

Project Development Phase

SPRINT-3

Date	17 November 2022
Team ID	PNT2022TMID38406
Project Name	IoT Based Safety Gadget for Child Safety Monitoring and Notification

WEB APPLICATION USING NODE-RED

The screenshot displays the Node-RED web interface in a browser. The top navigation bar includes tabs for IBM, IBM-Project-43920-11, IBM Watson IoT Platform, PROJ board - Agile b..., Cloudant Dashboard, (16) WhatsApp, and Node-RED. The address bar shows the URL 127.0.0.1:1880/#/flow/52aa3aa42dc2c524. The Node-RED interface features a left sidebar with a search bar and two categories of nodes: 'common' (inject, debug, complete, catch, status, link in, link call, link out, comment) and 'function' (function, switch, change, range). The main workspace, titled 'Flow 1', contains a flow starting with an 'IBM IoT' node (labeled 'connected'). This node branches into two paths. The upper path includes a 'msg payload' node, a 'boundary check' function node, a 'debug 1' node, and a 'show notification' node. The lower path includes a 'notification' function node, a 'text input' node, and an 'audio out' node. Below the main workspace, there is a separate flow with a 'Loc' node, a 'Loc' function node, and an 'http' node. On the right side, the 'debug' console is open, displaying a log of messages. The messages include JSON objects for child location data (name, lat, lon, bcheck) and status updates ('Child out of geofence', 'Child safe inside geofence'). The bottom status bar shows the system temperature as 26°C, the weather as 'Haze', and the time as 21:10 on 17-11-2022.

CODE FOR GEO FENCE

The screenshot displays the Node-RED web interface in a browser. The top bar shows several open tabs including IBM, IBM-Project-43920-16, IBM Watson IoT Platform, PROJ board - Agile b..., Cloudant Dashboard, (16) WhatsApp, and Node-RED. The address bar shows the URL 127.0.0.1:1880/#flow/52aa3aa42dc2c524.

The main workspace shows a flow named 'Flow 1'. It starts with an 'IBM IoT' node (labeled 'connected') which is connected to a 'boundary check' function node. The function node is currently being edited, showing the following JavaScript code:

```
1 var bcheck = msg.payload.bcheck;
2 var bvalue = "child out of geofence";
3 if(bcheck===true)
4 {
5     bvalue = "Child safe inside geofence";
6 }
7 return {payload:bvalue};
```

The 'debug' console on the right shows the following log entries:

- 17/11/2022, 9:10:36 pm node: debug 1
msg.payload: string[26]
"Child safe inside geofence"
- 17/11/2022, 9:10:37 pm node: msg.payload
iot-2/type/WokwiId/012345/ev/status/fmt/json : msg.payload : Object
{ name: "Child", lat: 12.9043576, lon: 80.185586, bcheck: true }
- 17/11/2022, 9:10:37 pm node: debug 1
msg.payload: string[26]
"Child safe inside geofence"
- 17/11/2022, 9:10:38 pm node: msg.payload
iot-2/type/WokwiId/012345/ev/status/fmt/json : msg.payload : Object
{ name: "Child", lat: 12.9067, lon: 80.186879, bcheck: true }
- 17/11/2022, 9:10:38 pm node: debug 1
msg.payload: string[26]
"Child safe inside geofence"
- 17/11/2022, 9:10:39 pm node: msg.payload
iot-2/type/WokwiId/012345/ev/status/fmt/json : msg.payload : Object
{ name: "Child", lat: 12.90114, lon: 80.1899, bcheck: false }
- 17/11/2022, 9:10:39 pm node: debug 1
msg.payload: string[21]
"Child out of geofence"

The bottom of the screen shows the Windows taskbar with the system clock at 21:10 on 17-11-2022.

IBM Project-43920-16 x IBM Watson IoT Platform x PROJ board - Agile b... x Cloudant Dashboard x (16) WhatsApp x Node-RED x

127.0.0.1:1880/#flow/52aa3aa42dc2c524

Node-RED

Flow 1

common

- inject
- debug
- complete
- catch
- status
- link in
- link call
- link out
- comment

function

- function
- switch
- change
- range

Loc

Edit function node

Delete Cancel Done

Properties

Name notification

Setup On Start On Message On Stop

```
1 var bcheck = msg.payload.bcheck;
2 var bvalue = "";
3 if (bcheck === false) {
4   bvalue = "Child not safe";
5 }
6 return { payload: bvalue };
```

debug

all nodes all

```
{ name: "Child", lat: 12.9089532, lon: 80.1819089, bcheck: true }
17/11/2022, 9:10:44 pm node: debug 1
msg.payload: string[26]
"Child safe inside geofence"
17/11/2022, 9:10:45 pm node: msg payload
iot-2type/WokwiId/012345/ev/status/tm/json: msg.payload: Object
{ name: "Child", lat: 12.90432, lon: 80.18149, bcheck: true }
17/11/2022, 9:10:45 pm node: debug 1
msg.payload: string[26]
"Child safe inside geofence"
17/11/2022, 9:10:46 pm node: msg payload
iot-2type/WokwiId/012345/ev/status/tm/json: msg.payload: Object
{ name: "Child", lat: 12.90435, lon: 80.182345, bcheck: true }
17/11/2022, 9:10:46 pm node: debug 1
msg.payload: string[26]
"Child safe inside geofence"
17/11/2022, 9:10:47 pm node: msg payload
iot-2type/WokwiId/012345/ev/status/tm/json: msg.payload: Object
{ name: "Child", lat: 12.9043576, lon: 80.185586, bcheck: true }
17/11/2022, 9:10:47 pm node: debug 1
msg.payload: string[26]
"Child safe inside geofence"
```

26°C Haze

ENG IN 21:10 17-11-2022

OUTPUT



GEO FENCEING BOUNDARY

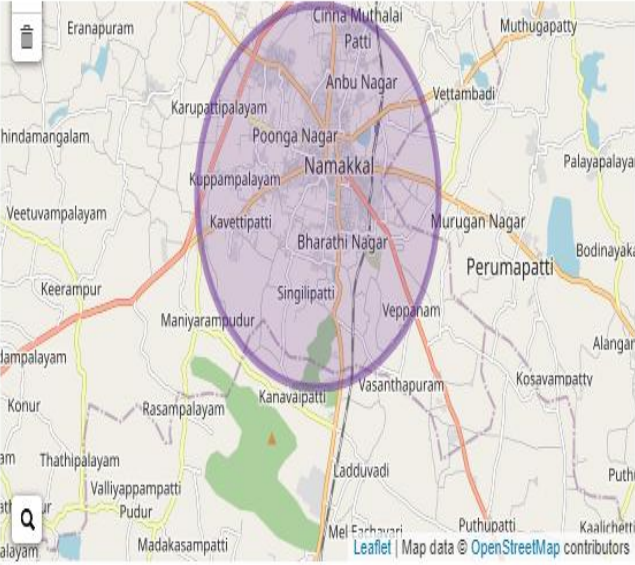
Edit geofence node

Delete

Cancel

Done

Properties



_ Floor

ground

~ Ceiling

infinity

Action

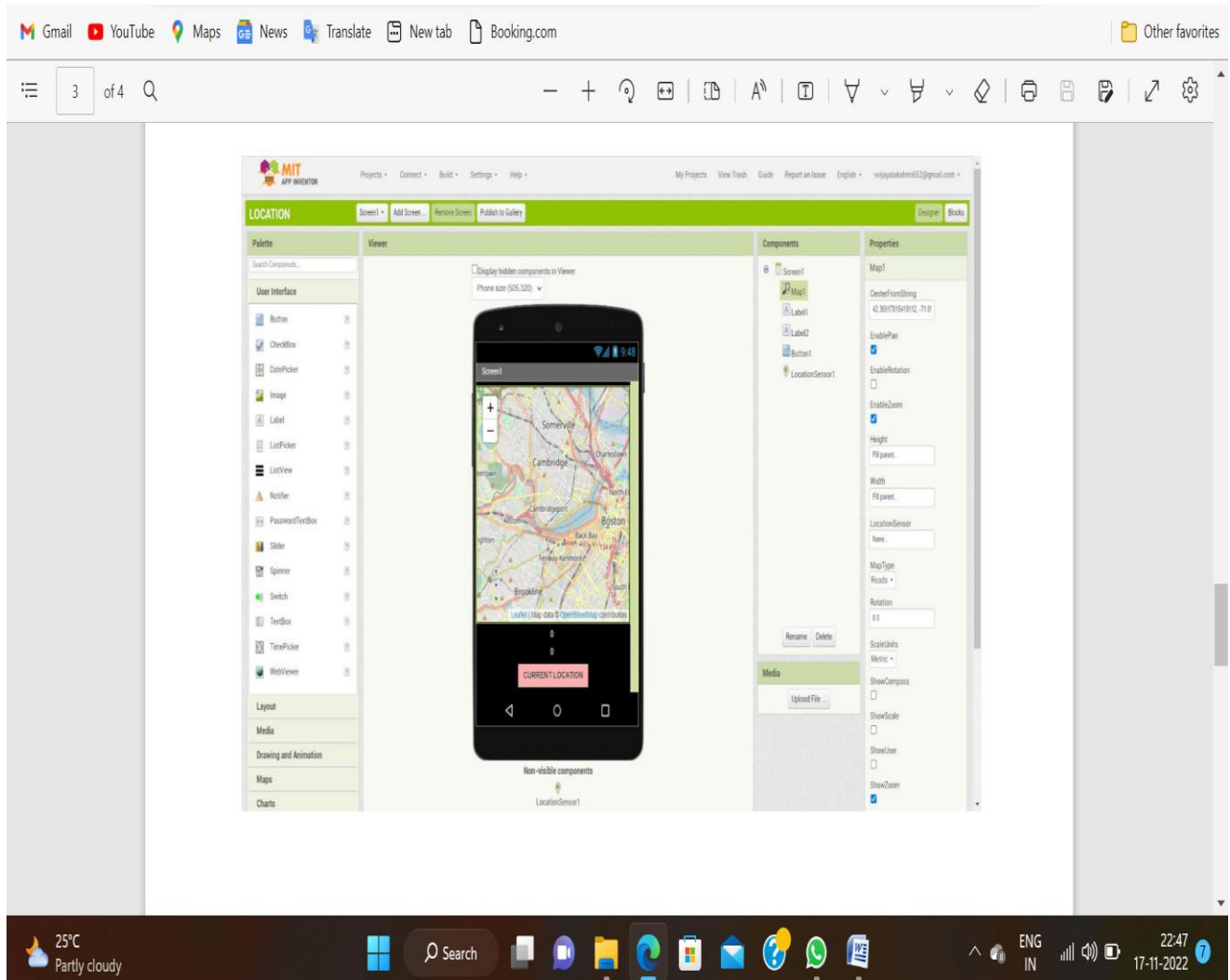
add "inarea" property

Enable output of zones to WorldMap node

☐

Enabled

CURRENT LOCATION



CODE BLOCKS FOR CURRENT LOCATION

The screenshot displays the MIT App Inventor web interface in a browser window. The browser's address bar shows the URL '4 of 4' and a search icon. The page title is 'LOCATION'. The left sidebar contains a 'Blocks' panel with categories like Built-in, Logic, Math, Text, Lists, Dictionaries, Colors, Variables, and Procedures. The 'Map1' component is selected in the 'Components' panel. The main workspace shows two event-driven code blocks:

- when Button1 Click**:
 - do call Map1 PanTo
 - latitude LocationSensor1 Latitude
 - longitude LocationSensor1 Longitude
 - zoom 25
- when LocationSensor1 LocationChanged**:
 - latitude longitude altitude speed
 - do set Label1 Text to get latitude
 - set Label2 Text to get longitude

The bottom status bar shows the system clock as 22:47 on 17-11-2022, along with weather information (25°C, Partly cloudy) and various system icons.

WORLD MAP



CHILD CURRENT LOCATION

