# SMART GAS

# FLOW

# DETECTOR

*Presented by*

TEAM GAC

TEAM CODE – TI 03

# Team Members

V S Chris


George Antony


Adithya Bharath Shah

# Outline

- Problem

- Solution

- Flowchart

- Components

# Problem statement

- Piped natural gas is soon to takeover the Indian kitchens and will replace LPG in the coming years.

- For this system to run efficiently it requires ample technical support combined with standardized flow measurements for cost cutting.

- If the system is not monitored it can result into serious consequences, since it involves highly flammable gases running through pipelines.

# OUR SOLUTION

- A device which measures the flow rate of piped natural gas in the households.

- This device also detects leakage of gas.

- The device can be operated or monitored via an exclusive V-guard app for the same.

- The app informs the user is there is any leakage in the system and helps in keeping track of the cost.

# Working

- The gas entering through the supply pipeline enters the product through the inlet nozzle .

- Ultrasonic flow meter in the product measures the gas flowing through the pipe inside the product.

- The MQ2 sensors detect the leakage if occurs.

- The data from the components are sent via NodeMcu to the App provided with the product.

- The gas exit through the exit nozzle to the destination(e.g. gas stove).

# Flowchart
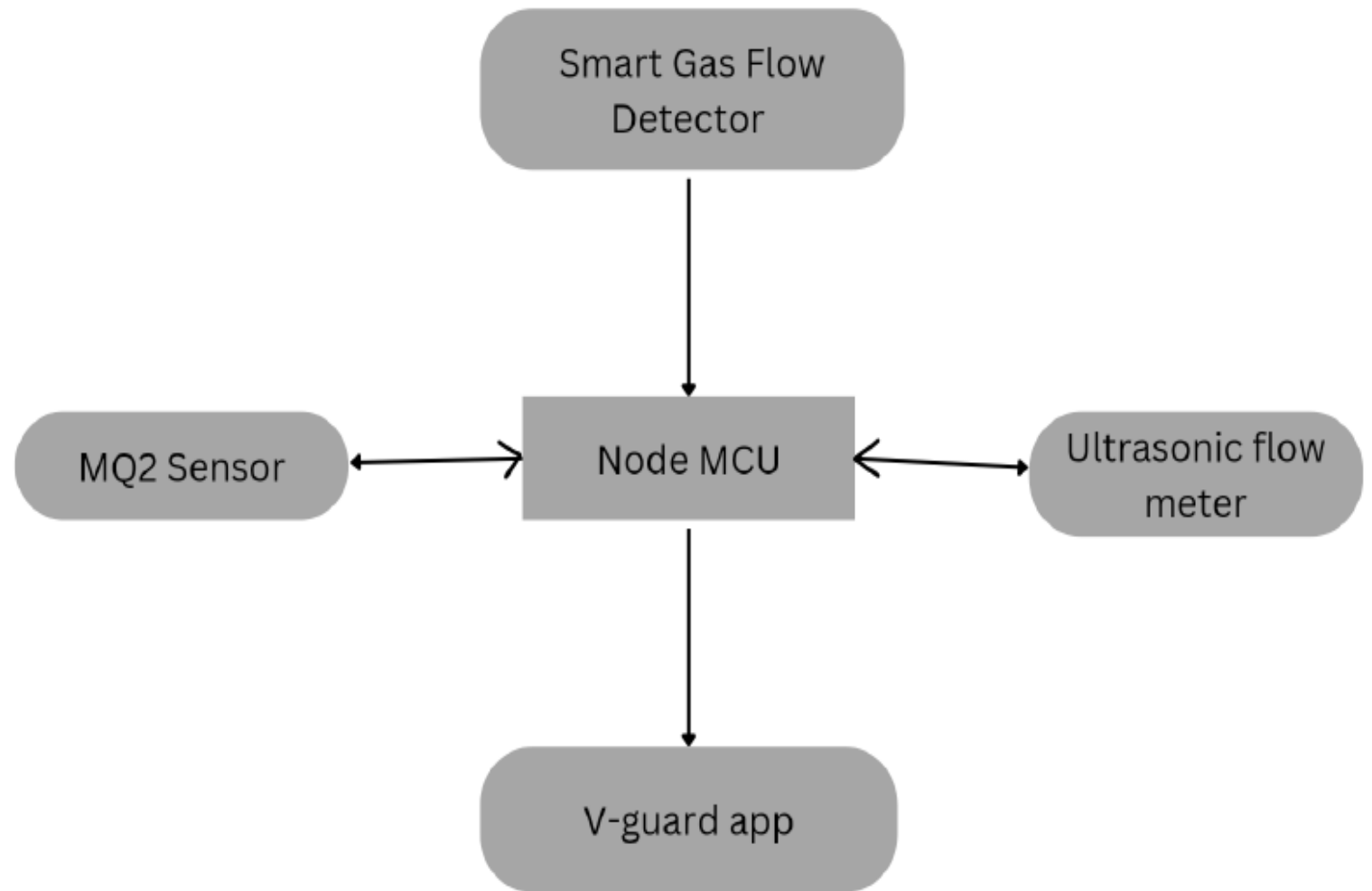
# Wireframe
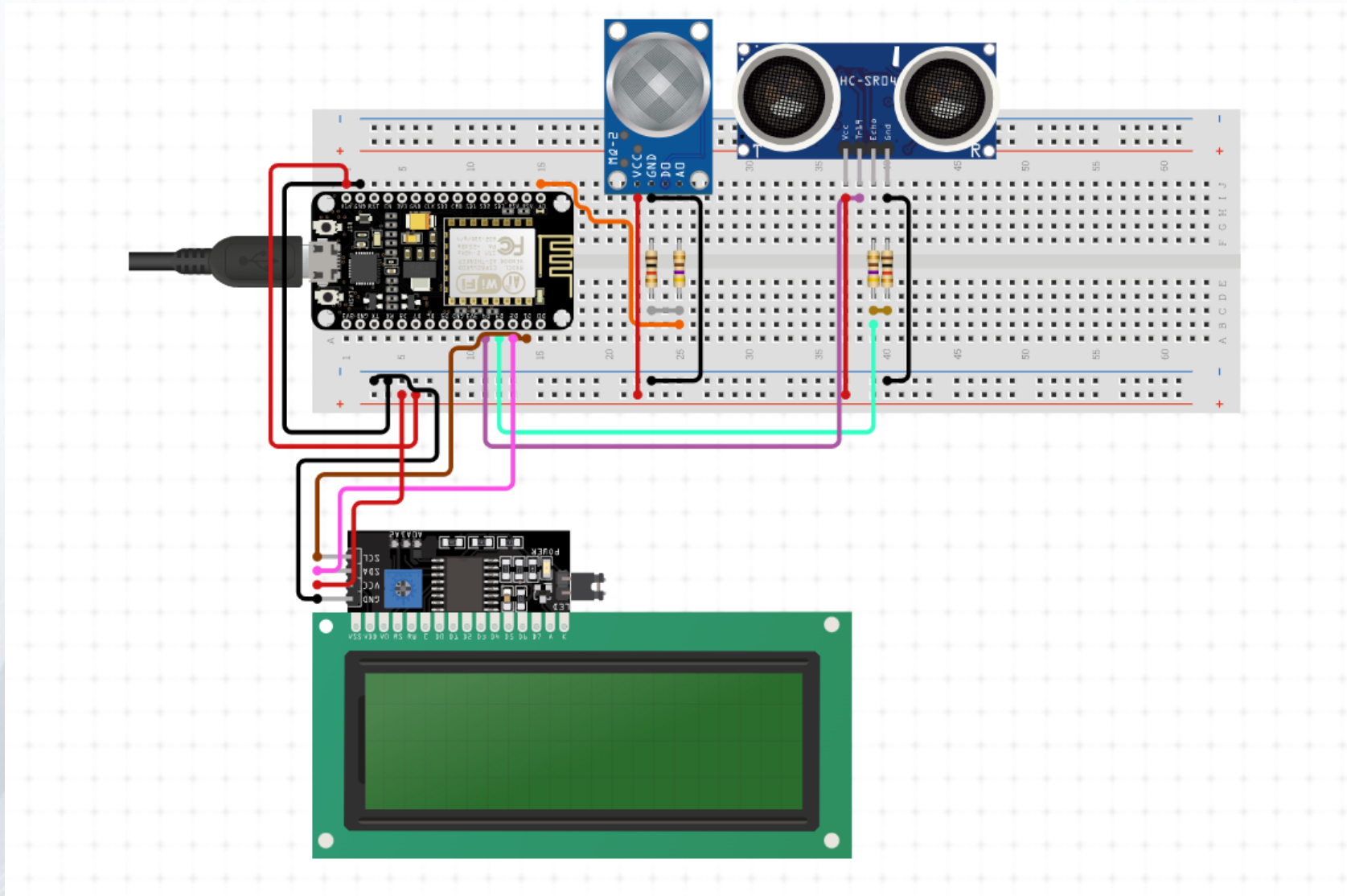
# Components

1.Node MCU

2.MQ2 Sensor

3.Ultrasonic gas meter

4.Nozzle

# Component Description

- **NodeMCU**- An open source platform based on ESP8266 which lets you connect objects and let's data transfer using the Wi-Fi protocol .

- Gas sensor(MQ2) is mainly used **to detect gases like Methane, Butane, LPG, Smoke, etc**. This module is useful for gas leakage detection (in home and industry).

- **Ultrasonic gas meter-**can measure the flow of nonconductive liquids, gases, and steam.

- The  specialty of this **nozzle** is that it can be **rotatable to 360° degree .** Because of its rotatable head, it is easily convenient for user.
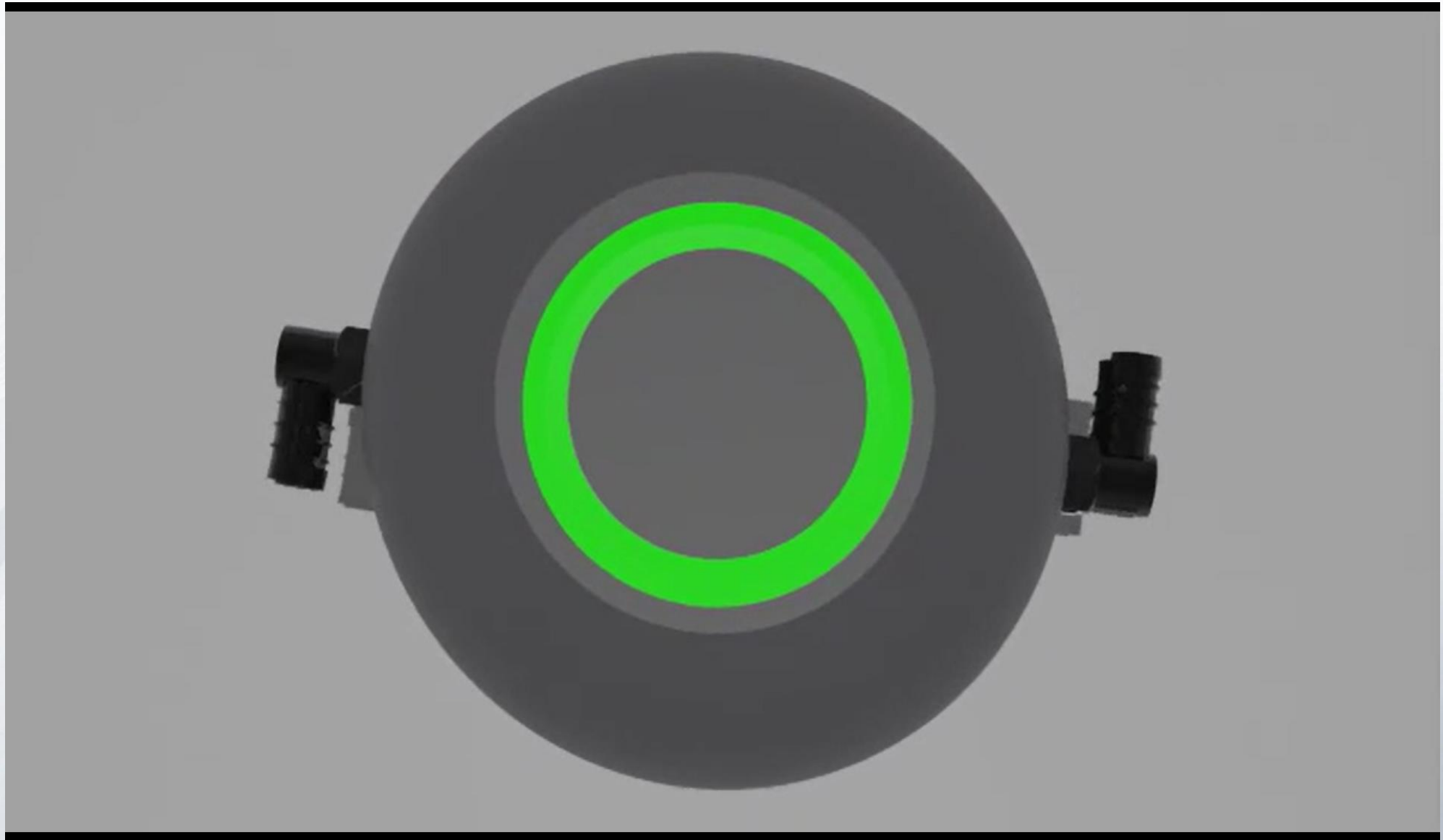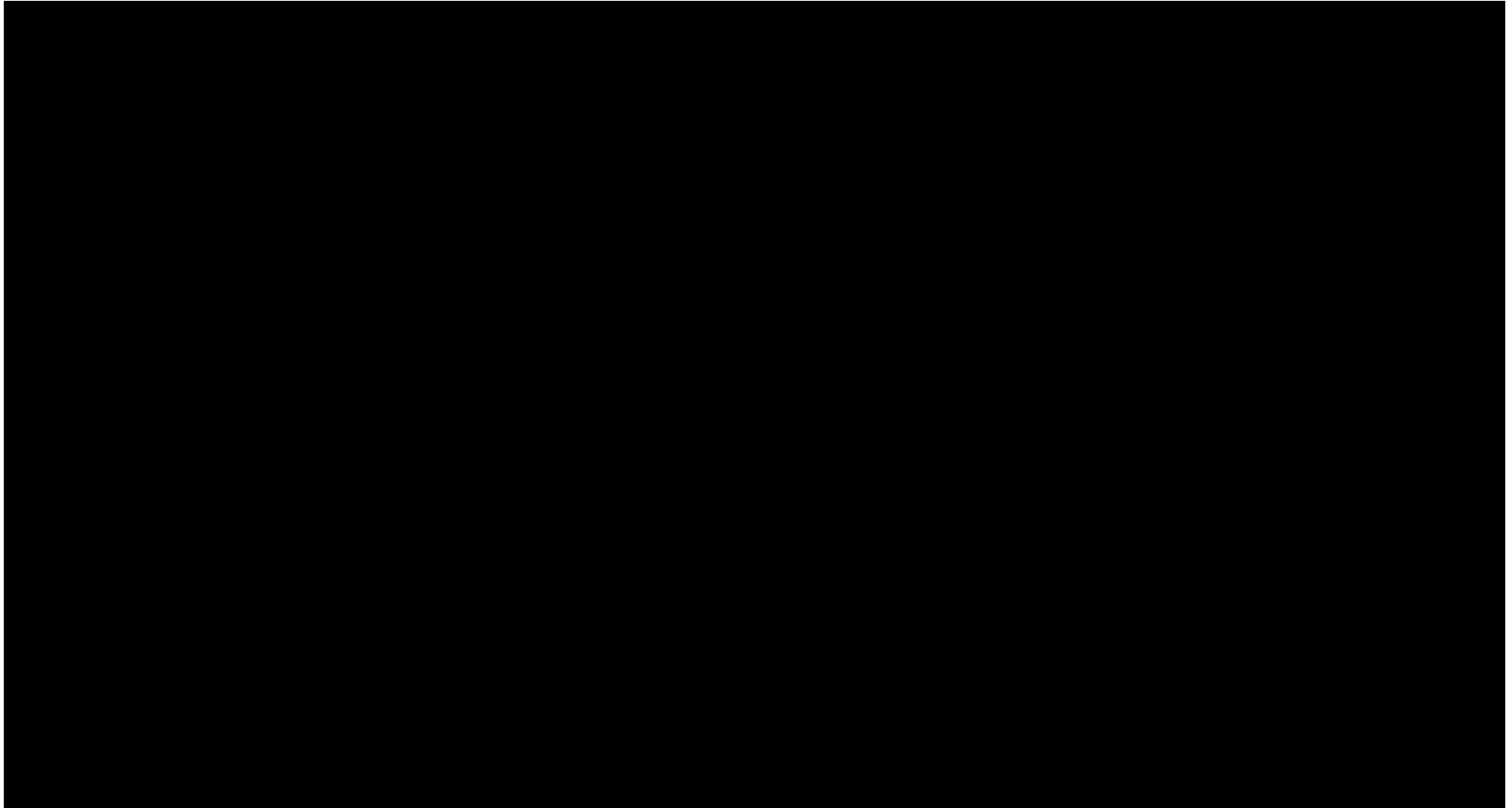
*Top view of Smart Gas Flow Detector*
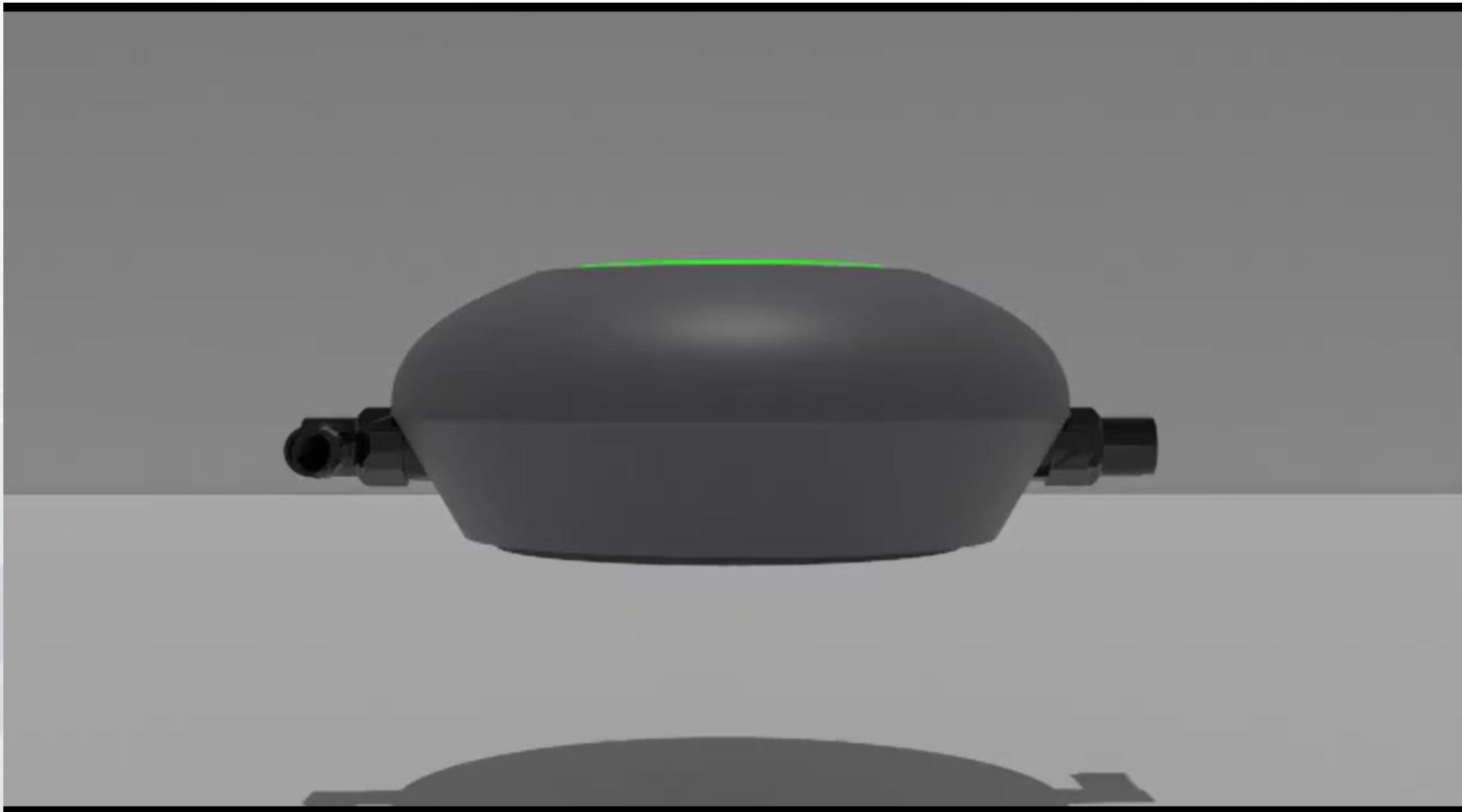
*Front view of Smart Gas Flow Detector*
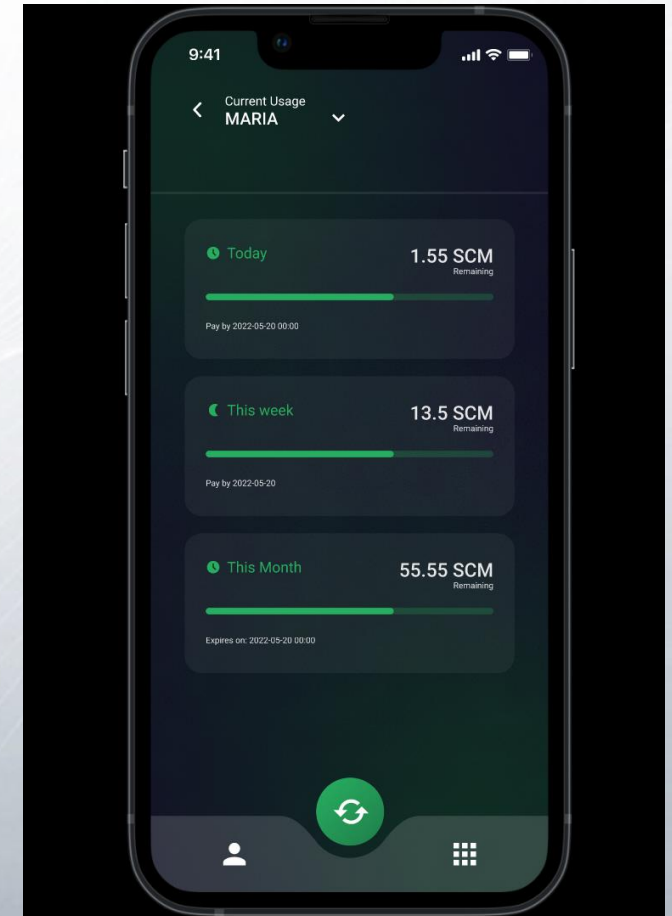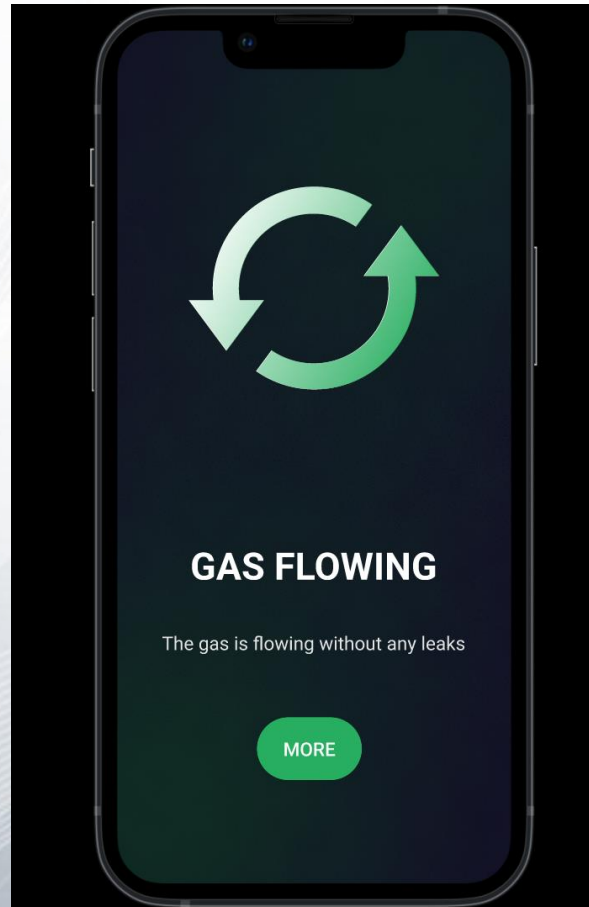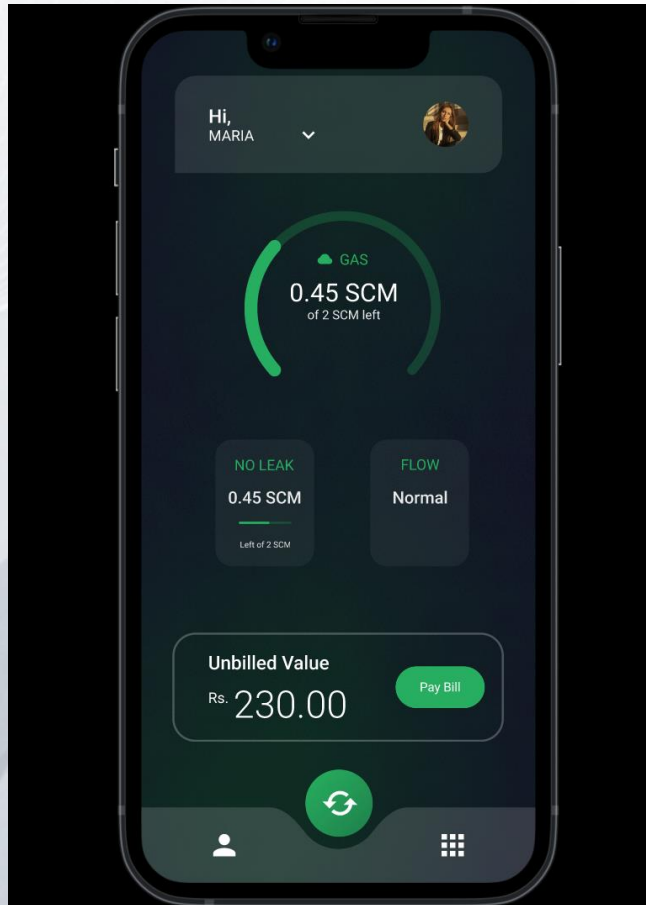
# Video representation

# Features of our Product

- Gas flow measurement

- Gas leakage detection

- Calculating monthly expenses

- Can predict the optimum usage

- Smoke detector(future stages)
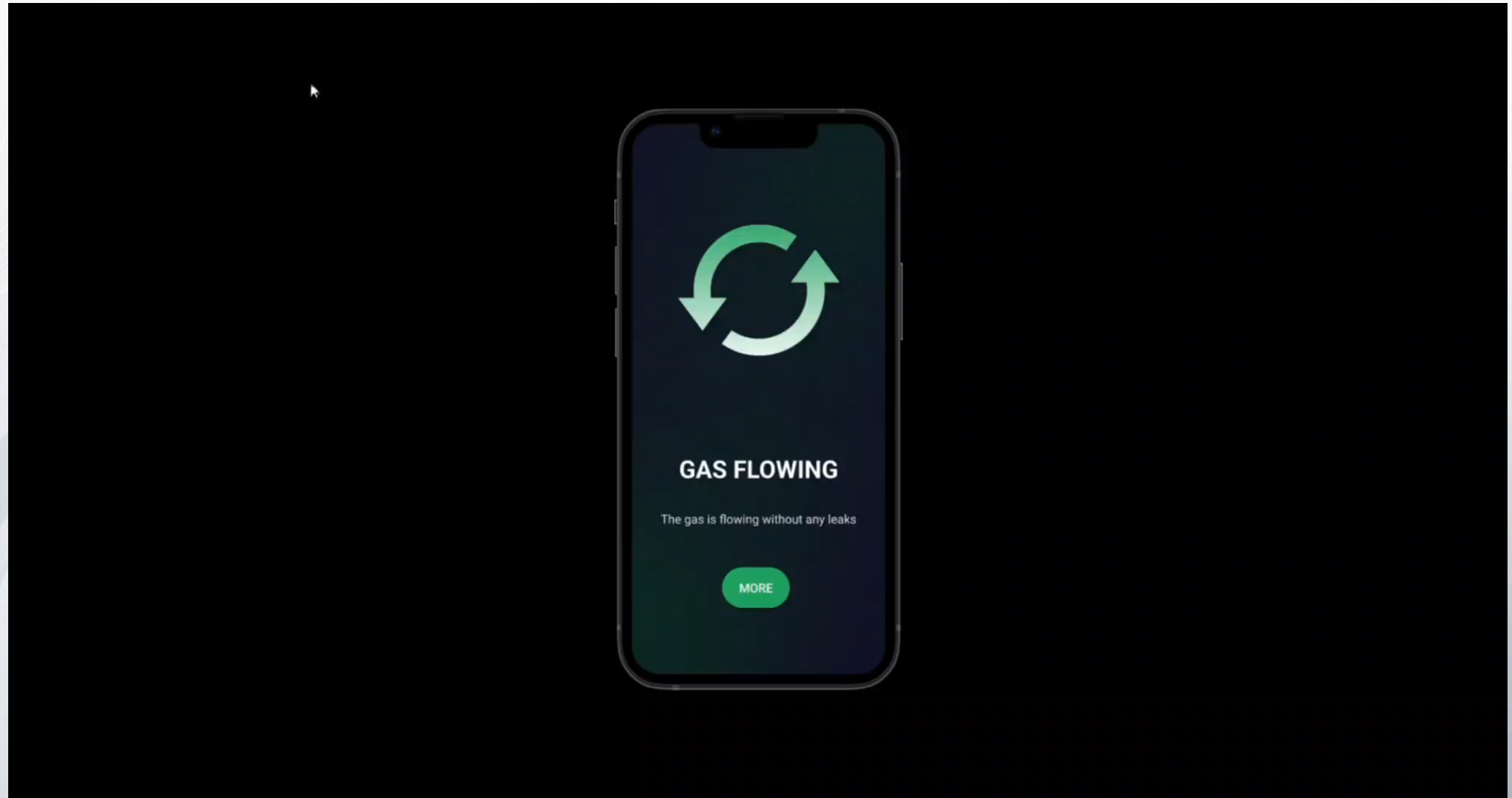
- Exclusive app for the product

# App user interface

# Video Representation of APP

# Market Feasibility

- Modern kitchens will undergo a phase shift from LPG to piped natural gas.

- Targeted audience-every common man.

- The only product in the market that will serve the given purpose.

- Distributions to both rural and urban households.

- Spreading awareness and campaigns.

# Conclusion

In the upcoming years , piped natural gas will revolutionize Indian kitchens . Thus our product aims to provide a safer and easier household. There are possibilities for much greater advancement, deep research and better algorithms can be used to modify and add much more additional features. It coincides with interest of the people for a safer kitchen where their cooking environment is safer and the consumption of the fuel is economical . We aim to bring home a safer tomorrow.

# Thank You