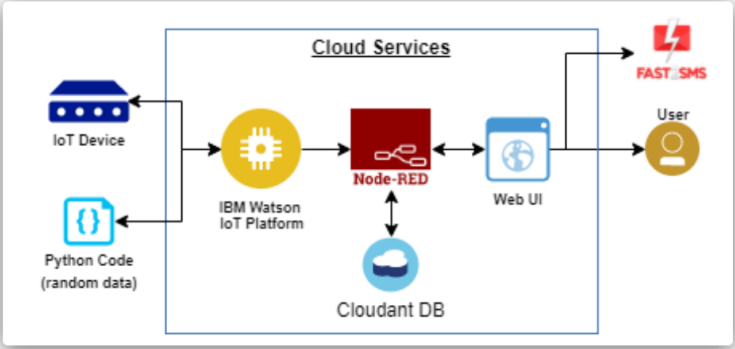


## PROJECT DESIGN PHASE-I PROPOSED SOLUTION

Date	3 <sup>rd</sup> October 2022
Team ID	PNT2022TMID21245
Project Name	INDUSTRY-SPECIFIC INTELLIGENT FIRE MANAGEMENT SYSTEM
Maximum Marks	2 Marks

### PROPOSED SOLUTION TEMPLATE:

S.NO.	PARAMETER	DESCRIPTION
1.	<b>Problem Statement</b>	Design of Intelligent Fire Management system that generates alerts regarding the fire accidents in the industries.
2.	<b>Idea / Solution description</b>	<p>Our solution for Industry-specific fire management system includes</p> <ul style="list-style-type: none"> <li>• The smart fire management system includes a Gas sensor, Flame sensor and temperature sensors to detect the current environmental parameters and to know any deviations from the pre-determined threshold.</li> <li>• Based on the temperature readings and smoke level, if any dangerous gases are detected, the exhaust fans are powered ON. (exhaust fans – actuators)</li> <li>• If any flame is detected the sprinklers will be switched on automatically.</li> <li>• Emergency alerts are notified to the authorities and Fire station.</li> </ul>
3.	<b>Novelty / Uniqueness</b>	<p><b>Preceding system's objectives:</b></p> <ul style="list-style-type: none"> <li>➤ In the prior systems, the main objective is to switch on the alarms and sprinklers if the environmental readings from the sensors cross the pre-determined threshold.</li> <li>➤ If the admin wants to know about the sensor readings, he/she needs to log in to the cloud.</li> <li>➤</li> </ul> <p><b>Proposed system's objective:</b></p> <ul style="list-style-type: none"> <li>➤ We will be designing a Web application through which admin can know if the read values cross the threshold values.</li> </ul>

4.	<b>Social Impact / Customer Satisfaction</b>	<p><b>Social Impact of Fire Accidents on buildings:</b></p> <ul style="list-style-type: none"> <li>➤ Fire incidents negatively affect the function and sustainability of Industries. When a Industry is attacked by fire, its sustainability is directly affected, which in turn affects the surrounding environment and the welfare of the community. Therefore, the hazards associated with fire outbreaks in buildings need to be addressed efficiently and effectively. This can be done through fire safety practices and awareness campaigns on the causes of fire, prevention and suppression techniques, and the provision of adequate firefighting equipment.</li> <li>➤ The design of Industry-specific Fire Management system could help in reducing the loss of life and property.</li> </ul> <p><b>Customer Satisfaction:</b></p> <p>The main objectives of this proposed solution are</p> <ul style="list-style-type: none"> <li>❖ <b>User-friendly</b> – Easy access through web application.</li> <li>❖ <b>Flexible</b> – Check status about the environmental parameters in the Industry at any time.</li> </ul>
5.	<b>Business Model (Revenue Model)</b>	<p>Technical Architecture:</p>  <p><b>DESCRIPTION OF THE TECHNICAL ARCHITECTURE:</b></p> <ul style="list-style-type: none"> <li>• Sending random fire and temperature values will be sent to the IBM IoT platform</li> <li>• Sensors values can be viewed in the Web Application</li> <li>• Notifies the admin the random values cross the threshold value</li> </ul>
6.	<b>Scalability of the Solution</b>	<ul style="list-style-type: none"> <li>❖ The solution can be easily expandable to large industries by deploying sensors wherever needed. The values would be read and based on the threshold, warnings and alerts could be given.</li> <li>❖ Sensor presents better sensitivity than fire surveillance based on imaging.</li> </ul>