ADVANCED TRAFFIC NAVIGATION SYSTEM

A PROJECT REPORT

Submitted by,

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Under the guidance of,

Dr. Manish M Goswami

in partial fulfillment for the award of the degree

of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING

At

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

PRESIDENCY UNIVERSITY

BENGALURU JANUARY 2024

ACKNOWLEDGEMENT

ABSTRACT

In the ever-evolving landscape of urban mobility, the role of navigation systems has become indispensable. This project aims to revolutionize conventional navigation by addressing critical challenges faced by commuters in metropolitan areas. Focusing on the bustling city of Bangalore, the project introduces innovative features to augment existing navigation systems, providing users with a more informed and efficient travel experience.

The proposed enhancements encompass real-time weather integration to alert users about potential waterlogged areas during rainy weather. By leveraging weather data, commuters can proactively plan routes, avoiding congested or hazardous locations and optimizing travel time and fuel consumption. Additionally, the navigation system incorporates data on road conditions, such as potholes and speed breakers, enabling drivers to anticipate and navigate through these obstacles seamlessly.

Furthermore, the project integrates dynamic markers for waterlogged areas based on heavy rainfall, offering real-time information on locations prone to flooding. Users can visualize these markers on an interactive map, facilitating informed decision-making during adverse weather conditions.
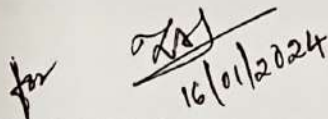
To showcase these features, the project employs Python programming and Google Colab for efficient implementation. Leveraging open-source libraries like Folium, the resulting maps provide a user-friendly interface, empowering commuters with valuable insights for a smoother travel experience.
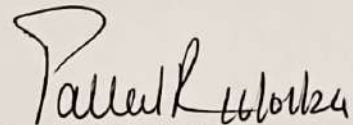
PRESIDENCY UNIVERSITY

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that the Project report **"ADVANCED TRAFFIC NAVIGATION SYSTEM"** being submitted by "HARSHITH KUMAR R, PIYANSHU GUPTA, SHREYAS S" bearing roll number(s) "20201CSE0803, 20201CSE0804, 20201CSE0806" in partial fulfilment of requirement for the award of degree of Bachelor of Technology in Computer Science and Engineering is a bonafide work carried out under my supervision.

16/01/2024

Dr. MANISH M GOSWAMI
Associate Professor
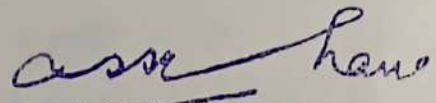School of CSE
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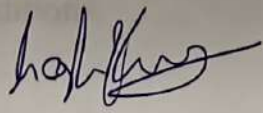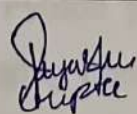School of CSE
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DECLARATION

We hereby declare that the work, which is being presented in the project report entitled **ADVANCED TRAFFIC NAVIGATION SYSTEM** in partial fulfilment for the award of Degree of **Bachelor of Technology** in **Computer Science and Engineering**, is a record of our own investigations carried under the guidance of **Dr. Manish M Goswami, Associate Professor, School of Computer Science and Engineering, Presidency University, Bengaluru.**

We have not submitted the matter presented in this report anywhere for the award of any other Degree.

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