SMART KITCHEN USING IBM CLOUD

An Smart Kitchen is built by using IBM Cloud.The existence of the gas leakage and excessive temperatures must be quickly identified and adressed. The parameters like Temperature ,Humidity,Variation and Current are measured and sensed values are displayed.

ABSTRACT

The Cylinder is attached with the leakage sensor that detects the leakage from the Cylinder and sends the notification whenever the leakage is detected and the exhaust fans are made automatically on when leakage is detected in the smarter kitchen. Cylinder weight is also measured which gives notification whenever the leakage is detected. The exhaust fans are made automatically oned whenever the leakage is detected .Cylinder weight is also measured and gives an alert when it is empty and the normal storage jars are replaced with the smart jars which alerts when the jars become empty or the measured sensor value is below the threshold. These parameters are monitored from the mobile app and web app. This project is highly useful for maintaing in the smarter kitchen with safety measures.

INTRODUCTION

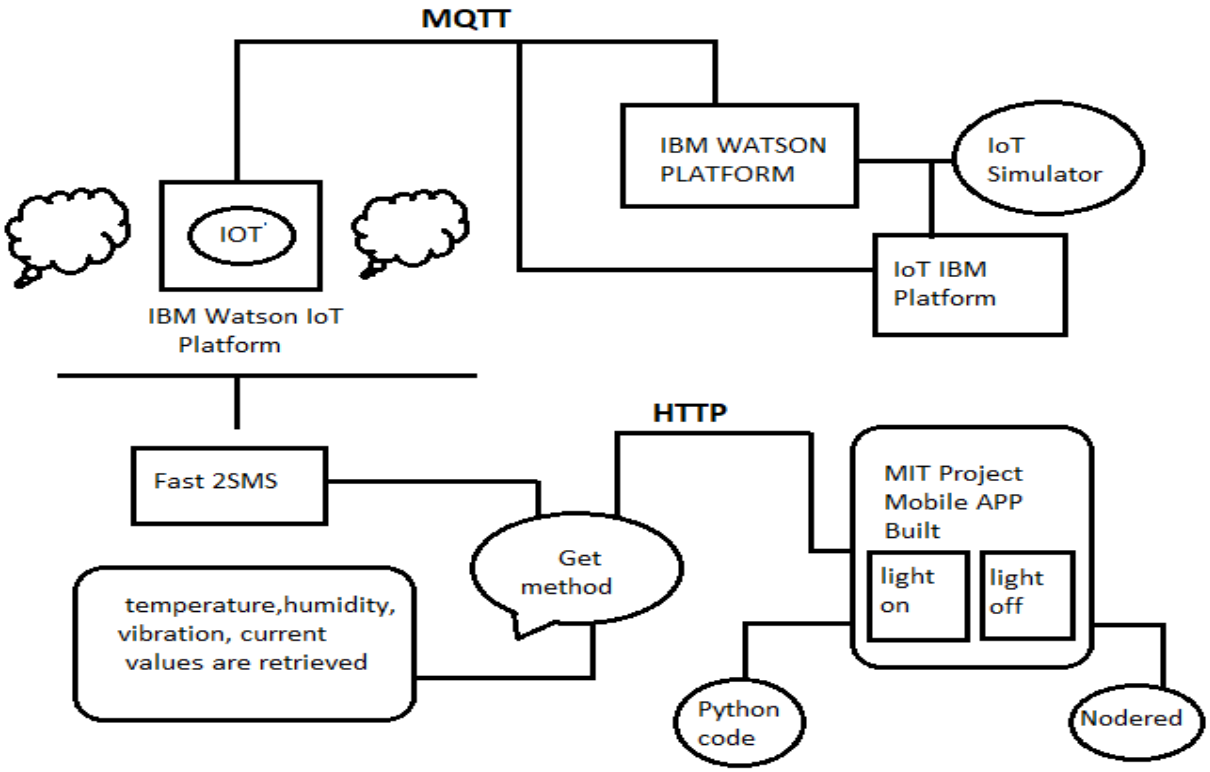
Internet application development demand is very high. IoT is a network in which all physical objects are connected to the internet through network devices or routers and exchange data. IoT allows objects to be controlled remotely across existing network infrastructure.This is possible through communication between certain devices through wireless sensor networks. Devices gather useful data with help of various existing technologies such as RFID , WSN, cloud computing etc .Using this IoT Application we can built a smarter kitchen , health ,agriculture , smart car parking etc.

LITERATURE SURVEY

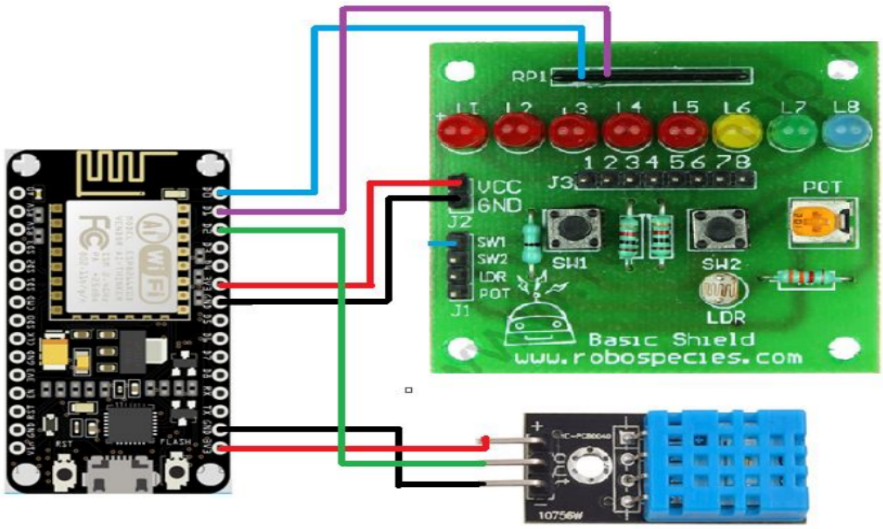
Know a days the things are getting easier with IoT application . Many problems are faced in the kitchen like leakage of gases which is more dangerous hence the things like household appliances are connected to a network , they can work together in cooperation to provide the ideal service as a whole .This is useful for many of the real-world applications and services. Smarter kitchen can be done and problems can be reduced by connecting the sensors to the cylinders which alerts or gives notification whenever the leakage is faced in the kitchen and automatically turns the fan on to avoid the risk and problem. Proper Knowledge on using the application and smart phone through the project is done in more efficient manner.

Here the web app is created using Node js and user interface is created through which the temperature .The iot simulator is connected to watson iot platform and temperature ,humitidy and object temperature such is controlled and node red is configured to get the data from IBM IOT platform. Then nodes are modified to display the weather parameters which we have received from IOT platform and created an user interface and creating buttons to receive the Light on and Light off commands to iot platform and python code is coded to retrieve the commands from the IOT platform and Mit app were the project is done and the url are given to the get web and called through call web and clock timer is set for retrieving temperature and humidity values. the button were again url is given to get web and called through call web to receive Light on and Light off ,we can control it through mobile app also which tells us to lighton when temperature and humidity is low and also book the cylinder when it is empty and alerts when jar is empty and also when gas leakage is detected and turns on the fan automatically.

BLOCK DIAGRAM



HARDWARE DESIGN



ADVANTAGES

1. Connectivity - It plays a major role in many of the kitchen devices that are coming out now.Gadgets and appliances are being connected making things more and more convenient.This removes the painful chore of having to write down a grocery list or run out to the grocery store at the last minute.

2. Automation- There has been a lot of concern about the rise of automation and the threats are too distant or far off for any real concern.Automatically regulates temperature based on the items inside.

3. Style- When it comes to style,everyone gravitates towards the sleek design of modern appliances.This will create a balance between modern and traditional design as well as comfort and style.

4. Efficiency- covenience goes hand in hand with efficiency as it become a norm to get kitchen appliances that are efficient as well as convenient.

5. Speed - Modern Kitchen Technology is in a word, fast. This plays in to the whole idea of being convenient and efficient.

DISADVANTAGES

1.High price- Smart appliances cost more. In addition they often require more repairs than mechanical versions of the same machines.

2.Security-smart home appliances are not more secure and cause hackers to hack the system

3.No Connection =dumb appliances, if smart appliances cannot connect to the internet they no longer smart. Always need a internet security to work.

APPLICATIONS

1. Smart Cooktops
2. The Connected Scale
3. Smart Coffee Maker
4. Precision Cooker
5. Smart Fridge Camera
6. Smart Wine Aerator
7. Smart Garden
8. Sous vide
9. Countertop Appliances
10. Kitchen scale

CONCLUSION

Smart Kitchen using IoT System with multiregional sensors has been designed, constructed and tested. The result obtained from the tests carried out shows that the system is a capable of sending SMS alerts whenever there is gas concentration at the inputs of the gas sensors. Hence this system can be used in homes and public buildings such as hotels and restaurants.weight sensors also used to detect the weight of the cylinder and whenever the gas is empty it gives SMS for booking the gas cylinder. Temperature sensors are used to detect the current room temperature and also the sensors detect the smart jars quantity and also alerts when the jars are empty. Server can communicate with the user through android device through SMS .Hence creating a smarter kitchen using the IBM Cloud.

FUTURE SCOPE

The research report on the global Smart Kitchen Appliances helps us to built a smarter kitchen very efficiently with all the requirements and sees through the Gas leakage and weight of the gas and builts the security system and the alarm system for securing the users from any disasters from gas leakage and also makes users convenient to see through the items whenever it gets empty in the jars whenever the user is alerted through the SMS system. This features can be still improved with adding more sensors which can be used for more kitchen parameters. Apply various techniques to make the system more secure for the future generation.Also the system can be more improvisioned and power supply can be saved and more advantageous smarter kitchen can be built. whenever the gas leakage is detected automatically the fan is oned and reduces the danger caused by the gas leakage which plays the major role for preventing the risk and damage caused in the kitchen. Hence the smart kitchen using IBM cloud plays a vital role in the future.

APPENDIX

System	Gas leakage Sensor	Temperature sensor	smart jars
Internet of things based system for smart kitchen	Yes	No	No
Smart kitchen using arduino	Yes	Yes	No
Smart Kitchen using IBM Cloud	Yes	Yes	Yes