What Do **You** Breathe?

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Introduction

Industrialization has a negative effect towards air quality which is detrimental towards the health of individuals that live by these areas. People do not have a personalized system to be aware of the air quality level within their home.
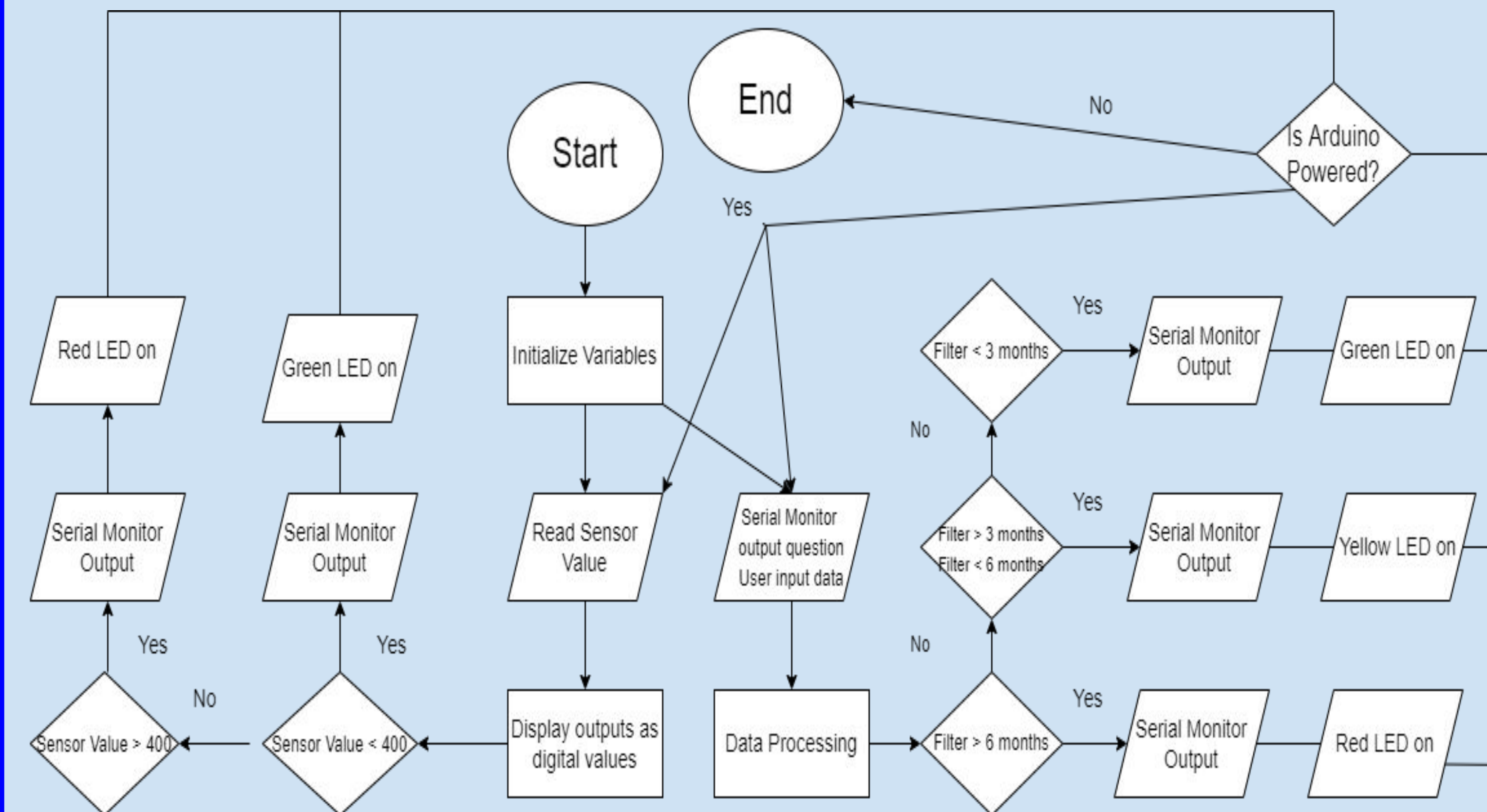
Design Concept

- Detects current gas reading
- Informs user the status of their AC filter
- User friendly design
  - Easily connect Arduino and computer
- Structural design allows protection of Arduino

Circuit Diagram & Design
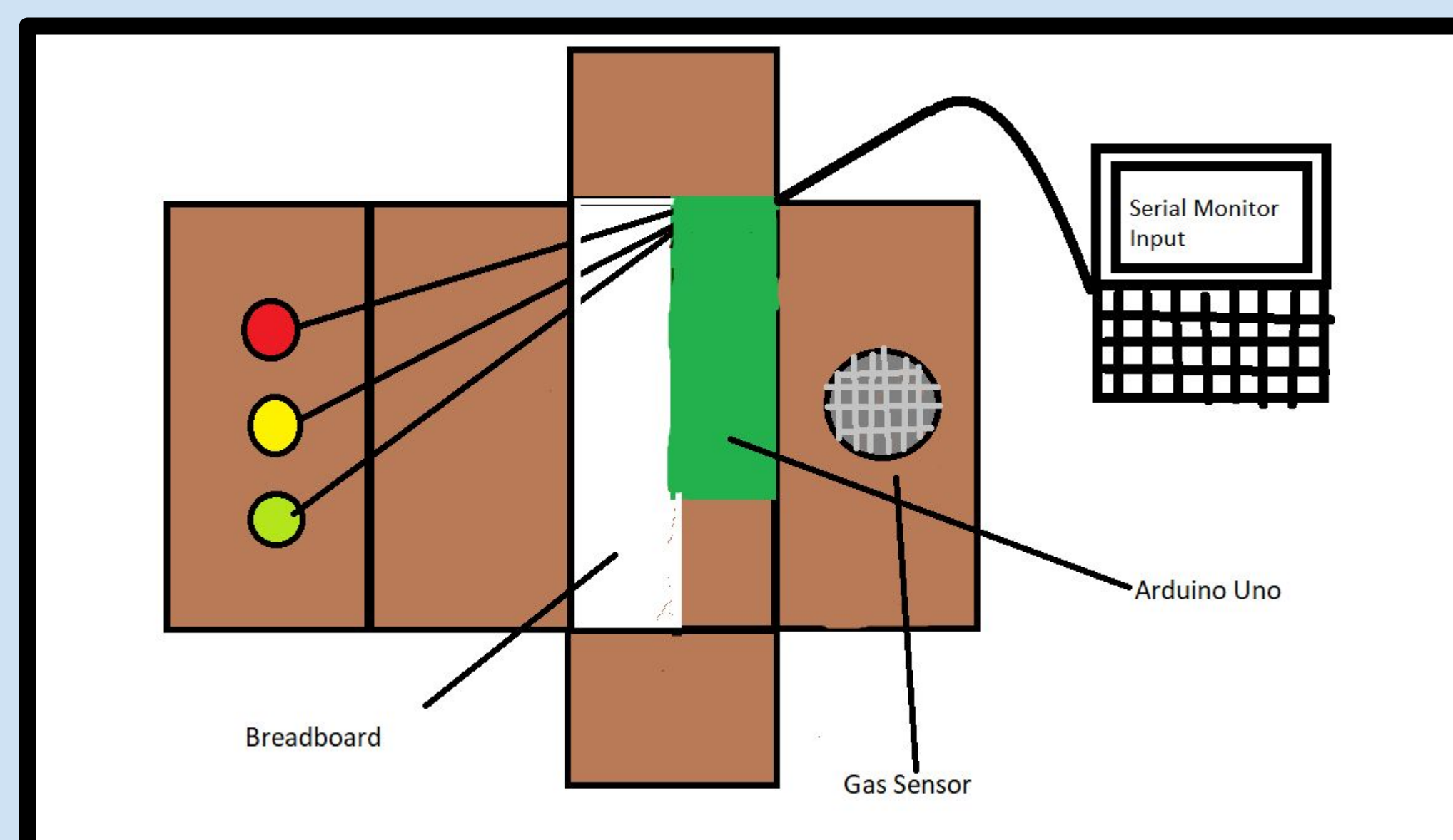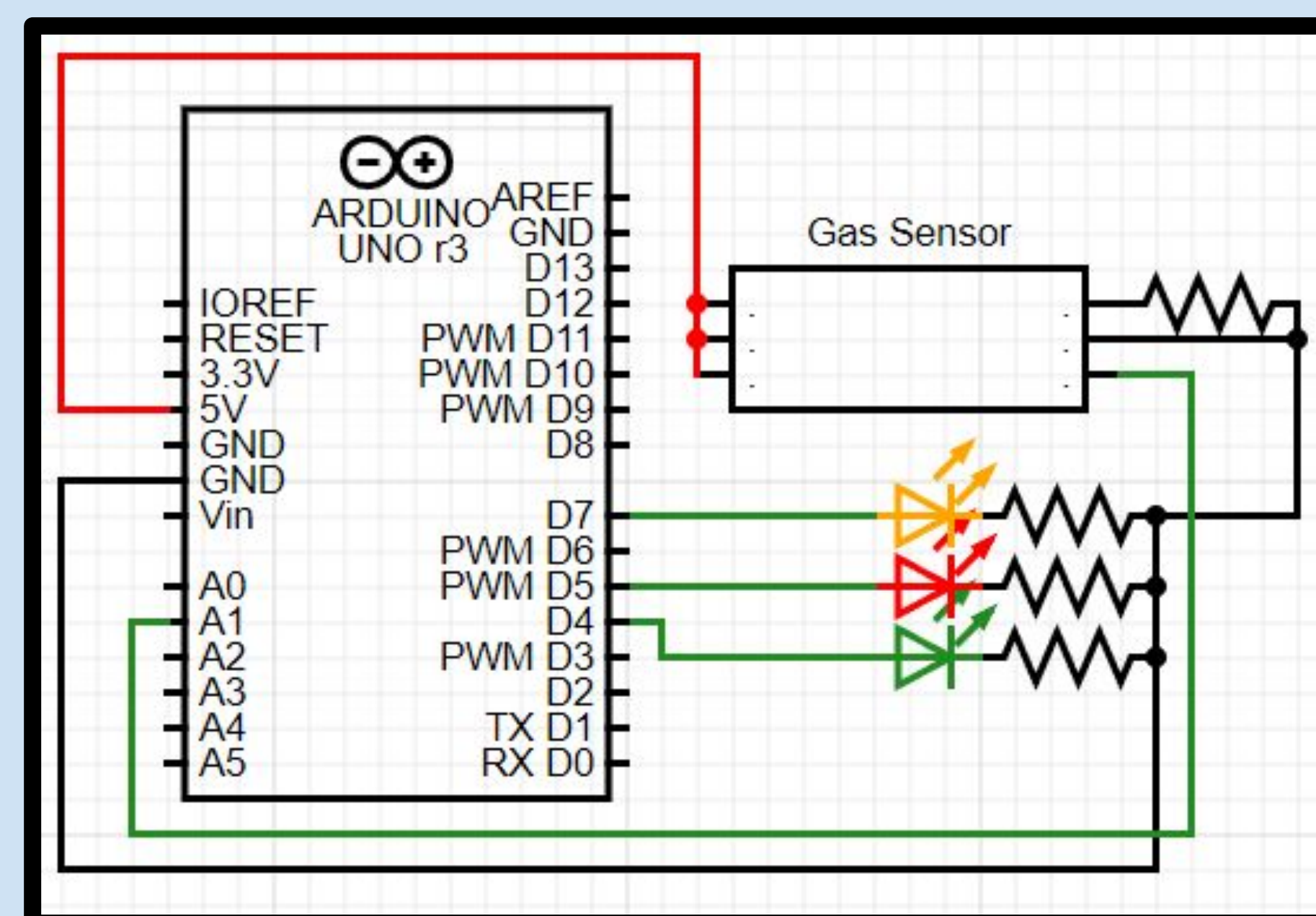
Logic Flow Chart

Indicates to the user the gas reading, and updates them to the status of their AC Filter

Test Results

PPM Value vs. Presence of Butane and CO2 or No Gas

Accurately detects the presence of gas (or lack of gas) within the home (CO_2 was not concentrated enough, but did show fluctuations)

Discussion of Results

- Testing of the code shows that it accurately determines if the user needs to change their filter or not.
- As shown in the graph, the sensor readings are also accurate.
- Rigorous design testing of the prototype has shown its effectiveness given the tools and time

Future Work

- Making an app instead of using the serial monitor
- Making information accessible even when away from your home.
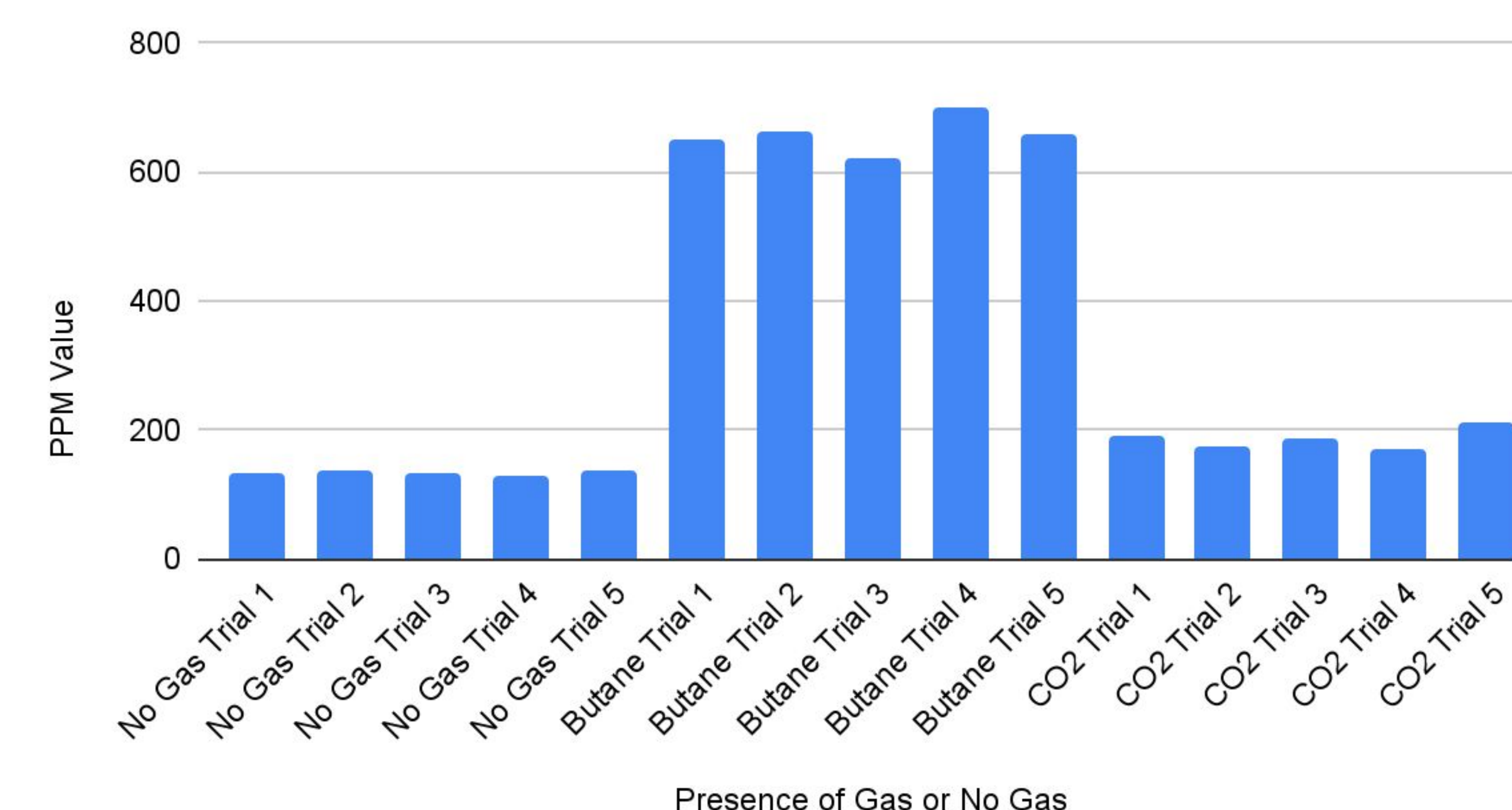- Using larger LEDs
- More compact design

References

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Acknowledgements