WCE HACKATHON 2019

THEME: SMART AND SAFE TRANSPORTATION

STATEMENT: EFFECTIVE ACCIDENT DETECTION AND PREVENTION SYSTEM

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Introduction and Problem Statement

- Over 1.25 million people die in road accidents annually.
- The delay in reporting these accidents to nearby organizations is the main reason for these fatalities.
- Hence we propose a system for effective accident detection and prevention.
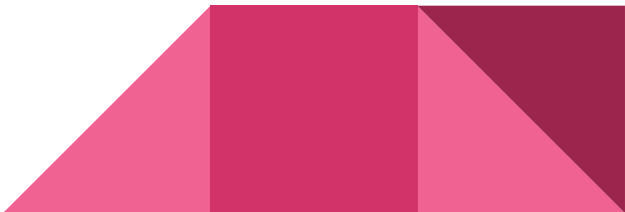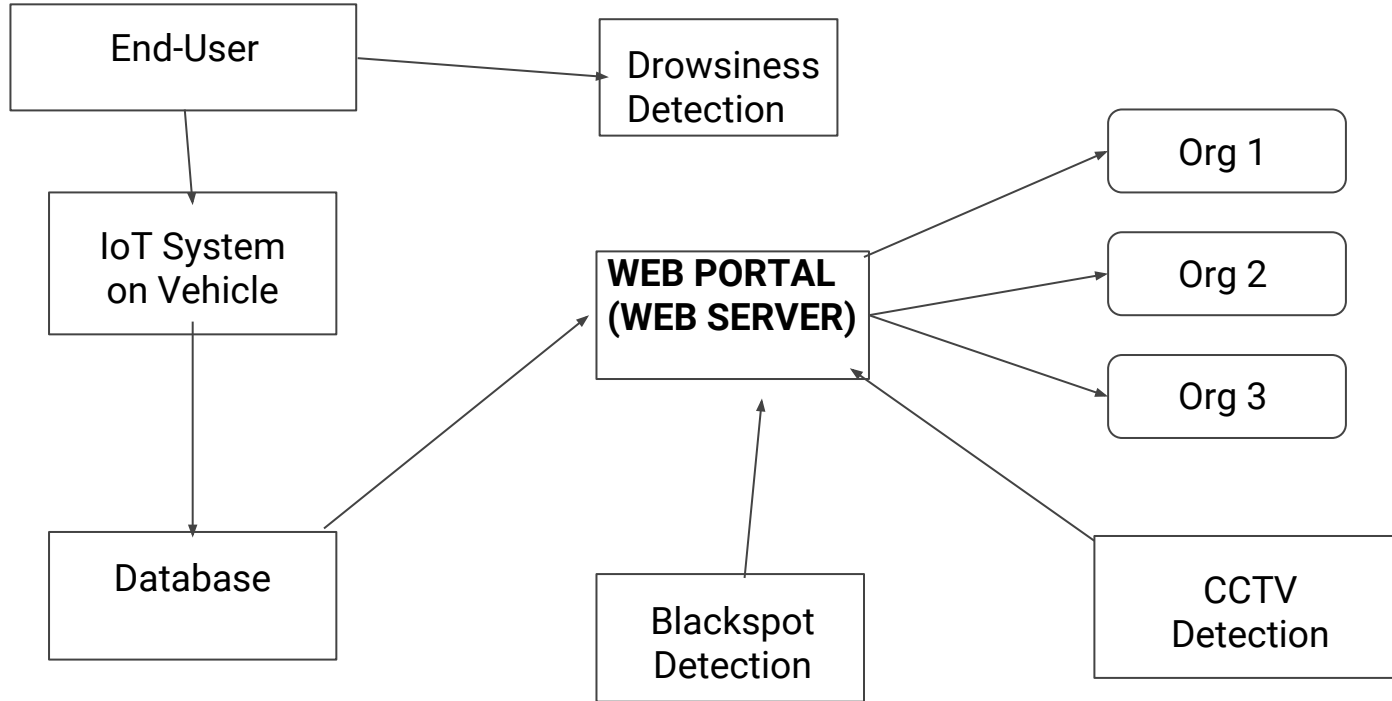
Objectives

- To quickly detect accidents wherever and whenever they occur
- To provide a single window interface for all organizations to get accident reports
- To effectively identify blackspots
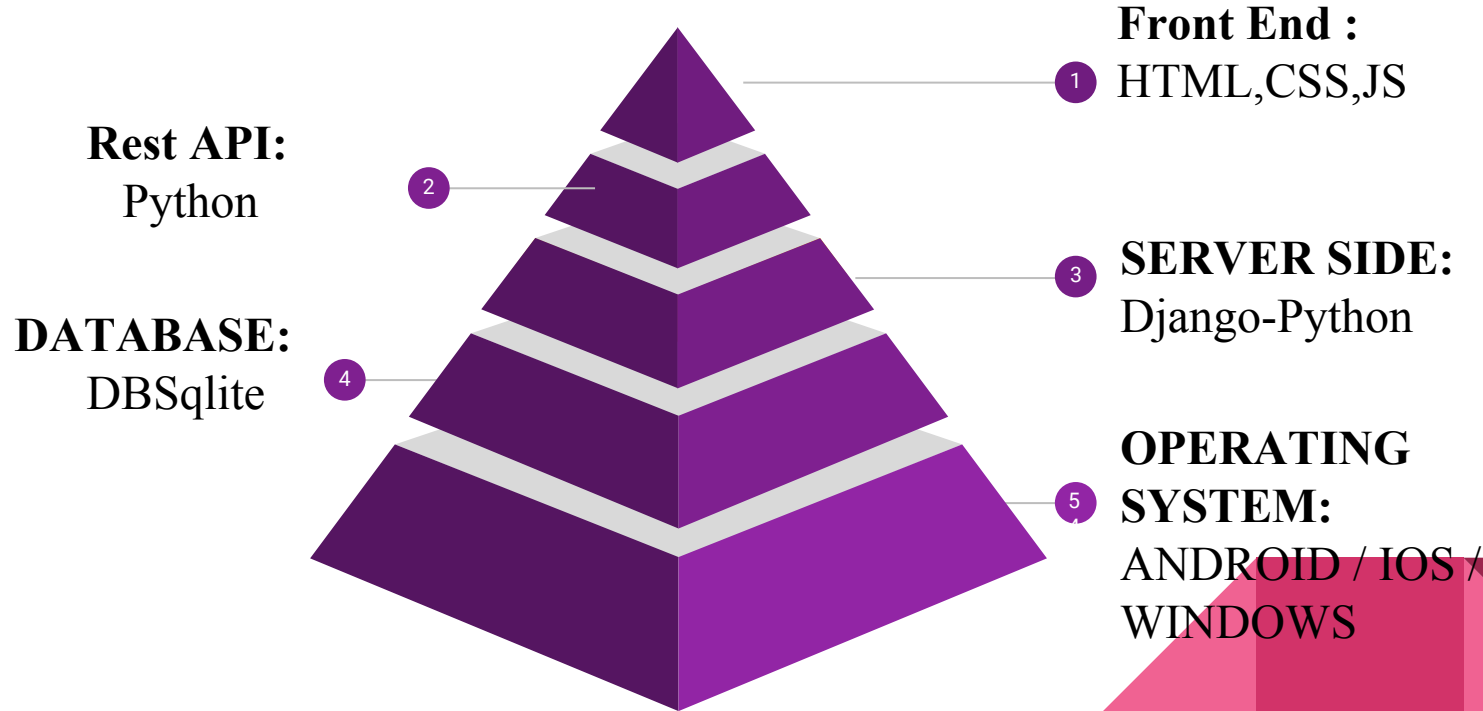- To provide a safe driving environment for the driver

System and Modules

- Web Portal is the main component of the System and integrates various modules.
- The Modules:

    1. Accident Notification using IoT system

    2. Blackspot Detection

    3. CCTV based accident detection

    4. Drowsiness Detection

System Overview

Technology Stack

Front End :
HTML,CSS,JS

Rest API:
Python

SERVER SIDE:
Django-Python

DATABASE:
DBSqlite

OPERATING SYSTEM:
ANDROID / IOS / WINDOWS

Market Fit

- As per our research there is no such quick accident detection system available that alerts to all relevant organisations (Hospitals, Police Stations, NGOs...) through a single window.
- This opens up huge scope for such an integrated solution for accident detection.
- Knowledge of accident-prone areas (Blackspots) needs a lot of data, which our solution provides through its modules.
- Government/NGOs can effectively use such a system for quick accident assistance.

Ways to Improve Further

- Additional Modules that further provide Accident Prevention services can be implemented.
- CCTV based detection could be further improved for better accuracies of detecting accidents and minimizing false positives.
- Web Portal could be improved to also provide access to all users.

Thank You