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| Difference Between NAAC & NBA Accreditation - Haq Se EngineerPREC LONIJai Shriram Engineering College (@JSREC09) / Twitter JAI SHRIRAM ENGINEERING COLLEGE **TIRUPPUR – 638 660**  Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  Recognized by UGC & Accredited by NAACandNBA (CSE and ECE) |

**DEPARTMENT OF**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

**IBM - Naan Mudhalvan**

**Internet of Things**

**Group3**

**Phase 4 – Development part-II**

**TITLE:SMART WATER SYSTEM**

**NAME : P.KATHIRVEL**

**NM ID :AU711221106010**

**YEAR : III**

**Smart water system**

**Web page:**

**Html:**

<!DOCTYPE html>

<html>

<head>

    <title>Smart Water System</title>

    <link rel="stylesheet" type="text/css" href="styles.css">

</head>

<body>

    <header>

        <h1>Smart Water System</h1>

    </header>

    <nav>

        <ul>

            <li><a href="#">Home</a></li>

            <li><a href="#">Sensors</a></li>

            <li><a href="#">Control</a></li>

        </ul>

    </nav>

    <main>

        <section id="data-display">

            <h2>Water Quality Data</h2>

            <div id="sensor-data">

                <!-- Data from sensors will be displayed here using JavaScript -->

            </div>

        </section>

        <section id="control-panel">

            <h2>Control Panel</h2>

            <div id="control-options">

                <!-- Control options will be added here using JavaScript -->

            </div>

        </section>

    </main>

    <footer>

        &copy; 2023 Smart Water System

    </footer>

    <script src="script.js"></script>

</body>

</html>

**Css:**

body {

    font-family: Arial, sans-serif;

    margin: 0;

    padding: 0;

    background-color: #f0f0f0;

}

header {

    background-color: #3498db;

    color: #fff;

    text-align: center;

    padding: 20px;

}

nav {

    background-color: #333;

    color: #fff;

    text-align: center;

    padding: 10px;

}

nav ul {

    list-style: none;

    padding: 0;

}

nav li {

    display: inline;

    margin-right: 20px;

}

main {

    max-width: 800px;

    margin: 20px auto;

    padding: 20px;

    background-color: #fff;

    border: 1px solid #ccc;

    border-radius: 5px;

    box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);

}

footer {

    text-align: center;

    padding: 10px;

    background-color: #333;

    color: #fff;

}

**Sensors and IoT Devices:**

**Water quality sensors**: Measure parameters like pH, turbidity, and chemical composition.

**Flow meters**: Monitor water flow rates and consumption.

**Pressure sensors:** Measure water pressure in the distribution network.

**Temperature sensors:** Track water temperature for various purposes.

**Water level sensors**: Monitor the levels in reservoirs or tanks.

**Smart meters:** Collect data on individual water usage.

**Rainfall and weather sensors:** Gather meteorological data that can affect water systems.

**Communication Infrastructure**:

IoT networks) for connecting sensors .Cellular and Wi-Fi networks for data transmission.

**Data Platform and Analytics:**

Data storage and databases for storing sensor data. Real-time data processing and analytics to extract insights.

**Control Systems:**

**Valves and pumps**: Smart valves and pumps for controlling water flow.

**Remote actuators**: Devices for managing water distribution remotely. SCADA (Supervisory Control and Data Acquisition) systems for real-time control.

**Geographical Information Systems (GIS):**

Geographic mapping tools for visualizing and managing the physical infrastructure. Location-based data analysis for optimizing water distribution.

**Remote Monitoring and Telemetry**:

Telemetry systems for remote monitoring of equipment and infrastructure. Alarm and alert systems for detecting issues in real-time.

**Water Treatment Technologies**:

Water treatment plants and equipment for purifying water. Chemical dosing systems for maintaining water quality.

**Customer Engagement Interfaces:**

Mobile apps and web portals for customers to track and manage their water consumption.

Customer support systems for addressing queries and issues.

**Security and Authentication:**

Security protocols to protect data and control systems from cyber threats.

Authentication and access control mechanisms for authorized access.

**Energy Management:**

Energy-efficient components and systems to reduce the energy footprint of water treatment and distribution