Project Design Phase-I
Solution Architecture

Date	1 October 2022
Team ID	PNT2022TMID21482
Project Name	Project - IoT-Based Safety Gadget for Child Safety Monitoring and Notification
Maximum Marks	4 Marks

Solution architecture is a complex process – with many sub-processes – those bridges the gap between business problems and technology solutions. Its goals are to:

- In the existing system, manual intervention is required. But in the proposing system, we make every action autonomously.
- This is used to develop a wearable device for the safety and protection of women and girls. This objective is achieved by the analysis of physiological signals in conjunction with body position. The physiological signals that are analyzed are galvanic skin resistance and body temperature. Body position is determined by acquiring raw accelerometer data from a triple axis accelerometer.
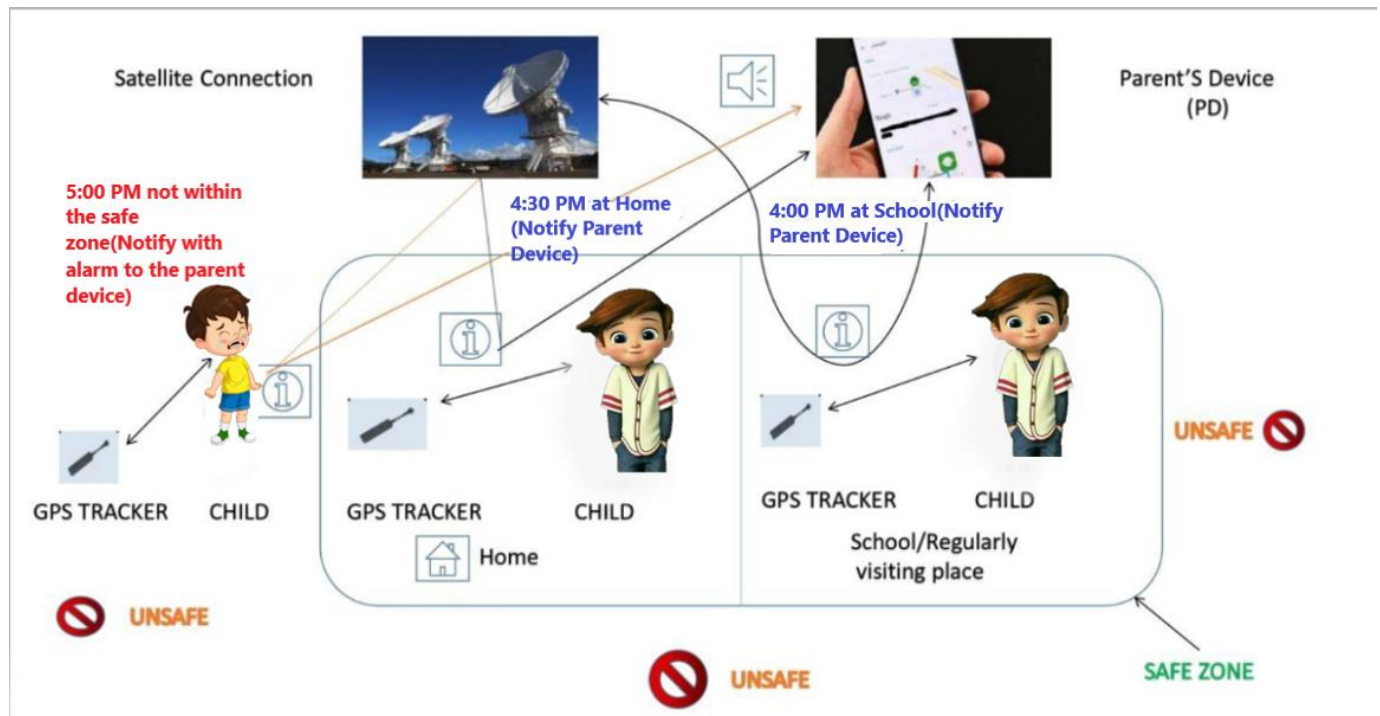
Design:

All the requisite are used to draft the Application. The layout and architecture of the software is done in a distinctive approach so the software can be employed and developed imminently. The Arduino acquires the region from the GPS equipment and consigns it to the cloud to inspect if the end user iswithin the confined zone. If the user is further away from the confined zone, an alert is sent to the catalogued mobile through the cloud. When the requisition is opened, the locality is obtained from the cloud and unveiled on the mobile.

Implementation:

The implementation mechanism is done and execution is terminated by progressing the logic by coding. All the vital packages are imported and for each router specific logic is developed in accordance to the usage. Development of a safety device for kids to guarantee their security in the absence of an understated examination of their parents.

Solution Architecture Diagram:

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                    In-path safety function

          Child app                        Guardian
                                             app

      Acquiring location      Server     Receiving location
        coordinates                        coordinates

          Is the                            Draw tracks
       child near          No
      the alarm points?
                                            Is the state
         Yes                               information
                                          button pressed?
      Reminding the child
          by voice                            Yes

                                          Announcing state
          Does the                       information by voice
       child runs in the
      car speed, excessively
      deviate from roads, or             Is the child's
      loiter in the high-risk            state abnormal?
         areas for too
          long time?
                                             Yes
         No
                                         Warning the guardian
      Warning the child                      by voice
          by voice
```