JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, SOLAN

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PROJECT REPORT

Geo-Searcher

Web Tech Lab
(18B17CI474)

Submitted By: **Submitted To:**

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Geo-Searcher

Abstract

The Geo Searcher project aims to develop a web application that provides users with the ability to search for a specific place and display its corresponding map. By utilizing the Google Maps API, the application allows users to explore and visualize various locations worldwide. The project primarily focuses on enhancing user experience and providing a user-friendly interface for seamless map searching.

The Geo Searcher application enables users to easily search for a place by entering its name in a search box. Upon submission, the application fetches the desired location's geocode information using the Google Maps Geocoder service. The geocoded data is then utilized to generate a map centred on the specified location, providing users with an interactive visualization of the desired place.

Key Objectives

1. Providing a user-friendly interface: The project prioritizes user experience by designing a visually appealing and intuitive user interface. Users can effortlessly search for a place and obtain a corresponding map with minimal effort.

2. Integration with the Google Maps API: The project leverages the powerful features of the Google Maps API to retrieve geocode information and generate interactive maps. The API's geocoding service enables the conversion of place names into geographic coordinates, facilitating accurate map visualization.

3. Seamless map generation: The project aims to deliver an efficient map generation process. Once a place is submitted, the application fetches the geocode information and generates a map centred on the specified location. The process is designed to be quick and reliable, ensuring a smooth user experience.

4. Customizability and extensibility: The Geo Searcher project aims to provide room for customization and future extensibility. The application's design and code structure enable developers to easily add new features, incorporate additional functionalities, and enhance the project based on specific requirements.

Code Overview

The provided code is an HTML file that creates a web page for the Geo Searcher application. When a user enters the name of a place in the search box and clicks the "Go" button, the code retrieves the entered place value. It then uses the Google Maps API to geocode the place, obtaining its geographic coordinates.

After geocoding, the code creates a map centred on the specified location using the Google Maps API. The map is displayed on the web page within a designated <div> element. Additionally, a marker is placed on the map to indicate the exact location of the searched place.

The code includes event handlers and functions to handle form submission, geocoding, map creation, and error handling. It ensures that the user receives feedback if the geocoding process encounters any issues, displaying an alert with the corresponding status message.

Overall, the code provides a basic implementation of the Geo Searcher application, allowing users to search for a place and visualize its map using the Google Maps API.

Advantages / Disadvantages

Advantages of the code:

- User-friendly interface: The code provides a simple and intuitive user interface with clear instructions and a visually appealing design. Users can easily enter a place name and obtain a map without any complexity.

- Integration with Google Maps API: By utilizing the Google Maps API, the code leverages powerful mapping functionalities, including geocoding and map rendering. It allows for accurate place lookup and seamless map generation.

- Quick map generation: The code efficiently fetches the geocode information for the specified place and generates a map centered on that location. This ensures a fast response time and a smooth user experience.

- Customizability and extensibility: The code's modular structure and use of standard web technologies make it easy to extend and customize. Developers can add new features, enhance existing functionalities, and adapt the code to meet specific project requirements.

- In case for any reason the API is not working, there is an alternate present just below which redirects to google maps directly.

Disadvantages of the code:

- Limited error handling: The code only provides a basic alert message when the geocoding process encounters an error. It does not offer detailed error handling or alternative suggestions to users, which could improve the user experience.

- Lack of input validation: The code does not include robust input validation for the place name entered by the user. It is assumed that users will provide valid place names, but there is no validation mechanism to handle incorrect or incomplete inputs.

- Dependency on external API: The code relies on the Google Maps API for geocoding and map rendering. While this provides powerful features, it also introduces a dependency on a third-party service. If the API becomes unavailable or changes significantly, it may impact the functionality of the application.

- Limited map customization: The code does not include options for users to customize the map's appearance or interact with it beyond basic zooming and panning. Additional customization features, such as map styles or overlays, could enhance the user experience and make the application more versatile.

Results

The Geo Searcher project successfully achieved its primary goal of developing a web application that allows users to search for a specific place and display its corresponding map. By integrating the Google Maps API, users can enter a place name and retrieve an interactive map centred on the desired location. The project's implementation provides a user-friendly interface, efficient map generation, and leverages the capabilities of the Google Maps API.