IoT Based Data Monitoring System

Overview

Crystal Vision IoT-based data monitoring system is designed to seamlessly integrate with client's existing control systems, offering real-time data monitoring, analysis, and visualization. The system leverages our proprietary IoT gateway device SGW-901 to collect data from various sensors and controllers in client's facility and transmit it securely to our cloud-based platform. Through customized dashboards, detailed reports, and data-driven insights, our solution empowers you to make informed decisions and optimize operational efficiency.

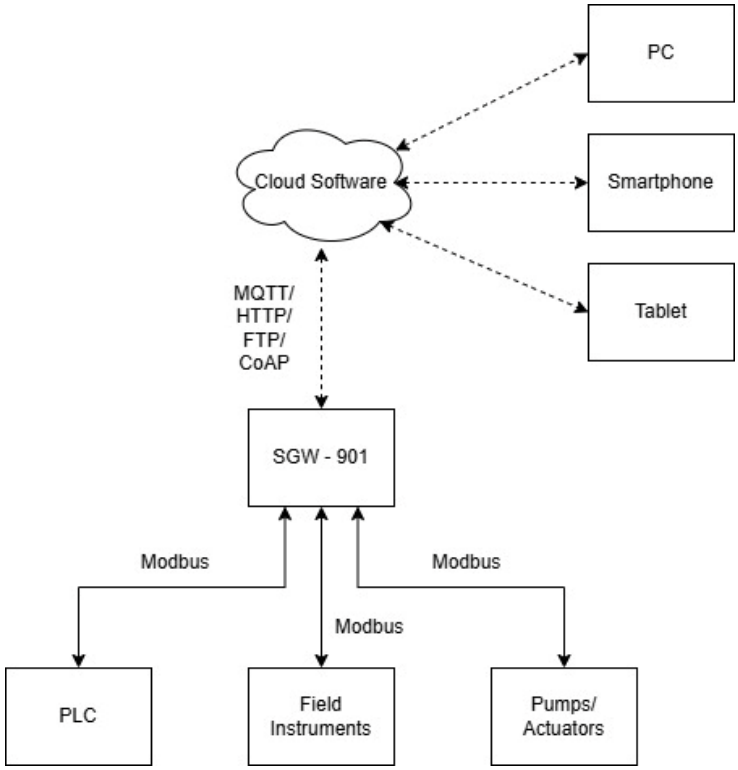


Fig.1 System Architecture

System Components

1. IoT Gateway Device SGW 901-
   Our IoT gateway SGW-901 is an industrial-grade device designed for seamless connectivity with a wide range of control systems, including PLCs, SCADA, and other industrial protocols. It collects critical data points from your existing equipment without any disturbance to your current setup. The gateway can operate over secure internet protocols to transfer data to the cloud, ensuring high reliability and security. The data transfer interval can be configured on-site, with options ranging from 1 to 60 minutes to suit operational requirements

2. Cloud-Based Data Software

Our robust, cloud-based software solution is designed to store, analyse, and visualize your data in real-time. The software includes:

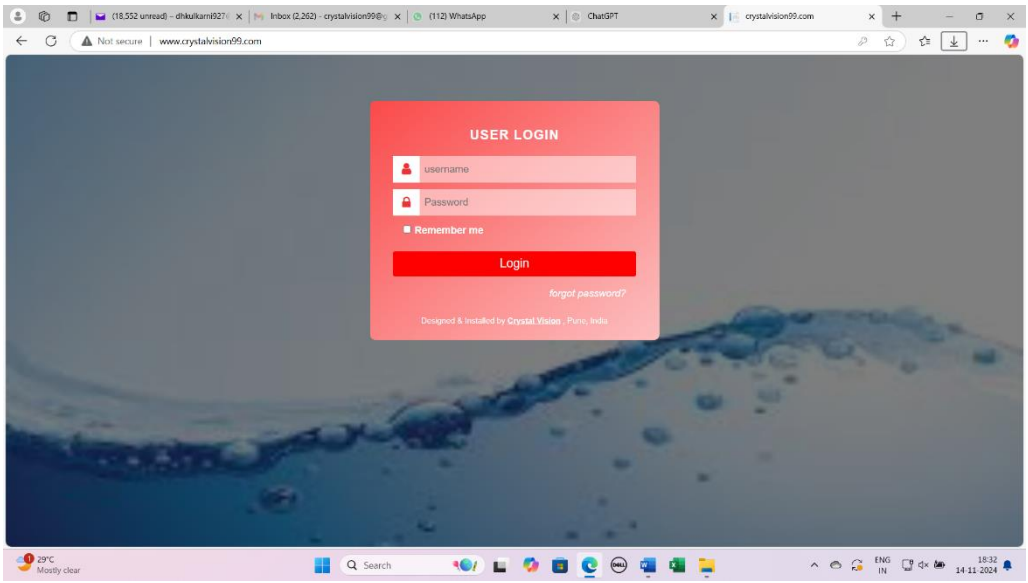
- Customized Dashboards: Tailored to display the most critical data metrics relevant to your operations. The dashboard offers an intuitive, user-friendly interface that provides instant access to key performance indicators (KPIs).
- Reporting Tools: Generate custom reports based on time intervals, data points, or specific events. Reports can be exported for further analysis or shared with stakeholders.
- Graphical Analysis: Visualize trends, anomalies, and other data patterns through various graphing tools. The software supports a range of chart types to suit different analytical needs, allowing for quick identification of performance issues or operational improvements.

Key Features

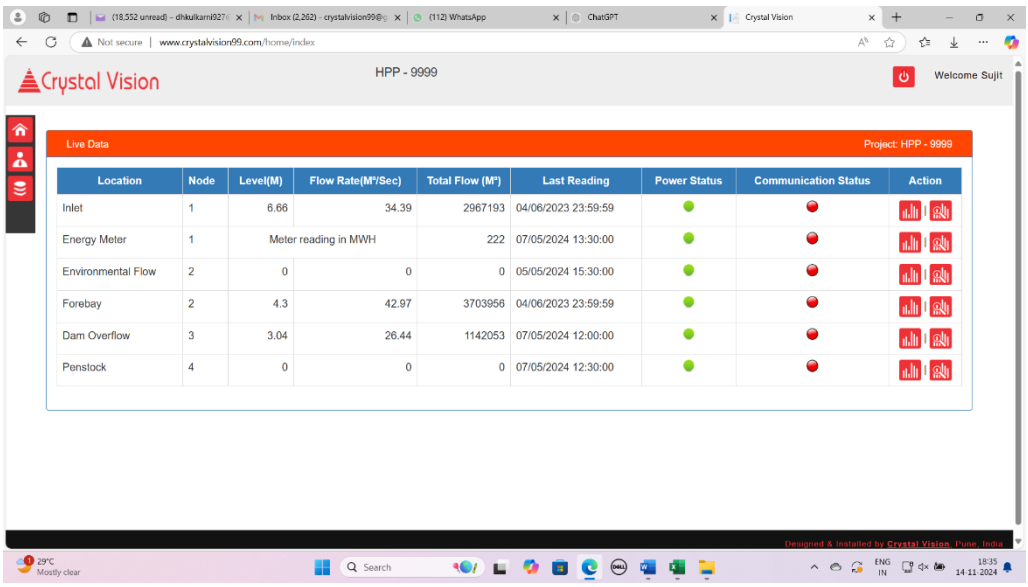
- Data Collection: Our system ensures uninterrupted data collection from your control system, with the ability to handle large volumes of data in real time.
- Remote Monitoring: Monitor your data from anywhere with internet access. Our cloud software can be accessed via any web-enabled device, allowing remote supervision and control.
- Optional Custom Alerts and Notifications: Set up alerts for specific data thresholds or events. Receive notifications through email or SMS, enabling quick responses to critical situations.
- Secure Data Transfer: Data is transferred over secure, encrypted channels to the cloud to protect against unauthorized access and ensure data integrity.
- Scalable Solution: The system is built to grow with your needs, supporting the addition of new devices or sensors as required

Software screens and menus-

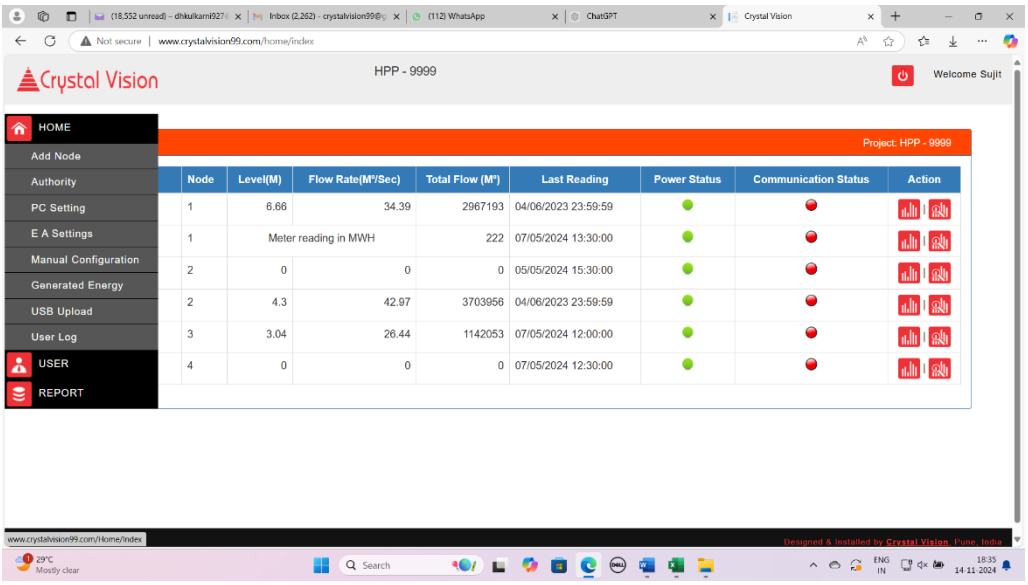
Login Page-



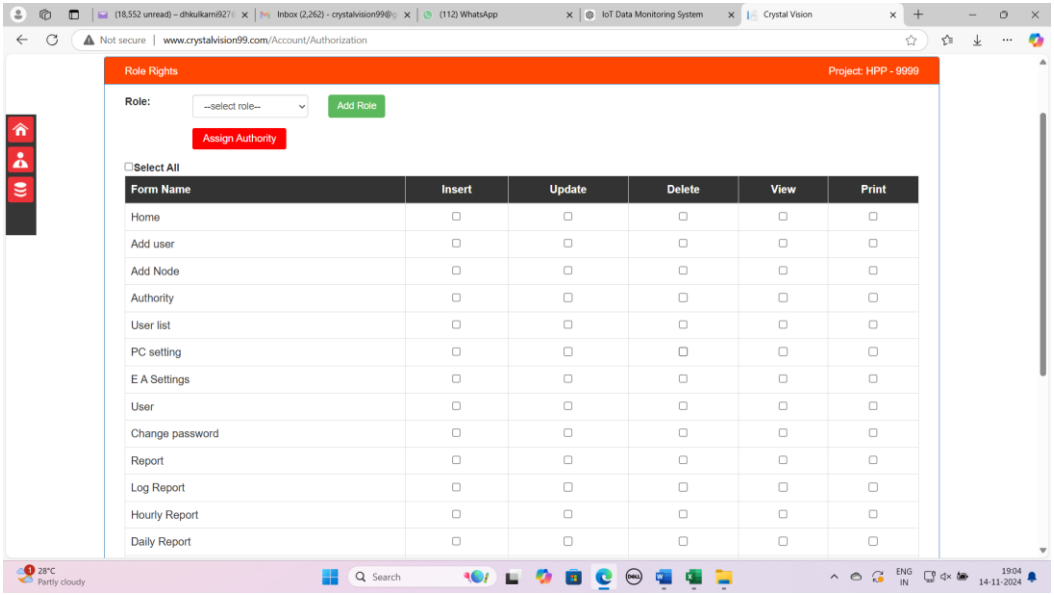
Home screen-



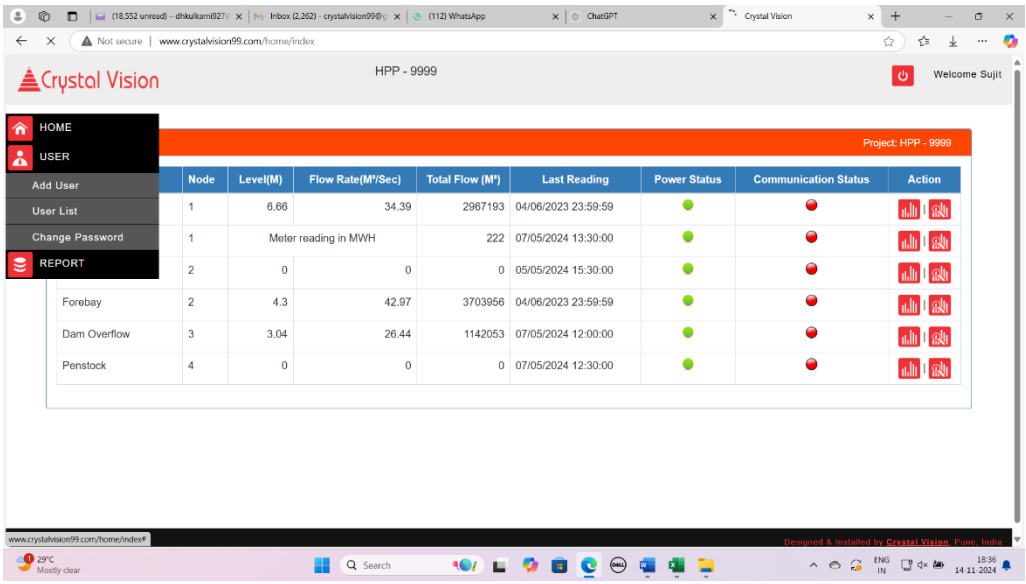
List of submenus under main menu Home-



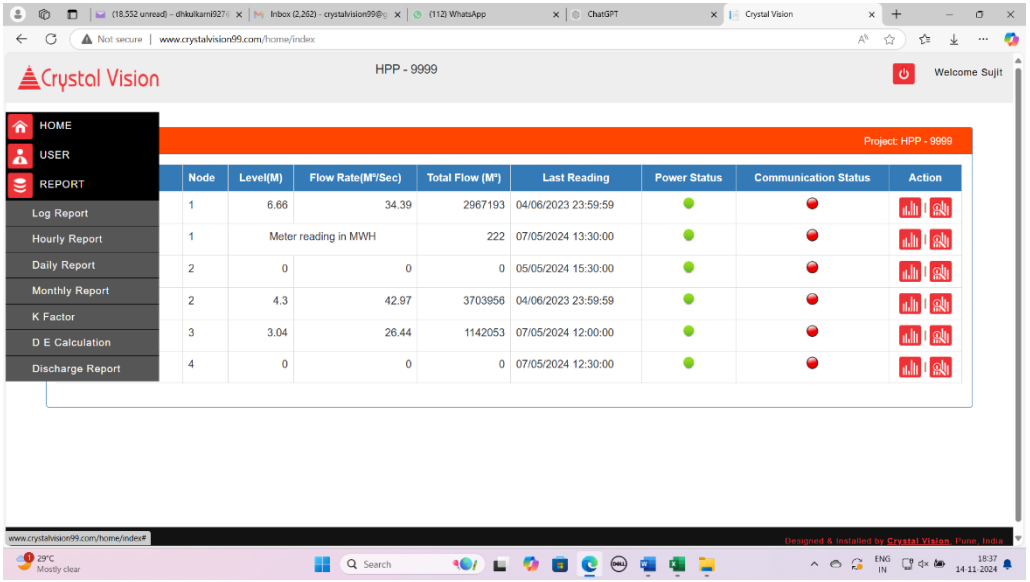
Authority Setting -The Super Admin can manage role-based access to software menus and pages through configurations in the Authority Table, ensuring that users have access only to the features relevant to their role.



List of submenus under main menu User-



List of submenus under main menu Report-



Note- The screens and menus shown are from an existing hydro power project and serve to illustrate the software's features. These elements can be customized or modified as needed to meet the specific requirements of the client's project.

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