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Factory Worker Alcohol Detector with Automatic Machine Shutdown

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Abstract: *Factories are machine critical industries. Factories run on two major resources, machines and labour. Machines need to be operated carefully since one mistake may lead to injuries or loss of life and business. Large industrial machines that run on high power are even critical since a mistake in operating it may lead to huge losses. Here we propose an automated system to detect alcohol consumption of factory workers and machine shutdown with alerting system. Consumption of alcohol affects the mental state of person. A person operating heavy machines under the influence of alcohol is likely to hurt himself as well as the machine. So, we use a microcontroller-based circuit that consists of alcohol sensor interfaced with it. Also, we have an LCD display. The entire system is powered by a 12V supply. The alcohol sensor is constantly running to check if worker is drunk. The alcohol sensor can sense the alcohol level and outputs a voltage according to the alcohol sensed. The microcontroller interfaced to it reads the value and if it is found to be above permissible range it goes into alerting mode. Once it enters alerting mode the microcontroller stops machine operated by the worker and displays the status of alcohol alert on LCD display. Also, it sounds a buzzer to indicate the same. It now shuts down the motor used to demonstrate as the machine*

Keywords: Arduino Nano, Alcohol Sensor, LCD Display

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