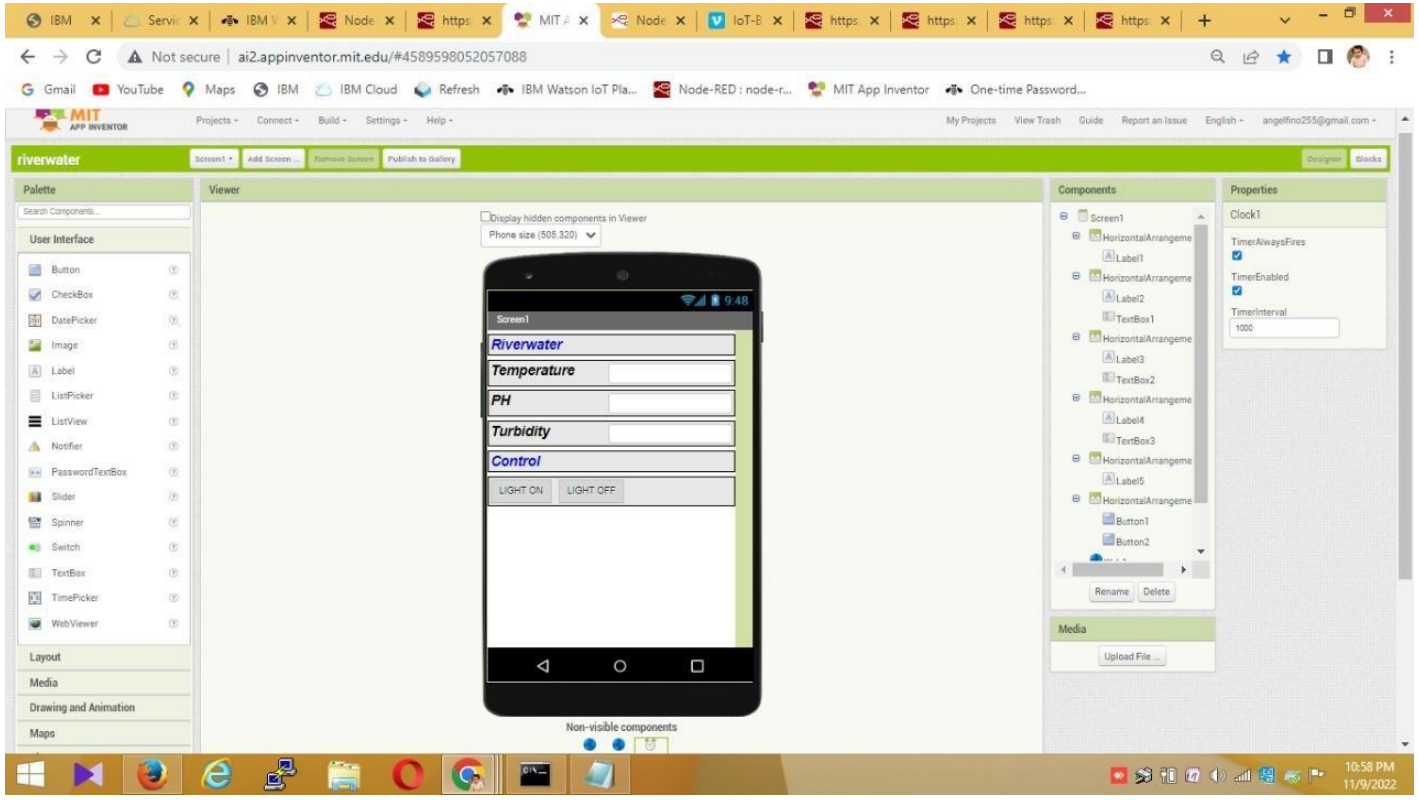
Project Development Phase
Sprint-3

Date	12-NOVEMBER 2022
Team ID	PNT2022TMID35688
Project name	Project – IoT Based Real-time River water quality monitoring and control system

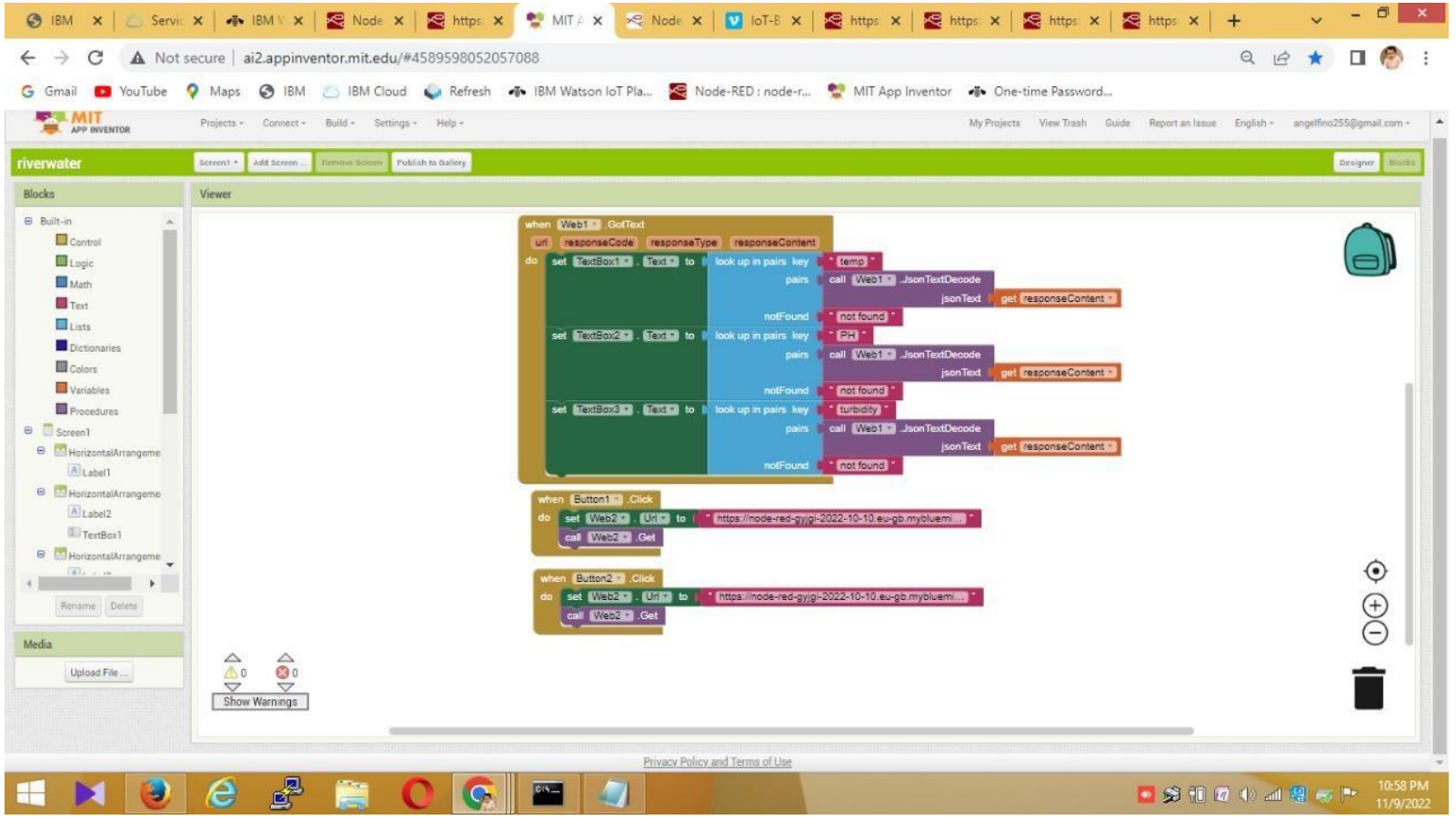
USN-11

As a user, I can design the front end in MIT app inventor.



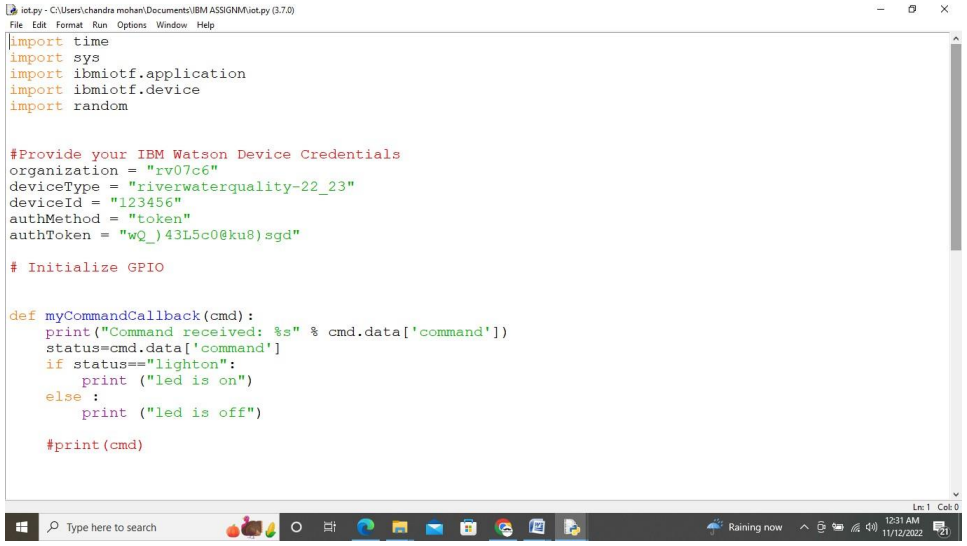
USN-12

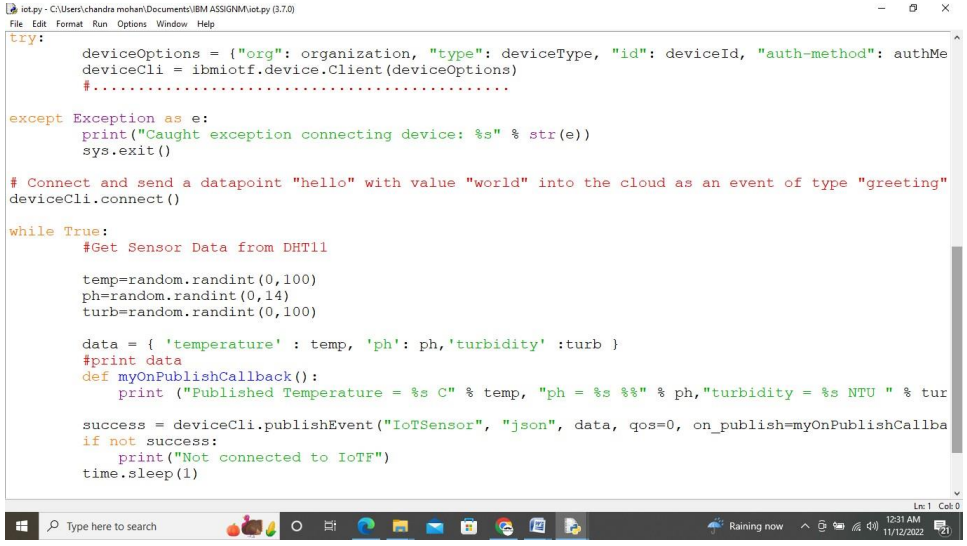
As a user, I can design the back end(blocks) in MIT app inventor



USN-13

As a user, I can develop the python script.





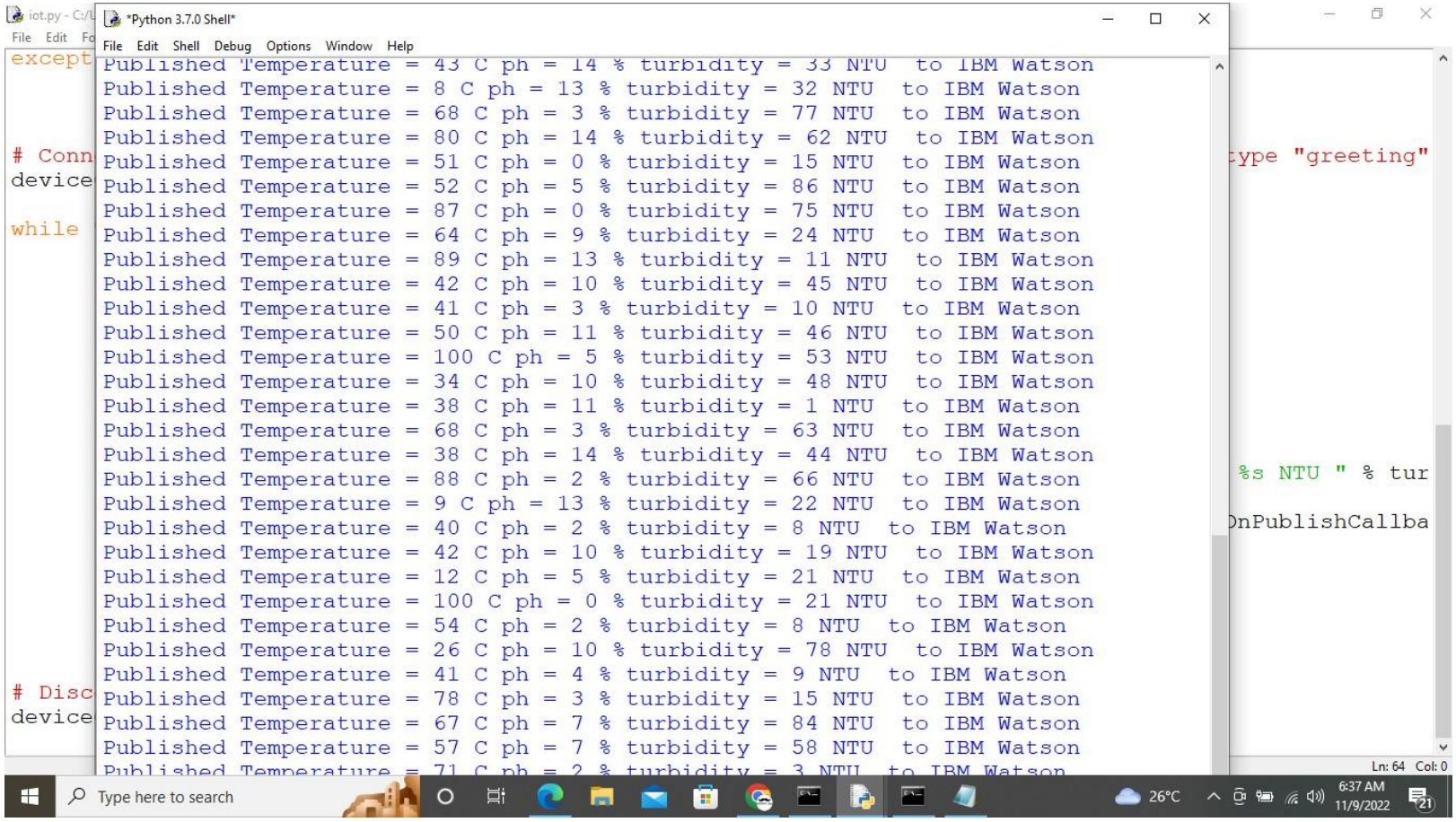
PROGRAM:

```
import ibmiotf.device
import random

#Provide your IBM Watson Device Credentials
organization = "rv07c6"
deviceType = "riverwaterquality-22_23"
deviceId = "123456"
authMethod = "token"
authToken = "wQ_)43L5c0@ku8)sgd"

# Initialize GPIO


def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print ("led is on")
    else :
        print ("led is off")

    #print(cmd)




try:
        deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method": authMethod, "auth-token":
authToken}
```

```
        deviceCli = ibmiotf.device.Client(deviceOptions)
        #.....................................

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

# Connect and send a datapoint "hello" with value "world" into the cloud as an event of type "greeting" 10 times
deviceCli.connect()

while True:
      #Get Sensor Data from DHT11

      temp=random.randint(0,100)
      ph=random.randint(0,14)
      turb=random.randint(0,100)

      data = { 'temperature' : temp, 'ph': ph,'turbidity' :turb }
      #print data
      def myOnPublishCallback():
         print ("Published Temperature = %s C" % temp, "ph = %s %%" % ph,"turbidity = %s NTU " % turb ,"to IBM
Watson")

      success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0, on_publish=myOnPublishCallback)
      if not success:
         print("Not connected to IoTF")
      time.sleep(1)

      deviceCli.commandCallback = myCommandCallback

# Disconnect the device and application from the cloud
deviceCli.disconnect()
```

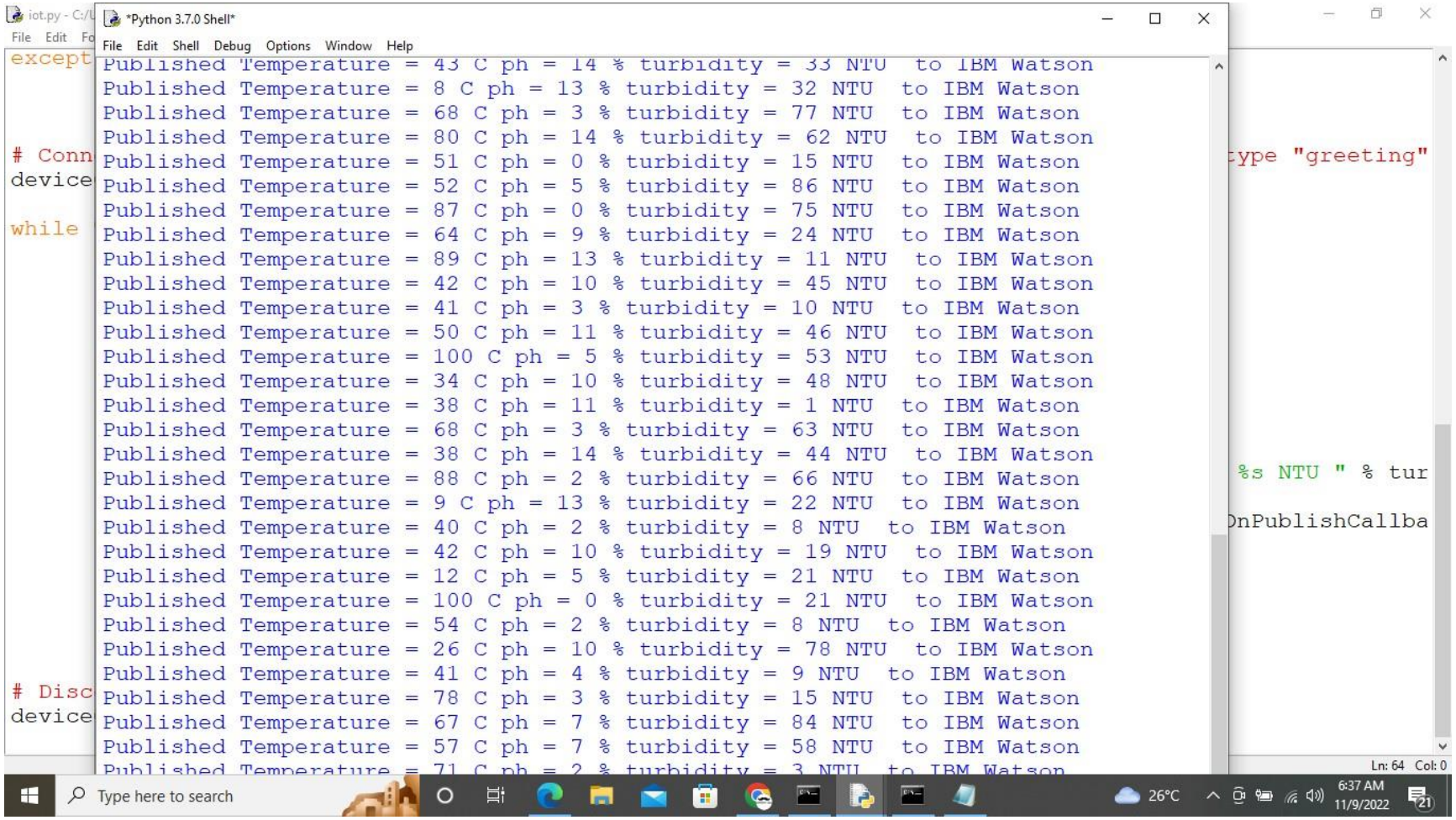
USN-14

As a user,I can get the output of the program with the parameters



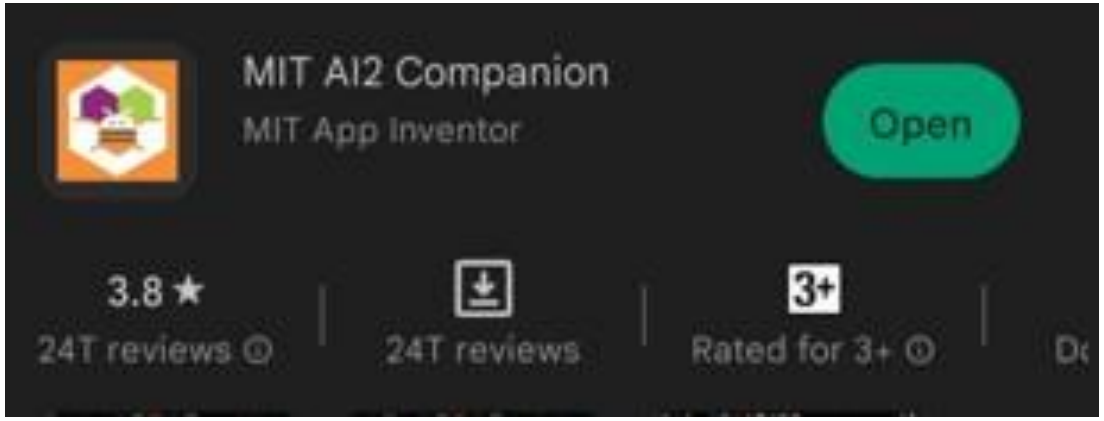
USN-15

As a user , I can get the commands in the output when the buttons are pressed.

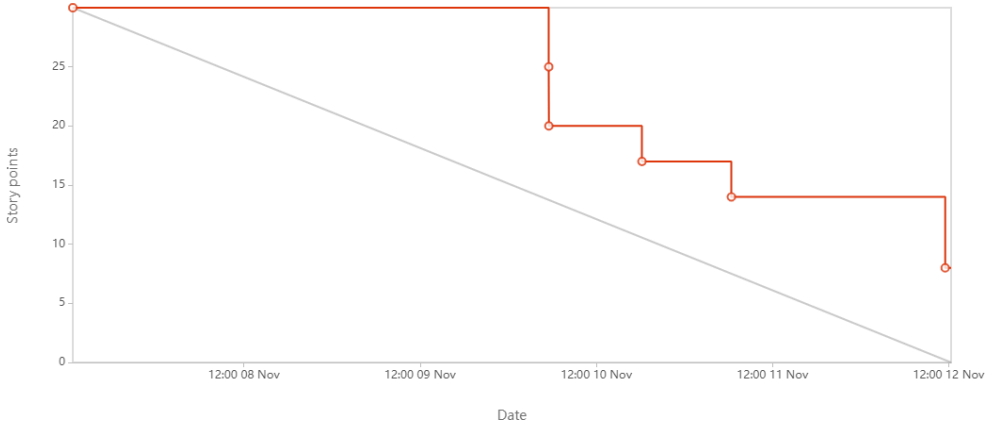


USN-16

As a user, I can download MIT AI2 companion app in my mobile



SPRINT BURNDOWN CHART:




100%
80%
60%
40%
20%
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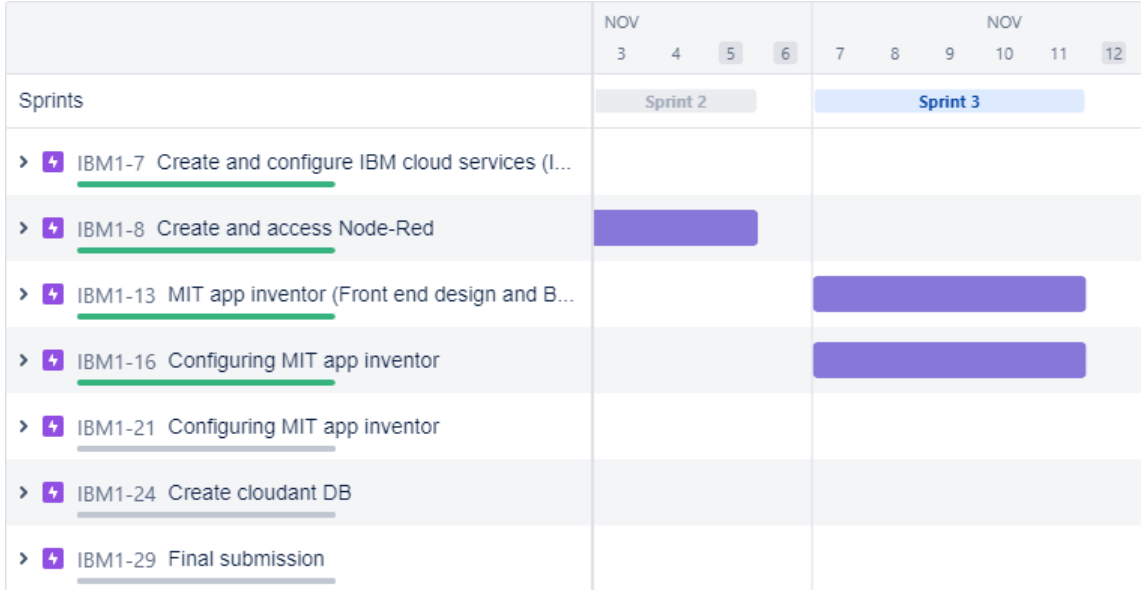
Nov 7
Nov 12
Remaining work
Guideline

ROAD MAP:


NOV
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NOV
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Sprints
Sprint 2
Sprint 3
IBM1-7 Create and configure IBM cloud services (I...
IBM1-8 Create and access Node-Red
IBM1-13 MIT app inventor (Front end design and B...
IBM1-16 Configuring MIT app inventor
IBM1-21 Configuring MIT app inventor
IBM1-24 Create cloudant DB
IBM1-29 Final submission

VELOCITY CHART: