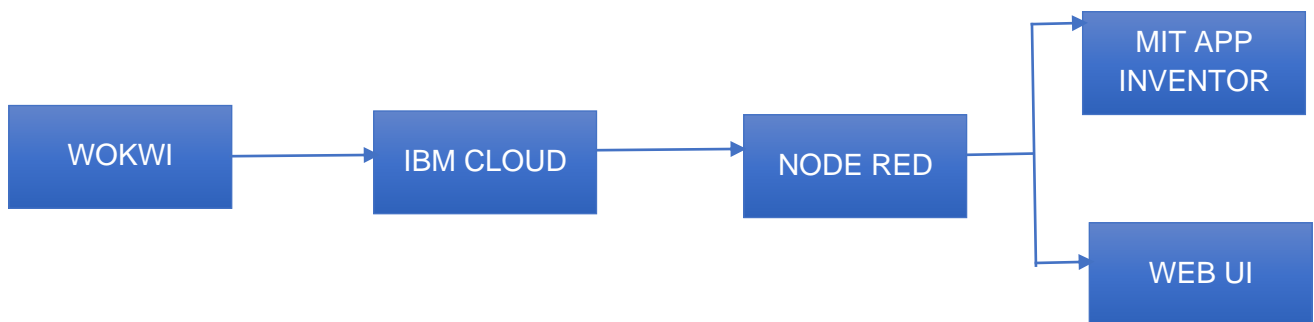


Project Development Phase
Sprint - 4

Date	19 November 2022
Team ID	PNT2022TMID35789
Project Name	Smart waste management system
Maximum Marks	4 Marks

WORKFLOW:

Sprint 2 – We have included the WEB UI and results of different test cases:

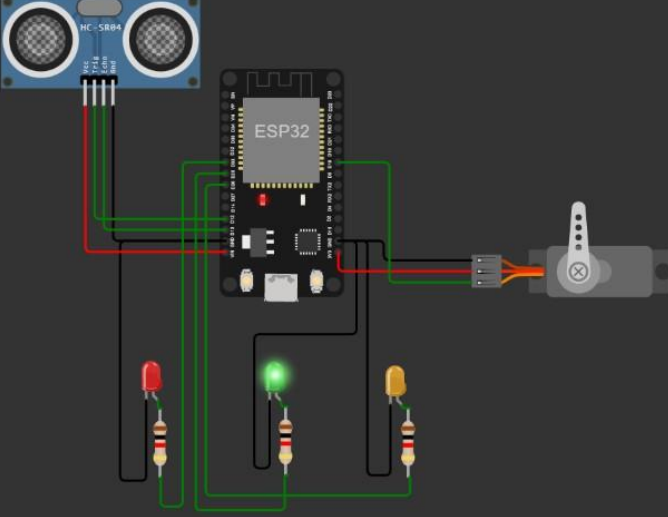
- **When the garbage level is below the threshold.**
- **When the garbage level is above the threshold and driver receives the notification that the garbage is full.**
- **When the driver clicks the button indicating that he will be arriving to the respective garbage bin shortly.**
- **When the driver clicks the button indicating that he will be arriving to the respective garbage bin shortly.**

1. When the garbage level is below the threshold:

WOKWI:

Simulation

01:03.317 99%



subscribe to cmd OK

Weight of the Garbage in the bin(kg):14
The Garbage Bin is NOT FULL
Garbage_level_in_bin(cm):97
Sending payload: {"weight":14,"level":97}
Publish ok

Wokwi simulation interface showing an ESP32 microcontroller connected to an HC-SR04 ultrasonic sensor, a servo motor, and three LEDs. The sensor is connected to pins D4, D5, and GND. The servo is connected to pins D8 and GND. The three LEDs (red, green, yellow) are connected to pins D2, D3, and D1 respectively, with their cathodes to GND. The green LED is currently lit.

IBM Watson IoT platform:

The screenshot displays the IBM Watson IoT Platform dashboard. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A search bar is present with the text 'Search by Device ID'. The main content area shows a table of devices. The selected device is 'smart_waste', which is 'Disconnected' and of type 'ESP32'. Below the table, the 'Recent Events' tab is active, showing a live stream of data. The events are listed in a table with columns: Event, Value, Format, and Last Received.

Event	Value	Format	Last Received
Data	{"weight":14,"level":97}	json	a few seconds ago
Data	{"weight":17,"level":97}	json	5 minutes ago
Data	{"weight":18,"level":97}	json	5 minutes ago
Data	{"weight":17,"level":97}	json	5 minutes ago
Data	{"weight":9,"level":97}	json	5 minutes ago

WEB UI:

The screenshot shows the Chennai Corporation web UI. It features two gauges under the heading 'Gauge' and two buttons under the heading 'Button'. The first gauge, 'Weight of the bin', shows a value of 14 units on a scale from 0 to 100. The second gauge, 'Level of the bin', shows a value of 97 units on a scale from 0 to 400. The buttons are labeled 'GOT NOTIFICATION AS FULL' and 'AFTER THE BIN IS EMPTIED'.

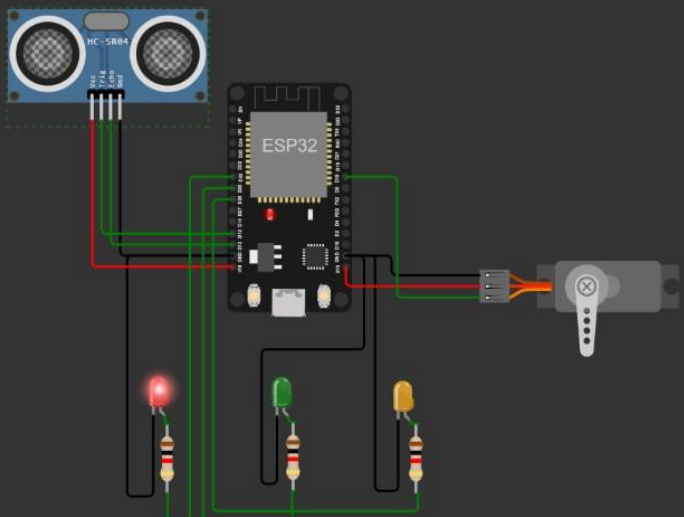
2. When the garbage level is above the threshold and driver receives the notification that the garbage is full:

WOKWI:

Simulation

04:42.588 99%

Editing Ultrasonic Distance Sensor
Distance: 22cm



Sending payload: {"weight":0,"level":379}
Publish ok
Weight of the Garbage in the bin(kg):15
The Garbage Bin is FULL
Garbage_level_in_bin:379
Reconnecting client to ny6nkk.messaging.internetofthings.ibmcloud.com
....

IBM Watson IoT platform:

The screenshot displays the IBM Watson IoT Platform interface. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A search bar is present with the text 'Search by Device ID'. The main content area shows a table of devices. The selected device is 'smart_waste', which is 'Disconnected' and of type 'ESP32'. Below the table, the 'Recent Events' tab is active, showing a live stream of data. The events are listed in a table with columns: Event, Value, Format, and Last Received.

Event	Value	Format	Last Received
Data	{"weight":18,"level":376}	json	a few seconds ago
Data	{"weight":8,"level":376}	json	a few seconds ago
Data	{"weight":1,"level":376}	json	a minute ago
Data	{"weight":18,"level":97}	json	a minute ago
Data	{"weight":7,"level":97}	json	a minute ago

WEB UI:

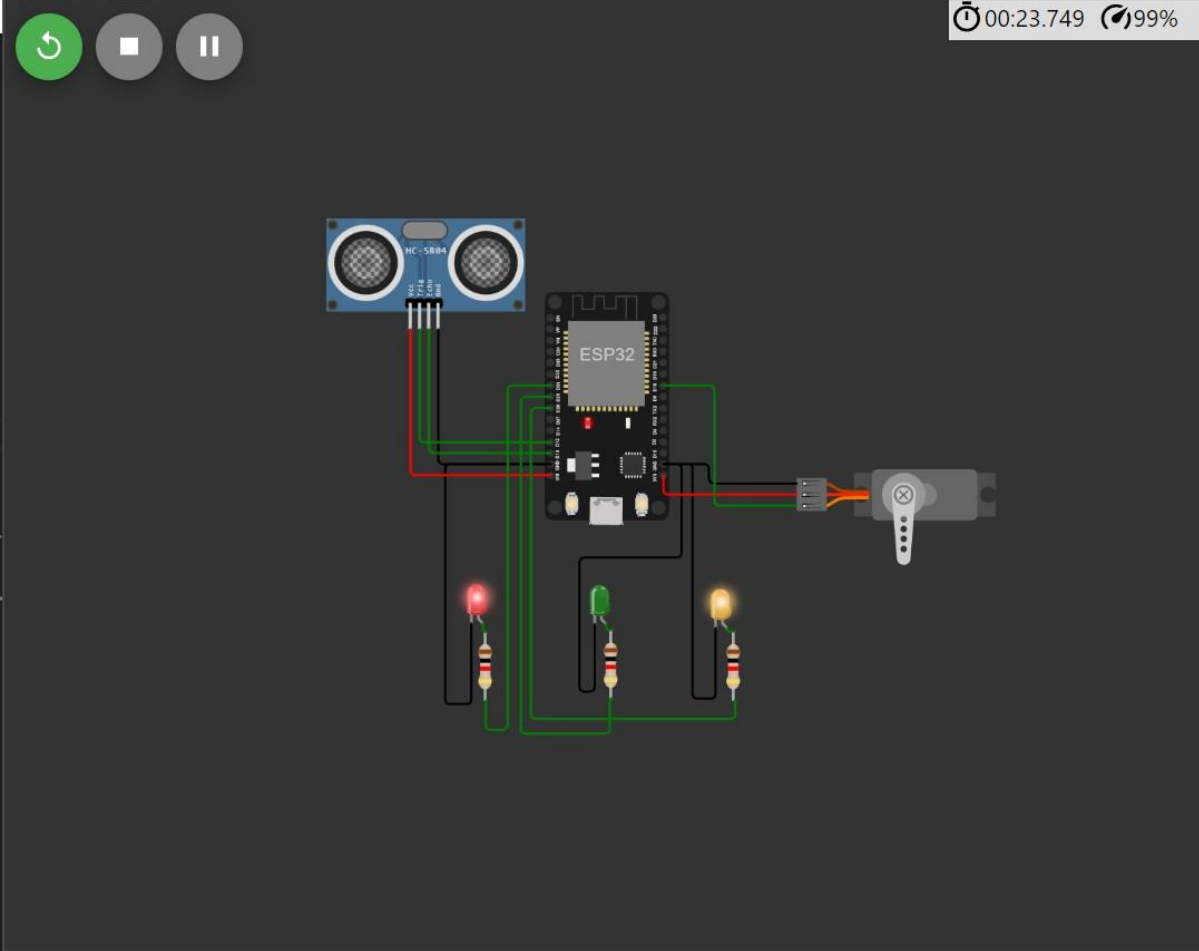
The screenshot displays the Chennai Corporation Web UI. The header is 'Chennai Corporation'. The main content area is divided into two sections: 'Gauge' and 'Button'. The 'Gauge' section contains two gauges: 'Weight of the bin' and 'Level of the bin'. The 'Weight of the bin' gauge shows a value of 18 units on a scale from 0 to 100. The 'Level of the bin' gauge shows a value of 376 units on a scale from 0 to 400. The 'Button' section contains two buttons: 'GOT NOTIFICATION AS FULL' and 'AFTER THE BIN IS EMPTIED'.

3. When the driver clicks the button indicating that he will be arriving to the respective garbage bin shortly:

WOKWI:

Simulation

00:23.749 99%



Weight of the Garbage in the bin(kg):10
The Garbage Bin is FULL
Garbage_level_in_bin:376
Sending payload: {"weight":10,"level":376}
Publish ok
callback invoked for topic: iot-2/cmd/command/fmt/String
data: lighton

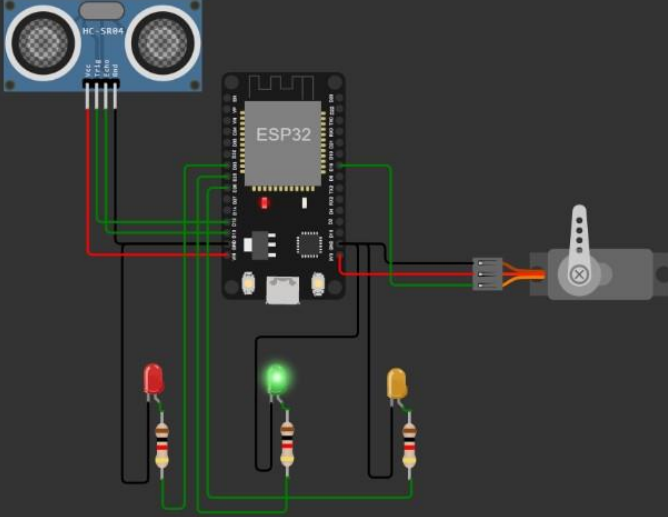
⏮ ⏪ ⏩ ⏭

4. The driver arrived and subsequently the bin is emptied:

WOKWI:

Simulation

00:53.775 99%



subscribe to cmd OK

Sending payload: {"weight":12,"level":31}

Publish ok

Weight of the Garbage in the bin(kg):11

The Garbage Bin is NOT FULL

Garbage_level_in_bin(cm):31