IDEATION PHASE

DEFINED PROBLEM STATEMENT

DATE	06.05.2023
TEAM ID	NM2023TMID14164
PROJECT TITLE	Drowsiness-detection-and-alerting-system
MAXIMUM MARKS	4 MARKS

PROBLEM :

Using of googles will cause distraction on drivers to drive a vehicles? And also using of sensor will be an disadvantage.

SOLUTION:

The system can be made more accurate using various other parameters such as State of the Car, Detecting Foreign Substances on Face

Subjective and incoherent labelling of drowsiness, lack of on road data and inconsistent protocols for data collection

You Can Get Help as Quickly as Possible

They Keep You Safe from Attackers.

Increased Independence.

OUTLINE:

Each year there are thousands of truck accidents, leading to injuries and fatalities, expensive insurance claims and lengthy traffic jams as wreckage is cleared. When a commercial truck is involved in a serious accident, the driver is usually the spotlight. Usually size and weights of trucks requires the driver to be both highly skilled & focused on controlling these multi-ton behemoths. Due to severity of injuries and property damage commercial truck accidents often produce large claim amounts.

One of the most common fault of the truck driver is their failure in checking blind spots, known in the trucking industries as “no zones”, before turning or changing lanes.

They are on the all four sides of the semi, and many accidents happen when the trucker manoeuvres into the spots without carefully checking for clearance first. They are operating a dangerous vehicle, driving the rig defensively is part of truckers’ “expanded duty” to protect us. Other truck driver errors are similar to those that anyone can make, such as not paying attention to surrounding, speeding, not knowing routes, exhaustion and driving under the influence of alcohol or drug This project involves controlling accident and saving driver’s life as well as owner’s problem of compensating every time even if it’s the fault of the driver.

METHODOLOGY:

In This project we design goggle/spectacles in which IR sensors and buzzer are fitted. This entire set up is worn by the driver. The setup consist of many more things such as Arduino UNO, GSM SIM 800 module, 2batteries, two ON/OFF buttons each connect with one battery.

Now what happens here is first battery is connected with microcontroller and the other one is connected with GSM module. This entire setup works in this way, as soon as the driver wears the goggle IR sensors checks weather the eyes are closed or not, if the eyes are not closed then it again checks for it, this loop continues until the eyes are found closed.

AS soon as the eyes are found closed, it again goes for a second check and again if the eyes are found closed then the buzzer is blown and red LED is on and it continues blowing for 1minute and then buzzer and LED will be off. after 1minute. We over here set a condition if the frequency is more than 50 then the driver is not drowsy as soon as it reads frequency less than 50 then the driver is drowsy.

REQUIREMENTS:

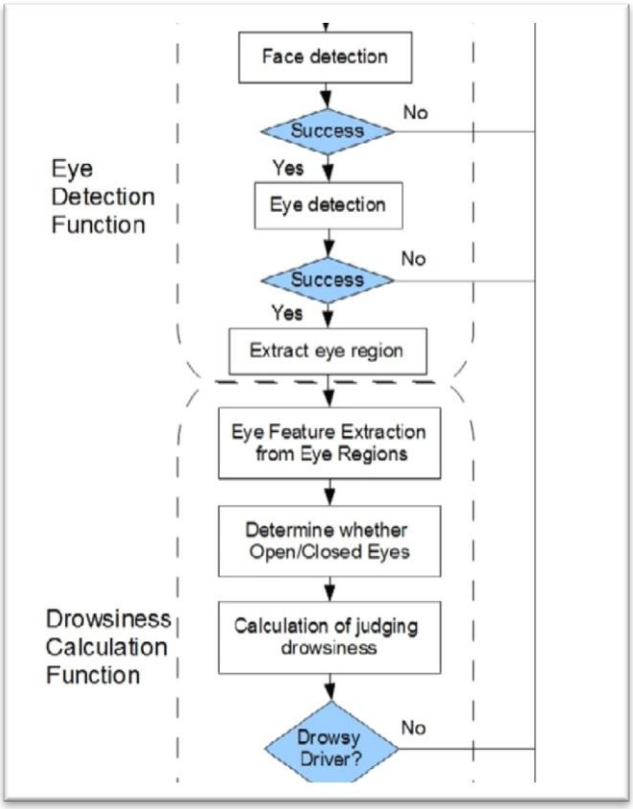
A. Hardware Components

1. Arduino UNO SMD
2. HDMI Cable
3. Adapter
4. GSM Module
5. Android mobile
6. Desktop/Laptop/Tablet
7. IR [Infra -Red]
8. Buzzer
9. Specs

B. Software Requirements

1. Android Programming Software
2. Cross Compiler-Arduino 1.5.5v
3. Compiler Android Studio 1.2v
4. Os Windows 7(32 Bits min)

DATA FLOW DIAGRAM:



CONCLUSION:

Purpose of our project is to help solving real life problem in very cost effect way. It alerts the truck driver as well as the owner of the company. Whenever the driver feels drowsy and closes his eyes for more than a second, the buzzer is blown. As a result, it alerts the driver. It also warns the owner of the truck driver by sending him text messages.

As a result the accident ratio decreases. Hence, our project if commercially developed will help in saving the precious life of truck driver & money of the owner.