PROJECT PROPOSAL
A REAL-TIME VEHICLE MONITORING SYSTEM USING SPARK STREAMING

Team number: 23

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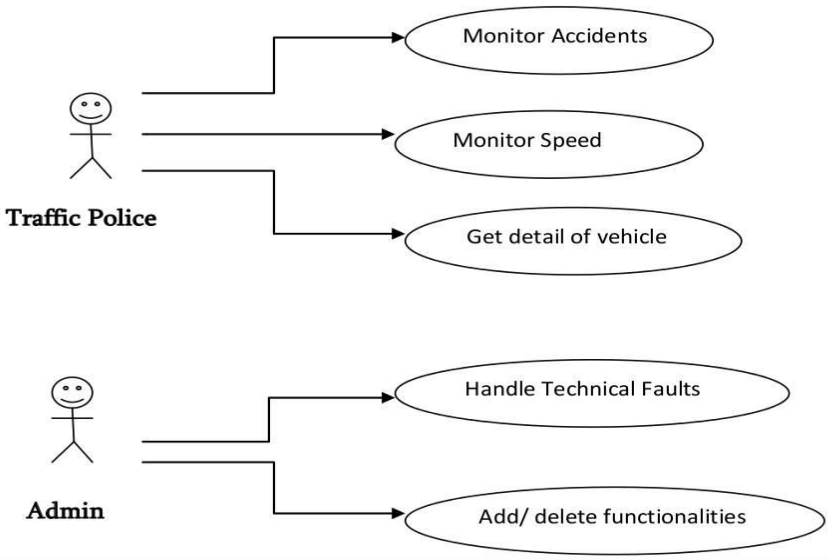
1. Problem Statement
   In this modern, fast moving and insecure world, it is become a basic necessity to be aware of one's safety while driving. It would be nice to have a GPS based real time vehicle monitoring system. This system deals with both tracking vehicle's speed and security during accidents.

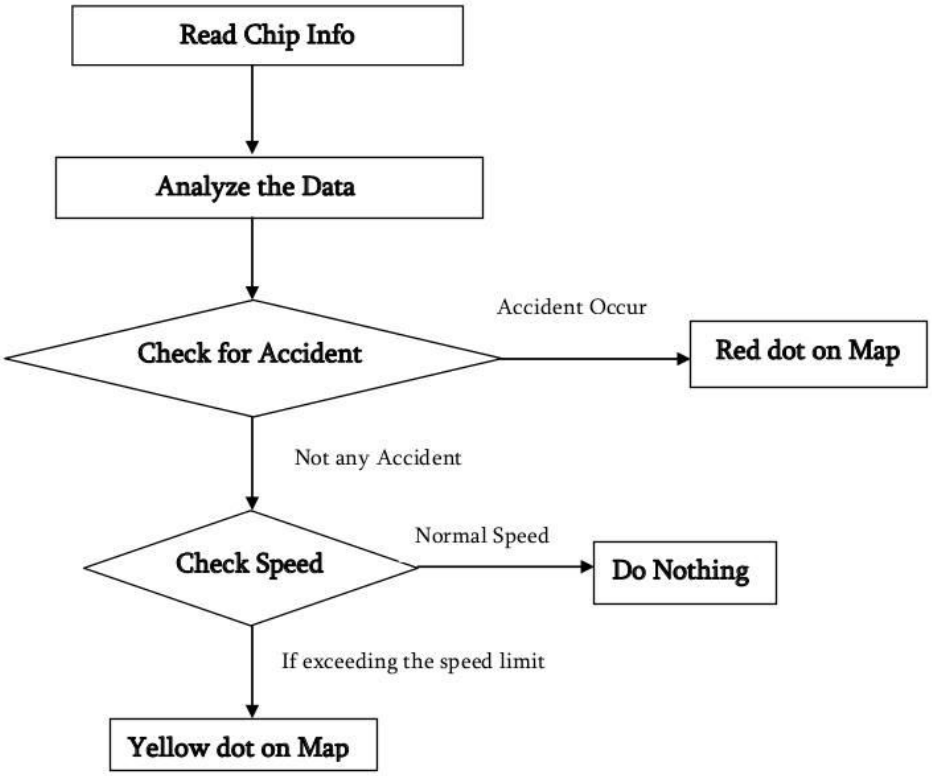
2. Project Description
   We can monitor the vehicles fixing sensors on each vehicle so that the sensor will be continuously sending information about the status of the vehicle to the receiver. And if the accidents occur it will be triggered on the map according to its location which (map) will be constantly monitored by the traffic police. The police can immediately look for a nearby ambulance. In addition we can also monitor the speed of the vehicle and we can warn the driver to slow down the pace of his vehicle. We are using sparks streaming technology for this purpose.

3. Target Users
   - System Administrator who can add or delete functionalities and troubleshoot the system.
   - Traffic police who will be constantly monitoring the system for the alerts whenever vehicles cross speed limits or occurrence of accidents.
   - Hospitals who will be sending the ambulance when alerted.

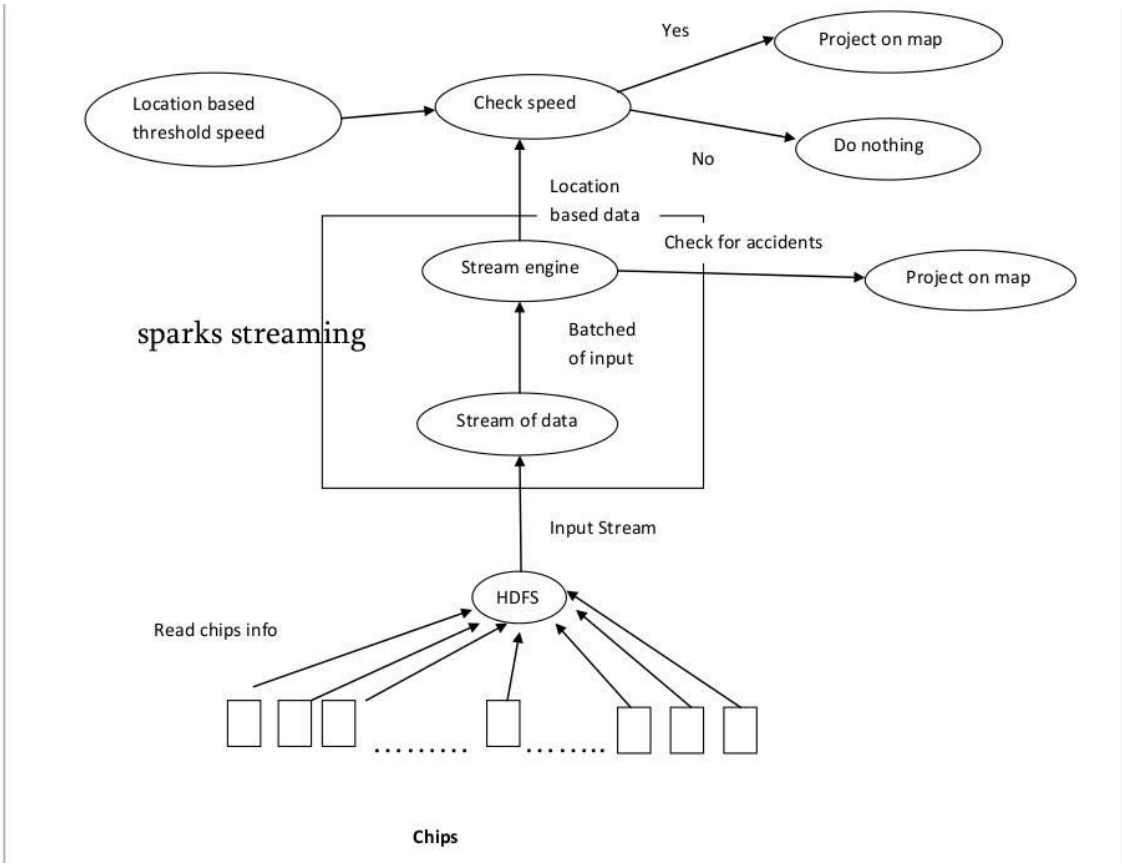
4. Use Cases



5. Block Diagram of the system



6. Detailed Design



7. Technical stack
   Java
   Spark Streaming
   HTML for UI
   Google Maps integration with HTML

8. Minimum expectation from the project
   We will be implementing two major functionalities in the project:
   1. Monitoring the vehicles for accidents
   2. Monitoring the vehicles for their speed limits

   using ‘spark streaming’ to handle the floods of real time input data from the vehicle chips. Here, we assumed that the data obtained from the sensors of every vehicle is available to us.