Jewelry Web-Shop

Project: Global Web-Shop   **Client:** International Jewelry Retailer   **Analyst:** Milica Antic

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1. Project Scope

The goal of the project is to design, develop, and implement a new global e-commerce web-shop, specializing in multi-brand jewelry including luxury brands such as Cartier, Tiffany, Van Cleef & Arpels, TOUS, etc.

In-Scope:

- Front-end website for customer browsing, selection, and purchase
- Product catalog management (images, descriptions, stock levels)
- Integration with external system for real-time product pricing and tax calculations
- Integration with "Cybersource" payment gateway for secure transaction processing
- User account creation and management (profiles, order history, wishlists)
- Shopping cart and secure checkout functionality
- Responsive design for optimal viewing on desktop, tablet, and mobile devices
- Basic content management for static pages (About Us, Contact, Shipping Info)
- Product prices and taxes for different countries stored in external system

Out-of-Scope:

- Warehouse inventory management or logistics/shipping provider software
- Dedicated back-office application for internal staff (initially, focus is on customer-facing site. Admin functions can be handled via CMS or existing systems)

Assumptions:

- External pricing system has well-documented API for real-time data fetching
- Cybersource supports required payment methods (credit/debit cards, PayPal, etc.) for all target countries
- Client will provide high-quality product images and descriptions

2. Features the Web-shop Should Support

1. Product browsing & search

- Browse by brand, type, material, gender, age group, occasion
- Advanced filters and search bar with suggestions

2. Product detail pages

- High-quality product images with zoom and 360° view
- Description, specifications, price (with local tax)
- Reviews and ratings
- Add to wishlist / Add to cart

3. Shopping cart & checkout

- Editable cart with item summary
- Tax & shipping cost calculation (external system)
- Guest checkout or account login
- Payment via CyberSource

4. User accounts

- Registration/login
- Order history, wishlist, saved addresses

5. International support
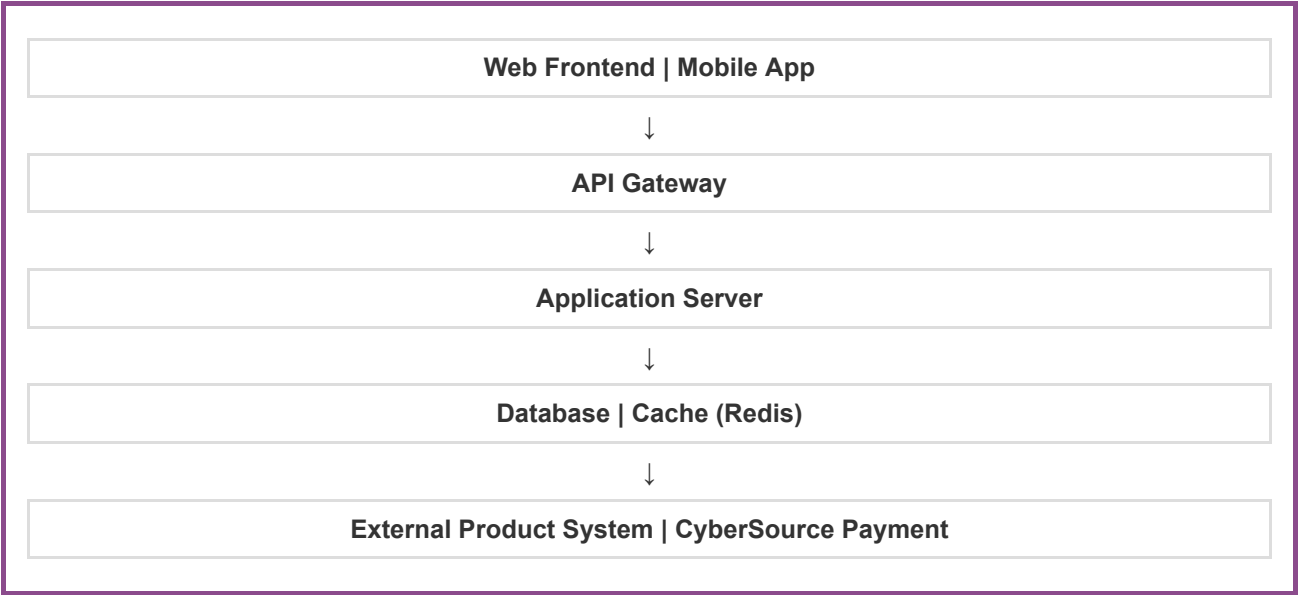
- Multi-language
- Multi-currency pricing

6. Customer engagement

- Live chat, AI Chatbot or support center
- FAQs, returns, warranties
- Newsletter subscription

7. Enhanced User Experience Ideas:

- Gift-Focused Features: Gift wrapping options, e-gift cards, and "Gift Guide" section
- Product Personalization: Engraving services for selected items
- Size Guide: Interactive and detailed guides for rings, bracelets, etc.

3. System Architecture

Web Frontend | Mobile App
↓
API Gateway
↓
Application Server
↓
Database | Cache (Redis)
↓
External Product System | CyberSource Payment

System Constraints

External Product Management

All product prices and taxes for different countries must be stored and managed in an external system.
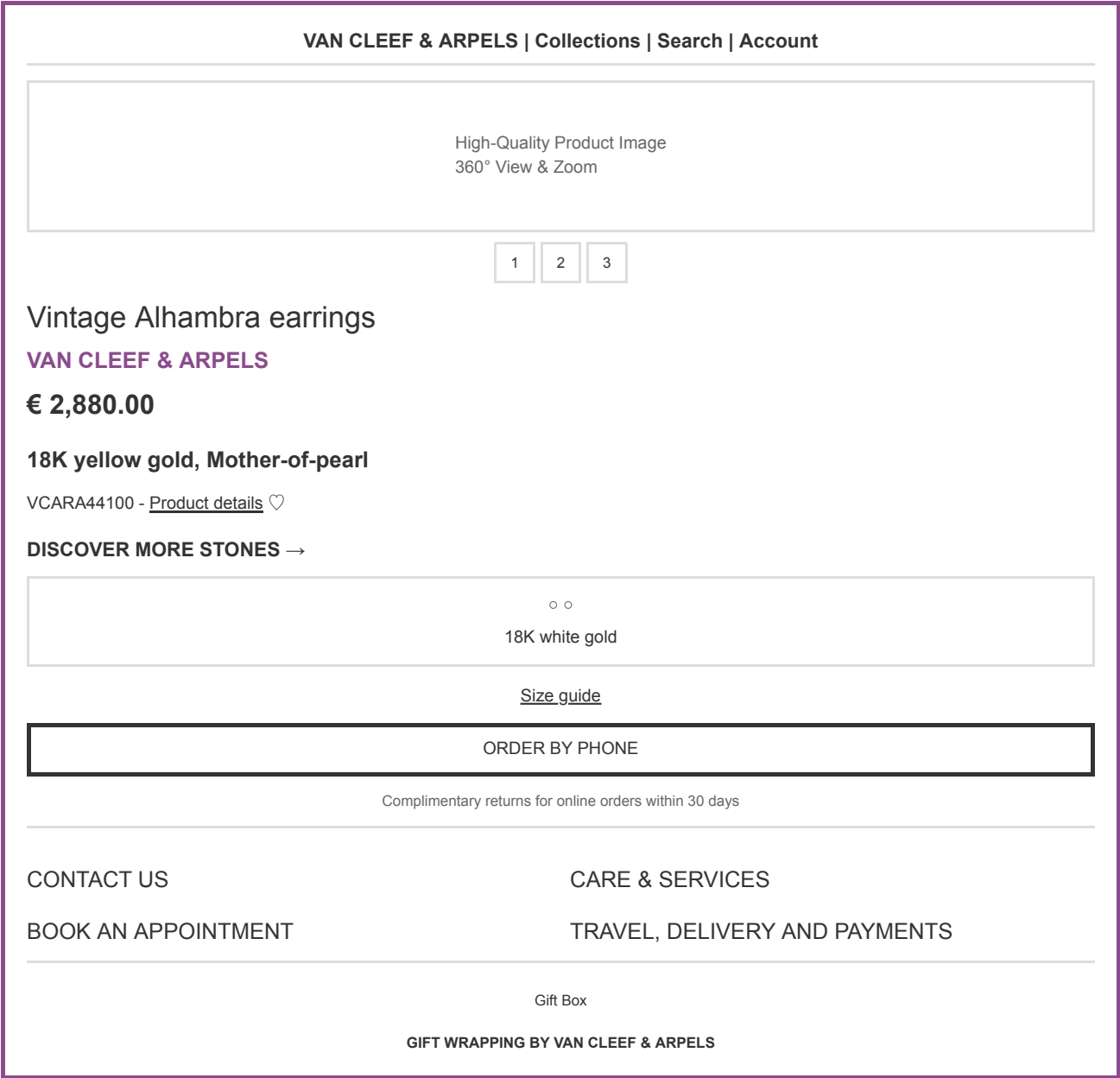
Payment Processing

CyberSource system must be used as the billing system to process customer payments.

4. Proposed Website Structure (Sitemap)

Homepage Hero Banner Featured Products Brand Showcase	**Product Catalog** Filter Sidebar Product Grid Pagination
Product Detail Image Gallery Product Info Add to Cart	**Shopping Cart** Item List Quantity Controls Checkout Button
Checkout Customer Info Payment Form Order Summary	**User Account** Profile Settings Order History Wishlist

5. Page Breakdown: Product Display Page (PDP)

a. Mockup

VAN CLEEF & ARPELS | Collections | Search | Account

High-Quality Product Image
360° View & Zoom

| 1 | 2 | 3 |

Vintage Alhambra earrings

VAN CLEEF & ARPELS

€ 2,880.00

18K yellow gold, Mother-of-pearl

VCARA44100 - _Product details_ ♡

DISCOVER MORE STONES →

○ ○
18K white gold

Size guide

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ORDER BY PHONE
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Complimentary returns for online orders within 30 days

CONTACT US   CARE & SERVICES

BOOK AN APPOINTMENT   TRAVEL, DELIVERY AND PAYMENTS

Gift Box

GIFT WRAPPING BY VAN CLEEF & ARPELS

Detailed Breakdown:

Header:

Logo, Navigation Menu, Search Bar, Country/Language Selector, Shopping Cart Icon, Login/Account Icon.

Main Content Area:

Left Column: Large, high-quality main product image with thumbnail gallery below. Zoom functionality.

Right Column:

- Product Title (e.g., "Vintage Alhambra earrings")
- Brand Name (prominently displayed)
- Real-time Price (displayed as: "€ X,XXX.00" - pulled from external system)
- "In Stock" / "Low Stock" / "Out of Stock" indicator

- Selection Options: Size dropdown, Material dropdown
- "Add to Cart" button (primary, prominent)
- "Add to Wishlist" button
- Product Description tab
- Delivery & Returns tab

Footer:

Customer Reviews section, "You May Also Like" product recommendations, links to About Us, Shipping, Contact, etc.

6. User Stories & Tasks

Epic 1: Product Discovery

As a customer, I want to browse and search for jewelry so I can find products I like.

Tasks: Product categorization, Search functionality, Filter system, Product gallery

Epic 2: Shopping Experience

As a customer, I want to add items to cart and checkout securely so I can purchase jewelry.

Tasks: Shopping cart, Checkout process, CyberSource integration, Order confirmation

Epic 3: Account Management

As a customer, I want to create an account so I can track orders and save preferences.

Tasks: User registration, Authentication, Profile management, Order history

Epic 4: Administration

As an admin, I want to manage products and orders so the business runs smoothly.

Tasks: Admin dashboard, Product management, Order processing, External system sync

7. User Story Dependencies

Critical Path:

User Authentication → Profile Management → Order History

Product Catalog → Shopping Cart → Checkout → Payment

External Dependencies:

External Price System → Product Display → Tax Calculation

8. Technical Requirements

Security

SSL/TLS encryption, PCI DSS compliance, JWT authentication, input validation

Performance

Page load < 3s, 1000+ concurrent users, 99.9% uptime, mobile responsive

International

Multi-currency support, multi-language interface, regional tax compliance

Technology Stack

React/Vue.js frontend, Node.js/Java backend, PostgreSQL database, Redis cache, Microsoft Azure cloud infrastructure

AI & Chatbot Services

Microsoft AI Foundry for intelligent customer support, product recommendations, visual jewelry search, and personalized shopping assistance