# **Software Requirements Specification (SRS)**

## **1. Overview**

This document provides the Software Requirements Specification (SRS) for the **OctoPerf PetStore Demo Application**, specifically focusing on the **catalog functionalities** accessible at <https://petstore.octoperf.com/actions/Catalog.action>.

It defines the functional and non-functional requirements, environment considerations, and serves as a baseline for further development, testing, and maintenance focused on catalog browsing, product viewing, and cart interactions.

## **1.1 Scope**

The scope of this SRS is limited to functionalities available directly through the catalog page, specifically:

* Viewing available product categories.
* Browsing product listings within categories.
* Viewing product details.
* Adding products to the shopping cart.
* Accessing the shopping cart from catalog pages.

**Excluded:**  
 User registration, login, and order checkout are outside the scope for this SRS.

## **2. References**

* OctoPerf PetStore Demo Documentation
* JMeter Testing Documentation
* IEEE Standard 830-1998 (Recommended Practice for Software Requirements Specifications)
* Selenium Documentation

## **3. Definitions**

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| **Term** | **Definition** |
| SRS | Software Requirements Specification |
| Cart | Virtual container holding selected products prior to checkout |
| Catalog | The section of the site listing product categories and items |
| Category | A group of related products (e.g., Fish, Dogs, Reptiles) |
| Product | Individual item available for browsing and adding to cart |
| JMeter | Open-source tool for load testing |
| Selenium | Automation framework for web testing |

## **4. Considerations for producing a good SRS**

### **4.1 Nature of the SRS**

* Capture the full set of functional and non-functional requirements for catalog browsing and shopping cart addition.

### **4.2 Environment of the SRS**

* Web application accessible via standard browsers (Chrome, Firefox).
* Internet connection required.
* Application hosted at OctoPerf demo environment.

### **4.3 Characteristics of a good SRS**

* **Correctness**: Each requirement is verifiable.
* **Unambiguity**: Clear and concise requirements.
* **Completeness**: Full coverage of catalog browsing operations.
* **Consistency**: No contradictory requirements.
* **Ranking**: Cart addition is prioritized as critical.
* **Modifiability**: Easy to update.
* **Traceability**: Each feature is traceable to user expectations.

### **4.4 Joint preparation of the SRS**

* Requirements have been considered with input from QA engineers and developers.

### **4.5 SRS evolution**

* As new categories or UI changes are introduced, the SRS will be version-controlled and updated.

### **4.6 Prototyping**

* Prototype available at [PetStore Catalog](https://petstore.octoperf.com/actions/Catalog.action) to validate flows.

### **4.7 Embedding design in the SRS**

* Functional workflows are described, not detailed UI designs.

### **4.8 Embedding project requirements in the SRS**

* Business goals (simple catalog navigation, quick product selection) are embedded.

## **5. The parts of an SRS**

### **5.1 Introduction**

This SRS introduces requirements for catalog-related operations on the OctoPerf PetStore application. Intended audience includes developers, testers, and stakeholders.

### **5.2 Overall description**

#### **Product Perspective**

* Web-based standalone catalog section linked from PetStore homepage.

#### **Product Functions**

* Display product categories.
* Display products in selected category.
* Show product details.
* Enable adding products to shopping cart.
* Allow navigation to the shopping cart.

#### **User Characteristics**

* Basic web navigation experience expected.
* No technical knowledge required.

#### **Constraints**

* Works best with Chrome, Firefox browsers.
* Session timeout after inactivity (e.g., 30 minutes).

#### **Assumptions and Dependencies**

* Database service is running to fetch product data.
* Internet access is available for users.

### **5.3 Specific Requirements**

#### **Catalog Browsing**

* **R1**: The system shall display available product categories (Fish, Dogs, Reptiles, Cats, Birds).
* **R2**: The system shall allow users to click a category and view products in that category.
* **R3**: Products should be displayed with image, name, and a short description.

#### **Product Viewing**

* **R4**: The system shall allow users to view detailed product descriptions when a product is selected.
* **R5**: Product details must include an image, full name, price, and short description.

#### **Add to Cart**

* **R6**: Users must be able to add a product to their shopping cart directly from the product page.
* **R7**: Adding a product to the cart shall display a confirmation message.

#### **Shopping Cart Access**

* **R8**: A link/button to the shopping cart must be available at all times (e.g., in the top navigation bar).
* **R9**: Clicking on the cart shall redirect to the cart page where users can view, update, or remove products.

#### **Search Functionality**

* **R10**: The catalog page shall provide a keyword-based search to find products.
* **R11**: Search results should be displayed with matching products (name and price visible).

#### **Error Handling**

* **R12**: If a category has no products, a friendly message ("No products available") must be displayed.
* **R13**: If no search results match the query, display "No matching products found."

### **5.4 Supporting Information**

#### **User Interface Requirements**

* Navigation bar with catalog categories always visible.
* Search bar available on catalog page.
* Product images must load within 2 seconds.

#### **Performance Requirements**

* Catalog page and category product listing must load in under 2 seconds under normal load (<50 users).
* Cart addition operation should be processed within 1 second.

#### **Security Requirements**

* Ensure that shopping cart sessions are securely tied to the user session ID.
* No sensitive user data should be exposed while browsing the catalog.

#### **Software and Tools**

* **JMeter** will be used to load test category browsing and product viewing.
* **Selenium** will automate product selection and cart addition testing.