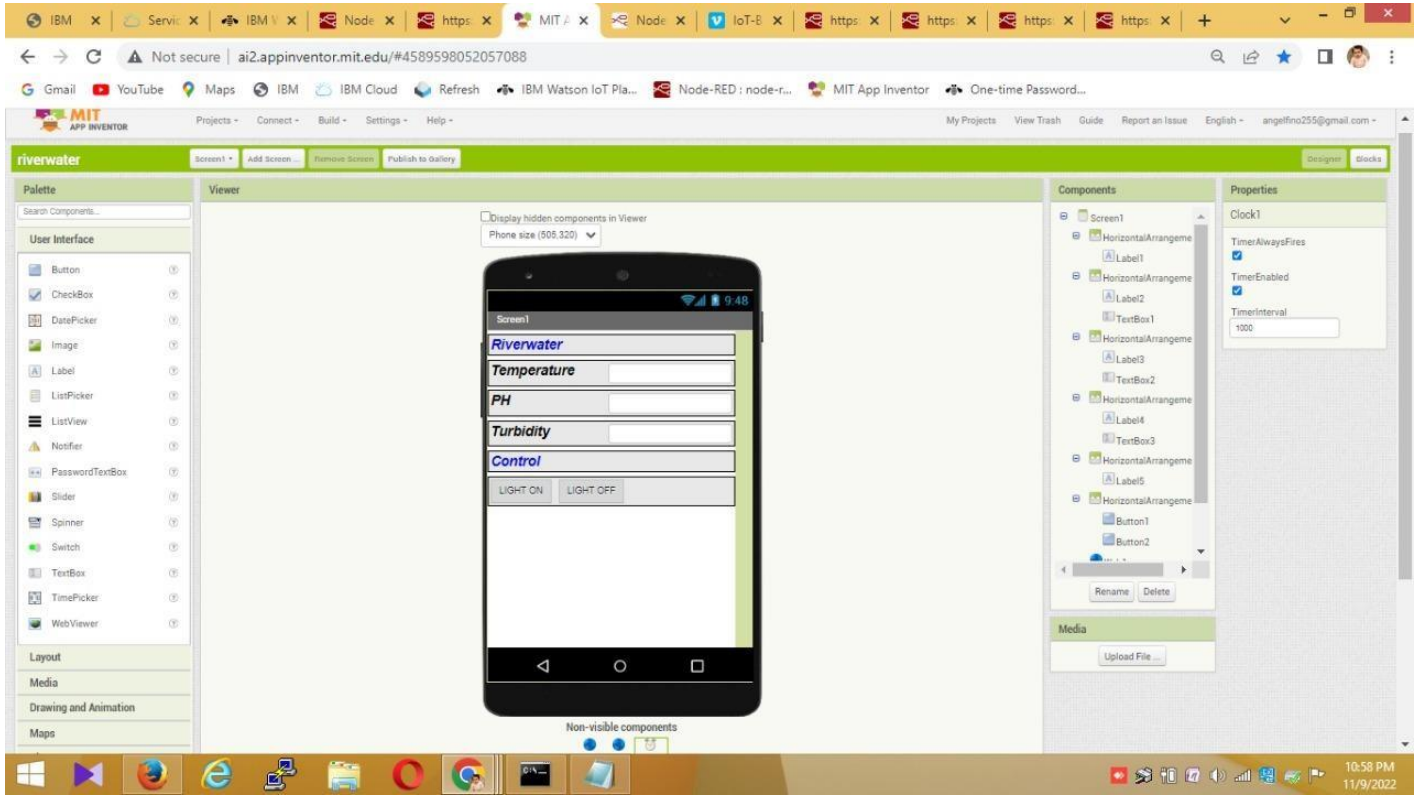
PROJECT DEVELOPMENT PHASE

SPRINT-3

DATE	13NOVEMBER 2022
TEAM ID	PNT2022TMID08456
PROJECT TITLE	Real-time river water quality monitoring and control system

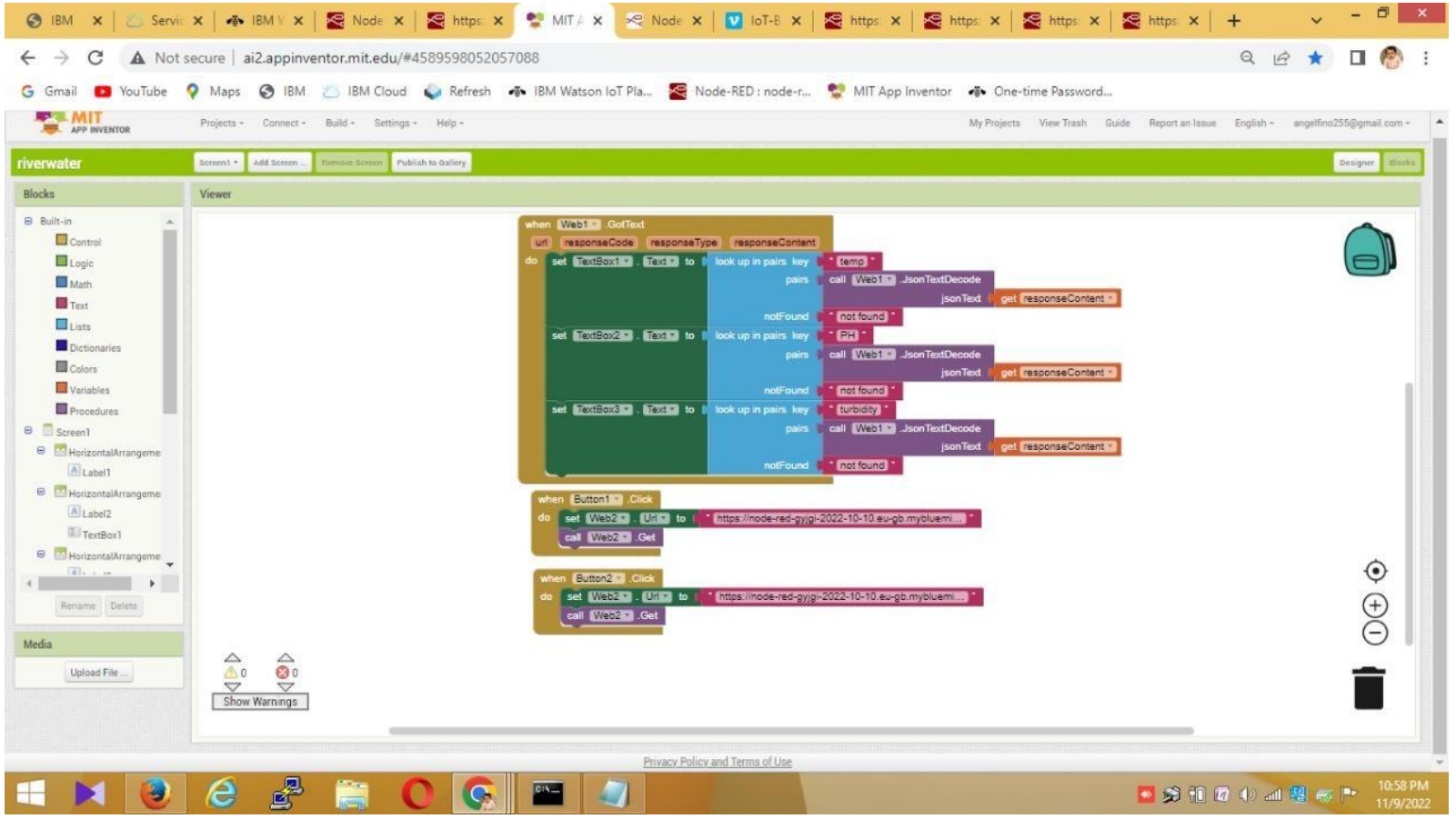
USN-11

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



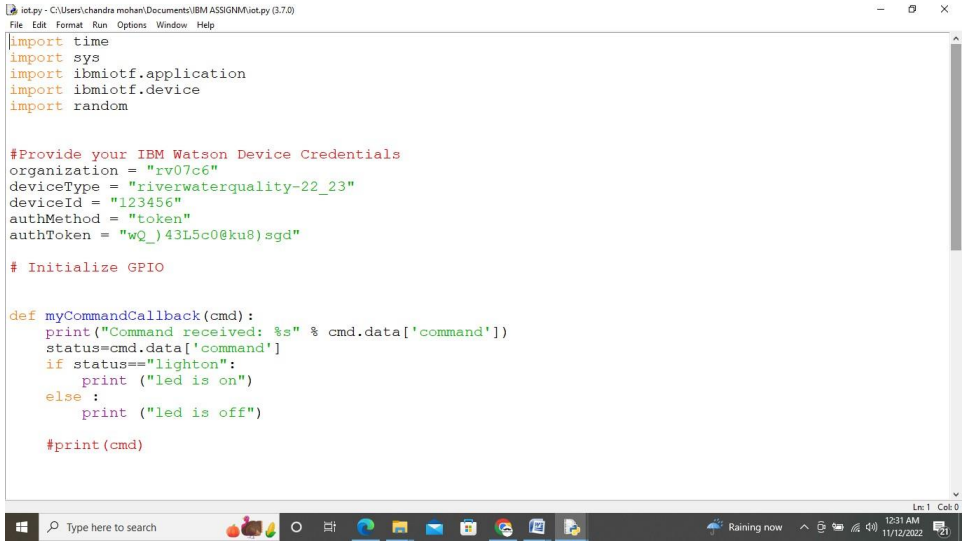
USN-12

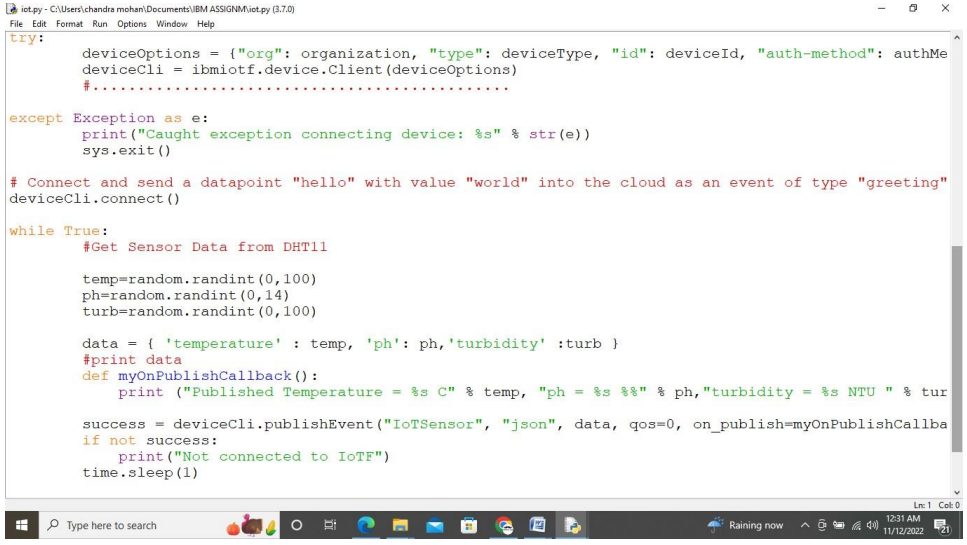
As a user ,I can design the back end(blocks) in MIT app inventor



USN-13

As a user ,I can develop the python script.





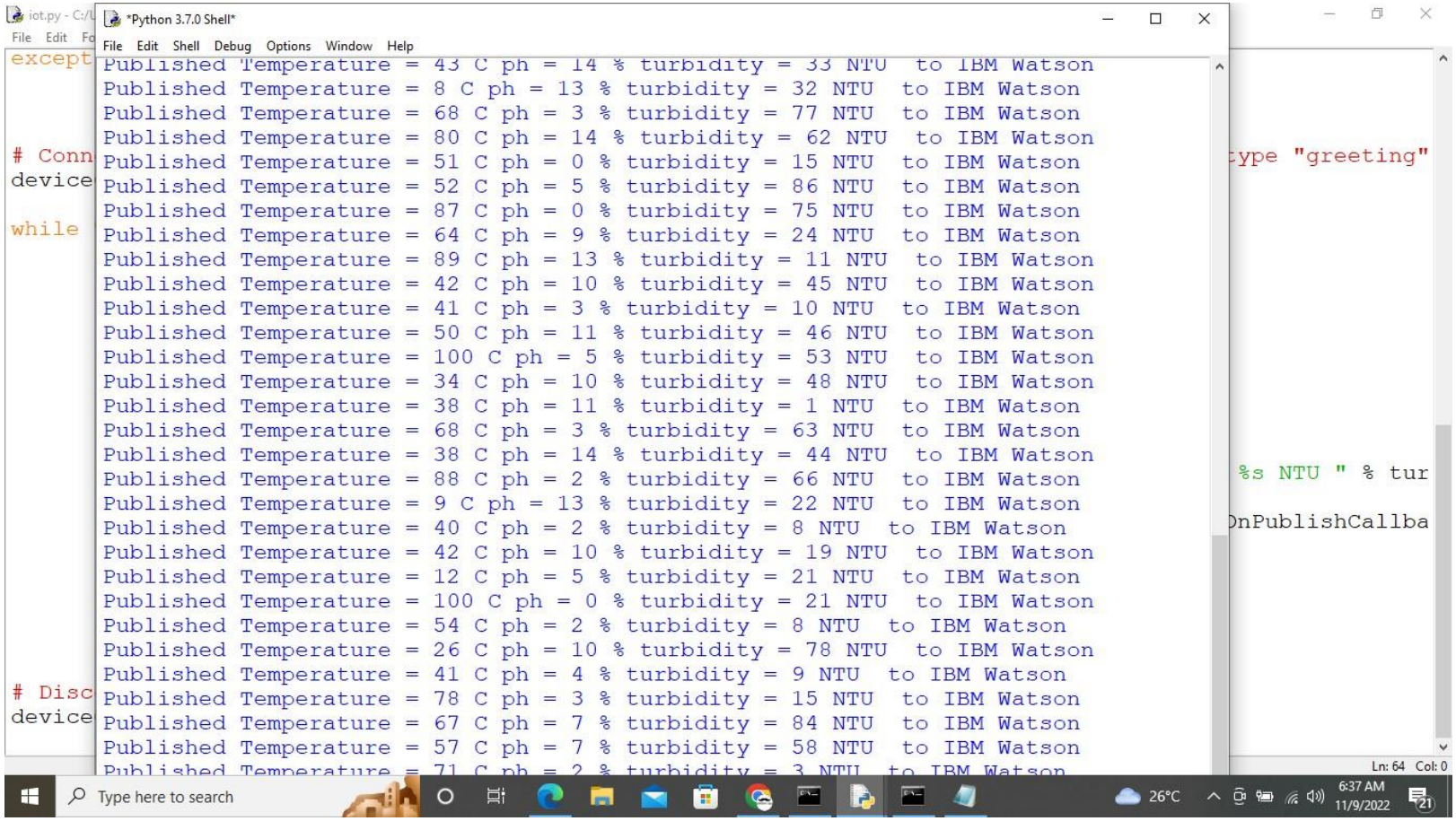
PROGRAM:

```
import ibmiotf.deviceimport random

#Provide your IBM Watson Device Credentialsorganization = "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 timesdeviceCli.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 IBMWatson")

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 clouddeviceCli.disconnect()
```

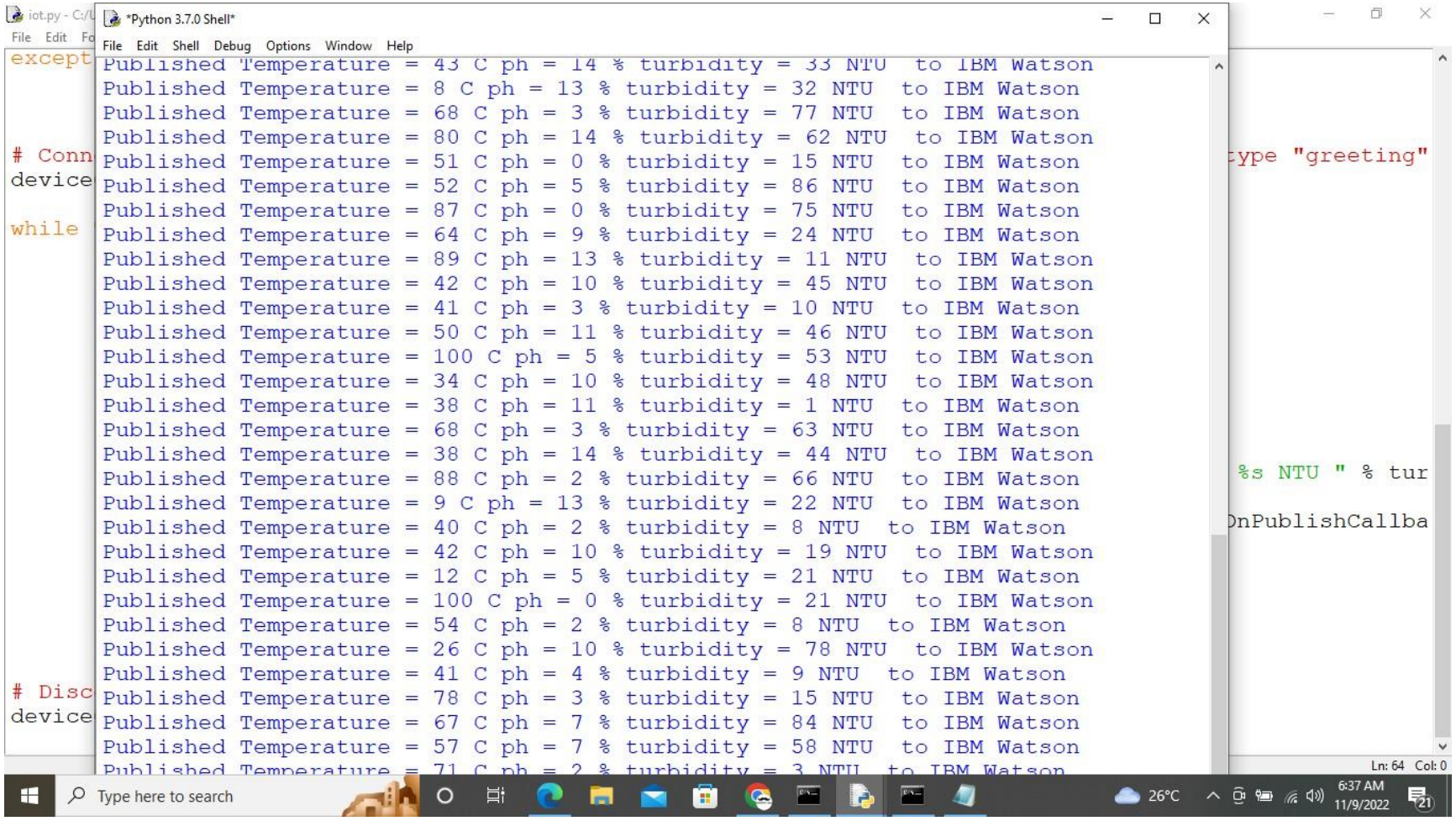
USN-14

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



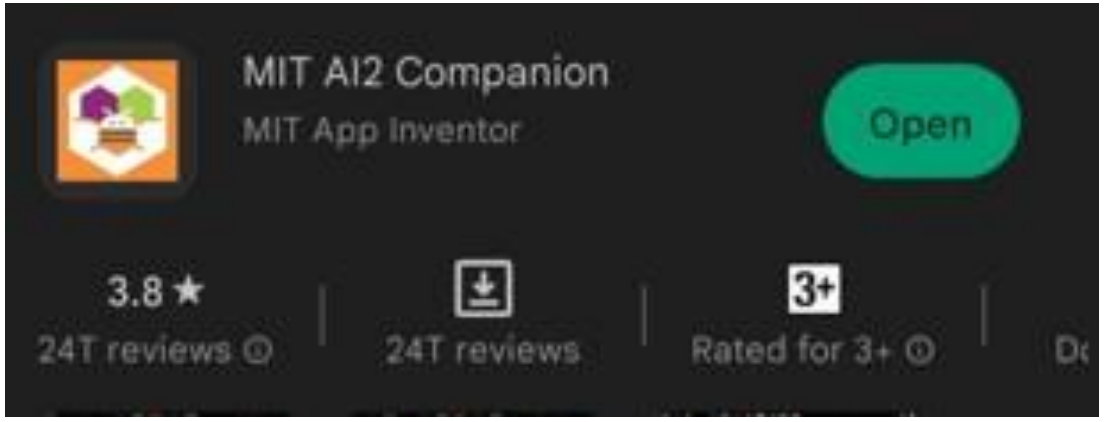
USN-15

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

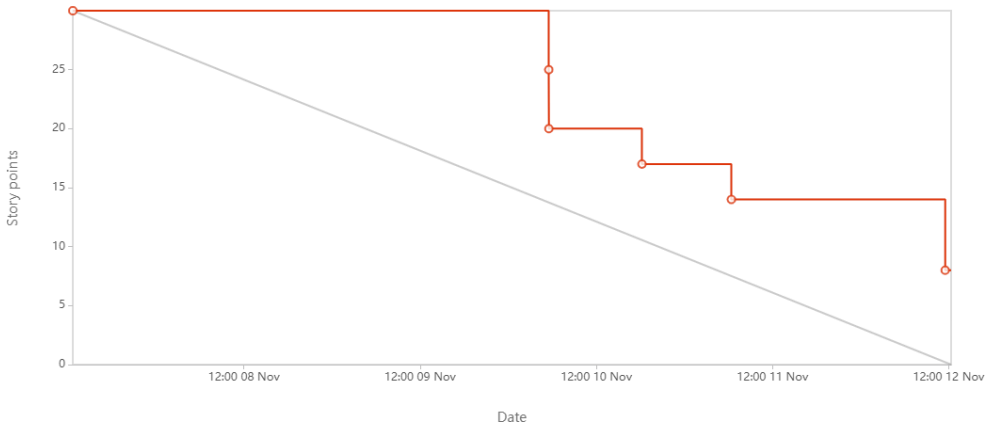


USN-16

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

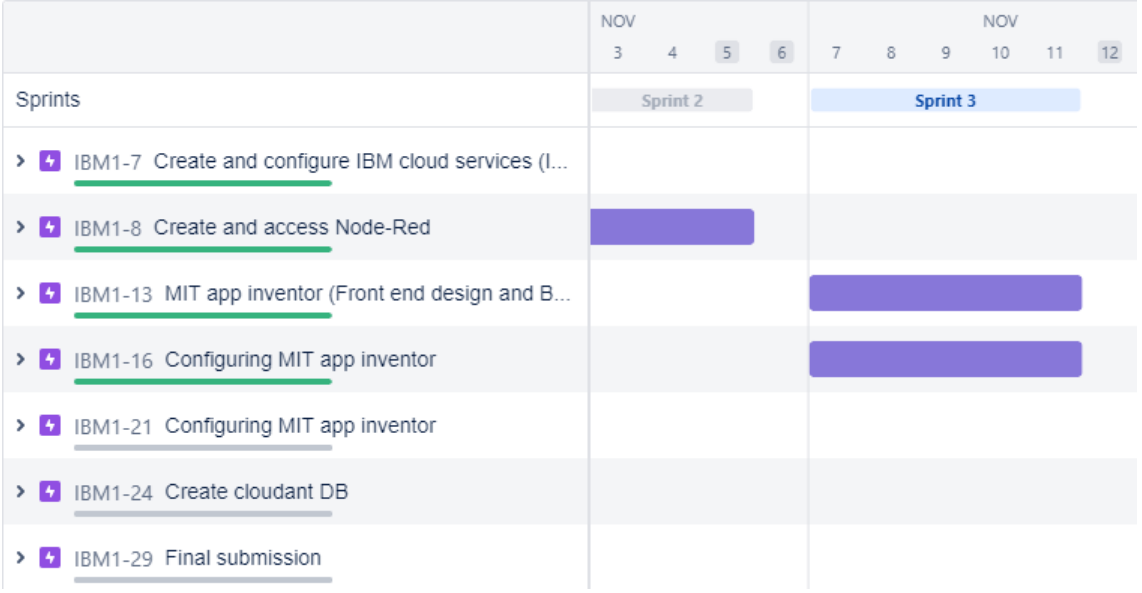


SPRINT BURNDOWN CHART:




100%
80%
60%
40%
20%
0%
Nov 7
Nov 12
Remaining work
Guideline

ROAD MAP:


NOV
3
4
5
6
NOV
7
8
9
10
11
12
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: