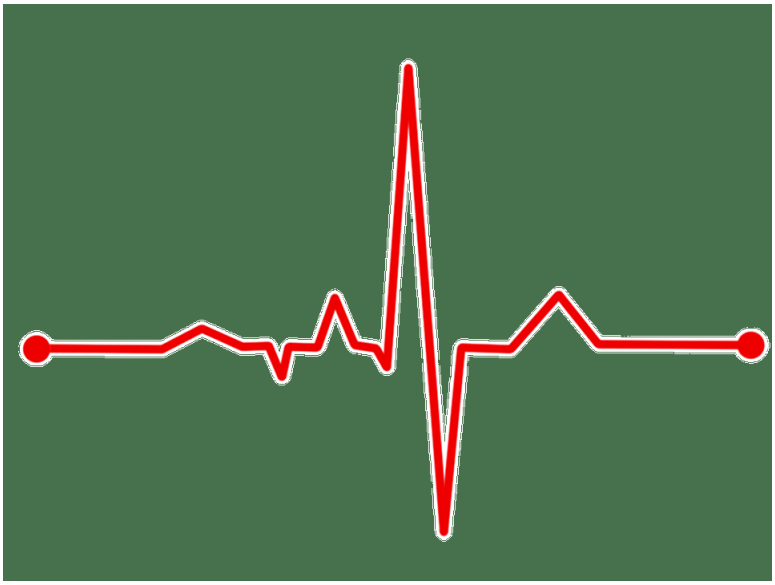
Your Heartbeat Soon Be Your Only Password:

Chaque personne a une activité cardiaque unique:

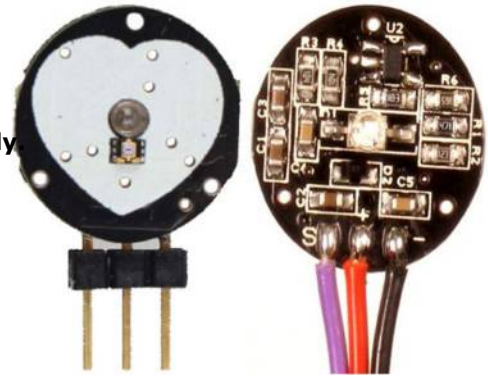
la forme,la taille, la position et le rythme du cœur sont autant de données qui varient selon les individus. Par conséquent, le cœur constitue l'un des systèmes d'authentification les plus sécurisés



Material Required:
The following are the components required to build your own, patient monitoring system using Raspberry Pi.

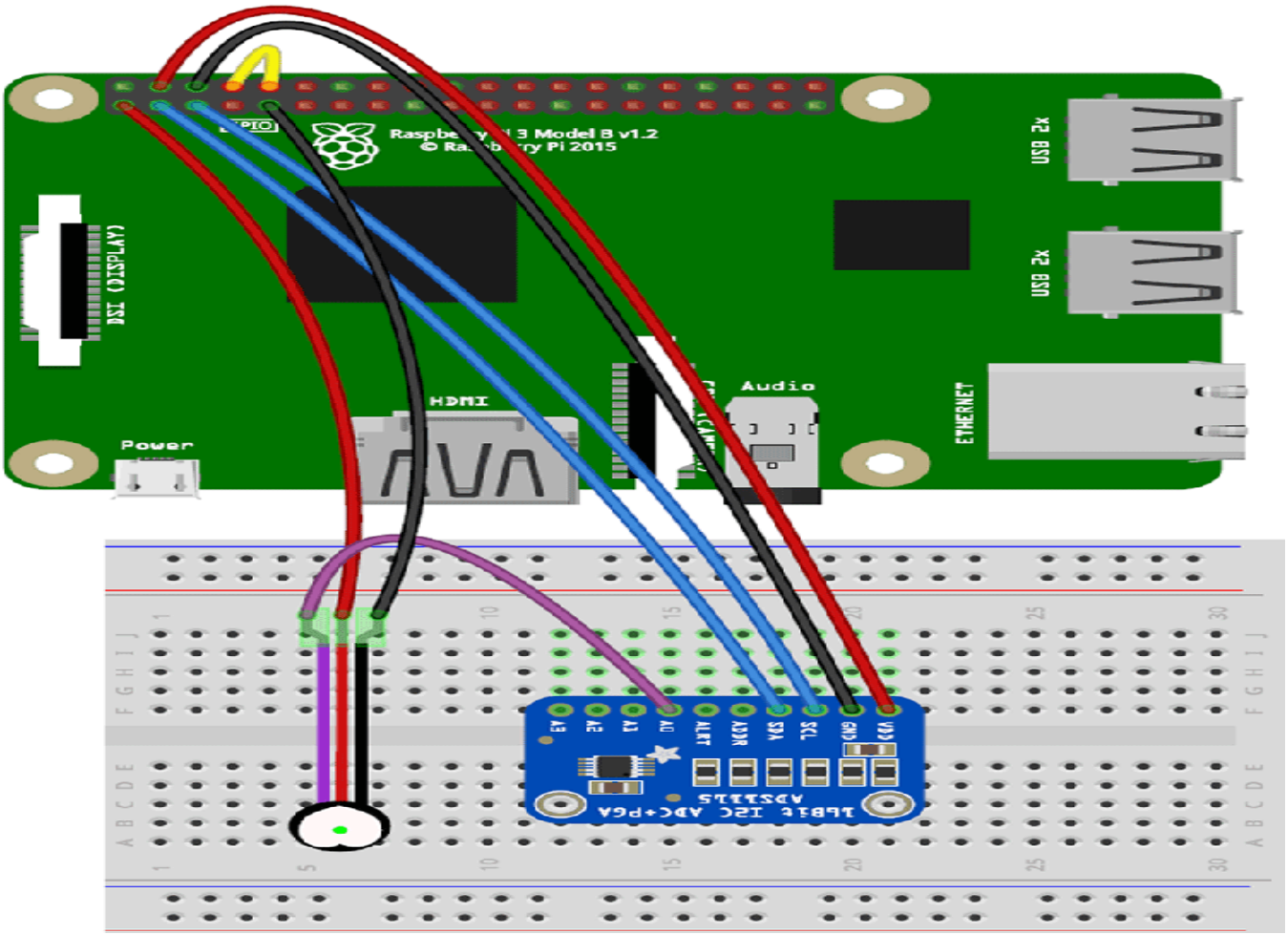
Raspberry Pi
Pulse Sensor
ADS1115 ADC module
Jumper wire
Power supply or power bank

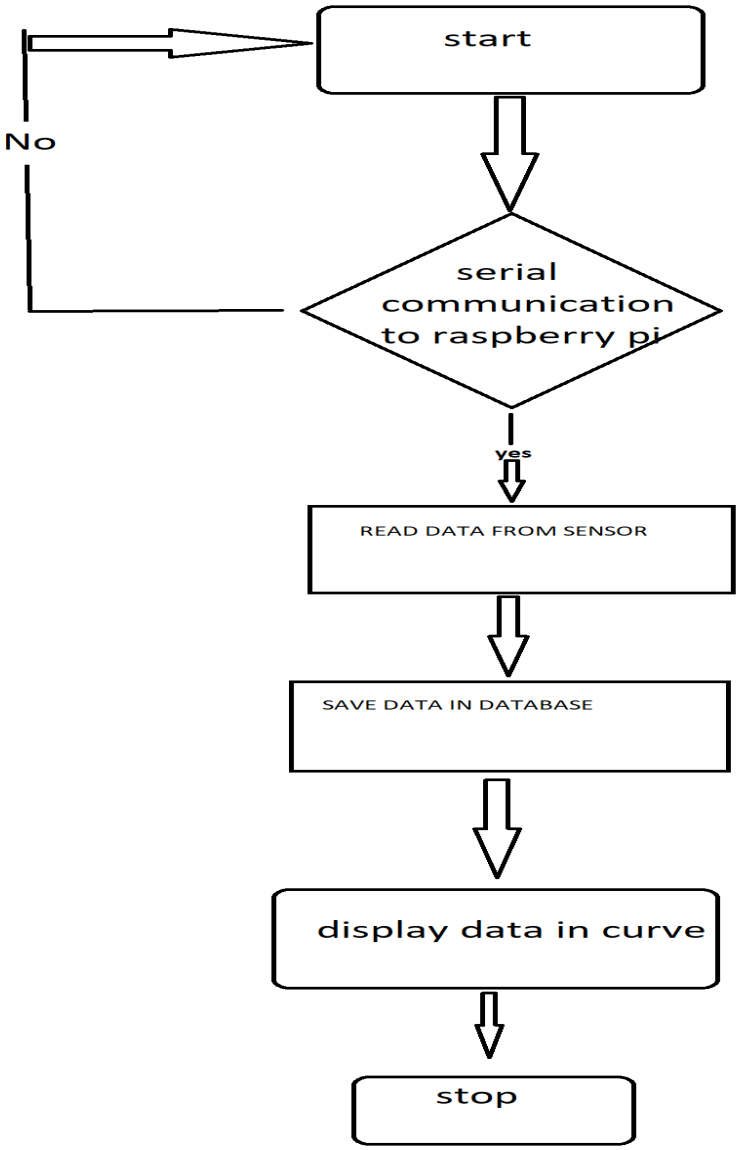
Pulse Rate Sensor:
Before we get into the actual project let's take a look at how the Pulse Rate sensor works.
The working of the Pulse/Heart beat sensor is very simple. The sensor has two sides,
on one side the LED is placed along with an ambient light sensor and on the other side
we have some circuitry. This circuitry is responsible for the amplification and noise cancellation work
. The LED on the front side of the sensor is placed over a vein in our human body. This can either be your Finger tip or you ear tips, but it should be placed directly on top of a vein.



Now the LED emits light which will fall on the vein directly. The veins will have blood flow inside them o
nly when the heart is pumping, so if we monitor the flow of blood we can monitor the heart beats as
well. If the flow of blood is detected then the ambient light sensor will pick up more light since they will be reflect ted by the blood, this minor change in received light is analyzed over time to determine our heart beats. In this project the pulse sensor works as a heartbeat sensor for Raspberry Pi.

Circuit Diagram:




start
No
serial
communication
to raspberry pi
yes
READ DATA FROM SENSOR
SAVE DATA IN DATABASE
display data in curve
stop