Case Study

AltexSoft Builds a Multi-User Procurement Management System

.NET Core, TypeScript, C#, Microsoft Azure, JavaScript, React

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Background

Our client, a US-based technology company headquartered in Detroit, provides solutions for requisition, procurement, and expense management for tech, entertainment, healthcare, education, utilities, and other industries. Currently, the software has over 131,000 active users worldwide.

The company reached out to AltexSoft to develop a new requisition and procurement system. They already had, on-premise, award-winning procurement software for small- and mid-sized organizations. Our goal was to develop a new web-based, single-page application that would cater to their target audience and optimize day-to-day tasks.

Challenges

AltexSoft had to build a cloud multi-user procurement management system from scratch. The solution's main goal was to automate the procurement process across an organization enabling a user to create an order in the system, receive approval from other participants, place an order, and pay.

Within this scope our team faced the following challenges:

1.

Create a simple, user-friendly design

2.

Implement multi-tenant architecture

3.

Enable flexible financial management capabilities

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Value Delivered

1. Designing a user-friendly platform

One of the main objectives of the product was to make a system easy to use and operate for all the participants of a procurement process. Our UX/UI designer created a user flow that embraces an individual user's journey from registration and sending invitations to roles assigning and performing daily tasks. Our designer created the UI of the application based on the original on-premise system's design and the corporate brand book. The product's design was also adapted for mobile.

2. Building a multi-tenant architecture

AltexSoft's engineering team built a serverless, multi-tenant system to make it fit complicated user hierarchies. The product allows for adding multiple users to the system, assigning roles, and adding sellers. Each user has separate access to the system via a single sign-on service, which simplifies authentication. The system utilizes Azure Functions and a flexible algorithm of data exchange in a buffer fast storage with a backend built with .NET Core and React for frontend.

3. Enabling rich financial management functionality

The application has multiple modules to optimize the procurement flow and offers a rich feature set. However, particular attention was paid to the finance management module development. The product has customizable business rules to filter transactions and integrates with ERP systems and CRM systems (like Microsoft Dynamics). Among other features are invoice sketching settings, roles and order requests, punchout, flexible approval policy builder, etc.

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Final Product

The project resulted in a multi-user, cloud-based procure-to-pay platform providing organizations with user experience that matches customers' expectations, an easy onboarding process, improved communication between Requester, Buyer, Receiver, Account Payable, and Approver.

The system simplifies the whole chain of procurement operations from a desktop or mobile. Thanks to single sign-on, users don't need to enter personal data for every operation while drag-and-drop attachments at every stage reduce the time spent on daily procurement operations.

The main goal of the system is to help control the spending and smooth the procurement flow for small- and mid-sized enterprises. The solution allows for adding multiple users, assigning roles, conducting audits, and integrating the sellers to the system.

Key features of the solution include:

1. Product request

You can order an item from the catalog right within the system that allows for setting up pre-configured items and services to provide an eCommerce shopping experience.

2. Approval & Purchase

The approval path of every order has a graphical preview, so the users can track the approved and pending requests. Depending upon the role, flexible approval rules can be set. Buying an approved item, you can see all the items available in stock and access the purchase order (PO) via the buyer dashboard.

3. Invoicing & Reporting

The invoices can be set and sketched right in via the system, and later paid via ERP. The system is already integrated with Microsoft Dynamics. The solution also provides a module with reporting capabilities and the approval history.

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Approach and Technical Info

Total scope of the project has reached **37 man-years.**

The project was completed over the course of 2.5 years by a dedicated team of fifteen professionals:
7 software developers, a solution architect, 2 business analysts, a UX/UI designer, 3 QA engineers, a project manager.

The technology stack included **.NET Core, TypeScript, C#, Microsoft Azure, JavaScript, React (for backend).**

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