Emergency Heart rate system

Project main goal and outcome:

Our main goal in this project is to deliver a system that can check the driver's heart rate condition and take action depending on that condition. When the measurement is normal, the driver continues driving the car. However, when it is not normal autonomous driving will take action to prevent any further damage to the driver or anything/anyone surrounding him.

Product Features:

1. A system to sense the driver's heart rate and display it on TFT screen (Optional: Deliver the system as a wrist watch).

2. When the heart rate measurement exceeds a specified range (<60 or >100), alarm audio will start playing. In this case there are two modes:

   a) In normal mode (when the driver can stop the alarm), the driver continues driving.

   b) In emergency mode (when the driver can't stop the alarm), autonomous driving will control the car until it parks and e-mail messages will be sent to family members.

3. The autonomous driving system can be updated over the air add the feature of waiting status of the car (adding 2 LEDs to indicate that state) (Optional).

Required hardware:

1) Heart rate system (heart rate sensor, Bluetooth module, TFT Screen, ARM MCU, battery)

2) Main Control system (Raspberrypi MCU + Pushbutton Switch+ Sound Buzzer Speaker + GPRs with GPS antenna, sim)

3) Car system (ARM MCU, Bluetooth, 4 ultrasonic sensor, 4 DC Motors, 4 wheels, batteries)

Project budget:

1800

Delivery date:

24/2/2023