ABSTRACT

In the recent decades, Urbanization has increased tremendously. At the same phase there is an increase in waste production. Waste management has been a crucial issue to be considered. This system is a way to achieve this good cause. In this system, smart bin is built on a microcontroller based platform. which is interfaced with ESP8266 wifi-module and sensor network (Ultrasonic/MQ6). Ultrasonic sensor is fixed at the top of the dustbin which will measure the stature of the dustbin. The threshold stature is set as equal distance according size of the dust bin. The controller will be programmed in such a way that when the dustbin is being filled, the remaining height from the threshold height will be displayed. Once the garbage reaches the threshold level sensor will trigger the Microcontroller. The microcontroller sends the information to Wi-Fi module which will continuously alert the required authority until the garbage in the dustbin is squashed. The light automation process also present with this system for enabling the light is ON at night time and disabling the light at day time. This system also includes GAS sensor (MQ6) for measuring the various gas level from dust bin as well as environment. Once these smart bins are implemented on a large scale, by replacing our traditional bins present today, waste can be managed efficiently as it avoids unnecessary lumping of wastes on roadside.

Keywords: Smart dust bin, IoT and sensor network