

SPRINT-4

Date	17 November 2022
Team ID	PNT2022TMID47454
Project Name	Smartfarmer-IOT Enabled smart farming
Maximum Marks	20 Marks

US-1: Create Web UI in Node- Red (MIT app inventor)

US-2: Configure the Node-RED flow to receive data from the IBM IoT platform and also use fast2sms for SMS service

Configure the node-red flow.

Node-RED interface showing a configured flow for an IBM IoT device.

Flow 1:

- Inputs:** IBM IoT (connected), [get] /data, [get] /command.
- Processing:** Data is processed by function nodes (Temperature, Soil Moisture, Humidity) and a switch node.
- Outputs:** Data is sent to msg.payload, http request, and http nodes.
- Control:** Motor on and Motor off nodes are connected to the IBM IoT device.

Debug Console:

```
11/17/2022, 12:30:37 PM node: f2f2649a.0d0d98
iot-
2/type/PNTRTEAM454567/Id/DEVICE454567/evt/IoTSensi
: msg.payload : Object
{
  soil moisture: 77, temperature: 21, humidity: 31
}

11/17/2022, 12:30:38 PM node: f2f2649a.0d0d98
iot-
2/type/PNTRTEAM454567/Id/DEVICE454567/evt/IoTSensi
: msg.payload : Object
{
  soil moisture: 12, temperature: 3, humidity: 53
}

11/17/2022, 12:30:39 PM node: f2f2649a.0d0d98
iot-
2/type/PNTRTEAM454567/Id/DEVICE454567/evt/IoTSensi
: msg.payload : Object
{
  soil moisture: 15, temperature: 100, humidity: 96
}

11/17/2022, 12:30:40 PM node: f2f2649a.0d0d98
iot-
2/type/PNTRTEAM454567/Id/DEVICE454567/evt/IoTSensi
: msg.payload : Object
{
  soil moisture: 71, temperature: 80, humidity: 53
}
```

Design MIT app to make it as user interface.

The screenshot displays the MIT App Inventor web interface in a browser window. The browser's address bar shows the URL `ai2.appinventor.mit.edu/#5003727841656832`. The interface is divided into several panels:

- Palettes:** Located on the left, it includes a 'User Interface' palette with various widgets like Button, CheckBox, DatePicker, Image, Label, ListPicker, ListView, Notifier, PasswordTextBox, Slider, Spinner, Switch, TextBox, TimePicker, and WebViewer. Below it are sections for 'Layout', 'Media', 'Drawing and Animation', 'Maps', 'Charts', 'Sensors', and 'Social'.
- Viewer:** The central workspace shows a mobile app preview. The app has a title 'Smart Farming' in a blue header. Below the header are three input fields labeled 'Temperature', 'Soil Moisture', and 'Humidity'. A pink 'Control' button is positioned below these fields. At the bottom of the app are two buttons labeled 'MOTOR ON' and 'MOTOR OFF'. A status bar at the very bottom of the app preview shows 'Web1', 'Web2', and 'Clock1'.
- Components:** On the right, this panel lists the components used in the app. It shows a hierarchy starting with 'Screen1', followed by several 'HorizontalArrangeme' (likely HorizontalArrangement) containers, each containing 'Label' and 'TextBox' components. It also lists 'Button2' and 'Button1'.
- Properties:** Adjacent to the Components panel, it shows the properties for the selected 'Screen1' component, such as 'AboutScreen', 'AccentColor', 'AlignHorizontal', 'AlignVertical', 'AppName', 'BackgroundColor', 'BackgroundImage', 'BigDefaultText', 'BlocksToolkit', 'CloseScreenAnimation', 'DefaultFileScope', 'HighContrast', 'Icon', 'OpenScreenAnimation', 'PrimaryColor', and 'PrimaryColorDark'.

The Windows taskbar at the bottom of the screen shows the search bar, several application icons, and the system clock indicating 12:22 on 17-11-2022.

Designing blocks for the app using Node-RED app web url.

The screenshot displays the MIT App Inventor web interface for a project named "smart_farming". The interface is divided into several sections:

- Top Bar:** Includes navigation links like "My Projects", "View Trash", "Guide", "Report an Issue", and "English". The user's email "nithya9100sri@gmail.com" is visible.
- Project Bar:** Shows the project name "smart_farming" and buttons for "Screen1", "Add Screen...", "Remove Screen", and "Publish to Gallery".
- Blocks Palette:** Located on the left, it contains categories like "Built-in", "Control", "Logic", "Math", "Text", "Lists", "Dictionaries", "Colors", "Variables", and "Procedures". Under "Screen1", there are components like "HorizontalArrangeme", "Label4", "Label1", and "TextBox1".
- Viewer:** The central workspace showing the visual representation of the app. It contains three event-driven code blocks:
 - when Clock1 - Timer:** A "do" block containing "set Web1 - . Uri - to" (with a URL "https://node-red-rsciq-2022-11-15.eu-gb.mybluem...") and "call Web1 - .Get".
 - when Web1 - GotText:** A "do" block with a "pairs" loop. It sets "look up in pairs key" to "temperature", "moisture", and "humidity". For each key, it calls "Web1 - .JsonTextDecode" and "jsonText" to "get responseContent".
 - when Button2 - Click:** A "do" block containing "set Web2 - . Uri - to" (with the same URL) and "call Web2 - .Get".
 - when Button1 - Click:** A "do" block containing "set Web2 - . Uri - to" (with the same URL) and "call Web2 - .Get".
- Bottom Bar:** Includes a "Show Warnings" button and a "Privacy Policy and Terms of Use" link.

The Windows taskbar at the bottom shows the system clock as 12:23 on 17-11-2022, along with various system icons and open applications.

Generate QR code with AI Companion and scan the QR code using mobile (MIT App Inventor) app.

Node-RED : node-red-rsciq-2022 x IBM Watson IoT Platform x fast2sms - Google Search x MIT App Inventor x MIT App Inventor x

Not secure | ai2.appinventor.mit.edu/#5003727841656832

Gmail YouTube Maps

MIT APP INVENTOR

Projects Connect Build Settings Help My Projects View Trash Guide Report an Issue English nithya9100sri@gmail.com

smart_farming Screen1 Add Screen ... Remove Screen Publish to Gallery Designer Blocks

Palette

Search Components...

User Interface

- Button
- CheckBox
- DatePicker
- Image
- Label
- ListPicker
- ListView
- Notifier
- PasswordTextBox
- Slider
- Spinner
- Switch
- TextBox
- TimePicker
- WebView

Layout


Viewer

Display hidden components in Viewer

Phone size

Connect to Companion

Launch the MIT AI2 Companion on your device and then scan the barcode or type in the code to connect for live testing of your app.
[Need help finding the Companion App?](#)



Your code is:
tuoivm

Cancel

Components

- Screen1
 - HorizontalArrangemen
 - Label4
 - HorizontalArrangemen
 - Label1
 - TextBox1
 - HorizontalArrangemen
 - Label2
 - TextBox2
 - HorizontalArrangemen
 - Label3
 - TextBox3
 - HorizontalArrangemen
 - TextBox4
 - HorizontalArrangemen
 - Button2
 - Button1

Media

Upload File ...

Properties

Screen1

AboutScreen

AccentColor

Default

AlignHorizontal

Left : 1

AlignVertical

Top : 1

AppName

Smart Fr

BackgroundColor

Default

BackgroundImage

None...

BigDefaultText

BlocksToolkit

All

CloseScreenAnimation

Default

DefaultFileScope

App

HighContrast

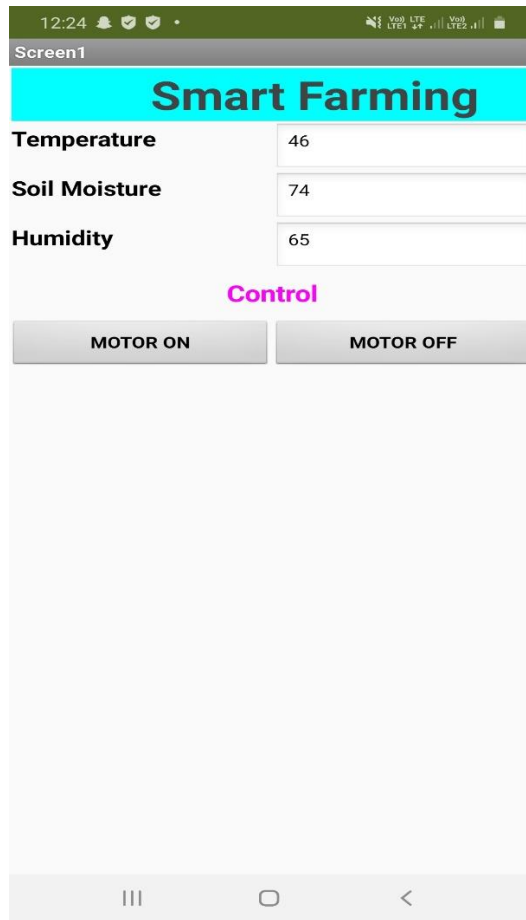
Type here to search

25°C

12:23

17-11-2022

The data generated in the mobile app:



The screenshot shows a mobile application interface for 'Smart Farming'. At the top, there is a status bar with the time 12:24 and various icons. Below the status bar is a header bar with the text 'Screen1'. The main content area has a cyan header with the title 'Smart Farming'. Below the header, there are three rows of sensor data: 'Temperature' with a value of 46, 'Soil Moisture' with a value of 74, and 'Humidity' with a value of 65. Each row consists of a label and a text input field. Below the sensor data, there is a section titled 'Control' in pink text. Underneath, there are two buttons: 'MOTOR ON' and 'MOTOR OFF'. The bottom of the screen shows a standard Android navigation bar with three icons: a square, a circle, and a triangle.

Sensor	Value
Temperature	46
Soil Moisture	74
Humidity	65

Control

MOTOR ON MOTOR OFF

Web url to get temperature, humidity and soil moisture value:

<https://node-red-rsciq-2022-11-15.eu-gb.mybluemix.net/data>

Web url to control Motor on and off:

<https://node-red-rsciq-2022-11-15.eu-gb.mybluemix.net/command?command=motoron>

<https://node-red-rsciq-2022-11-15.eu-gb.mybluemix.net/command?command=motoroff>

Create fast2sms account:

The screenshot displays the Fast2SMS Developer API dashboard. The top navigation bar includes the Fast2SMS logo, a balance of ₹55.00, and an 'ADD CREDIT' button. The left sidebar lists various services: Bulk SMS, DLT SMS, Quick SMS, Address Book, Delivery Reports, Transactions, Dev API (selected), Settings, and Help. The main content area is divided into three tabs: Dev API, API Key, and Security. The 'Dev API' tab is active, showing a configuration form for a GET request. The form includes fields for Method (set to GET), Route (set to Quick SMS), Message (set to 'Less soil moisture detected -{{payload}}'), and Language. A 'READ API DOCS' button is also present. On the right side of the form, a black box displays the 'GET https://www.fast2sms.com/dev/bulkV2' endpoint, the 'Query Parameter' (authorization token), the 'route = q', the 'message = Less soil moisture detected -{{payload}}', the 'language = "english"', the 'numbers = 1234567891', and the 'flash = "0"'. The 'Overall URL' is also provided. The bottom of the image shows a Windows taskbar with the date 17-11-2022 and time 12:55.

Node-RED: node-red x IBM Watson IoT Platf x fast2sms - Google Se x MIT App Inventor x MIT App Inventor x screenshot - nithya91 x Developer Api - Fast2 x

fast2sms.com/dashboard/dev-api

FAST2SMS

How Developer API Works Account Info 12:55:08 PM NITHYA SRI...

₹55.00
ADD CREDIT

Bulk SMS
DLT SMS
Quick SMS
Address Book
Delivery Reports
Transactions
Dev API
Settings
Help

Dev API

For OTP Based SMS use 'OTP SMS API' READ API DOCS

Method
GET

Route
Quick SMS

Message (NOTE: Per SMS cost ₹ 3.50)
Less soil moisture detected -{{payload}}

Language

GET https://www.fast2sms.com/dev/bulkV2

Query Parameter :

authorization = nTZPob3dhV1WYLXy5vMpgaQ9ulOHIDE7G80xcK4CBit6wresSAUuoBCngJcyX1DkVwqZ762Mb9IH40Yr

route = q

message = Less soil moisture detected -{{payload}}

language = "english"

numbers = 1234567891

flash = "0"

Overall URL = https://www.fast2sms.com/dev/bulkV2?
authorization=nTZPob3dhV1WYLXy5vMpgaQ9ulOHIDE7G80xcK4CBit6wresSAUuoBCngJcyX1DkVwqZ762Mb9IH40Yr&route=q&message=Less%20soil%20moisture%20detected%20-%7B%7Bpayload%7D%7D&language=english&flash=0&numbers=1234567891

Type here to search

25°C

12:55
17-11-2022

Notifications



Your send has been successfully sent.

17 November 2022 12:07 pm



Your send to [REDACTED] has been successfully sent. You can view the details of the send in the Single Send report.

Mark All as Read ✕

Hide All Notifications ✕