**COMPANY CERTIFICATE**

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**Manish Kumar**

**(6315221)**

**COMPANY PROFILE**

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AdvanceTech India Pvt Ltd an Embedded Design House. AdvanceTech India Pvt Ltd offer various Technical Education solutions, Products & Development tools to Engineering colleges, Universities, research organizations. We also offer the business of providing Technical education solutions & development tools to the educational & industrial customers.Advance Technology has developed a number for private as well government organizations**.**

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**ABSTRACT**

This project aims at using the most preffered technology in the embedded sytems industry all over the world i.e. Arduino, which can easily bring life to any of your idea.

* **IOT Based Sensor Monitoring System :** A system consisting nodes with various sensors connected to each node which monitors and sends their data over the cloud
* **Smart Garbage Monitoring System :** A system consisting of bins which have various sensors embedded in them and monitors the waste and sends the data over the cloud and to the control authorities
* **Wireless Controlled DMD Panel :** A system which consist a dot matrix panel which is connected to a arduino board which and is controlled wirelessly via bluetooth

**Technology Used :**

* **Hardware :** A microcontroller is a compact integrated circuit designed to govern a specific operation in an embedded system. A typical microcontroller includes a processor, memory and input/output (I/O) peripherals on a single chip. Microcontrollers in this projects are Arduino UNO Board and a NODE MCU ESP8266 Board and some of the sensors.
* **Software :** The open-source Arduino Software (IDE) makes it easy to write code and upload it to the board. It runs on Windows, Mac OS X, and Linux. The environment is written in Java and based on Processing and other open-source software.

CloudMQTT is the cloud service which is used in the project. Cloud MQTT are managed Mosquitto servers in the cloud. Mosquitto implements the MQ Telemetry Transport protocol, MQTT, which provides lightweight methods of carrying out messaging using a publish/subscribe message queueing model. MQTT is the machine-to-machine protocol of the future. It is ideal for the “Internet of Things” world of connected devices. Its minimal design makes it perfect for built-in systems, mobile phones and other memory and bandwidth sensitive applications.

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