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HTML code:

```
1   <!DOCTYPE html>
2   <html lang="en">
3   <head>
4       <meta charset="UTF-8">
5       <meta http-equiv="X-UA-Compatible" content="IE=edge">
6       <meta name="viewport" content="width=device-width, initial-scale=1.0">
7       <title>Weather app</title>
8       <link rel="stylesheet" href="https://unpkg.com/boxicons@latest/css/boxicons.min.css">
9       <link rel="stylesheet" href="ShrishaTuladhar_2332330.css">
10  </head>
11  <body>
12      <div class="weather-app">
13          <div class="container">
14              <h3 class="brand">
15                  <span class="current-weather">Know the</span>
16                  <br>
17                  CURRENT WEATHER
18              </h3>
19
20              <div>
21          <h1 class="temp"> 15&#176;</h1>
22          <div class="city-time">
23              <h1 class="name">Wealden</h1>
24              <small>
25                <span class="time"></span>
26
27                <span class="date"></span>
28                <span class="local-time"></span>
29              </small>
30            </div>
31
32          <span class="time-date"></span>
33
34
35          <div class="weather">
36              <img
37              src="./weather/64x64/day/113.png"
38              class="icon"
39              alt="icon"
```

```html
                width="50"
                height="50" />
            <span class="condition">Sunny</span>
        </div>
    </div>
</div>
<div class="panel">
    <form id="locationInput">
        <input
        type="text"
        class="search"
        placeholder="Search locations ..." />
        <button type="submit" class="submit">
            <i class='bx bx-search-alt-2'></i>
        </button>
    </form>
    <ul class="cities">
        <li class="city">New York</li>
        <li class="city">Indonesia</li>
        <li class="city">Tokyo</li>

    </ul>
    <ul class="details">
        <h4> Weather Details</h4>
        <li>
            <span> Cloudy </span>
            <span class="cloud">12%</span>
        </li>
        <li>
            <span> Humidity </span>
            <span class="humidity"> 26%</span>
        </li>
        <li>
            <span> Wind</span>
            <span class="wind">14km/hr</span>
        </li>
        <li>
            <span> Pressure</span>
            <span class="pressure">16mbar</span>
```

```
79              </li>
80              <li>
81                  <span> Rainfall</span>
82                  <span class="rainfall">8mm</span>
83              </li>
84
85          </ul>
86      </div>
87      <script src="ShrishaTuladhar_2332330.js"></script>
88  </body>
89  </html>
```

CSS code:

```css
1   *{
2       box-sizing: border-box;
3   }
4   body{
5       margin: 0;
6       font-family: Verdana, Geneva, Tahoma, sans-serif;
7       background: ☐#111;
8       background-image: url('https://source.unsplash.com/1600x900/?city');
9
10  }
11  h1, h3{
12      font-weight: 400;
13  }
14  .weather-app{
15      min-height: 100vh;
16      background-position: center;
17      background-size: cover;
18      color: ◻#fff;
19      position: relative;
20      transition: 500ms;
21      opacity: 1;
22  }
23  .weather-app::before{
24      content: "";
25      position: absolute;
26      top: 0;
27      left: 0;
28      width: 100%;
29      height: 100%;
30      background: ☐rgba(0,0,0,0.3);
31      z-index: 0;
32  }
33  .container{
34      position: absolute;
35      top: 0;
36      left: 0;
37      width: 100%;
38      height: 100%;
39      display: flex;
```

```css
        justify-content: space-between;
        align-items: flex-start;
        flex-direction: column;
        padding: 2em 3em 4em 3em;


}
.container > div{
    display: flex;
    justify-content: center;
    align-items: center;
}
.current-weather {
    font-size: 32px;
    line-height: 2;
    font-weight: 800;
  }



.city-time,
 .temp,
 .weather{
  margin: 0 1em;
}


.city-time h1{
    margin: 0;
    margin-bottom: 0.2em;
    font-size: 3em;
}
.temp{
    font-size: 7em;
    margin: 0;
}
.weather img{
    display: block;
    margin: 0.5em 0;
```

```css
79      }
80      .panel{
81          position: absolute;
82          width: 40%;
83          height: 100%;
84          top: 0;
85          right: 0;
86          background: ☐rgba(110,110,110,0.25);
87          box-shadow: 0 8px 32px 0 ☐rgba(0,0,0,0.3);
88          backdrop-filter: blur(5px);
89          -webkit-backdrop-filter: blur(5px);
90          border: 1px solid ☐rgba(255,255,255,0.18);
91          z-index: 1;
92          padding: 3em 2em;
93      }
94      .panel form{
95          margin-bottom: 3em;
96
97
98      }
99      .submit{
100         position: absolute;
101         top: 0;
102         right: 0;
103         padding: 1.5em;
104         margin: 0;
105         border: none;
106         outline: none;
107         background: ▨#9A9A9A;
108         color: ■#fff;
109         cursor: pointer;
110         font-size: 1.2em;
111         transition: 0.4s;
112     }
113     .submit:hover{
114         background: ☐#fff;
115         color: ☐#000;
116
```

```css
118    }
119    .search{
120        background: none;
121        border: none;
122        border-bottom: 1px ■#ccc solid;
123        padding: 0 1em 0.5em 0;
124        width: 80%;
125        color: ■#fff;
126        font-size: 1.1em;
127    }
128    .search:focus{
129        outline: none;
130    }
131    .search::placeholder{
132        color: ■#ccc;
133
134
135    }
136    .panel ul{
137        padding: 0 0 1em 0;
138        margin: 2em 0;
139        border-bottom: 1px ■#ccc solid;
140    }
141    .panel ul li{
142        color: ■#ccc;
143        margin: 2.5em 0;
144    }
145    .panel ul h4{
146        margin: 3em 0;
147    }
148    .city{
149        display: block;
150        cursor: pointer;
151    }
152    .city:hover{
153        color: ■#fff;
154    }
155    .details h4{
156        color: ■#fff;
```

```css
157    }
158    .details li{
159        display: flex;
160        justify-content: space-between;
161        align-items: center;
162    }
163    @media screen and (max-width: 800px) {
164        .panel, .container{
165            position: relative;
166            width: 100%;
167            top: initial;
168        }
169    }
170    @media screen and (max-width: 500px){
171        html{
172            font-size: 12px;
173        }
174    }
175    @media screen and (max-width: 300px){
176        .weather-app{
177        min-height: 40em;
178        }
179    }
180
```

JS (JavaScript)

```javascript
1
2    const locationInput = document.querySelector('#locationInput');
3    const searchInput = document.querySelector('.search');
4    const citiesList = document.querySelector('.cities');
5
6    const apiKey = '4e89a6f7472cafefcee320e3820edfb5';
7
8    async function getWeatherData(city) {
9      const url = `https://api.openweathermap.org/data/2.5/weather?q=${city}&units=metric&appid=${apiKey}`;
10     const response = await fetch(url);
11     const data = await response.json();
12     return data;
13   }
14
15   // Update UI with weather data
16   function updateUI(data) {
17     const temp = Math.round(data.main.temp);
18     const cityName = data.name;
19     const condition = data.weather[0].main;
20     const iconCode = data.weather[0].icon;
21
22     const cityElement = document.querySelector('.name');
23     const tempElement = document.querySelector('.temp');
24     const conditionElement = document.querySelector('.condition');
25     const iconElement = document.querySelector('.icon');
26
27     cityElement.textContent = cityName;
28     tempElement.innerHTML = `${temp}&#176;`;
29     conditionElement.textContent = condition;
30     iconElement.src = `http://openweathermap.org/img/wn/${iconCode}.png`;
31     document.body.style.backgroundImage = `url('https://source.unsplash.com/1600x900/?${cityName}')`;
32   }
33
34   // Update UI with weather details
35   async function updateWeatherDetails(city) {
36     const url = `https://api.openweathermap.org/data/2.5/weather?q=${city}&units=metric&appid=${apiKey}`;
37     const response = await fetch(url);
38     const data = await response.json();
```

```javascript
    const cloudiness = data.clouds.all;
    const humidity = data.main.humidity;
    const windSpeed = data.wind.speed;
    const pressure = data.main.pressure;
    const rainfall = data.rain ? data.rain['1h'] : 0;

    const cloudinessElement = document.querySelector('.cloud');
    const humidityElement = document.querySelector('.humidity');
    const windElement = document.querySelector('.wind');
    const pressureElement = document.querySelector('.pressure');
    const rainfallElement = document.querySelector('.rainfall');

    cloudinessElement.textContent = `${cloudiness}%`;
    humidityElement.textContent = `${humidity}%`;
    windElement.textContent = `${windSpeed}km/hr`;
    pressureElement.textContent = `${pressure}mbar`;
    rainfallElement.textContent = `${rainfall}mm`;
}

function updateLocalTime() {
  const now = new Date();
  const localTimeElement = document.querySelector('.local-time');
  localTimeElement.textContent = now.toLocaleTimeString();
}

setInterval(updateLocalTime, 1000);
const options = {
  weekday: 'long',
  year: 'numeric',
  month: '2-digit',
  day: '2-digit',
  hour: '2-digit',
  minute: '2-digit',
  second: '2-digit',
  hour12: true
};

function updateLocalTime() {
  const now = new Date();
```

```javascript
    const now = new Date();
    const localTimeElement = document.querySelector('.local-time');
    localTimeElement.textContent = now.toLocaleString(undefined, options);
}

setInterval(updateLocalTime, 1000);

locationInput.addEventListener('submit', (e) => {
  e.preventDefault();
  const city = searchInput.value.trim();
  if (city === '') {
    return;
  }

  getWeatherData(city)
    .then((data) => {
      updateUI(data);
      updateWeatherDetails(city);
    })
    .catch((err) => {
      console.log(err);
      alert('City not found. Please enter a valid city name.');
    });

  searchInput.value = '';
});

// Event listener for city selection
citiesList.addEventListener('click', (e) => {
  const city = e.target.textContent.trim();
  getWeatherData(city)
    .then((data) => {
      updateUI(data);
      updateWeatherDetails(city);
    })
    .catch((err) => {
      console.log(err);
    });
});
```

OUTPUT:

Know the
CURRENT WEATHER

Search locations ...

New York

Indonesia

Tokyo

Weather Details

Cloudy	12%
Humidity	26%
Wind	14km/hr
Pressure	16mbar
Rainfall	9mm

15° Wealden
Tuesday, 04/04/2023, 09:03:04 AM   Sunny

Know the
CURRENT WEATHER

Search locations ...

New York

Indonesia

Tokyo

Weather Details

Cloudy	0%
Humidity	37%
Wind	0.32km/hr
Pressure	1010mbar
Rainfall	0mm

22° Nepal
Tuesday, 04/04/2023, 09:03:49 AM   Clear
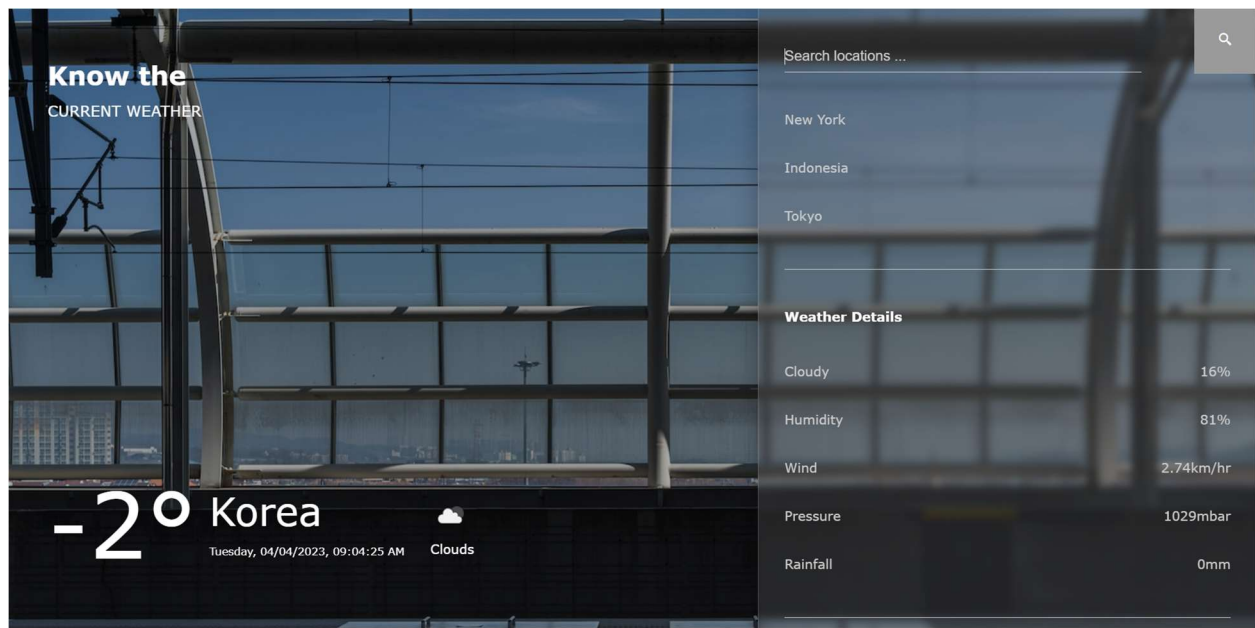
UML Diagrams

1) Activity Diagram

```
                              ●

                    User opens the app

                  Show default Weather details

                Enter a location on search button

                      Submit location

                     Send request to
                   OpenWeatherMap API

    Yes                                              No
              Checks if the entered city exist

                                        Displays City not found. Please enter
                                                  the valid city

                                                                          No
                                              Checks the validity again

                                                              Yes

                    Receive Weather data in JSON
                              format

                    Update UI with weather data

                    Update background image

                  Display city's weather including
                temperature, location name, weather's icon

              Display Weather details including cloudiness,
               humidity, wind speed, pressure, rainfall for
                          searched location

                      Update local time

                Ask the user to search for another location

                              ●
```
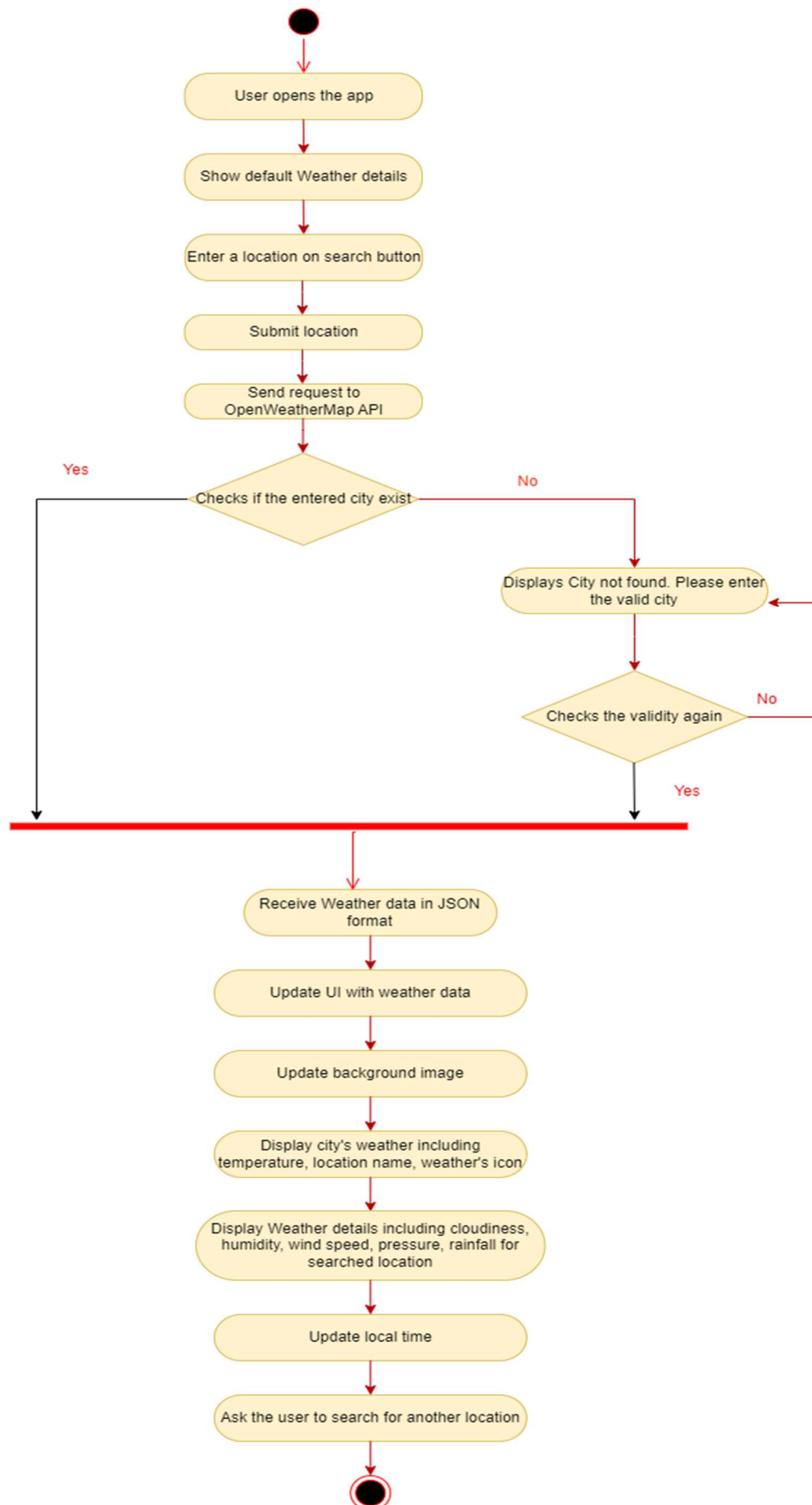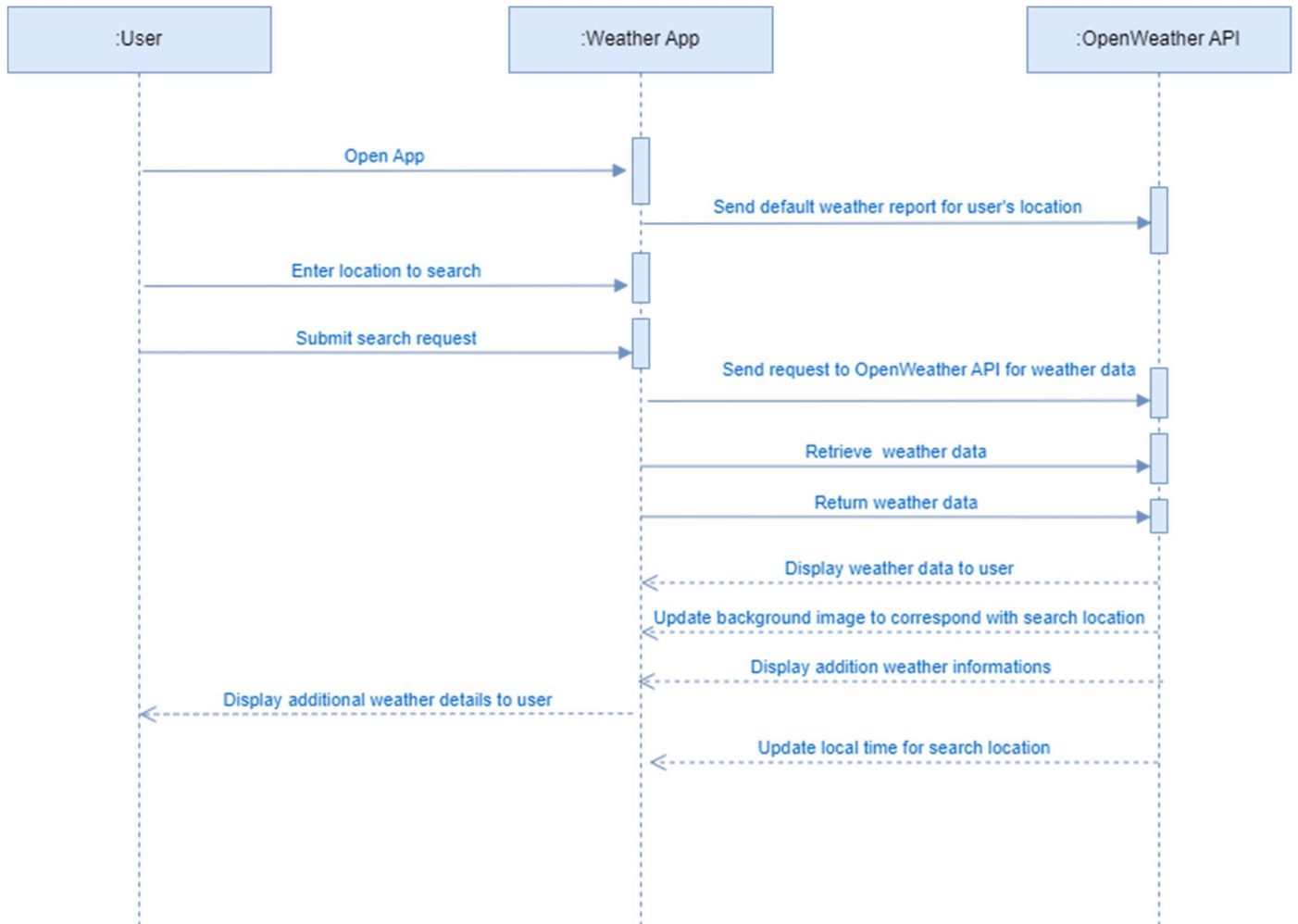
2) Sequence diagram

3) Deployment Diagram