Modernizing a Legacy ASPX System

Introduction:

The client is a distributor specializing in pipes, valves, and fittings for potable, waste, and stormwater systems. Serving the Pacific Northwest, Southern California, and Utah, their primary clientele includes underground contractors and water utilities. They operate multiple branches, including locations in Chino, Santa Fe Springs, El Cajon, and Salt Lake City.

We modernized their e-commerce platform into a seamless digital marketplace, allowing buyers to effortlessly browse and purchase products tailored to their needs. Users benefit from exclusive offers on various products, enhancing their shopping experience. Once an order is placed, it is processed, shipped to the selected delivery address, and successfully delivered to the buyer.

In addition to the buyer interface, the platform includes a **seller portal**, allowing vendors to list their products, manage inventory, and offer promotional discounts. Sellers have full control over their listings and can optimize their offerings to reach a wider customer base.

A dedicated **admin panel** provides comprehensive oversight, enabling administrators to manage platform operations efficiently. The admin can monitor transactions, oversee buyer and seller activities, and ensure a secure and well-regulated marketplace.

Client Details:

Name: Confidential | **Industry:** Software, Retail & eCommerce | **Location:** USA

Technologies:

- **Frontend:** Angular 16
- **Backend:** .NET Web API 2
- **Database:** MongoDB
- **Hosting & Deployment:** on-premises
- **Integration:** CenPOS Payment Gateway, Document AI, Samsara

Modernizing a Legacy ASPX System

Project Objectives:

- **Technology Upgrade:** Replace the outdated ASPX framework with a modern, scalable solution.
- **Role-Based Access:** Implement a secure system where vendors and customers access distinct functionalities.
- **Integration:** Integrate the many windows applications and excel sheets into the website pages.
- **Enhanced Performance & UX:** Improve responsiveness, navigation, and overall system efficiency.

Key Challenges & Solutions:

Payment Processing Enhancement

- **Challenge:** The existing payment process was manual, requiring clients to make payments through offline methods, leading to inefficiencies and delays. There was no built-in wallet or online transaction system.
- **Solution:** We integrated the **CenPOS payment gateway** using its API, enabling seamless online transactions directly from the website. Additionally, we developed a **payment management page** where clients can view their payment history and securely add multiple payment methods, including **Credit/Debit Cards and ACH transfers**.

Sales Dashboard Automation

- **Challenge:** The sales dashboard was previously a standalone Windows application accessible only to company executives. IT personnel had to refresh the data, causing delays and inefficiencies manually.
- **Solution:** We migrated the **sales dashboard** to the website, making it accessible within a secure, role-based environment. To ensure real-time data availability, we implemented an **automated background refresh** using **Postman services**, updating sales data every hour during the workday. This solution enhanced accessibility while eliminating manual intervention. The dashboard is now available exclusively to **Admins and Company Heads**.

Document Processing Automation

- **Challenge:** The existing document processor relied on manual intervention to extract data from **Google Drive**, assign **PO numbers**, move documents into designated folders, and index them in **Unform**. This process was time-consuming and prone to errors.
- **Solution:** We implemented **Document AI** to automate document processing, significantly improving efficiency and accuracy. The AI-driven system now **extracts key**

information, assigns **PO numbers**, categorizes documents, and indexes them in **Unform**, eliminating the need for manual processing while ensuring seamless workflow automation.

Contact Synchronization Enhancement

- **Challenge:** The client previously used a **third-party application** to sync employee contacts from the database to **Google Contacts**. However, since the system was externally managed, there was **no control over enhancements or additional features**, limiting customization and efficiency.
- **Solution:** We developed an **integrated Contact Sync feature** within the website using **Google APIs**, allowing contacts to be updated **on demand**. This eliminated the reliance on third-party tools, providing **greater flexibility, control, and the ability to introduce enhancements** as needed.

Automated Customer Email Reports

- **Challenge:** A third-party application was previously used to email monthly sales reports to clients. However, this external dependency limited customization and control over the email process.
- **Solution:** We implemented an in-house email delivery system within the website, utilizing SMTP and RabbitMQ to automate and efficiently send sales reports to clients at the end of each month. This transition enhanced reliability, performance, and the ability to customize email content as needed.

Conclusion:

The revamped website has significantly enhanced the client's operations by modernizing their platform with a scalable, efficient, and integrated solution. Transitioning from an outdated ASPX-based system to a .NET Web API 2 and Angular architecture has improved performance, security, and user experience. The new platform provides role-based access for vendors and customers, ensuring that each user type can seamlessly manage their respective tasks.

Key transformations include:

- **Seamless Payment Processing** – Integrated CenPOS for online transactions, eliminating manual payments.
- **Automated Sales Dashboard** – Migrated a Windows-based dashboard to the website with real-time data refresh.
- **AI-Driven Document Processing –** Leveraged Document AI to streamline document classification and indexing.
- **Enhanced Contact Sync –** Replaced a third-party contact synchronization tool with an in-house solution for better control.
- **Optimized Email Delivery –** Implemented SMTP & RabbitMQ to automate monthly sales report emails.

Modernizing a Legacy ASPX System

By eliminating third-party dependencies and consolidating multiple functions into a single, centralized platform, the new website has improved operational efficiency, data accuracy, and user experience while providing the client with greater flexibility and control over their system.

Future Scope:

With a future-ready architecture in place, the platform is well-positioned for continuous improvements to meet evolving business needs and deliver an even more seamless user experience.

Data Flow: