**Software Requirements Specifications**

**Project Name: TechXpress**

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# Introduction

TechXpress is an E-Commerce platform designed with the purpose of selling Tech products such as Laptops, PCs, Smart Phones, etc..

# User Requirements

These are the requirements stipulated by the user base:

* **User Login and Signup:**
  + - The program should allow for the creation of a user account.
* **Shopping Cart Management:**
  + - The program should have a functional ‘shopping cart’ where the user can add items they wish to buy.
* **Customer Service:**
  + - The program should have customer service where users can go to settle disputes with the sellers, problems with the program, etc…
* **Order:**
  + - The program should allow the user to purchase the items stored in their shopping cart.
* **Order History:**
  + - The program should keep track of the purchases made by the user.
* **Bookmarks:**
  + - The program should allow the user to save their favorite search results.
* **Checkout and Payment:**
  + - The program should have an efficient and reliable system for checkout and payment.
* **Search and Filter:**
  + - The program should allow users to look up items they wish to buy as well as allow for the filtering of the results.
* **Admin Dashboard:**
  + - The program should contain admin controls.

# Functional Requirements

* **User Login and Signup:**
  + - **Description/Action:** Allows users to create an account by entering their email address, username, and password/login by entering their email and password.
    - **Requirements/Inputs:** Email, password, username.
    - **Source:** User Input via registration form.
    - **Pre-Condition:** The user is not already logged in/has an account.
    - **Post-Condition:** The user is logged in/a new account is created.
* **Shopping Cart Management:**
  + - **Description/Action:** Allows users to add items they wish to buy to a shopping cart.
    - **Requirements/Inputs:** Product ID and quantity.
    - **Source:** User input via “Add to cart” button.
    - **Pre-Condition:** The user is logged in.
    - **Post-Condition:** The item is added to the user’s cart.
* **Customer Service:**
  + - **Description/Action:** Allows users to contact a program/company representative.
    - **Requirements/Inputs:** Complaint message.
    - **Source:** User input via “Customer Service” button.
    - **Pre-Condition:** The user is logged in.
    - **Post-Condition:** The user is in contact with a representative.
* **Contacting the Seller:**
  + - **Description/Action:** Allows users to contact the seller of a product.
    - **Requirements/Inputs:** Text message depicting the request the buyer has for the seller.
    - **Source:** User input via “Contact the Seller” button.
    - **Pre-Condition:** The user is logged in.
    - **Post-Condition:** The user is in contact with the seller of a given item.
* **Order:**
  + - **Description/Action:** Allows users to make orders through their shopping carts.
    - **Requirements/Inputs:** User is logged in and has at least one item in their shopping cart.
    - **Source:** User Input via “Order" button.
    - **Pre-Condition:** The user is logged in.
    - **Post-Condition:** The user is capable of reviewing the items they want to buy before making their purchase.
* **Order History:**
  + - **Description/Action:** Allows users to have information about their past orders stored on their profile.
    - **Requirements/Inputs:** User is logged in and has performed at least one past purchase.
    - **Source:** User Input via “View Order History" button.
    - **Pre-Condition:** The user is logged in.
    - **Post-Condition:** The user is capable of viewing all the purchases they have made in the past.
* **Checkout and Payment:**
  + - **Description/Action:** Allows the user to provide payment to the seller in either cash on delivery or credit format.
    - **Requirements/Inputs:** User is logged in and shopping cart has at least one item within.
    - **Source:** User Input via “Checkout” button.
    - **Pre-Condition:** The user is logged in.
    - **Post-Condition:** The user has paid/will pay and the product is flagged to be delivered.
* **Bookmark:**
  + - **Description/Action:** Allows the user to store items they may not wish to immediately purchase for later perusal.
    - **Requirements/Inputs:** User is logged in and has performed at least one search in the website.
    - **Source:** User Input via “Save for Later” button.
    - **Pre-Condition:** The user is logged in.
    - **Post-Condition:** The user has an item stored in the Bookmarks portion of their profile.
* **Search and Filter:**
  + - **Description/Action:** Allows the users to look up certain products and filter the results provided.
    - **Requirements/Inputs:** User is logged in.
    - **Source:** User Input via search bar.
    - **Pre-Condition:** The user is logged in and looking for products to buy.
    - **Post-Condition:** The user is viewing a page full of search results.
* **Admin Dashboard:**
  + - **Description/Action:** Allows users with special permissions – admins – to control unseen aspects of the program.
    - **Requirements/Inputs:** User is logged in with special account.
    - **Source:** User Input via various admin controls.
    - **Pre-Condition:** The user is not logged in.
    - **Post-Condition:** The user is logged in and is capable of viewing the various changes they can affect in the program.

# Non-Functional Requirements

* **Performance Requirements:**
  + - **Response Time:** The system should provide search results in under 10 seconds under normal conditions.
    - **Execution Speed:** The checkout process should be completed in under 15 seconds under normal conditions.
* **Reliability Requirements:**
  + - **Uptime:** The program should have an uptime of 99.9%, ensuring that it is always available to users except during scheduled maintenance.
    - **Error Handling:** The program should handle errors gracefully, displaying user-friendly error messages and logging errors for later debugging.
* **Usability Requirements:**
  + - **User Interface:** The system should have a responsive and user-friendly UI that functions on multiple interfaces.
    - **Accessibility:** The system should be accessible and accommodating to all users.
* **Security Requirements:**
  + - **Data Encryption:** All sensitive user data should be encrypted under the conventional encryption standards.
    - **Authentication:** The system should enforce strong password policies and support multi-factor authentication for added security.
* **Scalability Requirements:**
  + - **Load Handling:** The system should support up to 10,000 concurrent users without going down.
    - **Storage:** The systems should support up to 1,000,000 products and scale the storage capacity as needed.
* **Compatibility Requirements:**
  + - **Browser Support:** The system should be compatible with the latest versions of Chrome, Firefox, Safari, and Edge.
    - **Operating Systems:** The system should be supported on Windows, MacOS, iOS, and Android.
* **Maintainability Requirements:**
  + - **Code Quality:** The system should follow coding and clean code conventions.
    - **Version Control:** Git should be used for version control.