

**Project Development Phase**  
**Sprint 4**

Date	18 November 2022
Team ID	PNT2022TMID32996
Project Name	Project –IoT Based Smart Crop Protection System For Agriculture

**OBJECTIVE:**

Using the MIT app inventor to create the app application to ON/OFF the motor in the field with connecting the Bluetooth module and to connect the node red with MIT app inventor and show the level of Temperature , Humidity and Soil moisture.

**MIT APP INVENTOR : TO CONTROL MOTOR SYSTEM AND TO SHOW THE LEVEL OF TEMPERATURE , HUMIDITY AND SOIL MOISTURE.**

# SCREEN 1:

MIT APP INVENTOR

Projects ▾ Connect ▾ Build ▾ Settings ▾ Help ▾

My Projects View Trash Guide Report an Issue English ▾ snileenaa@gmail.com ▾

**CONTROLLER\_ON\_OFF** 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**

**Media**

**Viewer**

☐ Display hidden components in Viewer

Phone size (505,320) ▾



**Components**

- Screen1
  - VerticalArrangement1
    - Image1
    - Clock1

**Properties**

**VerticalArrangement1**

AlignHorizontal  
Center : 3 ▾

AlignVertical  
Center : 2 ▾

BackgroundColor  
☐ None

Height  
Fill parent...

Width  
Fill parent...

Image  
None...

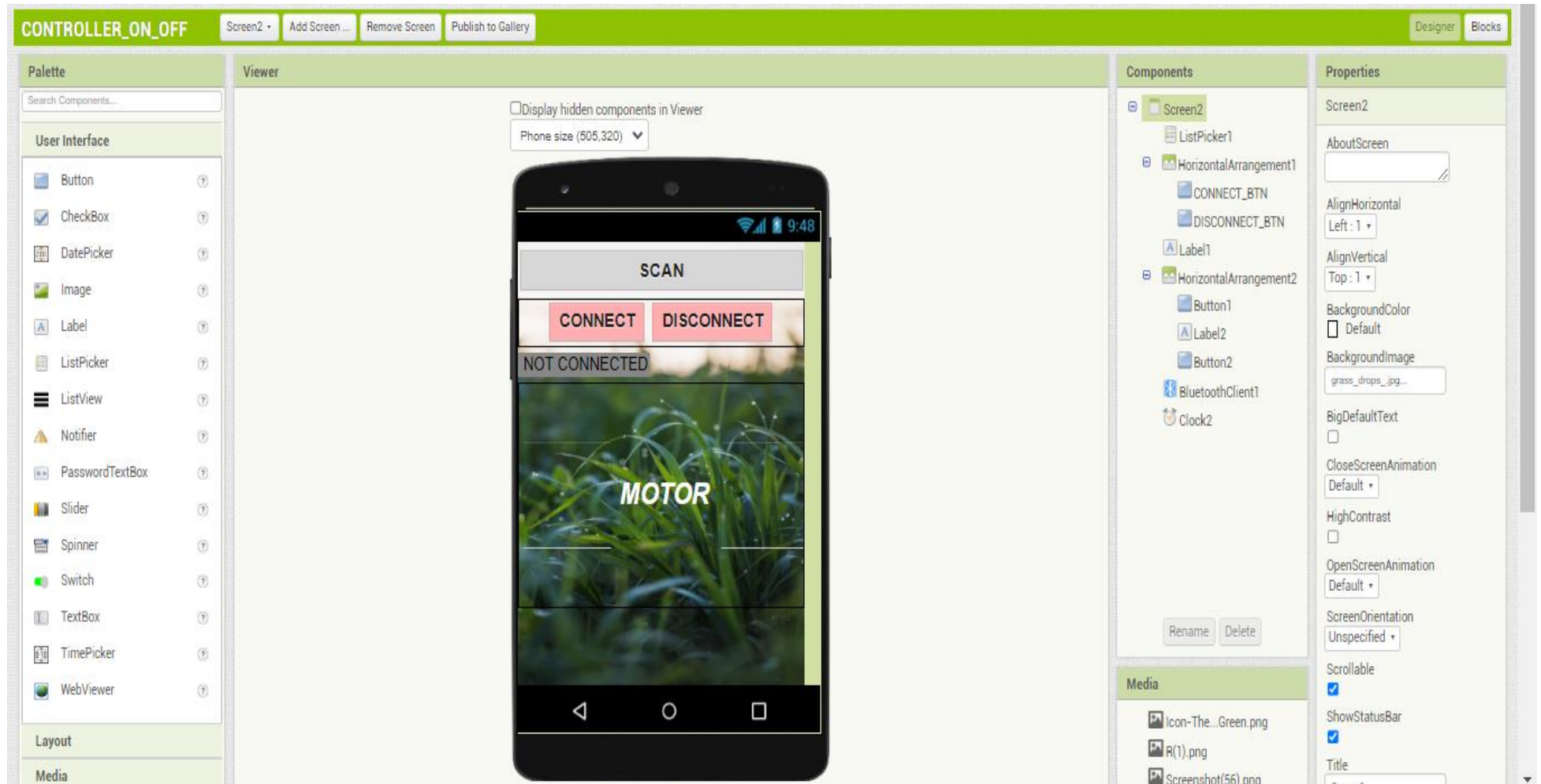
Visible  
☒

Rename Delete

**Media**

- Icon-The...Green.png
- R(1).png
- Screenshot(56).png

## SCREEN 2 :



## SCREEN 3:

**CONTROLLER\_ON\_OFF** Screen3 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**

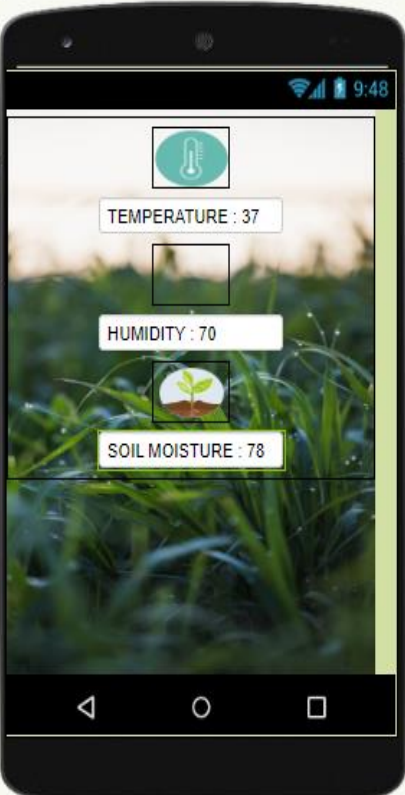
**Media**

**Drawing and Animation**

**Viewer**

☐ Display hidden components in Viewer

Phone size (505,320)



Non-visible components

**Components**

- Screen3
  - VerticalArrangement1
    - VerticalArrangement2
      - TextBox1
      - VerticalArrangement3
        - TextBox2
        - VerticalArrangement4
          - TextBox3
  - Web1
  - Web2
  - Web3
  - Clock3

**Properties**

**TextBox3**

BackgroundColor  
Default

Enabled  
☒

FontBold  
☐

FontItalic  
☐

FontSize  
16

FontTypeface  
default

Height  
Automatic...

Width  
Automatic...

Hint  
Hint for TextBox3

MultiLine  
☐

NumbersOnly  
☐

ReadOnly  
☐

Text  
SOIL MOISTURE : 78

**Media**

- Icon-The...Green.png
- R(1).png
- Screenshot(56).png
- Screenshot(58).png

# BLOCK : SCREEN 1

**CONTROLLER\_ON\_OFF**

Screen1 ▾Add Screen ...Remove ScreenPublish to Gallery

DesignerBlocks

**Blocks**

⊞ Built-in


- Control
- Logic
- Math
- Text
- Lists
- Dictionaries
- Colors
- Variables
- Procedures





⊞ Screen1



- VerticalArrangement1
  - Image1
- Clock1

⊞ Any component

**Viewer**







Show Warnings

## BLOCK: SCREEN 2

**CONTROLLER\_ON\_OFF** Screen2 Add Screen ... Remove Screen Publish to Gallery Designer Blocks

**Blocks**

- Built-in
  - Control
  - Logic
  - Math
  - Text
  - Lists
  - Dictionaries
  - Colors
  - Variables
  - Procedures
- Screen2
  - ListPicker1
  - HorizontalArrangement
    - CONNECT\_BTN
    - DISCONNECT\_BTN
  - Label1
  - HorizontalArrangement

**Viewer**

when ListPicker1 .BeforePicking  
do set ListPicker1 . Elements to BluetoothClient1 . AddressesAndNames

when ListPicker1 .AfterPicking  
do set Label1 . Text to "CONNECT YOUR DEVICE"

when CONNECT\_BTN .Click  
do set ListPicker1 . Selection to call BluetoothClient1 .Connect  
set Label1 . Text to "CONNECT"

when Button1 .Click  
do call BluetoothClient1 .SendText  
text "1"

when DISCONNECT\_BTN .Click  
do call BluetoothClient1 .Disconnect  
set Label1 . Text to "DISCONNECT"

when Button2 .Click  
do call BluetoothClient1 .SendText  
text "0"

when Clock2 .Timer  
do set Clock2 . TimerEnabled to false  
open another screen screenName Screen3

Show Warnings

0 0

## BLOCK : SCREEN 3

**CONTROLLER\_ON\_OFF** Screen3 Add Screen ... Remove Screen Publish to Gallery Designer Blocks

**Blocks**

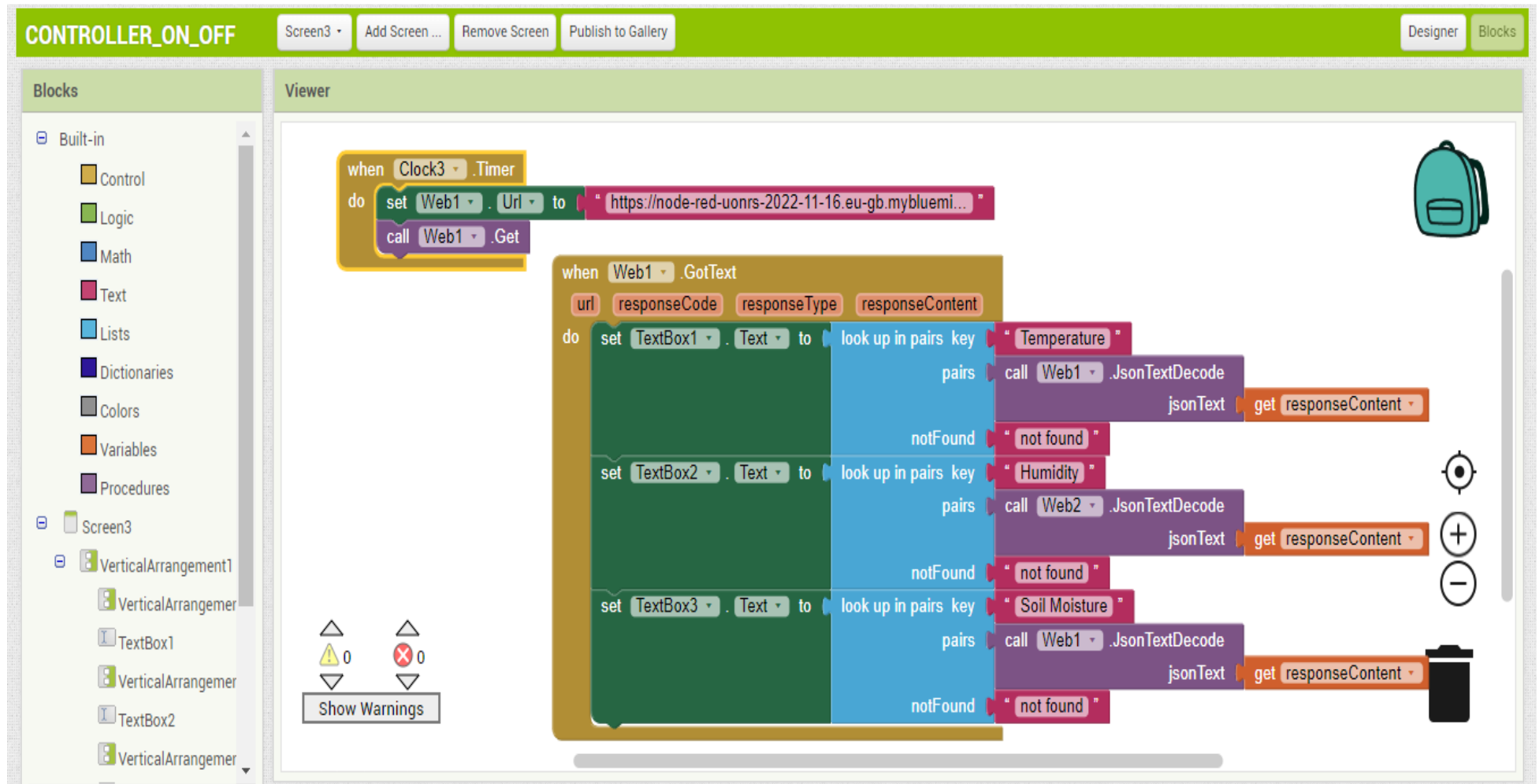
- Built-in
  - Control
  - Logic
  - Math
  - Text
  - Lists
  - Dictionaries
  - Colors
  - Variables
  - Procedures
- Screen3
  - VerticalArrangement1
    - VerticalArrangement1
      - TextBox1
      - VerticalArrangement1
        - TextBox2
        - VerticalArrangement1

**Viewer**

when Clock3 .Timer  
do  
  set Web1 .Url to "https://node-red-uonrs-2022-11-16.eu-gb.mybluemix..."  
  call Web1 .Get

when Web1 .GotText  
  url responseCode responseType responseContent  
  do  
    set TextBox1 .Text to look up in pairs key "Temperature"  
    pairs call Web1 .JsonTextDecode jsonText get responseContent  
    notFound "not found"  
    set TextBox2 .Text to look up in pairs key "Humidity"  
    pairs call Web2 .JsonTextDecode jsonText get responseContent  
    notFound "not found"  
    set TextBox3 .Text to look up in pairs key "Soil Moisture"  
    pairs call Web1 .JsonTextDecode jsonText get responseContent  
    notFound "not found"

0 0  
Show Warnings





OUTPUT:





CONTROLLER\_ON\_OFF

00:19:09:03:25:1E HC-05

E8:07:BF:00:76:3A boAt Airdopes 201

1F:57:1C:44:CB:41 I13

AD:FO:FO:OF:46:FF ZEB-BT6790RUCF

FF:21:84:44:4B:9A SKE

00:00:AB:CD:9D:62 Shots Ergo

12:07 PM



SCAN

CONNECT

DISCONNECT

CONNECT YOUR DEVICE

ON

MOTOR

OFF



TEMPERATURE : 37



HUMIDITY : 70



SOIL MOISTURE : 78