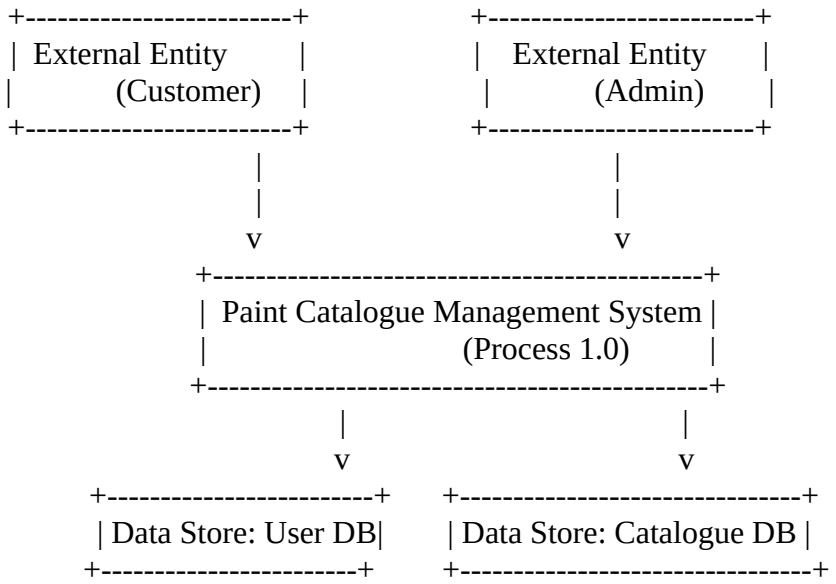
Paint Catalogue Management System

Paint Catalogue Management System is a web-based platform that allows customers to browse and order paint products, while enabling admins to manage the product catalogue, inventory, and orders. It features secure authentication, efficient data handling, and streamlined order processing.

Level 0 (Context Diagram)

This level provides a high-level view of the system, showing the main process, external entities, and data stores.

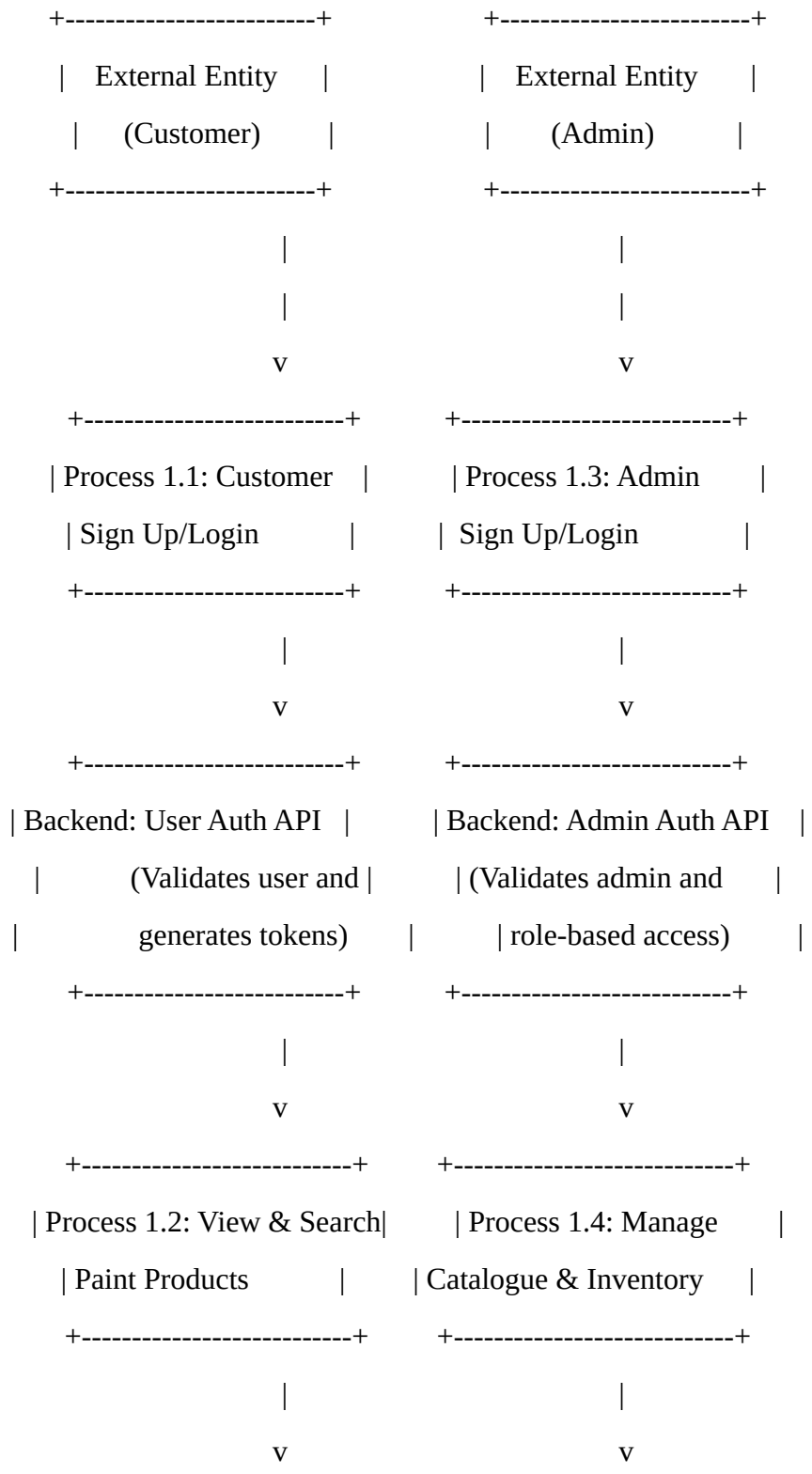


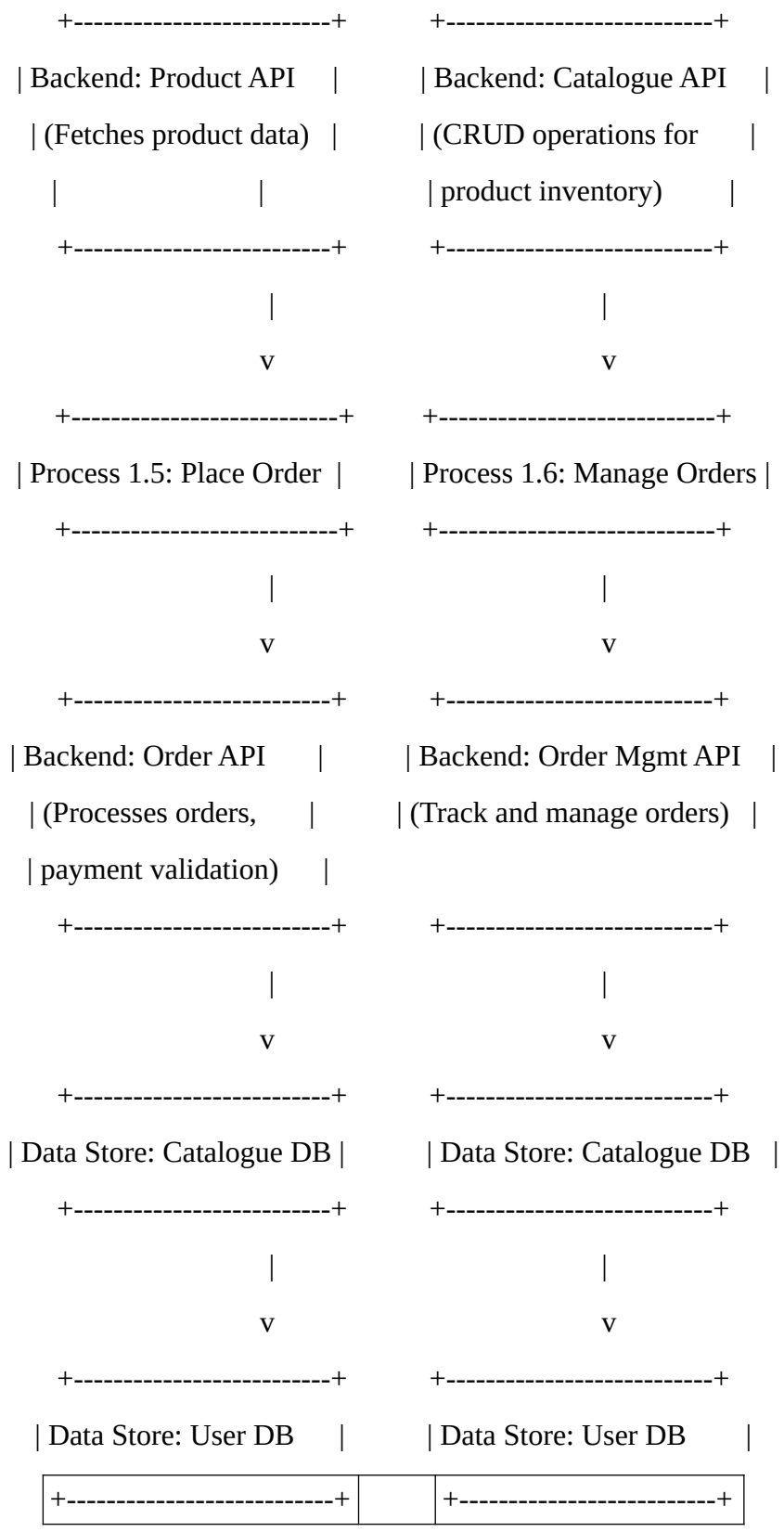
Explanation:

- **External Entities**:
  - *Customer*: Interacts with the system to view products, place orders, and manage accounts.
  - *Admin*: Manages the product catalogue and inventory.
- **Main Process (1.0)**:
  - Handles all core functionalities like user authentication, product management, and order processing.
- **Data Stores**:
  - *User DB*: Stores customer and admin data.
  - *Catalogue DB*: Stores details of the paint products and inventory.

Level 1 DFD (Decomposition of Process 1.0)

This breaks down the main process into detailed subprocesses.




Backend: Product API
(Fetches product data)
Backend: Catalogue API
(CRUD operations for
product inventory)
Process 1.5: Place Order
Process 1.6: Manage Orders
Backend: Order API
(Processes orders,
payment validation)
Backend: Order Mgmt API
(Track and manage orders)
Data Store: Catalogue DB
Data Store: Catalogue DB
Data Store: User DB
Data Store: User DB

Explanation of Processes:

1. **Process 1.1: Customer Sign Up/Login**
    - Customers register or log in to the system.
    - Authentication is handled via the **User Auth API**.
2. **Process 1.2: View & Search Paint Products**
    - Authenticated customers can view or search for products.
    - The **Product API** fetches product details from the **Catalogue DB**.
3. **Process 1.3: Admin Sign Up/Login**
    - Admin users log in to access management features.
    - The **Admin Auth API** validates credentials and ensures role-based access.
4. **Process 1.4: Manage Catalogue & Inventory**
    - Admins can add, update, or delete products.
    - The **Catalogue API** performs CRUD operations on the **Catalogue DB**.
5. **Process 1.5: Place Order**
    - Customers place orders for paint products.
    - The **Order API** handles order processing and payment validation.
6. **Process 1.6: Manage Orders**
    - Admins manage and track orders via the **Order Mgmt API**.

Data Stores:

- **User DB**: Stores data related to customers and admins (like credentials, profile data).
- **Catalogue DB**: Stores information about paint products, inventory, and orders.