User Experience

Case study on reengineering user interface for SMT Pick and Place Industry

Our customer, a worldwide leader in Europe for manufacturing of Surface Mount Technology (SMT) production equipments catering for all process in SMT electronics industry.

NeST has been working with customer in SMT manufacturing for their tool control software systems since 2008. The team with its vast experience in HMI/WPF design, development and SEMI E-95 standard expertise, has helped its customers to reengineer their SMT tool control software tailored to their market needs.

Customer
A major SMT equipment manufacture in Europe

Industry
SMT Pick and place electronics

Offering
Manufacturing of all production line equipments in Surface Mount Technology
Business Challenge

The existing tool control was build up on legacy technology with multiple executable and it was unbearably inadaptable and not maintainable. The tool control software was not compatible for market competitions. The software was monolithic, single-tiered applications in which the user interface and data access layers were combined into single program modules.

The Solution

• Re-engineered HMI software with in short time for market requirement with latest Microsoft technologies.
• Technologies used were Windows presentation framework (WPF), .Net and XML with MVVM pattern.
• The HMI was compatible with standard compliant user interface (SEMI E-95).
• The cost effective reusable framework with pluggable architecture increases the reusability among different modules with uniform look and feel.
• The HMI was fully decoupled with machine logic using the event broker architecture.
• The controls were sized for smooth and annoyance free touch screen operations.

Business Approach

• As an initial step for reengineering, formed a dedicated team with HMI developers, SEMI standard experts and WPF developers.
• The team closely interacted with domain experts with customer and designed a HMI with iterative process.
• The HMI prototype/feasibility was developed by identifying the core areas of HMI software by the HMI expert’s team.
• The HMI UI framework was developed with pluggable architecture for cost reduction and reusability.
• The SCRUM/Agile mode of development adopted as project execution mode for close interaction with customer team.
• The build and unit tests are integrated with automation tools
  o TortoiseSVN / Cruise control deployed for continues integration.
  o NANT/NUnit deployed for unit testing.
  o Simian, Gendarme, FxCop where used for ensuring strict code quality.

Business Impact

A faster, latest technology and market competitive HMI Software was developed with in a very short time span. The software won many accolades and awards in global SMT shows worldwide.

Benefits

• Provided a dedicated HMI expert team in offshore (INDIA) following their process and practices.
• Provided extensive WPF expertise for the customer domain experts for making ideas in to core software.
• Provided a highly scalable WPF/HMI team so as to meet their business milestones/releases.

• Reduced the development costs of the client drastically by offshore execution.
About NeST’s Automation Expertise

NeST has been providing Automation Solutions that adhere to global Automation Standards and are easy to integrate for leading players of Power Generation, Transmission & Distribution, Semiconductor Manufacturing, Enterprise Wide Monitoring, Agro Processing and Pharmacy Industries from US, Europe and Japan.

The intelligence built in the solutions we provide for manufacturing industries reduces the time to market, and increases throughput. Our solutions are highly user-friendly, flexible, scalable and built on the latest hardware and software platforms and technologies for seamless integration. Combining the domain expertise and the engineering skills; NeST has been a true value partner for the full spectrum of Automation, ranging from plant floor to the interface to enterprise business systems.

Our global spread makes us a close reach to our customers in providing anytime anywhere support within the time limit. Our hallmarks are excellent domain knowledge, product support, affordable rates/product costs and reduced time to market.

Contact

For more information, email us at software.info@nestgroup.net or visit http://www.nestsoftware.com

About NeST

NeST is a total solution provider for engineering applications and products. We are a global combine and have been service provider for many Fortune 500 companies.

Our passion for quality is reflected in our CMMI L5, ISO 9001-2000, ISO 27001 certifications.

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