**ADHIYAMAAN COLLEGE OF ENGINEERING (AUTONOMOUS)**

**HOSUR**

**DEPARTMENT OF MCA**

**PROJECT TITLE : TRACK PHONE NUMBER LOCATION**

# INTERNAL GUIDE By

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**ABSTRACT**

Track Phone Number Location Using Python is a practical application designed to track the location of phone numbers globally using Python. This project utilizes Python libraries like opencage, phonenumbers, and folium to create a system that can geolocate phone numbers and display their locations on a map. As digital transformation continues, the need for accurate geolocation services has become critical. This project addresses this need by providing detailed steps and code to achieve precise results. The tutorial covers the basics of phone number formatting and parsing, geolocation to find latitude and longitude, and plotting the location on a map with additional features like custom markers and pop-ups. Track Phone Number Location Using Python is an ambitious project aimed at providing a user-friendly and effective application for tracking phone numbers, meeting the increasing demand for reliable locationbased services in the modern digital age.

Track Phone Number Location Using Python is a dynamic and innovative project designed to enable the tracking of phone number locations globally using the Python programming language. This project harnesses the power of several Python libraries such as opencage, phonenumbers, and folium to build a comprehensive application capable of accurately geolocating phone numbers and visualizing their locations on an interactive map. The need for precise geolocation services is ever-growing, particularly in industries where location data is crucial. This project caters to this need by providing a detailed guide and codebase that demonstrate how to achieve accurate geolocation results.

Once the geographical coordinates are obtained, the project uses the folium library to plot the location on an interactive map. The map is not just a static image; it is interactive and includes additional features like custom markers and pop-ups. These features enhance the user experience by providing detailed information about the location, such as the country and carrier associated with the phone number.Track Phone Number Location Using Python is an ambitious project that aims to provide an effective and reliable solution for tracking phone numbers. By offering detailed instructions, code snippets, and explanations, the project empowers users to build their own geolocation applications.

# MODULES

* Phone Number Formatting and Parsing
* Geolocation  Plotting on Map
* Additional Features

# MODULES DESCRIPTION

## Phone Number Formatting and Parsing

The Phone Number Formatting and Parsing module uses the phonenumbers library to accurately format and parse phone numbers. This module ensures standardized phone numbers ready for geolocation, including extracting relevant information such as the country and carrier associated with the phone number.

## Geolocation

The Geolocation module utilizes the opencage library to convert phone number information into geographical coordinates (latitude and longitude). Using the OpenCage Geocoding API, this module provides precise geolocation data necessary for mapping the phone number’s location.

## Plotting on Map

The Plotting on Map module uses the folium library to visualize the location of the phone number on an interactive map. This module includes functionalities to create map objects, add markers at specific coordinates, and generate HTML files for web-based visualization of the tracked location.

## Additional Features

The Additional Features module enhances the mapping experience by incorporating custom markers and pop-ups. This module allows for personalized map annotations, providing additional information about the location such as the country and carrier. It ensures a more informative and engaging user experience.

**REQUIREMENTS**

* Python 3.x
* phonenumbers
* opencage
* folium
* API Key from OpenCage Geocoding API
* PC/Laptop with Internet

# CONCLUSION

In conclusion, the Track Phone Number Location Using Python project embodies a vision of providing a practical and user-friendly solution for tracking phone number locations globally. By integrating powerful Python libraries and geolocation services, this project offers a comprehensive application that can format and parse phone numbers, retrieve precise geolocation data, and visualize the location on an interactive map. With additional features like custom markers and pop-ups, users can gain valuable insights into the tracked locations. This project exemplifies the potential of Python in creating effective and accessible geolocation applications, catering to the growing demand for such services in various domains. As we continue to enhance the application, our commitment remains to provide a reliable and innovative tool for tracking phone number locations, empowering users with accurate and informative geolocation capabilities.