Kitchen Automation

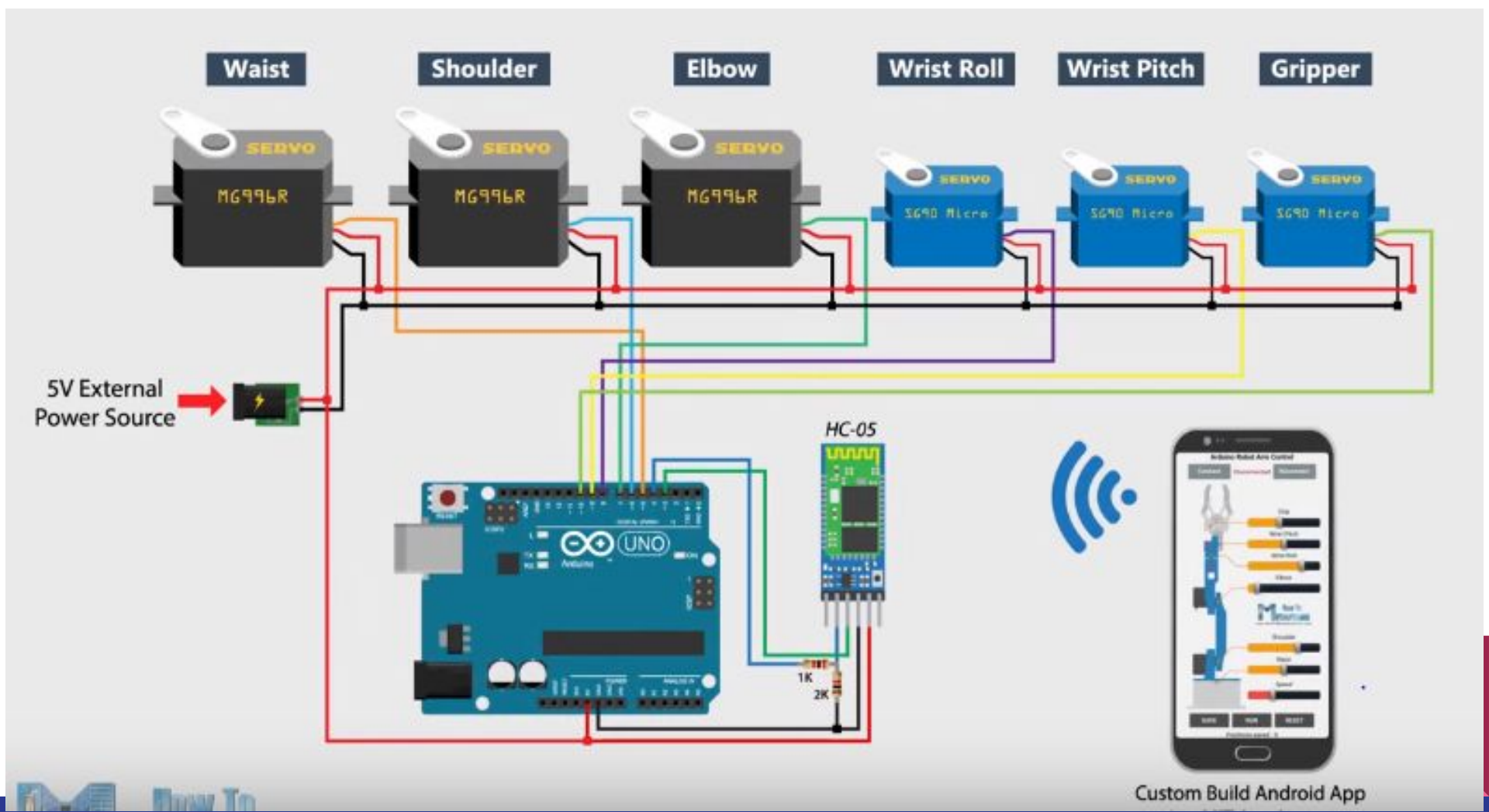
Group Members

1. Sailee Angane
2. Rajat Bopalkar
3. Arafaat Chaudhary

Project Guide

Prof. Jaya Gupta

3D Model of the robotic arm.


Waist
Shoulder
Elbow
Wrist Roll
Wrist Pitch
Gripper
SERVO
MG996R
MG996R
MG996R
SERVO
SG90 Micro
SERVO
SG90 Micro
SERVO
SG90 Micro
5V External
Power Source
HC-05
UNO
1K
2K
Custom Build Android App

Major hardware parts required for the arm.

1. Servo Motors.
2. Robotic arm spare parts.
3. Node MCU, Bluetooth/WiFi & an user device.

Servo Motors

1. Robotic arm has 5 degrees of freedom, achieved by using 6 Servo motors.
2. 3 main motors at Elbow, waist and shoulder while other 3 on the wrist as shown in the 3D model.
3. A servo motor consists of a DC motor, a gear system, and a position sensor.
4. The positions sensor feeds the info about the position of the shaft to the control circuit.
5. DC supply required : 4.8V to 6V.

Robotic arm.

1. 3D printed parts of a robotic arm will be assembled as shown in the model.
2. This Robotic arm has 5 degrees of freedom.
3. This arm after assembly and connections, will be configured with an software application for controlling the movements.

Node MCU, BT/WiFi & user device.

1. All the connections of servo motors will be controlled by Node MCU.
2. Node MCU will be receiving control signals from user device from an software application.
3. This interface between an user device and Node MCU will be managed by Bluetooth or an WiFi connection.