

# SMART VENTILATION SYSTEM

---

## GROUP MEMBERS

Nadeem Raza

R Harsh

Ritik Raj Soni

Suraj Kumar Yadav

Suryansh Baloch

# Introduction

---

- Cooking is a vital part of our lives, though practiced commonly all throughout the world, has its own share of risks.
- One of which is smoke, a recurrent, inevitable side effect of cooking, and other, LPG gas, a fuel used widely across the world, but a very flammable and dangerous entity when in abundance.
- Both of which are trivially easy to manage using better ventilation.
- Our project is aimed at automating this system to its fullest extent, so as to minimize human effort in such situations.



# MATERIALS REQUIRED

---

- Servo Motors
- 9V Batteries (X3)
- MQ-2 Gas and Smoke sensor
- ESP8266 Wi-Fi Module
- Wires
- Breadboard
- 3D – Printed Parts

# MOTIVATION

---

- In this age of automation, the main aim of the tech now is to minimize as much human effort as possible, and also to ensure maximum safety for every individual.
- There is a significant loss of human life from gas cylinder bursts across India, some alert and an automated initiation of ventilation can help prevent such accidents.
- There is also a convenience motive to help a person automatically open their windows by a click of a button.

# WORKING

---

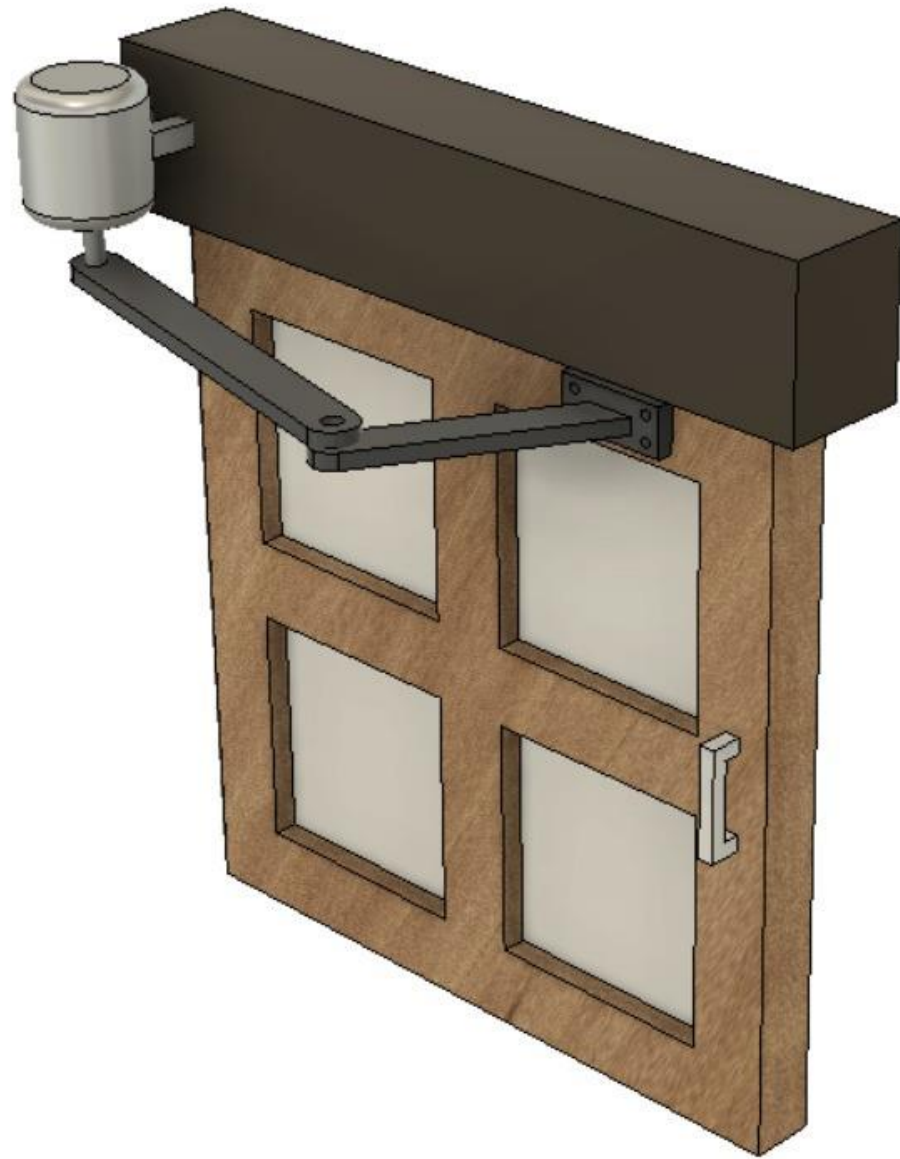
- Detection of Smoke/Flammable Gas by the MQ - 2 gas sensor, which outputs a signal to the Wi-Fi module ESP8266.
- The Wi-Fi module then processes the signal and sends appropriate command to the servo motor.
- This servo motor then actuates and using the connected linkages opens the window without human interference.

## Extras:

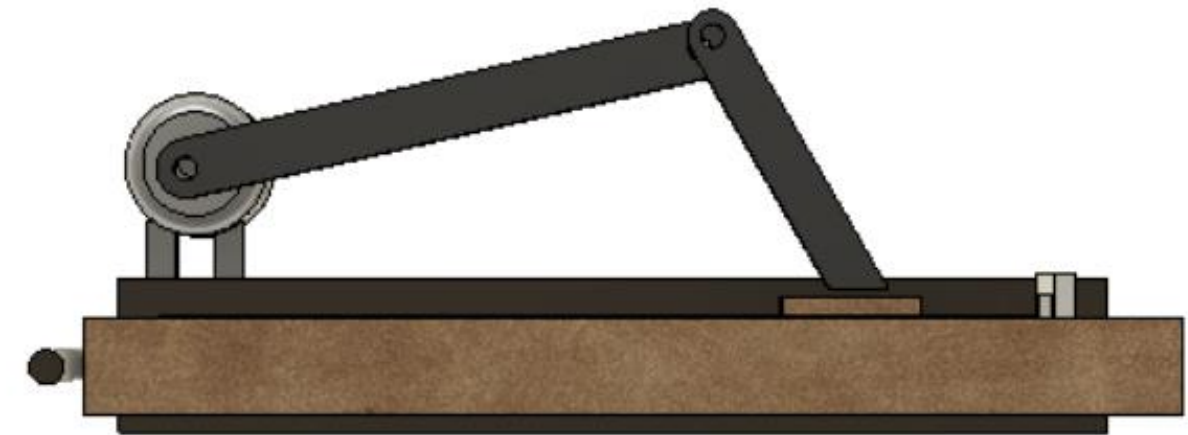
- Using Smartphone, we can send signal to the Wi-Fi module to then open/close the window without human effort.

# Proposed Mechanical Links

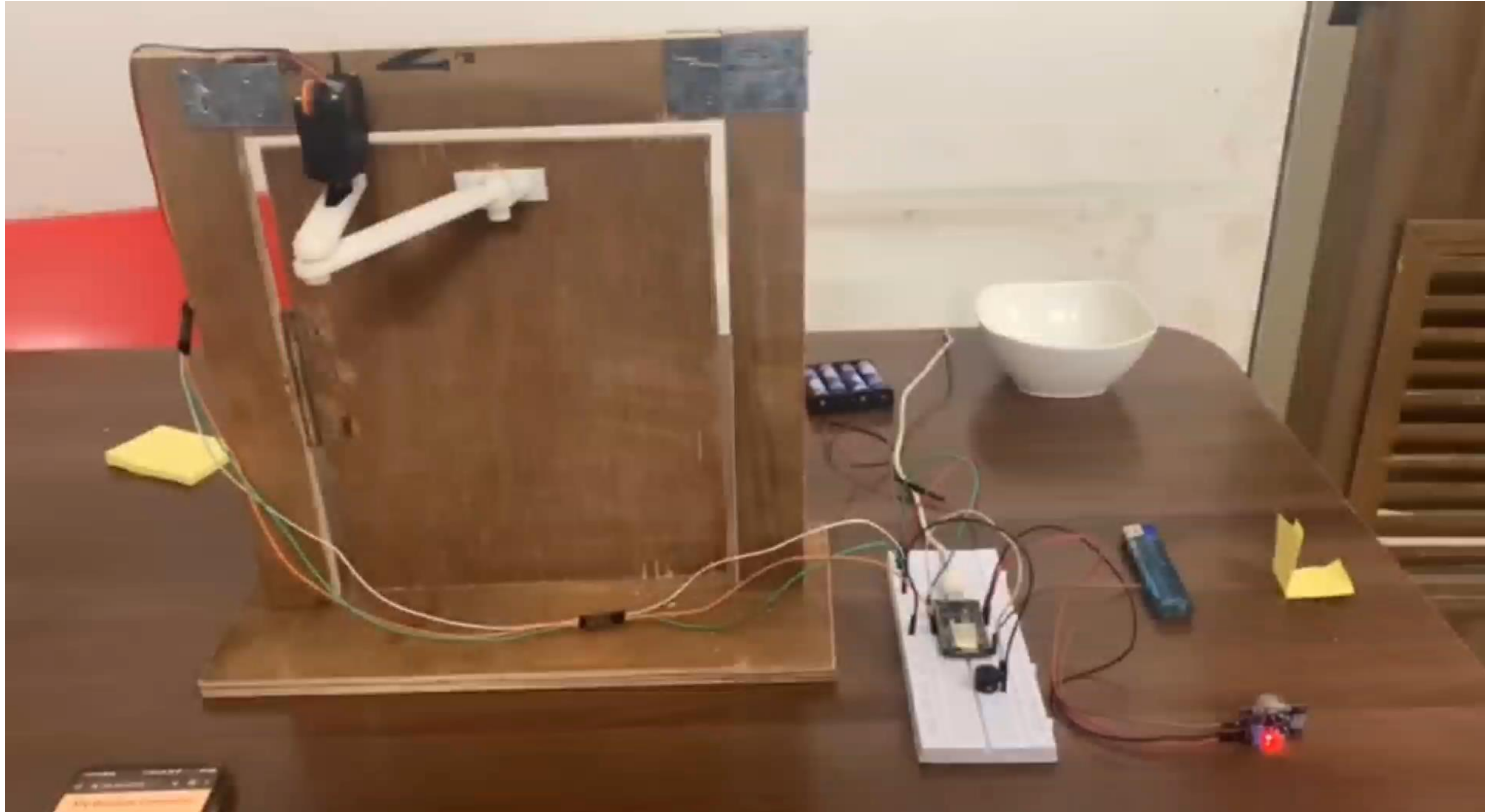
---



Isometric View

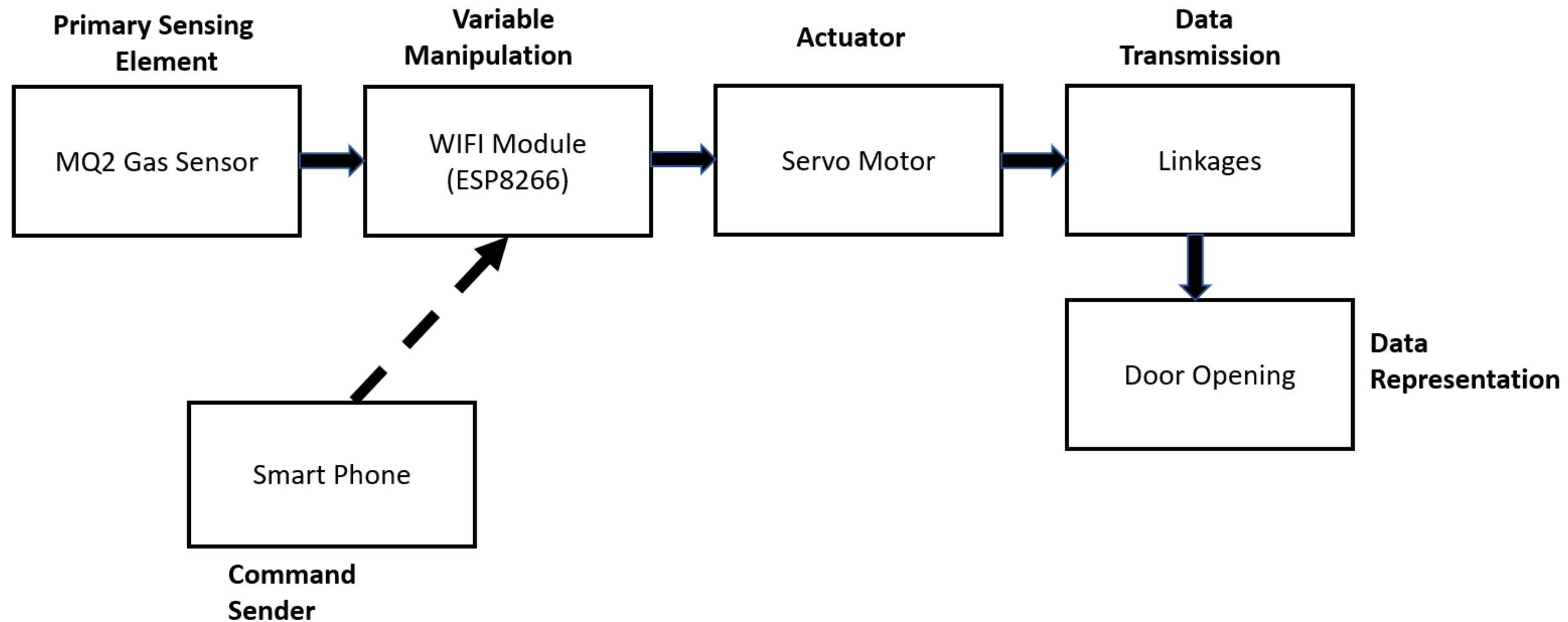


Bottom View





# BLOCK DIAGRAM





\_\_\_\_\_



# CONCLUSION

---

- Though this is a very atypical situation of a gas leakage, one leakage puts you at a risk of possible death.
- Hence, this is a very useful device, which we hope can prevent a lot of accidents in the coming future
- It also helps you in reducing human efforts using just a button to send out a signal and automatically open/close the windows as per your preference.

## Thank You