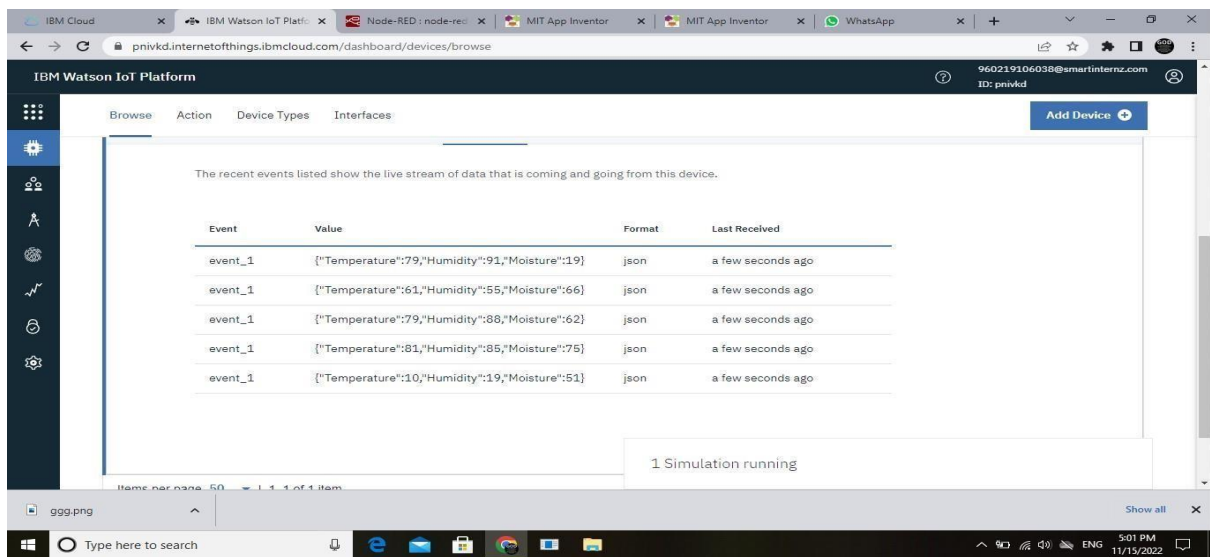


# SPRINT- 4

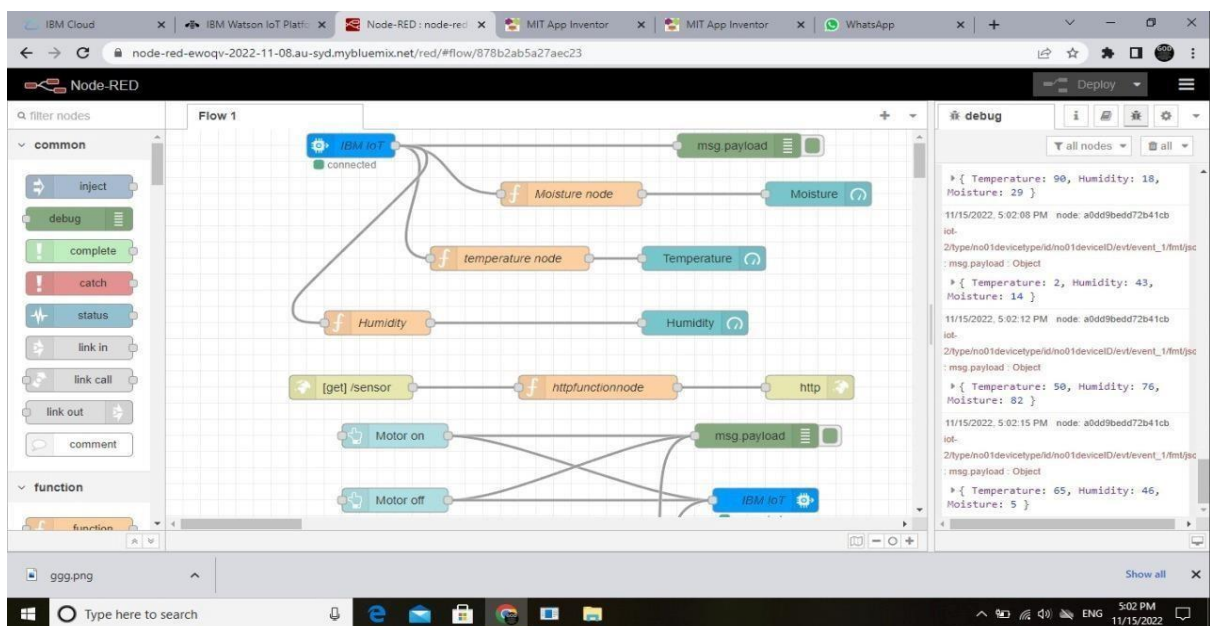
Date	17 November 2022
Team ID	PNT2022TMID34110
Project Name	SmartFarmer-IoT Enabled Smart Farming Application

## Connecting the developed application with Node-Red

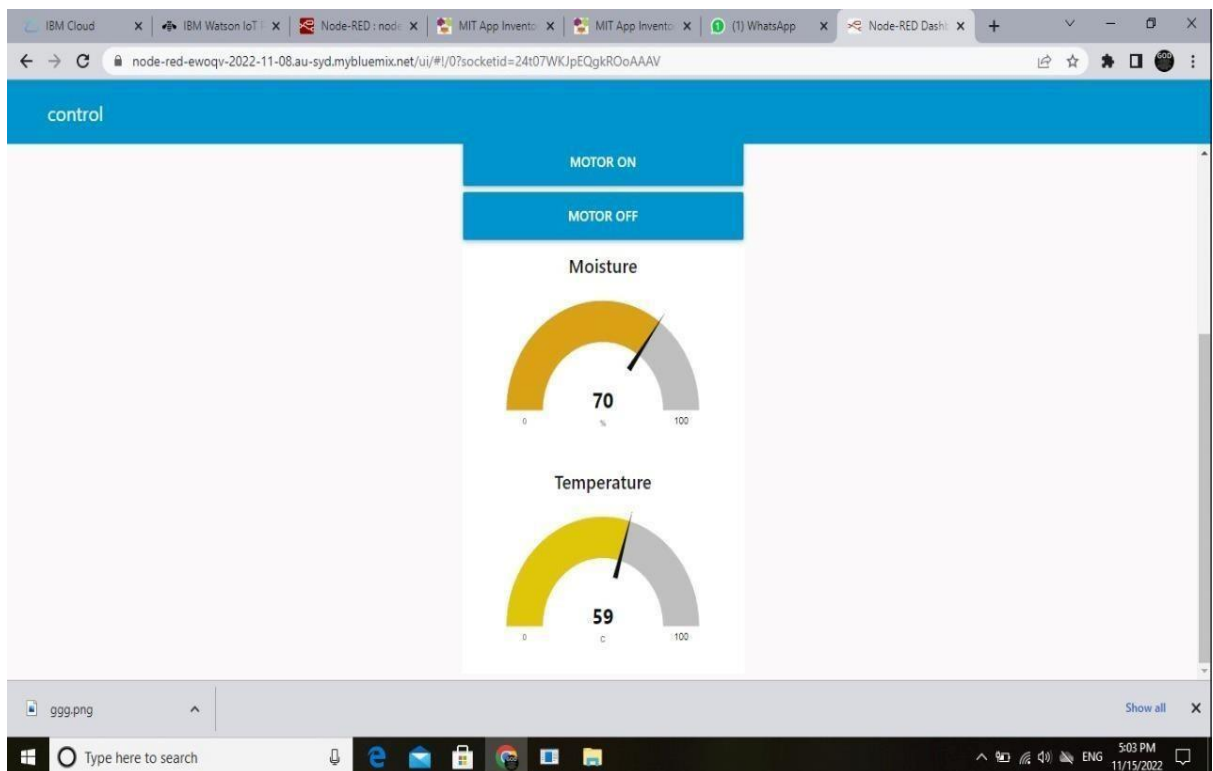
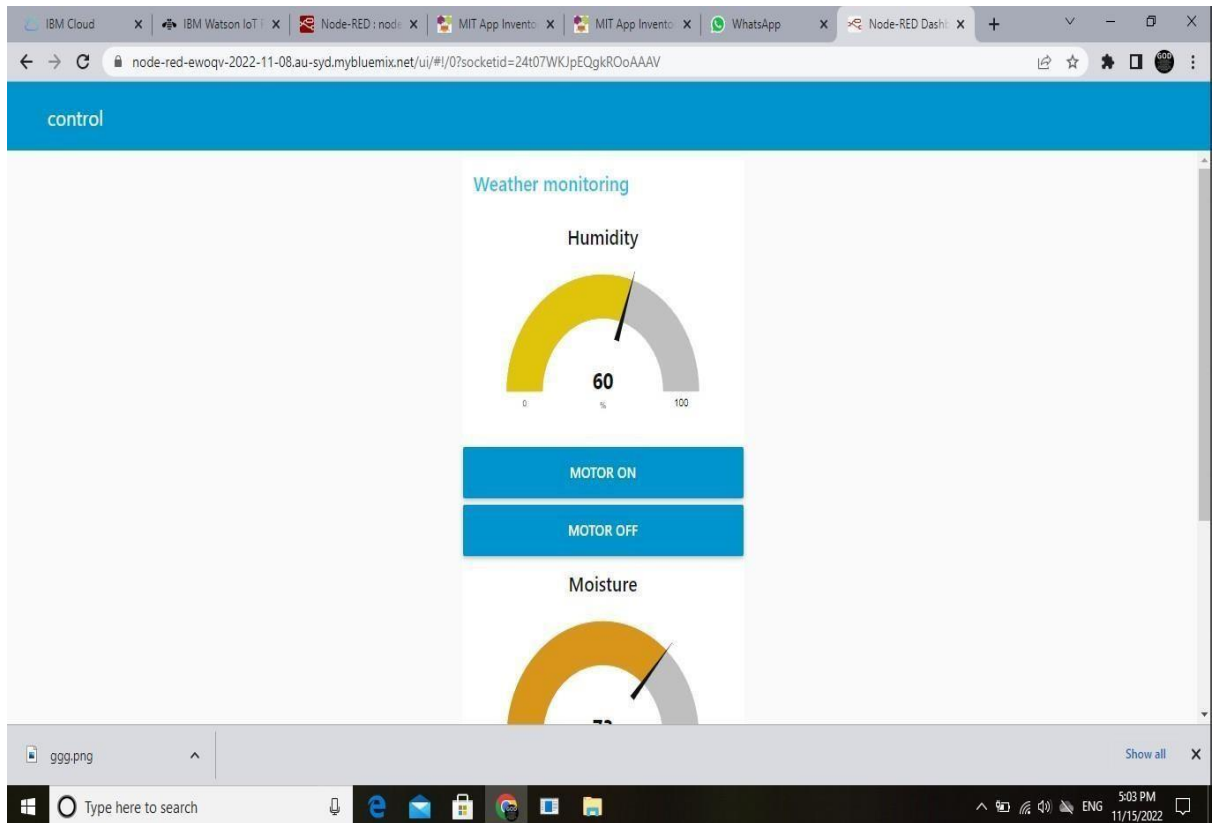


The screenshot shows the IBM Watson IoT Platform dashboard. The main content area displays a table of recent events, which are live stream data points. The table has four columns: Event, Value, Format, and Last Received. The events are listed as 'event\_1' with various JSON payloads containing Temperature, Humidity, and Moisture data. The format is 'json' and the last received time is 'a few seconds ago'. A status bar at the bottom indicates '1 Simulation running'.

Event	Value	Format	Last Received
event_1	{"Temperature":79,"Humidity":91,"Moisture":19}	json	a few seconds ago
event_1	{"Temperature":61,"Humidity":55,"Moisture":66}	json	a few seconds ago
event_1	{"Temperature":79,"Humidity":88,"Moisture":62}	json	a few seconds ago
event_1	{"Temperature":81,"Humidity":85,"Moisture":75}	json	a few seconds ago
event_1	{"Temperature":10,"Humidity":19,"Moisture":51}	json	a few seconds ago



The screenshot shows the Node-RED interface. The main workspace displays a flow diagram for 'Flow 1'. The flow starts with an 'IBM IoT' node (connected) that feeds into three parallel processing paths. The first path uses a 'Moisture node' to extract moisture data and send it to a 'Moisture' output node. The second path uses a 'temperature node' to extract temperature data and send it to a 'Temperature' output node. The third path uses a 'Humidity' node to extract humidity data and send it to a 'Humidity' output node. Below these, there is a 'get /sensor' node that feeds into an 'httpfunctionnode', which then sends data to an 'http' output node. At the bottom, there are 'Motor on' and 'Motor off' nodes that feed into a 'msg payload' node, which then sends data to an 'IBM IoT' node. The right sidebar shows a 'debug' console with a log of messages, including temperature, humidity, and moisture data points.



Node-RED interface showing a flow for monitoring sensors and controlling a motor.

**Flow 1:**

- Inputs:** IBM IoT (connected), [get]/sensor, Motor on, Motor off.
- Processing:** Moisture node, temperature node, Humidity, httpfunctionnode.
- Outputs:** Moisture, Temperature, Humidity, msg.payload, http, IBM IoT.

**Debug Console:**

```
"motoroff"
11/15/2022, 5:05:26 PM node: 8cc0b8ac70557098
msg.payload: string[7]
"motoron"
11/15/2022, 5:05:27 PM node: 8cc0b8ac70557098
msg.payload: string[8]
"motoroff"
11/15/2022, 5:05:29 PM node: 8cc0b8ac70557098
msg.payload: string[7]
"motoron"
11/15/2022, 5:05:30 PM node: 8cc0b8ac70557098
msg.payload: string[8]
"motoroff"
11/15/2022, 5:05:31 PM node: 8cc0b8ac70557098
msg.payload: string[7]
"motoron"
11/15/2022, 5:05:31 PM node: 8cc0b8ac70557098
msg.payload: string[8]
"motoroff"
```

MIT App Inventor interface showing a mobile app for weather monitoring.

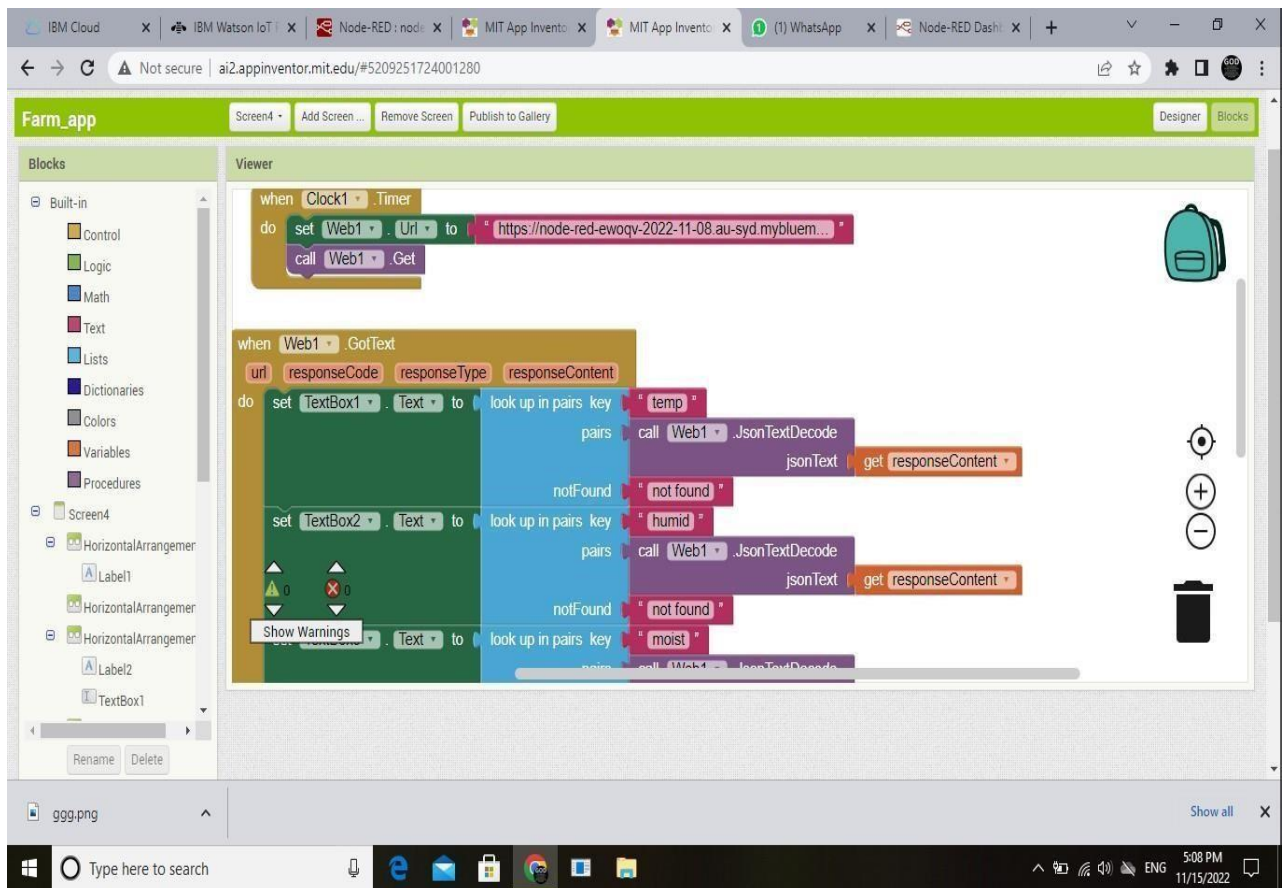
**Screen4: WEATHER MONITORING**

**Sensors:** AccelerometerSensor, BarcodeScanner, Barometer, Clock, GyroscopeSensor, Hygrometer, LightSensor, LocationSensor, MagneticFieldSensor, NearField, OrientationSensor, Pedometer.

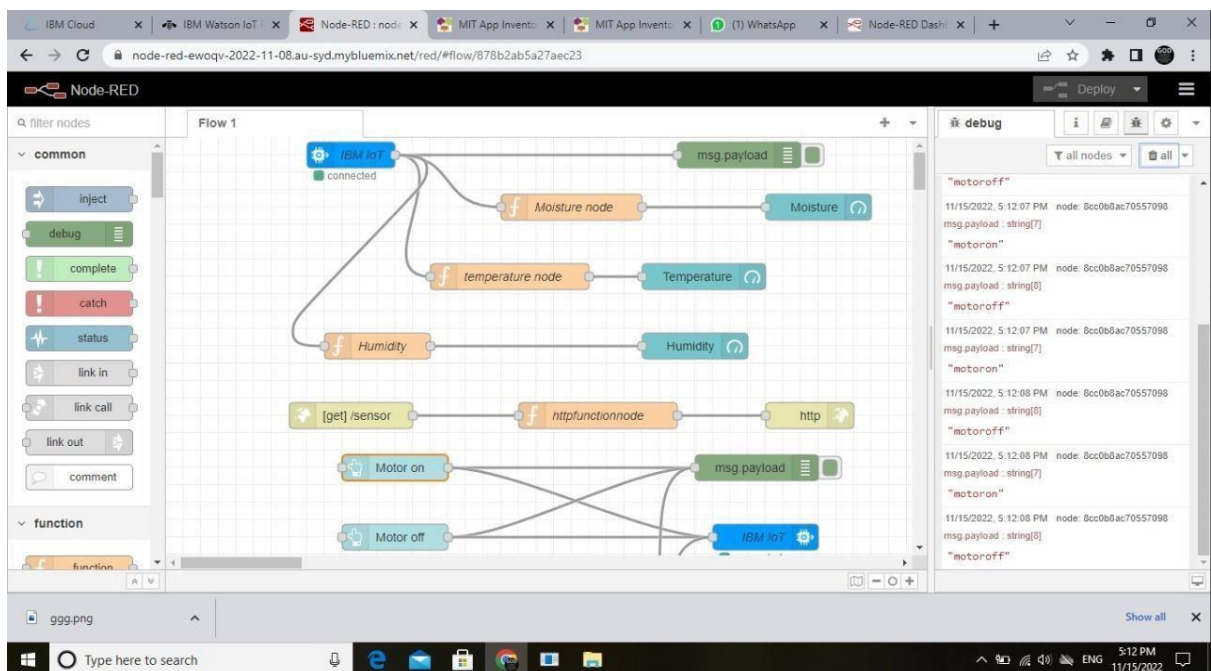
**UI Elements:** Temperature, Humidity, Soil Moisture, MOTOR ON, MOTOR OFF.

**Properties Panel:**

- Layout:** HorizontalArranger, VerticalArranger, TextBox, Button.
- Media:** Screensh...\_55949.jpg, ggg.png.

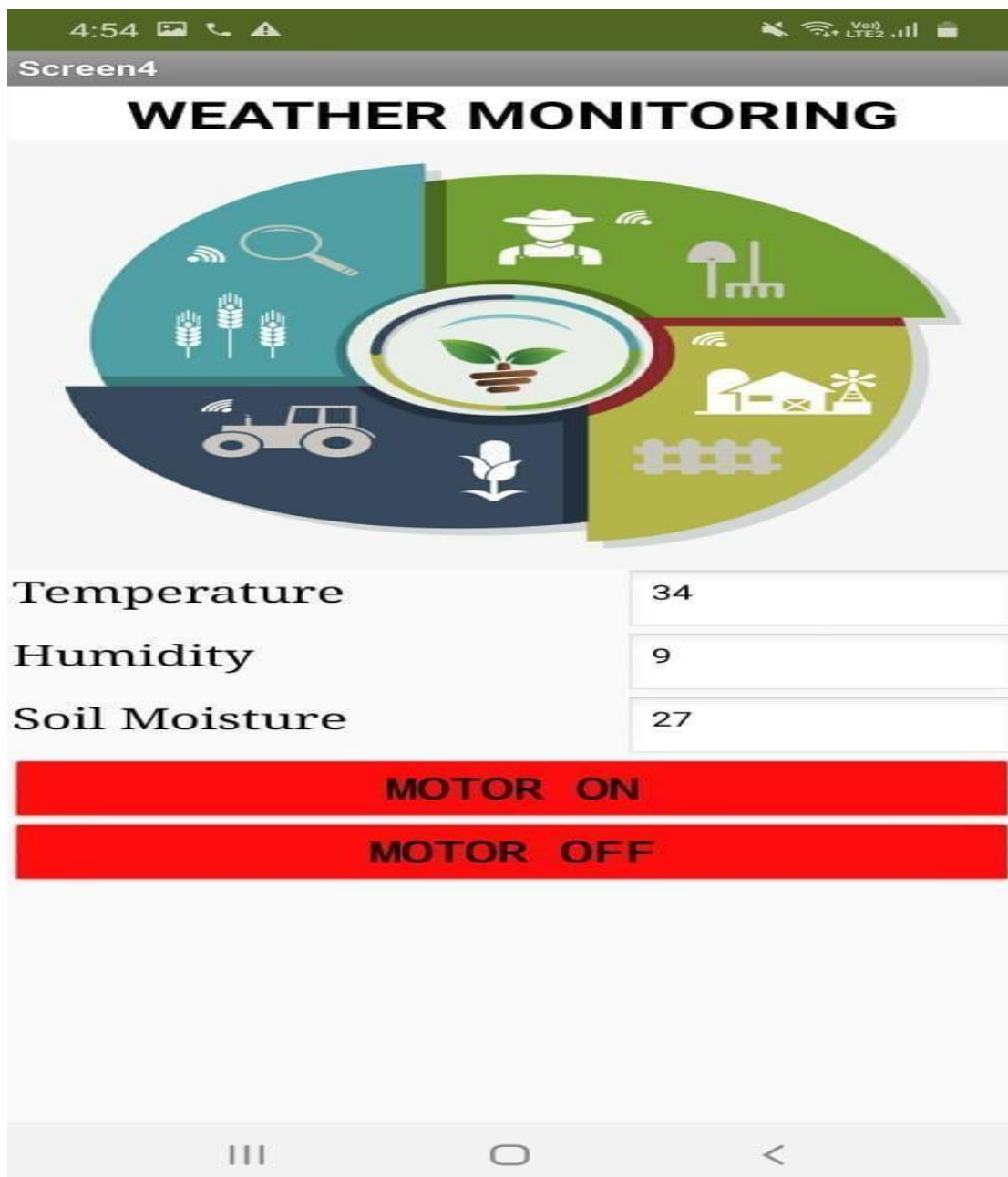


## Testing the developed application





When we click the motor on button, the command is delivered to the Node-Red.



Thus the sensor readings are captured in the developed application.

# REPORTS:

This screenshot shows the Jira Software Kanban board for the project 'Smartfarmer-IoT enabled smart farming application' and specifically for 'SIESFA Sprint 4'. The board is organized into three columns: 'TO DO', 'IN PROGRESS', and 'DONE 2 ISSUES'. The 'DONE' column contains two issues: SIESFA-17, 'Connecting the developed application with Node-RED' (SIMULATION type), and SIESFA-18, 'Testing the developed application' (APP DEVELOPMENT type). The left sidebar shows navigation options like Roadmap, Backlog, Board, Reports, Code, and Project pages. The top navigation bar includes 'Your work', 'Projects', 'Filters', 'Dashboards', 'People', and 'Apps'. The bottom of the screen shows a Windows taskbar with various application icons and the system clock at 5:25 PM on 11/15/2022.

This screenshot displays the Jira Software Backlog view for the same project and sprint. The main area shows the backlog items for 'SIESFA Sprint 4' (13 Nov - 14 Nov) with two issues: SIESFA-17 and SIESFA-18. Below this, it shows 'SIESFA Sprint 5' (14 Nov - 15 Nov) with a 'Start sprint' button. The right sidebar features an 'Insights' panel for 'SIESFA Sprint 4' which includes a 'Sprint commitment' chart showing 8 points completed against a target of 12-14 points, and an 'Issue type breakdown' chart. The left sidebar and top navigation bar are identical to the previous screenshot. The Windows taskbar at the bottom shows the system clock at 5:26 PM on 11/15/2022.

