

# **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

First of all, we indebted to the **GOD ALMIGHTY** for giving me an opportunity to excel in our efforts to complete this project on time.

We express our sincere thanks to our respected dean **Dr. Md. Sameeruddin Khan**, School of Computer Science and Engineering, Presidency University for getting us permission to undergo the project.

We record our heartfelt gratitude to our beloved Associate Deans **Dr. Kalaiarasan C** and **Dr. Shakkeera L**, School of Computer Science and Engineering, Presidency University and **Dr. Pallavi R**, Head of the Department, School of Computer Science and Engineering, Presidency University for rendering timely help for the successful completion of this project.

We are greatly indebted to our guide **Dr. Manish M Goswami**, Associate Professor, School of Computer Science and Engineering, Presidency University for his inspirational guidance, and valuable suggestions and for providing us a chance to express our technical capabilities in every respect for the completion of the project work.

We would like to convey our gratitude and heartfelt thanks to the University Project-II Coordinators **Dr. Sanjeev P Kaulgud**, **Dr. Mrutyunjaya MS** and also the department Project Coordinators **Mr. Mohammed Zia Ur Rahman**, **Mr. Peniel John Whistely**.

We thank our family and friends for the strong support and inspiration they have provided us in bringing out this project.

**Harshith Kumar R**

**Piyanshu Gupta**

**Shreyas S**



## 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.

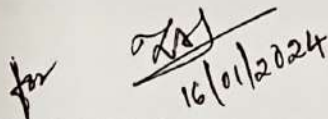
To showcase these features, the project employs Python programming and Google Colab for efficient implementation. Leveraging open-source libraries like Folium, the resulting maps provide a user-friendly interface, empowering commuters with valuable insights for a smoother travel experience.

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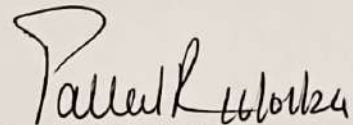
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### CERTIFICATE

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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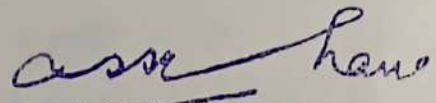
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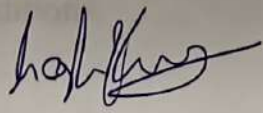
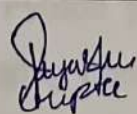
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### DECLARATION

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.

Name	Roll Number	Signature
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