Enhanced Factory Safety System using IoT

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Abstract*: This project showcases the design and development of a comprehensive factory safety system utilizing gas, fire, and water sensors incorporated into ESP32 boards. It uses IoT technology to improve workplace safety in industrial settings by offering real-time monitoring and early identification of potential threats. Quick response and mitigation of emergency scenarios are made possible by the ESP32 board's connectivity and data processing capabilities, which provide seamless communication between sensors and central control systems. Scalability, adaptability, and interoperability with existing industrial automation systems enable the system to be easily extended and integrated. The system's ability to identify and respond to hazards is enhanced by sensor fusion techniques, machine learning algorithms, and advanced analytics. Furthermore, augmented reality interfaces. In conclusion, a safer workplace, regulatory compliance, operational effectiveness, and continuous advancements in industrial safety standards are all supported by the proactive approach known as the Factory Safety System*

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