# Humraahi

ROAD MANAGEMENT PORTAL

# AD358

## Product Demo - Team HackForFood

# Project Overview

### Admin Dashboard

- A Business Informatics tool for visual representation of Data
- Schedule and Backlog tracking
- Roadwise interactive data analysis
- Funds and Repair time prediction.
- Single button sync for legacy data

### Civilian Application

- Realtime recording of Smartphone Gyroscope and Accelerometer to identify potential road damages.
- Real Time alerts on existing potholes and ongoing construction
- Manual reporting of road damage

### Inspector Officer App

- Complaint verification and inspection forms
- Fully offline system, ensuring complete functionality in rural areas.
- Interactive tutorials for staff training.

### Solving Data Problems

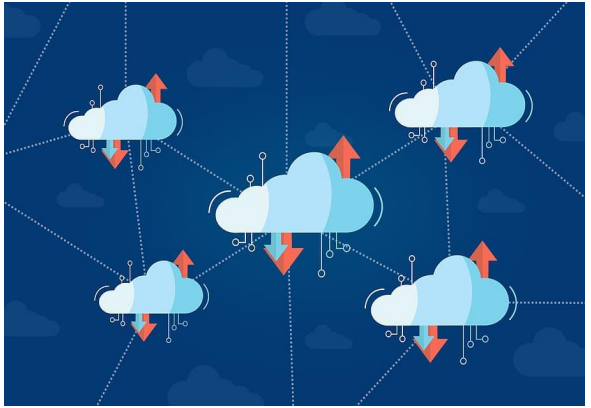
What is analysis without data ?
We aim to solve the core problem in data driven analysis, which is the lack of data and especially collection of data.

# Features

## Road Investigation and Complaints


## Data Insights for Smart Decisions

## Fully Integrated Road Database



# Progress Checkpoints

## Web App

Implemented **Maintenance Portal Home** with some basic features and dummy data.

**Integrated Google Maps to visualise roads** present in the database.

## Android App

Implemented the **civilian application.**

**Capturing gyroscope and accelerometer readings** in the background and pipelining the data to the server.

**Integrated Google Maps for real time visualization**

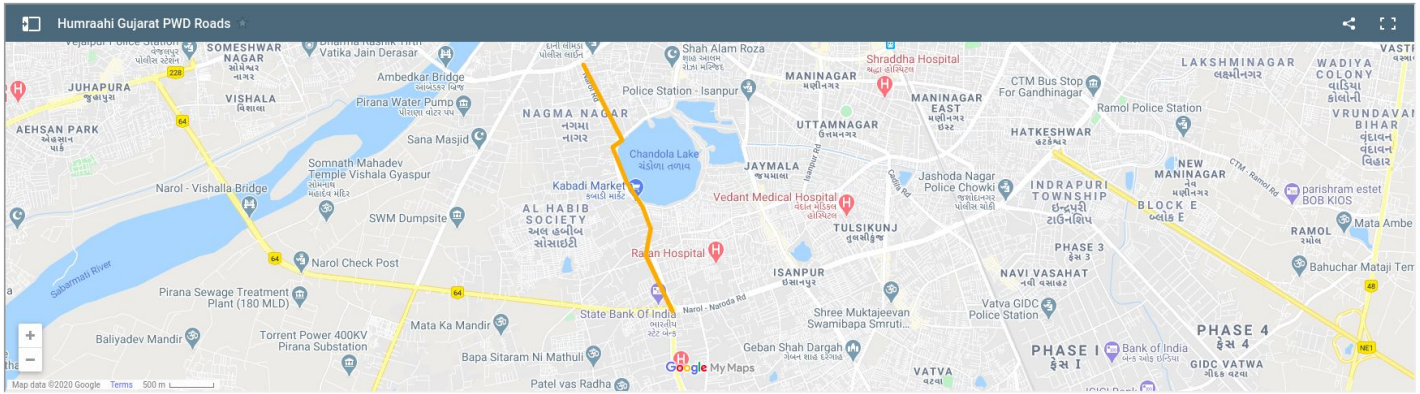
## Classification Model

Deep learning model for **detecting potholes.**

Data collection for **testing model on false positives.**

Humraahi Maintenance Portal Road Library Portal

# Road Archive Portal




## Roads

Search By Road ID | District | Filter Roads

| Road ID | Road Name | District | Defect Type | Constructed On | Status |
|---|---|---|---|---|---|
| SK78 | Raja Mandir, MG Road | Vadodara | Pothole | 23/3/2020 | Not Verified |
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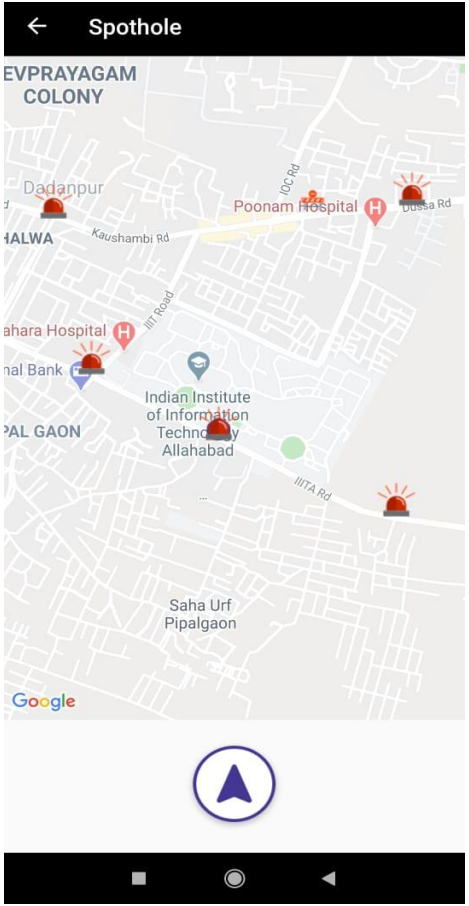
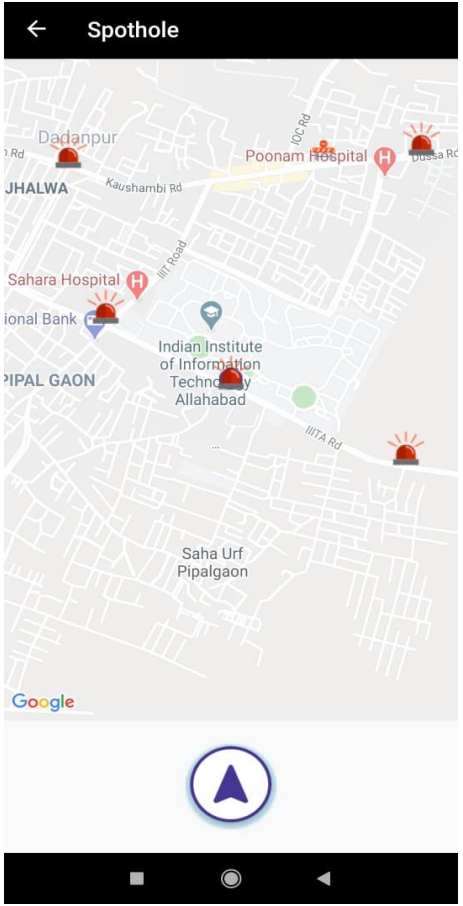
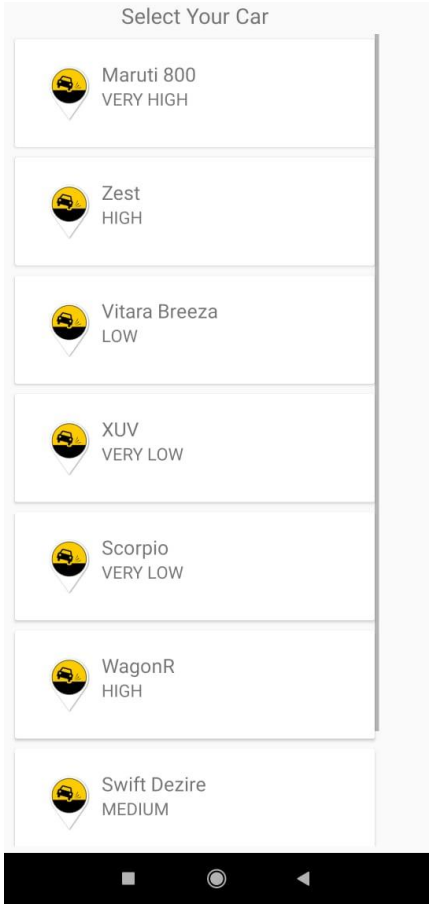
https://humraahi.netlify.app/

WebApp - Road Portal




User Android App

# Challenges

## Automated Damage Reporting

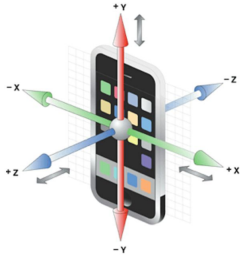
Current: **Lengthy and Manual Process takes months and a lot of clerical work.**

Civilians have **very unreliable means of reporting**

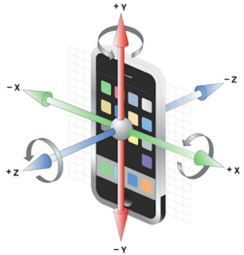
The whole process is **costly** and **time consuming.**

## Dynamic Business Analytics on Data

Current: Data is stored in **excel sheets** and **static databases**. Calculating insights and predictions requires additional work of exporting and analysing data.



Accelerometer



Gyroscope

# Solution

Automated Damage Reporting

**Using Smartphone sensors (Gyrometer, Accelerometer)** and machine learning to detect locations of a pothole in real time.

1. Saves time
2. Free of Cost
3. Improves on its own

# Solution

Dynamic Business Analytics on Live Data

**Our Platform** includes relevant, dynamic business intelligence suggestions which updates automatically when live data comes in.

1. Saves money
2. Learns patterns and suggests better ways to work.
3. Automatic Predictions for upcoming expenditure and repair work.