Name: Attili Krishna Kireeti
SRN:PES1UG20CS090

INTERNSHIP REPORT

Company Certificate

Saartha
SERVING YOUR IT PURPOSE

July 31st, 2023   Bangalore

TO WHOMSOEVER IT MAY CONCERN

This certifies that Attili Krishna Kireeti has interned at Saartha Labs Private Limited, Bangalore, from June 1st, 2023 to July 31st, 2023.

He has worked on a project titled Business on Maps. As part of the project, he has migrated the existing application UI5 to Angular with multiple GIS technologies.

During his internship, he demonstrated his skills with self-motivation to learn new skills. His performance was good, and he was able to contribute to the project.

We wish him all the best for his upcoming career.

Saartha Labs Private Limited

Naveen Kumar H S

Associated Director.

Declaration:

This is to declare that I, Attili Krishna Kireeti completed a 2 month summer internship at Saartha Labs Private Limited starting from June 1st 2023 till August 1st 2023.

Acknowledgement:

I would like to start off by saying that this internship has been a wonderful experience. I Have learned alot about the software business and have learned many new skills over the course of this internship. I Would like to thank my mentor Naveen Kumar for helping me throughout the course of my internship and teaching me new concepts and topics.Overall, this internship has been a very helpful and learning experience for me.

Abstract:

During the course of my internship, I had the privilege of developing into the world of front-end development, with a particular focus on Angular and Typescript. The "Business on Maps" platform, which I had the opportunity to work on, holds a special place in my heart, as it gave me a chance to explore the power of technology in a profoundly meaningful way

Company brief introduction:

Saartha are an enterprise software development company with presence in India and Australia. Industry leaders like SAP and ESRI recognize us as "Emerging Business Partners". Our passion is building innovative and user-friendly enterprise applications.
We are the champions of integrating SAP with multiple GIS systems!
We help businesses:
Optimize Capital Expenditure on Assets
Drive Down Asset Maintenance Cost
Optimize Field Force Productivity
Reduce IT TCO with the ability to implement change rapidly

Internship project Details

Project Title:

Business On Maps

Is it part of another bigger project

No, it is not a part of a bigger project. It is an independent platform altogether.

Introduce the project with respect to your roles and responsibilities.

Business on Maps is a platform to integrate Multiple GIS Systems.

It consists of different types of maps such as ESRI Maps, Google Maps and Open Street Maps. I worked on the numerous widgets present on the Web application such as the GeoCode widget, the Basemaps panel and worked on the OSM Component present on "Business On Maps" .

The GeoCode widget helps to search for locations on the Map.

The Basemaps panel provides the user with numerous types of Maps that the user can select as per their wish.

The OpenstreetMap is a free, geographic database updated and maintained by a community of volunteers via open collaboration. It makes use of other Geodata sources.

Project abstract and scope:

Using Business On Maps, Customers/Users can keep up with Asset Maintenance overload.

Can start ticketing via maps.

Lack of visibility to location advantage, is impacting sales of real estate hence, Business On Maps helps to sell with Maps

Project design details with technologies used.

We display a map to the user. To the top left of the map, we have numerous widgets such as the Geocode Widget, the 'Find Your Location' widget, the 'Home' widget and the zoom-in, zoom-out widget. On the left side,we have a sidebar which has more widgets present. We work on the functionalities of these widgets.

Most of the work was done on Visual Studio Code where we used Angular.

Coding/Implementation details(modules used to achieve the functionality.

The internship exposed me to a wide range of modules and concepts that

were instrumental in achieving the desired functionality of the "Business on Maps" platform. The following are the key aspects of the coding and implementation details that I learned and worked on:

Working with Angular Components and Services: Angular, being a popular front-end framework, introduced me to the concept of components and their crucial role in building a modular and scalable application. I learned how to create, structure, and interact with components, which form the building blocks of the user interface. This experience deepened my understanding of component-based architecture, facilitating efficient code organization and maintainability.

Moreover, I delved into Angular services, which provided a means to centralize and share data and functionality across components. I understood how services contributed to code reusability and separation of concerns, leading to cleaner and more concise code.

Component Interaction in Angular: One of the fundamental aspects I grasped during the internship was component interaction in Angular. I learned about the various techniques for passing data between parent and child components using input and output bindings. Additionally, I explored communication between unrelated components using services, fostering flexibility and extensibility in the application's design.

Understanding component interaction proved to be crucial in achieving seamless user experiences, as it allowed for dynamic updates and real-time data sharing across different parts of the platform.

Optimizing Performance with Services: I actively utilized services to optimize the performance of the "Business on Maps" platform. By leveraging services to extract data from external sources and manage application state, I minimized redundant data storage and significantly reduced the payload size. This not only improved loading times but also enhanced the overall user experience.

Moreover, I focused on extracting data asynchronously and employing caching mechanisms to further enhance the performance of data retrieval. These practices contributed to improved time complexity and space complexity, ensuring the application's responsiveness and efficiency.

Exploring Numerous Libraries: As part of my internship, I had the opportunity to explore various third-party libraries that complemented

Angular and expedited the development process. I became familiar with libraries for data visualization, UI design, and map integration. Learning how to leverage these libraries not only streamlined development but also introduced me to industry-standard practices and conventions.

Project results/Learning outcomes:

Successful Implementation of GeoCode Component and Basemaps Panel: During the internship, I had the opportunity to contribute significantly to the development of the GeoCode component and the Basemaps panel within the "Business on Maps" platform. Leveraging my knowledge of Angular and Typescript, I successfully implemented the functionality of the GeoCode component, enabling users to search for locations on the map efficiently. Additionally, I worked on the Basemaps panel, providing users with a wide array of map options to choose from based on their preferences. The successful implementation of these components not only enriched my technical skills but also enhanced the overall user experience of the platform.

Understanding Component Interaction and Front-End Development: Working on the front end of the "Business on Maps" platform gave me invaluable insights into how different components interact with each other. I learned the intricacies of component communication, both within a single page and across different pages. This experience deepened my understanding of front-end development and the importance of creating a seamless user interface. Understanding how components appear and work on the front end allowed me to grasp the significance of responsive design and user-centered development, ensuring a consistent and intuitive user experience.

Leveraging Services for Efficient Data Extraction and Manipulation: One of the key highlights of my internship was working with services to optimize data handling and manipulation. By utilizing services, I was able to extract information from the database and use it efficiently across various components without redundantly storing data. This not only improved the performance of the application but also upheld data security and integrity. Understanding the role of services in reducing payload and improving time

and space complexity deepened my appreciation for the importance of well-structured code and scalable solutions.

Emphasizing Clean and Proper Code Formatting: Throughout the internship, I imbibed the importance of writing code in a neat and organized manner. I adopted industry best practices for code formatting, including proper indentation, meaningful variable and function names, and clear comments. Adhering to a clean and consistent coding style not only enhanced the readability of my code but also facilitated collaboration within the development team. Emphasizing code formatting standards instilled a sense of professionalism and discipline in my coding practices, contributing to more maintainable and scalable software solutions.

Conclusion:

The summer internship at Saartha Labs has been a transformative and enlightening experience that has significantly influenced my academic and professional journey. The hands-on exposure to real-world projects and challenges has strengthened my technical and analytical abilities, equipping me with valuable skills that will prove invaluable in my future career pursuits.

I am grateful for the support, encouragement, and mentorship received from the entire team at Saartha Labs. Their belief in my potential and dedication to fostering a positive learning environment has motivated me to strive for excellence in every endeavor.

As I move forward, I carry with me the invaluable lessons, industry exposure, and cherished memories of my time at Saartha Labs. I am eager to leverage the knowledge and experience gained during this internship to make meaningful contributions to the field of [industry/sector] and society at large.

In conclusion, I express my sincere gratitude to Saartha Labs Private Limited for providing me with this enriching and life-changing opportunity. This internship has laid a strong foundation for my professional growth and reinforced my commitment to excellence in all my future endeavors. I am excited about the future possibilities and look forward to a promising and fulfilling career ahead.
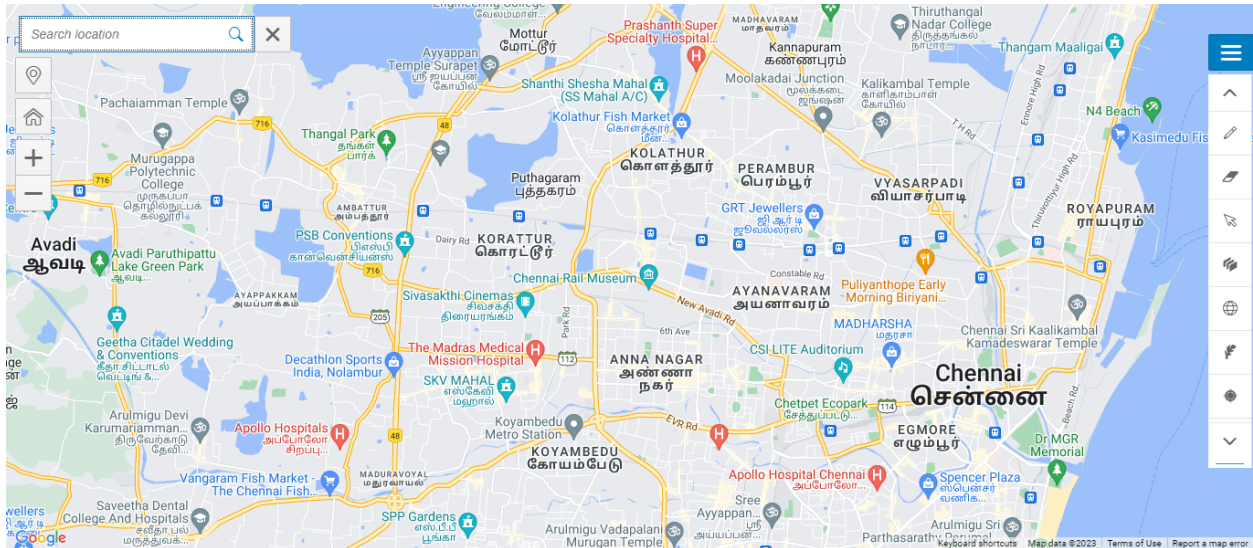
Screenshot:

Fig: Top left-GeoCode widget

Fig: Displaying basemaps panel