SE 2226 Test Completion Report

(Based on ISO/IEC/IEEE 29119-2 Section 7.4)

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Test Plan For: Online Phone Accessories Store (OPAS)

CaseDoIt: www.casedoit.com

1. Summary of testing performed

This test completion report involves several types of test levels and test design techniques. The test levels include unit testing , integration testing and user testing. The test design techniques include boundary value analysis, equivalence partitioning, use case testing and decision tables. The testing approach involved a combination of manual and automated testing techniques. The testing met most of the specified completion criteria with most test cases passing.

The tested features are:

- User registration
- User login
- Search functionality
- Adding to shopping cart function

This testing excludes payment gateways and tests were done under the assumption that the test environment and data would be available at all times.

2. Deviations from planned testing

During the testing process, due to other test cases taking longer than expected we decided to exclude testing the product selection process, security testing and test case specification form. Instead of test case specification form, we explained our test cases in test completion evaluation. Instead of doing user acceptance testing we decided to do user testing because it is more appropriate for this project.

3. Test completion evaluation

Login test cases (Automated)

This decision table for login tests was used to validate several login scenarios. All conditions and expected actions were tested with automated tests, with the outcomes matching the expected results. All test results can be found in Login_Results file and the codes of the tests can be found in casedoitTest file.

CONDITIONS	R1	R2	R3	R4	R5	R6	R7
Email	T	T	F	F	-	T	-
Password	T	F	T	F	T	-	-
ACTIONS							
LOGIN	Y	N	N	N	N	N	N
“Bu e-posta hiçbir hesapla uyuşmuyor. Tekrar deneyin.” Message			Y	Y			
“Yanlış e-posta veya şifre” Message		Y					
“E-posta boş olamaz” Message					Y		Y
“Bir şifre girdiğinize emin olun” Message						Y	Y

R1: Valid email and valid password results in successful login.

R2: Valid email and invalid password result in “Yanlış e-posta veya şifre” message.

R3: Invalid email and valid password result in “Bu e-posta hiçbir hesapla uyuşmuyor. Tekrar deneyin” message.

R4: Invalid email and invalid password result in “Bu e-posta hiçbir hesapla uyuşmuyor. Tekrar deneyin” message.

R5: Empty email and valid password result in “E-posta boş olamaz” message.

R6: Valid email and empty password result in " Bir şifre girdiğinize emin olun” message.

R7: Empty mail and empty password result in “E-posta boş olamaz” and “Bir şifre girdiğinize emin olun” messages.

Registration test cases (Manually tested)

This decision table for registration tests helped us check different registration scenarios with several email and password inputs. We used boundary value analysis for some of the test cases. All conditions and expected actions were tested with manual tests, with the outcomes matching the expected results .The test results can be found in Registration_Results file.

Conditions	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13
Valid email	T	T	-	-	T	T	T	T	T	T	F	T	F
Valid password	T	-	-	T	F	T	T	T	T	F	T	F	F
3 char password	F	F	F	F	T	F	F	F	F	F	F	F	F
4 char password	F	F	F	F	F	T	F	F	F	F	F	F	F
5 char password	F	F	F	F	F	F	T	F	F	F	F	F	F
99 char password	F	F	F	F	F	F	F	T	F	F	F	F	F
100 char password	F	F	F	F	F	F	F	F	T	F	F	F	F
101 char password	F	F	F	F	F	F	F	F	F	T	F	F	F
200 char password	F	F	F	F	F	F	F	F	F	F	F	T	F
ACTIONS	A1	A2	A2,A3	A3	A5	A1	A1	A1	A1	A5	A4	A5	A4, A5

A1: Successful register

A2: “Bir şifre girdiğinize emin olun.” Message

A3: “E-posta boş olamaz” Message

A4: “E-postanızı kontrol edin ve tekrar deneyin” Message

A5: “Şifre uzunluğu 4 ile 100 karakter arası olmalıdır” Message

R1: Valid email and valid password result in a successful registration (A1).

R2: Valid email but empty password results in the error message for password (A2).

R3: Empty email and empty password results in the error message for both email and password (A2, A3).

R4: Empty email but valid password results in the error message for email (A3).

R5: Valid email and a 3-character password results in the password length error message (A5).

R6: Valid email and a 4-character password result in a successful registration (A1).

R7: Valid email and a 5-character password result in a successful registration (A1).

R8: Valid email and a 99-character password result in a successful registration (A1).

R9: Valid email and a 100-character password result in a successful registration (A1).

R10: Valid email and a 101-character password results in the error message for password length (A5).

R11: Invalid email and valid password results in email check error message (A4).

R12: Valid email and a 200-character password results in the password length error message(A5).

R13: Invalid email and a 200-character password results in both email check and password length error messages (A4, A5).

Note: Even though we did not test the password strength , during the testing process we noticed that the system did not check for password strength and passwords like “aaaa” were accepted as a password. This behavior indicates a potential security vulnerability.

Search test cases (Automated)

This use case table helped us to test different search scenarios and their expected results. We used boundary value analysis and equivalence partitioning for some of the test cases. All conditions and expected actions were tested with automated tests, with some of the outcomes failing to pass the test. The test results can be found in the Search_Results file and the codes of the tests can be found in casedoitTest file.

Test Case ID	Scenario	Test Case Description	Inputs	Expected Results	Pass/Fail
STC1	Normal Flow: Valid input search	Search a valid input and return relevant results	“AirPods”	All results on the first page contain “airpods”.	PASS
STC2	Multiword search	Search a multiword input and return relevant results	“AirPods Kılıf”	All results on the first page contain “airpods kılıf”.	PASS
STC3	Partial match search	Search a partial match input and return relevant results	“mi”	All results on the first page contain “mi”.	PASS
STC4	Invalid search	Search a nonexisting term on the website and return relevant results	“nonexisting”	No results found and search_list size is 0	PASS
STC5	Empty search	Search empty and return no results	“”	No results found and search_list size is 0	FAIL(Lists all the results instead of none.)
STC6	One character search	Search a single character and verify that it is handled correctly	“a”	Search input length is 1 and actual search input length is 1	PASS
STC7	Below max length search	Search just below max length input and verify that it is handled correctly	“a”*99	Search input length is 99 and actual search input length is 99	Pass
STC8	Max length search	Search max length input and verify that it is handled correctly	“a”*100	Search input length is 100 and actual search input length is 100	PASS
STC9	Above max length search	Search just above max length input and verify that it is handled correctly	“a”*101	Search input length is 101 and actual search input length is 100. Search input should be truncated.	PASS
STC10	Vastly above max length search	Search vastly above max length input and verify that it is handled correctly	“a”*200	Search input length is 200 and actual search input length is 100. Search input should be truncated.	PASS
STC11	Special character search	Search special characters and return no results.	"!", "@", "#", "$", "%", "^", "&", "*", "(", ")", "_", "+", "{", "}", ":", "\", "<", ">", "?", ";", "'", "/", ",", "", "[", "]", "\\", "-"	No results found and search_list size is 0.	FAIL(Searching “*” lists all the results instead of none.)

Empty Search (STC5): In this test case it is expected to return no results while searching an empty input. However, the test fails because instead of returning no results, the system lists all the results.

Special Character Search (STC11): In this test case it is expected to return no results while searching for special characters if any of the item names do not contain any special character. However, when "*" is searched, the system lists all the results instead of returning none and the test fails. This means that the system does not handle special characters correctly during the search process.

Add to cart test cases (User Testing)

This user testing test cases are for "add to cart" function and to see the usability of the feature in a real-life scenario. These scenarios used integration between login, search, and add to cart functions for testing user interactions with the system. Users recorded their process and it can be found in UserTesting_Videos folder.

Test Scenario 1: Adding one item to the cart	
Description:	User logs in, searches one item and adds the item to the cart.
Steps:	1.User logs in with valid email and password. 2.User searches with valid search inputs. 3.User selects one item and adds to the cart.
Expected outcome:	Item is successfully added to the cart

Test Scenario 2: Adding multiple item to the cart	
Description:	User logs in, searches multiple items and adds items to the cart.
Steps:	1.User logs in with valid email and password. 2.User searches with valid search inputs. 3.User selects multiple items and adds to the cart.
Expected outcome:	Items are successfully added to the cart.

Observation: Users have found the search and add to cart functions were easy to use and understandable. Even though we didn't test all the features overall website structure can be improved as the logo covers clickable elements.

Conclusion: Users successfully searched for the items and added them to the cart. When they navigated to the shopping cart, they could see their added items in the cart.

4. Factors that blocked progress

Test environment and tools set up took longer than we expected and that slightly effected the test execution schedule. A major factor that effected the progress was analyzing the HTML code of the website because we were not familiar with HTML codes so it required additional time and effort to identify the web elements.

5. Test measures

2 test cases out of 33 were not passed due to defects. Out of 33 tests 2 of them were user testing, out of 31 test cases 11 of them were search unit tests, 7 tests were login unit tests and 13 tests were register unit tests. 2 defect that were found was in the search unit tests.

The test case pass rate is 93.5% (29 tests passed out of 31)

The functional coverage is 80%(4 functions were tested out of 5 identified functions)

6. Test deliverables

- Test Plan (Plan can be found in the TestPlan file)
- Test case tables and results (Can be found in the Search_Result, Registration_Result and Login_Result)
- User testing videos (Can be found in UserTesting_Videos folder)
- Test Completion Report

7. Lessons learned

Early setup and familiarization with testing tools and environment are important to avoid delays. Automated tests are efficient but certain scenarios involving user interaction and usability are better suited for manual testing and we learned that it is important to prioritize test cases based on important functionalities and to make sure that the most important aspects are tested.