HAZARDOUS AREA MONITORING FOR INDUSTRIAL PLANTS POWERED BY IOT

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PROBLEM STATEMENTS REPORT

1.IoT Based Intelligent Industry Monitoring System

Industry needs to Analyze the concentration of gas which varies from point to point during leakage and diffusion of gases during leakage so that there will be no production of other by products.

2. IoT Based Industrial Parameters Monitoring and Alarming System using Arduino

This project based on IoT can be further expanded by providing additional facility to the industry person with the help of Android app for achieving better control and monitoring of industry. Further, smoke and gas sensors can be interfaced with the system to ensure security of industry workers and goods in case of fire or toxic gas leakage.

3. Implementation of an industrial automation system model using an aurdino.

The existing industrial systems like DCS, SCADA, etc., are still irreplaceable in a number of domains. Where an Arduino can perform similar functions, its use is still limited to certain applications and industrial environments due to industry standard and certification requirements. In rugged environment conditions like high temperatures, the use of an external protection shield becomes essential. Since PLC's and conventional industrial systems are built for the purpose, they have built-in protocols and provide extensive resources to aid set-up and operation. An Arduino in comparison would require additional hardware, programming skills and technical support.

4. A Two-Level Wi-Fi Fingerprint-Based Indoor Localization Method for Dangerous Area Monitoring.

Due to the fluctuation of wireless signals, the change in environments and monitoring areas, and the increase of reference points, indoor fingerprint positioning systems often face the contradiction of positioning accuracy, computational complexity and storage requirements. Future work will focus on the miniaturization of the mobile device and the integration of fingerprint indoor positioning with pedestrian dead reckoning (PDR) positioning. In fire scenarios, where the environment changes quickly, the fusion of indoor fingerprint positioning and PDR can be used for disaster management. Other sensors, such as magnetometers, gyroscopes and accelerometers can also be considered for integration with indoor RSSI fingerprint positioning to improve positioning performance.