


SOFTWARE REQUIREMENTS

SPECIFICATION

INKARTO AUTOMATION SUITE



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1. Introduction

This document outlines the software requirements for the Inkarto Ecommerce Website Test Automation Framework. The system is designed to automate comprehensive testing of the Inkarto ecommerce platform (<https://inkarto.com/>) using Selenium WebDriver, Cucumber BDD framework, and TestNG.

1.1 Intended Audience

- Software Test Engineers: Primary users who will develop and maintain test scripts
- QA Team Leads: Managers responsible for test execution and reporting
- Development Team: Developers who need to understand test coverage
- Project Stakeholders: Business analysts and product owners
- DevOps Engineers: Team members responsible for CI/CD integration

1.2 Project Scope

The automation framework covers comprehensive testing of the Inkarto ecommerce website including:

- User registration and authentication workflows
- Product search and filtering functionality
- Shopping cart and wish-list management
- Address management system
- Social media integration verification
- Newsletter subscription features
- Cross-browser compatibility testing
- Data-driven testing capabilities

2. Overall Description

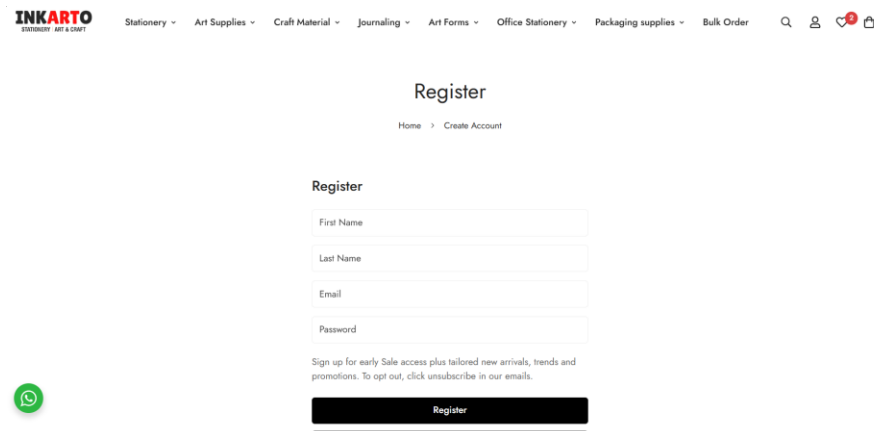
The test automation framework is a standalone system that interacts with the Inkarto ecommerce website through web browsers. It follows the Page Object Model (POM) design pattern and implements Behavior Driven Development (BDD) methodology using Cucumber.

2.1 Operating Environment

- Operating Systems: Windows
- Browsers: Chrome, Edge
- Java Version: JDK 21
- Build Tool: Maven 3.9.10
- Test Framework: TestNG 7.11.0
- BDD Framework: Cucumber 7.24.0
- WebDriver: Selenium 4.34.0
- Reporting: Allure Reports 2.29.1

2.3 Design and Implementation Constraints

- Must support both local and remote (Selenium Grid) execution
- Requires stable internet connection for web application access
- Test data management through Excel and XML files
- Screenshot capture capability for failed test scenarios
- Logging implementation using Log4j2



3. Functional Requirements

3.1 User Registration Automation

Requirement ID: FR001

Description: Automate the complete user registration process on the Inkarto website.

Functional Requirements:

- Navigate to the Inkarto website homepage
- Click on the Account icon to access registration
- Click on the Register button to initiate registration
- Fill in the registration form with test data:
 - First name (from Excel data)
 - Last name (from Excel data)
 - Email address (generated randomly)
 - Password (from Excel data)
- Submit the registration form
- Validate successful registration completion

Acceptance Criteria:

- Registration form loads successfully
- All required fields are populated with valid data
- Registration submission completes without errors
- User account is created successfully

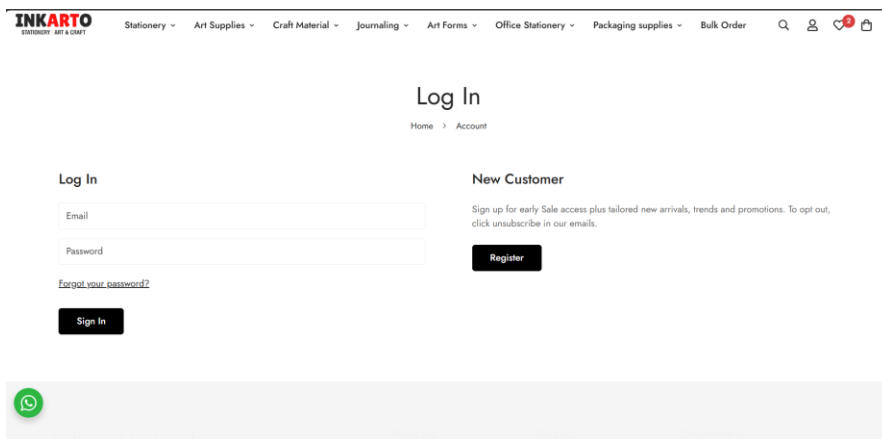
3.2 Login Authentication Validation

Requirement ID: FR002

- Description: Automate user login functionality with credential validation.
- Functional Requirements:
- Navigate to the Inkarto website
- Access the login section through Account icon
- Enter valid email credentials (from config.properties)
- Enter valid password credentials (from config.properties)
- Submit login form
- Validate successful authentication
- Verify users are logged in and can access account features

Acceptance Criteria:

- Login form displays correctly
- Valid credentials are accepted
- User session is established successfully
- Account dashboard is accessible after login



3.3 Address Management System

Requirement ID: FR003

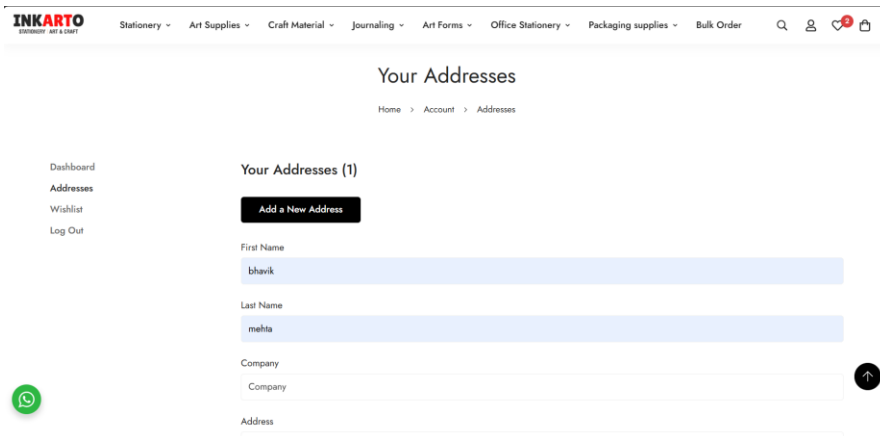
Description: Automate the process of adding and managing user addresses.

Functional Requirements:

- Login with valid user credentials
- Navigate to address management section
- Click on "Add Address" button
- Fill address form with data from Excel file:
- First Name, Last Name
- Company name
- Address Line 1 and 2
- City, ZIP code, Country
- Phone number
- Save address information
- Validate address is successfully added to user account

Acceptance Criteria:

- Address form loads with all required fields
- XML data is correctly parsed and populated
- Address is saved successfully
- Confirmation message is displayed
- Address appears in user's address list



3.4 Product Search and Filtering

Requirement ID: FR004

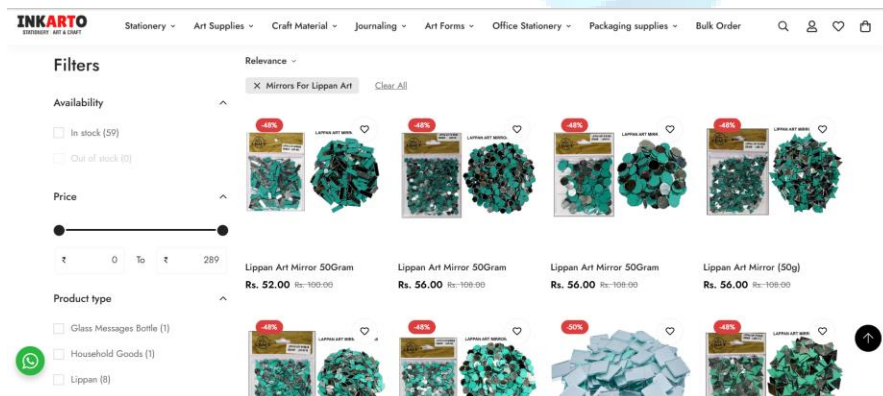
Description: Automate product search functionality with advanced filtering options.

Functional Requirements:

- Navigate to search functionality
- Enter search term "Lippan art" (from config.properties)
- Execute search operation
- Apply product category filters (Lippan Art checkbox)
- Retrieve and store product list
- Validate search results contain relevant products

Acceptance Criteria:

- Search bar is accessible and functional
- Search results display relevant products
- Filter options work correctly
- Product data is captured and stored in Excel



3.5 Product Category Navigation

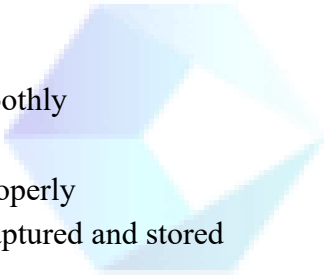
Requirement ID: FR005

Description: Automate navigation through product categories and subcategories.

Functional Requirements:

- Navigate to Packaging Supplies menu
- Hover over Gift Decor Products submenu
- Access Artificial Flowers category
- Apply "In Stock" filter
- Set maximum price range (from config.properties)
- Sort products by price (Low to High)
- Capture product titles and prices
- Store data in Excel format

Acceptance Criteria:

- Menu navigation works smoothly
 - Filters are applied correctly
 - Product sorting functions properly
 - Product data is accurately captured and stored
- 

3.6 Sticky Notes Product Options


Requirement ID: FR006

Description: Automate retrieval of sticky notes product options from the stationery menu.

Functional Requirements:

- Navigate to Stationery menu
- Hover over Sticky Notes submenu
- Capture all available sticky notes options
- Store options list in Excel format
- Validate menu hover functionality

Acceptance Criteria:

- Menu hover actions work correctly
 - All sticky notes options are displayed
 - Options list is captured and stored
 - Data is properly formatted in Excel
- 

3.7 Wishlist Management

Requirement ID: FR007

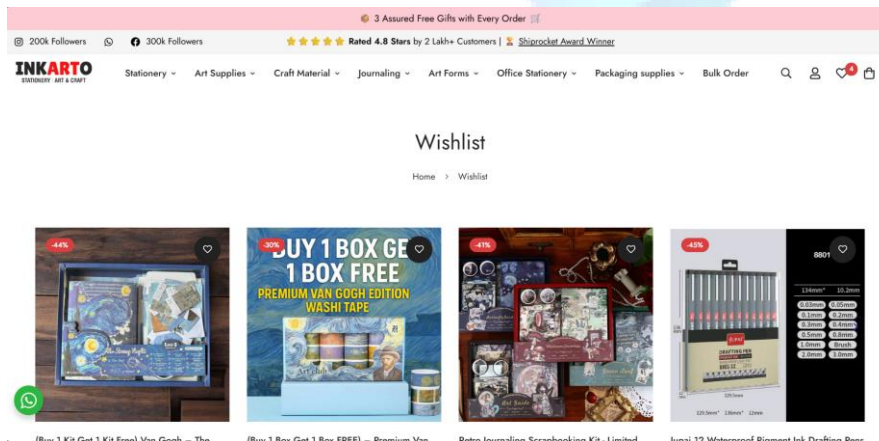
Description: Automate adding products to wish-list and viewing wish-list contents.

Functional Requirements:

- Navigate product listings
- Add first product to wish list
- Add second product to wish list
- Access main wish list view
- Retrieve list of wish list items
- Store wish list data in Excel format

Acceptance Criteria:

- Products are successfully added to wishlist
- Wishlist view displays added products
- Wishlist data is captured and stored
- Wishlist functionality works across different products



3.8 Social Media Integration Verification

Requirement ID: FR008

Description: Automate verification of social media links and URL validation.

Functional Requirements:

- Navigate to social media section
- Click on each social media icon:
 - Pinterest
 - Facebook
 - Instagram
 - YouTube
 - TikTok
- Capture current URLs after navigation
- Compare with expected URLs (from Excel)
- Mark test results as Pass/Fail
- Store results with color coding in Excel

Acceptance Criteria:

- All social media links are accessible
- URLs are correctly captured
- Validation against expected URLs works
- Results are properly documented with color coding

3.9 Social Media Followers Count


Requirement ID: FR009

Description: Automate retrieval of social media followers counts.

Functional Requirements:

- Navigate to social media section
- Retrieve Instagram followers count
- Retrieve Facebook followers count
- Store follower counts in Excel format
- Validate social media elements are displayed

Acceptance Criteria:

- Social media elements are visible
 - Follower counts are accurately retrieved
 - Data is stored in Excel format
 - Counts are displayed in console for verification
- 

3.10 Newsletter Subscription

Requirement ID: FR010

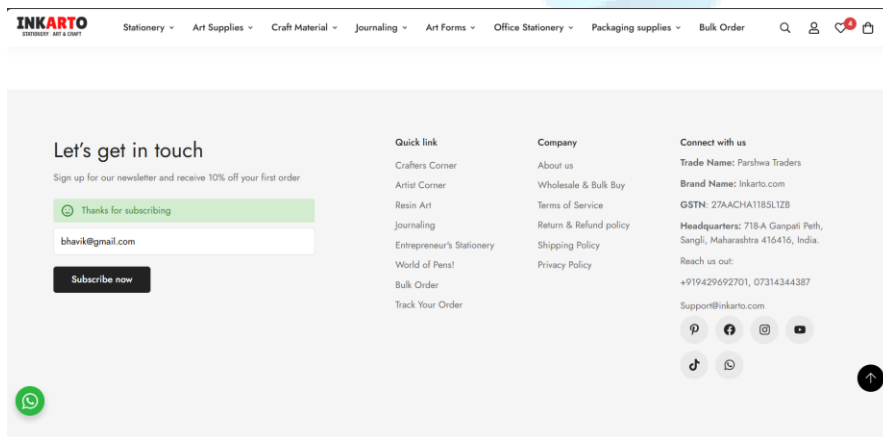
Description: Automate newsletter subscription functionality.

Functional Requirements:

- Navigate to newsletter subscription section
- Enter email address (generated randomly)
- Click Subscribe Now button
- Validate subscription confirmation message
- Verify "Thanks for subscribing" message appears

Acceptance Criteria:

- Subscription form is accessible
- Email input accepts valid email addresses
- Subscription submission works correctly
- Confirmation message is displayed
- Random email generation works properly



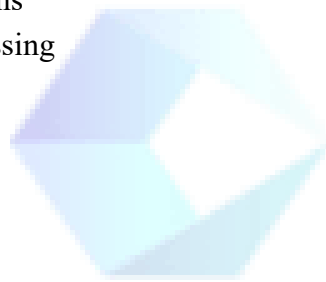
4. Tools & Technologies

4.1 Core Technologies

- Java: Primary programming language (JDK 21)
- Maven: Build automation and dependency management
- Selenium WebDriver: Web automation framework
- TestNG: Testing framework for test execution
- Cucumber: BDD framework for test scenarios

4.2 Supporting Libraries

- Apache POI: Excel file operations
- Log4j2: Logging framework
- Common Lang3: Utility functions
- Commons IO: File operations
- JSON Simple: JSON processing



5. Documentation & Deliverables

5.1 Technical Documentation

- Test Scenarios: Cucumber feature files
- Page Objects: Java classes for web elements
- Step Definitions: Test implementation logic
- Utility Classes: Helper functions and data management
- Configuration Files: Properties and XML files

5.2 Test Data Management

- Excel Files: Test data storage and results
- XML Files: Address data configuration
- Properties Files: Environment and browser configuration



6. Scope Boundaries

This automation framework encompasses comprehensive web UI testing of the Inkarto e-commerce website focusing exclusively on user interface workflows. The project covers core e-commerce functionalities including user registration and authentication processes, product browsing and search capabilities for categories like Artificial Flowers and Lippan Art, wish list management features, shopping cart operations, address management systems, social media integration verification, newsletter subscription processes, and platform's sticky notes feature. The framework supports cross-browser testing across Chrome, Firefox, and Edge browsers, incorporates robust test data management through Excel and XML-based systems, provides comprehensive reporting through Cucumber HTML reports and Allure reporting integration, and includes automated screenshot capture functionality for failed test scenarios to aid in debugging and analysis.

