IOT Based Emergency Health Monitoring System For Smart Cars

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Abstract

Our objective to provide a solution to reduce the road accidents. Our idea to develop an emergency kit based on IOT to be attached in the car. This kit includes medical sensors measure temperature degree and impulse heart so that if it exceeds a certain limits can led to a loss in the concentration or consciousness for the driver. Then the car reduces the speed gradually till it stops. Simultaneously, there will be a mobile application connected to the system which sends a message to 3 people chosen before by him includes the car location and the driver physical conditions. Also, there will be a camera to detect if the driver sleep the alarm system will work and if the driver lost his consciousness, the car will reduce the speed gradually till it stops. and the mobile APP will also sends a message to 3 people chosen before by him includes the car location and the driver physical conditions.

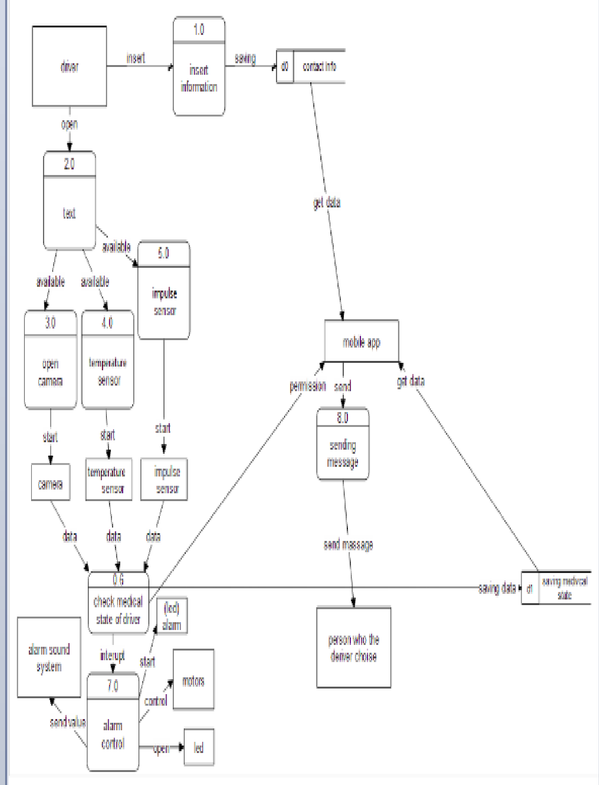
Our next step, to provide the car with a camera to detect the driver mode. If the driver mood is bad or angry, the car controls the speed or plays a music to improve his mood. In this approach, we aim to provide a solution for one of the most important problems in Egypt based on IOT technology.

Objective

In this approach, we aim to save people lives through reducing car accidents which is considered one of the most important problems based on IOT technology.

This is one sample of car accidents which led to death. One of the most important reasons is the driver's psychological and clinical conditions. For example, the driver may have pressure or heart attack, etc. And injury to these diseases causes the driver to lose his concentration or lose consciousness suddenly, so that he is unable to control the steering wheel and thus lead to these accidents as you see in the picture.

Methods



Data flow diagram(level 0)

References

1. Opencv.org
2. developer.android.com
3. python.org
4. arduino.cc

Expectation Results

The Car will Make Some Actions To Save The driver's life. Our Expectation Results is that the car will reduce the speed gradually till it stops and a message with the location of the car and physical conditions of the driver will be sent through a mobile application connected to the system to three people chosen before by the driver to hurry up and saving him, it all happens when the sensors record abnormal readings of impulse heart and temperature of the driver. Also, there will be an alarm which work when the driver sleep during driving.

This picture shows the driver's tired condition during driving.

This picture shows that the driver sleep while driving so an alarm will work to alert him.

This picture shows how important the system is to protect the driver and save his life if he gets tired or lost his consciousness suddenly and there is no one with him during driving.

Conclusions

Our idea to develop an emergency kit based on IOT to be attached in the car. There will be sensors like impulse heart and temperature degree sensor included in this kit .Through it, we can save driver's life who suffer from pressure or is prone to a heart attack during driving. Once the sensors picks up an abnormal readings, the system and the mobile application which attached to the system will make some actions . The car will reduce the speed gradually till it stops. The mobile app will sent a message to three people chosen before by the driver with his location and physical condition. Thus we will save the life of the driver.

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