

Custom Multi-Component Web App For a British Construction Company

How smarter software **accelerated order processing and transformed customer service** for a British window and door installation company.

Industry:
Construction, Ecommerce

WEB DEVELOPMENT
UX AND DESIGN

Business challenge

Constantly rising consumer expectations are a perpetual driver of delivering digital products that are fast, transparent, and easy to use. Core Sash Windows — a British window and door construction company — identified gaps in its customer experience, **from first interactions to post-purchase service**, and sought to address them with a strategic software overhaul.

The company's challenges spanned multiple stages of the sales and fulfillment process.

A measurement system that lacked essential features

Core Sash Windows' **internal application for taking measurements** had been developed when the company operated on a much smaller scale. Over time, its limitations became increasingly apparent.

The system **didn't provide drawing functionality**, relying entirely on text-based descriptions, which managers could interpret, but customers found difficult to visualize. Rather than seeing a technical sketch, they were presented with descriptions such as "a single casement window with maximum glass and one fixed fanlight."

To compensate, managers used third-party design tools like Paint, Krita, and Canva to create rudimentary sketches. As a result, customers received two separate PDFs — one with measurements and another with a sketch — leading to confusion and delays.

Slow and manual price estimates

Mostly manual and, therefore, drawn-out price calculation was another major bottleneck affecting customer experience. Prospective buyers often faced delays while managers referenced product catalogs to provide even a rough estimate.

Limited visibility into order processing

Opaque order processing affected both internal teams and customers:

- After the quote was submitted and transferred to the accounting software, **managers** couldn't track its status. Meanwhile, **accountants** struggled to sift through a slew of both accepted and rejected orders.
- Customers** received the order details via email and had no way to check the progress of their purchases. Without an online portal, they were left to rely on direct communication with company representatives for updates.

With no in-house team to act on these issues, the company partnered with "instinctools to build integrated software that could improve both internal workflows and customer interactions. We assembled a **dedicated team** of a business analyst, web developers, QA and DevOps engineers, and a UX/UI designer, and set to work.

Solution

To ensure that the new solution aligned with the needs of multiple stakeholders, "instinctools' business analyst conducted interviews with measurement specialists before structuring the project backlog.

01 Deciding on the software linchpin

We translated the client's need for speed, transparency, and scalability into a **custom web app with three interrelated components**:

01 An internal portal with seamless drawing functionality and instant price calculation.

02 A customer-facing portal for transparent order tracking.

03 An admin panel for managing both portals.

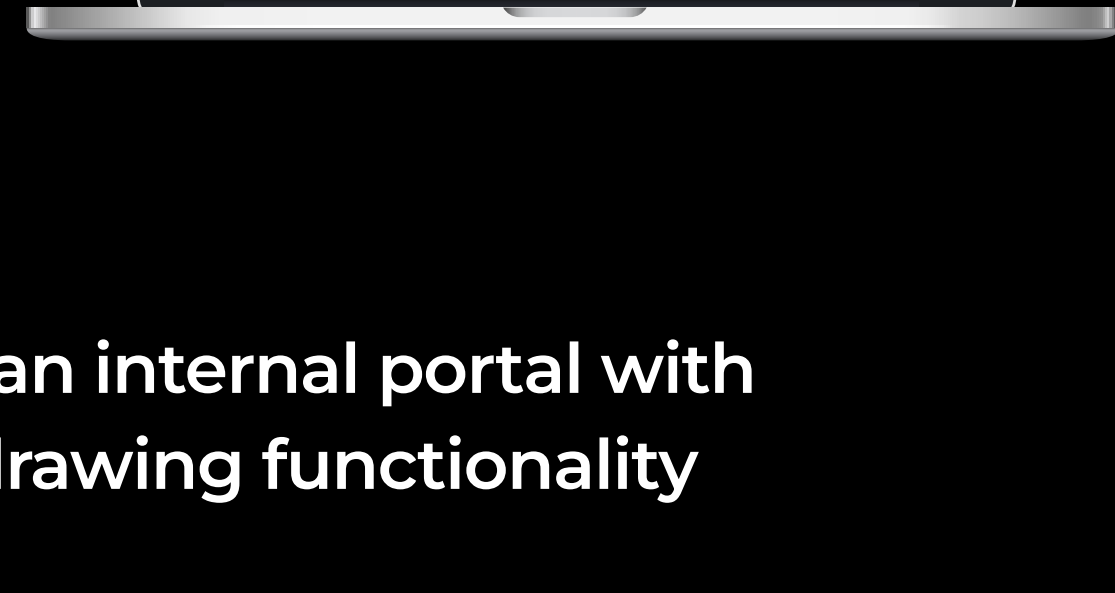
The team recommended building the new system with an open-source **ReactJS** library for several reasons:

- Ease of creating** an interactive interface
- Reusable** UI components

- Fast** UI rendering
- Smooth integration** with libraries needed for the project (e.g. Konva.js, Firebase, etc.)

Upon setting up the development environment and infrastructure, our team adhered to **biweekly sprints and demos** to keep the client in the loop.

02 Refining the client's order processing and tracking



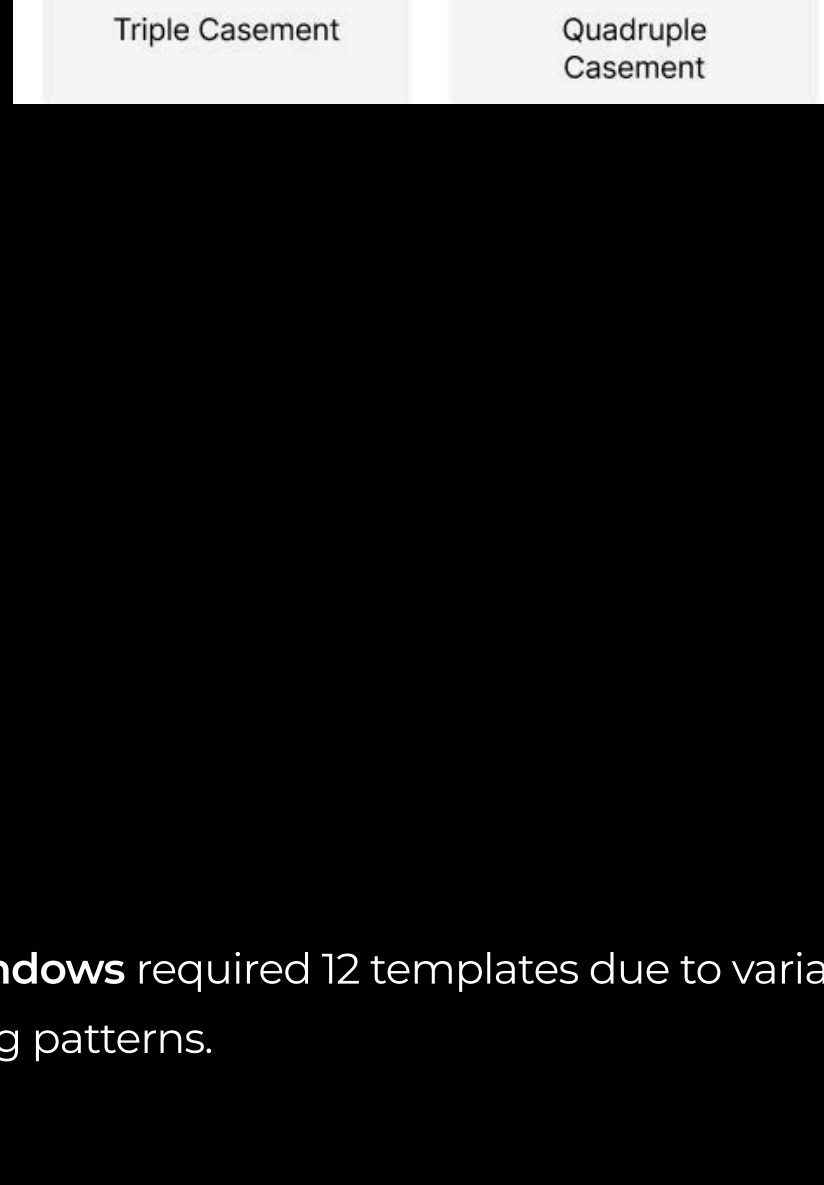
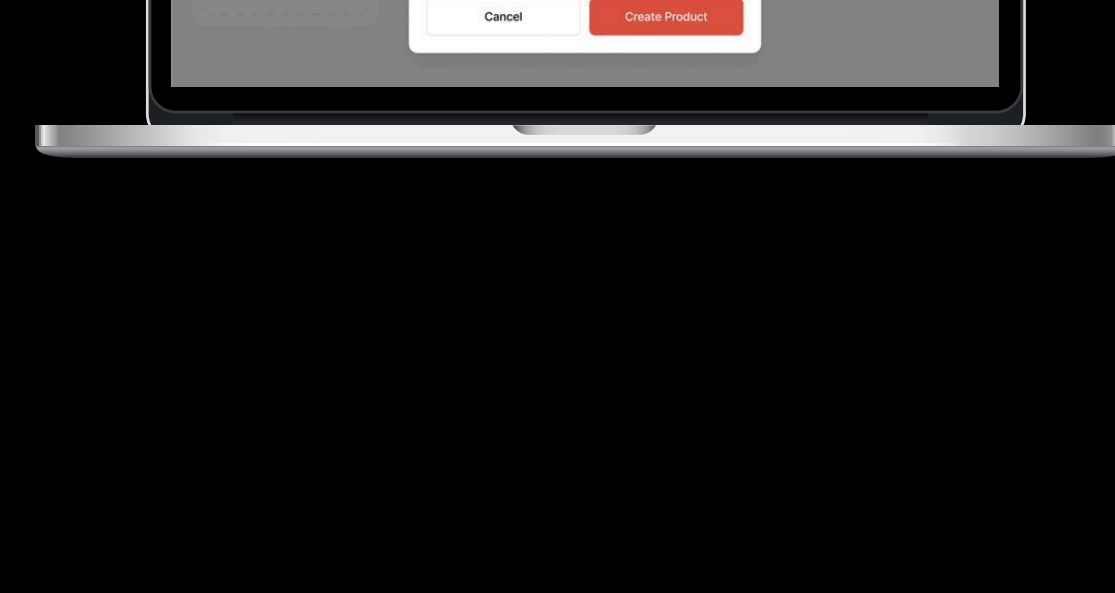
To reduce inefficiencies, the system was modified so that **only accepted quotes were sent to the accounting software**. That way, accountants could focus only on active transactions without getting sidetracked by irrelevant orders.

Our team also made it possible to **track the order status within the internal portal** to keep the managers updated on the order progress.

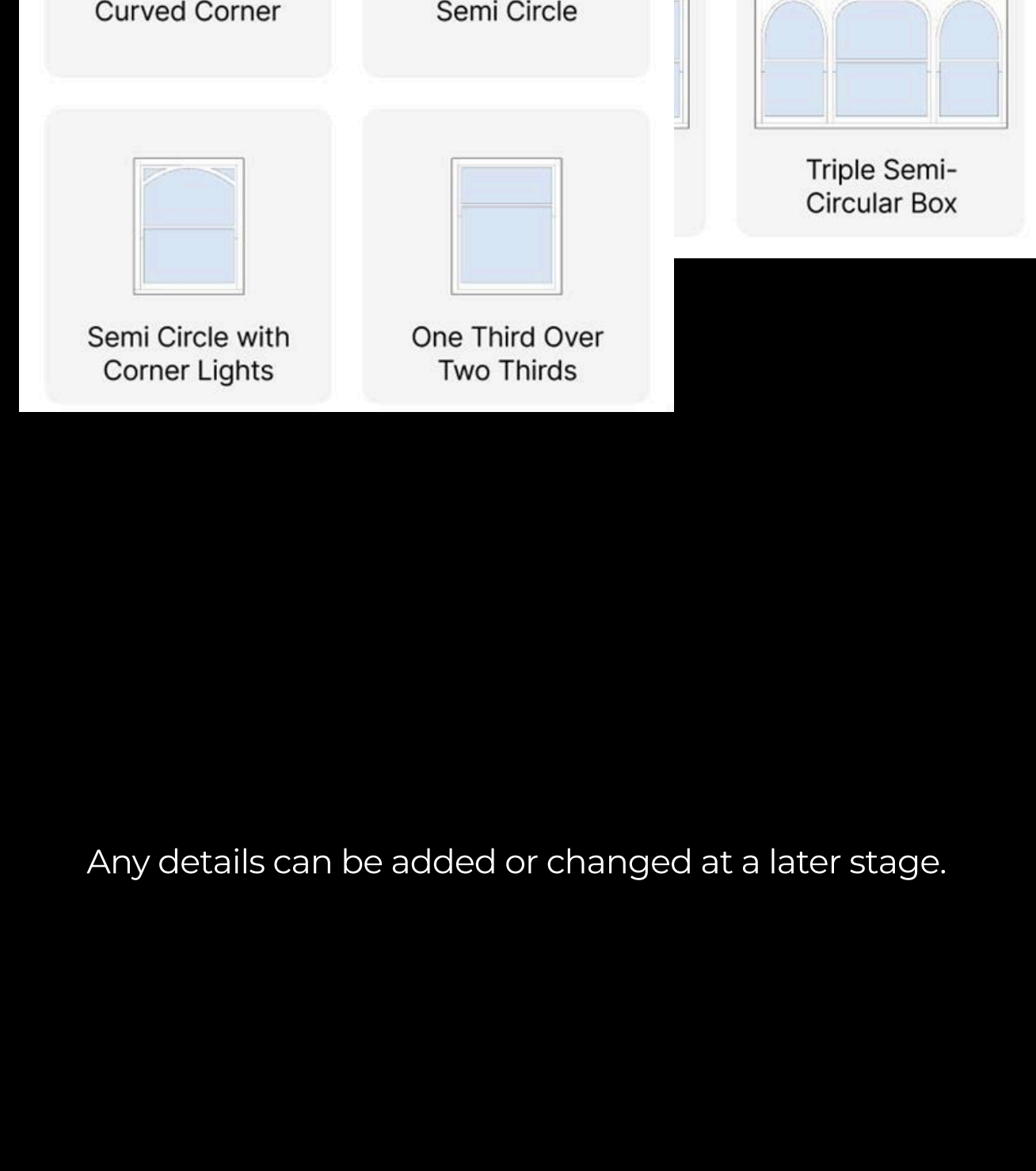
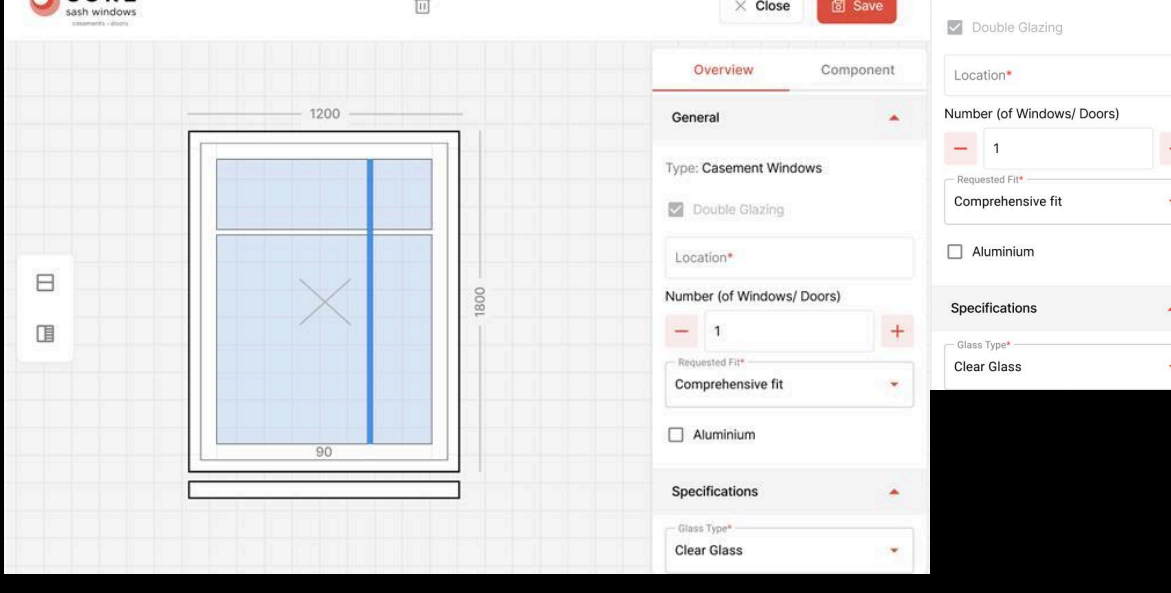
03 Crafting an internal portal with built-in drawing functionality

Replacing the company's outdated measurements app required a solution that was both **intuitive and functional offline**. Our team implemented:

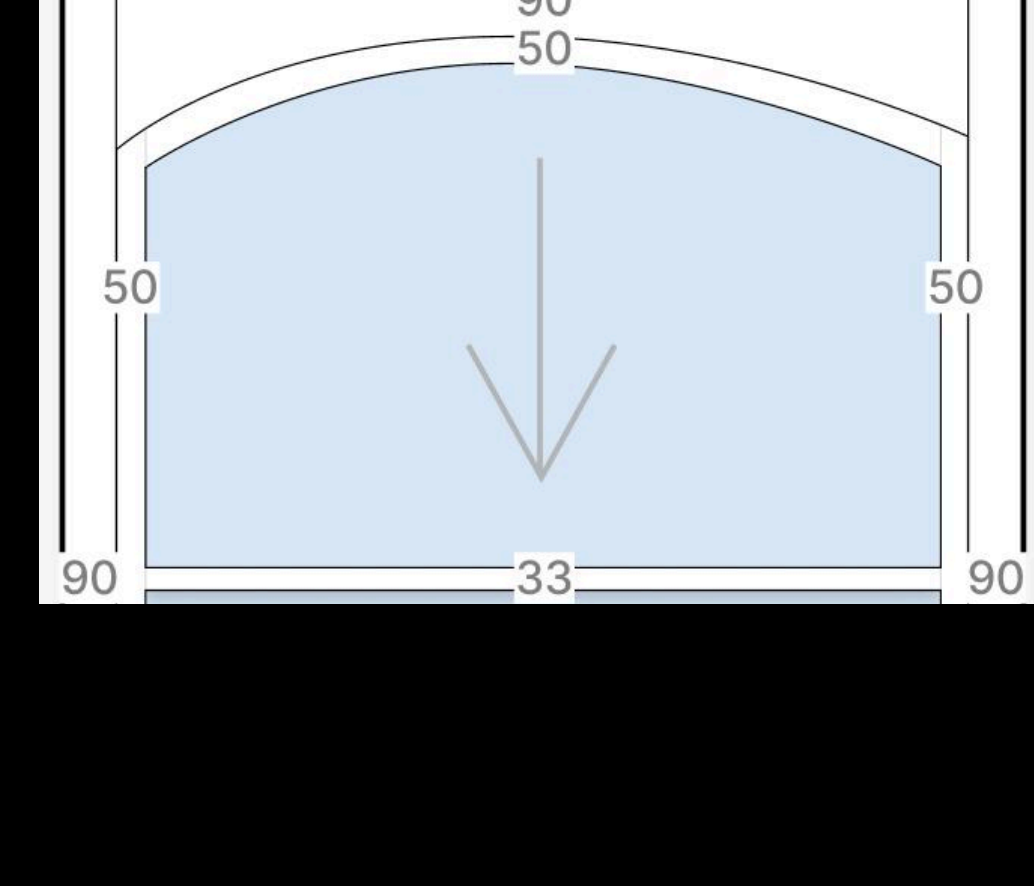
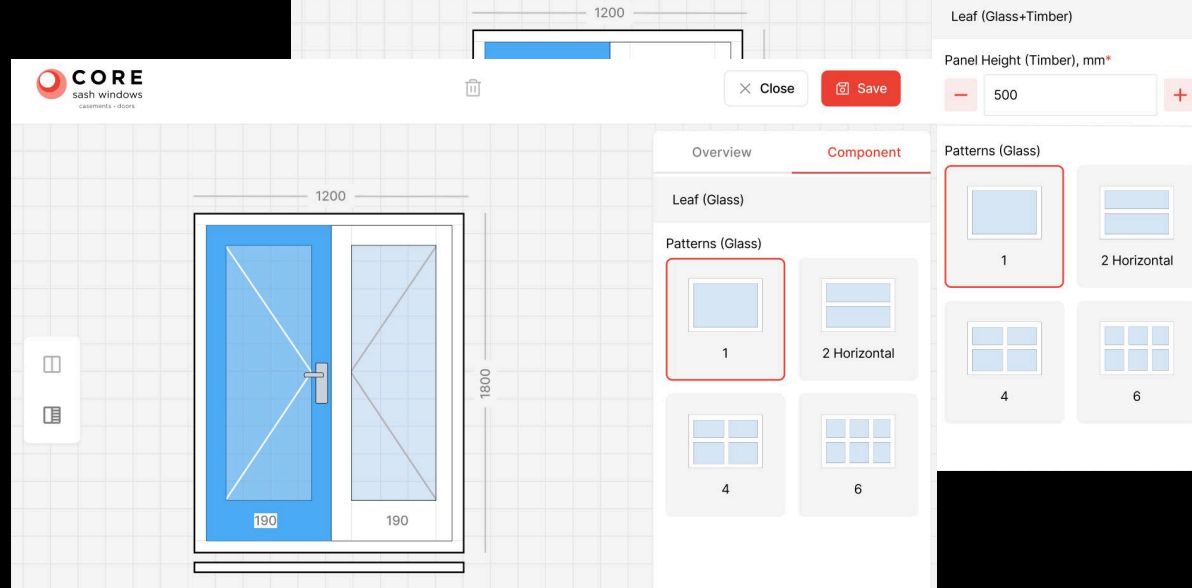
- Integrated drawing capabilities**
Powered by the **Konva.js** library, the drawing tool allowed managers to create detailed window and door sketches directly within the system.
- Offline accessibility**
With support from **Firebase**, managers could use the tool even in areas with limited internet connectivity.
- A more efficient product catalog**
The previous method, which required navigating thousands of catalog items, was replaced with **modular templates** for different product types.



Casement windows were consolidated into four base templates.



Sash windows required 12 templates due to variations in glazing patterns.

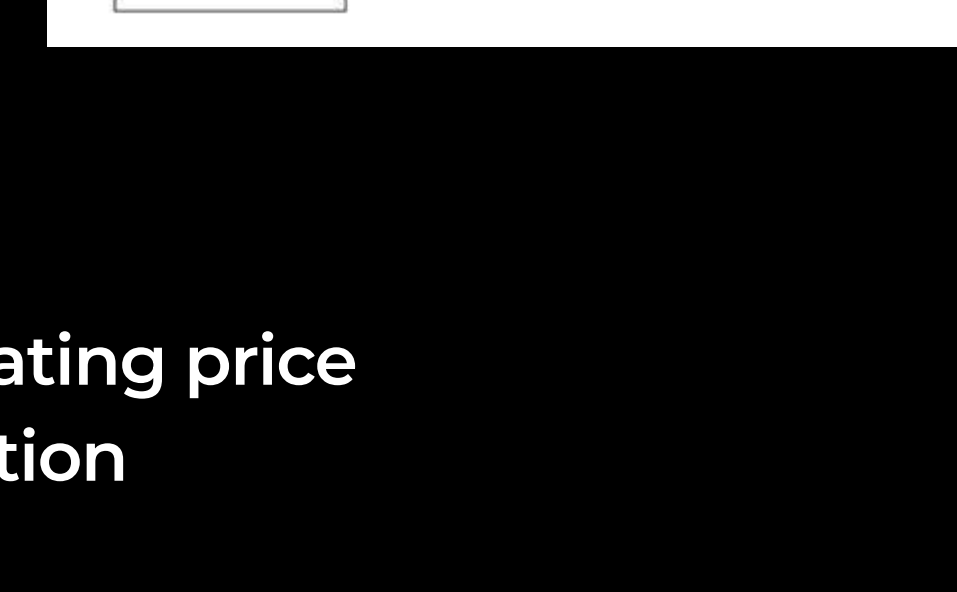


Any details can be added or changed at a later stage.

We also provided the option to apply specific parameters, like operability, to individual window components rather than the entire unit.

Our **UX/UI designers** perfected the templates down to the **last detail**. For instance, thanks to varying line transparency, customers can see the difference between the joints of the window parts.

When the measurements are done, customers receive a **concise, easy-to-read PDF**, while manufacturers get a version containing detailed technical specifications.

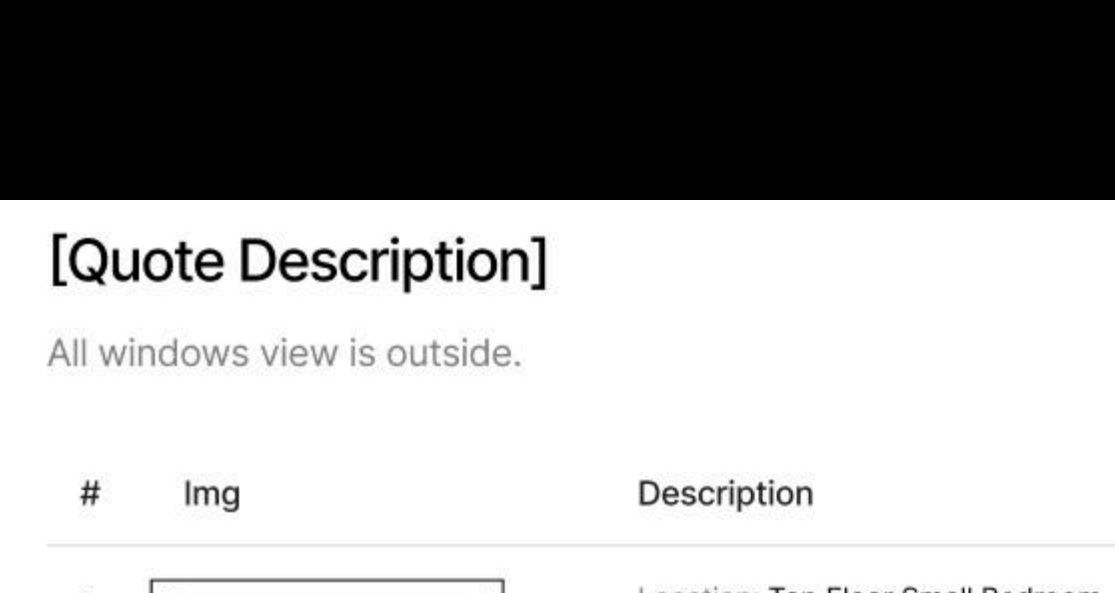


04 Automating price calculation

By integrating the internal portal with the company's accounting system, pricing became automated. This change allowed managers to provide customers with an **immediate cost estimate** during measurement appointments, eliminating unnecessary wait times.

05 Building a personalized customer portal

To enhance post-purchase communication and provide customers with a simple way to check their orders, we developed a customer-facing web app.



How it works:

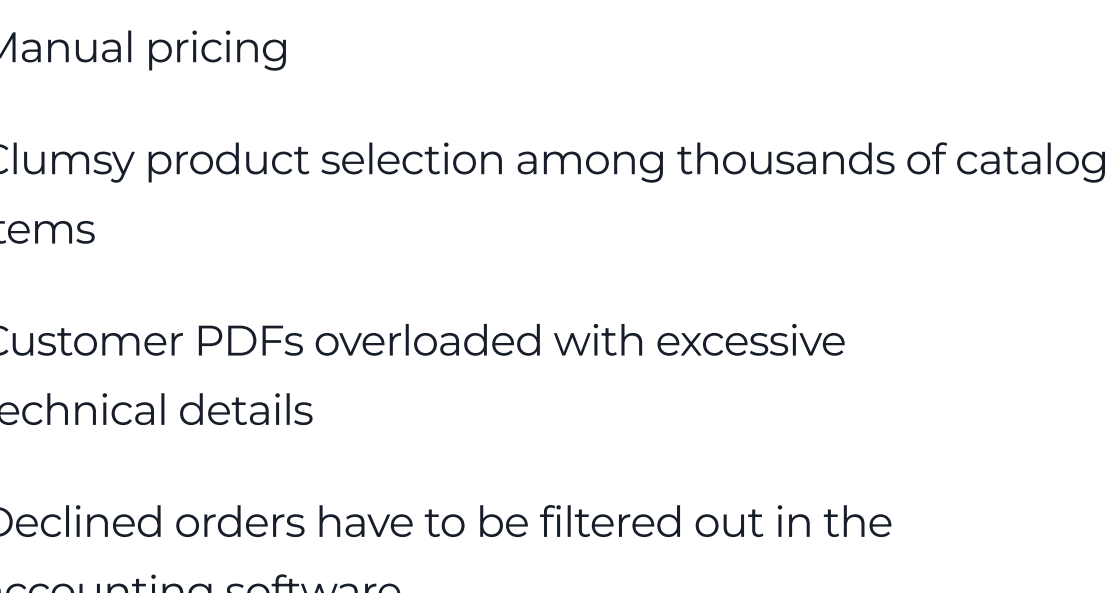
- After a measurement appointment, customers receive a **personalized link** to their portal.
- The portal includes a **"My Quotes"** section where customers can review their past and current orders.
- A **dynamic pricing module** allows users to explore in real time how different service options affect the total cost.

[Quote Description]						
All windows view is outside.						
#	Img	Description	Service Option	Quantity	Unit Price	VAT Amount
1		Location: Top Floor Small Bedroom Service: Comprehensive Fit Glass: Clear Glass Paint Colour:RAL 9016 H/W Colour: Satin Chrome Trickle Vent: No Hinge: Easy Clean	<input checked="" type="radio"/> Box + Sash window <input type="radio"/> Sash window only <input type="radio"/> Draught Proofing / Overhaul	2	1,720.00	20% 3,440.00

06 Developing a centralized admin panel

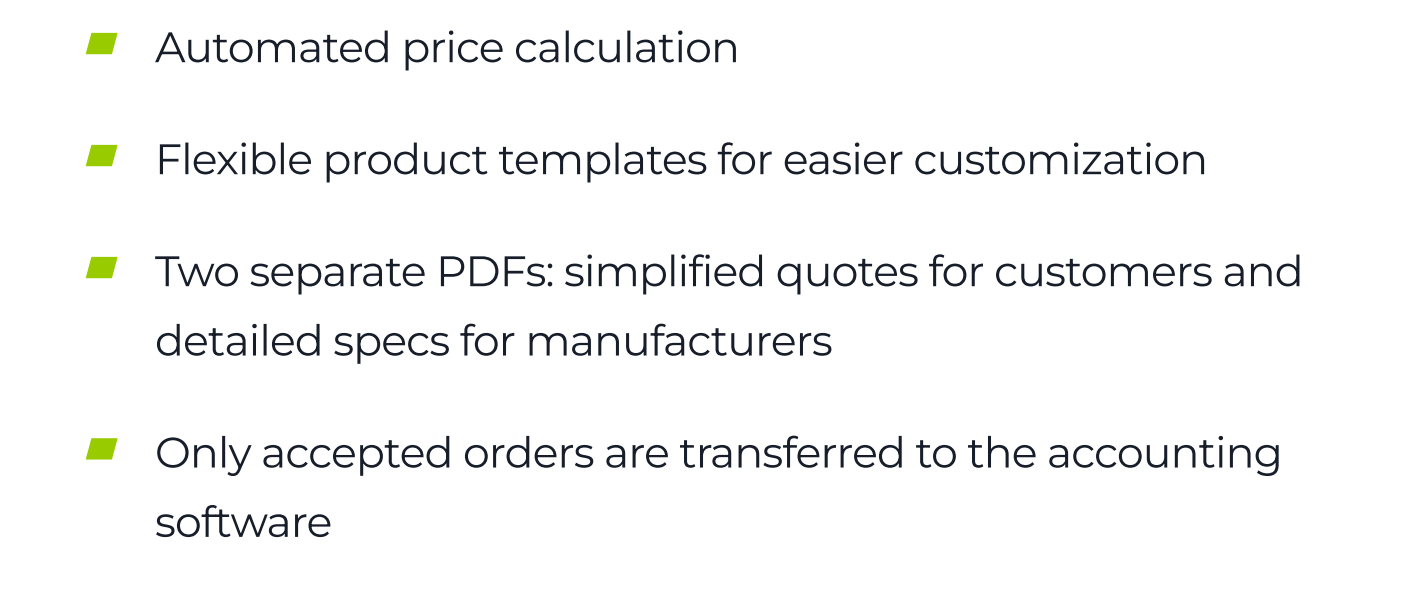
To manage both the internal and customer portals, the development team built a **React-based admin panel** using an open-source **AdminJS**, which consolidated all data and system settings into a single interface.

Before



- Sketches stored separately from the order's text description
- Manual pricing
- Clumsy product selection among thousands of catalog items
- Customer PDFs overloaded with excessive technical details
- Declined orders have to be filtered out in the accounting software
- Limited order tracking capabilities

After



- Integrated web app with built-in drawing functionality
- Automated price calculation
- Flexible product templates for easier customization
- Two separate PDFs simplified quotes for customers and detailed specs for manufacturers
- Only accepted orders are transferred to the accounting software
- Convenient order tracking for both customers and managers

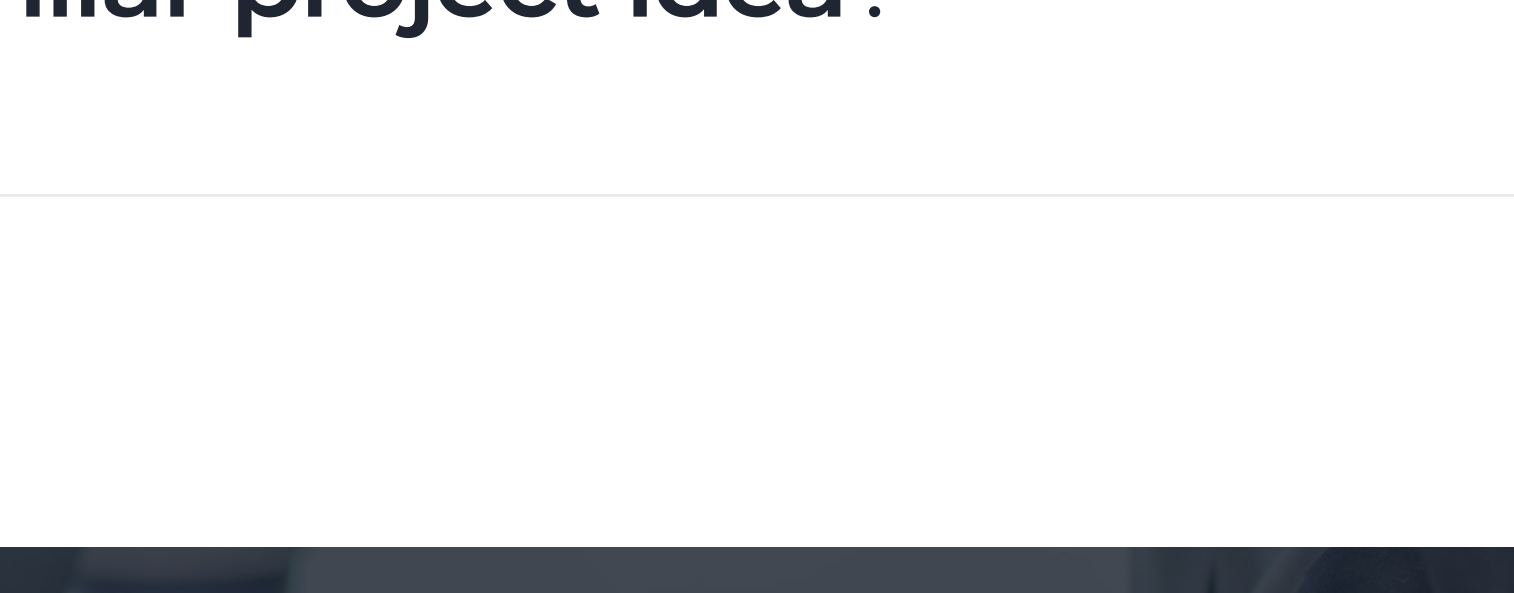
Business value

- An **up-to-date and cohesive** web application with interconnected components designed to support internal teams and customers
- A **step up** in customer service at consideration and post-purchase stages, including more intuitive product selection and faster response times
- Full transparency** of order tracking for both customers and the client's employees
- Improved order management efficiency** thanks to reduced manual processes, faster pricing, and clear, organized workflows for accountants, managers, and customers

Multiplier effect

Perfecting customer experience at all touchpoints is vital for any business, especially in B2C. As tech evolves so do your customers' expectations — and most businesses aren't keeping up. In fact, 2/3 of customers* feel brands are too slow to adapt. The good news is that there's always a way to automate operations, increase process transparency, and simplify workflows to turn frustrating service into service excellence.

*According to the Harvard Business Review



Do you have a similar project idea?