Bad Odour Detector System

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Abstract: *This Arduino program is designed for measuring ammonia (NH3) gas concentrations using an MQ gas sensor. It reads the sensor's analog output connected to pin A0, calculates the sensor resistance (Rs) based on the voltage drop across the sensor and predefined resistor values. The program compares the sensor resistance to a reference resistance (Ro) to calculate the ratio (Rs/Ro), which is used to estimate the gas concentration. Using a formula derived from the sensor's calibration data (slope 'm' and intercept 'b'), the program calculates the ammonia concentration in parts per million (ppm).The data, including the ammonia concentration and corresponding voltage, is displayed on a 16x2 LCD screen. The program also features a safety mechanism: if the ammonia concentration exceeds a set threshold (50 ppm), a buzzer and a fan are activated as an alert system. Otherwise, the buzzer and fan remain off. This process continuously repeats, providing real-time monitoring of ammonia levels.*

Keywords: Ammonia (NH3), Gas Sensor, MQ Sensor, Arduino, Microcontroller