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# Functional Requirements Specification (FRS)

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## E-Commerce Application Testing



PREPARED BY

M.PAVITRA

05/01/2025



Version: 1.0

Prepared by: Pavitra

Date: January 2025

## Overview

OpenCart is free open source e-commerce platform for online merchants. OpenCart provides a professional and reliable foundation from which to build a successful online store.

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- Functional Requirements
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## 1. Introduction

**1.1 Purpose:** This document specifies the functional requirements and test scenarios for the E-Commerce application based on the OpenCart platform.

**1.2 Scope:** The E-Commerce platform should include features for user login, product search, cart management, checkout, payment, and user profile management.

**1.3 Target Audience:** This document is intended for testers, developers, and project managers.

**1.4 Overview of the Document:** The document covers functional requirements, test scenarios, assumptions, constraints, and acceptance criteria.

## Opencart Frontend

This Document is intended to be used as an introduction to the OpenCart default store front. The store front reveals how the customer views and interacts with the store.



Currency ▼

123456789

My Account ▼

Wish List (0)

Shopping Cart

Checkout

## Your Store

Search



0 Item(s) - \$0.00

Desktops Laptops & Notebooks Components Tablets Software Phones & PDAs Cameras MP3 Players



### Featured



#### MacBook

Intel Core 2 Duo processor Powered by an Intel Core 2 Duo processor at speeds up to 2.1..

**\$602.00**

Ex Tax: \$500.00

ADD TO CART



#### iPhone

iPhone is a revolutionary new mobile phone that allows you to make a call by simply tapping a nam..

**\$123.20**

Ex Tax: \$101.00

ADD TO CART



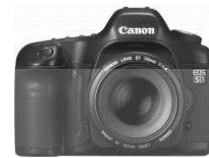
#### Apple Cinema 30"

The 30-inch Apple Cinema HD Display delivers an amazing 2560 x 1600 pixel resolution. Designed sp..

**\$110.00** ~~\$122.00~~

Ex Tax: \$90.00

ADD TO CART



#### Canon EOS 5D

Canon's press material for the EOS 5D states that it 'defines (a) new D-SLR category', while we'r..

**\$98.00** ~~\$122.00~~

Ex Tax: \$80.00

ADD TO CART



#### Information

About Us  
Delivery Information  
Privacy Policy  
Terms & Conditions

#### Customer Service

Contact Us  
Returns  
Site Map

#### Extras

Brands  
Gift Certificates  
Affiliate  
Specials

#### My Account

My Account  
Order History  
Wish List  
Newsletter

Powered By OpenCart  
Your Store © 2018

The products seen above are included as sample data with the OpenCart installation. These products can easily be removed and replaced with the shop's products later.



# Navigating the shop

The OpenCart default theme makes navigating a shop's products easily accessible to its customers.

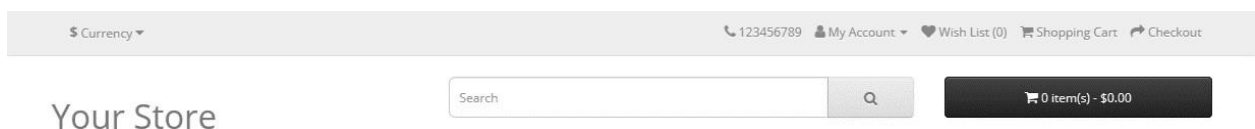
## Home page

The home page is arguably the most important page in the shop, in terms of presentation. In most cases, this will be the first page that a customer interacts with (especially if they are directed to the store site from a search engine). The shop's homepage needs to be user-friendly, while at the same time highlighting the shop's products.

The first step in becoming familiar with the store front is understanding the anatomy of the OpenCart default homepage.

## The header

The header will be displayed at the top of the page, on every page of the store; not just the home page.



The header has the following navigation options:

- **Store logo:** Clicking on this logo will direct the customer back to the home page of the store.
- **Currency block:** The customer can select which currency the store's products will be in by clicking on any of the currency icons.
- **Shopping Cart:** Displays the number of items purchased, and the total price of the order. Clicking on the button will containing all of products added to the cart and an option to "View Cart" or "Checkout".
- **Search box:** The customers can type in the search box to search for a product within the store's product categories.
- **Links:** Links the customer to the Home page, Wish List, My Account, Shopping Cart, and Checkout.
- **Telephone:** Company telephone number.
- **My Account:** Customer can register or login from here.

## The top menu

The top menu category only displays the top parent categories of products.



Like the header, the top menu will be displayed on every page. When the customer's mouse is dragged over a category, a drop-down menu will display the sub-categories for that parent category.



When a parent category is clicked, the customer will be directed to the category page, which displays all the products within that category.

## Slideshow

The slideshow displays several product banners of your choice by alternating the images in a slideshow. After a certain amount of time, one banner will shift to the the next banner. Banners in this slideshow are useful for highlighting certain products to be easily accessible by the customer. When the banner is clicked on, the customer will be directed to the product on the banner's page.







Unlike the top menu and header, the slideshow in the OpenCart default can only be viewed on the home page in this position.

## Featured products

OpenCart gives you the option of featuring specific products of their choosing on the home page.

## Featured

 <p><b>MacBook</b></p> <p>Intel Core 2 Duo processor Powered by an Intel Core 2 Duo processor at speeds up to 2.1..</p> <p><b>\$602.00</b> Ex Tax: \$500.00</p> <p><a href="#">ADD TO CART</a> <a href="#">Heart</a> <a href="#">Compare</a></p>	 <p><b>iPhone</b></p> <p>iPhone is a revolutionary new mobile phone that allows you to make a call by simply tapping a nam..</p> <p><b>\$123.20</b> Ex Tax: \$101.00</p> <p><a href="#">ADD TO CART</a> <a href="#">Heart</a> <a href="#">Compare</a></p>	 <p><b>Apple Cinema 30"</b></p> <p>The 30-inch Apple Cinema HD Display delivers an amazing 2560 x 1600 pixel resolution. Designed sp..</p> <p><b>\$110.00</b> <del>\$122.00</del> Ex Tax: \$90.00</p> <p><a href="#">ADD TO CART</a> <a href="#">Heart</a> <a href="#">Compare</a></p>	 <p><b>Canon EOS 5D</b></p> <p>Canon's press material for the EOS 5D states that it 'defines (a) new D-SLR category', while we'r..</p> <p><b>\$98.00</b> <del>\$122.00</del> Ex Tax: \$80.00</p> <p><a href="#">ADD TO CART</a> <a href="#">Heart</a> <a href="#">Compare</a></p>
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The Featured section includes the product image, name, price and an option to add the product directly to the Shopping Cart.

The carousel is only located on the Home Page in the default.

## Footer

The footer is located at the bottom of every page, not just the Home Page. This block of miscellaneous links is useful in sorting relevant pages for the customer that may not logically sort anywhere else.

The organizational scheme of the footer can be divided into the following sections:

- **Information:** "About Us", "Delivery Information", "Privacy Policy", "Terms & Conditions"
- **Customer Service:** "Contact Us", "Returns", "Site Map"
- **Extras:** "Brands", "Gift Vouchers", "Affiliates", "Specials"
- **My Account:** "My Account", "Order History", "Wish List", "Newsletter"

Information	Customer Service	Extras	My Account
<a href="#">About Us</a> <a href="#">Delivery Information</a> <a href="#">Privacy Policy</a> <a href="#">Terms &amp; Conditions</a>	<a href="#">Contact Us</a> <a href="#">Returns</a> <a href="#">Site Map</a>	<a href="#">Brands</a> <a href="#">Gift Certificates</a> <a href="#">Affiliate</a> <a href="#">Specials</a>	<a href="#">My Account</a> <a href="#">Order History</a> <a href="#">Wish List</a> <a href="#">Newsletter</a>

Powered By OpenCart  
Your Store © 2018

## Product pages

The OpenCart default product page will follow the structural format seen below.

## Your Store

Search



0 item(s) - \$0.00

Desktops Laptops & Notebooks Components Tablets Software Phones & PDAs Cameras MP3 Players



MacBook



Description Specification Reviews (0)

### Intel Core 2 Duo processor

Powered by an Intel Core 2 Duo processor at speeds up to 2.16GHz, the new MacBook is the fastest ever.

### 1GB memory, larger hard drives

The new MacBook now comes with 1GB of memory standard and larger hard drives for the entire line perfect for running more of your favorite applications and storing growing media collections.

### Sleek, 1.08-inch-thin design

MacBook makes it easy to hit the road thanks to its tough polycarbonate case, built-in wireless technologies, and innovative MagSafe Power Adapter that releases automatically if someone accidentally trips on the cord.

### Built-in iSight camera

Right out of the box, you can have a video chat with friends or family, record a video at your desk, or take fun pictures with Photo Booth.



## MacBook

Brand: Apple  
Product Code: Product 16  
Reward Points: 600  
Availability: In Stock

**\$602.00**

Ex Tax: \$500.00

Qty

1

Add to Cart

☆☆☆☆☆ 0 reviews / Write a review

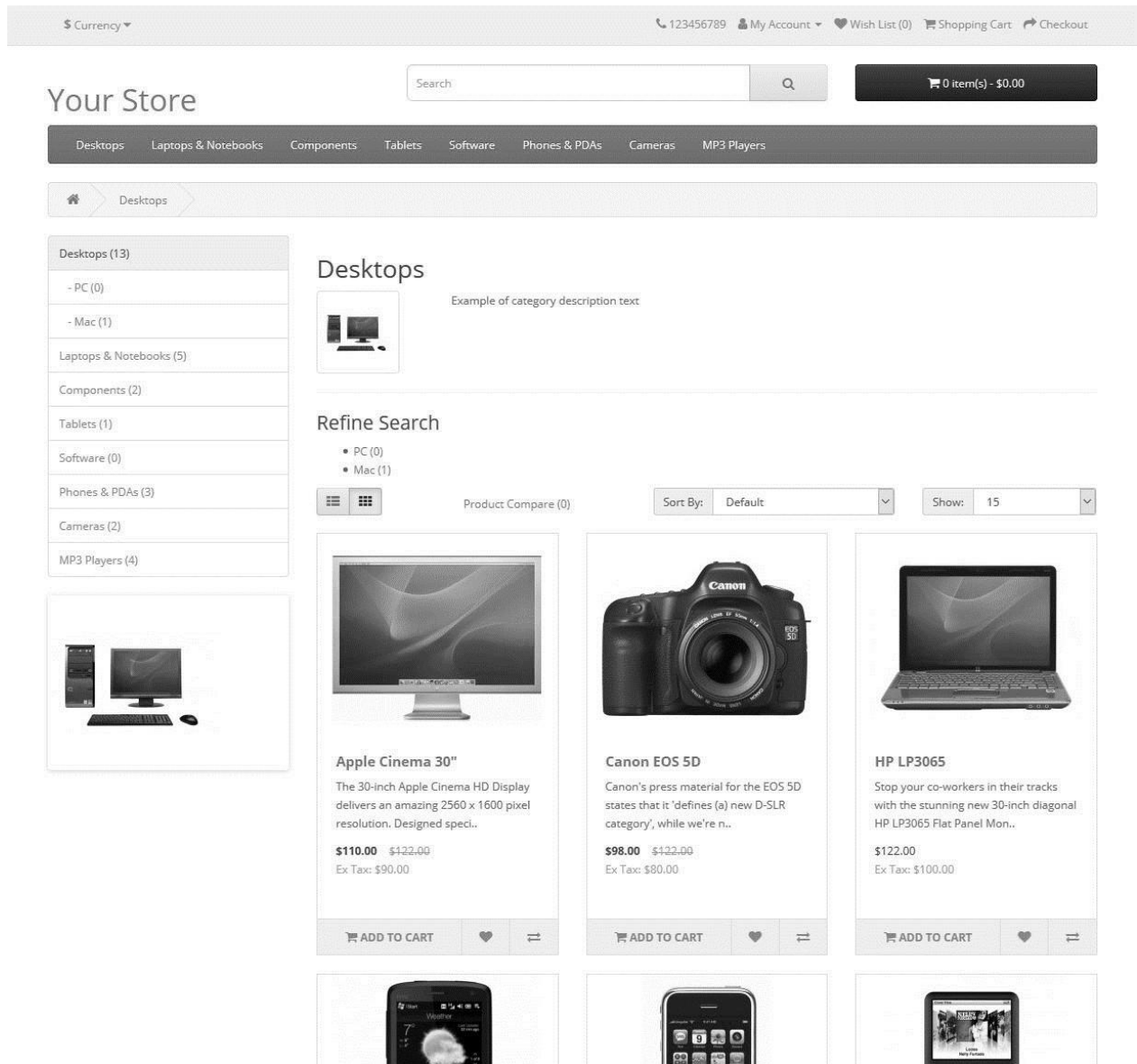
Like 52 Tweet Pin it Share 1.3K

The product page can be divided into the following sections:

- **Product image:** The product image can be displayed under the title on the left-side, along with alternate views of the product underneath it in smaller box. Clicking on the main image will expand the image within the window for the customer to see it in greater detail.
- **Product details:** The product code, availability, and price are displayed just right to the product image.
- **Cart:** The customer can select a quantity and add the product to their cart, wish list, or compare.
- **Rating/Sharing:** Underneath the cart can rate the product and/or share the product on different social media websites.
- **Description tab:** An area underneath the main product information to provide a detailed description of the product.
- **Review tab:** An area for the customer to write a review on the product.

## Category product listings

Category product listings enable customers to browse products similar to other products within the same category. This is especially helpful for customers looking to compare products, a feature that will be explained under Categories. The category page can be accessed a number of ways. It can be accessed from the top menu, when a customer clicks on one of the parent categories. Also, on product pages a customer can access the category product listing page by clicking on a category on the left side category block.



As seen above, the category block is displayed on the left-side like it is in the product page. There is space under the Category title at the top to add a description to the category. The "Refine Search" links to sub- categories of that category for the user to browse. The products can be displayed according to the customer's preference: in a list or grid. The above image is sorted in the listing format. The products can be sorted according to name, price, rating, or model in the "Sort By" box.

The number of products displayed in the product listing can be changed in "Show" from 15 up to 100.





There is a section that gives space for each of the products within the category, providing a product image, description, price, and an Add to Cart option. There is an option to add the product to a wish list. Another option for the product is to "Add to Compare".

## Product compare

The "Add to Compare" feature in the product section allows the customer to compare the different specifications, features, and price of a number of products s/he might be interested in.

### Product Comparison

Product Details		
Product	MacBook	MacBook Air
Image		
Price	\$602.00	\$1,202.00
Model	Product 16	Product 17
Brand	Apple	Apple
Availability	In Stock	In Stock
Rating	☆☆☆☆☆ Based on 0 reviews.	☆☆☆☆☆ Based on 0 reviews.
Summary	Intel Core 2 Duo processor Powered by an Intel Core 2 Duo processor at speeds up to 2.16GHz, the new MacBook is the fastest ever. 1GB memory, larger hard drives The new MacBoo..	MacBook Air is ultrathin, ultraportable, and ultra unlike anything else. But you don't lose inches and pounds overnight. It's the result of rethinking conventions. Of multiple wireless ..
Weight	0.00kg	0.00kg
Dimensions (L x W x H)	0.00mm x 0.00mm x 0.00mm	0.00mm x 0.00mm x 0.00mm
<b>Memory</b>		
test 1	8gb	
<b>Processor</b>		
No. of Cores	1	
	<a href="#">Add to Cart</a>	<a href="#">Add to Cart</a>
	<a href="#">Remove</a>	<a href="#">Remove</a>



The customer is given the option to add one of the compared products to the cart if they want to. Pressing "Continue" will bring the user back to the home page.

## Shopping Cart page

Once a customer adds a product to the cart, they can access the shopping cart in the header under "Shopping Cart".



## Shopping Cart (10.00kg)

Image	Product Name	Model	Quantity	Unit Price	Total
	iPhone ***	product 11	1  	\$123.20	\$123.20

### What would you like to do next?

Choose if you have a discount code or reward points you want to use or would like to estimate your delivery cost.

[Use Coupon Code ▾](#)

[Estimate Shipping & Taxes ▾](#)

[Use Gift Certificate ▾](#)

Sub-Total:	\$101.00
Eco Tax (-2.00):	\$2.00
VAT (20%):	\$20.20
Total:	\$123.20

[Continue Shopping](#) [Checkout](#)

The shopping cart gives an overview of the product selected by including the categories "Image", "Product Name", "Model", "Quantity", "Unit Price", and "Total". The customer has an option to add a coupon code or gift voucher, or estimate shipping & taxes, before heading to the checkout. The "Continue Shopping" button links back to the homepage.

## Creating an account

Before a customer can continue checking out a product from the shopping cart, the customer needs to select either guest checkout or log into their account. The guest checkout doesn't require log-in details. Returning customers may want to make an account with the store.

There are a few ways a customer can make an account:

## Checkout



## Checkout

Step 1: Checkout Options ▾

### New Customer

Checkout Options:

☒ Register Account

☐ Guest Checkout

By creating an account you will be able to shop faster, be up to date on an order's status, and keep track of the orders you have previously made.

Continue

### Returning Customer

I am a returning customer

E-Mail

Password

Forgotten Password

Login

Step 2: Account & Billing Details

Step 3: Delivery Details

Step 4: Delivery Method

Step 5: Payment Method

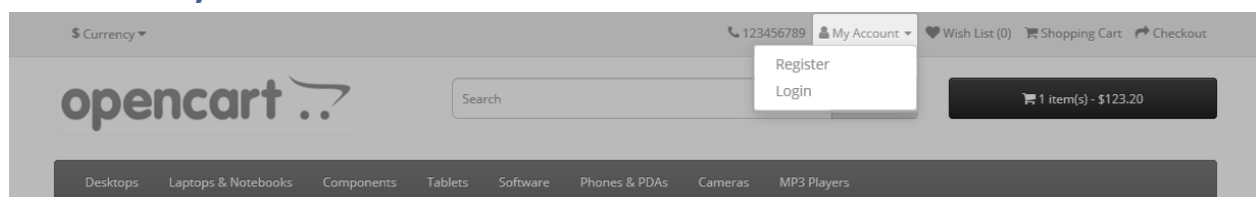
Step 6: Confirm Order

**Step 1** of the check out process allows the user to make an account before continuing with payment. Selecting "Register Account" will change.

Step 2 of checkout from Billing to Account & Billing details. Account & Billing asks for the same personal details as Billing, except that it asks for the user to create a password for their account.

After Step 2 is completed, the customer may continue with the checkout process.

## Header- "My Account"



Clicking "My Account" in the header will show the option for customer to the Login or create account. This page gives the customer an option to log in if they already have an account, or create a new account. In the "New Customer" section the customer can click "Continue" under Register Account to be directed to the "Register an Account" page.



# Checkout

Once a product has been added to the cart, the customer can continue to the checkout to make their product purchase. The Checkout page can be accessed in the header section of every page (found under the search box). Customer checkout using OpenCart is a simple process that can be completed in 6 steps.

## Step 1: Checkout options

The customer can log into or register their account (as explained above), or select guest checkout.

## Step 2: Billing details

Personal details including "First Name", "Last Name", "E-mail", and "Telephone" are filled into a form. It also requires the customer's address details.

## Step 3: Delivery details

In Billing Details, the user can check a box to indicate that the delivery details and billing details are the same. This will cause it to skip over this step to Delivery Method. If the delivery details are different from the billing details the customer can enter this information in a form in this section.

## Step 4: Delivery method

A method of shipping is selected here. A comment box is added for the customer to add comments about their order.

## Step 5: Payment method

The customer selects their method of payment here and may add comments in the comment box.

## Step 6: Confirm order

In this last step, the customer will see an overview of their purchase; including the product description, quantity, and price (with tax & shipping).



## 2. Functional Requirements

### 2.1 User Login and Registration

- Users must be able to register with a valid email and password.
- Users must be able to log in with their credentials.
- Password reset functionality must be available.
- User roles:
  - **Customer:** Can browse, add items to the cart, and complete checkout.
  - **Admin:** Can manage product listings, orders, and customer data.
- Users can view their order history, wish list, and update their profile.

### 2.2 Product Search and Filters

- Users must be able to search for products by name.
- Filters should include:
  - Price range
  - Brand
  - Rating
  - Availability
  - Category
- Product search results should be sorted by relevance, price, or rating.

### 2.3 Cart and Checkout

- Users must be able to add products to the cart.
- Users must be able to view and remove items from the cart.
- The checkout process should allow users to:
  - Select payment options (e.g., Credit Card, PayPal, Cash on Delivery)
  - Enter shipping details
  - Apply coupons or gift vouchers

### 2.4 User Profile Management

- Users can view and update their profile information.
- Users can manage their password and email notifications.

### 2.5 Admin Features

- Admin can:
  - Add/edit/delete products.
  - View customer orders and update order statuses.
  - Manage customer accounts (approve, block, or modify details).



### 3. Test Scenarios

#### 3.1 Test Scenario 1: Verify User Login with Valid Credentials

- **Steps:**
  1. Open the login page.
  2. Enter valid username and password.
  3. Click "Login".
- **Expected Result:** User should be logged in and redirected to the homepage.

#### 3.2 Test Scenario 2: Verify Product Search Functionality

- **Steps:**
  1. Enter the product name in the search bar.
  2. Click "Search".
- **Expected Result:** Relevant products related to the search term should be displayed.

#### 3.3 Test Scenario 3: Verify Cart Addition and Checkout

- **Steps:**
  1. Select a product and click "Add to Cart".
  2. Go to the cart and click "Proceed to Checkout".
  3. Enter shipping details and payment information.
- **Expected Result:** User should be able to complete the checkout successfully.

#### 3.4 Test Scenario 4: Verify Admin Product Management

- **Steps:**
  1. Log in as admin.
  2. Add a new product with details like name, price, description, and image.
  3. Save the product and verify it is displayed in the store.
- **Expected Result:** The new product should appear on the website.

#### 3.5 Test Scenario 5: Verify User Profile Management

- **Steps:**
  1. Log in as a customer.
  2. Navigate to "My Account" and update personal details (e.g., email, password).
  3. Save the changes and verify they are reflected in the profile.
- **Expected Result:** The updated information should be saved successfully.



## 4. Test Data Management

To perform thorough testing, the following test data will be used:

- **User Account Data:**
  - Valid customer emails and passwords for testing login, registration, and profile updates.
  - Admin account credentials for testing admin functionalities.
- **Product Data:**
  - A list of sample products with images, prices, and descriptions for product search, cart, and checkout testing.
  - Data for testing product categories, brands, and stock availability.
- **Order Data:**
  - Sample orders to verify the cart and checkout process, including different shipping methods and payment options.

## 5. Assumptions & Constraints

### 5.1 Assumptions

- The OpenCart application is available for testing in the staging environment.
- Test data (product details, user accounts) is available and maintained.
- The payment gateway supports sandbox testing accounts for transaction testing.

### 5.2 Constraints

- Testing will be conducted only on Chrome and Firefox browsers.
- Mobile testing will be limited to Android and iOS devices with major browser versions.
- Payment gateway testing will be limited to sandbox accounts.

## 6. Acceptance Criteria

The system will be considered successfully tested when:

- All test scenarios pass without critical defects.
- The application functions correctly across multiple browsers (Chrome, Firefox).
- The application is responsive and works across different screen sizes (desktop, tablet, mobile).
- Payment transactions are processed successfully in the sandbox environment.
- Admin functionalities such as product management, order tracking, and user management are functioning properly.



## 7. Document History

Version	Date	Description	Prepared By
1.0	January 2025	Initial Draft	Pavitra
1.1	January 2025	Added features for Admin testing, mobile testing, and test data management	Pavitra