

**ADVANCED WEB DEVELOPMENT**

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**Software Requirements** **Specification**

Project: BLAK BOX | Tech Store

Team: 3

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# Introduction

This Software Requirements Specification (SRS) document describes the functional and non-functional requirements for the **PawPoint 360 Website** project. The system is designed to provide an intuitive, responsive, and user-friendly platform for scheduling and managing dog walking services.

The purpose of this document is to define the software functionalities, interfaces, performance requirements, constraints, and other relevant aspects to ensure a common understanding between the stakeholders, including developers, clients, and project managers.

This document follows the IEEE Std 830-1998 guidelines to maintain a clear and structured format. It serves as the foundation for system design, development, and future maintenance, ensuring that the delivered product meets both user expectations and business objectives.

## Purpose

The purpose of this project is to design and develop a responsive, user-friendly website that serves as a digital platform for a pet-focused business offering four main services: pet shop, dog walking, veterinary care, and dog grooming. The goal is to provide pet owners with a centralized, informative, and interactive space where they can learn about each service, view relevant content (such as staff profiles, tips, and photo galleries), and access essential tools like booking appointments and contacting staff. This document outlines the software requirements necessary to guide the development process, ensuring that the website fulfills the expectations of both the business and its clients.

## Scope

This system will provide a web-based solution accessible from desktop devices. Key features include a clear homepage, an interactive gallery, a team presentation, quick contact buttons, integration with location maps, and a booking form for scheduling rides, vet appointments, and online shopping. The site will be fully manageable without the need for technical knowledge and will include analytics, security (SSL), and social media integration. Features such as a tips blog and a coverage map will also be included to improve user engagement and trust. The platform does not currently include payment processing or GPS tracking.

## Personnel Involved

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## Definitions, acronyms and abbreviations

|  |  |
| --- | --- |
| Name | Description |
| User | Person who will use the system to consult information and manage processes. |
| Employee | Person who will use the system for employee administrative purposes. |
| Admin | Person who will use the system for company administrative purposes. |
| SRS | Software Requirements Specification |
| FR | Functional Requirement |
| NFR | Non-functional requirement |
|  |  |

## References

Mundotek. (2017, junio 14). Tienda en línea de tecnología – MundoTek 2025. MundoTek | Tu tienda en línea de tecnología; Mundotek.com.ec. <https://mundotek.com.ec/>

Online, T. H. P. (2024, septiembre 27). Componentes esenciales de una PC: Guía completa. Www.hp.com. <https://www.hp.com/ar-es/shop/tech-takes/componentes-esenciales-computadora>

## Summary

This project involves the development of a web-based e-commerce platform for a technology store specializing in selling components and accessories for building custom PCs. The system will allow users to browse a wide range of products organized into specific categories (e.g., graphics cards, processors, memory, etc.), view detailed product information, and make secure online purchases. The platform will provide a user-friendly interface where customers can search, filter, and compare products based on various criteria such as price, brand, and specifications.

# General Description

## Product Perspective

The proposed system is a standalone web application developed to support the operations and public presentation of a business about to start selling products, specifically a technology store specializing in the sale of desktop computer components. It is conceived as a standalone solution that provides a structured and informative interface to showcase products, facilitate customer communication, and improve overall service visibility.

It is designed to be deployed on a web server and accessed through standard web browsers on desktop computers and mobile devices. The architecture will follow modern web development standards, ensuring maintainability, responsiveness, and accessibility.

The system is also designed with scalability in mind, allowing for future extensions such as online payment modules, user authentication with APIs, and others, although these are not part of the initial scope.

## Product Functionality

The product is an e-commerce platform designed for a technology store that offers components and accessories for building PCs. Its functionality should ensure that users can perform the following key actions:

* **Catalog Browsing:** Users should be able to view and explore available products, organized by category (such as processors, graphics cards, RAM, etc.).
* **Product Search:** Users should be able to search for products using keywords, filters, and categories to quickly find what they need.
* **Viewing Product Details:** Users should be able to see detailed information about each product, including images, technical descriptions, specifications, pricing, and purchasing options.
* **Product Purchase:** Users should be able to add products to their shopping cart, review their selection, and checkout securely.
* **User Account Management:** Users can create and manage their accounts, save shipping addresses, view their order history, and make future purchases more easily.
* **Inventory Management (Administrator):** The store administrator must be able to manage available products, ensuring that inventory is up to date.
* **Order Management (Administrator):** The administrator must be able to view and manage customer orders, ensuring that each order is processed and shipped correctly.

## User Characteristics

The system is designed for use by the following types of registered users:

**Customers (End Users)**

Customers are the primary users of the platform. They are people who visit the website to purchase technology components for building PCs. User characteristics include:

* **Varying technical knowledge:** Customers can have varying levels of technology knowledge, from novices seeking assistance in product selection to hardware experts who already know the specifications and brands of the components they need.
* **Objective:** Their primary goal is to browse the product catalog, select the components they wish to purchase, add them to the cart, and complete the purchase process.
* **User experience requirements:** Users expect a smooth and easy-to-navigate shopping experience. The interface should be intuitive, allowing even less experienced users to quickly find the products they are looking for.
* **Mobile access needs:** Many customers will use mobile devices to make purchases, so the website should be fully responsive and optimized for mobile devices.

**Store Administrator**

The administrator is the user in charge of managing and maintaining the online store. This user profile has specific responsibilities regarding product, order, and user management. The administrator's characteristics are as follows:

* **Advanced technical knowledge:** The administrator must have a good understanding of the web management platform and content management systems (CMS) used to update the product catalog, make system adjustments, and manage orders.
* **Responsibilities:**
  + **Product management:** Add, update, or delete products in the catalog, define prices, descriptions, and specifications.
  + **Order management:** Monitor and process customer orders, manage inventory, and coordinate shipping.
  + **User management:** Manage user accounts, review purchase history, and resolve potential customer issues.
  + **Website maintenance:** Ensure the website is operational by performing regular updates and maintaining platform security.
* **System access:** Administrators have access to secure areas where they can manage all relevant information about the store, products, users, and sales. Additionally, they must be able to generate sales reports and traffic statistics to evaluate store performance.

## Constraints

* Interface to be used with the Internet.
* Domain Usage.
* Languages and technologies in use: HTML, JAVA.
* Servers must be able to handle queries concurrently.
* The system should be designed according to a client/server model.
* The system should have a simple design and implementation, independent of platform or programming language.

## Assumptions and Dependencies

* It is assumed that users (customers, employees and administrators) have stable internet access to be able to use the platform.
* It is assumed that employees and administrators will be trained to use the web system according to their assigned roles.
* It is assumed that the system will be accessed primarily from modern browsers that support HTML5 and CSS3.
* It is assumed that the server will be available 24/7 for continuous operation of the system.
* It is assumed that the PawPoint 360 business already has active physical services (pet shop, grooming, veterinary, walks), and that the system is a digital extension of these.
* The system relies on a reliable hosting provider to host the web application. The system depends on an operational database for the storage and management of user, service and product information.

# Specific Requirements

## Common interface requirements

### User Interfaces

The system will provide a graphical user interface (GUI) accessible through standard web browsers. The interface will be responsive and adapt to various screen sizes (mobile, tablet, desktop). Navigation will be intuitive, using a top or side menu with clearly labeled sections for each of the main service areas. Forms will include input fields, dropdowns, and buttons with clear labels and consistent styling. Accessibility guidelines (WCAG) will be considered to ensure usability for a broader range of users.

### Hardware Interfaces

The system does not require direct interaction with any specialized hardware devices. It is intended to run on any device capable of using a modern web browser, including desktop computers, laptops, tablets, and smartphones.

### Software Interfaces

The system will interface with the following third-party software and services:

* Web Browser Compatibility: Chrome, Firefox, Edge, Safari (latest versions).
* Google Maps API: to display business location and service coverage areas.
* Google Analytics: for tracking website traffic and user behavior.
* WhatsApp Link Integration: for direct communication with staff.  
  No other software dependencies are required for the basic operation of the system.

### Communication Interface

Communication between the client and the server will use the HTTP/HTTPS protocols. All data transmissions involving user input will be secured via SSL encryption. The website will not include real-time communication, email automation, or socket-based interfaces in this initial version.

## Functional requirements

### Home Page

* The system must display a home page with clear information about available products and product categories (e.g., processors, graphics cards, etc.).
* The home page must include quick links to key sections, such as the product catalog, specific categories, and access to the shopping cart.

### Product Catalog

* The system must allow users to view a product catalog organized into different categories (such as "Processors," "RAM," "Motherboards," etc.).
* The system must allow detailed viewing of each product, including images, descriptions, technical specifications, prices, and availability.
* The catalog must allow filtering products by characteristics such as brand, price, compatibility, etc..

### Product Search

* The system must allow users to search for products using keywords (such as product name, brand, or component type).
* The search must be able to display results in real time, adjusting based on selected filters (e.g., price range, component type).

### Shopping Cart

* The system must allow users to add products to the shopping cart easily and quickly.
* The system must display a preview of the cart where users can see the added products, their quantity, and the total price.
* The system must allow users to modify the cart contents (add or remove products, change quantities).
* The system must update the cart total, including taxes and shipping costs, in real time.

### User Account Management

* The system must allow users to create an account by providing information such as name, email, shipping address, and payment details.
* The system must allow users to log in to their account to access their purchase history, manage their shipping addresses, and save information for future purchases..

### Inventory Management (Administrator)

* The system must allow the administrator to manage product inventory, allowing them to add, modify, or delete products from the store.
* The system must allow the administrator to edit product descriptions and prices quickly and easily.

### Order Management (Adinistrator)

* The system must allow the administrator to view all orders placed by customers, including details such as products purchased, quantities, shipping addresses, and payment methods.
* The system must allow the administrator to update order statuses, such as "pending," "shipped," "delivered," and "cancelled."

### System Security

* + - * The system must allow secure user authentication, especially for administrator access.

## Non-functional requirements

### Performance requirements

* Ensure that query design or other processing does not significantly affect database performance or network traffic.
* The system should load the main user interface in less than 3 seconds under normal network conditions.
* Common operations should be executed in less than 2 seconds.

### Security

* Only administrators will have access to critical system functions (such as user and service management).
* Access control policies must be established to ensure that users can only view and modify information related to their role.
* Sensitive data (such as personal or payment information) must be stored securely, following good encryption and protection practices.

### Reliability

* The system must be able to automatically recover from minor failures without losing critical information.
* Regular backups of the database must be performed.

### Availability

* The system must be available at least 95% of the time during business hours.

### Maintainability

* The source code must be documented to facilitate maintenance and evolution.
* The system must allow for updating modules (for example, adding new services) without affecting overall functionality.
* A modular architecture must be followed to facilitate error isolation and modifications.

### Portability

* The system is designed to be used on Windows operating systems in its administrative and development environments.
* The web platform will be accessible from modern Windows-compatible browsers (such as Google Chrome, Microsoft Edge, and Mozilla Firefox).