

Sprint-3

Smart Waste Management System for Metropolitan Cities

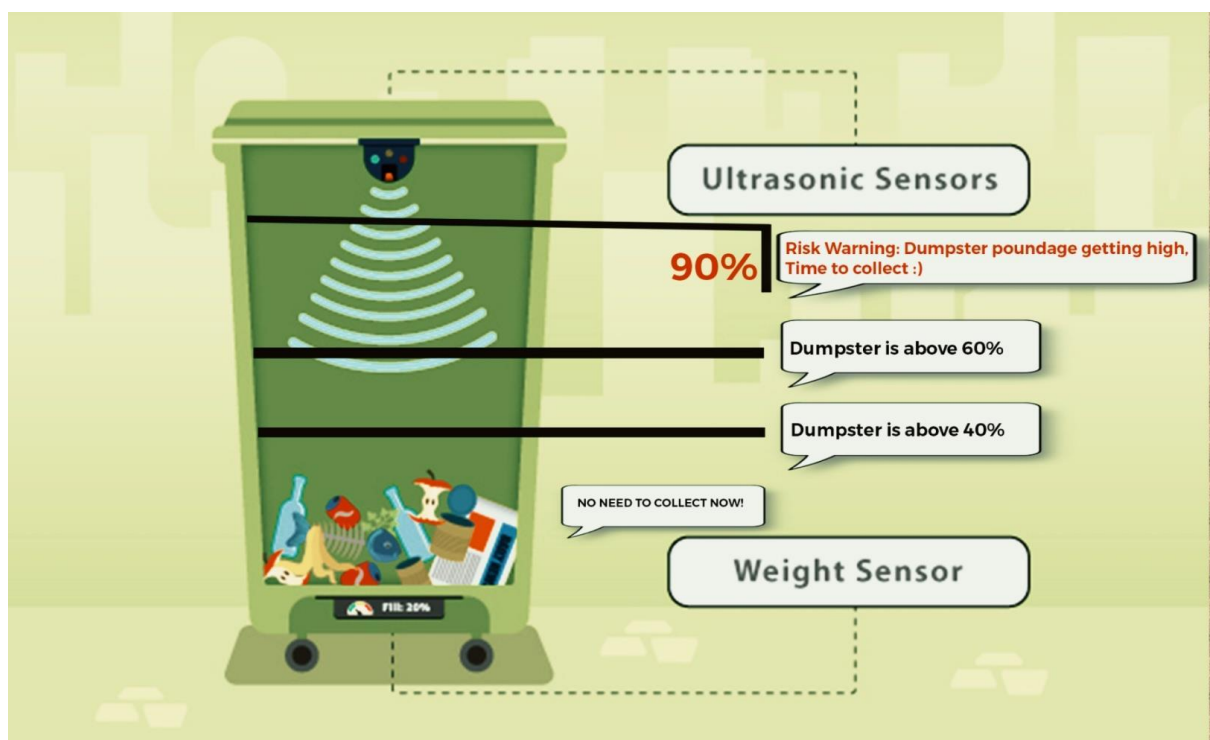
DESIGN AN WEB PAGE:

PARAMETERS ARE:

1. DISTANCE
2. WEIGHT

PROJECT MODEL:

The ultrasonic sonic sensor and the weight sensor which are used to calculate the garbage distance and the weight respectively.



There are certain assumptions assumed by us, They are

- The length of the trash can is assumed to be 200 cm.
- The maximum weight of the can is assumed to be 2 Kg.
- If the garbage distance goes more than 180cm i.e, more than 90% of the trash can, the sensor has to send an alert to the garbage collector.
- If the alert is received, then the garbage collector has to come and collect the garbage.
- The current weight and the garbage distance is to be updated Periodically. i.e, for 5 minutes.

Webpage code:

```
<!DOCTYPE html>
<html>

<head>
  <style>
    .container{
      text-align: center;
      border: 7px solid rgb(255, 255, 255);
      width: none;
      height: none;
      padding-top: 100px;
    }
    .smartbin{
      align-items: center;
    }
  </style>
  <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap@4.3.1/dist/css/bootstrap.min.css" integrity="sha384-ggynB1XChq783i9rppaa444248" crossorigin="anonymous">
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width">
  <title>Garbage Management System</title>
  <link rel="icon" type="image/x-icon" href="/Images/DUMPSTER.png">
  <link href="style.css" rel="stylesheet" type="text/css" />
  <script src="https://www.gstatic.com/firebasejs/8.10.1/firebase-app.js"></script>
  <script src="https://www.gstatic.com/firebasejs/8.10.1/firebase-database.js"></script>

  <script>
    var firebaseConfig = {
      apiKey: "AIzaSyB9ysbmaw3IyeClOh-a7QT_UOMd5CBFeU",
      authDomain: "fir-test-923b4.firebaseio.com",
      databaseURL: "https://fir-test-923b4.firebaseio.com",
      projectId: "fir-test-923b4",
      storageBucket: "fir-test-923b4.appspot.com",
      messagingSenderId: "943542145393",
      appId: "1:943542145393:web:9b5ec7593e6a3cbd7966d0",
      measurementId: "G-8N73NX1Q78"
    };
    firebase.initializeApp(firebaseConfig);
  </script>
  <script defer src="database.js"></script>
</head>

<body style="background-color:rgb(255, 255, 255);">
  <script src="map.js"></script>

  <div id="map_container">
    <div id="map"></div>
    <div id="alert_msg"><a href="rr.html" target=" blank">ALERT MESSAGE!</a></div>
  </div>
</div>
<div class="container">
```

```

<center><a href="https://g.page/sairamngg?share"
type="button" class="btn btn-dark">SMART BIN</a></center></div>
</form>
    Distance:<input type="text" name="Distance" value="180">
    Weight:<input type="text" name="Weight" value="1kg">

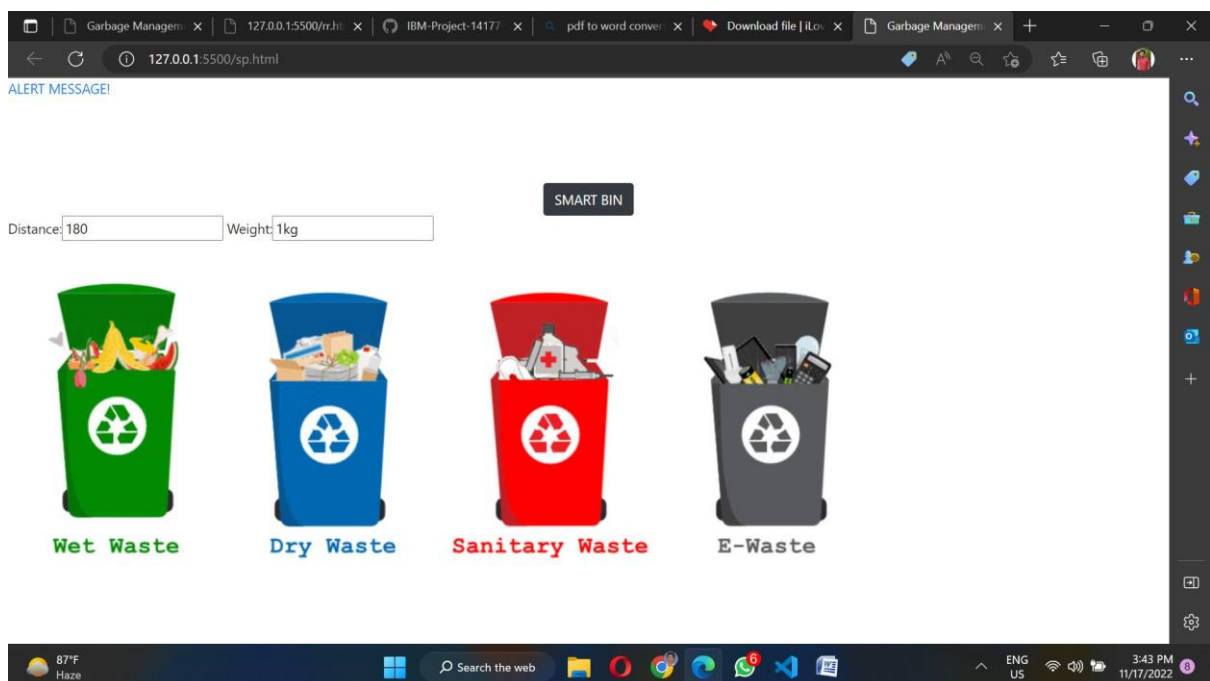
</form>
<div class="smartbin">

</div>

<script
src="https://maps.googleapis.com/maps/api/js?key=A1zaSy8BLyM1-3FwtCbCXG43ysE1I2f0frv2v0Q&callback=myMap"></script></div>
</body>
</html>

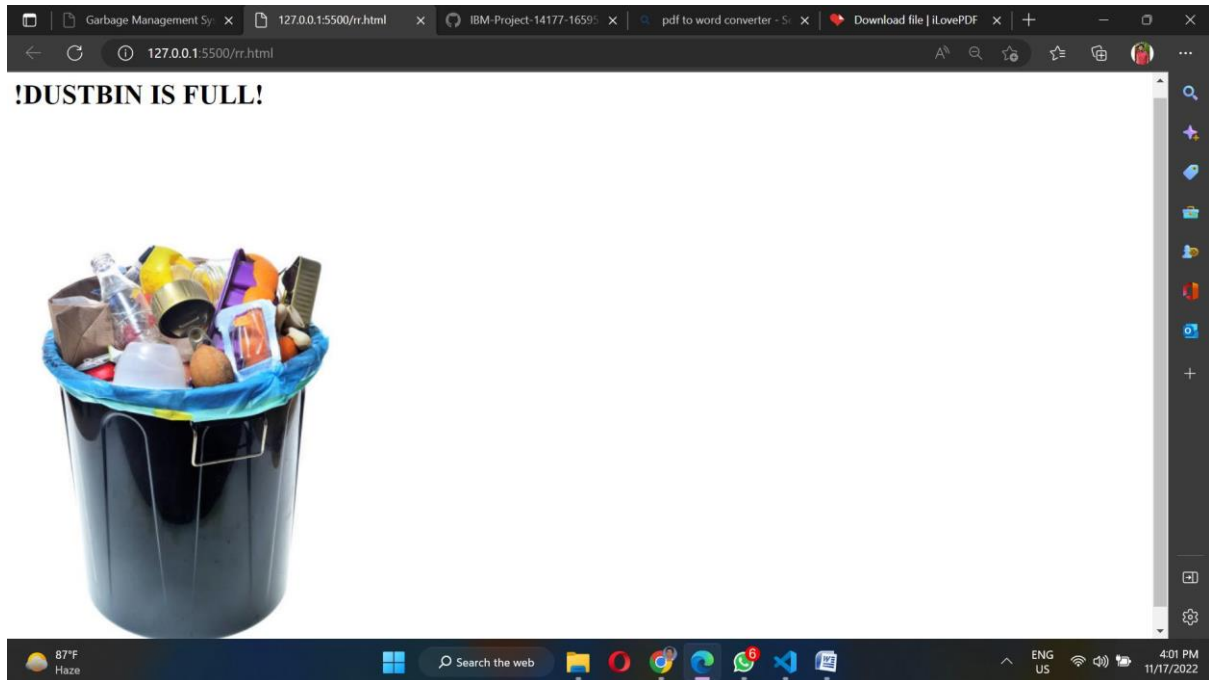
```

OUTPUT:



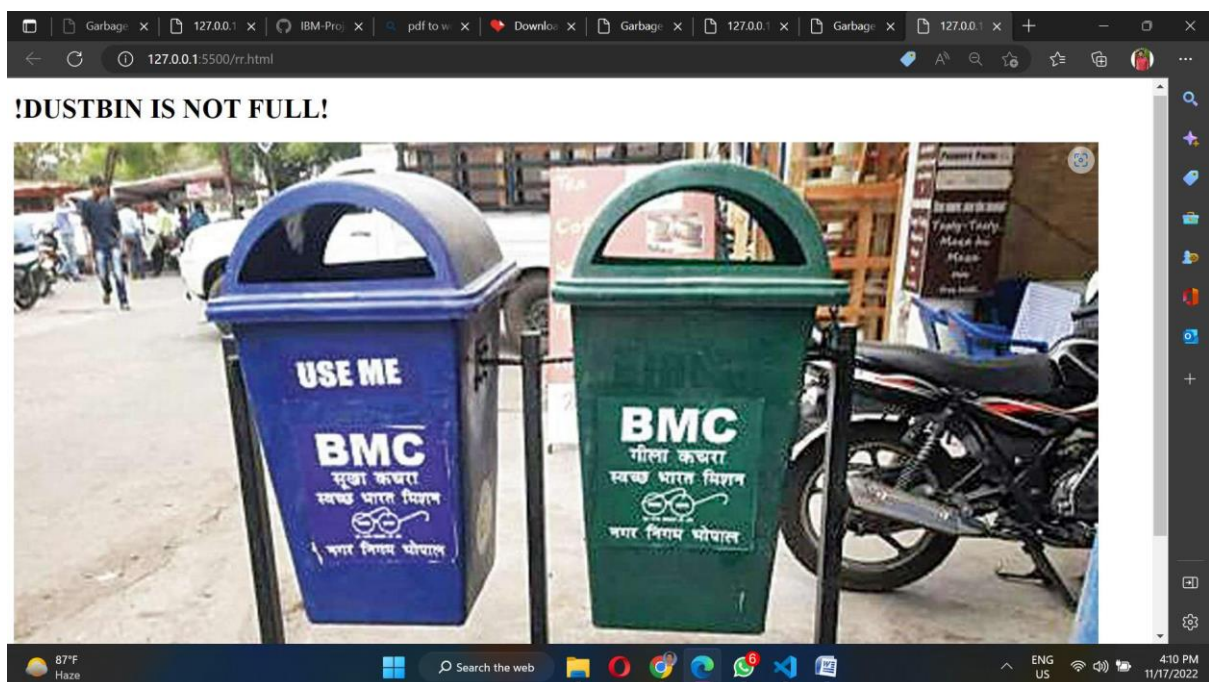
When you click the smartbin button it will show the exact location where the garbage can is filled.

When dustbin is filled:

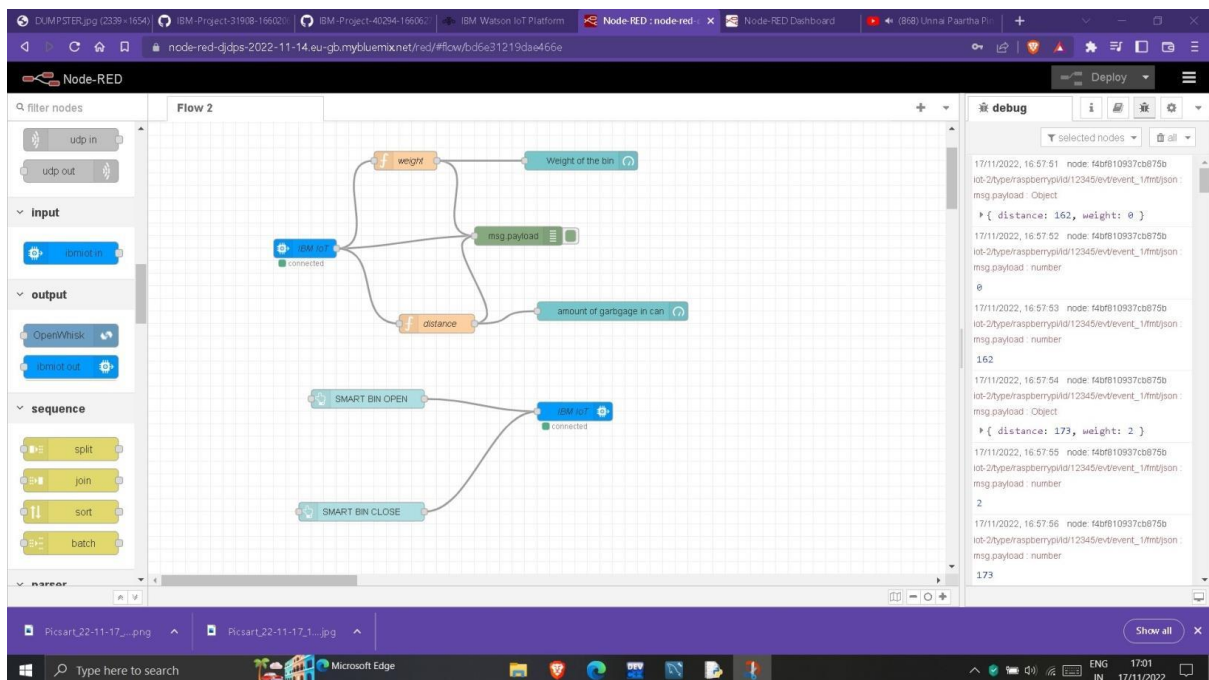


When the smartbin is filled the alert message will be sent to the garbage collector along with the exact location with its co-ordinates .

When the garbage is not filled upto 90% the smartbin is ready to collect the garbage.



We are sending the data of the garbage can with help of Node-red and IoT cloud which composed of the value equal to the weight of the garbage can and the distance of garbage present in the can.



The screenshot shows the IBM Watson IoT Platform interface. The main view displays a table of recent events for a device. The table has columns for Event, Value, Format, and Last Received. The events are IoTSensor events with payloads like `{\"distance\":75,\"weight\":0}`. A modal window titled 'Device Type: raspberrypi' is open, showing the 'Events' tab. It lists an event named 'event_1' with a schedule of '20 Every Minute'. The payload is defined as `{ \"distance\": random(0, 200), \"weight\": random(0, 10) }`. The modal also includes a 'Send' button, a 'Schedule' section, and a 'Payload' section with a 'Send' button.

Event	Value	Format	Last Received
IoTSensor	<code>{\"distance\":75,\"weight\":0}</code>	json	a few seconds ago
IoTSensor	<code>{\"distance\":187,\"weight\":8}</code>	json	a few seconds ago
IoTSensor	<code>{\"distance\":75,\"weight\":0}</code>	json	a few seconds ago
IoTSensor	<code>{\"distance\":153,\"weight\":5}</code>	json	a few seconds ago
IoTSensor	<code>{\"distance\":97,\"weight\":5}</code>	json	a few seconds ago