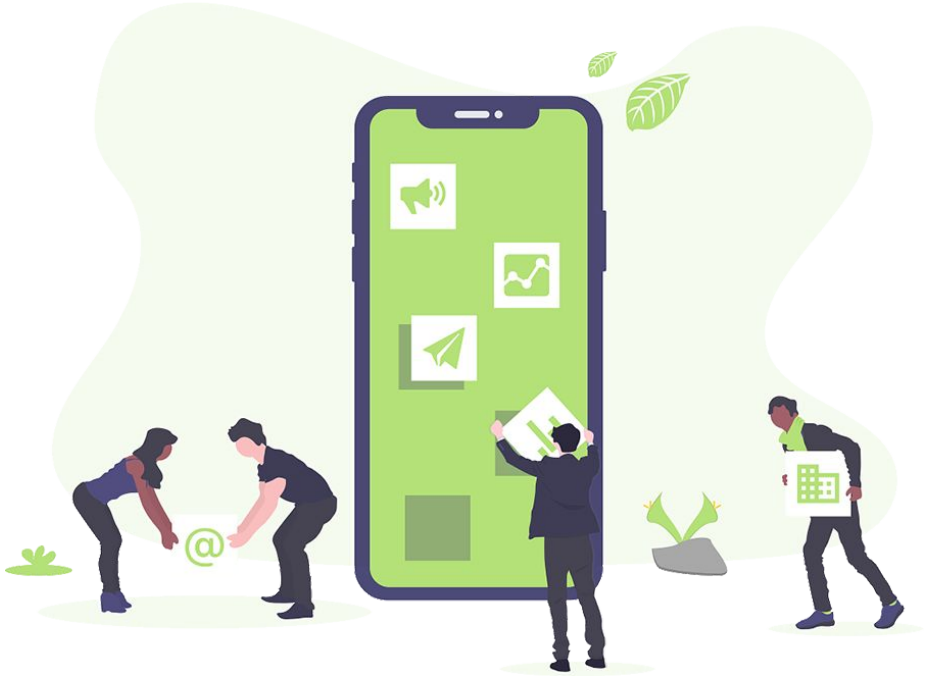
The Smoke Screen

Brought to you by StarFruit Technology



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The Problem

Wildfires are an ever-growing problem for the world and for our local community

- In 2020: 50,000+ wildfires impacting 10 million+ acres of land
- Studies indicate this number is going to continue to rise in the coming years
- People struggle to deal with the dangerous smoke that fills the Reno valley and residents lungs every year.

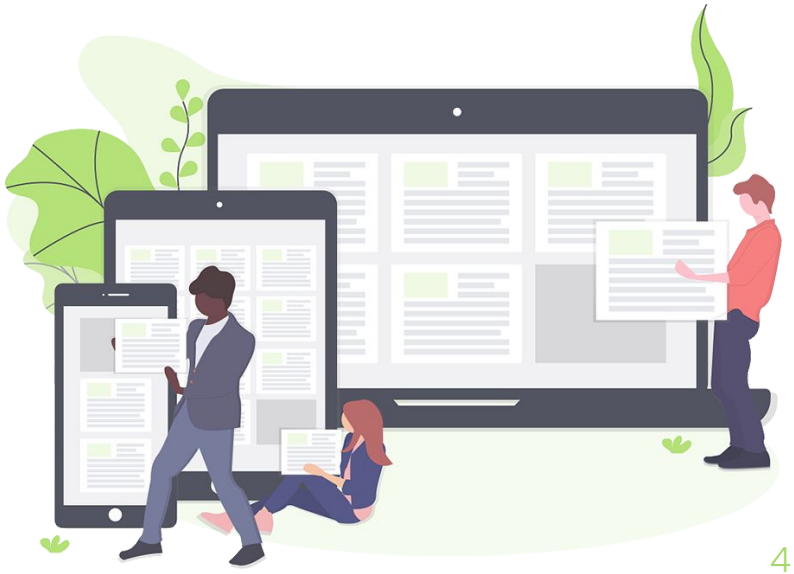
7 Groups

That are disproportionately affected by wildfire smoke compared to the rest of the population

(according to the US Environmental Protection Agency)

- Children
- Outdoor workers (ex. Construction workers)
- Pregnant women
- Individuals ages 55+
- Socioeconomically disadvantaged individuals
- Individuals who suffer from cardiovascular disease
- **Individuals who suffer from respiratory disease**

Reference: Which Populations Experience Greater Risks of Adverse Health Effects Resulting from Wildfire Smoke Exposure?



37 million

Americans suffer from chronic or acute respiratory diseases/conditions

11%

of the American population

101–150

Is the ***starting*** range of unhealthy AQI (Air Quality Index) for this group of individuals

A Problem

within the current solution

- Most emergency health and air quality alerts aren't even sent out until it reaches the level "Unhealthy" (AQI 150+)
- The problem is that marginalized individuals (**Individuals who suffer from respiratory disease**) need to take action before the situation reaches that level

The Solution

Wearable technology for early detection and awareness of wildfire smoke

The StarFruit SmokeScreen

The Solution

A mobile application that provides awareness, education & data about your own health & how it relates to smoke exposure

The “SmokeScreen” Mobile App

How our Product Addresses the Problem

Addressing Smoke Exposure Head-On

- Stay Inside!
- Taking Action Quicker

Feasibility of The Product

The StarFruit Smokescreen

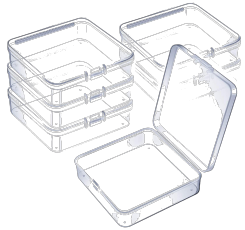
Manufacturing

Materials

MQ-2 Gas & Smoke Sensor

Buzzer

Silicone-Rubber Watch Strap



Small Rectangle Plastic Containment Unit

Small OLED Digital Display

Manufacturing

Cost Estimates

Material	Dimensions
MQ-2 Gas & Smoke Sensor	$1.25
Piezo Buzzer	$0.88
Watch Strap	$2.39
Plastic Containment Unit	$3.18
Small OLED Digital Display	$1.68
Microcontroller	$3.66

*all estimates have been taken from aliexpress.com

Manufacturing

Cost Comparison (to similar products)

D13 Smart Watch

$7.32

M4 Smart Bracelet

$3.77

Lower-End Comparisons

Apple Watch

$83.70

FitBit

$17.36

Higher-End Comparisons

*all estimates have been taken from aliexpress.com

Pricing

How we'd price our product

according to our manufacturing cost

$5

manufacturing cost

We estimate that the manufacturing will cost somewhere between $4 - $8.

$10

retail price (MSRP)

Using a 100% markup on our manufacturing cost, that would price our product at $10, which provides both solid margins, and a reasonable price.

Pricing
Comparison

Apple Watch

$399

FitBit Versa 2

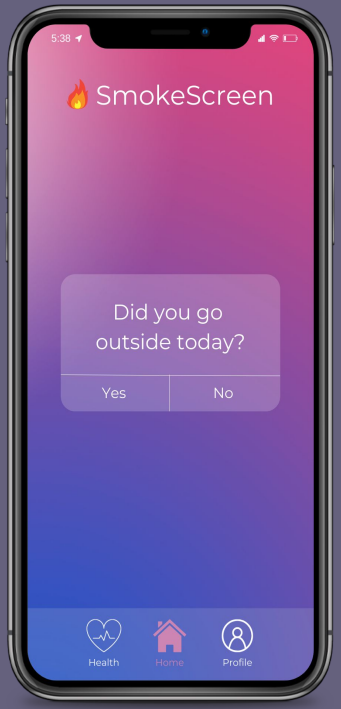
$179.95

StarFruit Smoke Screen

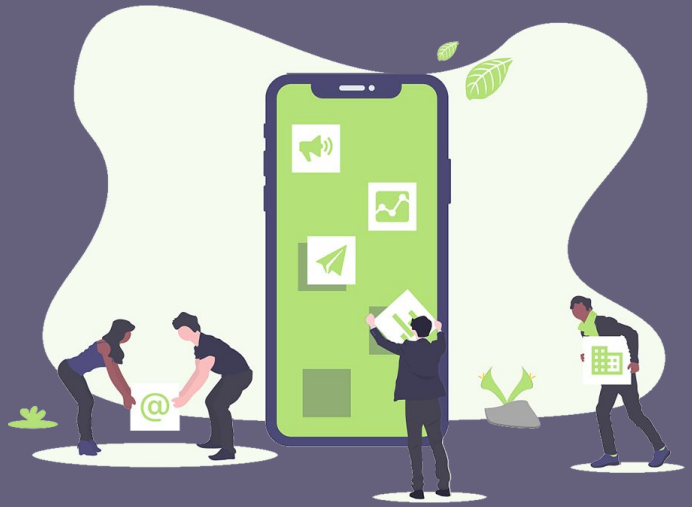
$10

The SmokeScreen Mobile App

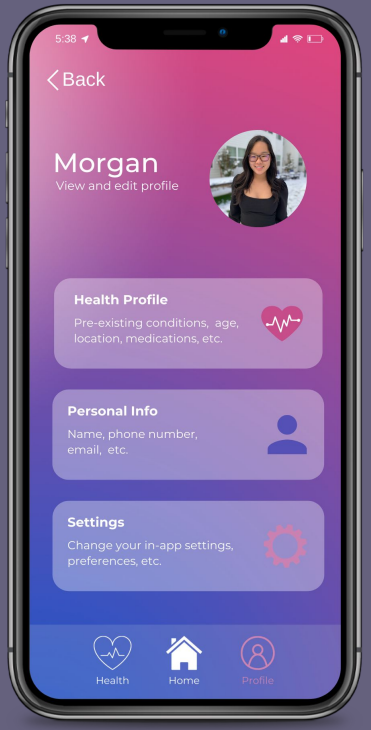
Notifications to the lock screen about AQI and what precautions to take



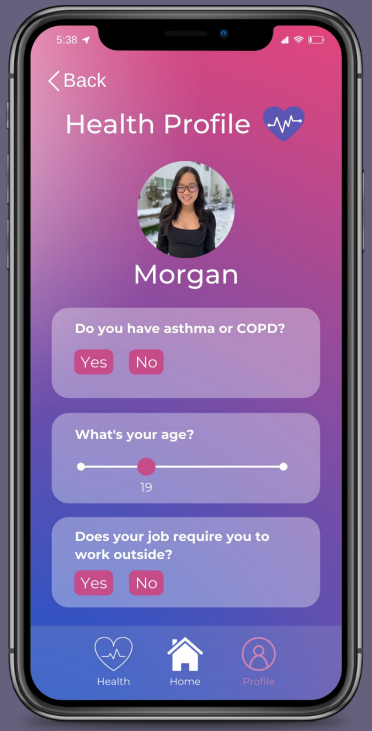
The app will ask this question 1x per day to retrieve data for the “Health” reporting section of the app.



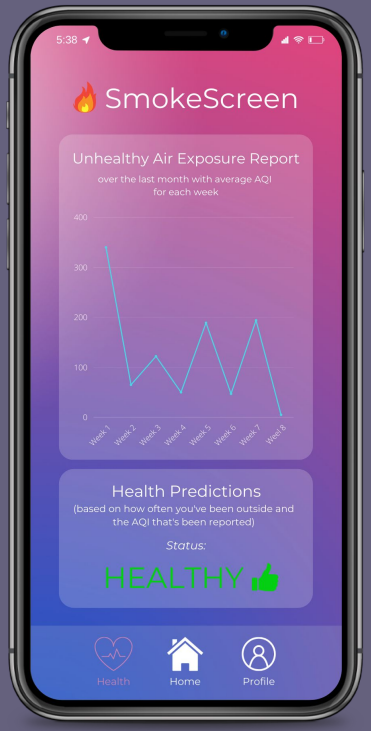
This is the home screen which reports today's AQI based on AirNow.gov and the assessment of whether or not it's safe to go outside based on the user's health profile.



This is the "Profile" section of the app. Here, users can customize their app with their health profile, personal info, and in-app preferences.

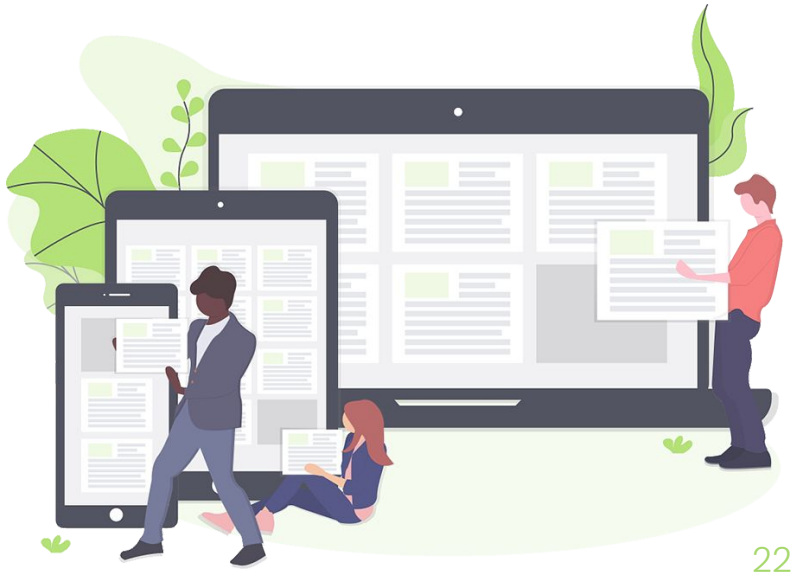


This is the “Health Profile” of the user. Here, users can tailor the app to their needs based on their sensitivity level (to smoke exposure) based on the factors seen above + more.



This is the “Health” section of the app. The report widget is based on AQI data, data received from the smokescreen, and how many days the user has been outside. The health predictions widget gives a health status based on the report.

Marketability



Product Adoption

Wearable technology is not a new concept.

- The Apple Watch
- FitBit
- Other high-tech accessories

have become more mainstream as of recent.

Our product is along the same lines, just for a new purpose:

- health management as it pertains to smoke exposure
- We don't need to change user behavior or attempt to introduce a new concept to the market

Value Proposition

Health Management

- individuals with chronic or acute respiratory diseases/conditions are more at risk
- yet, most health alerts are only sent out when the AQI reaches “Unhealthy” for everyone
- these individuals need to take action before it gets to this point

Early Detection

- on days where wildfires are raging, smoke isn’t always visible to the eye
- however, the AQI could be well above 100 and we wouldn’t know it
- having a smoke detector + alarm on your hand would provide earlier detection and quicker alerts

Target Market

Primary Market:

Individuals who suffer from acute or chronic respiratory diseases or conditions (ex. Asthma, COPD, etc.)

How big is this market?

There are 37 million Americans who suffer from acute or chronic respiratory diseases or conditions, which accounts for approximately 11% of the American Population.

> Wildfire smoke may greatly increase susceptibility to SARS-CoV-2, the virus that causes COVID-19.
>
> *~ Fitzgerald, Kelly. "Wildfire Smoke Exposure Linked to Increased Risk of Contracting COVID-19" Desert Research Institute, July 15, 2021.*

Secondary Market:

Individuals more concerned with contracting COVID-19. According to a study by the Desert Research Institute, exposure to wildfire smoke can increase susceptibility to COVID-19. Therefore, our market could also include this group of individuals.

Let's Recap

Problem-Solving

- wildfire smoke inhalation is extremely damaging to human health
- our product helps people take action to minimize that damage and better manage their health

Marketability

- wearable technology has already become mainstream
- target market is large (37 million) and in need of a better solution
- our product provides that solution

Feasibility

- technology needed to manufacture our product is already in existence
- similar products have already proven to be manufacturable
- our product is economically feasible as well w/ estimated manufacturing cost of $4 - $8.

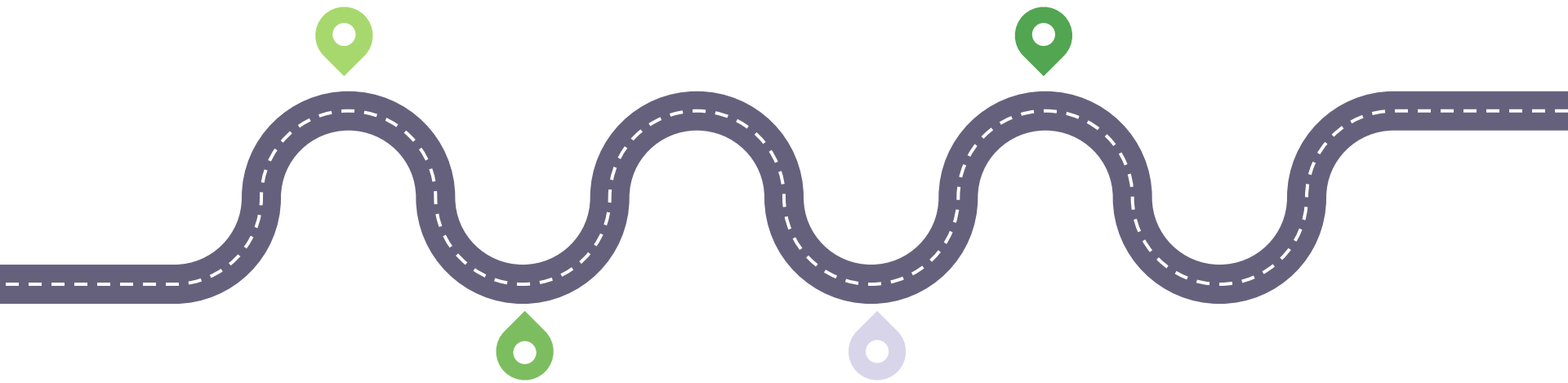
Questions

Appendix A: Product Roadmap

Looking to the future - for the mobile app and the Smoke Screen

Mobile App: incorporating the Google Maps API to create a visualized smoke map or fire map

The Smoke Screen: research & development to explore whether we utilize a photoelectric sensor or ionization sensor

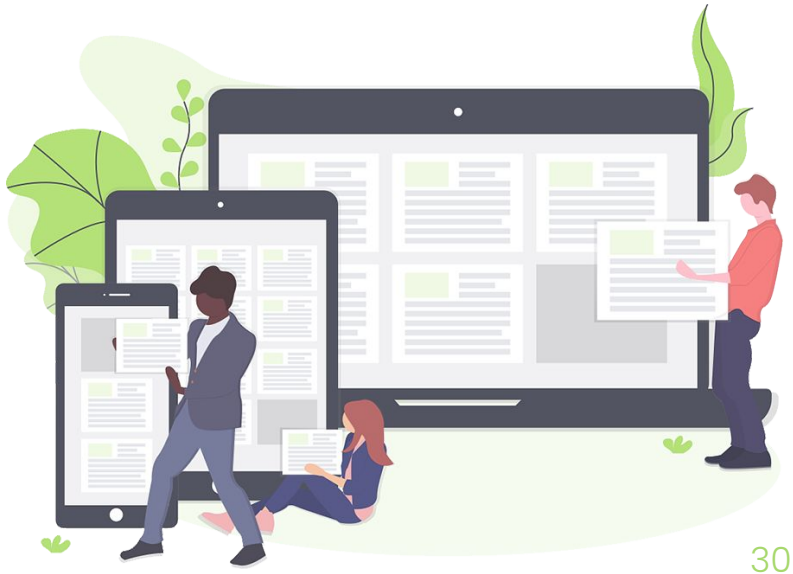


Mobile App: incorporating a “reverse 911” style feature to enable firefighters to send real-time fire danger updates to users

The Smoke Screen: streamline it to make is as lean and sleek as possible design-wise

Appendix B: Resources

- Which Populations Experience Greater Risks of Adverse Health Effects Resulting from Wildfire Smoke Exposure?
- American Lung Association Statistics
- AirNow.gov AQI Basics
- US EPA - Reduce Your Smoke Exposure
- Wildfire Smoke Exposure Linked to Increased Risk of Contracting COVID-19
- The Apple Watch Sport Only Costs $83.70 To Make
- Teardown: Fitbit Flex



Appendix C: Manufacturing
Dimensions

Material	Dimensions
MQ-2 Gas & Smoke Sensor	32 mm x 22 mm x 27 mm
Piezo Buzzer	Diameter: 11.90 mm/0.47 in Heigh: 6.53 mm/0.26 in
Watch Strap	16 mm x 7.5 in
Plastic Containment Unit	40 mm x 34 mm
Small OLED Digital Display	31.7 mm x 37 mm