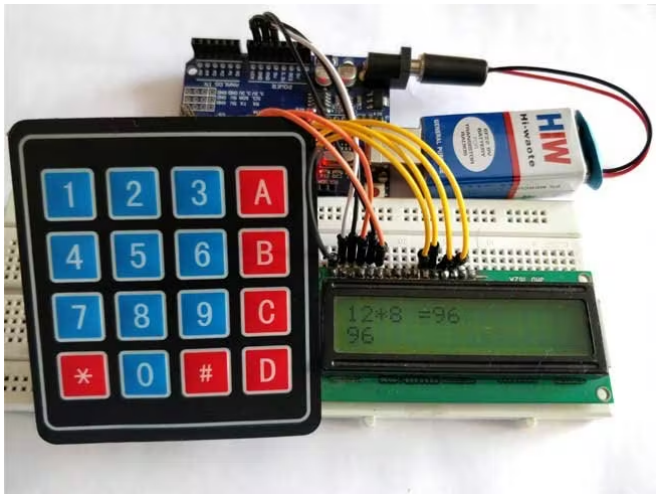
Team 2
ECE 411
10/12/22 Week 3

- Photoresistor Car
    - Sensor: Photoresistor,
    - Actuator: Motor/s
    - Processor: Arduino
    - Links: https://www.sciencebuddies.org/science-fair-projects/project-ideas/Robotics_p022/robotics/light-following-robot?from=YouTube
      https://www.instructables.com/Photoresistor-Sensor-With-Arduino-Uno-R3/

A car that will react to a light; driving towards the souce with the help of a couple of photoresistors. There would be 4 motors and an Arduino to power it. However, this would be a little difficult to power as the Arduino can only provide up to 5V.
We desire to do this project as one of our group members mentioned that his brother attempted a similar project during his time in college. With a good foundation brought by that experience, we think this specific take would be attractive yet challenging. The idea of building a car, in itself, is a very fun thing that we think we would find a lot of enjoyment in.

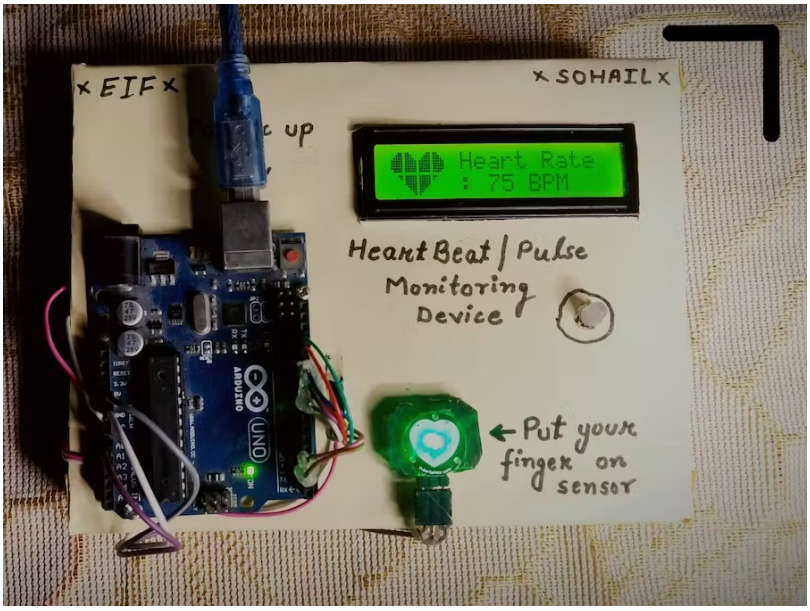
- Calculator (This is what we will go with)
    - Sensor: Key/number pad
    - Actuator: LCD,
    - Processor: Arduino
    - Links: https://unimplementedtrap.com/sb116-programmers-calculator
      Arduino Calculator - Arduino Project Hub

This is a traditional calculator with a keypad that allows user input and an LED screen showing the appropriate output. Basic operations would be our first goal but our stretch goal would be to incorporate memory, integrals, and other ways to incorporate complex calculations.
We are very intrigued to see how many features we could add to this. Is it as easy as it seems? As we explore the Arduino library, we want to see how much we can incorporate our own unique spin on a tool that many use on a daily basis.



- Heartbeat sensor
    - Sensor: Pulse sensor, potentiometer
    - Actuator: LCD, LED
    - Processor: Arduino
    - Links: [Heartbeat Sensor using Arduino (Heart Rate Monitor) (electronicshub.org)](https://create.arduino.cc/projecthub/Ingeimaks/diy-heart-rate-sensor-a96e89)
      https://create.arduino.cc/projecthub/Ingeimaks/diy-heart-rate-sensor-a96e89
      [Heart Beat Monitoring Device - Arduino Project Hub]

This device will have a pulse sensor that the user will place their finger on to monitor their heartbeat. The LCD will then display BPM of their heart rate with accuracy. There will be an LED that will turn on, signaling it is reading user input.
This seems to be a very increasing yet difficult project. When researching ideas, we noticed how many people attempt this but there were varying levels of success. There were a lot of issues with accuracy. We are curious to see how accurate we could get this device.


×EIF×
×SOHAIL×
Heart Rate
: 75 BPM
Heart Beat / Pulse
Monitoring
Device
← Put your
finger on
sensor