# SMART AGRICULTURE SYSTEM BASED ON IOT

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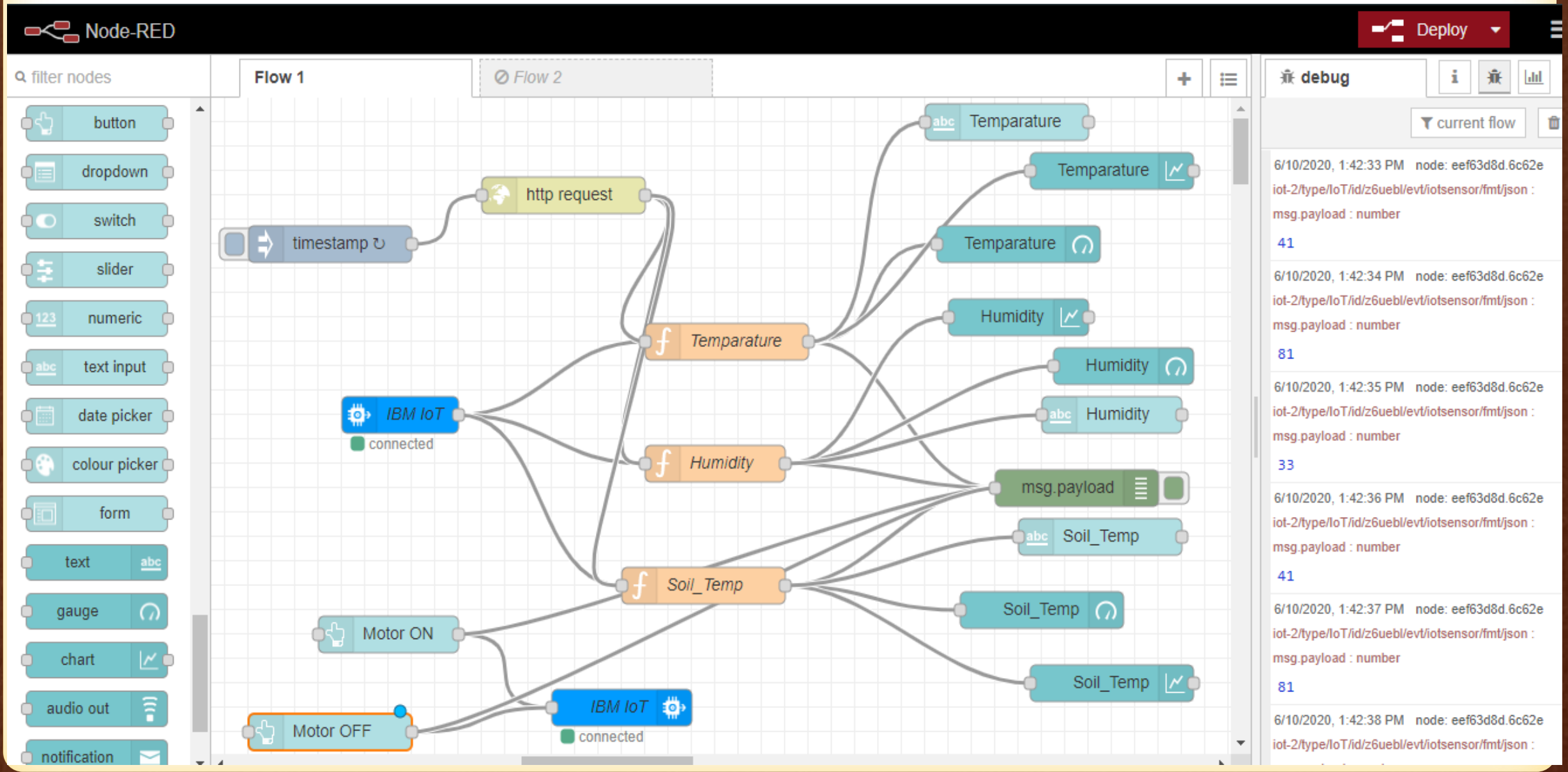
# Introduction:-

- IoT based smart farming system can prove to be very helpful for farmers since over as well as less irrigation is not good for farming. Threshold values for climatic conditions like humidity, temperature, moisture can be fixed based on the environmental conditions of that particular region.
- This system generates irrigation schedule based on the sensed real time data from field and data from the weather repository. This system can recommend farmer whether or not, is there a need for irrigation.
- In this project, it is proposed to develop a Smart Farming System that uses advantages of cutting edge technologies such as IoT, are used to get information about the field and help farmers to take precise decisions on insights and recommendations based on the collected data.

# Circuit Diagram:-



# Purpose of this project:-

In IoT-based smart farming, a system is built for monitoring the crop field with the help of sensors (light, humidity, temperature, soil moisture, etc.) and automating the irrigation system. The farmers can monitor the field conditions from anywhere.

Table Shows the growth of IoT based adoption in Agriculture sector from Year 2000-2020 and Forecasts of year 2035-2050.

| YEAR | DATA ANALYSIS |
|---|---|
| **2000** | 525 Million Farms connected to IoT |
| **2020** | **580 Million Farms till Date are connected to IoT** |
| **2035** | 780 Million Farms would be connected to IoT |
| **2050** | 2 Billion Farms are likely to be connected to IoT |

# ADVANTAGES:-

- With IoT, efficiency level would be increased in terms of usage of Soil, Water, Fertilizers, Pesticides etc.
- With IoT productions costs can be reduced to a remarkable level which will in turn increase profitability and sustainability.
- IoT enables easy collection and management of tons of data collected from sensors and with integration of cloud computing services like Agriculture fields maps, cloud storage etc., data can be accessed live from anywhere and everywhere enabling live monitoring and end to end connectivity among all the parties concerned

# DISADVANTAGE:-

1. The smart agriculture need availability on internet continuously. Rural part of the developing countries did not fulfil this requirements. Moreover internet is slower.
2. Fault sensor or data processing engines can cause faulty l decisions which may lead to over use of water, fertilizers and other wastage of resources.
3. The smart farming based equipment require farmer to understand and learn the use of technology. This is the major challenge in adopting smart agriculture framing at large scale across the continues.

# CONCLUSION:-

"The smart agriculture market is expected to reach $18.45 Billion in 2022 at a CAGR of 13.8%". IOT serves as a powerful, reliable and cost effective technology to implement the idea of "Smart Village" that aims to empowerment of villages with advance connectivity through web service, measurement of environment factors like Soil moisture, temperature, humidity and implementing cloud computing along with real time monitoring using GSM system. Using this project, the status of crops can be viewed remotely on a smartphone or laptops using the internet. This helps to keep the farmer up to date even when he is away.

So the most valuable things is the future of this project is very bright despite some issues which is soluble.

# THANK YOU