1.) Objectives of the Project

To create a system which generates warnings for the forcoming road anomalies when the user is driving on a road. The system will be build to aid the driver and to assist him throughout his journey. It also detects road anomalies using mobile based sensors and stores the data on a remote server. The same server provides support to the driver with the warnings.

2.) Preliminary Investigations done

We have gone through the following papers-

- 6 Mobile Applications to Prevent Distracted Driving Accidents - Automotive Fleet
- International Journal of Advanced Research in Computer Engineering & Technology (IJARCET) Volume 3 Issue 4, April 2014 - Accident Monitoring System using Wireless Application
- Accident Prevention and Security System for Automobiles, Arun Kumar, India
- International Journal of Occupational Safety and Ergonomics (JOSE) 2004, Vol. 10, FAILURE No. 2, 129–136 An Analysis of Accidents Caused by Improper Functioning of Machine Control Systems Marek Dÿwiarek
- ACCIDENT AVOIDANCE AND DETECTION ON HIGHWAYS S.P. Bhumkar 1 , V.V. Deotare 2 , R.V.Babar Sinhgad Institute Of Technology, Lonavala, Pune, India

- Analysis of Fatal Road Traffic Accidents in a Metropolitan City of South India P. Shruthi, V.T. Venkatesh, B. Viswakanth, C. Ramesh, P.L. Sujatha, I. R. Dominic

- Heat Stroke Prevention Technology Study,National Highway Traffic Safety Administration(NHTSA)

- Review of Current Practices in Recording Road Traffic Incident Data: With Specific Reference to Spatial Analysis and Road Policing Policy , Centre for Advanced Spatial Analysis University College London 1 - 19 Torrington Place Gower St London WC1E 7HB

- Effectiveness of ABS and Vehicle Stability Control Systems,Royal Automobile Club of Victoria (RACV) Ltd

- A Review of Accident Modelling Approaches for Complex Socio-Technical Systems Zahid H. Qureshi

- Automatic Speed Control System by the Color Sensor for Automobiles -An Innovative Model Based Approach Sunil R. Kewate 1 , S.V. Karmare 2 , Nehal Sayankar 3 and Siddharth Gavhale 4

- Road traffic accidents L.G. Norman

- Speed-Breaker Early Warning System Mohit Jain, Ajeet Pal Singh JIIT, Noida, India Soshant Bali, Sanjit Kaul IIIT-D, New Delhi, India

3.) S & T Component in the Project

Technology:

- Knowledge of android programming.
- Knowledge of mobile based sensors – usage and data.

- Knowledge of client and server side programming.

Science:

- The analysis of the readings from the accelerometer to categorize a road anomaly.
- Plotting the analyzed data on a google map.

4.) Linkages

Our method highly resembles the work done in - Speed-Breaker Early Warning System Mohit Jain, Ajeet Pal Singh JIIT, Noida, India Soshant Bali, Sanjit Kaul IIIT-D, New Delhi, India.

5.) Other Organizations Working in this Area

- System Proposed by International Journal of Engineering Trends and Technology. Safe driving using android based devices
- System proposed by International Journal of Emerging Technology and Advanced Engine. Pothole Detection System using Machine Learning on Android
- Speed breaker early warning system – IIIT Delhi

6.) Methodology Detailing Stepwise Activities and Sub-Activities

- When the client runs the application, it starts acquiring data from the sensors.

- It stores the data in .csv format and then transmits it to the server when it comes online.
- When the server comes online it sends the user about the data of the anomalies within a fixed radius of the client. It keeps updating the client in a fixed time interval.
- The server stores the data of the .csv file and processes it to label the anomalies. It then forwards this list to the client.
- The GUI of the client marks the anomalies on the google map.
- However it is not yet fixed whether the calculations and analysis will be done on the client side or the server side.