Measure your Pulse at Home

- **University:** Helwan University
- **Faculty:** Computer Science and Artificial Intelligence
- **Department:** Medical Informatics
- **Course name:** Bio analysis
- **Team members:**

Name: Amira Taha Ahmed **ID:** 20208045

Name: Renad Ahmed Mohamed **ID:** 20208122

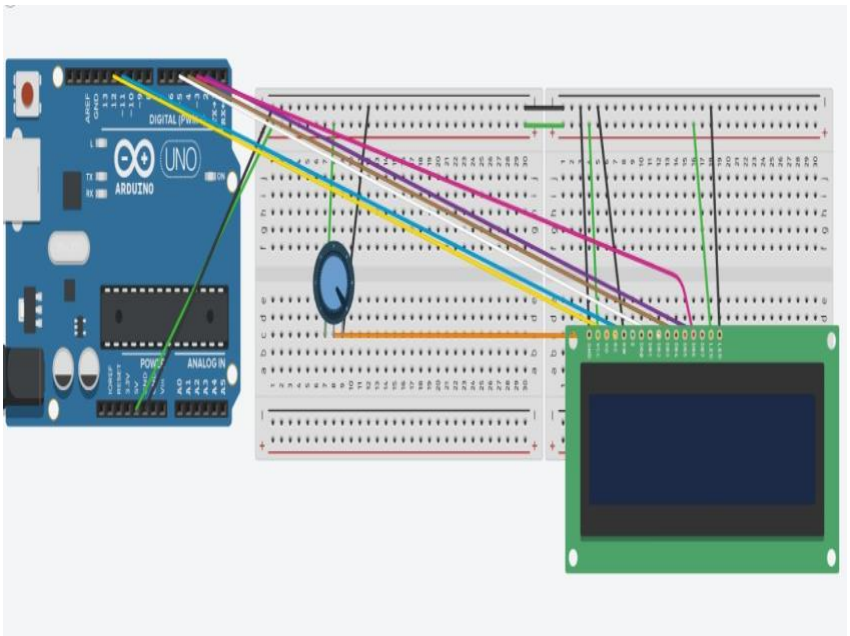
The Goal of the Project

Heartbeat Sensor is an electronic device that is used to measure the heart rate.

Components required to make this project are:

1. Arduino UNO
2. Arduino UNO Cable
3. LCD
4. Jumper Wire (M to M)
5. 10k Potentiometer
6. Breadboard
7. Heart pulse sensor

Schematic:



```
File  Edit  Sketch  Tools  Help
heartsensorwith_lcd

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);
   double alpha=0.75;
   int period=20;
   double refresh=0.0;

void setup(void)
{
   pinMode(A0,INPUT);
   lcd.begin(16,2);

   lcd.clear();
   lcd.setCursor(0,0);
}

void loop(void)
{
   static double oldValue=0;
   static double oldrefresh=0;

   int beat=analogRead(A0);

   double value=alpha*oldValue+(0-alpha)*beat;
   refresh=value-oldValue;


   lcd.setCursor(0,0);
   lcd.print(" YOUR PULSE IS: ");
   lcd.setCursor(0,1);
   lcd.print("          ");
   lcd.setCursor(0,1);
   lcd.print(beat/10);
   oldValue=value;
   oldrefresh=refresh;
   delay(period*10);


}
Done uploading
```