Quote Generation & Approval System Design

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Introduction. Tokyo Electron is a company that manufactures semiconductor equipment. It has a **major customer who requests quotes** on a regular basis, whether it is to procure new tools or to modify any already-owned tools. The process of generating these quotes is specific to this customer and goes through a complicated set of procedures.

The Problem. Once a quote request is placed, it goes through a system in which **the quote is created and then passed through several approval stages** via automated notifications and approval tracking. Hosted on SharePoint, the system was built with InfoPath and SharePoint Designer. But **Microsoft will be dropping support for InfoPath** in several years.

Another Problem. This system is used exclusively by one business unit (BU 1). But another business unit (BU 2) has requested help setting up its own automated system, similar to the one BU 1 is using. Currently, the quote requests BU 2 receives from the customer are created and approved manually, which makes tracking multiple quotes difficult.

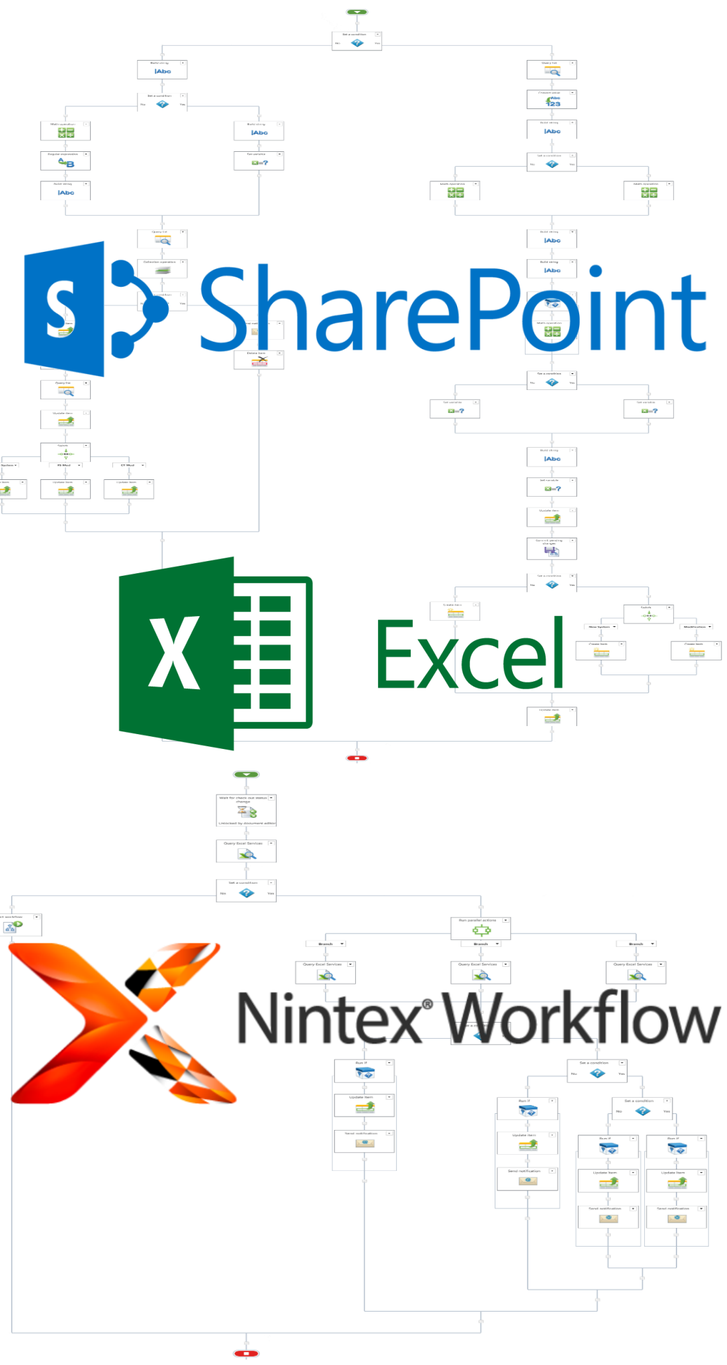
Goal. To produce a business solution that 1) allows BU 1 to continue generating quotes and gather approvals in an automated manner using new methods and developer tools and 2) provides BU 2 with an automated system of its own. The new system should be **functional**, **user-friendly**, and **maintainable**.

Interviewing. Acting as the project manager and main developer, I **gathered requirements** from key stakeholders—individuals who create quotes and those who approve them. The system comprises of many parts—I needed to **understand its various components** and how they all worked together before proposing any solution.

Assessing. I analyzed the available developer tools that could replace InfoPath and SharePoint Designer and **offered four different options** on how to build the system. Each option had its pros and cons, and I made my recommendation to the team and stakeholders, who subsequently selected one option out of the four.

Developing. I **developed the new system** in a test environment using a combination of SharePoint Server, Microsoft Excel, and Nintex Workflow. Stakeholders provided feedback on a weekly basis through meetings, where I showed project progress by giving piecemeal demonstrations on what I had been able to build.

Testing. **Functional testing and usability testing** took place to confirm the new system worked the way it was meant to, and to ensure users did not have troubles using it. Neither the development nor test phases are completely finished yet, as the new system will continue to be refined over the course of the next one or two months, even after it is assimilated into a production environment.



Results. A **quote generation and approval system has been created** for BU 1 and BU 2 in test. It operates as follows: The quote is created using an Excel file, the template of which is automatically generated. A quote number is also auto-generated at the same time. After the quote is filled out and submitted for approval, a Nintex workflow reads the file and processes it for approval by sending it to the appropriate approvers in three sequential stages. After the quote receives all approvals it is published for customer review.

Challenges. Rebuilding the system for BU 1 has been relatively smooth but progress has been slower translating the manual quote process into an automated one for BU 2. Initial idea was to "copy" BU 1's new system for BU 2 but business processes and user history/expectations are different and has to be accounted for, in order to execute proper change management. System launch, training, and documentations were expected before the project end date but will need to be delayed.