


**Project Design**  
**Phase-I**  
**Proposed Solution**

Team ID	PNT2022TMID11653
Project Name	IoT Based Safety Gadget for Child Safety Monitoring and Notification
Maximum Marks	2 Marks

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	A parent has to ensure the safety of his child from anywhere in case of need
2.	Idea / Solution description	<p>Three Steps:</p> <p><b>1.Location tracking</b> <b>2.Mapping the coordinates</b> <b>3.Send message to parents</b></p> <p>Step 1 generally requires a GPS module and the coordinates need to be updated periodically</p> <p>Here we are going to use an assumed longitude latitude location in python code</p> <p>Step 2 is done using world map node in NODE RED app facility in IBM Cloud that maps the coordinates on map as a pin location</p> <p>This location is also fed to geofence node that checks whether the location is within the radius or not</p> <p>Step 3 ensures message is shown if location is not inside geofence area</p> <p>For real world application GPS module can be given to children in form of watch or any other sophisticated gadget</p>

3.	Novelty / Uniqueness	Parents will receive accurate location anytime anywhere (they will know if the child is in the geofence or not)
4.	Social Impact / Customer Satisfaction	Child Safety will be within reach for the parents Gadget will be child-safe and environment friendly
5.	Business Model (Revenue Model)	<p>Technical Architecture:</p>  <pre> graph LR     IoT[IoT Device] --&gt; Watson[IBM Watson IoT Platform]     Watson --&gt; Node[Node-RED]     Node --&gt; Web[Web UI]     Web --&gt; User((User))     Node --&gt; Geo[Geofence]     Node --&gt; DB[(Cloudant DB)]     </pre> <p>The diagram illustrates the technical architecture of the system. It shows an IoT Device connected to the IBM Watson IoT Platform. The platform feeds data into Node-RED, which acts as a central hub. Node-RED is connected to a Web UI, which is accessed by the User. Additionally, Node-RED is connected to a Geofence module and a Cloudant DB, indicating that the system tracks location and stores data in the cloud.</p>
6.	Scalability of the Solution	Requires proper internet connection for working with cloud