

Bespoke Development for CAXperts UdiTH

Customisation and bespoke development

Summary

CAXperts Universal Digital Twin Hub (UDiTH) supports customization through the development of Apps based on the AppControl framework which utilize its API. These facilities enable customers to extend the functionality of UDiTH to address unique business requirements, building upon the core capabilities of the solution

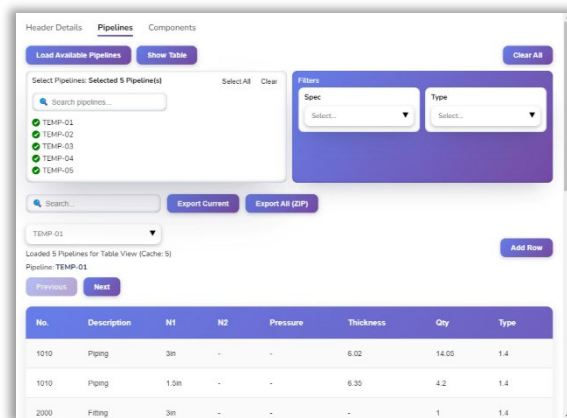


Figure 1: Example of App user interface developed using React

Service

TecSurge has expertise and experience developing bespoke Apps for UDiTH which utilize the API to accomplish tasks such as:

- Retrieving component data from models
- Querying and filtering relevant engineering attributes
- Applying embedded engineering calculations and validation logic
- Consolidating structured outputs
- Generating reports based on client-specific templates

Using proven web technologies such as React, a wide range of bespoke UDiTH enhancements are possible, including interactive user interface elements.

Example

TecSurge had previously delivered a bespoke development for a client using the Intergraph Smart 3D (S3D) automation API, which was being used successfully in production. The client then requested TecSurge provide the same functionality as a custom UDiTH App.

By leveraging knowledge of both technical products and their APIs, as well as the relevant development technologies, TecSurge was able to deliver an UDiTH App which enabled non-S3D users to access the application, reducing license costs and improving efficiency.

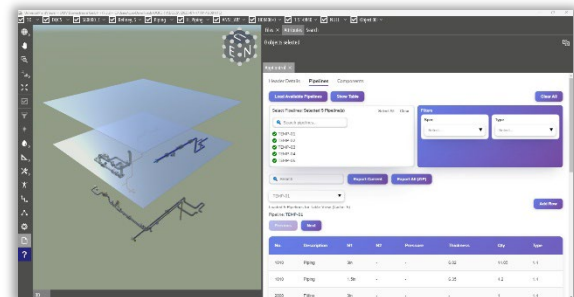


Figure 2: App running within UDiTH

Differentiators

TecSurge provides a unique combination of software expertise and engineering domain knowledge, including the following attributes:

- Hands-on experience developing Apps for UDiTH
- Proven capability in accessing and processing data using the UDiTH API
- Strong expertise in React and TypeScript for modern, maintainable enhancements
- Full understanding of engineering data structures



- Experience generating structured outputs aligned with client requirements

Deliverables

The typical deliverables produced by this service are:

- Source code for the App
- Configuration and load files
- User documentation
- Testing report

Work Process

TecSurge uses a structured and collaborative development approach:

- Requirements: Understand business and functional requirements.
- Assessment: Review data schema and structures, attributes, and API accessibility.
- Design: Architecture definition, API interaction, calculation logic, and output structure.
- Development: Implementation within the AppControl framework.
- Testing: Validation against real project data, cross-check of calculations, and verification of output against client templates.
- Maintenance: Support deployment and future upgrades and enhancements.

Getting Started

To understand the scope and prepare a schedule and budget, we usually ask our clients a series of questions:

What engineering objects must be processed?

Why: To define the specific data extraction logic and ensure the API calls are optimized for the required discipline.

What version and API access are available?

Why: To account for full compatibility with specific product releases and ensure our development environment mirrors your production environment.

What attributes and calculations are required?

Why: To determine the complexity of the embedded engineering logic and ensure the program performs all necessary data transformations accurately.

What is the structure of the output?

Why: TecSurge will map the extracted data to your exact formatting requirements, ensuring 100% compliance and "ready-to-use" delivery.

What validation or compliance standards must be met?

Why: To incorporate specific quality checks into the development process that align with your internal engineering standards or regulatory requirements.

What is your target completion date and when do you expect to start?

Why: These standard project management parameters significantly impact the schedule, resource allocation, and prioritization of the development team.

If this kind of service describes your situation, [contact us](#) today for a discussion around customisation and bespoke development

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