TEST PLAN OUTLINE
(IEEE 829 FORMAT)

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1. Test Plan Identifier

2. References

http://www.asktami.com/macys.html
http://www.asktami.com/enerfit.html
http://www.fit.vutbr.cz/study/courses/ITS/public/ieee829.html

3. Introduction

This is the Test Plan for the Macy's website developer project. This plan will address to Macy's overall website and all items and elements that are related to it, both directly and indirectly affected elements will be addressed. The primary focus of this plan is to ensure that the new Macy website provides the same level of information and detail as the current website while allowing for improvements and increases in data acquisition and level of details available.

Macy store planning workflow is available here http://www.asktami.com/macys.html. This project will have various types of testing like Unit testing, Automation testing and User acceptance testing. It will provide all the cases to cover for testing on existing Macy's website home page. Estimate time for this project is 3 months and User acceptance test is expected to complete in the 1 month from the data of application delivery.

4. Test Items

The following is a list of items to be tested.

A. Macy's current version of header and menu bar from home page.
B. Macy's every day and every month deal on the start of the body from home page.
　　Based on customer, time and occasion, it is constantly changed and different page can also be integrated if as part of this from individual content.
C. Macy's category wise discount offers from home page.
　　Based on customer and category it is changed.
D. Macy's trending items advertisement from home page.
　　Detailed description of the trending items will be provided in separate category.
E. Sponsored items based on session and cookie's information from the database for the Macy's home page.
F. Footer content of the home page which is almost change for every page.
G. Front end validation of input items and validation of home page.
H. Shopping cart page.
　　Based on customers, it changes from the database and as well from local session or cookies.
I. Search for any items page.
　　All the data is changed based on customer query and requirement.
J. Each and every item page.

All the data is changed based on customer query and requirement.

5. Software Risk Issues

There are several parts of the project that are not within the control of the Macy's home page but have direct impacts on the process and must be checked as well.

A. Database security and database access must be defined and verified. Because it is directly affect the home page of Macy and many of the features will not be available like trending items, category based discount, user signed in or not.

B. Database recovery for every day in midnight, because traffic is very low as compare to day. It can be achieved using automated script for database backup like Cron job.

C. Application server available for all time so that home page can be served with low response time to the users of Macy.

D. Third party application should work properly like yahoo and google analytics, there should not be third party dependencies which block rest of the code of the home page of Macy.

E. The ability to restart the application in the middle of the process is a critical factor to application reliability. This is especially true in the case of the transmission files as once the data is pulled from the mail box it is no longer available there and must be protected locally.

6. Features to be Tested

The following is a list of the areas to be focused on during testing of the application.

A. Top border of head where there is option of user sign in, it should show user name or anything which shows the user that s/he is already singed in or not.

B. Overall alignment of each and every components and contents of the home page.

C. Total number of items can be seen from the shopping cart which have already been added to the cart.

D. Easily access of the menu and dropdown categories.

E. All the content should be available in less response time as Macy is using ajax request to fetch content based on scroll.

F. Trending now items using next items button.

G. It is ecommerce website, check mobile responsive with various browser's and operating systems.

H. Mobile menu should be easily navigated in all types of mobiles.

7. Features not to be Tested
The following is a list of the areas that will not be specifically addressed. All testing in these areas will be indirect as a result of other testing efforts.

A. Macy's own reward advertisement on the right side of the home page and its sliding effect.
This not necessary for the customers of the Macy's to see all time the same reward advertisement on the right side of the home page.

B. Macy's third party analytical tools like google and yahoo analytics and third party advertisement like yahoo advertisement.

First priority is to easily available of home page with minimum response time and it third party analytics and third party advertisement is not available then it is ok. No need to tested third party analytic and advertisement tool.

C. Few and less content on the home page of Macy.

Total number of items in the trending items doesn't needed to be tested as all the items will be displayed while clicking on the trending items.

D. Free shipping advertisement of the top panel of the header section.

If free shipping advertisement is not available on the page then it won't affect, because at the end of the transaction, customer will know the benefit of Macy for shipping items.

8. Approach
This is an ecommerce application which is made to order Women's and Men's Clothing, Accessories, Jewelry etc. The overall strategy of this test plan using black box and system and component level testing by accessing the home page of Macy at each tier. Load and performance tests will also be performed using tools. Security testing will be performed manually using a variation or penetration tests. There are features which are needed to be tested.

1. Client Tier:
        Check mobile version of ecommerce site using mobile simulation available in chrome console. End user compatibility testing using client's browser/OS matrix of the most common current combinations on the market. Where one side is browsers and the

another side is operating systems and check all the combination based on the matrix. Client compatibility testing will be performed via the application UI and Selenium Web driver test automation tool will be used.

2. Web Tier: Web server should be checked that if it is giving its same performance under certain level of load and data traffic. Each web server configuration will be tested using automated tests on Selenium WD. The automated scripts will utilize a configuration file that is set up to simulate The web servers' configuration. Security testing will be performed using web tier level Penetration tests.

3. Application Tier: Functional testing will be used to validate the application logic. Each function will be Tested using standard test methods of input/output validations of equivalence classes, Boundary conditions and negative tests for error handling.

4. Data Tier: DB performance on certain level of data like search, insert and update operation time. DB schema and architecture will be validated via input/output validations of the data and storage capacity will be measured with test automation tools.

5. Regression tests: There will be 3 iterations of system level end to end regression testing using Selenium automated scripts. Irrespective of severity levels, each defect will be regressed after they have been fixed.

6. Metrics: KLOC metric will be collected (# of defects per 1000 line of code) Performance metric will be collected based on application response times.

7. UNIT Test: It will be done by the developer and will be approved by the development team leader. Proof of unit testing (test case list, sample output, data printouts, defect information) must be provided by the programmer to the team leader before unit testing will be accepted and passed on to the test person. All unit test information will also be provided to the test person.

8. Meetings: The test team will meet once every two weeks to evaluate progress to date and to identify error trends and problems as early as possible. The test team leader will meet with development and the project manager once every two weeks as well. These two meetings will be scheduled on different weeks. Additional meetings can be called as required for emergency situations.

9. Tools: Firebug is used for finding and solving UI fault Selenium Web driver will be used for test automation. Bugzilla will be used for defect reporting. JMeter or other performance tool will be used for load and performance testing.

10. MTBF: Find MTBF (mean time between failures), which is a measure of how reliable application and a database server is. Find the exact number of days or years of all servers.

9. Item Pass/Fail Criteria

The test process will be completed once all the documentation of test will be sent to the development team, after completing the re-development of the necessary component, testing will again verify it and send it to the production department to update the testing server and launch new version of application.

At this point the production team will begin the parallel process, if not already doing so. Once the testing server is ready, available and there are no bugs founded then it will be sent to the live server and launch the application on the live server.

10. Suspension Criteria and Resumption Requirements

A. Unavailability of application server

Should not test for the home page until application server for availability has been tested. It is not worth if application server is not resolve and home page testing is completed because home page will not be rendered until server problems have been resolved.

B. Unavailability of database server

Home page trending items and sponsored items testing is not valuable until home page has some data. Home page cannot be tested until home page has some data. This will also add time to the lower levels of testing as full complete testing cannot be done without reasonable amounts of data. The data can only be derived from actual transmissions from the database server.

11. Test Deliverables

- Error logs and execution logs.
- Problem reports and corrective actions.
- Acceptance test plan
- System/Integration test plan
- Unit test plan
- Screen prototype

12. Remaining Test Tasks

Task	Assigned To	Status
Create logs file	TM, Dev	
Define Unit Test rules and Procedures	TM, PM, Dev	
Verify prototypes of Screen	Dev, Client, TM	
Verify prototypes of Reports	Dev, Client, TM	

13. Environmental Needs

Software/Hardware Tools:
- The only testing tools will be in-house scripts used to automate the setup of the database for executing manual tests and in preparation for executing the automated file and security tests
- Microsoft windows computer with a broadband connection.
- Java 2 Platform, Enterprise Edition (J2EE).
- Android OS
- IOS
- Various versions of Windows.
- Testing Tools: Jira, BugZilla, Firebug etc.
- Oracle 12c database.
- Microsoft Office (Word, Excel) for reports and defect tracking.
- Selenium Web driver will be used for test automation.
- JMeter or other performance tool will be used for load and performance testing.

14. Staffing and Training Needs

It is preferred to assign at least one full time tester to the project for the system/integration and acceptance testing phases of the project. One person of the part time assigns to the project from the starting of the project. Project will take around 3 months for the testing. If there is no one is assigned as separate tester, then project manager/test manager should do this role.

In order to provide complete and proper testing the following areas need to be addressed in terms of training.

A. One developer and tester needs to be trained for the basic operation for the Macy's home page and third party integration like google and yahoo analytics tools.

B. One developer should be assigned to show trending items and sponsored items based on browser cookies and session as well.

C. One developer person should assign for the front end validation and also for some small JavaScript effects like menu dropdown and right side advertisement etc.

15. Responsibilities

	TM	PM	Dev Team	Test Team	Client
System design reviews	X	X	X	X	X
Detail design reviews		X	X	X	
Screen and report reviews			X	X	X
Error log reviews		X	X	X	
Change control and regression testing	X	X	X	X	X
Unit test documentation and execution	X		X	X	

Developer team and tester team is totally responsible for the entire testing and developing of the project from the scratch to the launching mode.

Production manager and tester manage is responsible for the test plan and documentation of the testing project.

The development team leader will be responsible for the verification and acceptance of all unit test plans and documentation.

16. Schedule
The following tentative schedule will hopefully be meet:

1. Test design (the entire document) should be done in two weeks.

2. Test execution is expected to last no more than three weeks and to start immediately after the test plans have been approved.

3. Producing the Test Incident/Summary report is expected to be completed within one week of completing the test execution phase.

4. Creating test report of all the findings and it should not take more than one week.

17. Planning Risks and Contingencies
The following seeks to identify some of the more likely project risks and the possible contingencies:

1. Testing staff shortages/unavailability- There may be a situation when there is unavailability of staff and we may need to recruit more staff to do the testing or reduce the number of test cases.

2. Web site becomes unavailable – Testing will be delayed until this situation is rectified - May need to recruit more staff to do the testing or reduce the number of test cases.

3. Web testing software is not available or maybe it does not work. For example: Web site uses cookies and tool cannot handle cookies. This will delay the introduction of automated testing and result in more manual testing which might be time consuming and less effective. So again, we may need to recruit more staff to do the testing and to reduce the number of test cases.

4. Many defects or many incidents will make it functionally impossible to run all the test cases – As many test cases are possible will be executed.

5. Not enough time to complete all the test cases. If time cannot be extended, individual test cases will be skipped, starting with the lowest priority.

18. Approvals
All testing must be approved by the Prof. Emese Bari.

19. Glossary
Below are the acronyms, which is used in the documents to eliminate the confusion.

PM: Product manager
TM: Tester Manager
DT: Developer team
TT: Test team

Black box testing. Test Case Design
Test case design for each applicable test type for the following Macy's home page.

Test Type	Input/Test step	Expected result	Precondition/additional information
UI elements	Validate objects on page: Get a quote link, sign in button, hyperlink.	All the hyperlink, sign in button should work as per defined.	
Design Patterns	Validate CSS stylesheet for web and for mobile as well.	It is ecommerce, so that it should compatible with mobile and shoe responsive page.	
Functional equivalence	Input search box should be checked with different values. For ex. A, z, @, 1	Valid output should be displayed otherwise error should be displayed.	
Function Boundaries: i. Lower Boundary ii. Upper Boundary	Input lower boundaries and upper boundaries like negative number value, positive number value, null value.	Should show proper error message if input is invalid.	1. Check for valid search string.
Localization	Test for foreign characters, different language input	If localized, it should display in local language	
Functional negative	Click on continue without any input to search field.	Should show proper error message.	
Security	Enter JavaScript in any input field like search box	Error display generated	No cross-site scripting should be triggered.
Control flow/state testing	Test browser/ Mobile app forward/backward from get a quote and continue page	Application should move control over to browser and also move on mobile app	

Compatibility	Test with different browser: Chrome/Safari For Mobile app: Test with different mobile.	It works on cross browser and also cross platform on every mobile as well.	Most commonly used browser and OS, as well mobile.
Fault tolerance/Recovery	Close browser unexpectedly in middle of the session	All input data should recover and bring user to the page where left. For mobile app, it should move to last page where user left.	
Keyboard/Touch functions	Use app navigation using keyboard also, and can be used selection bar using keyboard	App should let user input keyboard controls also	
Load/Performance	Test same simultaneous large search query from multiple browsers	No site degradation	
3rd party access	Test access to 3rd party APIs or calls (Yahoo and google advertisement and analytics)	API call works, returned value	
Usability	Test user's ease of navigation	App should be simple to users	

Legal and Copyright	Validate Macy's copyright or legal information	Macy's copyright Content should be in their privacy policy page	

Test Report:

Macy's have a very nice and easily accessible responsive home page for the items. All items and contents have been aligned very nicely and interactively. I find no fault in Macy's home page as it views same in every browser and also works in every operation systems as well as Android and IOS also.