

## Success Story

# Inventory management application development for one of the largest signage manufacturers in the US

### Customer

The largest signage manufacturer

### Country

United States

### Industry

Manufacturing

## About The Client

Based in Brooklyn, NY, the client is a leading manufacturer of diverse signage products, boasting a catalog of over 80,000 items. Their extensive range encompasses metal and plastic signage, property and facility signs, tags, mats, labels, tapes, stamps, and various personalized and stock-printed products. These goods are distributed through a network of 25+ self-owned websites serving customers across the United States.

With a clientele exceeding one million, the manufacturer caters to a wide array of entities spanning micro-businesses, non-profits, churches, military bases, educational institutions, and sign resellers, operating in over 75 countries worldwide. Committed to upholding standards of protection, respect, and safety, our client prioritizes the creation of signage solutions that serve these essential principles.

## Technology Stack



## Business Situation

Due to the sheer volume of products in their inventory, the client faced a significant challenge in keeping track of each item's condition. They struggled to maintain accurate records of stock levels and expiration dates(if applicable), leading to substantial wastage. To address these concerns, the client introduced specialized tags embedded with QR codes, which could be conveniently affixed to various items, including packages and containers.

However, to effectively utilize these QR codes for product tracking within their inventory, our client required a scanning device. Thus, they decided to pursue the development of an assets management application. The primary objective was to create a solution capable of providing real-time insights into inventory conditions, while also catering to the needs of other store vendors and small-scale businesses.

To bring this vision to life, the leading signage manufacturer sought out a proficient technology partner with expertise in digital platform development. After carefully evaluating various options in the market, they selected Unthinkable Solutions for its proven track record, adaptable approach, and expertise in key areas such as business process automation and custom inventory management and tracking solutions.

**Through collaborative brainstorming sessions, Unthinkable Solutions and the client delineated a comprehensive set of requirements, which included:**

- ✔ Conceptualizing and planning the entire development process for the application, including recommendation of the most efficient technology stack.
- ✔ Designing an intuitive interface for both Android and iOS platforms to ensure a seamless experience.
- ✔ Developing a user-friendly admin panel to streamline tasks, manage user roles, and oversee product information effectively.
- ✔ Incorporating features to ensure compliance with industry regulations and standards, with the ability to generate reports and documentation for regulatory purposes.
- ✔ Ensuring that the application is also accessible via offline functionality, allowing users to manage inventory even in areas with limited connectivity.

To begin with the engagement, our team of expert project managers, software architects, and UI/UX designers first outlined the optimal architecture of the platform, refined the functional requirements, and developed a complete product vision and its development roadmap.

Keeping in view the client's future expansion plans, business model, and service offerings, our team came up with the most efficient technology stack – Flutter for mobile and web applications, ReactJS for the admin panel, and .NET for the backend.

Unthinkable's team was entrusted with the development of a mobile and web application to simplify inventory management for users. Through the app, users could easily scan the QR codes on the tags and input detailed information about each item. This included essential data such as the item's name, quantity, and expiration date if applicable. By doing so, users gained real-time visibility into their inventory, enabling them to monitor stock levels, locations, and movements efficiently.

## The Solution

The application was thoughtfully designed with user convenience in mind. Its intuitive interface was optimized for seamless navigation across both mobile and web platforms. This ensured accessibility and ease of use for users across different devices.

**The functionality of this application extended beyond this:**

**1. View, edit, and share contents:**

Users can view box contents by scanning QR codes and have the option to edit box contents, move items between boxes, and update inventory information as needed. They can also export box data in various formats (e.g., PDF, CSV) for offline reference or share box contents via email, facilitating data sharing and analysis.

**2. Photo capture and multiple pictures:**

Users can utilize the in-app camera to capture multiple photos of items they are packing into a box, linking these images directly to inventory entries. This functionality streamlines the documentation process, ensuring accurate item identification during later stages.

**3. Voice-to-text conversion:**

The app includes a voice-to-text feature, allowing users to verbally input item details like descriptions and quantities. This hands-free option streamlines data entry, especially useful when users cannot type manually. With advanced speech recognition technology, spoken words are accurately transcribed into text within the app, enhancing efficiency in inventory management tasks.

**4. Offline functionality and data sync:**

Users can access core functionalities of the app offline, including viewing existing inventory, adding new items, editing existing items, and scanning QR codes. Changes made offline are synchronized with the online database once the device reconnects to the internet, allowing accessibility in all situations. Additionally, cross-device sync enables users to access and update inventory data across multiple devices, ensuring data consistency.

**5. Notifications and reminders:**

Users receive alerts for important updates such as item expiry dates or low stock levels, ensuring timely action and proactive management. They can also set reminders for important tasks, enhancing productivity and organization in inventory management.

**6. Monetization integration:**

The app includes a feature allowing users to view clients' products within the platform, providing detailed product information. Users can seamlessly navigate to the client's corresponding website to purchase these products.

✓ **Admin panel**

**1. Admin onboarding and management:**

The system starts with a default super admin, who can invite and manage additional admins. Super admins can securely log in and manage their account credentials. They can invite new admins via email and manage existing admins' access to the system.

**2. User management:**

Admins have tools to oversee users effectively. They can access comprehensive user lists, view detailed user information, and perform actions such as adding, removing, or blocking users as needed.

**3. User data tracking and management:**

Admins can track user activity, including the number of boxes scanned and their contents. They can also edit and manage user data, including searching for specific user data using keywords.

**4. Monetization and product management:**

Admins can manage products available on the platform. They can add, modify, or delete products, ensuring the product catalog remains current and relevant to users. This includes features such as adding product images, titles, descriptions, and purchase URLs.

## The Impact

The implementation of the inventory management application has significantly enhanced our client's operational efficiency. By providing real-time insights into inventory levels and locations, the application has minimized errors and improved resource allocation. This streamlined approach has resulted in notable cost savings and increased productivity across inventory management tasks. Moreover, the user-friendly interface has garnered positive feedback, contributing to high user satisfaction. Looking forward, our client intends to capitalize on the application's success to further optimize their business processes and explore avenues for growth and expansion.

**Is there a digital platform you want to build or take to the next level?**

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**Let's Talk**