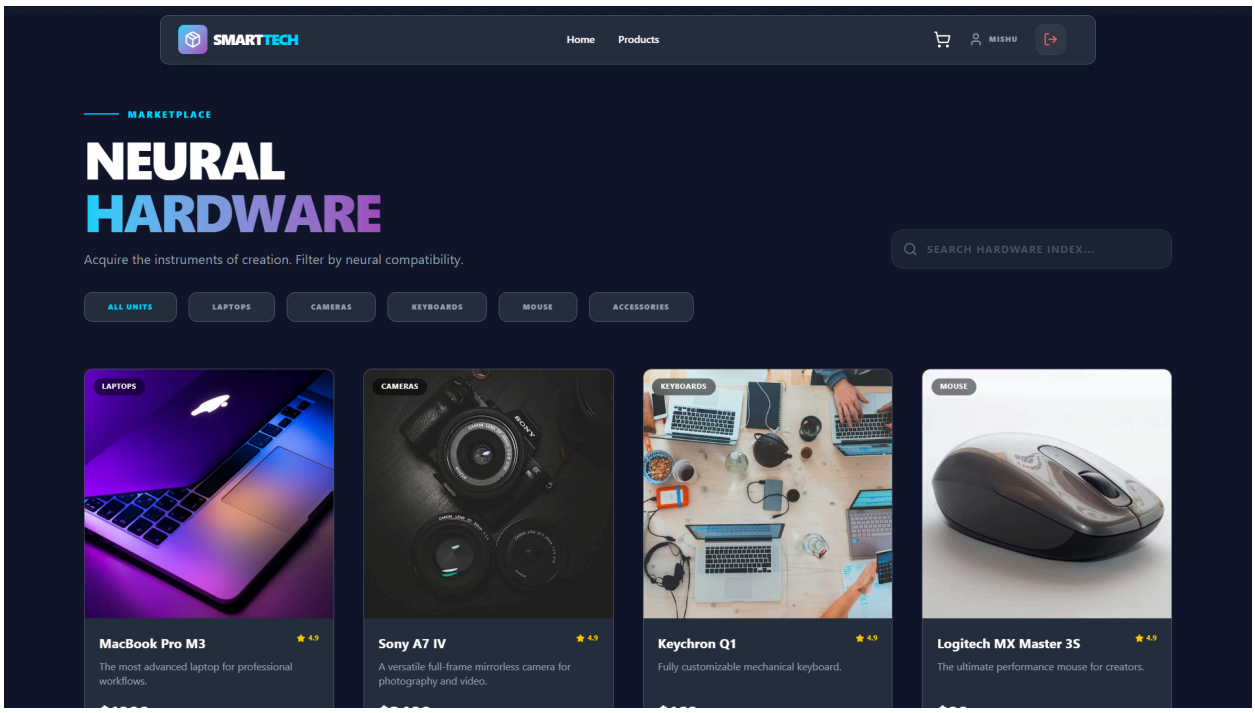
# PRD
# Smart Tech E-Commerce Website




# 📄 Product Requirements Document (PRD)

## Product Name

*Smart Tech E-Commerce Website*

## 1. Overview

The *Smart Tech E-Commerce Website* is a modern web-based platform that allows users to securely log in using *Face Recognition* and purchase IT-related products such as laptops, cameras, keyboards, mice, and accessories.

The system is designed as a *client-side application* where all user data, product data, and order information are stored in the *browser's Local Storage*, making it lightweight and suitable for demos, learning projects, and offline-first use cases.

An *Admin Dashboard* is included to manage products, users, and orders.

## 2. Goals & Objectives

* Provide a *secure and futuristic login system* using face recognition

* Enable users to *browse and purchase IT products* easily

* Implement a *fully client-side e-commerce system* using Local Storage

* Offer an *admin panel* for managing products and orders

* Deliver a *smooth, animated, and modern UI/UX*

## 3. Target Users

### 3.1 End Users (Customers)

* Tech buyers

* Students and developers

* Users interested in smart authentication systems

### 3.2 Admin Users

* Website owner

* Product manager

* Demo presenter / instructor

## 4. Key Features

### 4.1 Face Recognition Login & Registration

* Face capture using device camera

* Face data stored securely in Local Storage

* Face-based authentication for login

* Fallback option (optional): Email or PIN-based login

*User Flow:*

1. User opens the website

2. Camera permission is requested

3. Face is captured and registered

4. Face is matched during login

5. User is authenticated and redirected to the store

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### 4.2 User Authentication & Profile

* Register using face recognition

* Auto-login after successful face match

* User profile data stored in Local Storage

* Logout functionality

### 4.3 Product Catalog

* Product categories:

  * Laptops

  * Cameras

  * Keyboards

  * Mouse

  * Accessories

* Product details:

  * Product image

  * Name

* Description

* Price

* Stock status

### 4.4 Product Search & Filter

* Search products by name

* Filter by category

* Sort by price (Low → High, High → Low)

### 4.5 Shopping Cart

* Add to cart

* Update quantity

* Remove items

* Cart data saved in Local Storage

* Cart persists after page refresh

### 4.6 Checkout & Order Management

* Order summary page

* Confirm order button

* Order data stored in Local Storage

* No online payment (demo/offline mode)

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### 4.7 Admin Dashboard

*Admin Authentication:*

* Admin login (face recognition or predefined credentials)

*Admin Features:*

* Add new products

* Edit product details

* Delete products

* Manage product categories

* View all orders

* View registered users

* Control product availability

## 5. Functional Requirements

### User Side

* Face recognition must work on supported browsers

* Users must be able to register and log in

* Products must load from Local Storage

* Cart and order data must persist

### Admin Side

* Admin can perform CRUD operations on products

* Admin can view orders and users

* Changes reflect instantly on user UI

## 6. Non-Functional Requirements

* Responsive design (Mobile, Tablet, Desktop)

* Smooth animations and transitions

* Fast load time (client-side only)

* Browser compatibility (Chrome, Edge, Firefox)

* Secure handling of face data (no server upload)

## 7. Tech Stack

### Frontend

* *React JS* – Component-based UI

* *Tailwind CSS* – Utility-first styling

* *Shadcn UI* – Prebuilt UI components

* *Framer Motion* – Page and component animations

* *GSAP* – Advanced animations

### Storage

* *Browser Local Storage*

## 8. Data Storage Structure (Local Storage)

* users – Registered user face data & profiles

* products – Product list and details

* cart – User cart data

* orders – Order history

* admin – Admin credentials

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## 9. User Flow Diagram (Textual)

1. Landing Page

2. Face Login / Registration

3. Home Page (Product Listing)

4. Product Details

5. Add to Cart

6. Checkout

7. Order Confirmation

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## 10. Admin Flow

1. Admin Login

2. Dashboard Overview

3. Product Management

4. Order & User Management