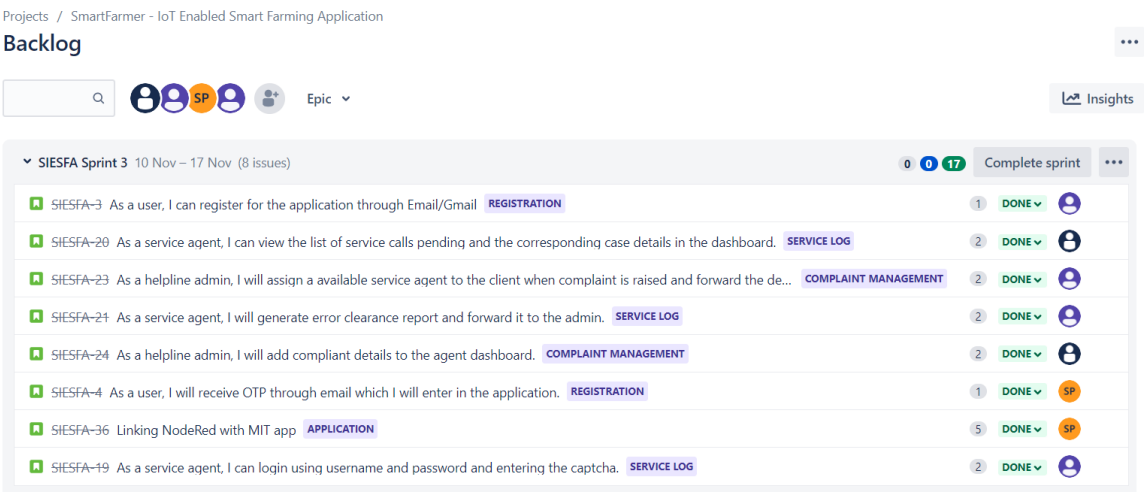
PROJECT DEVELOPMENT PHASE

SPRINT DELIVERY - 3

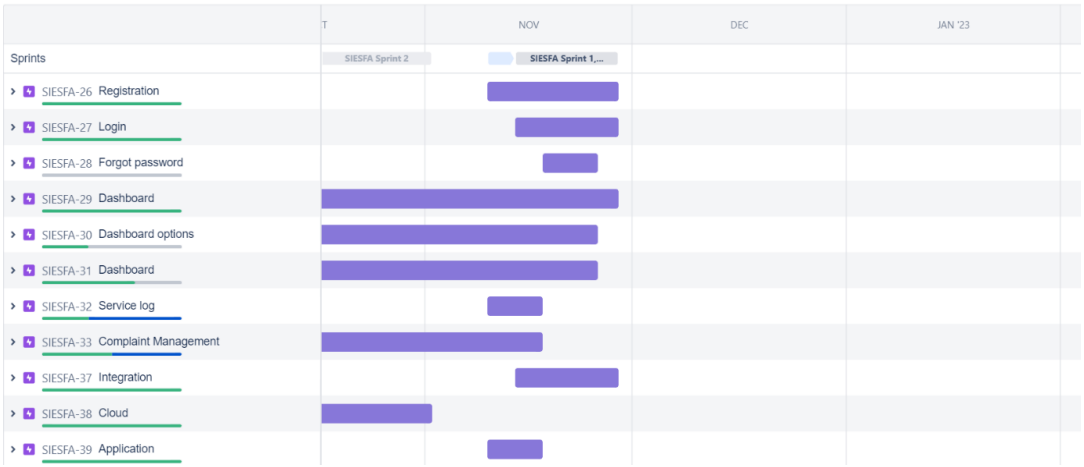
Team ID	PNT2022TMID52856
Project Name	SmartFarmer - IoT Enabled Smart Farming Application

BACKLOG

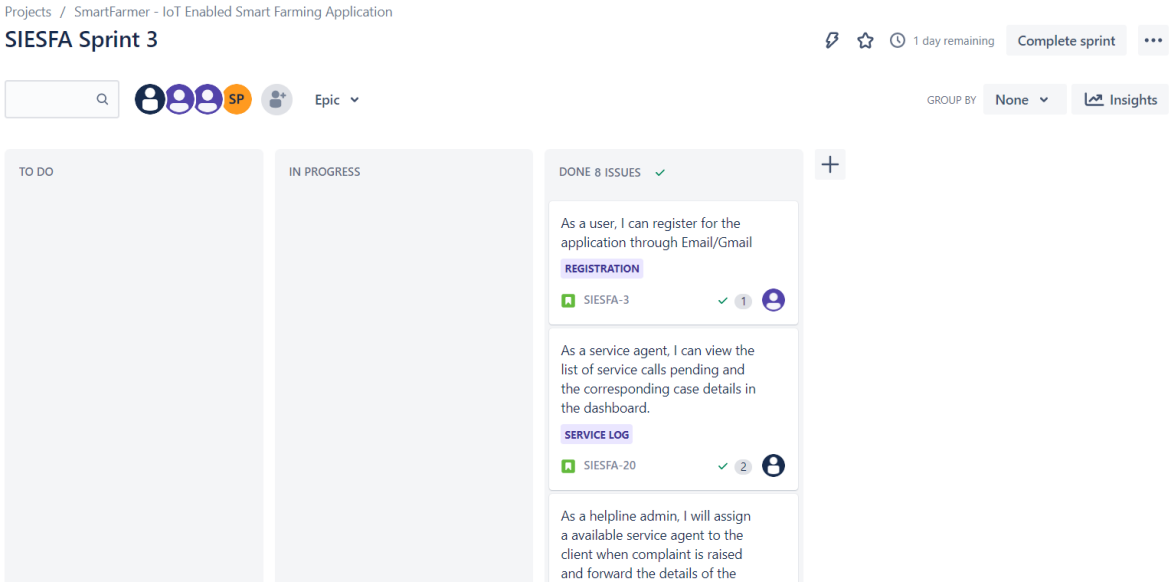
Release	User Story Number	User Story / Task	Story points	Priority	Team members
Sprint-3	USN-3	As a user, I can register for the application through Email/Gmail	1	Medium	Ranga Krishna Prasadh H
Sprint-3	USN-4	As a user, I will receive OTP through email which I will enter in the application.	1	Medium	Sathish P
Sprint-3	USN-29	As an admin, I can customize the data flow to the app (using Node-Red)	5	High	Priya Dharshini C
Sprint-3	USN-19	As a service agent, I can login using username and password and entering the captcha.	2	High	Priya Dharshini C Vishalini A J
Sprint-3	USN-20	As a service agent, I can view the list of service calls pending and the corresponding case details in the dashboard.	2	High	Priya Dharshini C Sathish P
Sprint-3	USN-23	As a helpline admin, I will assign a available service agent to the client when complaint is raised and forward the details of the serviceagent assigned.	2	High	Vishalini A J Sathish P
Sprint-3	USN-24	As a helpline admin, I will add compliant details to the agent dashboard.	2	High	Priya Dharshini C Vishalini A J



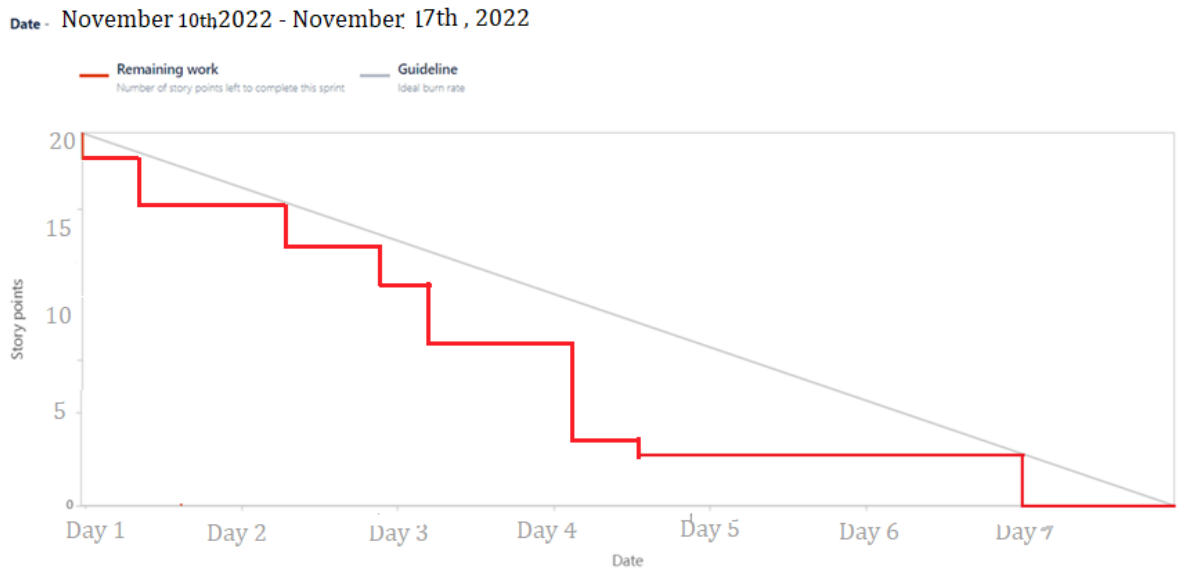
ROADMAP



BOARD

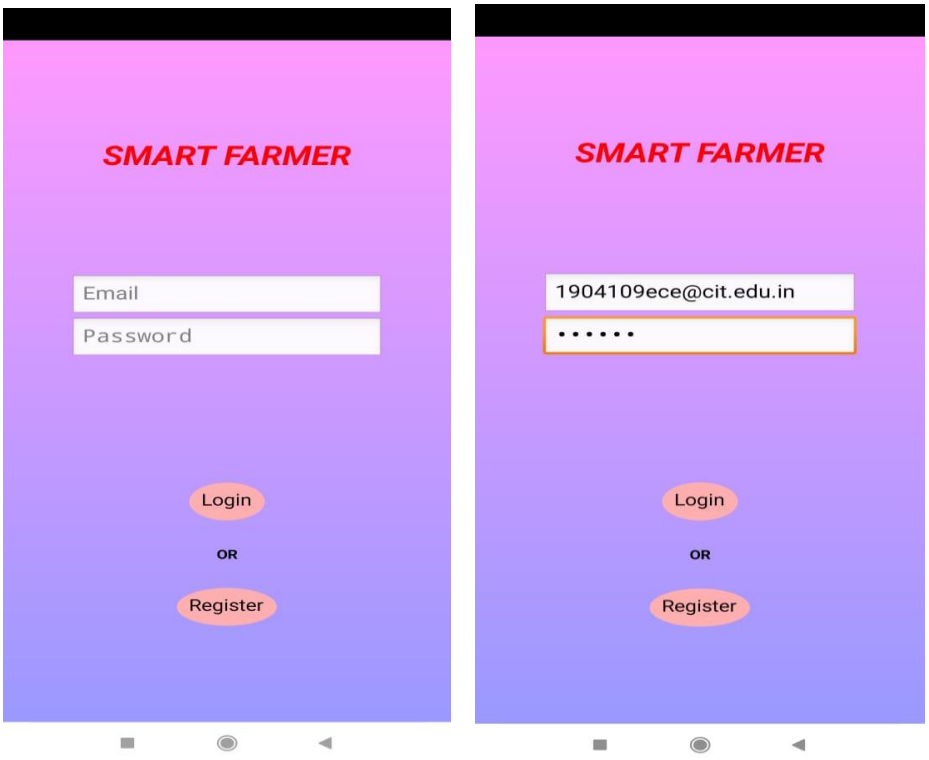


SPRINT BURNDOWN CHART



USN-3

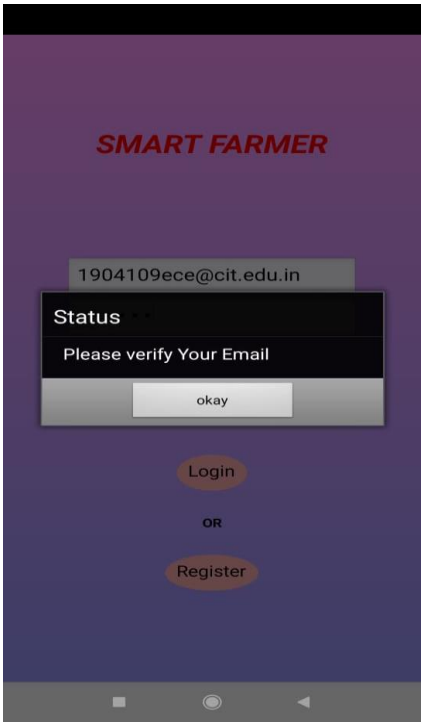
SMART FARMER APP:



Registration/login screen

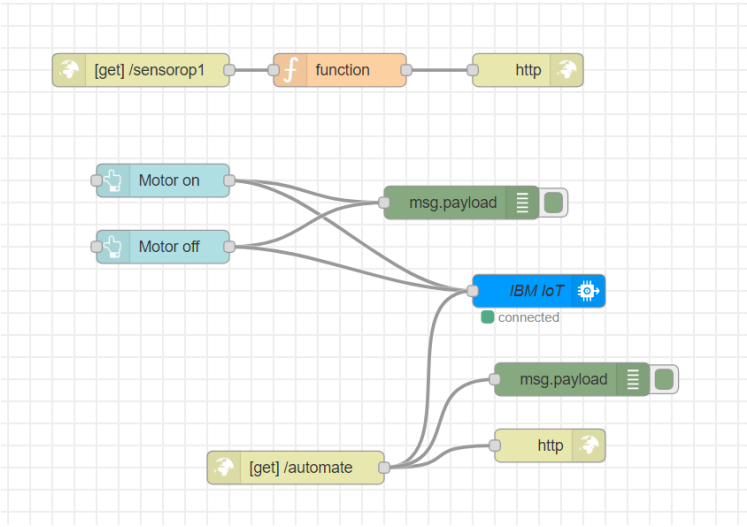
USN-4

EMAIL AUTHENTICATION



USN-29

DATAFLOW FROM NODE-RED TO APP



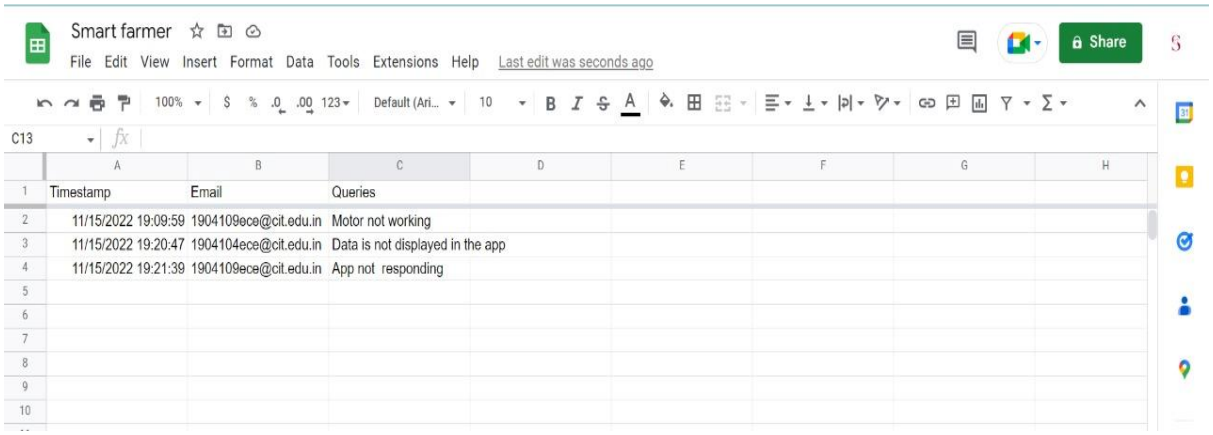

```
{"Temperature":44,"Soil_moisture":79,"Rain_sensor":328,"pH_sensor":6,"Ambient_Light_LDR":914}
```



```
{"command":"Motor_off"}
```


USN-20

SERVICE PENDING LIST



PYTHON 3.7 - CODE

Python script to publish and subscribe to IBM IoT platform

```
import wiotp.sdk.device
import time
import os
import datetime
import random

#IBM CREDENTIALS
myConfig = {
```

```
"identity": {
"orgId":"94ab7c",
"typeId":"Node",
"deviceId": "esp2"
},
"auth": {
"token": "ChVhYc0Dz(AD*rSw9A"
} }


client = wiotp.sdk.device.DeviceClient (config=myConfig,logHandlers=None)
client.connect ()


#Commands received through App/node red
def myCommandCallback (cmd) :
   print ("Message received from IBM IoT Platform: %s" % cmd.data['command'])
   m=cmd.data['command']
   if (m=="Motor_on"):
      print ("Motor is switched on")
   elif (m=="Motor_off"):
      print ("Motor is switched OFF")
   print (" ")

while True:
   #Generate random sensor values
   soil=random.randint (1,100)
   temp=random.randint (-10,60)
   ldr=random.randint (0, 1023)
   rain=random.randint (0, 1023)
   ph=random.randint (5, 9)
   #Publish and subscribe to IBM IoT platform
   myData={'Temperature':temp,'Soil_moisture': soil ,'Ambient_Light_LDR' :ldr,'
         Rain_sensor':rain,'pH_sensor':ph}
   client.publishEvent (eventId="status", msgFormat="json", data=myData, qos=0 ,
   onPublish=None)
   print ("Published data Successfully: ", myData)
   time.sleep (2)
   client.commandCallback = myCommandCallback
client.disconnect ()
```

PYTHON CODE EXECUTION

```
*Python 3.7.0 Shell*
File  Edit  Shell  Debug  Options  Window  Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
 RESTART: C:/Users/DELL/AppData/Local/Programs/Python/Python37/python_watson_publish.py
2022-11-18 00:30:29,592   wiotp.sdk.device.client.DeviceClient  INFO    Connected successfully: d:94ab7c:Node:esp2Published data Successfully
 {'Temperature': 13, 'Soil_moisture': 31, 'Ambient_Light_LDR': 162, 'Rain_sensor': 412, 'pH_sensor': 7}
Published data Successfully:  {'Temperature': -7, 'Soil_moisture': 82, 'Ambient_Light_LDR': 775, 'Rain_sensor': 649, 'pH_sensor': 9}
Published data Successfully:  {'Temperature': 32, 'Soil_moisture': 7, 'Ambient_Light_LDR': 383, 'Rain_sensor': 264, 'pH_sensor': 6}
Published data Successfully:  {'Temperature': 59, 'Soil_moisture': 3, 'Ambient_Light_LDR': 336, 'Rain_sensor': 893, 'pH_sensor': 5}
Published data Successfully:  {'Temperature': 16, 'Soil_moisture': 18, 'Ambient_Light_LDR': 260, 'Rain_sensor': 955, 'pH_sensor': 6}
Published data Successfully:  {'Temperature': 2, 'Soil_moisture': 5, 'Ambient_Light_LDR': 769, 'Rain_sensor': 1019, 'pH_sensor': 7}
Published data Successfully:  {'Temperature': 38, 'Soil_moisture': 71, 'Ambient_Light_LDR': 518, 'Rain_sensor': 57, 'pH_sensor': 8}
Published data Successfully:  {'Temperature': -3, 'Soil_moisture': 100, 'Ambient_Light_LDR': 770, 'Rain_sensor': 326, 'pH_sensor': 8}
Published data Successfully:  {'Temperature': 48, 'Soil_moisture': 9, 'Ambient_Light_LDR': 304, 'Rain_sensor': 776, 'pH_sensor': 7}
Published data Successfully:  {'Temperature': 33, 'Soil_moisture': 24, 'Ambient_Light_LDR': 581, 'Rain_sensor': 158, 'pH_sensor': 6}
Published data Successfully:  {'Temperature': 53, 'Soil_moisture': 80, 'Ambient_Light_LDR': 618, 'Rain_sensor': 874, 'pH_sensor': 6}
Published data Successfully:  {'Temperature': 25, 'Soil_moisture': 54, 'Ambient_Light_LDR': 746, 'Rain_sensor': 537, 'pH_sensor': 6}
Published data Successfully:  {'Temperature': -5, 'Soil_moisture': 89, 'Ambient_Light_LDR': 482, 'Rain_sensor': 738, 'pH_sensor': 9}
Published data Successfully:  {'Temperature': 12, 'Soil_moisture': 25, 'Ambient_Light_LDR': 290, 'Rain_sensor': 953, 'pH_sensor': 9}
Published data Successfully:  {'Temperature': -9, 'Soil_moisture': 44, 'Ambient_Light_LDR': 583, 'Rain_sensor': 637, 'pH_sensor': 8}
Published data Successfully:  {'Temperature': 9, 'Soil_moisture': 64, 'Ambient_Light_LDR': 609, 'Rain_sensor': 330, 'pH_sensor': 7}
Published data Successfully:  {'Temperature': 11, 'Soil_moisture': 69, 'Ambient_Light_LDR': 261, 'Rain_sensor': 445, 'pH_sensor': 8}
Published data Successfully:  {'Temperature': 48, 'Soil_moisture': 73, 'Ambient_Light_LDR': 966, 'Rain_sensor': 135, 'pH_sensor': 5}
Message received from IBM IoT Platform: Motor_on
Motor is switched on

Published data Successfully:  {'Temperature': -10, 'Soil_moisture': 41, 'Ambient_Light_LDR': 429, 'Rain_sensor': 296, 'pH_sensor': 7}
Published data Successfully:  {'Temperature': 53, 'Soil_moisture': 77, 'Ambient_Light_LDR': 465, 'Rain_sensor': 152, 'pH_sensor': 5}
Published data Successfully:  {'Temperature': 35, 'Soil_moisture': 48, 'Ambient_Light_LDR': 446, 'Rain_sensor': 152, 'pH_sensor': 5}
Published data Successfully:  {'Temperature': 42, 'Soil_moisture': 20, 'Ambient_Light_LDR': 894, 'Rain_sensor': 547, 'pH_sensor': 5}
Published data Successfully:  {'Temperature': 26, 'Soil_moisture': 41, 'Ambient_Light_LDR': 212, 'Rain_sensor': 529, 'pH_sensor': 8}
Published data Successfully:  {'Temperature': 58, 'Soil_moisture': 43, 'Ambient_Light_LDR': 709, 'Rain_sensor': 256, 'pH_sensor': 6}
Message received from IBM IoT Platform: Motor_off
Motor is switched OFF

Published data Successfully:  {'Temperature': 7, 'Soil_moisture': 33, 'Ambient_Light_LDR': 897, 'Rain_sensor': 976, 'pH_sensor': 8}
Published data Successfully:  {'Temperature': 60, 'Soil_moisture': 11, 'Ambient_Light_LDR': 157, 'Rain_sensor': 841, 'pH_sensor': 9}
Published data Successfully:  {'Temperature': 26, 'Soil_moisture': 83, 'Ambient_Light_LDR': 1018, 'Rain_sensor': 207, 'pH_sensor': 9}
Published data Successfully:  {'Temperature': 30, 'Soil_moisture': 39, 'Ambient_Light_LDR': 836, 'Rain_sensor': 311, 'pH_sensor': 5}
```

OUTPUT