Project Report: Real-time Water Consumption Data Sharing Platform

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5. Front-End Development

5.1 HTML Structure

```
<!DOCTYPE html>
<html>
<head>
    <title>Water Consumption Data Platform</title>
</head>
<body>
    <header>
```

```
        <h1>Real-time Water Consumption Data</h1>
    </header>
    <section id="data-visualization">
        <!-- Real-time data visualization here -->
    </section>
    <section id="conservation-tips">
        <!-- Water conservation tips section -->
    </section>
    <section id="user-interactions">
        <!-- Filters, search, and notifications here -->
    </section>
</body>
</html>
```

5.2 CSS Styling

```
/* Styles for the header */
header {
    background-color: #007BFF;
    color: #fff;
    text-align: center;
    padding: 10px;
}

/* Styles for data visualization section */
#data-visualization {
    /* Your styles here */
}

/* Styles for conservation tips section */
#conservation-tips {
    /* Your styles here */
```

```
}

/* Styles for user interactions section */
#user-interactions {
    /* Your styles here */
}
```

5.3 JavaScript for Real-Time Data Visualization

```
// Sample code to fetch real-time data and update the visualization
const dataVisualization = document.getElementById('data-visualization');

function updateDataVisualization(data) {
    // Code to update the data visualization (e.g., using Chart.js or D3.js)
}

// Example: Fetch data from an API
fetch('/api/realtime-data')
    .then(response => response.json())
    .then(data => {
        updateDataVisualization(data);
    });
```