**E-COMMERCE STORE**

This project is a **React.js-based e-commerce web application** that allows users to **log in, browse products, add items to their cart, and complete purchases**. The app implements authentication and **restricts access** to certain pages unless the user is logged in.

LEVEL 00: Context Diagram

* **User** : Logs in, browses products, adds items to the cart, and makes a payment.
* **System** : Manages authentication, cart operations, and navigation.
* **External Entity (User)**: The user interacts with the system.
* **Process (E-commerce UI)**: Handles authentication, product browsing, cart updates, and payments.
* **Data Store (User DB)**: Stores user credentials and session information.

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| User |

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| E-Commerce System | (Process: 0)

| - Handles login & authentication |

| - Manages product browsing |

| - Handles cart & payment |

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| Local Storage (Authentication) |

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LEVEL 01 : Breaking down the System

* Authentication System(1.1) : Handles user login/logout.
* Product Management(1.2) : Display products and allows adding to the cart.
* Cart Management(1.3) : Handles Cart Operations.
* Payment Processing(1.4) : Processes payments and clears the cart.

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| Process 1.1: Authentication |

| - Login & Logout Handling |

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| Process 1.2: Product Management |

| - View Product List |

| - Add to Cart |

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| Process 1.3: Cart Management |

| - View Cart |

| - Remove Items |

| - Proceed to Payment |

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| Process 1.4: Payment Processing |

| - Complete Payment |

| - Clear Cart |

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**Process 1.1 - User Authentication:**

* Users input email & password.
* System verifies credentials using the **User DB**.
* If valid, user is redirected to the **Product Page**.

**Process 1.2 - Admin Authentication :**

* Admin logs in to manage products.
* Validated against the **Admin DB**.

**Process 1.3 - Browse Products:**

* Users browse product listings.
* Products are retrieved from the **Product DB**.

**Process 1.4 - Cart Management:**

* Users add/remove products from their cart.
* Cart data is stored in the **Cart DB**.

**Process 1.5 - Payment Processing:**

* Users proceed to checkout and initiate payment.
* Payment details are sent to an **external payment gateway**.

**Data Flow:**

1. **User enters credentials** → System validates using **User DB**.
2. **User browses products** → Products retrieved from **Product DB**.
3. **User adds items to cart** → Data stored in **Cart DB**.
4. **User proceeds to checkout** → Payment handled by **external payment gateway**.
5. **After payment** → Cart is **cleared**, user is redirected to the product page.