**INTERNET OF THINGS:**

Connecting everyday things embedded with electronics, software and sensors to the internet enabling them to collect and exchange data.

**BENEFITS OF IOT:**

Unlocking the massive potential of IOT.

* Improved performance
* Reduced costs
* Create innoavative services
* New revenue stream

**IOT APPLICATIONS:**

* **Home automation**
* **Cities**
* **Environment**
* **Energy**
* **Retail**
* **Logistics**
* **Agriculture**
* **Industry**
* **Health and lifestyle**

**CLOUD PLATFORM:**

* Amazon web services
* Google cloud platform
* Microsoft azure
* IBM cloud

**SENSORS:**

* It operates at 3.3v supply
* It can measure from 0 degrees to 50 degrees
* The DHT11 has measures temperature and humidity values its has no negative temperature
* It has one more sensor i.e;DHT22 it can measure from -0degrees to -40degrees

**NODEMCU:**

In “NODEMCU” we are using 3volts power supply. And the ESP8266 has 17 GPIO pins (0-16), however , you can only use 11 of them, because 6 pins (GPIO 6-11)are used to connect the flash memory chip. programming GPIO on the ESP8266 with NODEMCU…..GPIO(General purpose input/output)refers to a set of generic pins of a microcontroller that can be used for digital signalling. NODEMCU is an open source IOT platform. It includes firmware which runs on the ESP8266 WI-FI SOC from Express if systems, and hardware which is based on the ESP-12 module. The term “NODEMCU” by default refers to the firmware rather than the development kits. The ESP8266 can be controlled from your local WI-FI network or from the internet (after port forwarding).The ESP-01module has GPIO pins that can be programmed to turn an LED or relay ON/OFF through the internet. The module can be programmed using an Arduino /USB-to-TTL converter through the serial pins (RX,TX).

**SERVO MOTORS:**

* A servomotor is a rotary actuator or linear actuator that allows for for precise control of angular or linear position, velocity and acceleration. It consists of a suitable motor coupled to sensor for position feedback. It also requires a relatively sophisticated controller , often a dedicated module designed specifically for use with servomotors.

**ULTRASONIC SENSOR:**

* An ultrasonic sensor is a device that can measure the distance to an object by using sound waves. Its measures distance by sending out o sound wave at a specific frequency and listening for that sound wave to bounce back.

**OLED’S:**

* OLED(Organic light emitting diodes)is a flat light emitting technology, made by placing a series of organic thin films between two conductors. When electrical current is applied , a bright light is emitting.

**BLUETOOTH:**

* Bluetooth technology essentially works by using short-range wireless communication technology to connect two devices together. This eliminates the need for cables or wires. Bluetooth allows you to listen to music your from your mobile phone, tablet or iPad through wireless headphones.

**NRF MODULE:**

* An RF module (radio frequency module) is a (usually) small electronic device used to transmit and/or receive radio signals between two devices….This wireless communication may be accomplished or through radio frequency (RF) communication.