. Learn. Empower.

CHANDIGARH UNIVERSITY, GHARUAN, MOHALI - 140413

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ABSTRACT:

With the introduction of current highly distributed systems, networks, middleware, and interconnected applications, software design, development, and testing have become extremely complex. Because the demand for complex software systems has outpaced the ability to develop, construct, test, and maintain them, software system reliability has become a serious challenge. Software is becoming an increasingly vital component of a wide range of systems that execute complicated and critical activities in a wide range of applications. Smart location finder is one of those programs that is required in today's society, but few people are aware of its significance.

We live in a huge globe where every location and site are named after someone or something, making it difficult to identify things in these locations. What if we could visualize the location and see exactly what and where it is? This would solve a lot of difficulties.

Increasing number of software technology is demanding more and more complex yet easy to use software that are user friendly and powerful. These software's open gates to the future and help easy understand the problem and provide ideas and suggestions on improving them. Software technology demands highly skilled individuals who can write complex codes and work with data structures but the work is not limited to this as each individual should be well diverse in identifying problems and help resolve them. Software technology can help us pinpoint the location of a star in the sky or can help us predict a possible future. Technologies such as Artificial Intelligence, Cloud Computing, Big Data Machine Learning, helps in easing the development and deployment process reducing the production time and ensuring reliability.

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1.INTRODUCTION:

In modern times, Software and software programming have grown in popularity as they make our lives easier and reduce the amount of physical work required by performing a basic but repetitive action over and over. Software can assist in monitoring and offering recommendations to ensure high performance and on-time resource delivery. Although software can make a person's or an organization's job easier, writing the code and setting up the environments to run these complicated applications is still difficult. A collection of instructions or assertions written in a computer language is referred to as software. It's also known as a software program or just a program.

A software program is created to carry out a specific set of tasks. An input state is transformed into an output state when a program is run. A combination of input variables or a typical program transaction can be described as an input state. The probability of failure-free software operations in a given environment is defined as software reliability. The field of software reliability studies how to measure it and use it to improve and regulate the software development process. In the domain of consistently and effectively building trustworthy software, a variety of standards have arisen.

The Software Engineering Institute (SEI) has developed a standard known as the software Capability Maturity Model (CMM) that grades enterprises on a scale of one to five based on numerous factors. The resulting software is distributed across the internet for large-scale deployment and is readily available to users all around the world.

1.1 PROBLEM DEFINITION:

Advancing time is bringing more changes to the physical world and each day new buildings and roads are added to the map. This pose a problem for people who are new to somewhere or have been away for a long time and often they require assistance. People often get lost and are unable to find their way back.

These times require a software that can help them find their location or help them find some other location. To solve this problem there are app such as google maps to help find location with just a single click. But google maps holds its own disadvantage. As it is growing more popular, more people are relying over it for their critical work.

This work can be halted in times of high traffic or when more concurrent users are accessing the same resource. This issue makes it difficult to perform fundamental operations as it becomes as the application or system starts lagging.

These have been many speculations to data breaches and theft of data which creates fear in peoples mind as to whether the application of software they are using is safe or not.

People often want control to themselves to better manage and monitor their resources and activity along with ensuring web safety.

1.2 PROJECT OVERVIEW:

Smart location finder is a google API-based program that searches for numerous locations at once and displays their precise location on maps. This capability is used by this program to locate places all over the world and save them in a database on the backend.

Smart Location Finder keeps track of what locations are being searched for and matches them up with the closest match. It is quite simple to find locations and visualize them using a graphical user interface.

It has benefits for the user, such as not requiring a Google account or requiring the user to go through a login process. Users can search several locations at the same time with Smart Location Finder, and they don't have to worry about their prior location search being destroyed.

Smart location finder gives full control to the user to manage and run their application to ensure not third-party access or data breaches, making it safer and more reliable for the users to operate their workloads.

With features such as Multiple location finder at once, full control over application, no signups required makes it a viable solution for the user to operate their private and confidential workloads.

1.3 HARDWARE SPECIFICATION:

Computer with minimum 1 Gigabytes of ram

Stable Internet connection

System capable of handling bulk messages

32-bit/64-bit Operating Systems

200Mb-1Gb Disk space

1.4 SOFTWARE SPECIFICATION:

We are going to use python programming language for writing the code of the application and we will use the same to create a graphical user interface to interact with the user.

We will also be using SQLite browser database to store the inputted data from the user.

Listed below are some of the advantages of SQLite browser:

- Transactions are atomic, consistent, isolated, and durable (ACID) even after system crashes and power failures.
- Zero-configuration - no setup or administration needed.
- Full-featured SQL implementation with advanced capabilities like partial indexes, indexes on expressions, JSON, common table expressions, and window functions.
- A complete database is stored in a single cross-platform disk file. Great for use as an application file format.
- Supports terabyte-sized databases and gigabyte-sized strings and blobs.
- Small code footprint: less than 600KiB fully configured or much less with optional features omitted.
- Simple, easy to use API.

We will also be using Google API to pinpoint location on maps:

- Bring the real world to your users with dynamic maps for the web and mobile.
- Convert coordinates into addresses and addresses into coordinates.

2. LITERATURE SURVEY:

Year	Article Title	Purpose of Study	Source	Findings
2005	Navigation system for Faster Route	Features and drawbacks of Google maps	ijarcce.com (International Journal of Advance Research in Computer and Communication Engineering)	• Google maps provide less data privacy and control. • server downtime during peak hours. • slow navigation. • Doesn't provide the option to search multiple location at once • tracks user search activity.
2010	Product Maptive	Features and Drawbacks of Maptive	g2.com (Diagr-amming software)	• Non interactive Graphical User Interface • less functionality. • Tracks user activity and previous search histories. • Not able to re-route sometimes.
2011	osmAnd	Features and	osmAnd google Groups	• Buggy routing algorithm

		Drawbacks of osmAnd		• Expensive. • Tracks user search activity • Downtime during peak hours.
2004	OpenStreetMap	Features and drawbacks of OpenStreet Map	e-education.psu.edu.com	• Unprecise location • hard to use User Interface • Less frequent Updates to maps.
2012	Apple Maps	Features and Drawbacks of Apple Maps	pcmag.com	• Occasional Map flaws • Limitations on waking navigation • fails to recalculate routes in some cases. • Expensive
2007	Navmii	Features and Drawbacks of Navmii	ionos.com	• Depends on user donations • provide slower updates than other map providers such as google.

3. RESEARCH OBJECTIVE:

The goal of this project is to learn how Google's geolocation API works and how it can be incorporated into personal applications to deliver real-time data location around the world without requiring any additional high-performance computing resources.

Smart location finder gives the user authority over their application, allowing them to accomplish their goals by simply inputting the location they want to search for and receiving a Google Maps web interface that allows them to visualize the spot they are looking for.

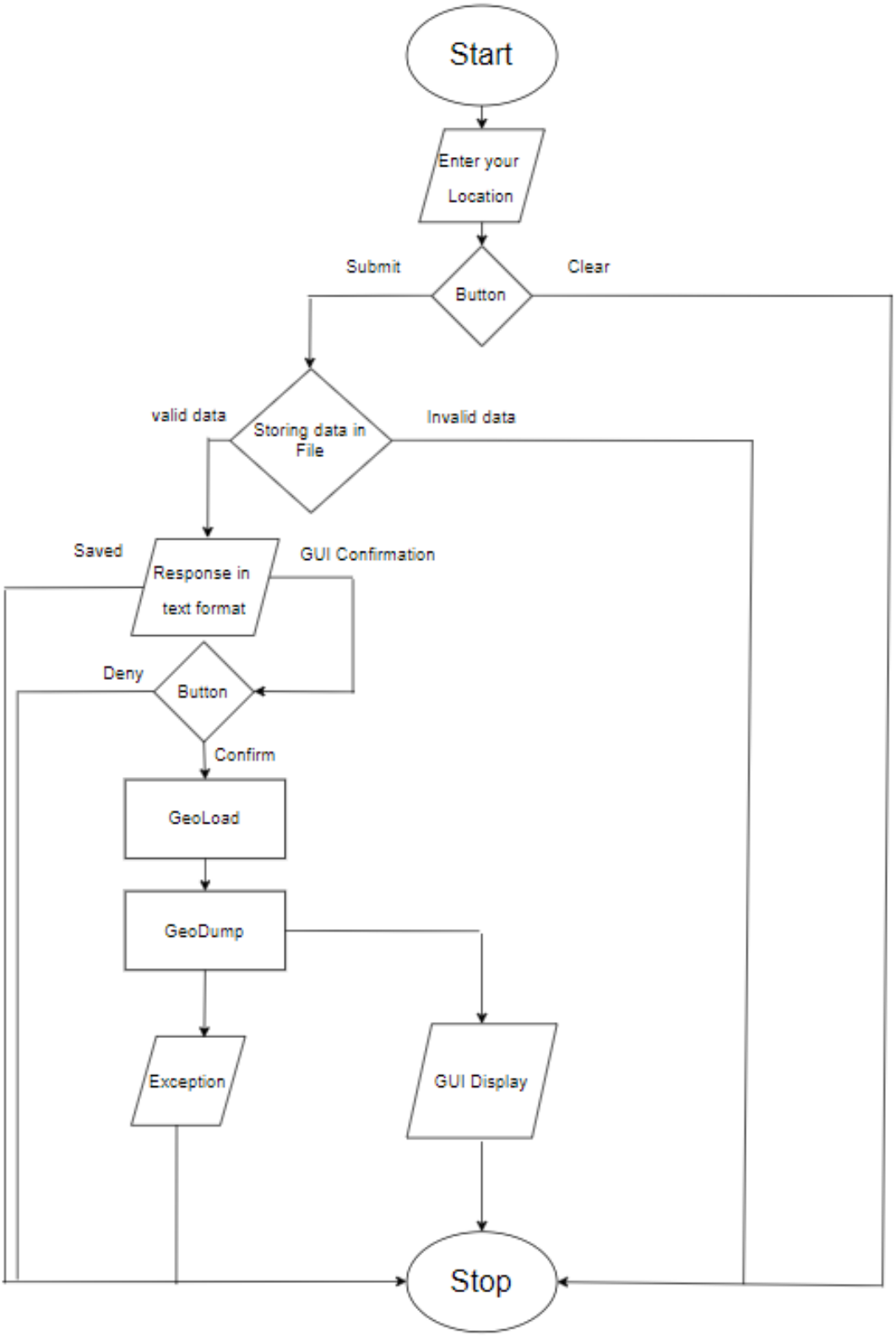
Database connectivity aids in the saving of internet resources by storing prior sessions and search results, and a multiple location finder aids in the process helping in processing multiple data at a time.

4. PROPOSED SYSTEM:

Smart location finder is a new step in innovation towards location finding. Smart location finder holds various advantages under its belt such as:

1. Smart location finder doesn’t require any account login to proceed.
2. Smart location finder only requires internet once as the previous searched data is stored into the database.
3. The user controls what data is stored and what locations have been searched.
4. Provide user with easy access to location finding.
5. Multiple locations can be searched at a single time.
6. Metadata such as latitude and longitude can be extracted from the application itself.

5. METHODOLOGY:



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7. APPENDICES:

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