Project Title: IoT Based Safety Gadget for Child Safety Monitoring and Notification

Define CS, fit into CC

1. CUSTOMER SEGMENT(S)   **CS**

This aids the parents/guardian to track the daily activity of their children and helps to find them using GPS location

6. CUSTOMER CONSTRAINTS

- Expensive
- Poor Network
- Battery Consumption

5. AVAILABLE SOLUTIONS

It assists parents to monitor their children remotely. In case situations happen, notifications will be sent to parents so that actions can be taken. Through this, child safety can be ensured and crime rate will be reduced. However, the proposed device is not robust enough and does not contain sufficient functions to operates like a mobile phone.

Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE / PROBLEMS   **J&P**

Enable tracking of the child's location and capturing of data remotely such as temperature, pulse, respiratory rate, quality of sleep and many more.

• To show the child's actual data with reference values.

• Enable sending of notification if the child is out of location or when the device realizes abnormal conditions/situations.

9. PROBLEM ROOT CAUSE   **RC**

The overall percentage of child abasements worldwide is about 80% nowadays, out of which 74% are girls and the remaining are boys. For every 40 seconds, a child is gone missing in the world. Due to that, parents are worried for their children and perhaps, a hard challenge for them to guarantee safety of their children when they are out.

7. BEHAVIOUR   **BE**

Application aside from conceding you to track down your children when they're within Bluetooth range , it also functions when your kids go farther. Its competence as a tracker is outstanding if you live in densely populated areas like cities or big towns.

Focus on J&P, tap into BE, understand RC

3. TRIGGERS   **TR**

An IoT based wearable smart band for children is proposed in this research for child security purposes. The smart band is waterproof, chargeable and equipped with sensors. Heart rate sensor measures pulse rate and BPM. Sleep quality sensor obtains children's sleep quality, cycle and positions

10. YOUR SOLUTION   **SL**

The child security system benefits parents as well as children. Since it aids in locating children, monitoring child's condition and security status instantly at anyplace and any time, parents who often tied up in work or neglect their children are gaining advantages from it. Through the proposed system, immediate actions can be taken forthwith in case the child is threatened. Thus, child security is guaranteed, crime rate related to children is reduced and eventually, parents can rest assured. In fact,

8. CHANNELS of BEHAVIOUR   **CH**

8.1 ONLINE

The system also consists of Wi-Fi module used to implement IoT and send all the monitored parameters to the cloud for android app monitoring on parental phone. **Panic alert system** is used during panic situations alerts are sent to the parental phone, seeking for help also the alert parameters are updated to the cloud.

8.2 OFFLINE

If the parent's logout of the application it display's the last

4. EMOTIONS: BEFORE / AFTER

EM

Before:

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After:

the information indicating children's status, along with reference values will be sent to parents' devices with the app installed. If children's actual data is not within the range of reference value, alert notification and some suggestions will be sent to parents' devices. Also, when children leave geofences, notification will be sent to parents' devices.

reduction of crime rate brings about long-term positive effects such as improving country's reputation and quality of life , increasing community security, safety, and cohesion as well as generating economic benefits for individuals, committee and taxpayers . Besides, the proposed system makes ample use of IoT, proving IoT is evolving which can be included in multiple areas comprising the child security field.

child's whereabout