

Product Overview

- Consumer air quality sensor
- Integration with mobile app via Bluetooth
- Integrated epaper display (EPD)
- Monitor 9 atmospheric metrics:

- Air quality index
- Carbon dioxide
- Temperature
- Humidity
- Nitrogen oxides (NOx)
- Airborne particulate matter
- Volatile organic compounds (VOCs)
- Carbon monoxide
- Natural gas



The Home Air

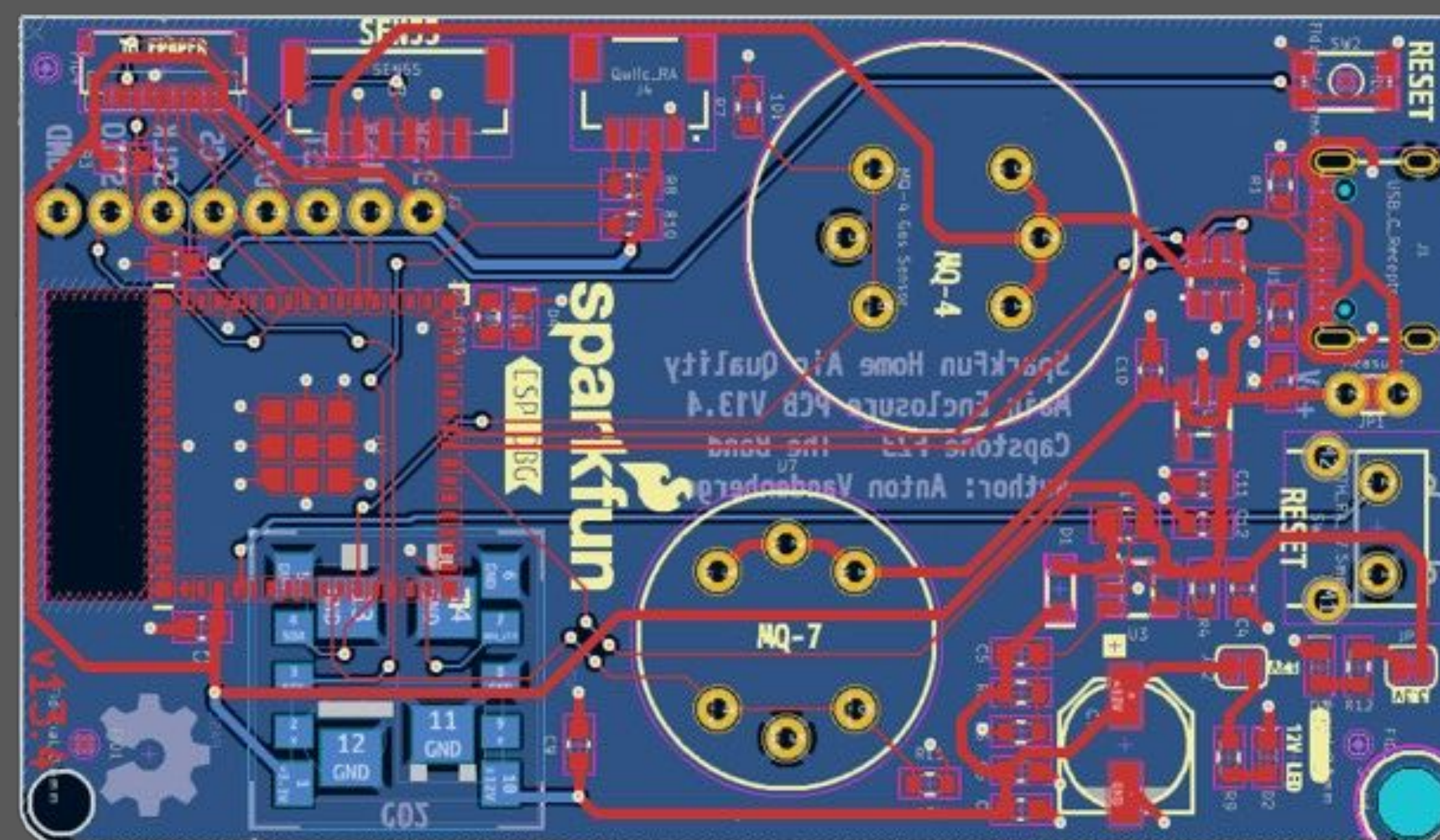
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Objective

An easy-to-use, aesthetically pleasing sensor that monitors indoor air quality

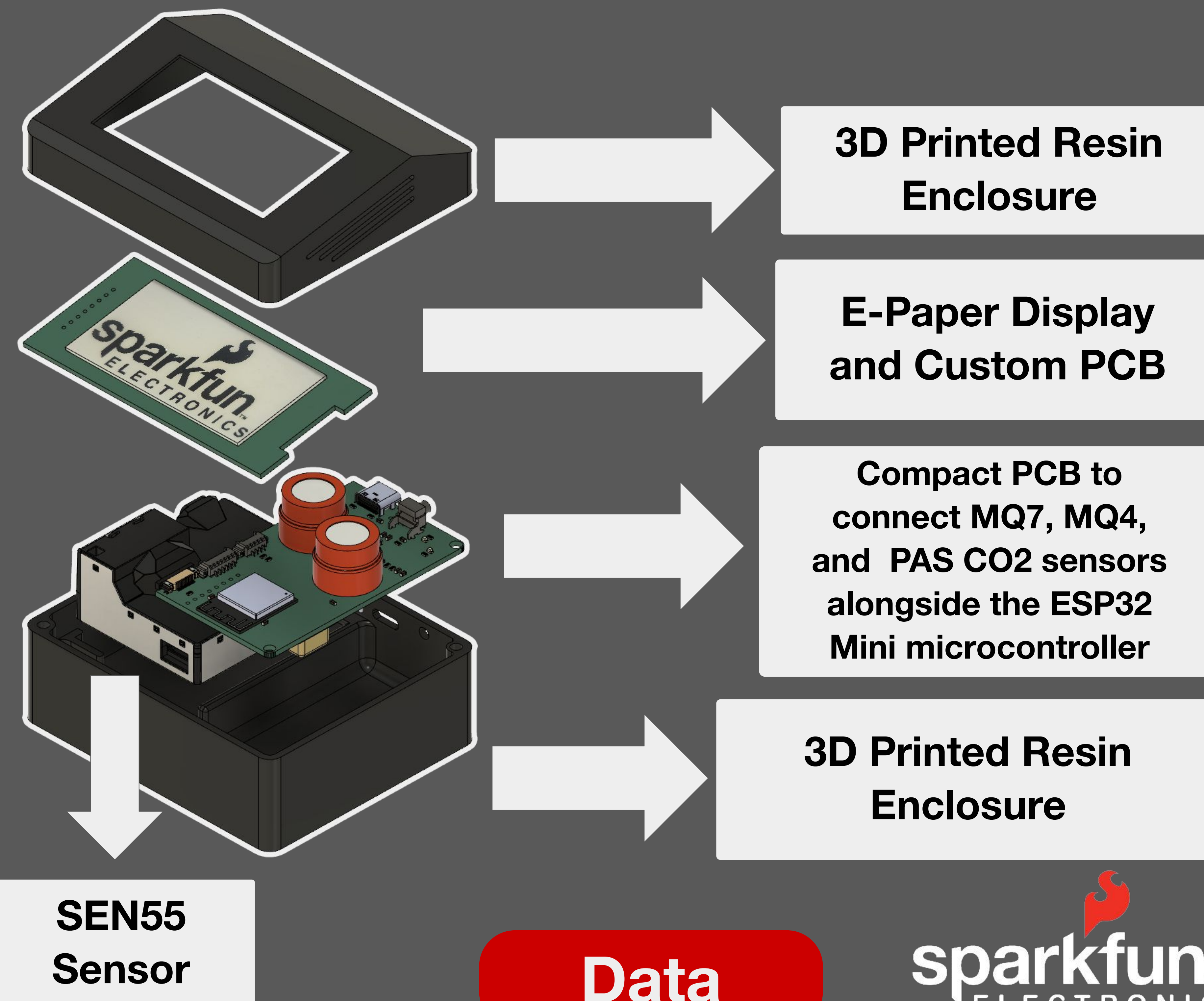
Design Requirements

- Open Source hardware and software
- Custom mobile app
- Test and refine user experience
- Outperform competitors' number of detected compounds
- Maintain competitive price point (\$250)

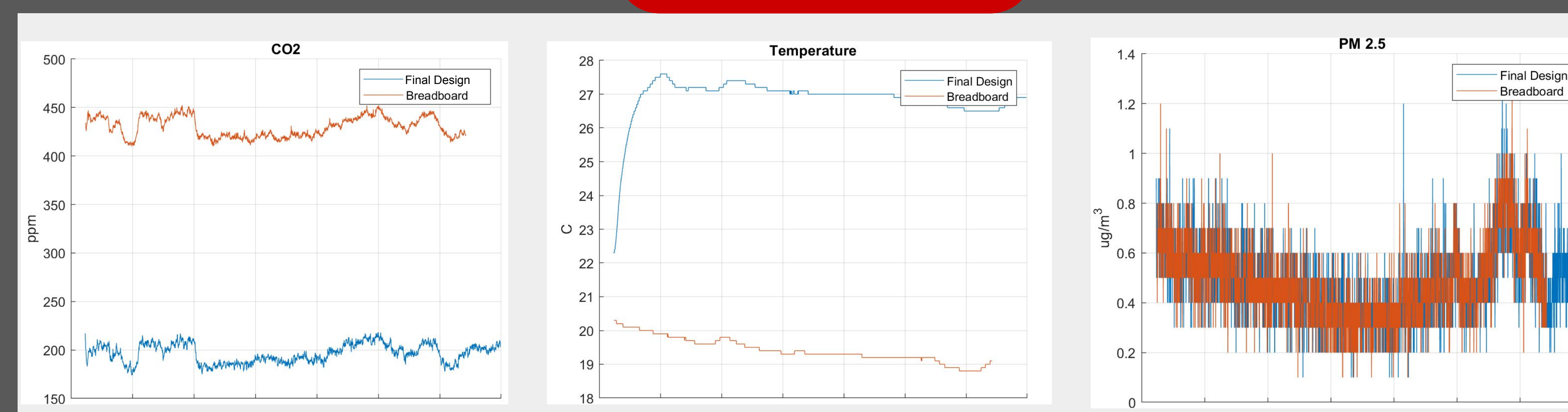


Acknowledgement

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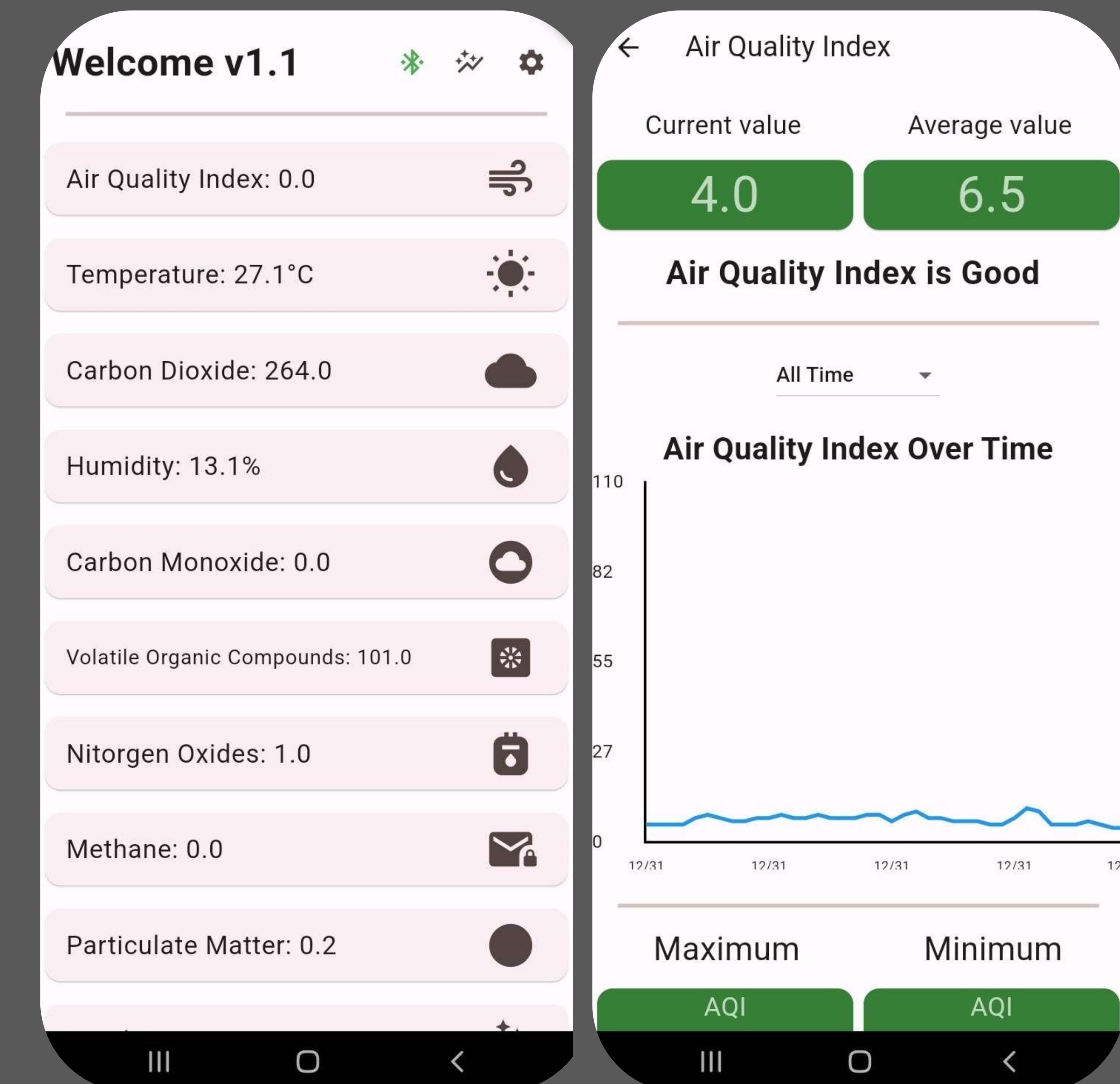


Data



Software Features

- Connect phone to The Home Air via Bluetooth Low Energy (BLE)
- View, analyze, export live data using the integrated mobile application
- Over-the-air firmware updates
- Customizable EPD through mobile app
- Customer-ready firmware and software



Lessons Learned

- **Communication:** Our team struggled with communication throughout the whole project. Frequent, timely, and consistent communication is key to successful development.
- **Time Management:** Our product's development was heavily dependent on our ability to rapidly prototype. Our progress was stunted due to the time it takes to produce and manufacture our printed circuit boards. It is important to make the most of each iteration and learn the most you can from each design.