

The page features decorative circuit-like lines in the corners. The top-left and bottom-left corners have dark blue lines, while the top-right and bottom-right corners have light blue lines. These lines consist of straight segments connected by small circles, resembling a stylized circuit board or data network.

CASE STUDY: invisawEAR SMART JEWELLERY

SMART CONNECTED PRODUCTS

- Smart connected products have 3 **core elements**

- Physical components

- e.g., from the case?

- Smart components

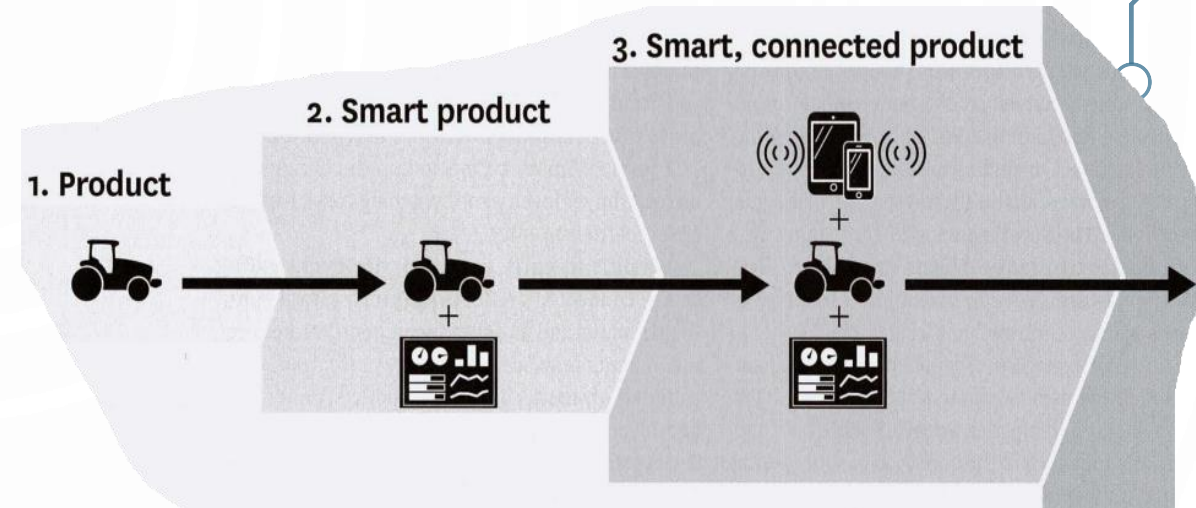
- e.g., from the case?

- Connectivity components

- Connectivity : one-to-one, one-to-many, many-to-many

- Connectivity enables information exchange and some *product functions to exist outside the physical device*

- e.g., from the case?



BASICS

- Trigger for the idea ?
- An IoT-based safety wearable (intended customers – mainly women)
 - Two components – (1) the physical charm, less than 1 inch in diameter, worn as a bracelet, necklace or keychain; (2) The InvisiWear mobile app
 - Enables sending discreet SOS message to family, friends & optionally, to police – press the charm twice in emergency

- What is the problem space? Do you think users would adopt this technology? What kind of users?
 - How did they identify user needs?
 - How will you contextualize and (re)define the problem?



- What is the envisaged solution?

- Physical components & software –What approach is followed here?

- Have you noticed other digital products that address the similar problems of safety? How have they addressed/approached women's or people's safety in public spaces? Weigh the pros and cons of different approaches in addressing the problem of safety.

COMPETITOR ANALYSIS

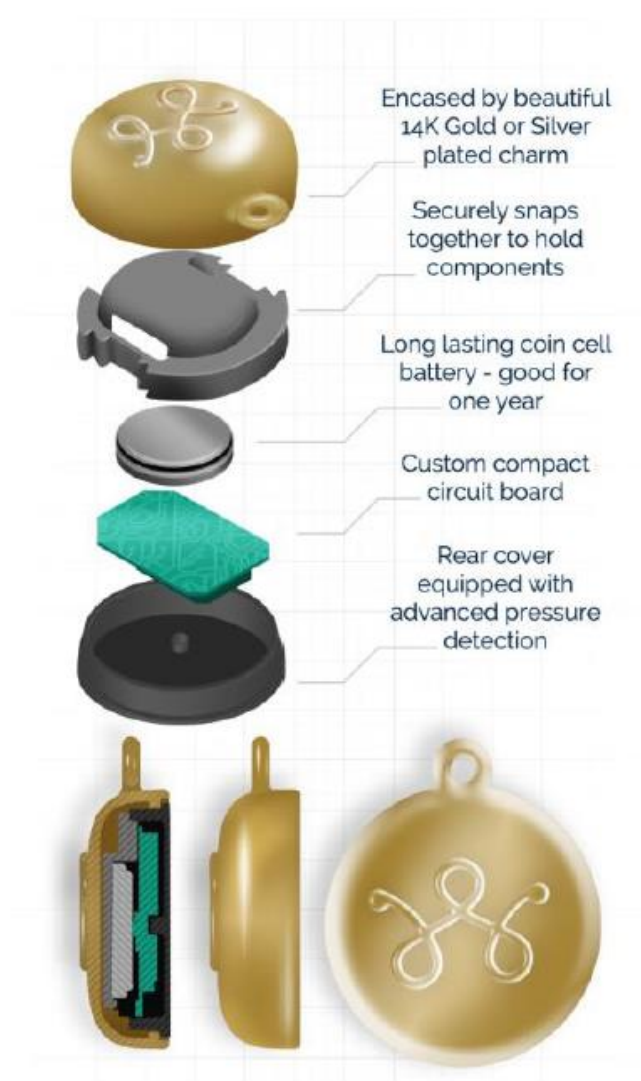
	Price	Notify family	Notify police	Bracelet	Necklace	Keychain	Tracks heath statistics
invisaWear	\$129.00	X	X	X	X	X	
Roar for Good Athena	\$129.00	X				X	
React Mobile Sidekick	\$69.99	X	X			X	
Revolar	\$79.99	X				X	X
Safelet	\$34.95 to \$79.95	X		X			

Source: Created by casewriters based on interviews and web research. April 2018.

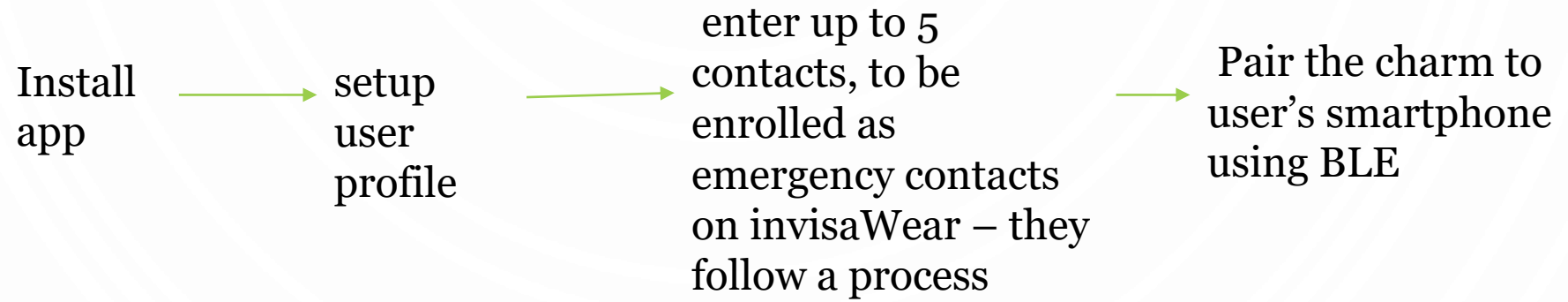
INVISAWEAR



Figure C: The Inner Workings



How to use?



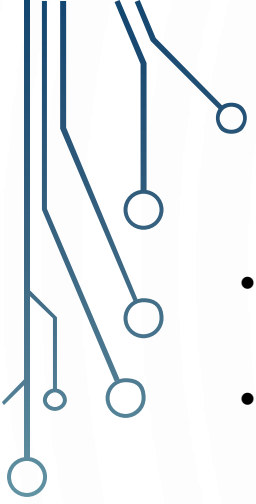
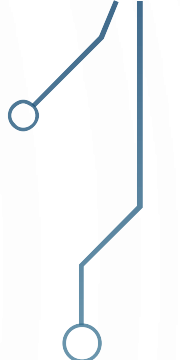
COMPLEXITY OF SOLUTION SPACE

- **New technology stack & complex design**
- **Massive data flows** from IoT/smart connected products & systems
- Building blocks for IoT solutions – e.g., Microsoft's IoT Hub, Azure Digital Twins

PARTNERS

	Partner	Value Add
Hardware	Arrow Electronics	Battery, processing components, Bluetooth® Low Energy (BLE) module
Assembly	Accutronics	Circuit board assembly
Software	DMC	Firmware
	Zco	Mobile application

Others : RapidSOS API for emergency communication

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- The team?
 - Funding & resources - \$5,00,000 secured from start-up competitions, an angle investor, a local bank, and Indiegogo crowdfunding
 - Starting small – B2C focus (additional details- B2B in future)

DESIGN/TECHNICAL CONSIDERATIONS

- Design team–
 - come up with solutions that engineering team can implement
 - information architecture – in what order things are presented to the customer
 - wireframes; pixels
- GPS – to be setup in the charm..? Availability of technology? IoT components & capability?
- Maximum of 30 ft distance between the charm-smartphone, for the signal to be received
- Other safety apps - [The Best Personal Safety Devices, Apps, and Alarms \(2022\) | WIRED](#)

USER PERSONA CONSIDERATIONS

- What is/are the user persona(s) used in the case?
- Possible refinement of personas?
- Other extensions to user personas? Other contexts? Other target customer segments?

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CONNECTED STRATEGIES FOR DIGITAL PRODUCTS

CONTINUOUS CONNECTION WITH THE CUSTOMERS

TRADITIONAL CUSTOMER JOURNEY

- **Customer relationships** - companies interacting with their customers episodically
- **Traditional customer journey**
 - Recognize - customer becomes aware of the need
 - Request – customer identifies a product or service which satisfies his/her need and contacts the company to meet it
 - Respond – customer experiences how the company delivers the product or service

DIGITAL ENABLES 24X7 CUSTOMER RELATIONSHIPS...

- Technology-enabled frequent, low-friction and customized digital interactions with customers
- Sensing customer needs and addressing them the moment they arise
 - E.g., MagicBands by Disney World (RFID-enabled)
 - MC-Graw Hills – from selling books to creating personalized
 - Nike – everyday connections through a wellness system
- Making continuous connection a part of firms' business models
 - Recognize- request- respond - repeat

Which Connected Strategies Should You Use?

CONNECTED STRATEGY	DESCRIPTION	KEY CAPABILITY	WORKS BEST WHEN	WORKS BEST FOR
Respond to desire	Customer expresses what she wants and when	Fast and efficient response to orders	Customers are knowledgeable	Customers who don't want to share too much data and who like to be in control
Curated offering	Firm offers tailored menu of options to customer	Making good personalized recommendations	The uncurated set of options is large and potentially overwhelming	Customers who don't mind sharing some data but want a final say
Coach behavior	Firm nudges customer to act to obtain a goal	Understanding customer needs, and ability to gather and interpret rich data	Inertia and biases keep customers from achieving what's best for them	Customers who don't mind sharing personal data and getting suggestions
Automatic execution	Firm fills customer's need without being asked	Monitoring customers and translating incoming data into action	Customer behavior is very predictable, and costs of mistakes are small	Customers who don't mind sharing personal data and having firms make decisions for them

CONNECTED STRATEGIES

Strategy - Respond to desire

- Capabilities :
 - Operational capabilities : fast delivery, minimal friction, flexibility & precise execution
 - e.g, Uber, Amazon orders
- When to use this strategy?
 - Much later in the journey – **‘respond’** - speed is the key!
- Customers who like this strategy?

CONNECTED STRATEGIES

Strategy - Curated offering

- **Capabilities**
 - Operational capabilities : personalized recommendation
 - e.g, e-commerce applications
- **When to use this strategy?**
 - After 'recognize' , but before 'request'
- Customers who like this strategy?

CONNECTED STRATEGIES

Strategy **Coach behaviour**

- coaching: pro-actively remind customers of their needs and encourage them to achieve their goals

- **Capabilities**

- a deep understanding of customer needs; ability to gather and process rich contextual data

- **When to use this strategy?**

- After ‘recognize’; set goals and nudge customers to achieve them
- Needs constant two-way communication with customers

- **Customers who like this strategy?**

- Those who know they need nudging

CONNECTED STRATEGIES

Strategy **Automatic execution**

- No customer involvement
 - Customer authorizes companies for automatic execution
 - E.g., IoT solutions; fall-detection & health vitals sensors in smart wearables
- **Capabilities**
 - Trust, rich information flow from the customer, ability to
 - **When to use this strategy?**
 - Meet the needs of customer even before the customers recognize they have a need!