

Supervisory Control and Data Acquisition (SCADA) HMI Web Application

WHAT IS SCADA?

ECIL Hyderabad has developed ECSCADA, an indigenous Supervisory Control and Data Acquisition (SCADA) system with a desktop-based Human-Machine Interface (HMI) and MMI (Man-Machine Interface) that includes a graphics editor tool. Additionally, a minimal ECSCADA web server is available for transferring data from the main ECSCADA server to web applications. Unical has been tasked with designing and developing the ECSCADA web application, which should be compatible with all web browsers.

WHO CAN USE?

All the companies who are working with SCADA systems.



WEBSERVER

- User Management Module.
- Project Management Module.
- Model Transformation Module.
- Project Configuration Module



WEB APPLICATION

- User Authentication Module.
- Model Display Module (Mimics).
- Data Visualization Module (Trends).
- Alarm Management Module.
- Events Module.
- Reports Module.

ECIL Product Details:

User Management Module:

The User Management Module plays a crucial role in the ECSCADA Web server application. It is responsible for creating user accounts and assigning specific roles to determine access rights within the web application. The role-based access control system ensures that users have appropriate permissions based on their assigned roles, allowing them to access specific modules within the project. This enhances security and restricts unauthorized access to sensitive functionalities, ensuring that users can only interact with the parts of the application that are relevant to their roles and responsibilities.

Project Management Module:

The Project Management Module within the ECSCADA Web server application serves the purpose of creating projects and assigning users to these projects. This module enables the organization to manage and organize its various projects effectively.

Model Transformation Module:

The Model Transformation Module in the ECSCADA Web server application serves a critical role in importing XML files from the SCADA (Supervisory Control and Data Acquisition) system and transforming them for use in the web server's mimic design and configuration. Here's how it typically functions:

Project Configuration Module:

The Project Configuration Module in the ECSCADA Web server application is a valuable tool for managing and tracking projects within the system. It provides a structured approach to project management, including mapping projects to managers and users, tracking project timelines, and allowing for project status updates and descriptions.

User Authentication Module:

The User Authentication Module in the ECSCADA Web server application is a fundamental component responsible for verifying and validating users' identities. Its primary purpose is to ensure that only authorized and valid users gain access to the web application. Here's how this module typically functions:

Model Display Module (Mimics):

The Model Display Module in the ECSCADA Web server application is responsible for displaying the configured mimics or graphical representations of the SCADA system in the web server's user interface. It achieves this by making API calls to retrieve and render the mimics. Here's how this module typically functions:

The Event Module:

Utilizing Visual Analysis, the capability to plot multiple graphs with multiple plots within each graph is available. This analytical approach allows for the creation of up to 8 plots within each graph, aiding in the examination of parameter trends over time and visualizing parameter behavior in relation to time.

The Alarm Module:

The Alarm Module in the ECSCADA Web server application is designed to provide a tabular representation of alarms generated by the SCADA system. This module presents information such as date and time, device name, description, alarm value, and acknowledgment (ack) status in a tabular format. It allows users to view two types of alarms: current alarms and historic alarms.

Report module:

The Report Module in the ECSCADA Web server application is designed to facilitate the downloading of reports stored in a local system folder, typically in PDF format, through API calls. Here's how this module typically functions:

Flowcharts

