

**STOP THE CRASH**



# **PROBLEM STATEMENT**

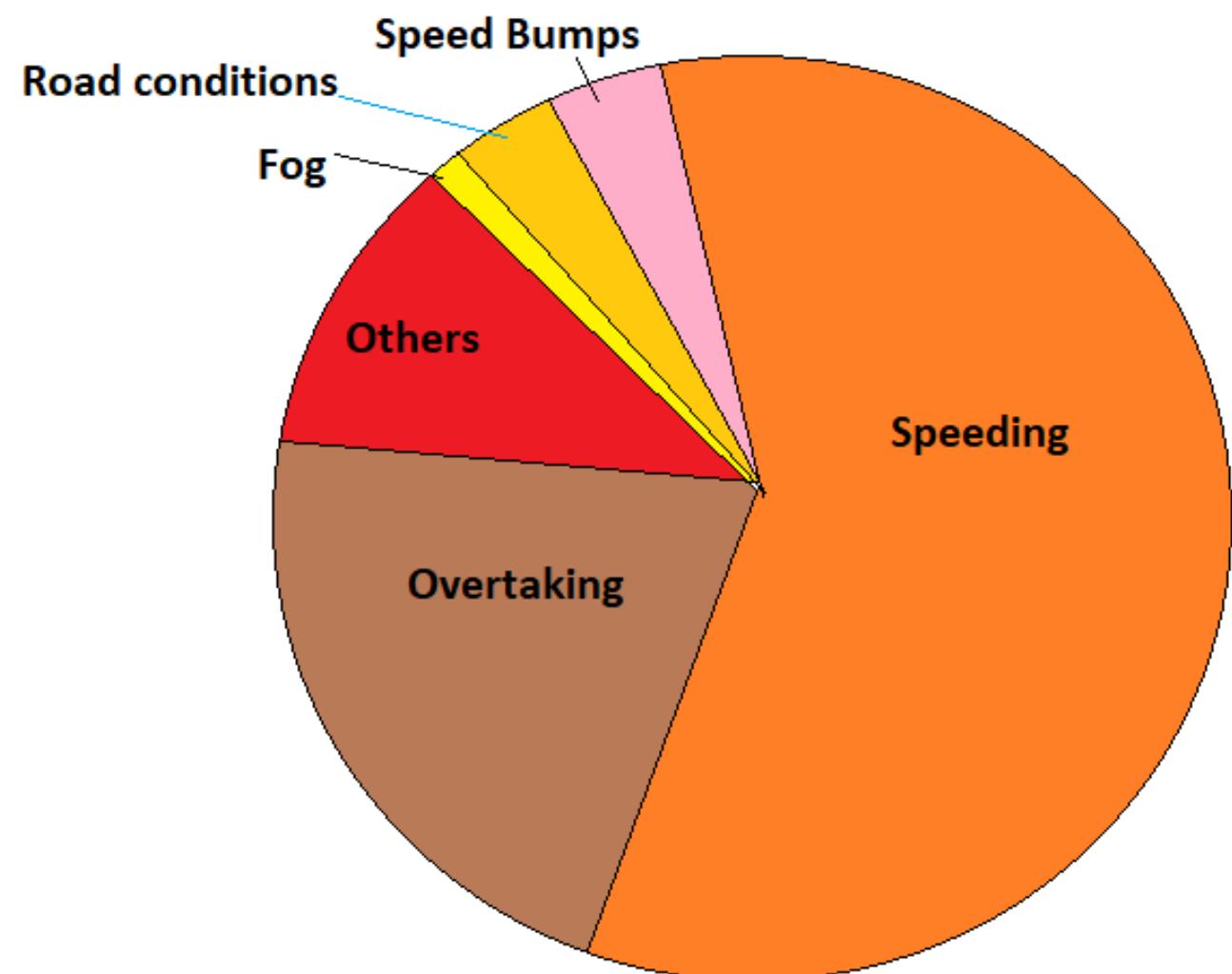
An unmarked speed bump, during night time, is very difficult to be identified, and this kind of speed bump may lead to an accident. Identifying such speed bumps and indicating them using navigation tools shall save lives.

## **Team -Unstoppable Girls**

### **Meet Our Experts**

- **Manpreet Choudhary** (Team Leader/Delhi/ 4th year)
- **Deeksha Sharma** (Backend Developer/Delhi/ 4th year)
- **Kanchan Kardam** (Fronted Developer/Delhi/ 4th year)
- **Gayatri Temgire** (Designer/Pune/ 3th year)

# ACCIDENT RATE CHART



Speeding **60%**  
Overtaking **20%**  
Others **10%**

Fog **2%**  
Road condition **4%**  
Speed Bumps **4%**

- Increased Risk of Rear-End Collisions, Sudden deceleration at speed bumps can catch drivers off guard, leading to rear-end collisions.
- Fog diminishes visibility, making it difficult for drivers to anticipate obstacles and other vehicles on the road.
- Wet or icy roads increase the likelihood of vehicles skidding or losing traction, leading to accidents.
- Potholes and Uneven Pavement, Poor road conditions can cause vehicles to lose stability, impacting control and increasing the risk of accidents.

# SOLUTION

## APPROACH

- Implement intelligent road safety web application.
- Connect Web application to navigation tools.
- Enable real-time alerts for drivers.
- Focus on approaching speed bumps, especially during low visibility and enhance visibility at night.
- Utilize GPS data to enhance route planning with real-time safety considerations.
- Prioritize the detection and notification of approaching speed bumps.
- Dynamically adjust road features, like speed bumps, based on real-time traffic data.
- Implement a system for continuous monitoring and regular updates to ensure the effectiveness of the road safety features.



# RELEVANCE



## PURPOSE

The purpose of the Traffic Control System is to issue real-time alerts regarding Speed bumps and Potholes, effectively mitigating safety risks in the face of growing traffic. By aligning with smart technologies, this system aims to enhance road safety.



## IMPORTANCE

Enhancing road safety not only fosters a smoother driving experience but also cultivates heightened awareness among individuals, collectively fostering a safer environment for all road users.



## BENEFITS

Long-term benefits for environment and society  
Reduces accidents and vehicle damage Promotes resource conservation  
Minimizes environmental impact of frequent repairs.

# WHY OUR PROJECT SHOULD BE CHOSEN ?



**01**

It address a critical safety concern, reducing the risk of accidents caused by unexpected road hazard.

**02**

Reduce the vehicles repairing cost  
Extend lifespan of vehicles.

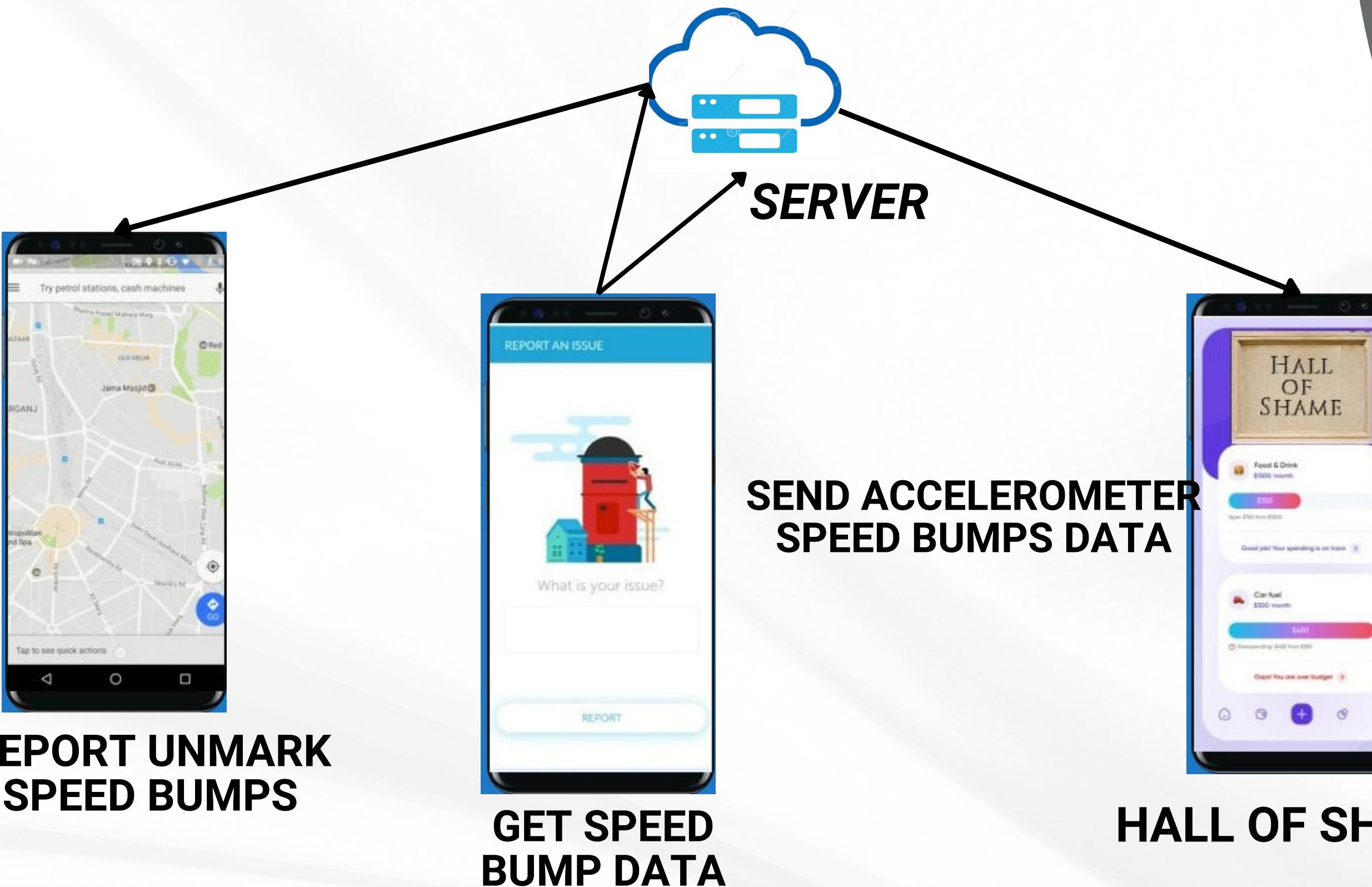
**03**

Smart technology integration enhances customer convenience for a reliable and enjoyable journey.

**04**

Smooth Journey, Ensuring a hassle-free commute by providing timely alerts to navigate around road hazards.

# FLOW CHART



# METHODOLOGY

## Front-End Technologies

To implement a solution for the identified problem statement using HTML, CSS, Bootstrap, and JavaScript for the frontend, we are create a simple web page that provides visual and interactive alerts about upcoming speed bumps.

## Back-End Technologies

The backend uses the googlemaps library to interact with the Google Maps API. This interaction involves sending requests to the API using the API key to obtain information about locations associated with speed bump alerts.

Use of template  
rendering.

# FUTURE SCOPE

Advanced Weather-Adaptive Sensors

Development and integration of advanced sensors capable of detecting road features, including unmarked speed bumps, in low-visibility conditions like fog.

Radar can penetrate fog and provide information about the presence and movement of objects. It is less affected by adverse weather conditions compared to vision-based systems.

Enhancement of vehicle-to-vehicle (v2v) communication to enable cars to share information about road conditions, especially the presence of unmarked speed bumps, in foggy weather.

Embed smart sensors in roads for instant vehicle detection, enabling dynamic adjustment of road features like speed bumps based on real-time data.



The background features two large, semi-circular arcs on the left and right sides, both filled with a dark blue color. Inside these arcs are intricate, light blue network graphs consisting of numerous small white dots connected by thin lines.

**THANK YOU**