

# **DRIVER DROWSINESS**

## **(Project Proposal)**

### **Project Code**

<Project code assigned by the Project Office>

### **Project Advisor**

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### **Submission Date**

<11\6\19>

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## 1. Abstract

It is very dangerous for a driver to fall into a momentary drowsiness Road accident all over the world have been a major problem for a very long time. Thousands lose their worthy lives annually because of road accidents. Since drowsiness is a change that occurs with time. People, who work for transportation business (car and truck drivers), must keep a close eye on the road, so they can react to sudden events (e.g. road accidents.) immediately. Long hours of driving causes the driver Drowsiness and, consequently, reduces her/him response time. Therefore, there is a need to develop a system that will detect and notify a driver of her/him Drowsiness condition, which could significantly reduce the number of Drowsiness-related car accidents. One of the technical possibilities to implement such a system is to use vision-based application. With the rapid development of image processing techniques and methods. Car drivers, truck drivers, taxi drivers, etc. should be allowed to use this solution to increase the safety of the passengers, other road users and the goods they carry.

## 2. Background and Justification

Drowsiness detection is not an easy task. It requires taking into account many factors. Using a video system for this purpose can be a good solution. This system would allow for precise detection of a drowsiness in real time. A few systems are available in the market however; they are expensive making them a reserve for a few who can afford the cost of the current vehicles fitted with search technologies. There is hence great need to provide drowsiness detection system that are affordable to the many who are low income earners and also public service vehicles to help address the many accidents associated with drowsiness. We are looking to build mobile app for detect drowsiness with help driver visual movement. The app cost very low because no external device is needed just need to install mobile app and put the mobile on the front of the driver.

## 3. Project Methodology

Project will be implemented in Waterfall model, Work done in steps which are given below

- Search for Algorithm for monitor face movements of driver
- Use Face detection algorithm for real time mobile camera video
- Detect the eyes and mouth from video with algorithm
- Monitor eyes and mouth movement and analysis the result from it
- System alert the driver with result from algorithm

## 4. Project Scope

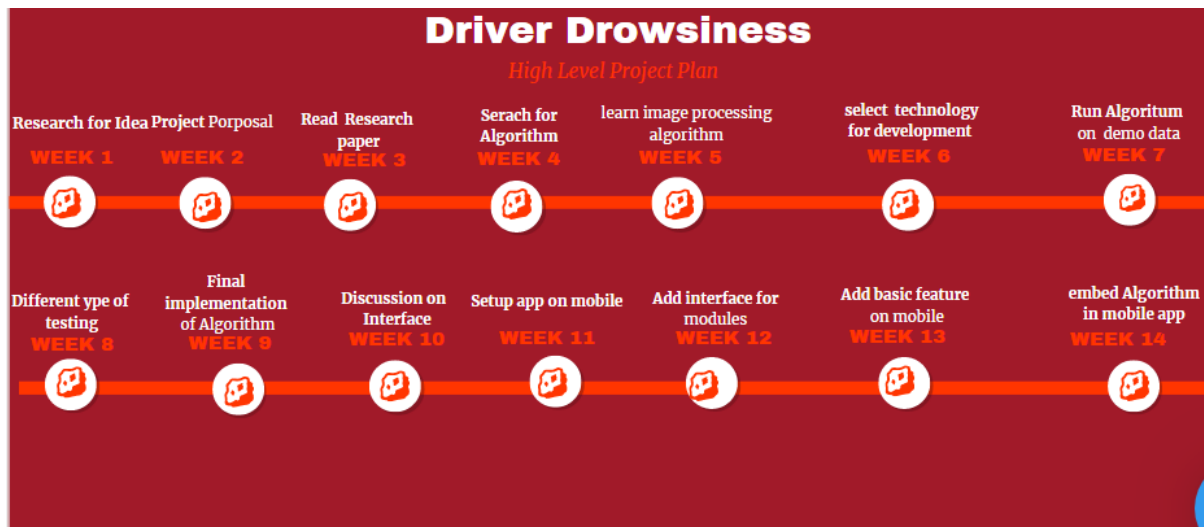
**Functionality system provide**

- To be able to accurately detect a face from an video
- To be able to detect the region of interest in this case the eyes
- To be able to detect the region of interest in this case the mouth
- To accurately classify drivers, expect state of the eye and mouth either closed or open
- To provide a warning to the driver if drowsiness is detected.
- To provide notification to driver, he/she need rest

### Functionality system not provide

- To be not able to detect face if angle is not accurate to mobile camera
- To be not able to detect eyes movement of use black Glass
- To be not able to detect movement if its to much dark inside car

## 5. High level Project Plan



## 6. References

- 1)"[https://www.researchgate.net/publication/319464008\\_Driver\\_Drowsiness\\_Detection\\_Systems](https://www.researchgate.net/publication/319464008_Driver_Drowsiness_Detection_Systems)"
- 2) Online tool use for diagram "<https://infograph.venngage.com/templates/recommended>"