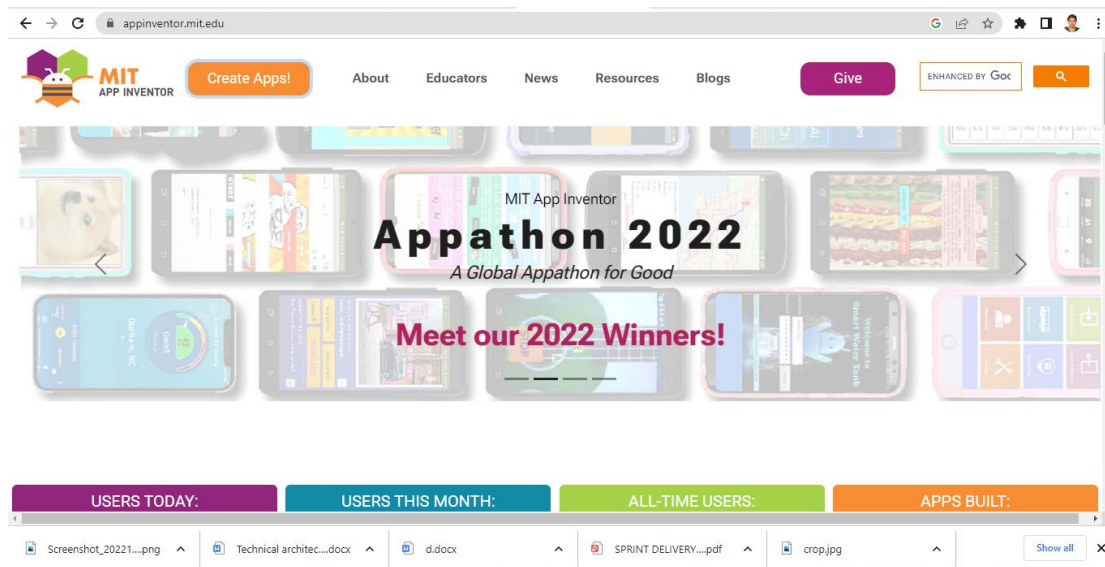


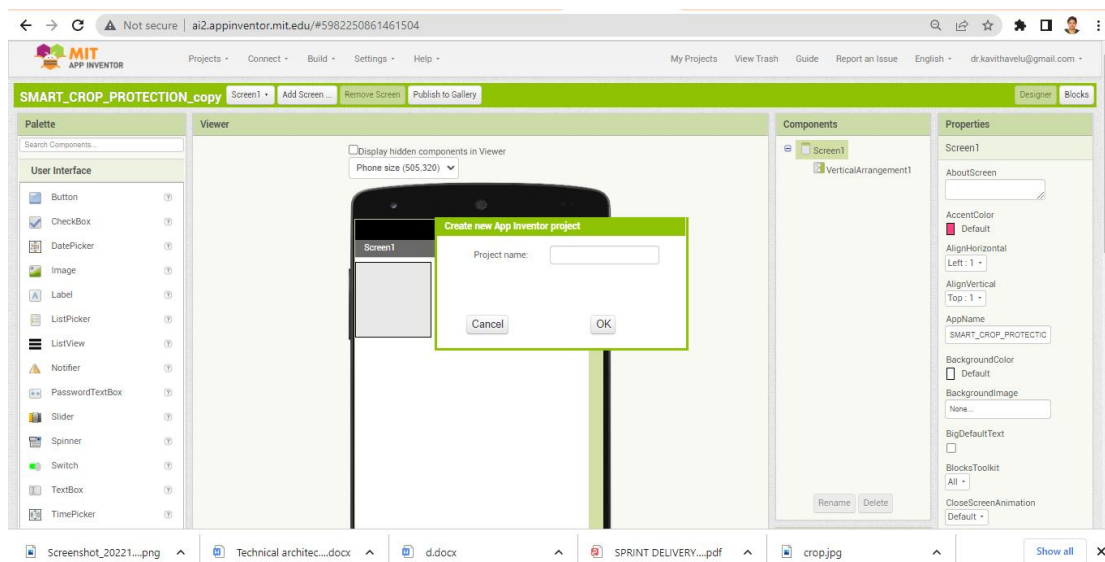
PROJECT DEVELOPMENT PHASE

| | |
|---------|--|
| Team ID | PNT2022TMID27900 |
| Project | IoT Based Smart Crop Protection System for Agriculture |

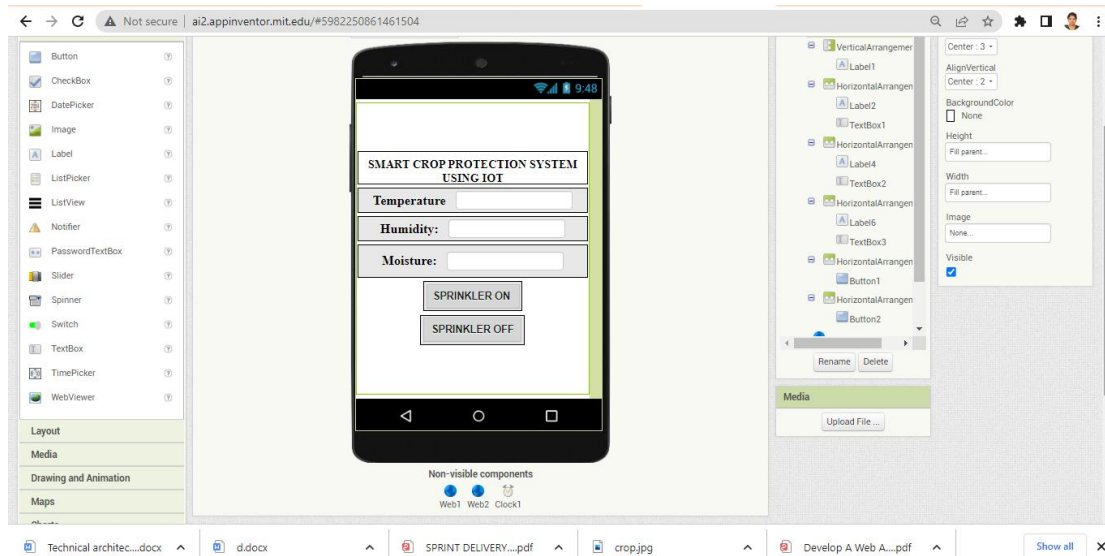
MIT APP Invertor Account is created and logged in.



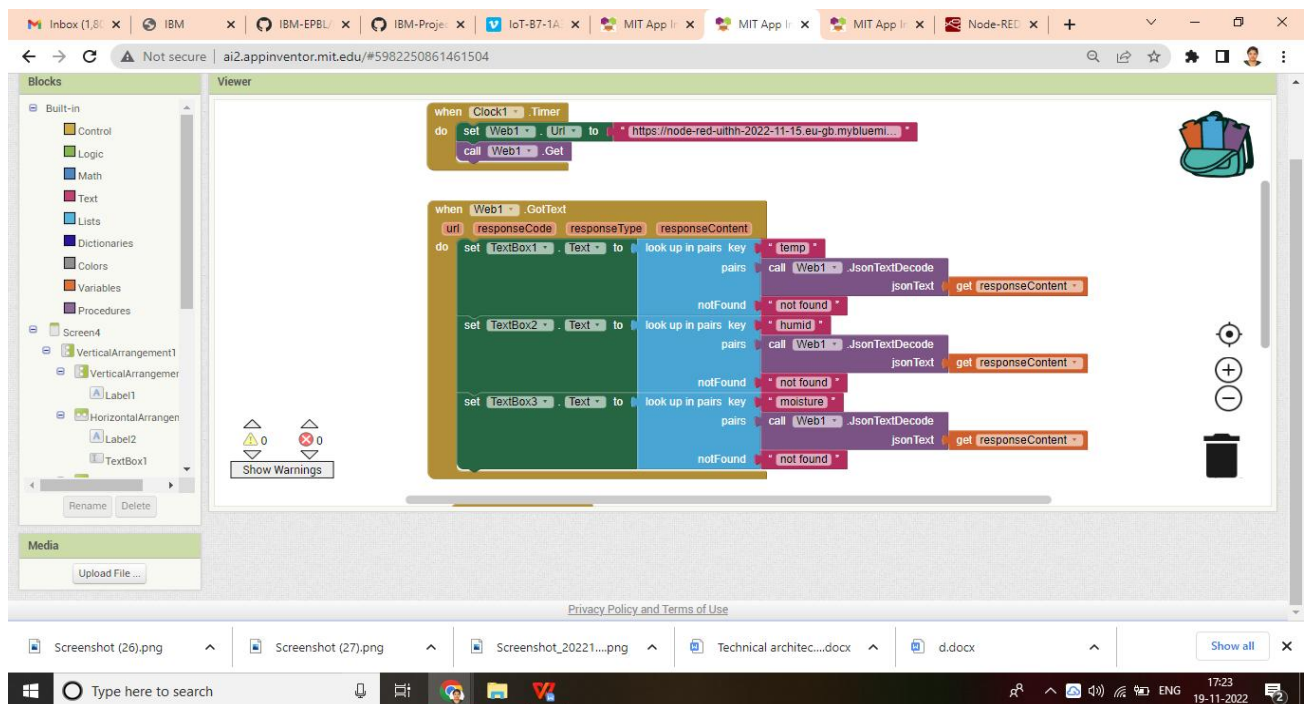
A new project is created in which app design can be done.



Front end design is created using mit app inventor.

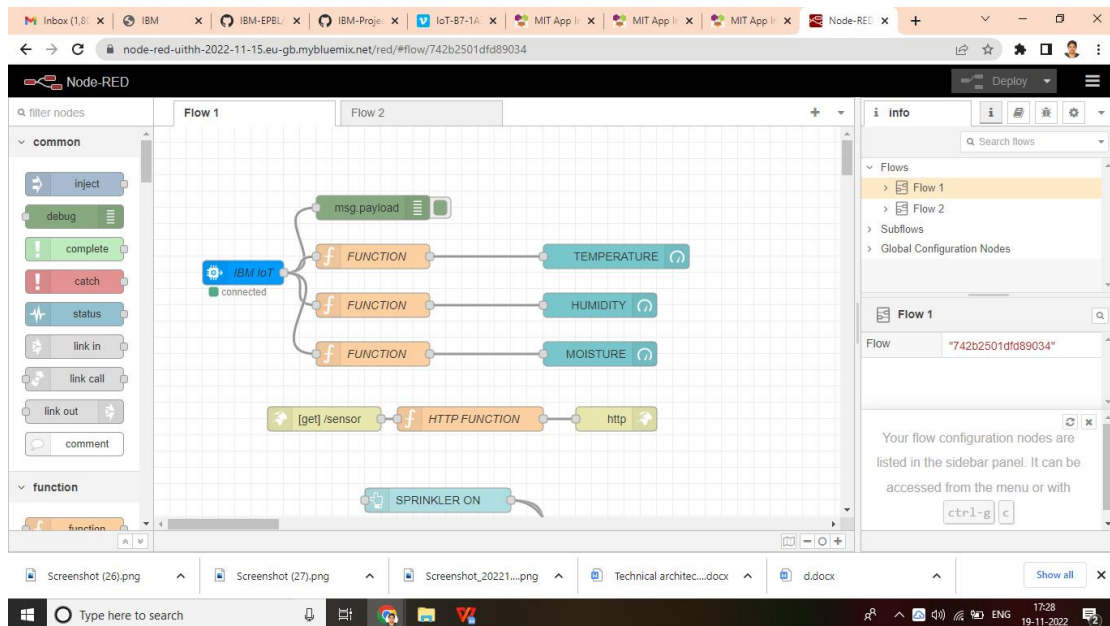


Blocks of code are written in mit app inventor.





URL of node red is linked to mit block code.



From python code we can see that the components of mit device is linked with python and when the device is turned on/off it is notified in the output.

```
SMART CROP PROTECTION.py - C:/Users/PRIYANGA V/Desktop/SMART CROP PROTECTION.py (3.7.4)
File Edit Format Run Options Window Help
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random

#Provide your IBM Watson Device Credentials
organization = "fl9pgj"
deviceType = "NodeMCU"
deviceId = "12345"
authMethod="token"
authToken = "oZDx3WdXYxtZ3IXd-c"

# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="sprinkleron":
        print ("sprinkler is on")
    elif status == "sprinkleroff":
        print ("sprinkler is off")
    else :
        print ("please send proper command")

try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method": authMethod, "au
    deviceCli = ibmiotf.device.Client(deviceOptions)
    #.....

except Exception as e:
    print("Caught exception connecting device: %s" % str(e))

Ln: 42 Col: 37
```

```
*Python 3.7.4 Shell*
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 20:34:20) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/PRIYANGA V/Desktop/SMART CROP PROTECTION.py =====
2022-11-19 17:20:00,135 ibmiotf.device.Client INFO Connected successfully: d:fl9pgj:NodeMCU:12345
Published Temperature = 42 C Humidity = 85 % Moisture = 50 % to IBM Watson
Published Temperature = 82 C Humidity = 86 % Moisture = 57 % to IBM Watson
Command received: sprinkleroff
sprinkler is off
Published Temperature = 45 C Humidity = 87 % Moisture = 56 % to IBM Watson
|

Ln: 5 Col: 0
```

The picture of Mobile application can be seen below

