

INNOVATION = SIMPLIFYING IMPLEMENTATION ACROSS MULTIPLE PRODUCT APPLICATIONS FOR AUTOMATING WORKFLOWS

INNOVATION AT A GLANCE

Client:

Multiple

Industry:

Universal

Synchroness services:

- » Workflow Automation
- » Extensible Software Design
- » Web interface, mobile and GUI development
- » Database Design
- » Use Case Development
- » GUI Ease of Use Design

Objectives:

- » Software Process Optimization
- » Universal application
- » Long term serviceability

Approach:

- » Standardize common work flows
- » Create a transferable and universal framework
- » Enable early validation of design, user interaction and device connectivity

EXAMPLES

- » Workflow Automation in water testing system
- » Automated calibration of imaging equipment
- » Step-by-Step semi-automated calibration and testing of electrical signal multiplexer

Related Materials:

- » User Interface Ease of Use Case Study
- » Use Case/CONOPS Case Study
- » Integrating Systems Engineering White Paper

LET'S KEEP INNOVATING.



Good software designs are robust, reliable and repeatable. Standardizing the implementation of Workflow Automation has allowed Synchroness to build a reuseable framework of external device, database and internal product interaction.

HAVING A PARTNER EXPERIENCED IN FRONT END SOFTWARE DEFINITION & DESIGN SAVES MONEY AND ENSURES REPEATABILITY.

Many products developed by Synchroness require reliable and repeatable steps to support design functionality. It is best if these designs are based on standardized software design patterns in order to allow clients to easily update their applications in the future and to ensure compatibility with evolving technology. To that end, we have developed a universal framework for Workflow Automation that can be applied to a variety of products.

Using XML or database configuration files, we are able to define each step of the workflow, specify interaction points and apply automation to the application. Additionally, our framework features robust handling of error conditions and corner cases, and integrates database design, archiving and disaster recovery. To support flexibility and product variances, the framework is universal across platforms and databases and includes consideration for multiple software layers (e.g., GUI, Middleware and Device Driver).

Customers appreciate the framework as the configuration files are easily updated for future needs including editing and adding steps to the workflow. Primarily executed in Microsoft .Net, Synchroness' Workflow Automation application is easily transferable to open source environments such as Linux and Java and is extensible to desktop clients, web interfaces and mobile devices. The state-machine based design has been extremely flexible in defining and implementing many different workflows.

Implemented into a diverse group of past projects including automation for water testing systems, calibration on a complex imaging system and a variety of industrial instrumentation processes, Workflow Automation cuts costs by allowing early prototyping and validation of workflows and both user and external interaction (EMRs etc) as opposed to independent development of the front end for individual products and projects.

Leveraging our experience and tools in this type of software development allows clients to cut project budgets and schedules as well as provides an opportunity for early course correction and validation - ensuring the right product is developed the first time.