project Design Phase-II

Solution Requirements (Functional & Non-functional)

|  |  |
| --- | --- |
| *Date* | *4 November 2022* |
| *Team ID* | PNT2022MID13463 |
| *Project Name* | *IOT based safety gadgets for child safety monitoring* |
| *Maximum Marks* | *4 Marks* |

**Functional** Requirements:

Following are the functional requirements of the proposed solution.

|  |  |  |
| --- | --- | --- |
| ***FR No.*** | ***Functional Requirement (Epic)*** | ***Sub Requirement (Story / Sub-Task)*** |
| *FR-1* | *User Registration* | *Parents have to register in the specified app.* |
| *FR-2* | *User Confirmation* | *Confirmation via Email*  *Confirmation via OĽP* |
| *FR-3* | *User Details* | *Parents and their Children have to register on the specified app for the emergency situations* |
| *FR-4* | *User Notification* | *In the emergency situation if the children click the emergency button in their safety gadget their parents will get the notification by means of alarm sound.* |
|  |  |  |
|  |  |  |

# Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

|  |  |  |
| --- | --- | --- |
| ***FR No.*** | ***Non-Functional Requirement*** | ***Description*** |
| *NFR-1* | ***Usability*** | The device has IOT monitoring and a GSM module that allows the child to be monitored at all times. It also has numerous sensors that are connected to a CPU and are used **to detect exact signals such as heart rate, temperature, and**  . |

|  |  |  |
| --- | --- | --- |
|  |  | ***Other dangers and alert the parents.*** |
| *NFR-2* | ***Security*** | ***Parents will secure their children all the time even when they were apart from their children. They will secure their children by means of the safety gadget.*** |
| *NFR-3* | ***Reliability*** | This wearable device **has a superior mode for viewing and locating the children’s whereabouts with correct latitude and longitude**, which is especially useful. |
| *NFR-4* | ***Performance*** | The main goal of this project is to create a smart wearable device for children that uses advanced technology to ensure their safety. As a result, this strategy is perceived as sending an SMS from the children\'s wearable to their parents or guardians. This project employs cutting-edge technology to protect the youngster through the use of a GSM module, ensuring that the child does not feel abandoned while dealing with such social issues. An arduino Nano, GSM, GPS, temperature sensor, heartbeat sensor, and a panic button will be included in the wearable. The heartbeat sensor detects the child\'s heart rate and delivers it to the guardian on a regular basis. |
| *NFR-5* | ***Availability*** | Parents are often faced with a wide number of choices for products for their children, from essential safety items such as car seats to optional, but potentially useful, health items such as pedometers.  Two of the major questions parents must weigh are durability and cost. Children only use or need most products for a limited amount of time, and many are available cheaper on the second hand market. |

|  |  |  |
| --- | --- | --- |
| *NFR-6* | ***Scalability*** | Keeping your children safe is any parent's top priority, especially in today's rather uncertain world. Danger lurks at every corner, even in some of the safest neighbourhoods. Thanks to the internet, danger lurks right in our homes; therefore, as a parent, you must remain extremely vigilant at all times.  Of course, it would be impossible to keep track of your children's every move without some help from technology. Unless you have superhuman abilities, you need gadgets to help you keep your children safe even when you're not with them. Thanks to advancements in technology, this is now easier than ever. |