

# NST

Allison, Antoni, Basant, Cate, Charlotte, Lindsey, Luke 2.739 | Product Design and Development Spring 2021

# Our Team



Allison Pinto MIT | MechE



Antoni Soledad MIT | MechE



Basant Badr MIT | Sloan



Cate Waft
MIT | MechE



Charlotte Li
RISD | Industrial Design



**Lindsey Moreau**RISD | Industrial
Design/Illustration



Luke Chiang MIT | Sloan



# Consumer Research -



Being a parent, it's quite a bit of strain.

My head is on a constant swivel

I was paying for groceries and suddenly... he was gone

It was five minutes of horror



How could we give parents peace of mind in public places?



**Sarah** *Single Mother of Tara* 

### **Needs**

- To keep track of Tara in public
- Reliably know where Tara is
- Have a simple, easy to use system Photo by Kamaji Ogino from Pexels



Tara
6-year-old daughter of
Sarah
Needs

- To be curious and explore
- Have a cool product to wear
- Not get separated from her mother

Photo by Kamaii Oaino from Pexe

# Competitive Landscape

# Manual



# **Electronic**









# NOTI

# **Noti App**

### **Made for parents**

- Specify a distance that they would like to be notified
- Receive notifications as alerts of their child wandering off



# **Noti Bracelet**

### Made for kids

- Provides extra safety with childproof buckle
- Customizable accessories

# Our Product | Value Proposition

**Passive Tracking** 

Distance Threshold Notifications

Compact and Playful Bracelet Design

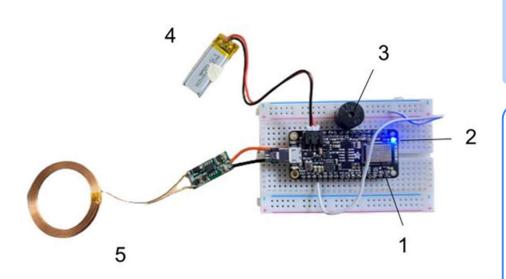
Simple and Intuitive App

Customizable

Durable



# Design Highlights | Bluetooth Technology



- 1. Adafruit Bluefruit Feather Board NRF52832 (BLE module)
- 2. Built-in LED light
- 3. 3W Piezo-electric speaker
- 4. 3.7V, 100mAh Li-PO battery
- 5. 5V, 500mA inductive charging coils

### **Design Principle**

"I want to know when my child wanders off without having to constantly monitor them"

### **How it Works**

- Feather Board connects to app using bluetooth
- Buzzer & LED alerts if device is out of range
- Inductive charging
- Simulates how the bracelet connects to Noti app

### **Customer Feedback**

"I understand how the bracelet should work now"



### **Design Principle**

"I want to be immediately notified when my child leaves my vicinity"

- Connected via bluetooth to child's bracelet
- Provides customizability for range & notifications
- Allows user to send alert to child's bracelet
- Allows user to send child's profile to the police

### **Customer Feedback**

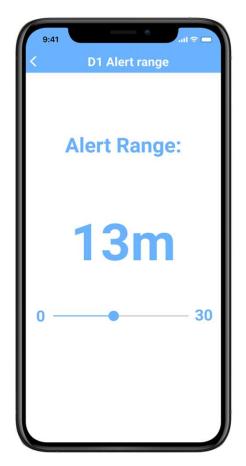


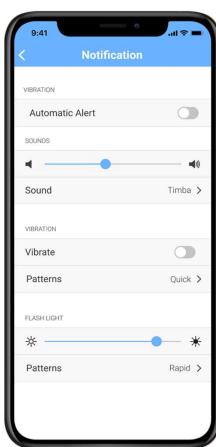
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### **Customer Feedback**





### **Design Principle**

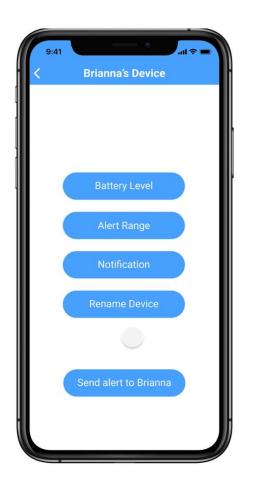
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### **Customer Feedback**



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### **Customer Feedback**



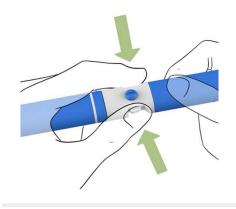
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### **Customer Feedback**

# Design Highlights | Locking Mechanism



 Use one hand to squeeze the tabs.



With the other hand pull on the straps to release the bracelet.

### **Design Principle**

"I don't want my child to easily take off or lose the bracelet"

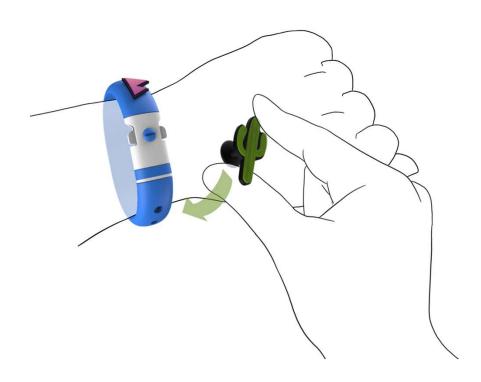
### **How it Works**

- Follows the form of a basic side release buckle
- Requires 2 hands to squeeze and pull
- Tabs set in deeper to make it more difficult to release

### **Customer Feedback**

"My toddler won't be able to get this off with one hand""

# Design Highlights | Band & Accessories



### **Design Principle**

"I want my child to be excited to put on the bracelet and comfortable while wearing it."

### **How it Works**

- Silicon housing for flexibility & durability
- Could be customized by attaching additional accessories

### **Customer Feedback**

"My girl loves accessories so she'll love something that she could customize."

# -Customer Feedback-

### **Parent**

Setting up the device is easy and intuitive

I love the ability to customize alert settings

I like that I don't have to carry another device

With multiple kids, this is definitely something I need

# **Child**

The farther away I get from [my dad] the more it buzzes

So can I wear this at school?

I like how it looks and feels... it's squishy

It almost feels like I'm not wearing it





# Business Model

### B2C operating solely in the U.S.A



25 Million

Addressable

Market
Estimated number
of US households
with children

between ages 4-8

**Total** 



2.5%

% of TAM YoY

Estimated number of TAM forecasted to adopt Noti is 625K



\$23.6M

Next 4-year Profit

Revenus is based on estimated LTV per household is averaged at \$94.

# Business Model

# **Distribution Channels**



Retail:

Walmart

Target

Best Buy

Online:

Our own website

Amazon

# Revenue



One Time purchase of Noti

**Premium Subscription:** 

Metrics

Monthly Accessories

**Community Features** 

**Accessories Upsell** 

# **Costs**



R&D

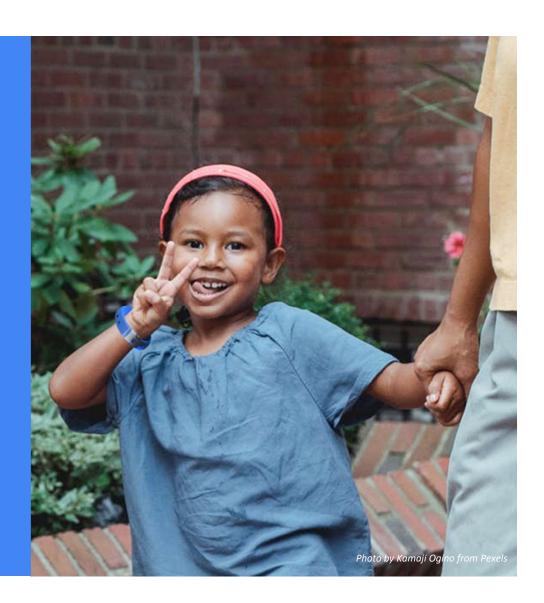
Materials & Manufacturing

Sales & Marketing

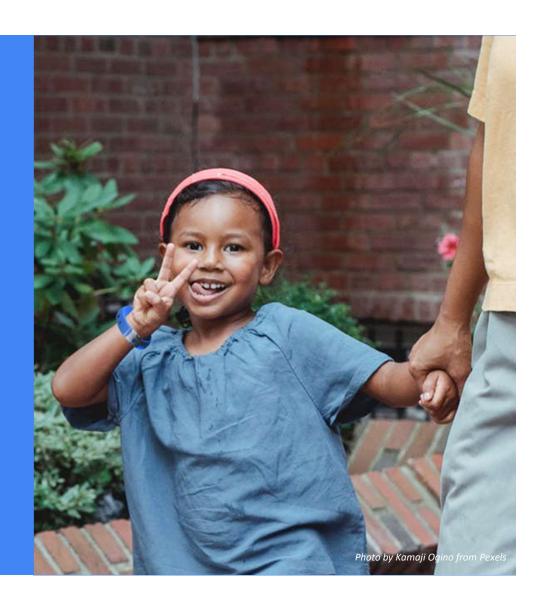
**Technology Infrastructure** 



Giving parents peace of mind in public places.







# Business Model—

# **Distribution Channels**

- Retail: Walmart, Target, Best Buy
- Online: Our own website, Amazon

## Revenue

- One time purchase of Noti
- Premium Subscription: Metrics,
   Monthly Accessories, Community
   Features
- Accessories upsell

# **Costs**

- D 2. C
- Materials & Manufacturing
- Sales & Marketing
- Tech infrastructure Costs

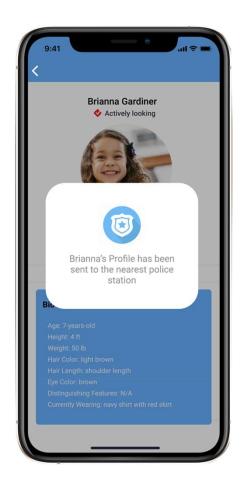


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### **Customer Feedback**



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### **Customer Feedback**

### Consumer Research

I was paying for groceries and suddenly he was gone

My head is on a constant swivel

It was five mirrules of horror

I would like something where I could passively monitor [my kids] so I can engage in a conversation

I would like something less visible that's hard to take off

Being a parent, it's quite a bit of strain.

Give parents peace of mind in public places.

@cate can u help with formatting lol im bad at this Allison Pinto, 5/11/2021 1

# Design Process

**Sprint 1**Field
Research

Sprint 2
Concept Design
Review

Sprint 3
Working
Model

**Sprint 4**Refined
Model

**Sprint 5**Alpha
Prototype

# -Customer Feedback-

# **Parent**

Text placeholder text placeholder

Text placeholder text placeholder

Text placeholder text placeholder

# **Child**

The farther away I get from [my dad] the more it buzzes

**6** can I wear this at school?

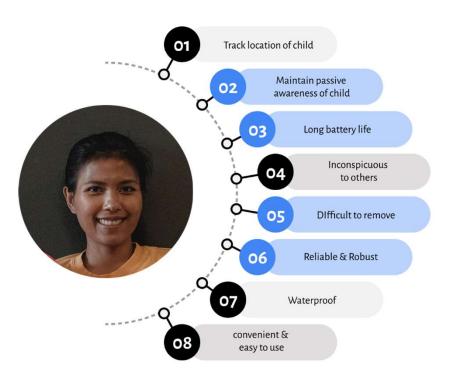
I like how it looks... it's squishy

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# User Personas

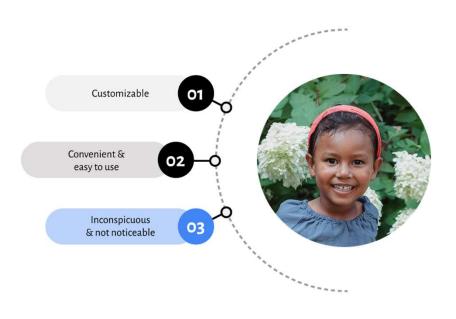
# Sarah

Single mother of Tara

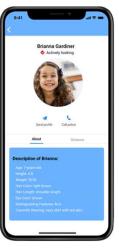


# **Tara**

6-year-old daughter of Sarah













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### **Customer Feedback**

# Typical Questions

Are you able to hear the app notifications in a busy place?

Are Noti's accessories a choking hazard?

What are you doing to ensure data and tracking privacy?



Can you use the app with multiple children/bracelets?

Is Noti made for continuous use?

Are you able to track your child when they go missing?



Giving parents peace of mind in public spaces.



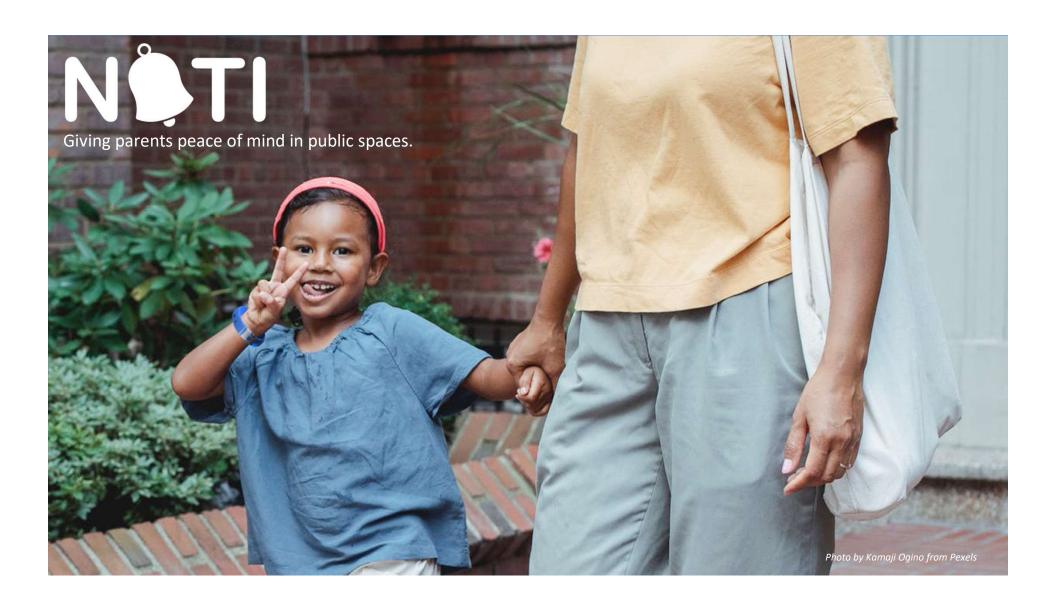
Giving parents peace of mind in public spaces.



Not sure which one looks nicer



Giving parents peace of mind in public spaces.





# **Final Presentation Contents**

Sprint 5 Demo/Review - Class 23 - May 13

□Define the opportunity and scenario.
□Highlight exemplary aspects of your process.
□Show your final models and prototypes.
□Demonstrate the product in use.
□Show test results and customer feedback.
□Explain the go-to-market strategy and business plan.
□Involve the whole team (at least for Q&A).
□An example from a past year is on Canvas.
□Consider this a public disclosure (w.r.t. patenting).