CREYA IGNITED MINDS CHALLENGE 2017

IDEA Document

SCHOOL NAME :

PARTICIPANT STUDENT NAME 1 & Grade :

PARTICIPANT STUDENT NAME 2 & Grade :

PARTICIPANT STUDENT NAME 3 & Grade :

SUBMITTED ON:

Provide details of the real world problem that the students want to solve

Quite a few highway traffic accidents are caused all over the world due to driver fatigue and drowsiness. We want to create a system that will prevent accidents that happen when the driver falls asleep while driving or is not paying attention to the road.

Who are the people impacted by the problem and what is their need ?

All people who regularly drive four wheelers over long distances and over long periods of time.

These people need a system or device or application that will alert them if they are in danger of nodding off or if they are not paying attention to the road in front.

What is the high level solution that the students have come up with for this problem?

We want to build a device that lets out an alarm whenever the driver is in danger of sleeping or is not paying attention to the road in front. The device may be mounted on the dashboard or may a pair of special glasses. The device will consist of sensors that monitor the pupils of the drivers eyes. The sensors are triggered when the eyes are closed for longer than a defined period of time. The sensors are also triggered when the eyes are diverted from the front for longer than a defined period of time. When the sensors are triggered, an alarm rings out from the car's sound system.

What are the tools or materials that the students need to create the solution (please note that these include the Creya engineering and digital media manipulatives, as well as any other tools or materials that the students would like to use for the solution)?

Creya Engineering Constructibles
Creya Robotics Constructibles or Intel Galileo Arduino development board with infrared sensors.