**README.md**

**IoT based Garbage Monitoring System and Notification Application**

A smart City is a city development that is usually done and helps in managing multiple times the various communication technology. Waste management has been the major issue as well as the task in most of the cities so that they inculcate the best way of waste disposal method. Today in most of the public places there are no proper method is followed because we cannot monitor the dustbins manually. Introduction of the smart bin and using the sensors to monitor them using embedded systems for real time data processing. This data will have a optimization method to know the various applications such as saving money, saving fuel and importantly less time. One of the main concerns with our cities are the waste management which impacts the health and environment of our society. Since it is a customized path for waste management trucks to reduce trips leading to less population and reduction in staff. And automation of this system must be done for all the homes, offices, industries, public and private properties.

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**Software used:**

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| --- | --- | --- |
| **Sl. No** | **Software** | **Specification** |
| 1. | Windows OS | 64 bit |
| 2. | Arduino IDE | 64 bit |
| 3. | Blynk | 2.0 |

**Hardware used:**

|  |  |  |
| --- | --- | --- |
| **Sl. No** | **Hardware/Equipment** | **Specification** |
| 1. | Arduino Uno | Microcontroller based on ATmega328P |
| 2. | Buzzer | KY-006 |
| 3. | Ultra-Sonic Sensor | 2cm - 400cm noncontact measurement |
| 4. | Alcohol Sensor | MQ-3 Sensor |
| 5. | Smoke Sensor | MQ-2 Sensor |
| 6. | GPS module | NEO-6M GPS module, 2.5m horizontal position accuracy |
| 7. | ESP32 | Micro-processor with Wi-Fi |

**Configuration of the project:**

1. The project uses various types of sensors like alcohol sensor and smoke

sensor.

1. It uses GPS module to track the location of the bin has it has the ability

to detect the 30 satellites coordinates.

1. It uses ESP32 Wi-Fi controller module to monitor the bin and used to

send messages to the WhatsApp.

**Steps to execute the code:**

1. Download and install Arduino IDE from the official website:

<https://www.arduino.cc/en/software/>.

1. After installing the software open the software and install all the necessary libraries required for the projects.
2. Once the libraries are installed then connect your microcontroller board

to your computer by using the URAT cable which comes along with

the board.

1. Now in the menu tab select Tools->AVR boards->Arduino Uno board option should be selected.
2. Now in the same menu tab select Tools-> port-> and select your respective port displayed in the options.