

Qualights



“Lighting up your life with quality air”

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On average, Americans spend 87% of their time indoors...



exposing themselves to various indoor air pollutants

Design Research

- 3 Interviews
 - Done in participant's place of living
- Survey
 - Received 116 responses
- 1 Diary Study
 - Had participants record a diary for one day, followed by an interview the next day
 - Realized that this was not effective
 - Replaced with general survey

Air Purification

Do you currently use any air quality/purification devices? *

Yes

No

If yes, what kind of air quality/purification device do you use?

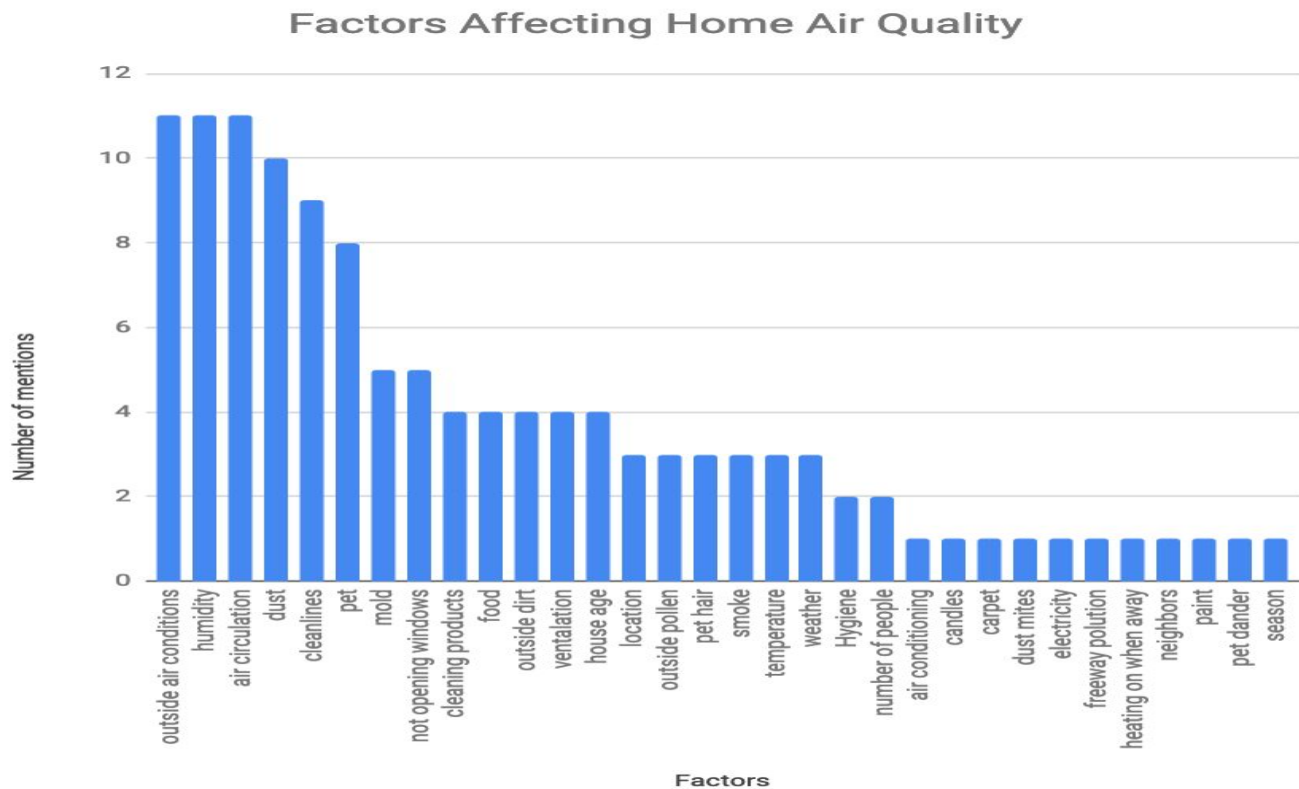
Your answer _____

What caused you to begin using this device?

Your answer _____

Above: Part of our survey

Survey Results

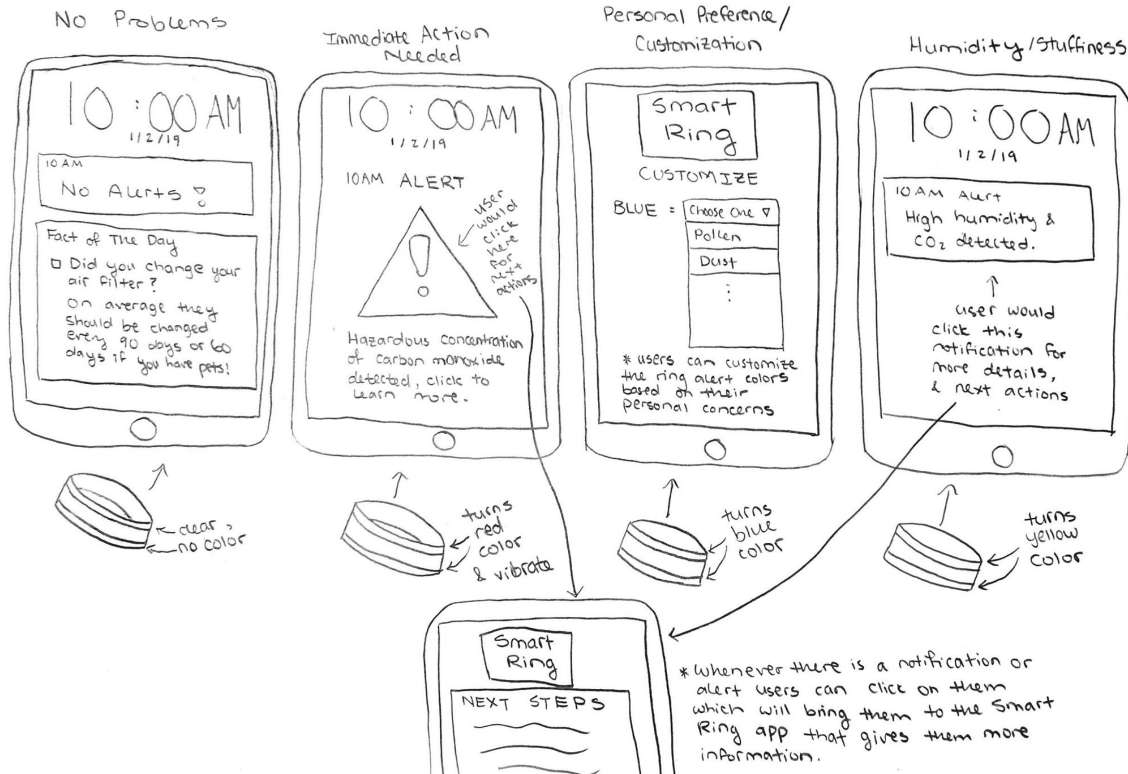


6 Tasks

1. Educate self about potential air quality hazards and practices inside homes
2. Know when immediate action is needed due to dangerous air quality hazards
3. Know when there is an air quality warning/advisory in my city, and what I can do about it.
4. Know when specific irritants are affecting air quality.
5. Monitor the current in-home air quality while user is not at home
6. Detecting when indoor air quality has degraded, and knowing how to address the issue.

Design Sketch #1 : Smart Ring

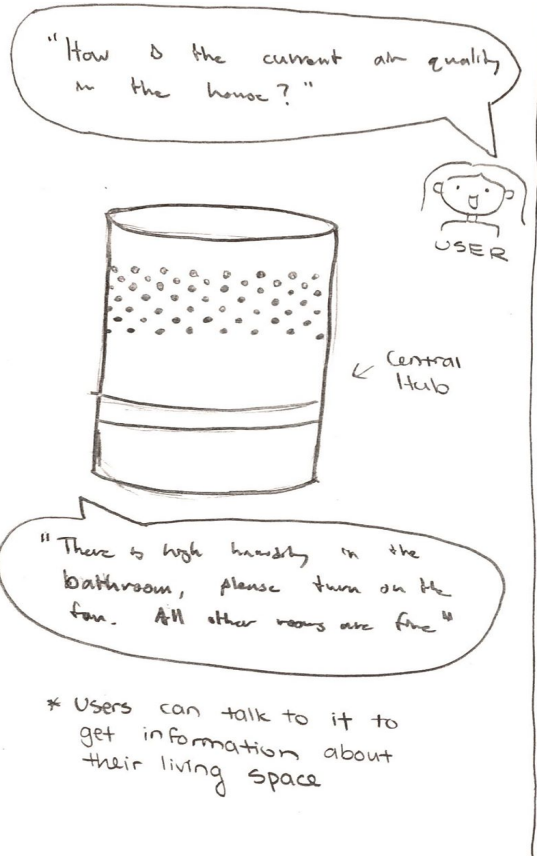
Smart Ring



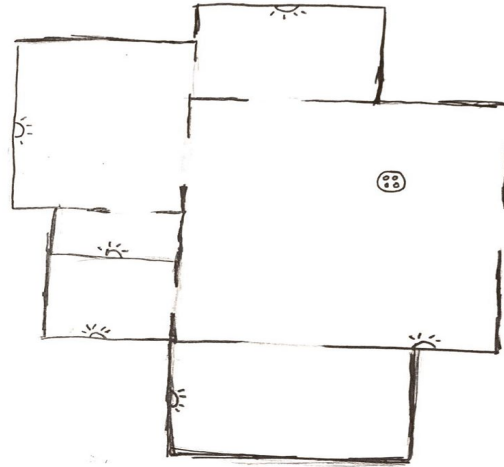
Tasks addressed in this design:



- Educate about air quality hazards
- Know when immediate action is needed
- Know when specified irritants are detected
- Detecting when indoor air quality has degraded, and knowing how to address the issue.

Design Sketch #2 : Smart Home Device



Potential Home Layout :

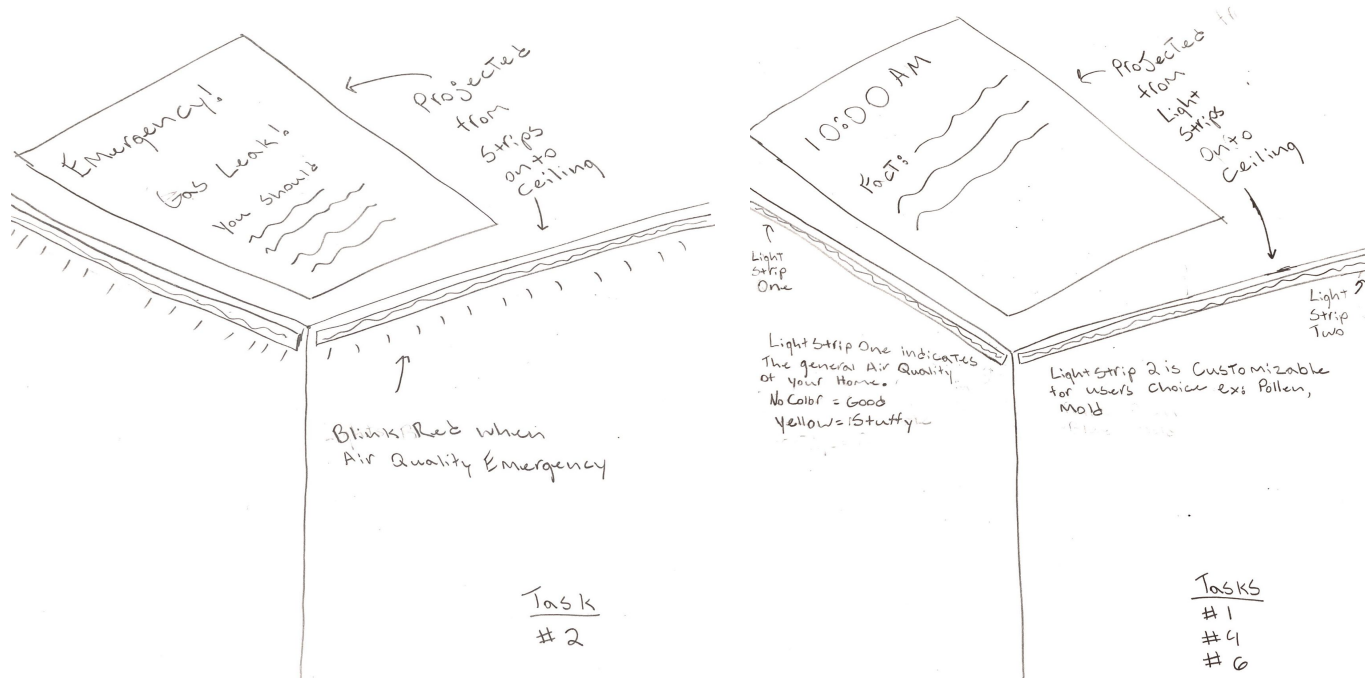


 = sensor
 = central hub

Tasks addressed in this design:

- Educate about air quality hazards
- Know when immediate action is needed
- Know when specified irritants are detected
- Detecting when indoor air quality has degraded, and knowing how to address the issue.

Design Sketch #3 : Smart Ceiling Light Strip



Tasks addressed in this design:

- Educate about air quality hazards
- Know when immediate action is needed
- Know when specified irritants are detected
- Detecting when indoor air quality has degraded, and knowing how to address the issue.

Selected Design Rationale

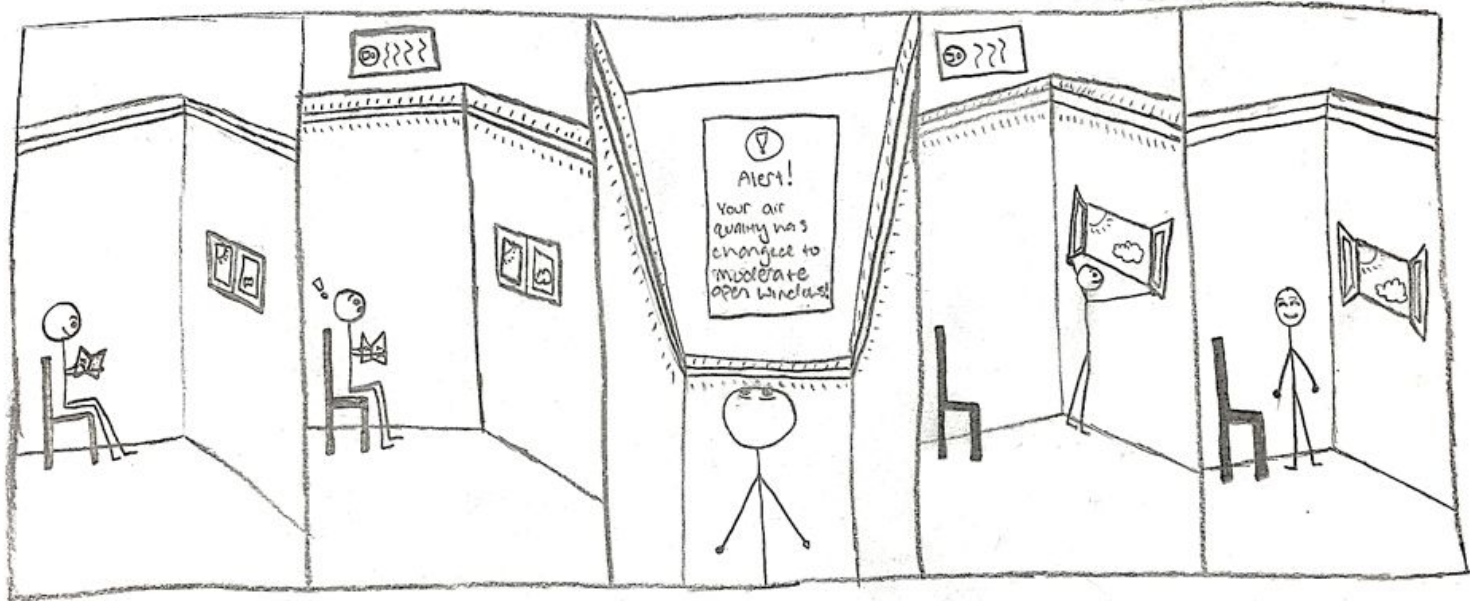
- Allows people to monitor both indoor and outdoor air quality data
- Balances having a clear difference from products already on the market and feasibility/ease of use
- Comfortable for people unfamiliar with electronics to use
- Minimally intrusive in the home
- Easy to access the data, as QuaLight answers a person's questions without the person having to navigate through a physical interface

Selected Design Storyboards and Tasks



Task: Educating self about potential air quality hazards and practices inside the home

Selected Design Storyboards and Tasks



Task: Detecting when indoor air quality has degraded, and knowing how to address the issue.

Summary

- Not everyone is aware of how air quality impacts their lives
- Unlike what we initially thought, gathering general research from many people through a survey proved more effective than detailed research of a few people through a diary study
- Participants are highly concerned with outdoor conditions, rather than indoor conditions, degrading indoor air quality

Thank You!

Bailee Barrick, Pei Lee Yap, Daniel Shen, Joy Clark

Contribution Statement

Bailee Barrick 10% - drew and updated storyboards

Daniel Shen 10% - drew and updated storyboards

Pei Lee Yap 40% - contributed to setting up the presentation and the slides, presented the presentation

Joy Clark 40% - contributed to content of the slides, presented the presentation