


An innovative product designed by:

The logo for 'SPOT' is centered within a large, light blue circle. The letters 'S', 'P', and 'T' are white with a thick blue outline. The letter 'O' is replaced by a purple, 3D-style ring with a white interior and a blue dotted pattern around its circumference. The entire logo is set against a solid purple background.

SPOT

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# Problem

## Sexual Assault is a Pandemic of its own in the United States

- In 2015, according to the National Sexual Assault Resource Center(NSARC),
  - approx 1. in 5 women experience sexual assault
  - approx 1 in 14 men experience sexual assault

## Drug Facilitated Offenses

- around one-half of men's assaults and about a quarter of women's assaults were drug or alcohol facilitated

## Assaults on College Campuses

- According to the National Crime Victims Research and Treatment Center, in 2007, 11.5% of women attending American colleges were sexually assaulted.
  - 23.8% of which were drug-facilitated assaults

# Possible Solutions?

Why this matters?

As College students, Sexual Assault is a prevalent issue, one that everyone from our teachers and administrators to our parents and friends warn us about

Current Prevention

Current Prevention methods include:

Sirens

Covering cups

Pepper Spray

pouring their own drinks

The Buddy Method   always hold your drink

What our product does

An innovative, modern solution to an age-old problem

Sensors lined up against the rim of a cup in order to detect any foreign object or substance being dropped into it.

# SPOT

A convenient, slick silicone band designed to be placed over the rim of a cup to keep you safe. Utilizes sensors in order to spot any unwanted substances entering a drink in order to protect you.

Connected to Rideshare apps and Location sharing apps, this app sends notifications to you and selected contacts in an effort to keep you safe.

# Existing Solutions

- To avoid this from happening a few modern innovative solutions include
  - Undercover Colors
    - A nail polish used to detect spiked drinks, it works when submerged into the drinks
  - Sip Chip
    - a single use chip, that detects spiked drinks via a sample of the drink

# What We Bring:

While both of these solutions are efficient, and do have the same goals as SPOT, the main difference is that SPOT detects autonomously throughout the night, whereas the other products are either single use or are checks that the consumer would have to use on their own, and only if they remember to.

# Target Market



## Target Market 1

The first aim is to cater to young adults aged 18-25. Although the drinking age is 21, this product is not just for people who drink, it's for people who go out. And young adults 18-20 are mainly college students who go out often and this product should help protect them.

## Target Market 2

The second aim is to eventually mass produce these as glasses and sell them to bars and restaurants. Doing this would attract customers to a safer environment to enjoy themselves, this being beneficial to both the consumers and business owners.

# So what?

What is the societal impact  
of this?

- The SPOTs is a fully automated drink intrusion detection system. It's primary purpose is to identify if a foreign substance enters the drink.
- If something does pass through the SPOTs sensors then it triggers an automatic progressive notification system.
- This ultimately escalates to more apparnt warnings and preprogrammed safety actions if intial contacts to alert have been missed.



# Alert Flow

## Sensors Detect Object

Notification on phone: Potential Intrusive Object Detected in Drink!

User can click on notification to be taken to app

User does not see notification for any reason

Alert Landing Page

I'm OK

Call Rideshare

I need to notify my Emergency Contacts!

I need immediate help!

Prompt 15s then automated call from SPOT

If picked up, after call prompt

Text Primary emergency contacts w Location data + alert message and timing

EX. Intrusive object found in [USER] drink at 9:28PM at [Location]. [USER] may need immediate urgent assistance

Are you sure?

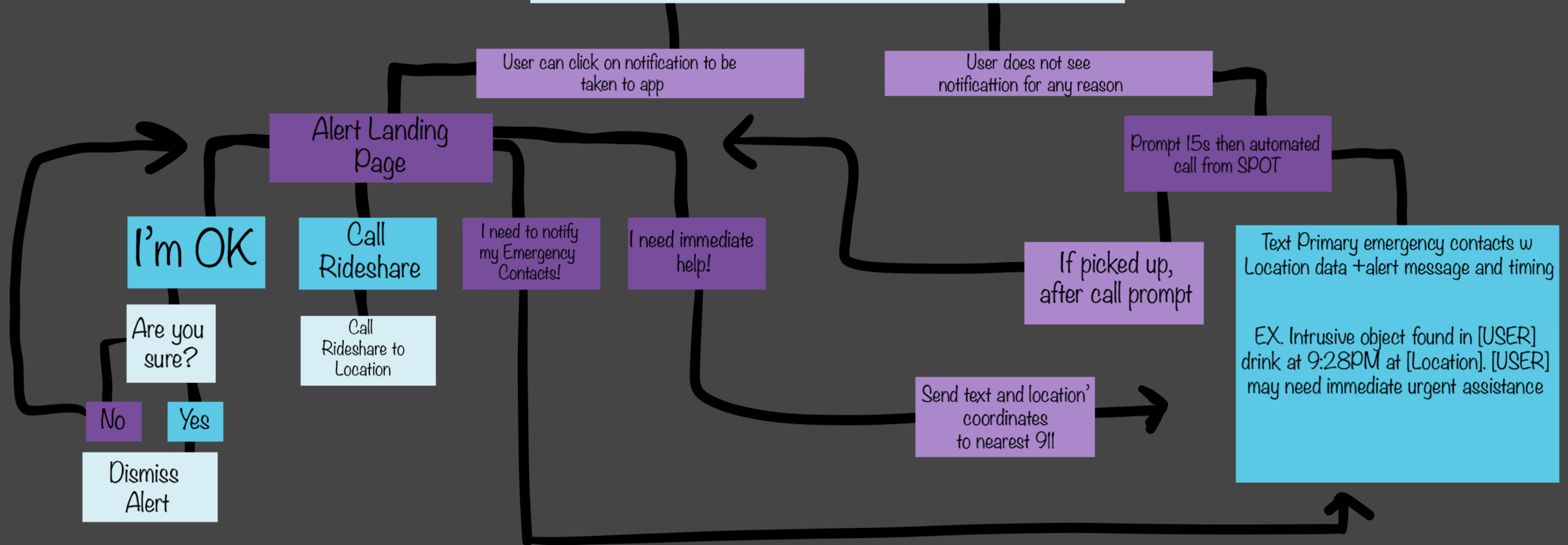
Call Rideshare to Location

Send text and location coordinates to nearest 911

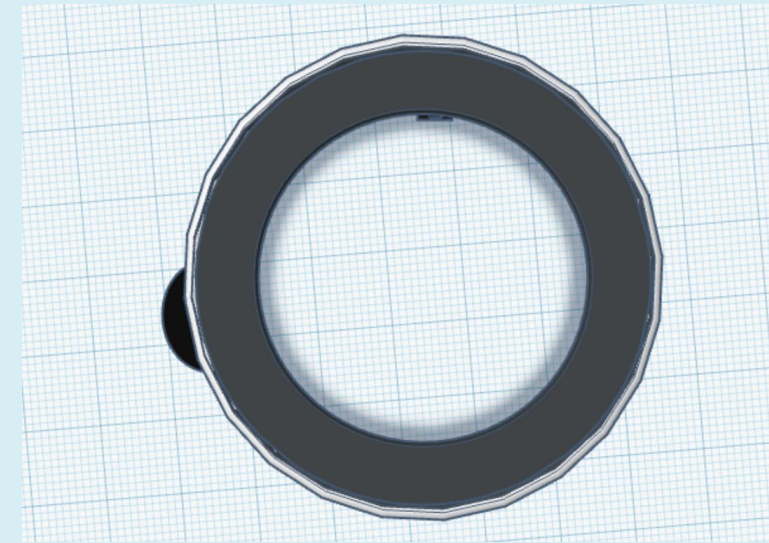
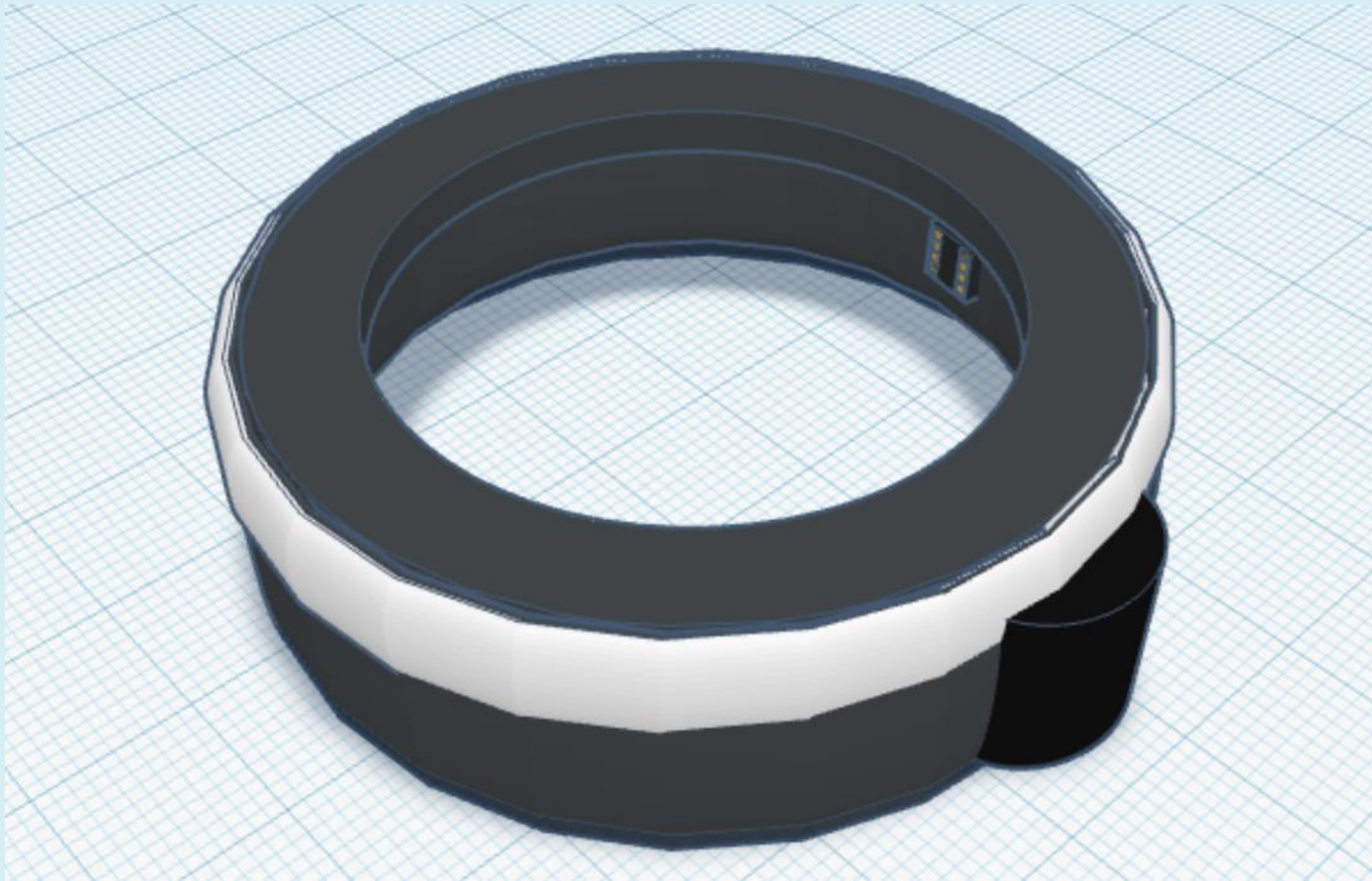
No

Yes

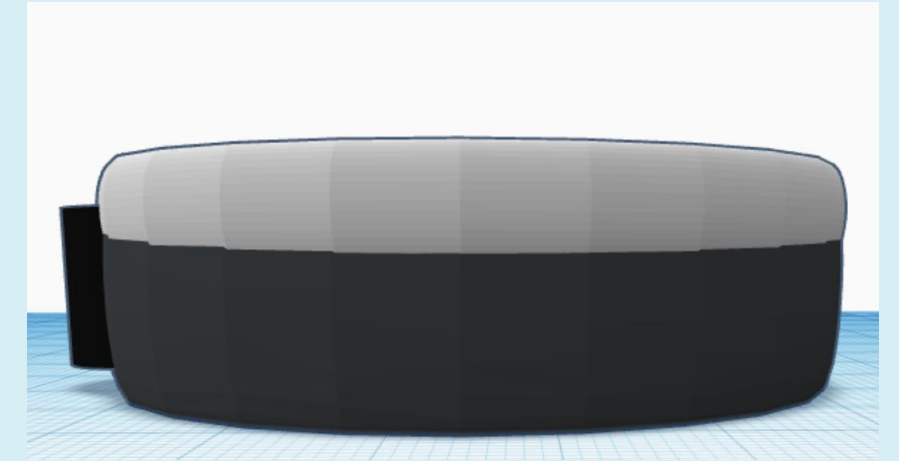
Dismiss Alert







Top



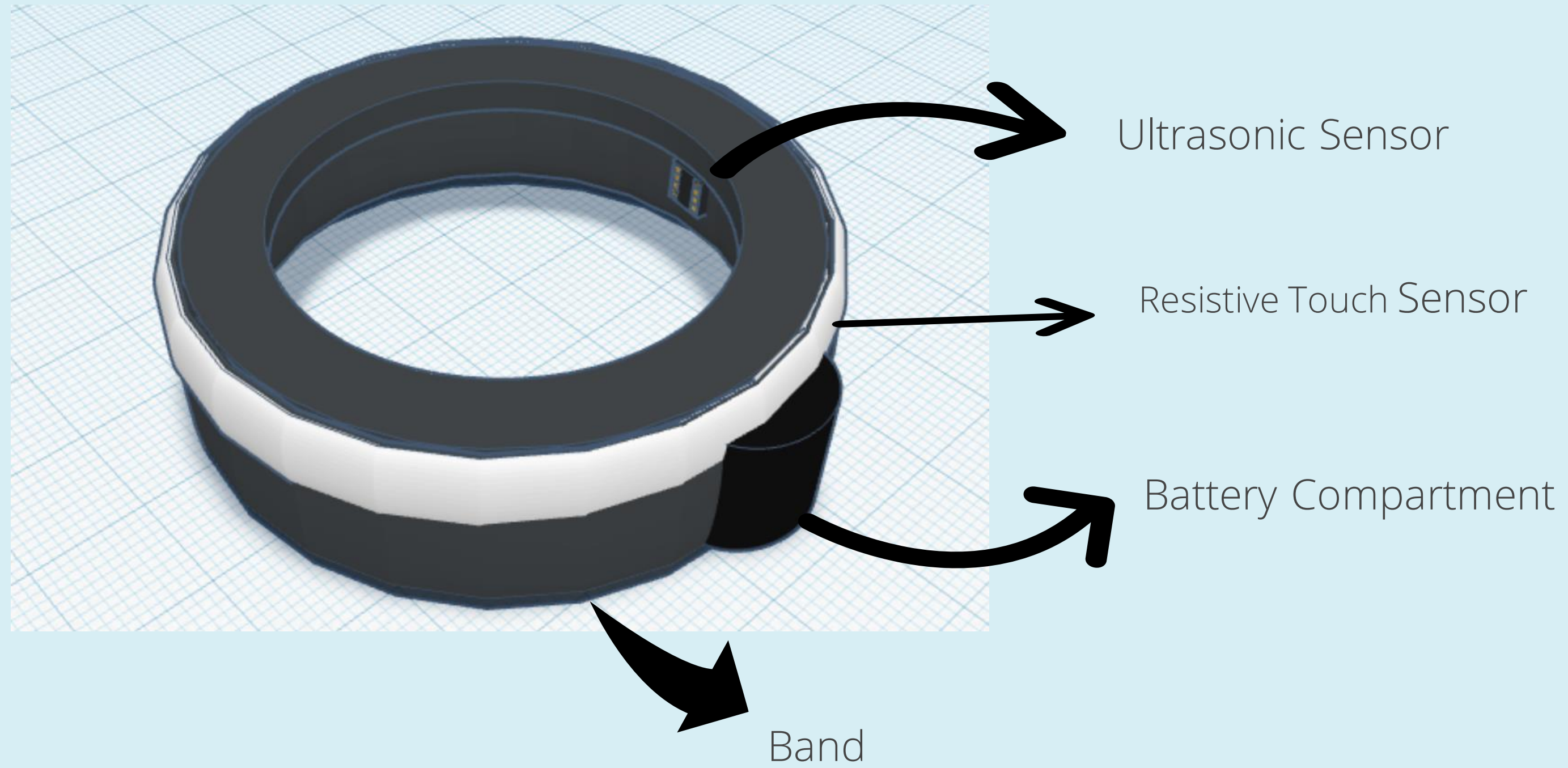
Side



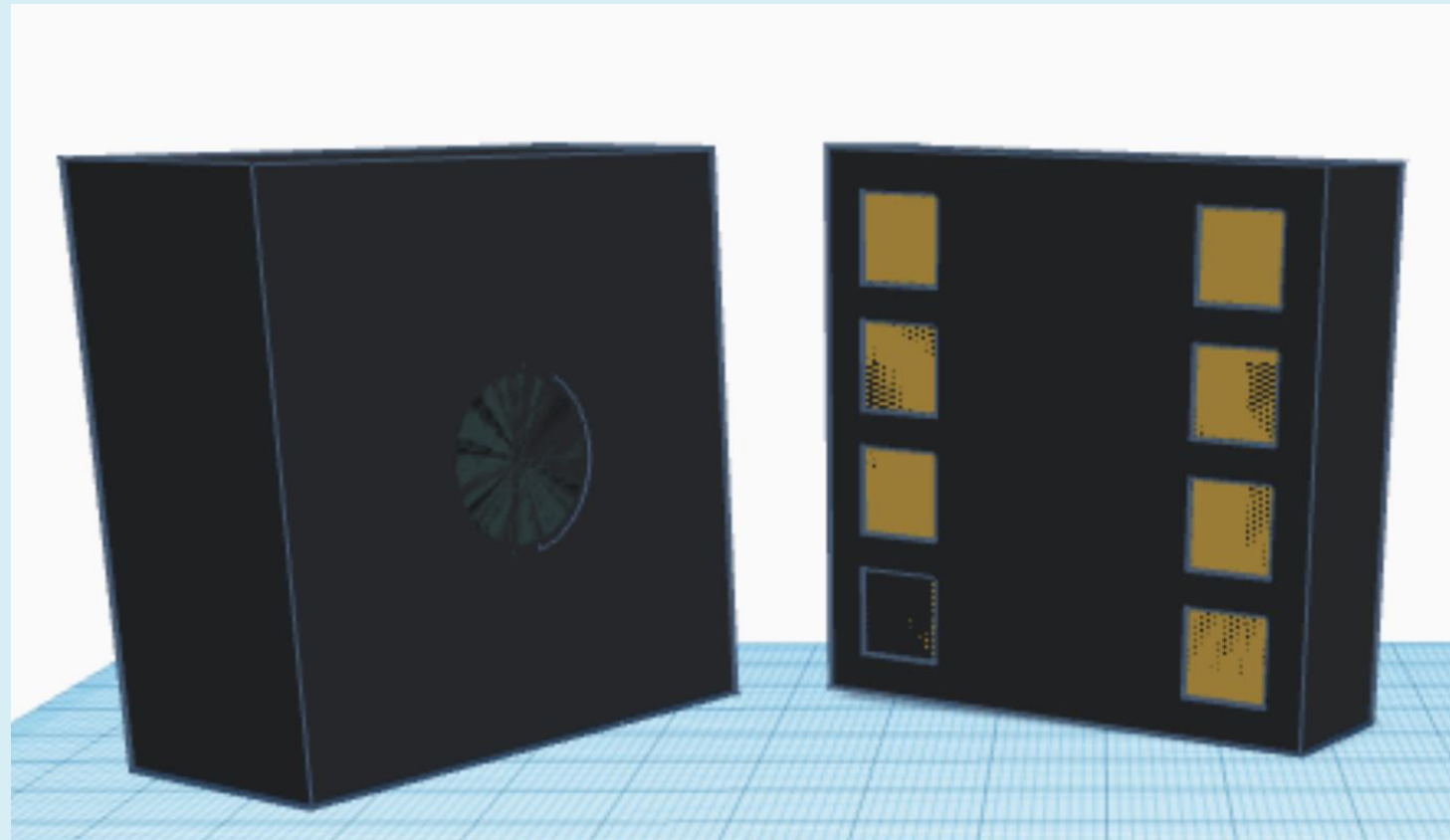
Bottom

Model





Model (cont'd)



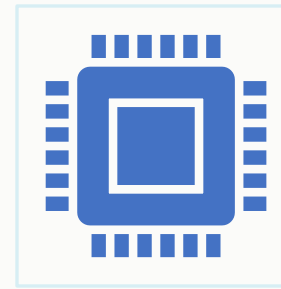
## Ultrasonic Sensor

- The SPOT uses two ultrasonic sensors to ensure detection of foreign objects that may pass into the cup
- Once detected, the sensor will notify the Bluetooth Module, triggering the alert flow through the SPOT app.
- The SPOT utilizes a miniature CH-101 ultrasonic sensor, which is up to 1000 times smaller than standard ultrasonic sensors and has a detection range of 1.2M in any light level
- This ultrasonic has 2 parts, the actual ultrasonic sensor (right) and the receiver (left), which are placed opposite each other in the inside of the SPOT.

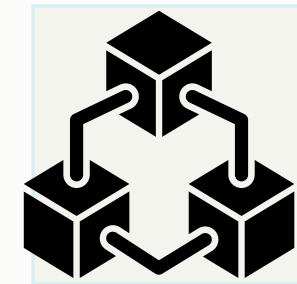
*Sensors*



# Resistive Touch Sensor



The Resistive Touch Sensor detects when our users place their lip on the cup.

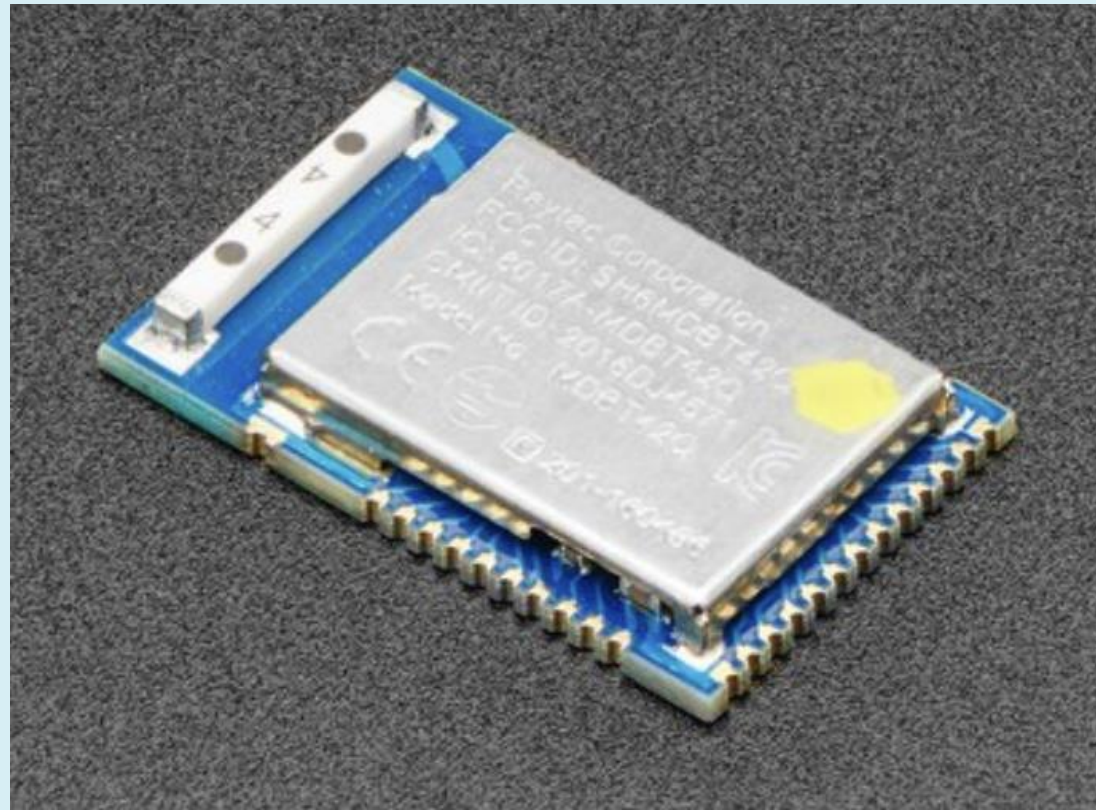


Once detected, it will turn off the ultrasonic sensor, thus avoiding false detections by the ultrasonic sensor.

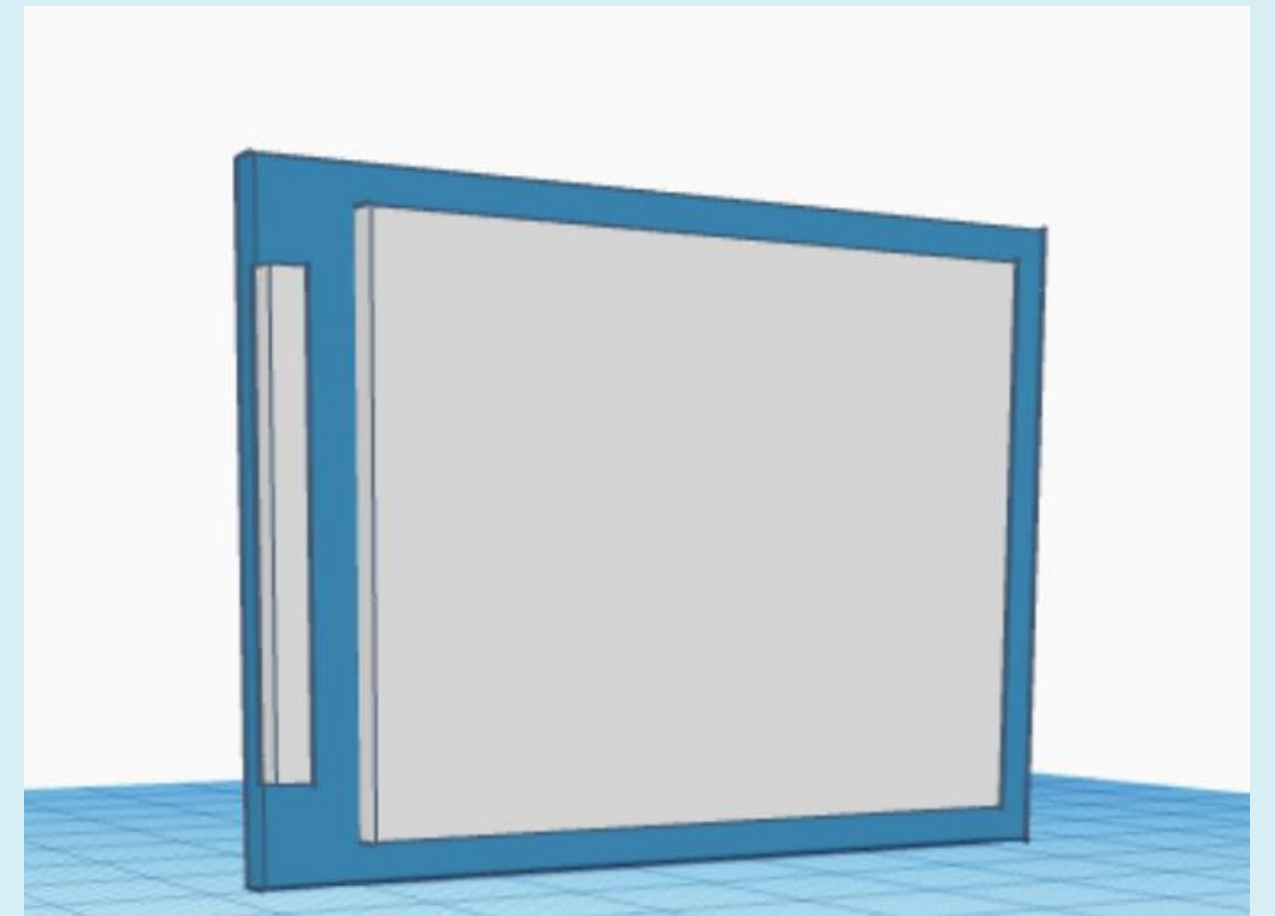


It is positioned around the outside of the SPOT and is placed to ensure it covers all possible areas of where a lip will be placed.

*Sensors (cont'd)*

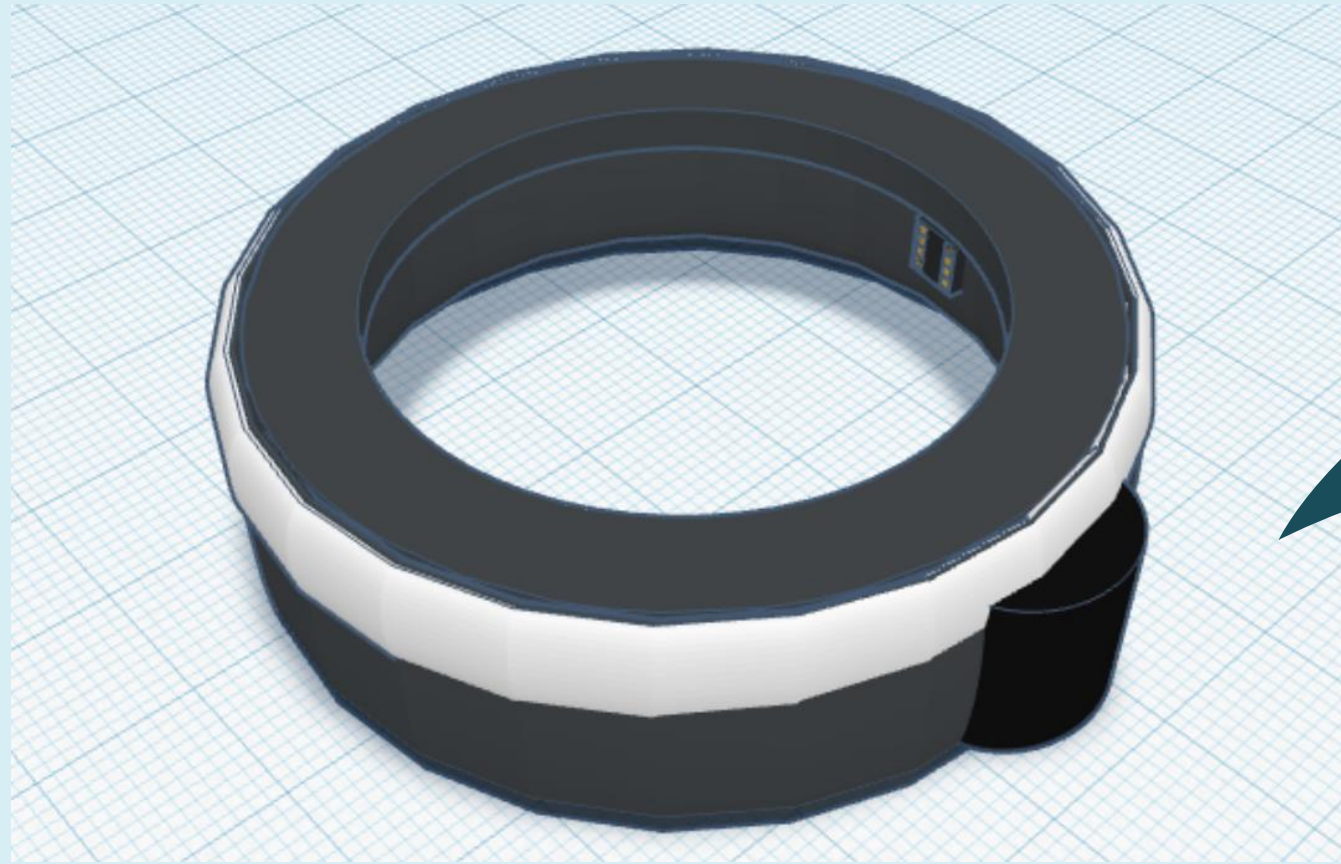


# Bluetooth Module

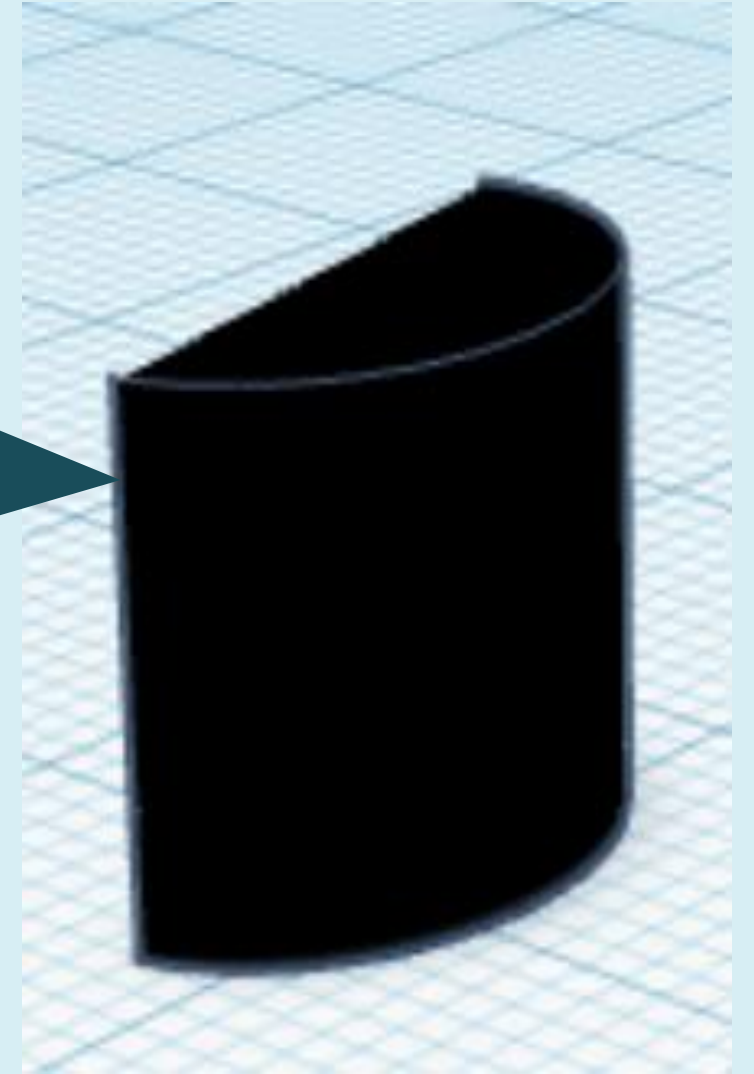


The ultrasmall Bluetooth module is embedded safely within the SPOT allowing for connection with the SPOT app enabling access to the wide variety of the SPOTs safety features.

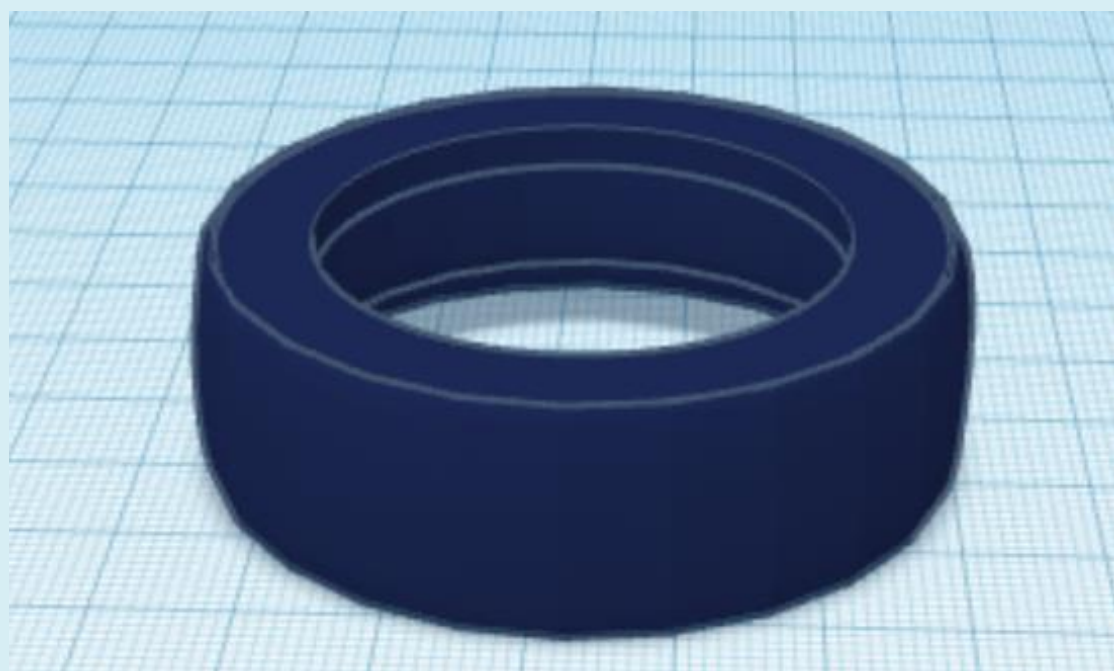




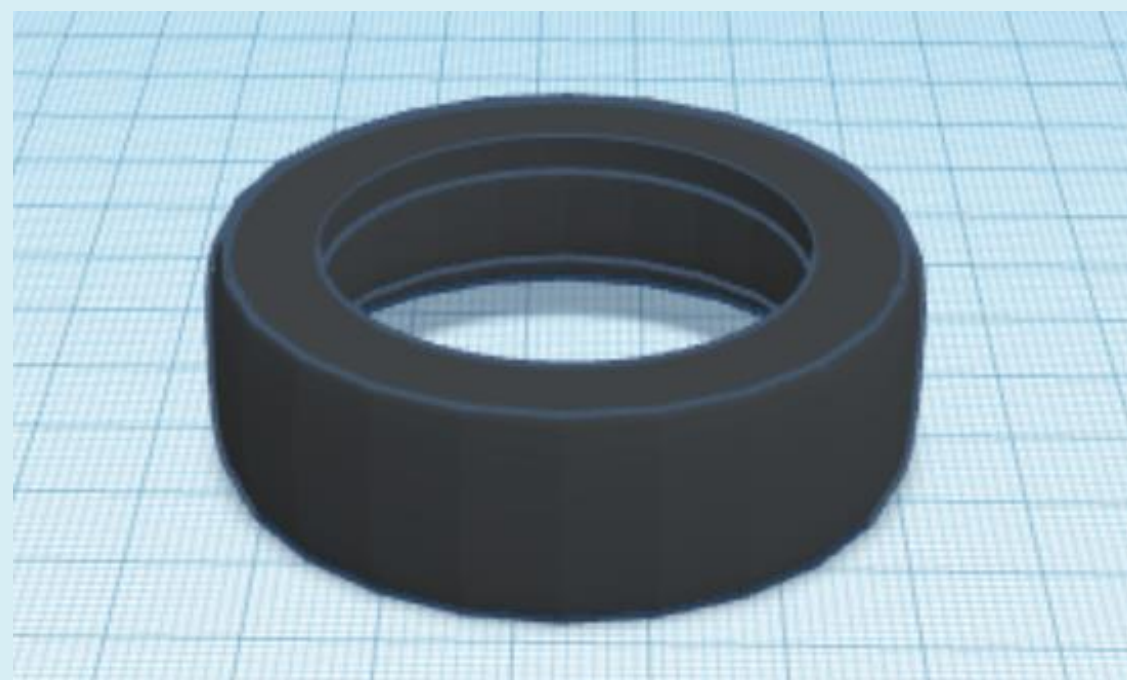
*Power*



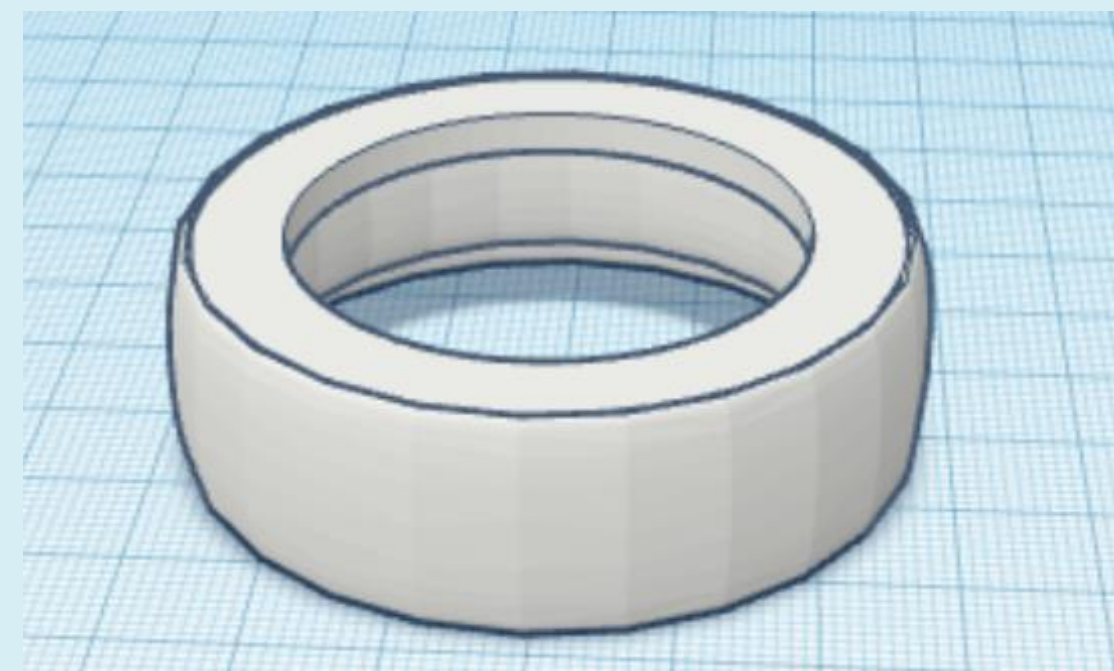
The SPOT requires two 3V Lithium coin cells to function. The black socket is designed to hold two coin cells providing a long runtime.



Navy Blue



Charcoal Gray



Off-White

## *Bands*

The stretchable silicone band allows for placement over various cup sizes creating an "all size fits all" while retaining a durable structure for longevity.





SPOT  
**Welcome**

To the next generation of safety. People can  
suck sometimes, we're here to make it better.

NEXT



TUTORIAL

**Welcome to  
SPOT**

GET STARTED →

The SPOT app  
allows for easy  
login so a user  
can login with the  
same profile onto  
various devices

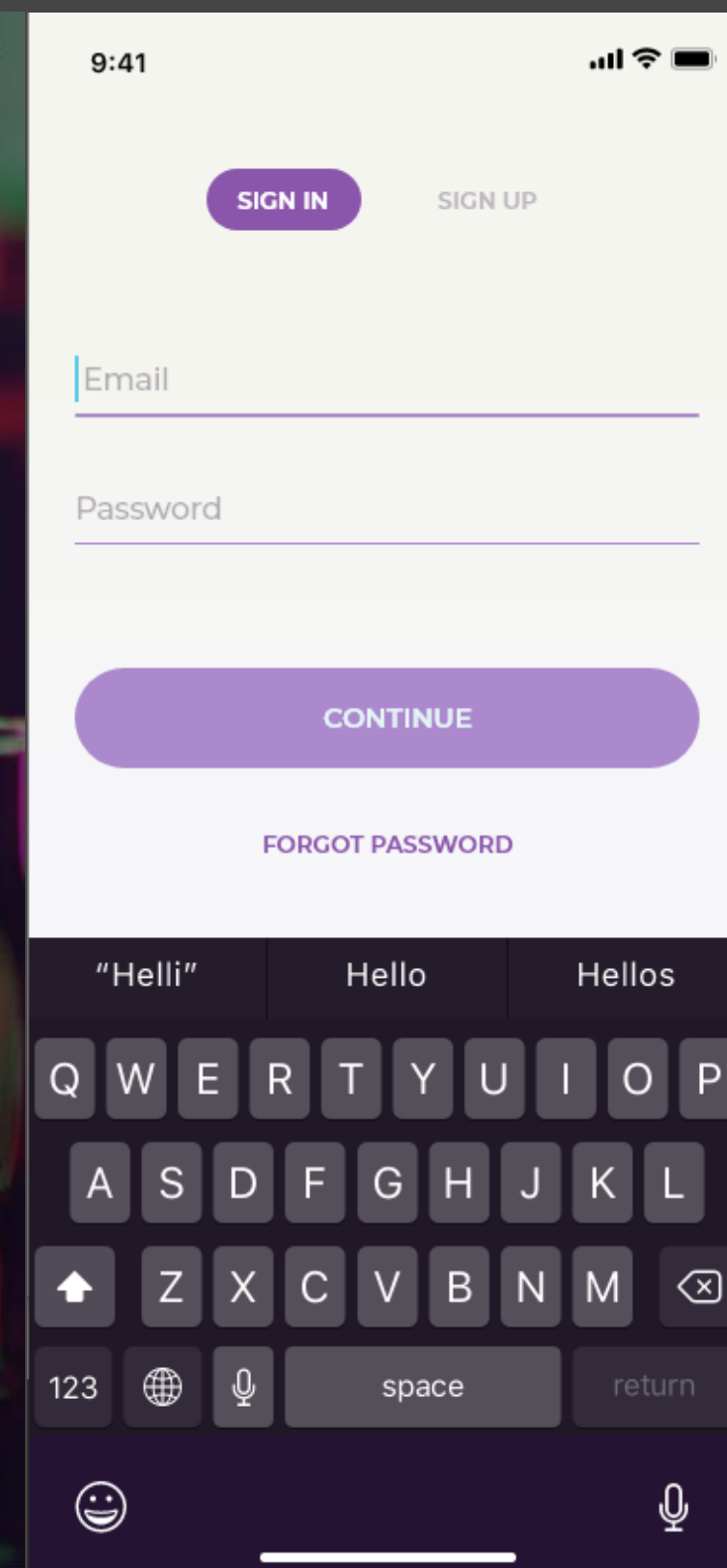


**Sign Up**

CONTINUE WITH:

EMAIL

PHONE NUMBER



SIGN IN

SIGN UP

Email

Password

CONTINUE

FORGOT PASSWORD

"Helli"

Hello

Hellos

Q W E R T Y U I O P

A S D F G H J K L

↑ Z X C V B N M ↵

123 🌐 🗣️ space return

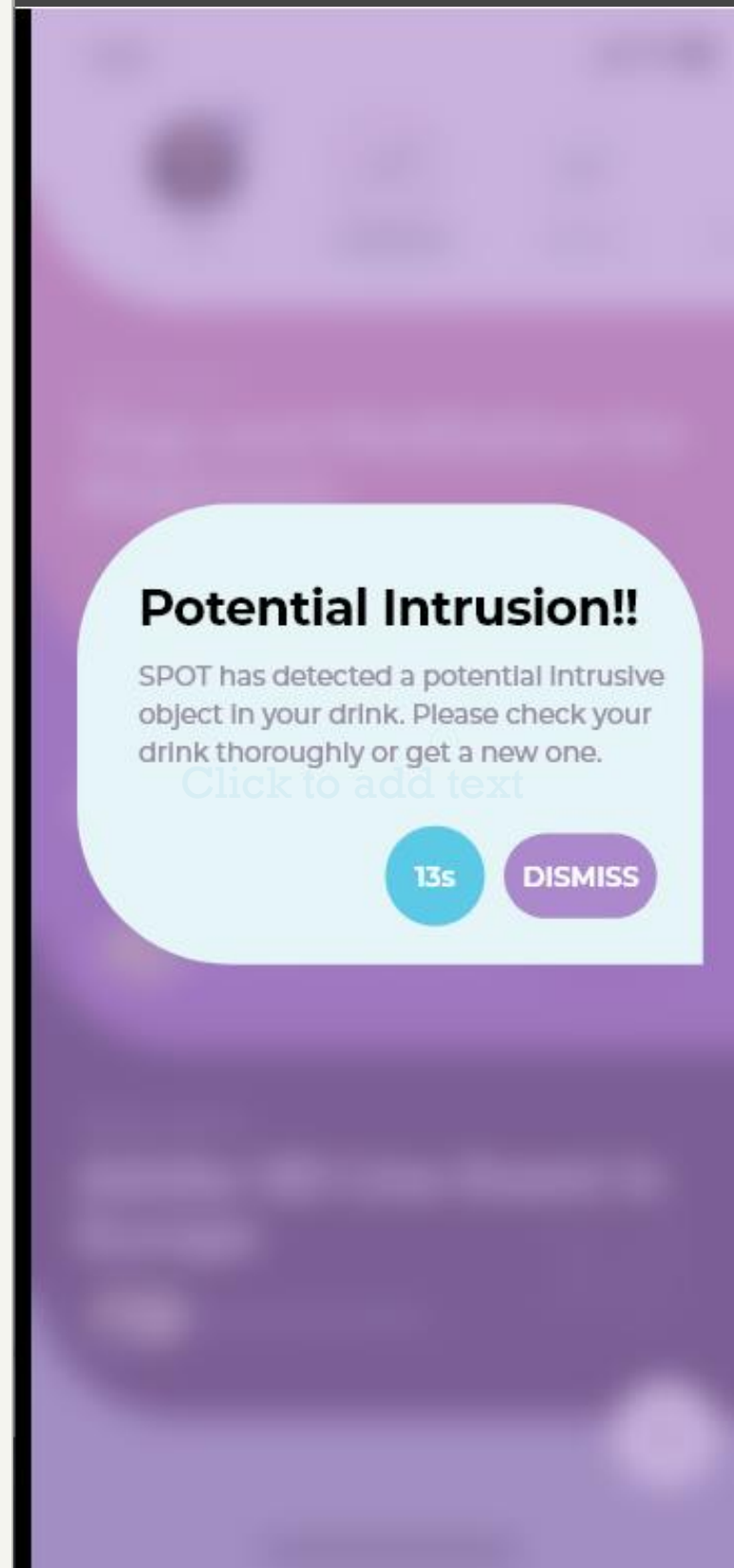
😊 🗣️

The SPOT App

# Alerts/Notifications

The SPOTs extensive alert system has a UI designed to be easy to use even when under the influence.

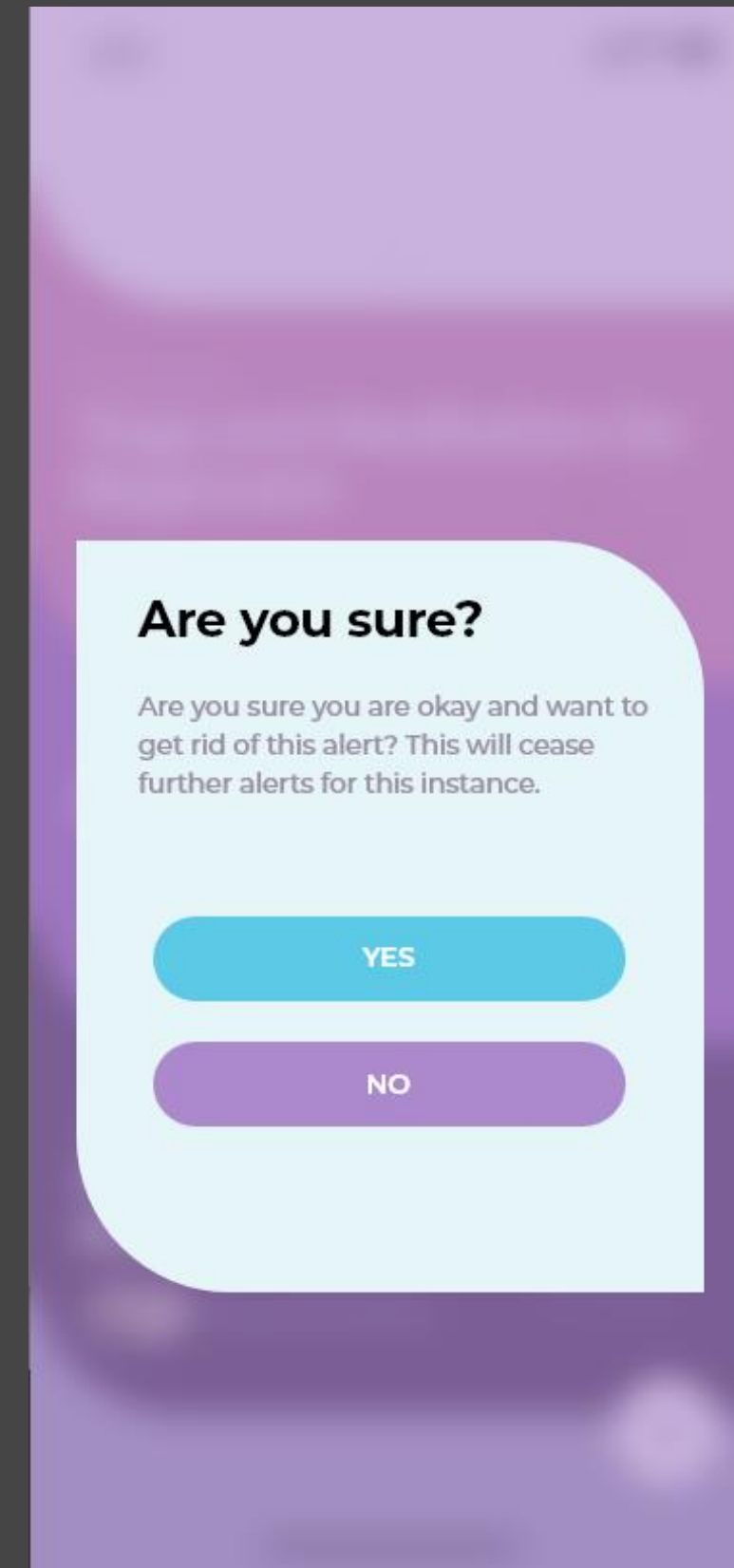
## Potential Intrusion



## Alert Landing Page



## Alert Confirmation





Tuesday, October 14

 SPOT APP

now

### User Profile

Click here for emergency contacts and instructions in the event this individual is in need of assistance

TUESDAY, OCTOBER 14

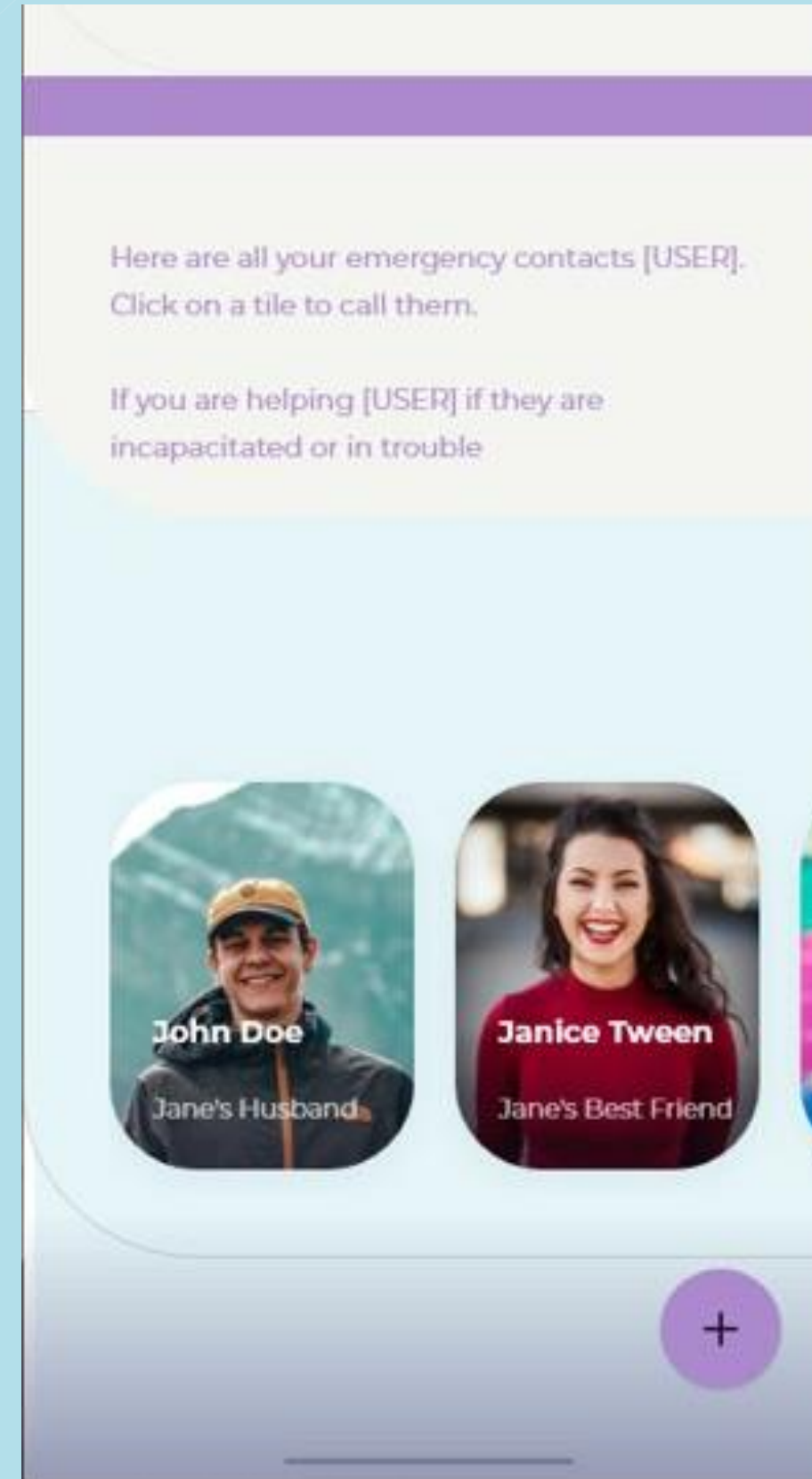
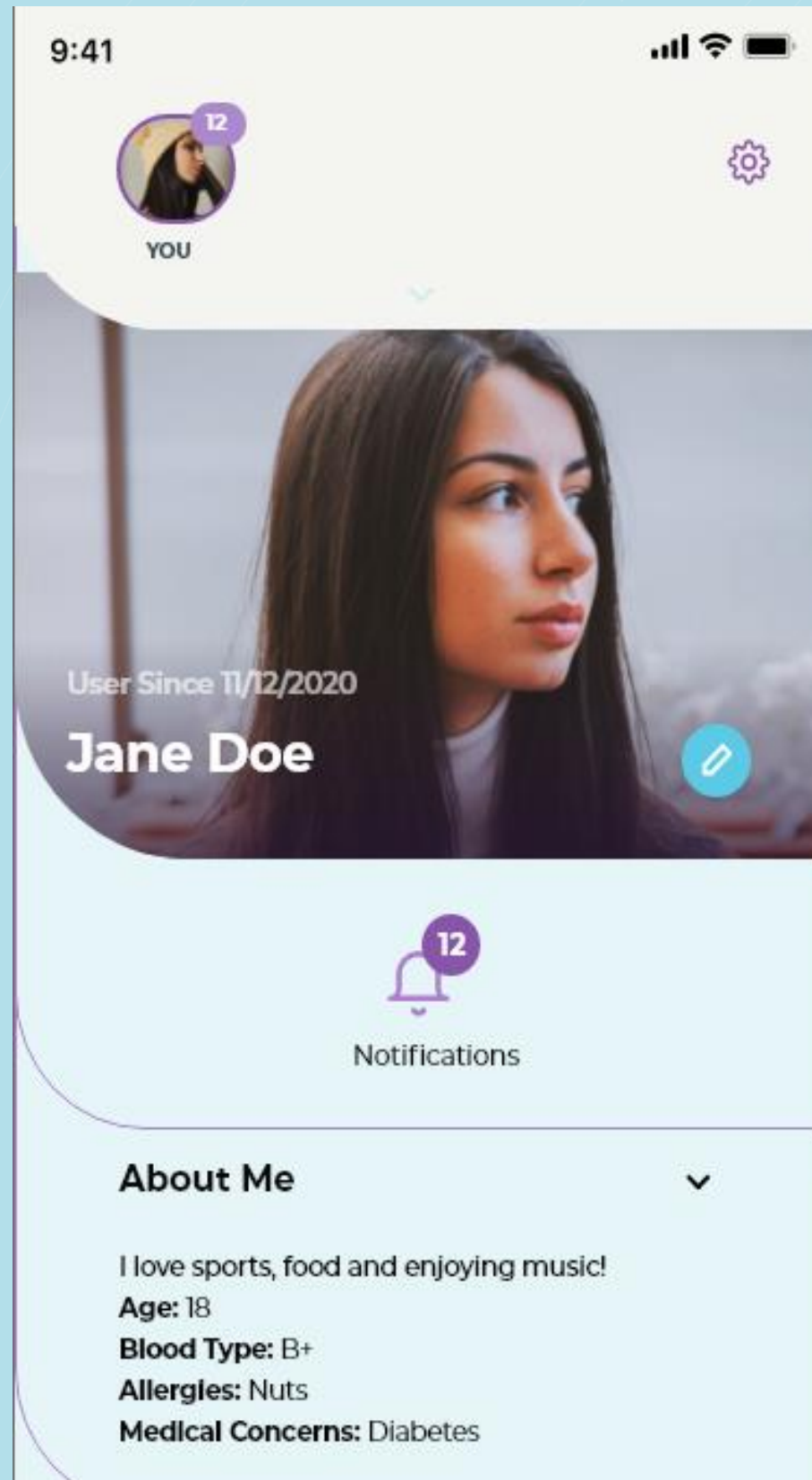
 SPOT APP

### User Profile

Click here for emergency contacts and instructi...



*Emergency Profile Access*



# Emergency Contacts

- The user profile can be accessed from the home screen by clicking on a notification without the need to login. This includes vital medical information and emergency contacts the user has setup.
- Emergency contacts will also receive messages with tracking info if the alert flow progresses to such a stage

## Confirm?

Do you want to add Bhuvan as an emergency contact?

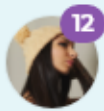


You've added John as an emergency contact!

Add Emergency Contacts

The SPOT can connect to users phones through the official SPOT app via an inbuilt Bluetooth module offering a plethora of safety functions.

9:41



YOU



Notifications



Emergency Contacts



About Me



Advanced Settings



John Doe

ADD ANOTHER

DONE

9:41



## Notifications



Potential Intrusive Object Found

9 hrs



Potential Intrusive Object Found

21 hours ago

You Updated Your 911 Auto-Dial Settings

9 hrs

You Updated Your Emergency Contacts

21 hours ago

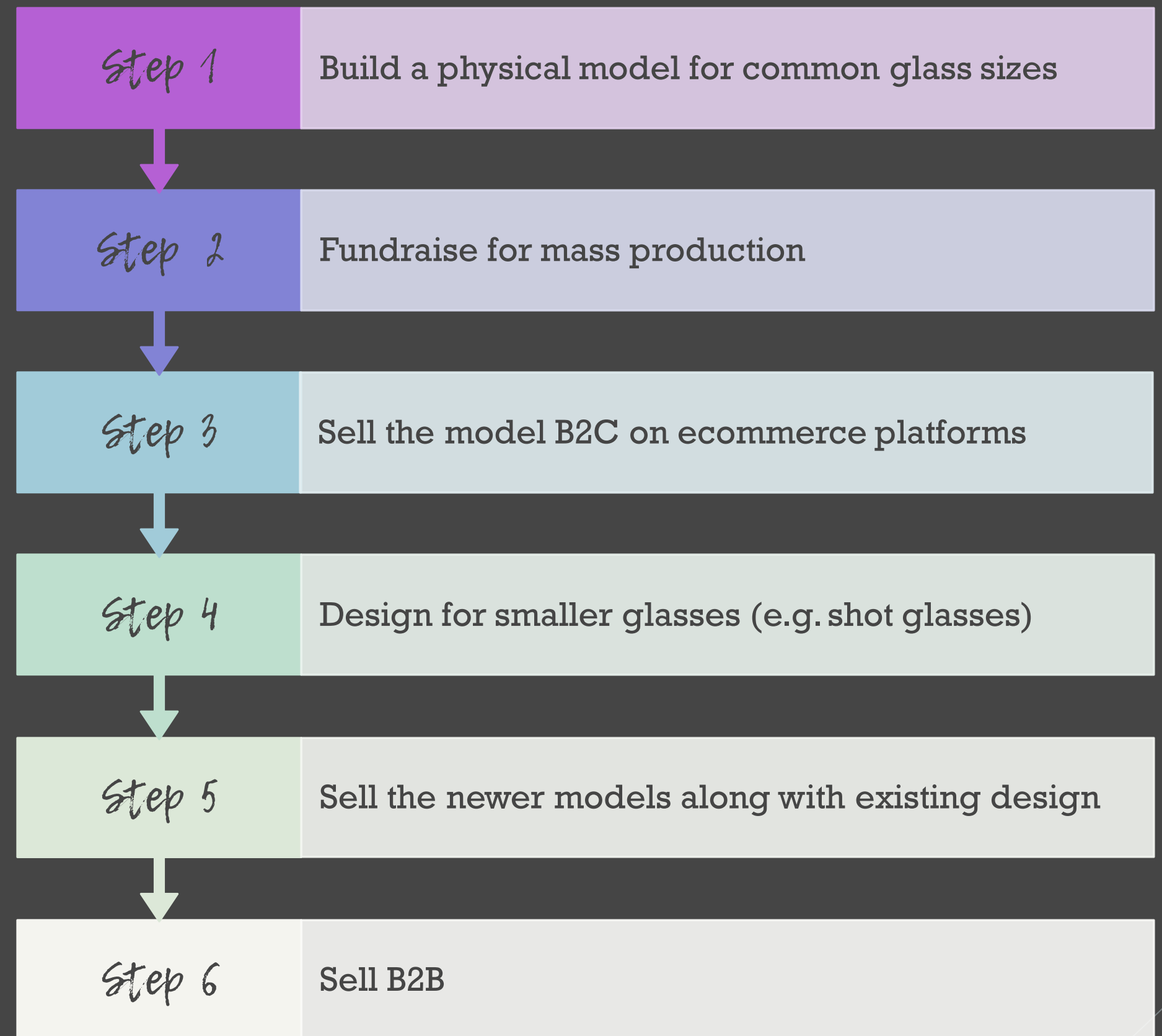
Potential Intrusive Object Found

23 hours ago

NEXT

# Safety Features

# Future Expansions





Anish  
Lathker



Bhuvan  
Kumbakonam



Vinaya  
Prabhu



Vika  
Vijayanand

