

IDEATION PHASE

EMPATHIZE AND DISCOVER

DATE	14.05.2023
TEAM ID	NM2023TMID14164
PROJECT TITLE	DROWSINESS DETECTION AND ALERTING SYSTEM
MAXIMUM MARKS	4 MARKS

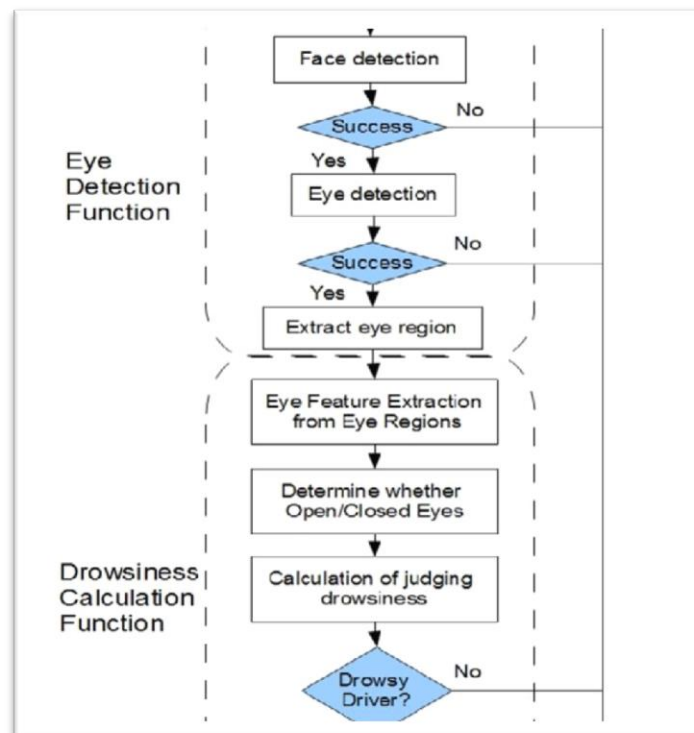
EMPATHY MAP CANVAS:

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.

EMPATHY BLOCK DIAGRAM :

THIS WILL EXPLAIN THE SIMPLE BLOCK DIAGRAM OF THE PROJECT;

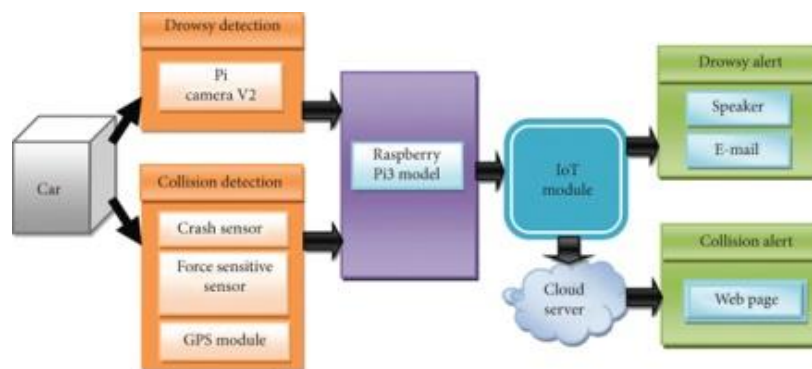


DISCOVER:

When the Pi camera model V2 is successfully integrated with Raspberry Pi3, it continuously records each movement of the driver's face. This proposed work specially focuses on behavioral measures of the driver with severity measurement of

collision in following sections. The EAR is accurately calculated due to the use of Raspberry Pi3 model B and Pi camera modules to make a persistent recording of face landmarks that are localized through facial landmark points. But the Raspberry Pi3 model B and Pi camera modules are securely processed due to the operating system of the controller and predictable secure shell (SSH) keys. The use of SSH host keys provides secure network communications and helps to prevent unauthorized communications or file transfers. The IoT-based application is being developed through the integration of some IoT modules like wireless sensors, GPS tracker, Pi camera, and smart code for detecting drowsiness of the driver. So the above modules are properly integrated with the Raspberry Pi controller module that intelligently controls and smartly warns a drowsy driver

The Successful integration of IoT modules is robustly used to prevent the cause of mishaps and also warns the drowsy driver to avoid careless driving. The Internet of Things (IoT) is helping to manage various real-time complexities like handling complex sensing environments and also provides a very flexible platform to control multiple connectivities.



drowsy detection to drowsy alert