Test Strategy/Plan

# - Item Page

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12. **Introduction:**

This document provides Test strategy that will be adopted for testing particularly Item Page of Walmart.ca web site. A sample item page on walmart.ca,<https://www.walmart.ca/en/ip/intex-metal-frame-pool/6000166640889>, is used as a design specification reference to create this test plan.

1. **Objectives, Scopes and Methodologies**
   1. **Objectives**

To increase the test coverage of Item page of Walmart.ca

* 1. **Strategies**

the request is to increase test coverage of ‘Item Page’. To achieve the goal, we will adopt a variety types of tests to exercise the page to increase test coverage. This means that besides the normal functional ‘happy path’ tests, focus will be on ‘unhappy path’, negative tests, performance tests and also security tests. The introduction of these test types attempt to trigger as many corner cases / events as possible so that the abnormalities and weakness of the item page can be triggered and exposed themselves.

* 1. **In Scope**

1. **Browsers and devices:**
2. **Browsers supporting**

* Chrome (Latest Version, long support version)
* Firefox (Latest Version, long support version)
* Edge (Latest Version, long support version)
* Safari (Latest Version, long support version)

1. **Devices:**

* Desktop
* Mobile device (iOS, Android)

1. **Testing the Responsive of website** on different screen sizes (emulating different mobile devices)
2. **Testing on actual mobile devices** (for example Android 7 Nougat, 8 and iOS 11/ Network -3G/4G/5G).
3. **Performance testing**

this is to exercise page when events:

concurrent access of the same product / item from different browsers, tabs

multiple authors are visiting reviews/questions sections

1. **Security Testing**

for instance:SQL injection for any text input.

**2.2 Out of Scope:**

tests related to the following quality factors are not included in this test plan:

* 1. maintainability
  2. flexibility

tests data related:

country: All except Canada

currency: All except CAD only

**2.3 Methodologies**

TDD + BDD for test framework and automated tests development.

Automation framework is built to support BDD style tests.

Phrase 1: support vanilla cucumber tests so that in week one, there’s an automation framework for team to create and test features/scenarios

Following phrases: customize Gherkin, cucumber js, integrate necessary mocha plugins to support fully data-driven, keyword driven tests

Automation framework and tests are developed by adopting TDD

Will have unit tests created first for the framework

Will have unit tests for each test / scenario

Or reuse existing mocha tests

Unit test framework: mocha / karma

1. **Test Environment**

skip

1. **Tools:**
2. Gherkin - compose test scenarios
3. Cucumber js based automation framework
4. webdirverio for web functional automated tests
5. Galen for responsive tests
6. Appium for running test in mobile devices
7. Mocha test framework for developing framework and automated tests
8. NodeJs: run time environment for tests
9. **Test Schedules:**
10. functional tests – happy path.
11. Functional tests – negative path.
12. Performance tests
13. Security tests
14. **Traceability**

**Traceability matrix will be maintained to track that all the features or events have been tested.**

**For example:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Not login\Test Cases** | **TC1** | **TC2** | **TC3** | **TC4** | **TC5** | **TC6** | **TC7** | **TC8** |
| **Browse item description** | **X** | **X** | **X** |  | **X** |  |  |  |
| **Add item to cart** |  | **X** |  |  | **X** |  |  |  |
| **Add specified quantity of the item in cart** |  | **X** |  | **X** |  |  |  |  |
| **Decrease quantity of the item in cart** |  |  | **X** |  |  |  |  |  |
| **Price summary in add to cart form** |  |  |  |  | **X** |  |  |  |
| **Shipping option** |  |  | **X** | **X** |  |  |  |  |
| **Pick up option** |  |  |  |  |  |  |  |  |
| **Buy in store** |  |  |  |  |  |  |  | **X** |

1. **Roles / Responsibilities:**

skip

**Dependencies:**

Test data setup:

A few user accounts are created for automated testing.

to successfully run and cover more test paths, we request minimal the following item inventory for testing:

A few items inventory are created, and necessary dependencies are populated

Automated tests will make use of these items/skus:

for purchase and shipping section tests

1. sku/item out of stock

2. sku not available for online

3. sku available for online

4. sku not available in store

5. sku/item in stock but only has one (quantity) available

this is for multiple session tests

6. sku/item in stock has maximum quantity allowed in the system ( quantity > 1 million | 100 k | or per specification. For this, assume we use maximum quantity number: 100 k)

7. sku/items in stock have a variety of price tags

Price range from (include boundary value):

A few: 0 – 0.99,

A few: 1.01 – 99.99

A few: 100.01 – 9999.99

A few: very big value such as over 1 million

A few abnormal price: < 0.0, such as -1, -255, -65535

So these items should never be present on the page

item pickup: stores for pickup option:

1. no store available for pickup

2. multiple stores available for pickup

3. different stores for different post code

item shipping options:

1. no shipping available

2. multiple shipping options available

3. different shipping options for different post code

for feature list:

1. no feature list

2. has multiple items in feature list

for product images carousel

1. no image

2. one image

3. more than 20 images

for advertisement

item page with google-ads

item page without google-ads

for review and questions:

need to populate a few reviews, questions and answers by different authors and with different date

**Risks / Assumptions:**

1. browsers compatibilities challenges
2. not a fully responsive implementation: layout related visibilities issues(browser resize, different viewport..).

**Communication/Reporting:**

Skip

**Test coverage plan**

Test analyzing is based on existing sample item page.

Assumption:

Test scenarios in feature files are extracted form existing page, and assume they are created @ story grooming/ design phrase.

Item page is a complex page. We’re going to use Page object to model the page. And use ‘divide and conquer’ strategy to break down the whole into smaller pieces – ‘section’

Page object is created by the following inspection of the page:

category - functional tests

from high priority to low priority:

- Product Section

    - Product description -> xpath = //div[@id='product-desc']

        - product name text

        - product description text

        - product brand link

        - seller info text

        - product rating

        - product reviews

    - Product image

        - slider

            - active slide

                expect correct image is displayed properly

        - carousel

            - carousel slide

                exercise each slide and examine image in active slide

            - carousel slide control (vertical)

                previous/up arrow control

                    expect that each click will replace active slide image in slider with the image above

                next/down arrow control

                    expect that each click will replace active slide image in slider with the image below

        - zoom control

            - open zoom

                - should display the same image as in carousel slide

                - should have the same product name as title of the zoom form

            - close zoom

                - should close the form

            - carousel-track

                - should display horizontally same sequence images as in carousel

                - click on each image on track

                    clicked image should be displayed in the zoom container

                    clicked image should be displayed in the active slide

            - zoom plus button

                should zoom in the image on display

            - zoom minus button

                should zoom out the image on display

            - zoom refresh button

                should back to original image size when the zoom form is displayed

    - product purchase & shipping section

        - pricing   -> xpath = //div[@data-automation='product-purchase-cartridge' and @data-sku-id='10320406']//sup

            should display correct price tag for the product

            should display correct currency symbol for the product

        - purchase quantity control

            xpath = //div[@data-automation='product-purchase\_\_quantity-controls']

            - decrement button

            - increment button

            - product quantity  -> xpath = //div[@data-automation='product-purchase\_\_quantity-controls']//input[@name='productQty']

        - stock status

            - item in stock

                should display 'Add to cart' button

                - 'Add to cart' by specified quantity number

                    specify quantity of product in 'purchase quantity control' section

                    should open the 'add to cart' form open

                    shopping cart icon should display a quantity number same as the number specified in 'purchase quantity control' section

                    close the form

                - change the quantity in 'Add to cart' form

                    change the quantity in the form

                    use 'add to cart' button

                    examine the price summary in the form

                    examine the quantity in shopping cart

                        issue: when click minus button, the number in shopping cart also decreased

                - examine 'item in cart' section

                    perform 'add to cart' test

        'item in your cart' should present the item just added

                    use minus control, should decrese the quantity in your cart

                    use plus control, should increase the quantity in your cart

                    use 'remove' button

                        should remove all quantity of the item from the cart

                - use 'continue shopping' button back to item page

                - use 'checkout ' button, navigate to checkout page when quantity shows 1

                    issue: when click checkout, 'your shopping cart' shows no items

        - item out of stocks

            should present the stock status 'Out of stock'

        - shipping option

            - item available for pickup

                examine tab-fulfillment-pickup

                open the pickup option form

                fulfillment pickup should present a number of pick up locations

                the postal code in pickup options is displayed

            - item available for pickup - change postal code

                change postal code

                available pickup locations should be updated

                close the form

                open the form again

                should have the updated postal code

                should have the same locations before closing the form

            - item available for shipping

                open fulfillment shipping form

                should present shipping method options

                should present shipping date

                should present shipping cost

                should present postal code

            - item available for shipping - update postal code

                open fulfillment shipping form

                update the postal code

                should present updated shipping method options

                should present updated shipping date

                should present updated shipping cost

                close and re-open the form

                should present the updated postal code

            - item available for buy-in-store - change postal code

                change postal code

                available store locations should be updated

                close the form

                open the form again

                should have the updated postal code

                should have the same locations before closing the form

    - Product Features section

        - featured product item list

            should present a number of article

            each article should have product name

            article should display product rating

            article should display product review number

            article should present price tag

            article should show 'Add to cart' button

        - detailed description

            should present detailed description

    - Product specification

            should present detailed specification

            specification should match data bound to the item/sku

    - Product return policy

        should present return policy

        and display 'Return policy' link

    - Product unavailable message

        when the message presents:

            should hide 'Purchase and shipping section'

    - navigation

            - product brand link

                should navigate to brand page

            - product reviews button

                should navigate to ratings and reviews section

            - product return button

                should navigate to return policy section

            - add to favourite icon/image

                - when not sign in should open Sign in form

                - when already signed in should allow user proceed to add the item to favourite

            - checkout button @ add to cart form

                should navigate to shopping cart/checkout page

            - continue shopping button @ add to cart form

                should navigate to item page itself

            - 'your cart' @ item in your cart section

                should navigate to shopping cart / checkout page

            - 'return policy' link should navigate to Return policy help page

    - banner advertisement

        when advertisement present, it should not cover section before or after

    - Ratings & reviews section

        - histogram-ratings

        - average customer ratings

        - search topics or reviews by keyword

        - summary bar

            should present rating ann reviews number

            review link should navigate to review section

        - stats panel

            should present reviews number and link

            should present reviews questions and link

            should present reviews answers and link

        - write a review - not login

            open new review form

            click Post Review button

                should present input validation indicator in following fields:

                    nickname

                    email

                    associate?

                    agree terms and condition

                provide minimum required input, post the review

                examine rating score

                should be updated by new rating

                close

        - review details

            search the review newly created above

            examine rating

            examine author

            examine date

            examine comments

            examine recommend option

            examine : not verified purchaser

        - review details - helpful update

            choose yes

            should increase number of 'yes'

            choose no

            should not change the number of no

            choose yes again

            should not change the number of yes

        - review details - report

            should define the behaviour

        - write a review - logged in

        - review filters by rating

            should present rating snapshot

            should show summary @ each rating filter level

            apply / click each filter

                should present list of reviews @ selected rating

                click more button to show all reivews @ selected rating

                should have correct number of review @ selected rating displayed

                    issue: rating bar shows 18, but actual list shows 17

        - browse reviews - by sort

            sort by each type

            review list is displayed by order specified by sort type

            should be able to find the newly posted review

        - ask a question

            open ask a question form

            enter question

            enter nickname

            enter location

            enter email

            check to agree the terms and conditions

            post question

        - answer a question

            click a question title

            should open answer question form

            enter answer text in answer area

            post the answer

            the number of answers should increase by 1

            the answer should be displayed underneath the question

        - browse questions - by sort

            sort by each type

            question list is displayed by order specified by sort type

            should be able to find the newly posted question

        - browse questions - by left/right arrow button

        - browse answers of a question

            click a question title

            should present the post answer form

            should display all answers

            close the form

            click 'answers' link of the question item

            should also present the post answer form

        - hover test

            hover over text on rating

            hover over form on user

                should present author profile form

                click link to examine profile

- Header section

    should display the page header section

    but the header section testing is not in test scope of item page

    still the item page will still reuse some tests of header section as part of test setup

        search

        sign in

        sign out

    - search form on item page

        search item that is in stock

        search item that is out of stoc

        search item by exact match

        search item by partial match

    - navigation

        navigate back to home page

        - Home button test

        - search the same item and navigate back to the same item page

        Sign in and Sign out

        - Sign in from the item page

            initial sign in process

        - Sign out from the item page

            initial sign out process

        Shopping cart logo

        - navigate to shopping cart

        Departments dropdown

        - each link navigate to designated page

        top-categories-items

        - each item link navigate to designated page

        Groceries Shop link

        - navigate to shop groceries page

- page footer

    should present footer sections

    but the footer content testing are not in the scope of this item page