**Technical Requirements Document (TRD)**

**Project Title:**

**Enhancement of Demo E-Commerce Website – Demoblaze**

**Prepared By:**

**Naresh (Application Owner)**

**Document Version:**

**v1.0**

**Date:**

**June 12, 2025**

**1. Purpose**

This document provides the technical guidance, assumptions, and system-level implementation considerations derived from the business requirements specified in the BRD. It is intended to enable the development team to implement enhancements and simulate a fully functional e-commerce front-end for the Demoblaze demo platform.

**2. Architecture Overview**

* **Platform:** Web-based
* **Frontend Framework:** HTML5, CSS3, JavaScript (Bootstrap 4, jQuery)
* **Backend (Static Simulation):** No real backend/database integration is expected. All flows (e.g., sign-up, login, add-to-cart) should simulate expected behaviors using browser storage or mock data.
* **API Behavior (Optional):** Simulate request/response cycles using JavaScript to enhance realism.

**3. Technical Scope**

**3.1 Modules to be Implemented or Updated**

|  |  |
| --- | --- |
| **Module** | **Implementation Detail** |
| User Registration | Simulate user creation using JavaScript and local/session storage. No backend required. |
| User Login | Validate against local storage entries. Maintain session using session storage. |
| Product Listing | Load products by category (Phones, Laptops, Monitors) via static JSON or JavaScript arrays. |
| Product Detail Page | Create dynamic product details section on click, using product ID passed via the UI. |
| Shopping Cart | Store selected items in local/session storage. Display cart summary and allow removal. |
| Checkout | Provide a form with basic validation (HTML5 + JS). No real payment or backend involved. |
| Confirmation Modal | On "Purchase", display order summary with item list, total, and simulated success message. |
| Logout Functionality | Clear session/local storage data and redirect to homepage. |

**4. Technical Requirements**

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| --- | --- |
| **Requirement ID** | **Requirement Description** |
| TR-001 | Use client-side storage (local/session) to simulate login/session behavior. |
| TR-002 | Create static data sets for products and categories. |
| TR-003 | Implement client-side filtering logic for category-based product rendering. |
| TR-004 | Implement modal pop-ups using Bootstrap for forms and order confirmation. |
| TR-005 | Ensure all forms include field validations (required, length, format) using JS and HTML5. |
| TR-006 | Ensure mobile responsiveness using Bootstrap grid system. |
| TR-007 | Ensure all simulated flows behave as closely as possible to a real e-commerce platform. |

**5. Non-Functional Guidance**

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| --- | --- |
| **ID** | **Description** |
| NF-001 | All pages must be responsive on mobile and desktop (min width 360px). |
| NF-002 | Page load time should not exceed 2 seconds for static content. |
| NF-003 | Use browser console to simulate errors or display warnings for invalid actions. |
| NF-004 | Ensure session timeout logic is implemented using JavaScript timer. |
| NF-005 | Code must be well-commented for QA to understand simulated flows. |

**6. Assumptions**

* No backend server, database, or external API integration will be performed.
* Local/session storage will act as the data layer.
* Focus is on frontend functionality and simulation only.
* Security is not enforced since this is a demo/testing tool.

**7. Deliverables for Development**

* HTML/CSS/JS files for all modules/pages.
* A simulated products.json or product array in JS.
* Bootstrap modal components for:
  + Login
  + Sign Up
  + Purchase Form
  + Order Confirmation
* Mobile-friendly layout.
* Developer testing log (optional) to verify flows.

**8. Handoff Instructions**

* All source code must be organized by module (e.g., login.js, cart.js, checkout.js).
* All scripts should be linked in a single index.html or modular HTML pages.
* Use comments to describe simulated logic for QA and learners.
* Send complete zipped folder to QA Lead (Vijay) for validation by **June 20, 2025**.