Test case ID	Feature Type	Component	Test Scenario
TC_OO1	Functional	IBM cloud	Create the IBM Cloud services which are being used in this project.
TC_OO2	Functional	IBM Cloud	Configure the IBM Cloud services which are being used in completing this project.
TC_OO3	Functional	IBM Watson IoT Platform	IBM Watson IoT platform acts as the mediator to connect the web application to IoT devices, so create the IBM Watson IoT platform.
TC_OO4	Functional	IBM Watson	In order to connect the IoT device to the IBM cloud, create a device in the IBM Watson IoT platform and get the device credentials.
TC_OO5	Functional	IBM Cloud(Node Red)	Configure the connection security and create API keys that are used in the Node-RED service for accessing the IBM IoT Platform.

TC_OO6	Functional	Node Red	Create a Node-RED service.
TC_OO7	Functional	Python 3.7.0	Develop a python script to publish random sensor data such as load cell ,IR sensor and GSM/GPS to the IBM IoT platform
TC_OO8	Functional	Python 3.7.0	After developing python code, commands are received just print the statements which represent the control of the devices.
TC_OO9	Functional	SM Cloudant D	Publish Data to The IBM Cloud
TC_O10	Web UI	Node Red & MIT Inventor	Create Web UI in Node- Red
TC_O11	Functional	IBM Cloudant DB	Configure the Node-RED flow to receive data from the IBM IoT platform and also use Cloudant DB nodes to store the received sensor data in the cloudant DB

Date	19-Nov-22	
Team ID	PNT2022TMID48397	
Project Name	SMART WASTE MANAGEMENT SYSTEM	
Maximum Marks	4 marks	

Pre-Requisite	Steps To Execute	Test Data
IBM Cloud Login ID & Password	1.Go to IBM Cloud signup page 2.Enter e-mail id and other credentials 3.Enter a password	https://cloud.ibm.com/login
IBM Cloud Login ID & Password	1.Go to Cloud login 2.Enter user ID & Password 3.Verify login by the popup display	https://cloud.ibm.com/login
IBM Watson IoT Platform Login ID & Password	1.Login to IBM Cloud 2.Click Catalog 3.Search IoT and click create 4.Go to resource list and search Internet of Things platform 5.Press Launch and click Sign in IBM Watson Platform	https://internetofthings.ibmcloud.com/
IBM Watson IoT Platform Login ID & Password	1.Login to IBM Watson Platform 2. Click Add Device 3.Enter the details and click Finish. Create Device ID & Device type 4.Turn on Device Simulator and click simulation running. Enter the values of loadcell,IR sensor and GSM/GPS 5.Click Send & Save. Verify the displayed result of the levels	Load cell,IR Sensor and GPS/GSM values are generated randomly in simulation
Node Red Installation	1.Install node red and open node red in command prompt 2.Select IBM input in IoT	https://cloud.ibm.com/developer/appservice/create-app?starterKit=59c9d5bd-4d31-3611-897a-f94eea80dc9f&defaultLanguage=undefined

Node Red Installation	1.Select IBM IoT input in Node. In IBM IoT Watson Platform, go to apps and click on generate API keys. 2.Copy & paste generated API key and token in the IBM IoT input. After entering all details, click the done button. 3.Add debug to the IBM IoT and rename as Msg.payload and click on done. Click gauge from the dashboard and fill the details & add functions to the gauge. Check the generated values from the debug message. 4.Edit function node, connect them, add another gauge and functions, name them as "loadcell,IR sensor & GSM/GPS" 5.Finally add light ON/OFF buttons to the IBM IoT and debug. Verify the output from NODE RED using Local host link	Values of sensors and button for light ON/OFF is displayed
Python 3.7.0(64 bit) installation	1.Download and install Python 3.7.0 2.Develop python code	https://www.python.org/downloads/release/python-370/
Python 3.7.0(64 bit) installation	1.Download and install Python 3.7.0 2.After python code	Get the output from the code
IBM Cloud Login ID & Password	1.Run the python code 2.Verify the displayed output	Publishment of python code
MIT Inventor Login ID & password	1.Go to Node Red. Select http in & http response. Add functions and select another http in and http response. Connect them to IBM IoT output and function.Print the command statements such as light ON/OFF and sensor 2.Go to MIT app inventor and create frontend using buttons,horizontal arrangement, text bar, etc. Add blocks and so on to create back end. Verify the output	Sensors values and command values can be seen in the mobile application
IBM Cloud Login ID & Password	1.Go to IBM cloud, search Cloudant in Catalog, Add new dashboard, go to Node Red 2.Connect to cloudant and verify the results	Cloudant is connected by NODE RED

Expected Result	Actual Result	Status	Comments
User should sign up IBM cloud and details should be verified	Working as expected	Pass	Results verified
User login to IBM Cloud and should be navigated to IBM Cloud dashboard page	Working as expected	Pass	Results verified
User should be navigated to IBM IoT Watson Platform	Working as expected	Pass	Results verified
Load cell,IR Sensor and GSM/GPS values should be randomly generated	Working as expected	Pass	Results verified
User should be able to see the Node Red page	Working as expected	Pass	Results verified

Values of sensors and button for light ON/OFF should be displayed	Working as expected	Pass	Results verified
User should be able to develop a python code	Working as expected	Pass	Results verified
User should be able to get the results from the developed code	Working as expected	Pass	Results verified
User should be able to publish the code	Working as expected	Pass	Results verified
Sensors values and command values should be seen in the mobile application	Working as expected	Pass	Results verified
User should be able to connect the Cloudant and Node Red	Working as expected	Pass	Results verified

TC for Automation(Y/N)	BUG ID	Executed By
No		AKILA S
No		ASHWIN BHARATHI A
No		DHARSHINI K
No		SRINIVASAN S
No		AKILA S

No		ASHWIN BHARATHI A
No		DHARSHINI K
No		SRINIVASAN S
No		AKILA S
No		ASHWIN BHARATHI A
No		DHARSHINI K

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Test Scenarios

Verify user is able to see login page
Verify user is able to loginto application or not?
Verify user is able to navigate to create your account page?
Verify user is able to recovery password
Veriify login page elements

Search

Verify user is able to search by entering keywords in search box
Verify user is able to see suggestions based on keyword entered in search box
Verify user is able to see related auto suggestions displaying based on keyword entered in search box
Verify user is able to see no matches found message when no results are matching with entered keyword
Verify user is able to see seach detailed page when nothing entered in textbox