

Manhole Detection and Monitoring System using IoT

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Abstract: Nowadays, manholes and its maintenance are the main problem in the metropolitan smart cities. A drainage monitoring system plays a significant role in keeping the towns and cities healthy and clean. The major challenge is to further investigate the condition of manholes on the road. In observation, most of the manhole's lids were not in the settled emplacement and are in damaged condition. Because of these damaged manholes, there are chances of occurrence of accidents on the road. These damaged manholes will be hazardous to personal safety. If the sewage maintenance is not proper, ground water gets contaminated causing infectious diseases. Blockages in drains during monsoon season causes problems in the routine of the public. Hence, there should be a facility in which it alerts the officials about blockages in sewers, their exact location and about the gas explosion, increase in the water level and temperature level. The goal of this project is to create an effective accident-avoidance system by avoiding open manholes in large cities. This system includes an array of sensors for complete monitoring of the manhole cover such that many accidents can be prevented. This system reduces the work of manpower and increases the safety and speed of work. The working and implementation of this project will be very useful to take necessary actions and maintain the regularity of the municipal society.

Keywords: Arduino Integrated Development Environment, Alert messages, Sensor nodes, Adafruit, Wi-Fi & Internet of Things

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