

Abstract

Gilt is the process of coating gold jewelry, silver jewelry, or costume jewelry to look like new with a layer of gold. The whole gold process will produce dangerous gas vapors. At present there is no automatic tool that can monitor and provide early warning of the content of this dangerous vapor. Many gold-aged workers who are unknowingly inhaled the gas vapor. In this final project, a system for monitoring and analyzing the steam content of Carbon Monoxide (CO) gas using the MQ-7 sensor, Ammonia (NH₃) gas vapor using MQ-135 sensor, and Temperature using DHT22 sensors. By using Arduino Uno as an implementation of the microcontroller process and to transmit data to the Ubidots application in order to analyze the data of gaseous gas vapor content readings and the magnitude of the temperature during the gilded process then compare the results between gilt jewelry, silver jewelry, and half imitation jewelry. Based on the logic of Fuzzy Mamdani, it will conclude the final results into three categories of safe, alert, or dangerous. The output part is in charge of providing a response in the form of information on the content of ppm vapors of Carbon Monoxide (CO) gas with features that are colorless and odorless, Ammonia (NH₃) gas vapor with sharp odor, temperature, and the results of Fuzzy logic displayed on the Ubidots application, ring the buzzer when it is in danger, and turn on the fan installed in the relay when it is alert and dangerous.

Keywords: Gilt Gas Steam, MQ-7 Sensor, MQ-135 Sensor, Arduino Uno, Mamdani Fuzzy Logic.

