**Abstract:** One of the major problems faced by developing countries is the maintenance of road condition. Road infrastructure for the society is very important because majority of road accidents takes place due to bad condition of road like potholes. Potholes are caused due to poor quality and badly maintained roads. The constant movement of the overweight vehicles like trucks is also responsible for these ill roads. These ill quality roads will cause severe damage to the vehicles in terms of tyre and most important thing is the accidents which are caused due to this. An optimal system should be developed to monitor the road condition and

analyses for future work. We propose an innovative method to prevent these hazards by using the advanced sensor system. The sensors will be attached to vehicles and from vehicles the data’s obtained from sensors and the location obtained by the GPS are transferred to road transport authority by IOT where officials take necessary actions. Using the data’s obtained more damaged area can be prioritized and damage control can be reduced.

Sensor is a device used for detecting and measuring GPS and accelerometers without any input data from the

of physical property and records, indicates or otherwise user. It sends these data’s to the server.A simple in-cloud

response to it. in simple words they are used to detect meta classifier is used to find out if a significant number

events or changes in environment and send it to a data’s from users passing through the same location

controller. there are three types of sensors i) analog ii) determines the pothole or not. The decision of the metadigital

iii) pwm. There are list of different sensors which classifier is stored in the database and published on the

fall under either of these types. website. this method was capable of detecting 90% of the

The **GPS** (Global Positioning System) is a potholes in the road.

"constellation" of approximately 30 well-spaced satellites Dong-Won Jang [1] proposed a new spatio-temporal

that orbit the Earth. It is possible for people to pinpoint saliency that detects the objects coming closer to the

their geographic location. The accuracy is anywhere from vehicle such as potholes using a dash-cam installed in

100 to 10 meters for most equipment. A GPS system works cars. Using directional filtering the saliency of the pothole

by receiving at least three satellite signals to calculate is enhanced. It only reports the presence of potholes but

latitude and longitude and the movements. When GPS not pothole position for repairs.

gets signal from four or more satellite then a 3-D position Sudarshan S. Rode, *et al* [13], proposed a system in

can be viewed ie latitude longitude and altitude

Method: The ultrasonic sensor is used to detect the potholes on road.

It is detected and indicated with voice IC sensor

The LCD display is used that will display the presence of pothole on road.

Voice IC will play the voice for few seconds.

Abstract: Abstract—Theroad irregularities and roughness due to bad maintenance are significant cause for road accidents in India. Road users often feel uncomfortable whenthey drive on rough roads,especially due to potholes. Thispaper presents a pothole detection system using the concepts of IoT. A mobile application “ROAD MODE “isdeveloped that shows details of upcoming potholes so that driver can plan his safety and avoid badroads

It serves as a tool in monitoring issues related to road conditions by using sensor IOT and incorporating data analytics for future work.

ARM Development Board

Zigbee Transmitter and receiver

GPS Module

Vibration Sensor

Accelerometer Sensor

GPS Module will detect the location of map of cracks on road.

Vibration Sensor will sense the pothole.

I.IMPLEMENTATION1.The system consists of a device that is designed by integrating an accelerometer, GPS with help of an Arduino Board. 2.The designed device is attached to the rim of thewheel. The accelerometer can be utilizedto detect dynamic force like vibrations due to its high sensitivity to a very small change too. This method is not only feasible but flexible i.e. can be used in any environment (on any vehicle) just by changing the sensitivity of the device. 3.The overall system is cost effective and highly reliable in terms of accuracy. It forms an intelligent system which operates without any human intervention and reduces reliance on manual methods for maintenance of record and detection. 4.Accelerometer in conjunction with GPS module is an innovative approach to design an efficient system to map all the damaged roads all across the globe. 5.The coordinates, obtained when the vehicle encounters a pothole, is sent to the server that uses an algorithm to classify the pothole based on its severity and stores it in the database.6.These coordinates are used to display the locations and the severity of the potholes on the mapping application.Figure 1: Working of the systemFigure 2: Screenshot of the mapping applicationFigure 3: Screenshot of the mapping applicationFUTUREWORKANDCONCLUSIONThe system provides a two way interface to update and access the data regarding any possible irregularity on the road. This will be an important tool to avoid accidents in the place where the risk of accident or injury is substantial. I