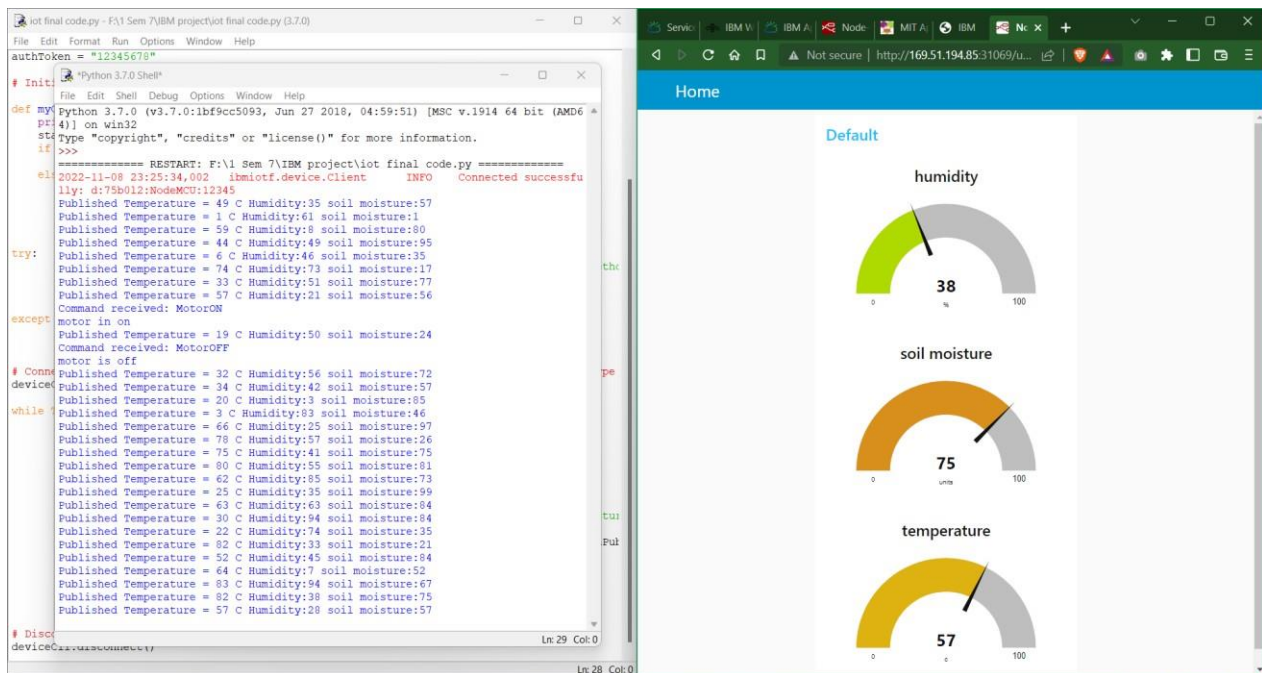


Develop a Mobile Application

Date	03 November 2022
Team ID	PNT2022TMID01816
Project Name	Project – IOT ENABLED SMART FARMING

Objective:

To develop a mobile application to send the temperature, humidity, soil moisture values to the mobile app which was developed using MIT App Inventor and to turn on or off the motor in the field using the mobile app




```
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 Shell 12/17/2017 7:02:10 PM
Published Temperature = 86 C Humidity:44 soil moisture:69
Published Temperature = 76 C Humidity:90 soil moisture:91
Published Temperature = 47 C Humidity:4 soil moisture:68
Published Temperature = 94 C Humidity:79 soil moisture:67
Command received: MotorON
motor is on
Published Temperature = 31 C Humidity:8 soil moisture:75
Command received: MotorOFF
motor is off
Published Temperature = 29 C Humidity:93 soil moisture:27
Published Temperature = 4 C Humidity:77 soil moisture:6
Published Temperature = 59 C Humidity:55 soil moisture:42
Published Temperature = 46 C Humidity:7 soil moisture:54
Published Temperature = 59 C Humidity:17 soil moisture:51
Published Temperature = 8 C Humidity:99 soil moisture:78
Published Temperature = 89 C Humidity:91 soil moisture:78
Published Temperature = 97 C Humidity:51 soil moisture:17
Published Temperature = 9 C Humidity:35 soil moisture:10
Published Temperature = 13 C Humidity:80 soil moisture:40
Published Temperature = 49 C Humidity:11 soil moisture:77
Published Temperature = 35 C Humidity:91 soil moisture:20
Published Temperature = 97 C Humidity:80 soil moisture:53
Published Temperature = 73 C Humidity:8 soil moisture:34
Published Temperature = 23 C Humidity:13 soil moisture:83
Published Temperature = 90 C Humidity:29 soil moisture:29
Published Temperature = 90 C Humidity:29 soil moisture:29
Published Temperature = 40 C Humidity:67 soil moisture:68
Published Temperature = 71 C Humidity:52 soil moisture:80
Published Temperature = 93 C Humidity:78 soil moisture:12
Published Temperature = 54 C Humidity:1 soil moisture:37
Published Temperature = 8 C Humidity:12 soil moisture:39
Published Temperature = 16 C Humidity:97 soil moisture:48
Published Temperature = 64 C Humidity:29 soil moisture:58
Published Temperature = 56 C Humidity:72 soil moisture:93
Published Temperature = 91 C Humidity:91 soil moisture:64
Published Temperature = 67 C Humidity:93 soil moisture:65
Published Temperature = 89 C Humidity:93 soil moisture:47
Published Temperature = 22 C Humidity:45 soil moisture:26
Published Temperature = 78 C Humidity:65 soil moisture:33
Published Temperature = 11 C Humidity:90 soil moisture:53
Published Temperature = 64 C Humidity:44 soil moisture:71
Published Temperature = 64 C Humidity:44 soil moisture:71
Published Temperature = 29 C Humidity:25 soil moisture:58
Published Temperature = 78 C Humidity:58 soil moisture:17
Published Temperature = 90 C Humidity:21 soil moisture:34
```

The screenshot shows the MIT App Inventor web application running in a Chrome browser. The address bar displays the URL: <http://ai2.appinventor.mit.edu/#5721328091791360>. The top navigation bar includes links for Projects, Connect, Build, Settings, Help, My Projects, View Trash, Guide, Report an Issue, English, and a user profile icon.

The left sidebar contains various component categories:

- Built-in:** Control, Logic, Math, Text, Lists, Dictionaries, Colors, Variables, Procedures.
- Screen1:** HorizontalArrangemen, Label1, HorizontalArrangemen, Label2, TextBox1, HorizontalArrangemen.

The main workspace shows a visual programming script with the following logic:

- when Clicked Trigger:** Set `Clicked` to `True`, call `WebClient.Get` with URL `https://api.ai2.appinventor.mit.edu/v1/getProjectInfo?projectId=5721328091791360`.
- when Screen1 Clicked GetText:** Set `responseCode` to `WebClient.GetResponseCode`, set `responseData` to `WebClient.GetResponseData`, set `jsonData` to `JSON.parse(responseData)`, set `label1.Text` to `jsonData.projectName`, set `label2.Text` to `jsonData.description`, set `label3.Text` to `jsonData.creatorName`, set `label4.Text` to `jsonData.createdAt`, set `label5.Text` to `jsonData.updatedAt`, set `label6.Text` to `jsonData.lastModifiedAt`, set `label7.Text` to `jsonData.isPublic`, set `label8.Text` to `jsonData.isArchived`, set `label9.Text` to `jsonData.isDeleted`, set `label10.Text` to `jsonData.isHidden`, set `label11.Text` to `jsonData.isLocked`, set `label12.Text` to `jsonData.isReadOnly`, set `label13.Text` to `jsonData.isAdmin`, set `label14.Text` to `jsonData.isOwner`, set `label15.Text` to `jsonData.isCollaborator`, set `label16.Text` to `jsonData.isViewer`, set `label17.Text` to `jsonData.isEditor`, set `label18.Text` to `jsonData.isManager`, set `label19.Text` to `jsonData.isAdminister`, set `label20.Text` to `jsonData.isSuperAdmin`, set `label21.Text` to `jsonData.isGlobalAdmin`, set `label22.Text` to `jsonData.isSystemAdmin`, set `label23.Text` to `jsonData.isPlatformAdmin`, set `label24.Text` to `jsonData.isAppAdmin`, set `label25.Text` to `jsonData.isDeviceAdmin`, set `label26.Text` to `jsonData.isNetworkAdmin`, set `label27.Text` to `jsonData.isSecurityAdmin`, set `label28.Text` to `jsonData.isPrivacyAdmin`, set `label29.Text` to `jsonData.isContentAdmin`, set `label30.Text` to `jsonData.isFeatureAdmin`, set `label31.Text` to `jsonData.isPolicyAdmin`, set `label32.Text` to `jsonData.isLegalAdmin`, set `label33.Text` to `jsonData.isComplianceAdmin`, set `label34.Text` to `jsonData.isRiskAdmin`, set `label35.Text` to `jsonData.isIncidentAdmin`, set `label36.Text` to `jsonData.isDisasterAdmin`, set `label37.Text` to `jsonData.isCrisisAdmin`, set `label38.Text` to `jsonData.isEmergencyAdmin`, set `label39.Text` to `jsonData.isRecoveryAdmin`, set `label40.Text` to `jsonData.isRestoreAdmin`, set `label41.Text` to `jsonData.isBackupAdmin`, set `label42.Text` to `jsonData.isArchiveAdmin`, set `label43.Text` to `jsonData.isExportAdmin`, set `label44.Text` to `jsonData.isImportAdmin`, set `label45.Text` to `jsonData.isSyncAdmin`, set `label46.Text` to `jsonData.isMergeAdmin`, set `label47.Text` to `jsonData.isSplitAdmin`, set `label48.Text` to `jsonData.isMoveAdmin`, set `label49.Text` to `jsonData.isCopyAdmin`, set `label50.Text` to `jsonData.isPasteAdmin`, set `label51.Text` to `jsonData.isUndoAdmin`, set `label52.Text` to `jsonData.isRedoAdmin`, set `label53.Text` to `jsonData.isCutAdmin`, set `label54.Text` to `jsonData.isPasteAsPlainTextAdmin`, set `label55.Text` to `jsonData.isPasteAsRichTextAdmin`, set `label56.Text` to `jsonData.isPasteAsHTMLAdmin`, set `label57.Text` to `jsonData.isPasteAsImageAdmin`, set `label58.Text` to `jsonData.isPasteAsVideoAdmin`, set `label59.Text` to `jsonData.isPasteAsAudioAdmin`, set `label60.Text` to `jsonData.isPasteAsLinkAdmin`, set `label61.Text` to `jsonData.isPasteAsTextAdmin`, set `label62.Text` to `jsonData.isPasteAsTableAdmin`, set `label63.Text` to `jsonData.isPasteAsFormAdmin`, set `label64.Text` to `jsonData.isPasteAsDiagramAdmin`, set `label65.Text` to `jsonData.isPasteAsCodeAdmin`, set `label66.Text` to `jsonData.isPasteAsScriptAdmin`, set `label67.Text` to `jsonData.isPasteAsSQLAdmin`, set `label68.Text` to `jsonData.isPasteAsXMLAdmin`, set `label69.Text` to `jsonData.isPasteAsJSONAdmin`, set `label70.Text` to `jsonData.isPasteAsYAMLAdmin`, set `label71.Text` to `jsonData.isPasteAsMarkdownAdmin`, set `label72.Text` to `jsonData.isPasteAsLatexAdmin`, set `label73.Text` to `jsonData.isPasteAsMathAdmin`, set `label74.Text` to `jsonData.isPasteAsChemAdmin`, set `label75.Text` to `jsonData.isPasteAsPhysicsAdmin`, set `label76.Text` to `jsonData.isPasteAsBiologyAdmin`, set `label77.Text` to `jsonData.isPasteAsGeographyAdmin`, set `label78.Text` to `jsonData.isPasteAsHistoryAdmin`, set `label79.Text` to `jsonData.isPasteAsLiteratureAdmin`, set `label80.Text` to `jsonData.isPasteAsLanguageAdmin`, set `label81.Text` to `jsonData.isPasteAsArtAdmin`, set `label82.Text` to `jsonData.isPasteAsMusicAdmin`, set `label83.Text` to `jsonData.isPasteAsSportsAdmin`, set `label84.Text` to `jsonData.isPasteAsHealthAdmin`, set `label85.Text` to `jsonData.isPasteAsScienceAdmin`, set `label86.Text` to `jsonData.isPasteAsTechnologyAdmin`, set `label87.Text` to `jsonData.isPasteAsSocialMediaAdmin`, set `label88.Text` to `jsonData.isPasteAsGamingAdmin`, set `label89.Text` to `jsonData.isPasteAsEducationAdmin`, set `label90.Text` to `jsonData.isPasteAsBusinessAdmin`, set `label91.Text` to `jsonData.isPasteAsFinanceAdmin`, set `label92.Text` to `jsonData.isPasteAsLawAdmin`, set `label93.Text` to `jsonData.isPasteAsPoliticsAdmin`, set `label94.Text` to `jsonData.isPasteAsReligionAdmin`, set `label95.Text` to `jsonData.isPasteAsCultureAdmin`, set `label96.Text` to `jsonData.isPasteAsTraditionAdmin`, set `label97.Text` to `jsonData.isPasteAsCustomsAdmin`, set `label98.Text` to `jsonData.isPasteAsValuesAdmin`, set `label99.Text` to `jsonData.isPasteAsBeliefsAdmin`, set `label100.Text` to `jsonData.isPasteAsIdeologiesAdmin`, set `label101.Text` to `jsonData.isPasteAsPhilosophyAdmin`, set `label102.Text` to `jsonData.isPasteAsPsychologyAdmin`, set `label103.Text` to `jsonData.isPasteAsSociologyAdmin`, set `label104.Text` to `jsonData.isPasteAsAnthropologyAdmin`, set `label105.Text` to `jsonData.isPasteAsLinguisticsAdmin`, set `label106.Text` to `jsonData.isPasteAsLiteraryStudiesAdmin`, set `label107.Text` to `jsonData.isPasteAsMediaStudiesAdmin`, set `label108.Text` to `jsonData.isPasteAsFilmStudiesAdmin`, set `label109.Text` to `jsonData.isPasteAsTheaterStudiesAdmin`, set `label110.Text` to `jsonData.isPasteAsMusicologyAdmin`, set `label111.Text` to `jsonData.isPasteAsDanceStudiesAdmin`, set `label112.Text` to `jsonData.isPasteAsVisualArtsAdmin`, set `label113.Text` to `jsonData.isPasteAsPerformingArtsAdmin`, set `label114.Text` to `jsonData.isPasteAsDesignAdmin`, set `label115.Text` to `jsonData.isPasteAsArchitectureAdmin`, set `label116.Text` to `jsonData.isPasteAsEngineeringAdmin`, set `label117.Text` to `jsonData.isPasteAsComputerScienceAdmin`, set `label118.Text` to `jsonData.isPasteAsInformationScienceAdmin`, set `label119.Text` to `jsonData.isPasteAsInterdisciplinaryAdmin`, set `label120.Text` to `jsonData.isPasteAsMultidisciplinaryAdmin`, set `label121.Text` to `jsonData.isPasteAsCrossDisciplinaryAdmin`, set `label122.Text` to `jsonData.isPasteAsTransdisciplinaryAdmin`, set `label123.Text` to `jsonData.isPasteAsConvergentAdmin`, set `label124.Text` to `jsonData.isPasteAsDivergentAdmin`, set `label125.Text` to `jsonData.isPasteAsEmergingAdmin`, set `label126.Text` to `jsonData.isPasteAsFrontierAdmin`, set `label127.Text` to `jsonData.isPasteAsNextGenAdmin`, set `label128.Text` to `jsonData.isPasteAsFutureTechAdmin`, set `label129.Text` to `jsonData.isPasteAsAIAdmin`, set `label130.Text` to `jsonData.isPasteAsMLAdmin`, set `label131.Text` to `jsonData.isPasteAsDLAdmin`, set `label132.Text` to `jsonData.isPasteAsNLPAdmin`, set `label133.Text` to `jsonData.isPasteAsCVAdmin`, set `label134.Text` to `jsonData.isPasteAsRoboticsAdmin`, set `label135.Text` to `jsonData.isPasteAsAutonomousAdmin`, set `label136.Text` to `jsonData.isPasteAsSpaceAdmin`, set `label137.Text` to `jsonData.isPasteAsAerospaceAdmin`, set `label138.Text` to `jsonData.isPasteAsMarineAdmin`, set `label139.Text` to `jsonData.isPasteAsEarthAdmin`, set `label140.Text` to `jsonData.isPasteAsPlanetaryAdmin`, set `label141.Text` to `jsonData.isPasteAsCosmicAdmin`, set `label142.Text` to `jsonData.isPasteAsGalacticAdmin`, set `label143.Text` to `jsonData.isPasteAsUniversalAdmin`, set `label144.Text` to `jsonData.isPasteAsCosmosAdmin`, set `label145.Text` to `jsonData.isPasteAsUniverseAdmin`, set `label146.Text` to `jsonData.isPasteAsEverythingAdmin`, set `label147.Text` to `jsonData.isPasteAsNothingAdmin`, set `label148.Text` to `jsonData.isPasteAsSomewhereAdmin`, set `label149.Text` to

```

Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
def my Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)]
    py> import win32
    st> Type "copyright", "credits()" or "license()" for more information.
    if> >>>
        ===== RESTART: P>\\18em7\\IBM project\\iot final code.py =====
    el> 2022-11-08 23:25:34.002 ibmiotf.device.Client INFO Connected successfully:
        lly: d:75b012;NodeMCU:12345
        Published Temperature = 49 C Humidity:35 soil moisture:57
        Published Temperature = 1 C Humidity:61 soil moisture:1
        Published Temperature = 59 C Humidity:3 soil moisture:80
        Published Temperature = 44 C Humidity:49 soil moisture:95
    try: Published Temperature = 6 C Humidity:46 soil moisture:35
        Published Temperature = 74 C Humidity:73 soil moisture:17
        Published Temperature = 33 C Humidity:51 soil moisture:77
        Published Temperature = 57 C Humidity:21 soil moisture:56
        Command received: MotorON
    except motor in on
        Published Temperature = 19 C Humidity:50 soil moisture:24
        Command received: MotorOFF
        motor is off
    # Conn Published Temperature = 32 C Humidity:56 soil moisture:72
    device> Published Temperature = 34 C Humidity:42 soil moisture:57
        Published Temperature = 20 C Humidity:3 soil moisture:85
    while Published Temperature = 3 C Humidity:93 soil moisture:46
        Published Temperature = 66 C Humidity:25 soil moisture:97
        Published Temperature = 78 C Humidity:57 soil moisture:26
        Published Temperature = 75 C Humidity:41 soil moisture:75
        Published Temperature = 80 C Humidity:55 soil moisture:81
        Published Temperature = 62 C Humidity:85 soil moisture:73
        Published Temperature = 25 C Humidity:35 soil moisture:99
        |
    # Disc
    device>

```

The screenshot displays the Node-RED web interface in a browser. The top navigation bar includes the Node-RED logo and a 'Deploy' button. The left sidebar contains a 'dashboard' section with widgets: button, dropdown, switch, slider, numeric, and text input. The main workspace shows a flow named 'Flow 1' with the following nodes and connections:

- IBM IoT** (connected) node connected to a **function** node.
- function** node connected to a **msg.payload** node.
- get/sensor** node connected to a **function** node.
- function** node connected to a **msg.payload** node.
- get/control** node connected to a **msg.payload** node.
- inject** node connected to a **msg.payload** node.

The right sidebar shows the 'debug' console with logs for the 'msg.payload' object, including temperature, humidity, soil moisture, and command data.