Universitetet i Oslo

INF3121 - Software testing

Project assignment 2 - Manual testing and test automation

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Requirement 1

Registration and login

Decision table

Conditions	New user	Y	Y	Y	N	N	N
	Valid email	Y	-	N	Y	N	-
	Valid password	Y	N	-	Y	-	N
Actions	New account	Y	N	N	N	N	N
	Display error message	N	Y	Y	N	Y	Y
	User logged in	Y	N	N	Y	N	N

Test 1: Register new customer

Test description	User attempts to register an account with correct information.
Preconditions	None
Steps	1. User goes to the site. 2. User clicks ‘Sign In’ 3. User clicks ‘REGISTER’ 4. User inputs correct email and password, then clicks ‘REGISTER’
Expected result	The system creates an account and the user is logged in.
Postconditions	The user account is now active.

Test 2: Login

Test description	User attempts to login with correct email and password.
Preconditions	User is registered in the system.
Steps	1. User goes to the site. 2. User clicks ‘Sign In’ 3. User inputs correct email and password, then clicks ‘SIGN IN’
Expected result	The system creates an account and the user is redirected back to the login screen.
Postconditions	The user account is now active.

Test N1-1: Register new customer

Test description	User tries to register with too little information during the registration process

Preconditions	None
Steps	1. User goes to the site. 2. User clicks ‘Sign In’ 3. User clicks ‘REGISTER’ 4. User inputs only password 5. User clicks ‘REGISTER’
Expected result	User is given an error message which informs the user that too little information is given.
Postconditions	User can try and register again.

Test N1-2: Register new customer

Test description	User tries to register with wrong passwords during the registration process
Preconditions	None
Steps	1. User goes to the site. 2. User clicks ‘Sign In’ 3. User clicks ‘REGISTER’ 4. User inputs correct email 5. User inputs two different passwords 6. User clicks ‘REGISTER’
Expected result	User is given an error message which informs the user that the passwords do not match
Postconditions	User can try and register again.

Test N2: Login

Test description	User tries to log in with wrong username and password
Preconditions	None
Steps	1. User goes to the site. 2. User clicks ‘Sign in’. 3. User inputs wrong username and password
Expected result	User is given an error message which informs the user that the account and password could not be identified.
Postconditions	User can try and sign in again

Password reset

Decision table

Conditions	On site	Y	Y	Y	N	N
	Valid old password	Y	-	N	-	-
	Valid new (repeat) password	Y	N	-	Y	N

Actions	Display error message	N	Y	Y	N	Y
	Password is changed	Y	N	N	Y	N

Test 3: Password reset on site

Test description	User attempts to reset the password of the account through the account settings on the site.
Preconditions	User is logged in.
Steps	1. User clicks ‘Change Password’ 2. User inputs current and new password, then clicks ‘CONTINUE’
Expected result	The system changes the user’s password to the new one and displays a message that the change was successful.
Postconditions	The user account password has now been changed.

Test 4: Password reset off site

Test description	User attempts to reset the password of the account through the ‘Forgot your password?’ button on the login screen.
Preconditions	User is not logged in and is on the login screen.
Steps	1. User clicks ‘Forgot your password?’ 2. User inputs correct email address. 3. User receives an email from the shop with a link to reset the password, and clicks the link. 4. User inputs the new desired password and clicks ‘CONTINUE’
Expected result	The system changes the user’s password to the new one and displays a message that the change was successful.
Postconditions	The user account password has now been changed.

Test N3: Password reset on site

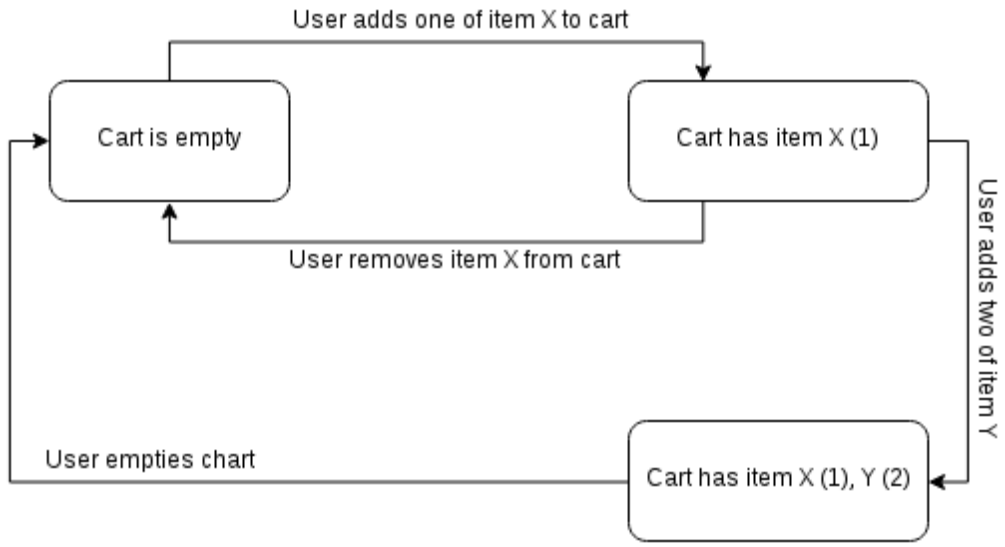
Test description	User attempts to change password but inputs incorrect information.
Preconditions	The user has to be logged in to an authenticated account.
Steps	1. User clicks ‘Change Password’. 2. User inputs incorrect password and a new password, then clicks ‘CONTINUE’.
Expected result	User is given an error message which says that the password given was incorrect, and tells the user to try again.
Postconditions	User did not manage to change password, and can try again if he/she wants to.

Test N4: Password reset off site

Test description	User attempts to reset the password of the account through the ‘Forgot your password?’ button on the login screen, but inputs the wrong password.
Preconditions	User is not logged in and is on the login screen.
Steps	1. User clicks ‘Forgot your password?’ 2. User inputs correct email address. 3. User receives an email from the shop with a link to reset the password, and clicks the link. 4. User inputs the new desired password, but retypes it incorrectly and clicks ‘CONTINUE’
Expected result	User is given an error message which says that the passwords given do not match, and tells the user to try again.
Postconditions	User did not manage to change password, and can try again if he/she wants to.

Adding / removing items in cart

Diagram



Test 5: Select products

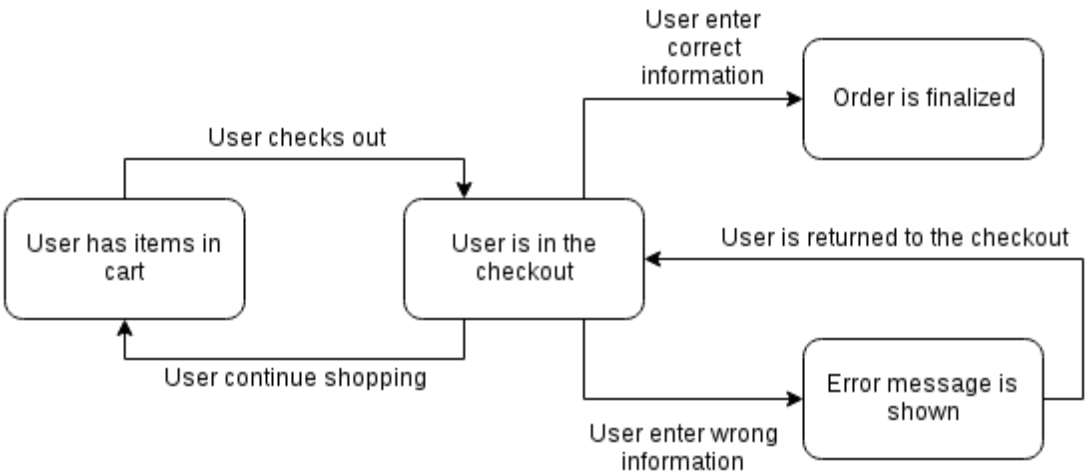
Test description	User attempts to add products to the shopping cart.
Preconditions	The user has to be logged in to an authenticated account.
Steps	1. User finds the products it wants. 2. User chooses the wanted quantity and clicks ‘ADD TO CART’ 3. User repeats step 1 & 2 until satisfied.
Expected result	The system adds the user's desired products to that user’s shopping cart.
Postconditions	The user’s shopping cart is updated with products from the shop.

Test 6: Change number of items

Test description	User attempts to alter the number of ordered items, or remove them completely from the shopping cart.
Preconditions	User is logged in and has items in the shopping cart.
Steps	1. User hovers the mouse over the shopping cart icon, then clicks the 'VIEW CART' button. 2. User then either chooses the desired quantity from the drop down menu, or removes the unwanted item from the shopping cart.
Expected result	The user's shopping cart is updated.
Postconditions	The user's shopping carts content is updated.

Checkout

Diagram



Test 7: Checkout

Test description	The user attempts to check out the shopping cart with the desired merchandise.
Preconditions	User is logged in and has items in the shopping cart.
Steps	1. User hovers over the shopping cart icon and clicks the 'VIEW CART' button. 2. User verifies that the shopping cart is filled with the desired items, then clicks the 'CHECKOUT' button.
Expected result	The system starts the checkout process and asks for billing and shipment information.
Postconditions	The system initiates a checkout.

Test 8: Continue shopping

Test description	The user attempts to continue shopping.
Preconditions	User is logged in, has items in the shopping cart and is in the process of a checkout, but has not yet completed it.
Steps	1. User clicks ‘CONTINUE SHOPPING’
Expected result	The user is returned to the shop with the same wares in the shopping cart.
Postconditions	System aborts the checkout and the user can continue shopping.

Test 9: Finalize order

Test description	The user attempts to finalize the order.
Preconditions	User is logged in, has items in the shopping cart and has started the checkout process.
Steps	1. User inputs correct billing and shipping information, then clicks ‘CONTINUE CHECKOUT’ 2. User verifies the information and selects shipping option, then clicks ‘CONTINUE CHECKOUT’ 3. User again verifies that all the provided information is correct, then if satisfied clicks ‘PLACE ORDER’
Expected result	The order is placed and the user is given a confirmation and a receipt.
Postconditions	The system confirms the order, empties the user’s shopping cart and generates a receipt.

Test N7: Checkout

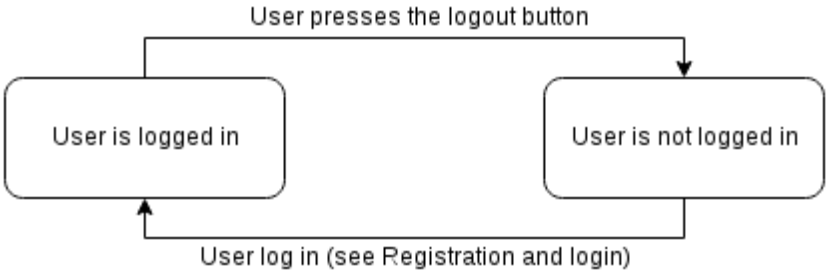
Test description	User attempts to checkout with an empty cart.
Preconditions	There are no items in the cart.
Steps	1. User clicks the ‘Checkout’ in top right corner with no items in cart
Expected result	User is given an error message which says that your cart is empty, and tells the user to add some products to the cart.
Postconditions	User can read the error-message, and can continue to shop

Test N9: Finalize order

Test description	User attempts to finalise order, but inputs incorrect information
Preconditions	User is logged in, has items in the shopping cart and has started the checkout process.
Steps	1. User inputs incorrect billing or shipping information, then clicks ‘CONTINUE CHECKOUT’
Expected result	User is given an error message which says what information is incorrect or not given, and is given another chance to fill in the information.

Postconditions	User is left on the same page the error occurred, and can try again.

Logout



Test 10: Logout

Test description	The user logs out of the system.
Preconditions	User is logged in to the system.
Steps	1. User clicks 'Sign Out'
Expected result	The system logs the user off.
Postconditions	The user now logged off the system.

Incident report

Date: 20.04.2016 Project: Assignment 2
Programmer: Avactis programmer 1
Testers: Andreas Thompson, Henrik Lilleengen, Simon Pettersen

Program/Module: Avactis Demo Store
Build/Revision/Release: 4.7.9 (Guessing from the look of the url)
Software Environment: Google Chrome version: 49.0.2623.87 m, Running on windows 8.1
Hardware Environment: Samsung SSD 840 EVO 500GB mSATA, NVIDIDA GeForce GTX 860M, Intel Core i7-4710HQ CPU @ 2.50GHz
Status of the incident: Open

Number of Occurrences: 10/10 (Reproduction rate: 100%)
Severity: Moderate Impact: Minor Priority Deferred
Detailed Description:

When trying to register a new user, the only required fields to fill in are password and re-type password. This allows a user to try and register with just a password, which leads to an "internal-server-error".
(http://demo.avactis.com/4.7.9/internal-server-error.html)

Steps to reproduce:

- Start on landing page

- Press sign in or my account
- Press register
- Fill in only the password field and re-type password field, with the same input
- Press register

(logs, databases, screenshots)
Expected result / Actual result:

Expected result:
A simple error message telling the user that to create a new account, you need to input an email address, with a post-condition that you are still on the registration page.

Actual result:
The user is redirected to a new page with an error message giving no information as to why the error occurred, and is then told to return to the landing page. This may cause frustration for the user.

Change history: N/A
References (including the identity of the test case specification that revealed the problem): Test N1-1

Assigned To: Group test leader Incident Resolution: _____

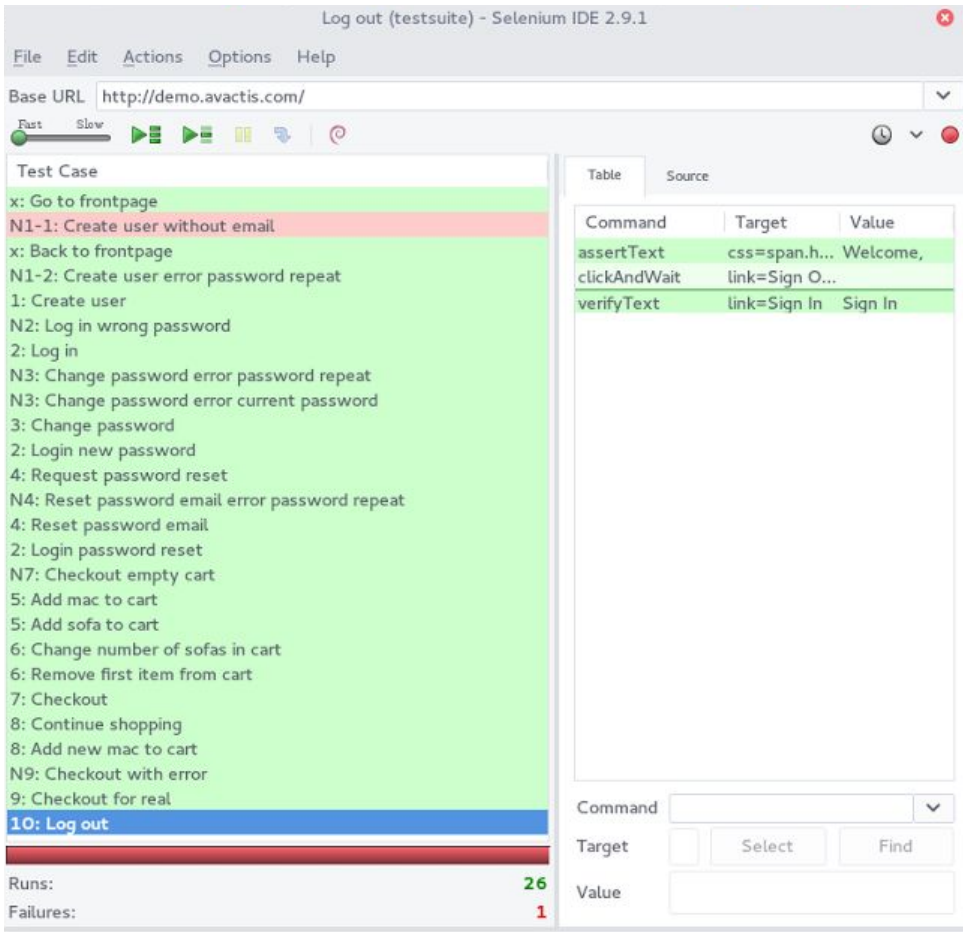
Requirement 2

The order of the tests are important to a certain degree. For example, it is important to log in before you can log out. We chose the order of the test in such a way that it would mimic the use pattern of a normal user. But there are also a few tests where the order does not matter, test N7 could for example be tested before and after adding items to the cart and finalizing the order.

Our order are as follows:

- Test N1-1 - User tries to register with too little information during the registration process
- Test N1-2 - User tries to register with wrong passwords during the registration process
- Test 1 - User attempts to register an account with correct information
- Test N2 - User tries to log in with wrong username and password
- Test 2 - User attempts to login with correct email and password
- Test N3 - User attempts to change password but inputs incorrect information
- Test 3 - User attempts to reset the password of the account through the account settings on the site
- Test N4 - User attempts to reset the password of the account through the 'Forgot your password?' button on the login screen, but retypes the password incorrectly
- Test 4 - User attempts to reset the password of the account through the 'Forgot your password?' button on the login screen
- Test N7 - User attempts to checkout with an empty cart
- Test 5 - User attempts to add products to the shopping cart
- Test 6 - User attempts to alter the number of ordered items, or remove them completely from the shopping cart
- Test 7 - The user attempts to check out the shopping cart with the desired merchandise
- Test 8 - The user attempts to continue shopping
- Test N9 - User attempts to finalise order, but inputs incorrect information
- Test 9 - The user attempts to finalize the order
- Test 10 - The user logs out of the system

Github-link: https://github.com/Lilleengen/INF3121-Project-assignment-2



Requirement 3

	Test scenario ID	Test case ID	Status (for automatic tests)	Interrelation
1. - New user	Test 1: Register new customer	1	Passed	Covered Using runScript and a javascript snippet to generate a email. Check email1.js. Afterwords we check that the register was successful.
	Test N1-1: Register new customer	N1-1	Failed	Covered Try to only enter only email, then verify element present on the default error message element, this fails.
	Test N1-2: Register new customer	N1-2	Passed	Covered Using runScript and a javascript snippet. Check email1.js. Then we attempt to enter wrong repeat password, and verify for error message.
2. - Login	Test 2: Login	2	Passed	Covered Using runScript and a javascript snippet to get the email address. Check email2.js. Afterwords we check that we

				are logged in.
	Test N2: Login	N2	Passed	Covered Using runScript and a javascript snippet to get the email address. Check email2.js. Afterwords we check for error message.
3. - Password reset on site	Test 3: Password reset on site	3	Passed	Covered Reset password and checks for error message.
	Test N3: Password reset on site	N3	Passed	Covered Password reset using the wrong repeat password, afterwards we check for error message.
4. - Password reset off site	Test 4: Password reset off site	4	Passed	Covered Using runScript and a few javascript snippets to get the email address and check the reset email for the reset url. Check email3.js and email4.js. After this we reset the password and checks for confirmation.
	Test N4: Password reset off site	N4	Passed	Covered Using the same scripts as above to automate this but attempts to reset entering the wrong repeat password and afterwards check for error message
5. - Select products	Test 5: Select products	5	Passed	Covered Adds a Mac and a sofa to the cart and then validate the number of items in cart
6. - Change number of items	Test 6: Change number of items	6	Passed	Covered Removes the Mac and adds another sofa and then validate the number of items in cart
7. - Checkout	Test 7: Checkout	7	Passed	Covered Checks out and checks for checkout heading
	Test N7: Checkout	N7	Passed	Covered Checks out empty cart and checks for error message
8. - Continue shopping	Test 8: Continue shopping	8	Passed	Covered Adds a Mac again validates the number of items in cart
9. - Finalize order	Test 9: Finalize order	9	Passed	Covered Checks out with valid information and checks for order confirmation
	Test N9: Finalize order	N9	Passed	Covered Checks out with missing information and checks for error message
10. - Log Out	Test 10: Log out	10	Passed	Covered Simply presses the Sign Out button and then checking that there is a sign in button afterwards

All of the manual tests have been made automatic, and the coverage is total. To achieve this we had to inject some Javascript using Seleniums runScript. To see the unminified Javascript code open the file from the github repository referenced in the value field of the runScript.

In retrospect, i'm not so satisfied with the approach for automating emails, a better option would have been to create a Selenium extension instead of just pasting the javascript into Selenium. Another option which also is better in our opinion would be to drop the runScript and inject the javascript into the value field. This would for example result in that in test N1-2 rather than using runScript and waitForNotValue, we could have use type on the email field and in value written "javascript{" followed by a function which returned an email.