

Technical specifications

About our solution

The software enables customers to configure cabinets and wardrobes according to their requirements and visualize the result before placing an order. It offers a seamless and interactive user experience for online furniture customization and purchasing.

It covers:

- Wardrobes
- Shelving
- Bookcases
- Cabinets

Solution modules

eCommerce platform

Store features:

1. PRODUCT CATALOG

- A structured product catalog designed for internal organization and product line management
- A user-oriented catalog that is integrated directly into the configurator for seamless navigation and selection
- Additional options (available upon request):
 - AI-driven recommendations based on browsing history and user preferences
 - Augmented Reality (AR) preview to visualize furniture in real spaces

Technologies for implementation: React, Node.js, PHP, PostgreSQL, Elasticsearch, etc.

2. SHOPPING CART

- Users can add products with saved configurations
- Select payment methods
 - Features:
 - Persistent cart storage across devices
 - One-click checkout for registered users
- Supports discount codes (requires additional development as a separate module)

Technologies for implementation: GraphQL, Stripe API, etc.

3. ORDER MANAGEMENT

- Customers can track their orders, request modifications, and initiate returns if necessary
- Additional options (available upon request):
 - Automated email and SMS order status updates
 - Integration with logistics providers for real-time tracking

Technologies for implementation: RabbitMQ, Kafka, REST API, etc.

4. SECURE PAYMENT GATEWAY INTEGRATION

- Feature: Multi-step authentication for high-value transactions
- Feature: Fraud detection and prevention mechanisms

Technologies for implementation: PCI-DSS-compliant providers, tokenization, 3D Secure, etc.

Admin panel

- Manage product catalog, including price updates and linking configurations
- Integration with payment gateways to track transaction status
- CRM integration via file exchange or API connections
 - Key CRM systems for integration: Salesforce, HubSpot, Zoho, etc.
- ERP integration
 - Popular ERP systems for integration: SAP, Odoo, NetSuite, Microsoft Dynamics 365, Oracle, etc.
- CAD system integration
 - Popular CAD systems for integration: AutoCAD, SolidWorks, SketchUp, etc.
- Real-time price calculation based on predefined materials and accessories
- Management of materials and accessories for pricing calculations:
 - Feature: Dynamic material cost updates based on supplier API data.
 - Feature: Admin-defined pricing rules for custom configurations.
- Email notifications for users and administrators

User account dashboard

- View order history and order details
- Track order status in real time
- Access payment and delivery information
- Manage saved product configurations
- Additional Option: Loyalty and bonus programs

Payments

- Supported payment methods: VISA or Mastercard debit/credit cards, American Express cards, PayPal, cryptocurrency
- Crypto processing support: MetaMask, Wallet Connect, Trust Wallet, Bybit Wallet, etc.
- Payment gateway selection is subject to customer agreement. Customers can define required payment systems and necessary authentication measures
- Recommended providers: Stripe, PayPal, Mollie, Braintree, Shopify Payments
- The system verifies order payments and sends email notifications to both customers and administrators

Price calculation

- Real-time price calculation in the configurator and shopping cart
- Prices are determined based on material and accessory costs defined in the database
- The customer provides pricing rules (customer who purchases and implements our configurator)
- Prices update dynamically for unpaid and non-ordered products when material prices change
- Administrators can modify material and accessory prices via the admin panel

Authorization and authentication

- Multiple access level options for users and administrators
- Authentication methods:
 - Google, Facebook, and other OAuth providers
 - Email/password authentication
 - Open system option: Users can configure access settings for product customization

Email notifications (available upon request)

- Flexible email notification configuration options:
 - Order status updates
 - Promotional offers
 - Custom alerts and reminders
- Email provider selection during development in consultation with the customer

File storage

- Cloud-based and on-premise storage options available
- File version control for configuration history
- Available File Storage Solutions:
 - AWS S3 with versioning enabled
 - Google Cloud Storage
 - Azure Blob Storage
 - Self-hosted solutions (e.g., MinIO)
 - Integration with CDN services for fast access and performance optimization
- Administrators can define storage policies and backup configurations

Localization

- The platform supports multiple languages with a built-in language selection function
- Dynamic translation updates via integration with translation APIs
- Optional: RTL (right-to-left) support for specific languages

Configurator

- Configurator Allows users to create product configurations with predefined parameters
- Saving and sharing product configurations via links
- Rendering Options:
 - Basic form-based customization without visualization
 - 2D/3D rendering for an interactive experience

Technologies for implementation: Three.js, WebGL, Babylon.js, etc.

Configurator with 2D/3D visualization

Available construction types

- Wardrobe:
 - Top and bottom shelves are recessed when attached to vertical dividers
 - Shelving adapts to different column heights
 - Customizable door settings
- Cabinet and sideboard
- Room divider

Each construction type differs in board attachment methods and plinth configurations

Dimension settings

- Users define product dimensions using depth, width, and height parameters
- External dimensions of the cabinet are considered
- Integrated ruler for precise measurements.
- Configuration reset:
 - If dimensions are modified after placing doors, drawers, or other elements, recalculations occur
 - Shelf and board positioning resets to default

Column and shelf control

- Adjust the number, width, and height of shelves and columns
- Automatic ruler for precise customization

Base configuration

- Wardrobe
- Cabinet & Sideboard
- Room Divider

Material selection

- Users can select materials for different furniture elements
- Various textures and finishes available for interior and exterior surfaces
- Edge banding is applied based on the chosen material
- Interior (sides, dividers, shelves): One material type for all internal parts (except for a separately configured back panel)
 - When configuring interior material, doors automatically hide
- Exterior (doors and drawers): One material type applies to all front-facing elements of the same type

Accessories and add-ons:

- Custom decorative panel options
- Glass with decorative patterns
- Smart glass panels with tint adjustment
- High-gloss acrylic facades
- Veneered wood panels
- Additional customization options: handles and knobs, LED lighting options, Integrated power sockets, USB charging points, etc.

Technology stack

React, Node.js, PHP, PostgreSQL, Elasticsearch, etc., Vendura.io

Backend:

- Node.js
- PHP
- PostgreSQL
- GraphQL
- REST API
- RabbitMQ, Kafka

Frontend:

- React.js / Vue.js
- TypeScript
- Three.js, WebGL, Babylon.js (for 3D visualization)

Catalog and configurator:

- Elasticsearch (for fast search and filtering)
- Custom form-based configurator option
- Advanced 3D rendering engines

Admin panel:

- React.js / Vue.js
- Role-based access control

Payment and security:

- Stripe, Mollie, Braintree (payment gateways)
- PCI-DSS compliance
- Tokenization & 3D Secure authentication

Infrastructure:

- AWS, Google Cloud, Azure
- Kubernetes / Docker for containerization
- CDN integration for optimized performance