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Factory Workers Alcohol Detector with Automatic Machine Shutdown

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Abstract: *In industrial environments, the safety of workers and the efficiency of operations are paramount. One of the critical threats to workplace safety is the presence of alcohol-impaired workers operating heavy machinery, which can lead to severe accidents, injuries, or even fatalities. This project presents an innovative safety system designed to detect the presence of alcohol in a factory worker's breath and automatically shut down machinery to prevent operation under the influence.*

The system utilizes an alcohol sensor (such as the MQ-3) to analyze breath samples from the worker. Upon detection of alcohol levels above a pre-set threshold, the system sends a signal to a microcontroller which, in turn, disables or prevents the activation of connected machinery. Additionally, a warning alert is triggered to notify supervisors or safety personnel. This proactive approach enhances workplace safety, reduces the risk of human error due to intoxication, and promotes a responsible work culture.

The integration of this technology ensures that only sober and alert personnel operate critical equipment, making it a valuable addition to modern industrial safety protocols.

Keywords: MQ-3 Sensor, Aurdino Board, LCD, Aurdino IDE

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