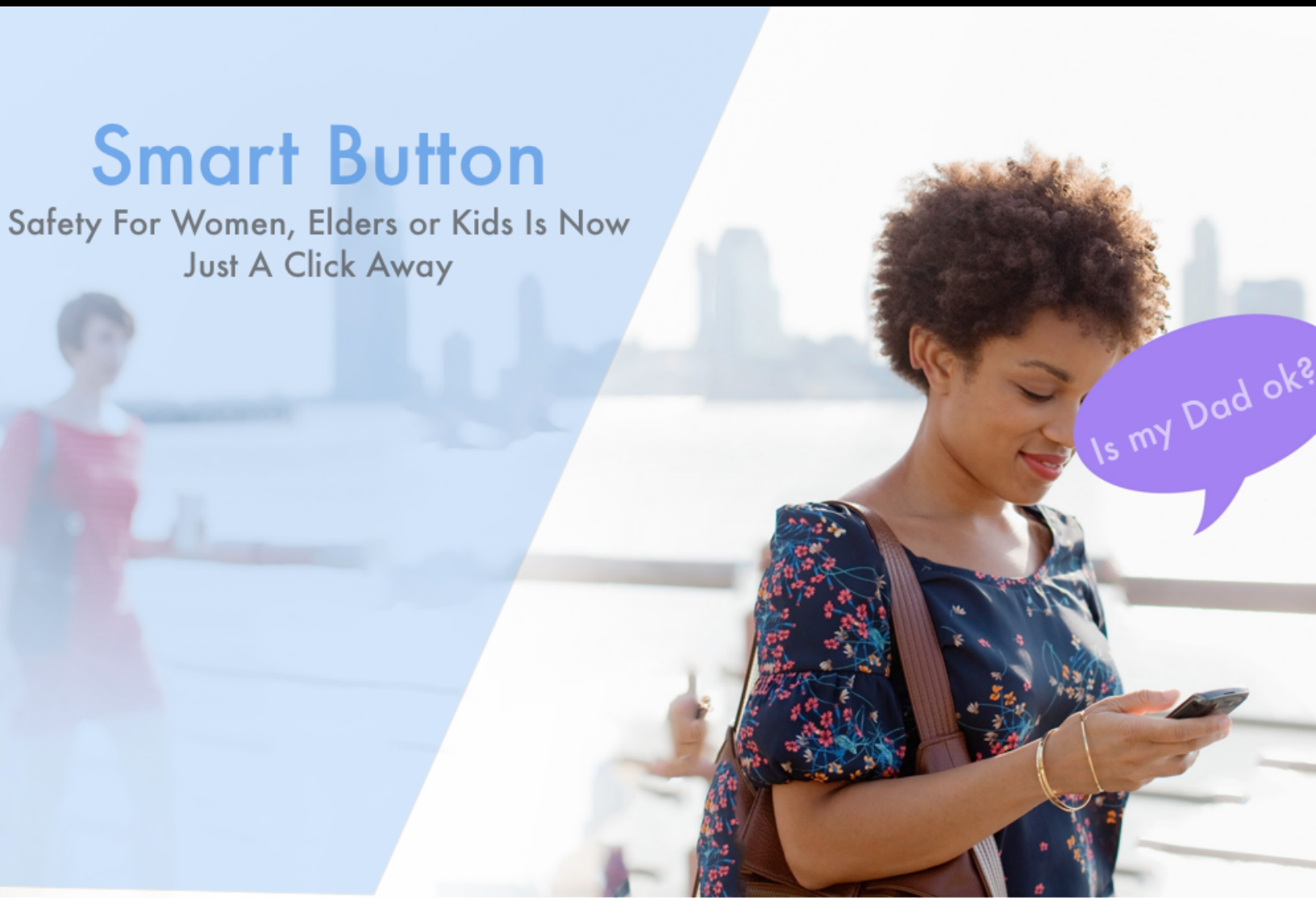


CASE STUDY: SMART BUTTON FOR SAFETY

Client Profile

Hyper-engage is based out of Mumbai, Andheri east believes in Engaging hyper-connected consumers across digital and physical worlds. They wanted a small IoT based device (button) development for Women, Elders & Kids safety incubation with Delhi police. There Idea & requirements were almost clear such as

- On every press button should send the alert to nearest police station or concerned authority.
- Alerts can be in any form such as email, SMS or notifications.
- It should have very simple user interface for device & app.
- Button should have to be ultra-Low power consumption

Therefore, to achieve all these requirements we have divided the entire solution development into 3 major phases such as

Complete Solution Overview

- Phase1: Prototyping (Less than a week)
  Therefore, for rapid prototyping IoT Development kit used to understand & analyze overall product requirement in terms of technical features proportion to business values, development complexity or actual feasibility, End product cost and more.

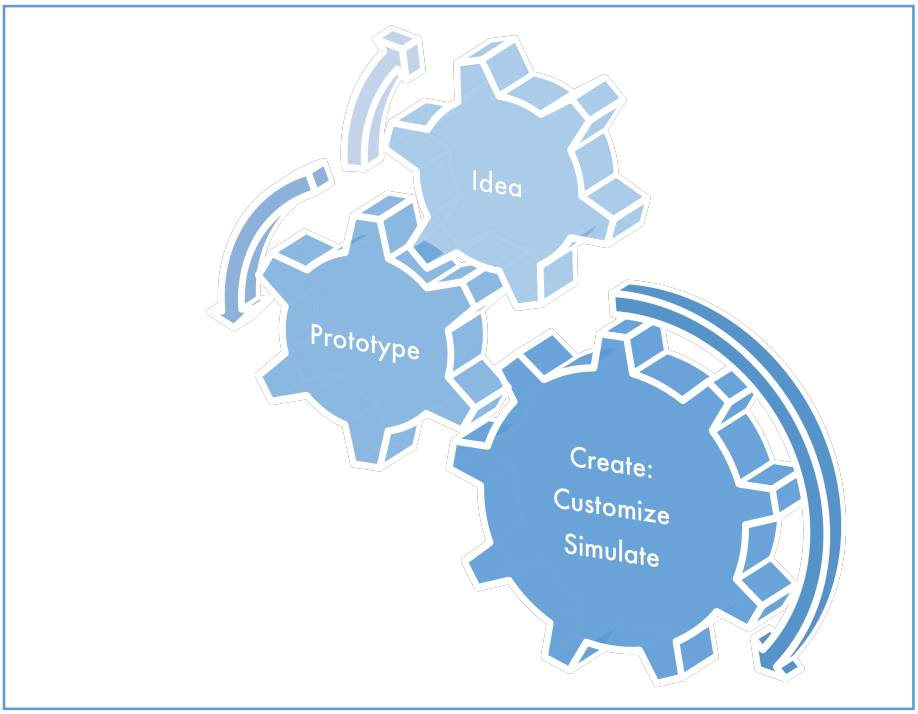
- Phase2: Customization (Exact 2 Weeks)
  After successful completion & testing the basic prototype client was in a position to tell the complete & exact product requirement to start immediate customization for production.

- Phase3: Production (Current stage)
  Currently (September 2017), client is engaged in beta testing with few initial customized units. After evaluation of beta testing, he may take final call for production with some changes/modifications if required.

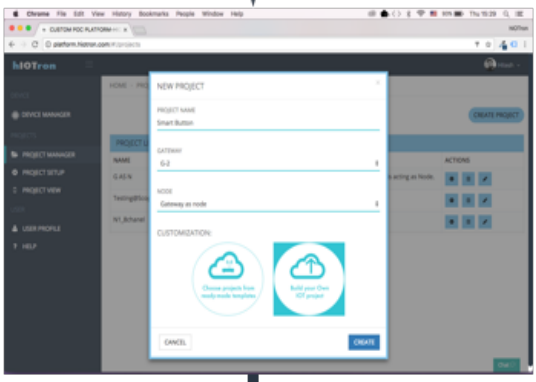
Phase-1: Prototyping Overview

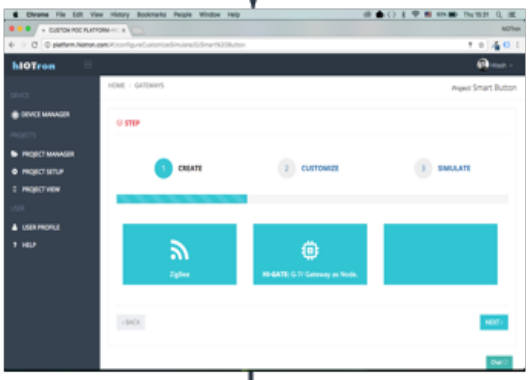
- Requirement: It was almost 60% clear such as on single click button should send SMS, email or alerts for safety but there were few other points which client wanted to test before developing the custom product
  1. On-sight Network connectivity
  2. Actual product features in proportion to business values
  3. Each button power requirement or actual usage weekly or monthly.
  4. Actual cost after development.

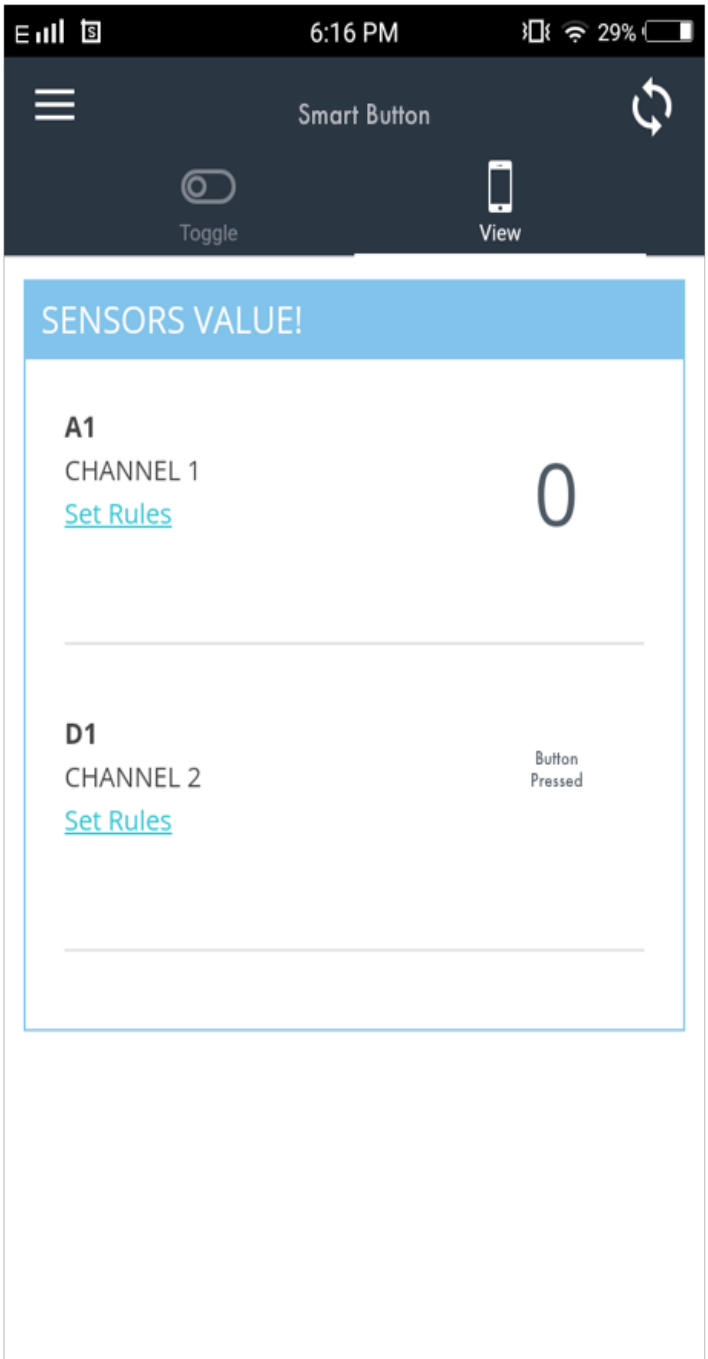
- Outcomes – After knowing the basic requirements from the client, a rapid prototyping started by hIOTron team using IoT development kit which covered almost all the points mentioned above.




HI-GATE
Pressing button





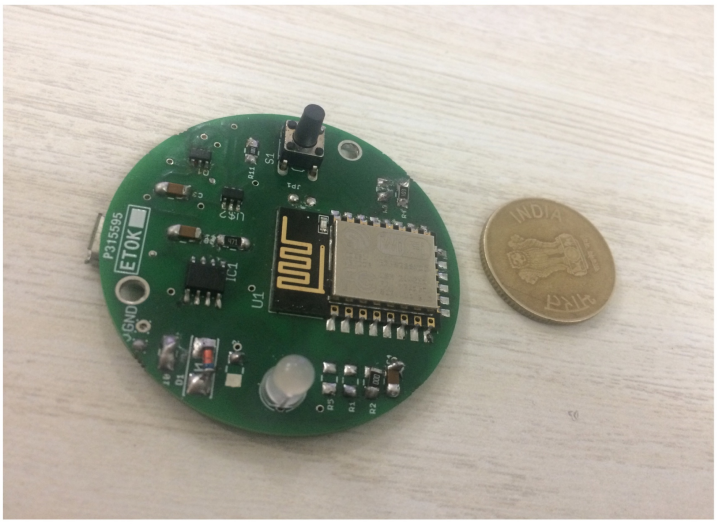

6:16 PM
29%
Smart Button
Toggle
View
SENSORS VALUE!
A1
CHANNEL 1
Set Rules
0
D1
CHANNEL 2
Set Rules
Button
Pressed

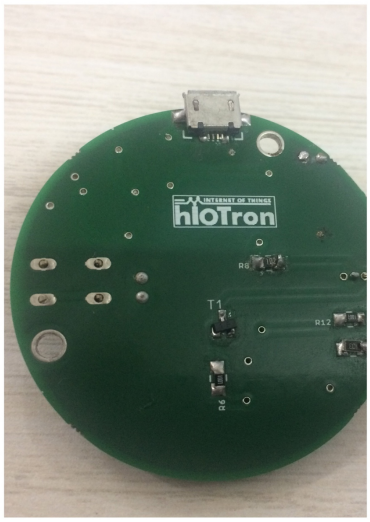
Phase-2 Customization Overview

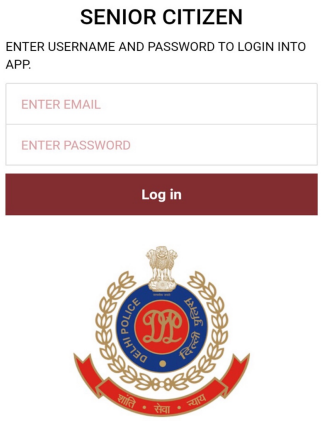
• Challenges–After completion of phase-1 there were no specific challenges for knowing the exact product requirement & business projection for the client.

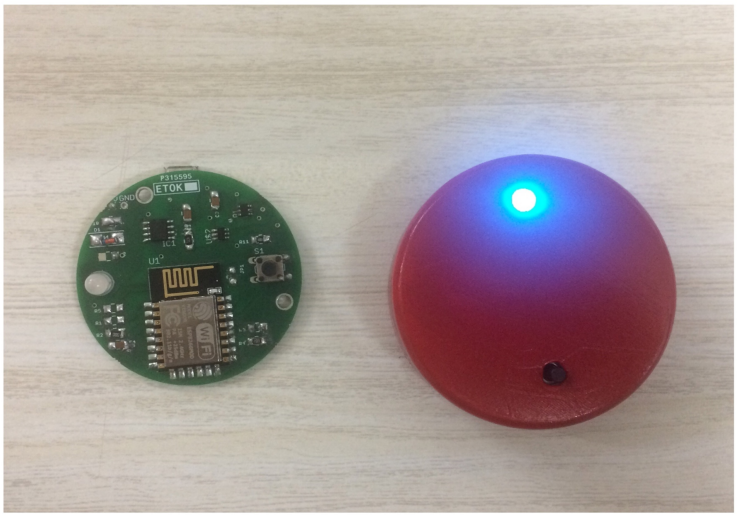
• Outcomes – Successfully product developed & beta testing started within 20days right from prototype to beta testing.

1. **Solution Development**: Designed & Developed a Smart button which connects to the internet over Wi-Fi or GSM (2G) with single click of button and completes the following task defined using mobile app in case of emergency such as Call, SMS, Email to the nearest police station or any other.





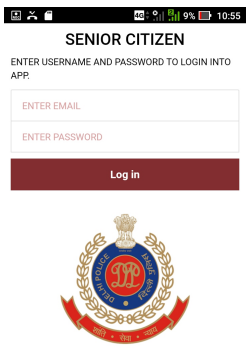


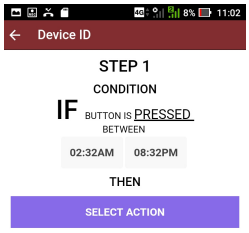


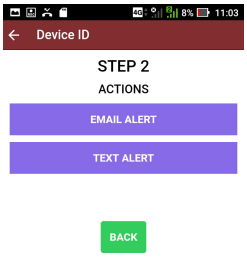
2. **Key point**: Once this button completes its given task then automatically goes into deep sleep mode for less battery (Li-On) consumption. Therefore, once the full battery is charge through USB (Option available) then up-to 2000 button clicks operations can be done.

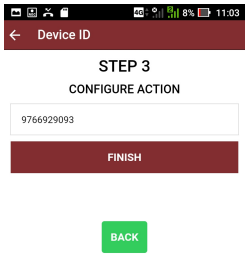
3. **User interface**: There are 2 level of user interface for any IoT based product, 1 is Hardware & 2 is mobile app or software. Therefore,
   - Hardware: In button multi colors single led has been kept which indicates user various operations with different colors indications such as button click (blue color), battery charging (red) & battery full (green).

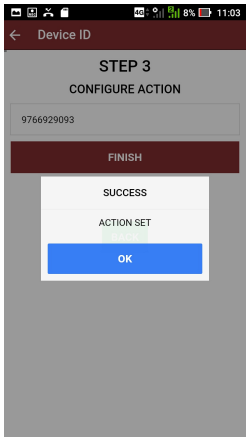
   - Software or Mobile App: The UX/UI of the app is designed by keeping the aged audience (above 60) in mind to simply the task for them.











Advance use of button

This button is just limited to your imagination…

Pair it with home automation & smart appliances to:

- Turn on lights or heat before you get home
- Start your coffeemaker from your bedside
- Open or close your garage door
- Lock or unlock doors

Use it to communicate with internet applications to:

- Order pizza, groceries, or anything else
- Call a cab
- Input to a database
- Log start/stop times for billing or work
- Record workout laps or reps

Use it with communication applications to:

- Send an SMS to or from someone
- Function as a call button for a nurse, server, or help desk
- Send a reminder or confirmation, like when your kids get home from school

More advanced users can use this button to:
Set up a web-hook and have it perform anything available in an API. Smart button Web-hooks are MQTT calls that are sent from this button server to yours upon actuation.

Future Roadmap

- Modular integration option can be given in the hardware for GPRS (2G,3G or 4G) & Wi-Fi to reduce more size.
- Some local data storage facility to keep the records in case of loss of connectivity.