|  |  |  |
| --- | --- | --- |
| **1.CUSTOMER SEGMENTS:**   * Thermal industries * All types of Small-Scale Industries * Industries that is associated with flammable substances | **6.CUSTOMER LIMITATIONS:**   * Requires analytical expertise for analysing the Sensor data. * Requires manpower with strong technical expertise for handling the associated software. * Industry level MIME sensors for accurate sensing is required | **5. AVAILABLE SOLUTIONS:**   * Various sensors are employed for monitoring the environment. * Blynk Application and ThingSpeak tool have been used for alerting purpose. * Some works have employed GSM and GPS modules for notifying the concerned authorities, by using image processing for monitoring. |
| **2.PROBLEMS/PAINS:**   * The fire accident if not controlled at the right time can lead to heavy financial and human loss. * Prompt appropriate action for the particular situation needs to be taken at the right time. | **9. PROBLEM ROOT/CAUSE:**   * In industries employing chemicals there are high chances of building up of harmful flammable gases. * There are chances of manual errors while operating the machineries. | **7. BEHAVIOUR:**   * Gain knowledge on the existing solutions and try to learn more on the products available in this domain. * Visit the industries to gain knowledge about the working and operation of the machineries. |
| **a3. TRIGGERS TO ACT:**   * Real time water sprinklers for controlling the fire * Exhaust fans for providing ventilation if the concentration of the gases goes high | **10. YOUR SOLUTIONS:**   * The smart fire management system includes a Gas sensor, Flame sensor and temperature sensors to detect any changes in the environment. * Based on the temperature readings and if any Gases are present the exhaust fans are powered ON. If any flame is detected the sprinklers will be switched on automatically. * Emergency alerts are notified to the authorities and Fire station | **8. CHANNELS OF BEHAVIOUR:**  **Online:**  Gather information from websites and journals about the existing models |
| **4.EMOTIONS: BEFORE/ AFTER:**  Before: Tragic, Unprepared, Helpless  After: Stress free, Fearless, Tranquil | **Offline:**  Visit industries to acquire adequate knowledge  about the operation and working principle of the machineries. |
|  |