Industry Non-Conventional Energy

Location Belgium

VALUEADD SOFTTECH & SYSTEMS PVT. LTD.

Objective

Develop a service to synchronize data between a Computerized Maintenance Management System (CMMS) and the client's internal alert system, enhancing interoperability and system efficiency.

CASE STUDY

Scope

- Create a synchronization service that handles the exchange of work orders and interventions between the CMMS and the client's internal system.
- Implement robust logging and alert mechanisms to monitor the synchronization process and notify of any errors.
- Address various use cases including new entries, status changes, offline/online changes, and deletions.

Value Added

- The solution streamlined interactions between the client's system and their CMMS, significantly improving operational workflows.
- Implemented effective monitoring and alert systems to ensure the synchronization process was transparent and issues could be quickly addressed.
- Provided comprehensive documentation of the synchronization service's operation, facilitating an easy handover to the client's in-house team.

Solution

✓ Developed a Java-based solution that polls both systems at one-minute intervals using their APIs. New data detected during polls are transferred between systems and recorded in a local database for tracking.

✓ Introduced a flexible, JSON-based configuration system for mapping custom fields, which allowed for adaptability and ease of integration with different system setups.

✓ Designed complex algorithms to handle corner-case scenarios, such as asset changes requiring updates to a larger number of related objects, ensuring data integrity and consistency.

Frameworks & Tools

Java

MySQL

QUARTZ

VALUEADD SOFTTECH & SYSTEMS PVT. LTD.

Objective

Built a robust indoor air quality monitoring system for real-time data gathering, processing, and visualization, featuring rich live and historical data views and industry-standard report generation.

CASE STUDY

Scope

- Implement a complete solution using the MERN stack for development, along with QA and DevOps for deployment and support.

- Build a live dashboard for real-time air quality insights and manage user roles and access within the system.

Value Added

- Served as a full technology partner, offering strategic guidance and ongoing support alongside development.
- Provided technical and functional solutions, bridging domain expertise gaps with VAST.
- Implemented cutting-edge technologies for system performance, scalability, and user experience.
- Utilized VAST's interdisciplinary team to translate complex domain requirements into effective tech solutions in the absence of a business analyst.

Solution

- Designed and implemented application architecture with modern technologies for real-time data processing and visualization.

- Developed responsive ReactJS frontend for real-time data visualization across devices.

- Utilized MongoDB for efficient time-series data handling required for real-time reporting and analysis.

- Employed Highcharts and GoLang for advanced data processing and visualization.

- Adopted a microservices architecture to ensure the scalability and maintainability of the system.

- Integrated RabbitMQ for efficient service communication, enhancing data flow efficiency between devices and the application backend.

Frameworks & Tools

RabbitMQ

node JS

React JS

mongoDB

Feathers JS

HIGHCHARTS

VALUEADD SOFTTECH & SYSTEMS PVT. LTD.

Objective

Develop a Grafana-based frontend and backend application for data monitoring, enhancing the visualization and management of data collected from gas analyzers.

CASE STUDY

Scope

- Staff augmentation to assist the client's team in developing a robust data monitoring application using Grafana integrated with React.

- Customize Grafana through direct coding in React and conduct comprehensive testing to ensure functionality and reliability.

Value Added

- **Domain expertise:** Leveraged VAST's knowledge in non-conventional energy for tailored solutions.
- **Advanced customization:** Implemented ReactJS for complex Grafana customizations, enhancing functionality.
- **Quality assurance:** Ensured reliability through comprehensive Jest testing.
- **Collaborative development:** Fostered efficiency and communication between VAST and client teams.

Solution

- ✓ Skilled React developers implemented advanced Grafana customizations.

- ✓ Customized Grafana admin console with additional functionalities using React.

- ✓ Implemented Jest unit tests for code integrity and performance verification.

Frameworks & Tools

Jest

Grafana

React JS

VALUEADD SOFTTECH & SYSTEMS PVT. LTD.

Objective

Develop a ReactJS app with dashboards and visualizations for monitoring windmill and solar panel data on the SynaptiQ platform, aimed at boosting analytics and user experience.

CASE STUDY

Scope

- Staff augmentation with VAST senior React developers to collaborate with the client's team and their vendor's team in developing the application.

- Interact with client business analysts to thoroughly understand the requirements.

- Deliver high-quality ReactJS code, maintaining existing features and developing new functionalities.

Value Added

- **ReactJS expertise:** Skilled in legacy and modern React architectures for robust development.
- **Quality assurance:** Improved reliability with Jest unit testing.
- **Collaboration:** Efficient international team communication and workflow management.
- **Cost-efficient development:** Experienced developers integrate seamlessly for cost savings.

Solution

- ✓ Deployed experienced React developers who were proficient with both old (class components) and new (React hooks) versions of ReactJS, ensuring seamless development and integration with existing codebases.

- ✓ Recommended and implemented Jest for unit testing to enhance code quality and reliability.

- ✓ Facilitated smooth and productive remote collaboration with cross-cultural teams, leveraging VAST's experience in similar international projects.

- ✓ Provided an effective offshore development team, fulfilling the client's need for cost-effective project execution while maintaining high standards of software development.

Frameworks & Tools

React JS

Jest

Industry	Non-Conventional Energy
Location	Belgium

VALUEADD SOFTTECH & SYSTEMS PVT. LTD.

Objective

Create a one-stop solution to assess the device availability and quality using different parameters for a plant.

CASE STUDY

Scope

- Develop a comprehensive analysis and validation tool for data produced by renewable assets in a plant

- Process and analyze data from devices and sensors for availability over time and quality.

- Provide data analysis at various levels, from plant-wide to individual sensors.

- Offer visual representation for successful and failed validations at different levels.

Value Added

- **One-Stop Solution:** Delivered a comprehensive tool that handles all aspects of data validation for various devices across multiple parameters
- **Detailed Analysis:** Enabled detailed quality and availability checks for data at multiple levels from plant-wide to individual sensors
- **Client Collaboration:** Maintained continuous collaboration with the client, ensuring progressive and timely delivery of the solution tailored to their needs.

Solution

- VAST developed a plant data analysis tool to validate and visualize all data produced by different devices set up in a plant.

- The tool processes and analyzes data for availability and quality, using hundreds of different parameters.

- It provides a clear visual representation of data validation outcomes at various operational levels.

Frameworks & Tools

python™

NumPy

pandas