

Software Quality Assurance

15CSSE045

Test Plan Using IEEE Template

Washington Post

https://www.washingtonpost.com/

Submitted by

|  |  |
| --- | --- |
| **Group Members** | **ID** |
| Lobna Hesham | 120431 |
| Mohab Abugabal | 117276 |
| Ramy Mamdouh | 118371 |
| Mina Essam | 119791 |

Supervised by

Dr. Osman Ibrahim

And

Ms. Ghadeer Mobasher

Plan Identifier

Washington Post is a well know daily American newspaper. The newspaper offers digital news articles and news feeds on its website www.washingtonpost .com. Our project will focus on testing the core functionalities and features that the website offers to its user. Based on that, we are required to apply system and acceptance testing. The process of system testing is to verify the integration of the system, without having the project’s source code. Acceptance testing is also required to evaluate whether or not the system meets the required specification (Deshif, 2009).

Introduction

Testing is an essential phase in all software developing life cycles. It has been agreed on that testing lowers the possibility of bug’s exposure. Testing is a continuous process that is done throughout the design, development, and maintenance phases.

Static and dynamic testing are two core ways for testing software. Static testing is defined as the ability to test software’s functionalities without executing the code itself. Verification of software’s requirement and static analysis. While, dynamic testing requires execution of the code. Dynamic testing is divided into unit testing, integration testing, and system testing.

Unit testing involves only those characteristics that are vital to the performance of the unit under test (Rouse, 2014). Generally, our project is more concerned with unit testing because each function and feature will be tested dependently.

1. Writing the test plan helps in remembering about important topics and guiding the thinks how to face and challenge these important topics
2. Used as a way of communication between team members, mangers, customers and other stakeholders as it helps the project teams in identifying test scopes, project risks, resource consideration and constraints, objective of the project and critical areas to test.
3. It enables the project team the ability of changing specifications in early stage of the project.

The introduction also includes reference to other resources that have been used from external text plans (reference section). Intro also include budget constraints, testing effort.

Test Items

Contain a list of functions (by function version and release) that will be tested to be delivered to the customer. We have 19 functionalities and features of WashingtonPost.com the scope is to design and test functionalities of the website to be delivered to the customer. We will categorize test cases into two parts black and grey testing.

Sample of test black testing:

* Washington post edition
* Search bar
* Sharing news
* Subscription

Sample of grey testing:

* Register Account
* Login to existing account
* Payment of subscription

Software Risks and Issues

Some risk issues can occur in any software systems including websites. The degree of risks can directly affect the stakeholders, such as; vague requirements, unclear design “interface and functionality”, system bugs, and database security issues. For example, in the Washington Post website, the most critical features that must be tested is “subscription”, as it requires the user’s credit card, address and phone number details. The level of risks is determined by the level of failed functionality in the system; whether high, medium or low.

Some potential risks:

1. User:

* The ability of the user to understand new features may be difficult: e.g. the existence of unfamiliar icons.
* The complex functions: e.g. functions need a lot of steps to be successfully done.
* The user experiences two different screen layouts depending on the platform, or screen dimensions.

1. Development and System Bugs:

* The vague requirements written by the client leads to developing unneeded and unwanted features.
* The weakness of the database security in the system.
* Poor documentation of the system updates.
* Launching the system with untested critical functions.
* Recovery of the system, in terms of how often the system fails and how long it takes to be recovered.

Features to be tested:

As Washington post is an interactive website, so a lot of features will need to be tested.

1. The subscription function needs to be tested more than once to make sure of the process flow, as the subscription process in Washington post is paid and takes personal details “e.g. credit card details”. (Risk level: high)
2. The “sign in” and “sign out” functions need. (Risk level: medium)
3. Sharing news on social media. (Risk level: medium)
4. Interface consistency to make the interaction easier to the user with the system. (Risk level: high).
5. Search bar: is an important feature that most of the users usually use to find some new about the topics they interested in. (Risk level: low)
6. Real estate section needs to be tested, because it depends on the selling and buying process between the users, the risk level here will be low because most of the users when they enter a news website they will be more interested to read the news. (Risk level: low)

Features not to be tested

Some Features that do not need to be tested from the Users point of view “will not affect the system”. However, features with the same consistence are not recommended to be tested. For Example:

* The Sign Me Up button that allows the users who do not have accounts to receive news about the news they signed up to, because it is exists in all sections of the website and most probably if one of these button worked the other buttons will work successfully too. (Risk level: low)

Approach

Testing level

The Testing for Washington post website will include both System and Acceptance test levels. Testing will be done by all team members more over test cases will be distributed equally upon the 4 team members.

SYSTEM/INTEGRATION Testing will be performed by the 4 team members. Selenium Web driver and Java Programing language test tools will be used for system testing. The team will ensure that the website must be free of bugs and errors before implementing the system testing plan. The duration of System testing is one week.

ACCEPTANCE Testing will be performed by the actual end users with the assistance of the Testing team members. After the completion of the system testing, the website will be sent to various kind of users who will perform Acceptance testing. The duration of Acceptance testing is one week.

Configuration Management

Items including in testing Phase:

1. Complete website
2. Designing Test cases that covers website functionalities
3. Test Scripts in Selenium web driver
4. A laptop to execute the test scripts
5. Environment for java coding

Tests Tools

1. “Selenium IDE” will be used by users to execute acceptance testing on the UI displayed in the website.
2. Selenium Web driver and Java Programing language will be used by team members to execute system testing. Selenium Web Driver require special training by the test team.

Meetings

The test team will meet twice every week to evaluate the work done and to check the progress of the milestones required. Meetings can increase to be 3 times a week in emergency situations. The test team members will meet with the project manager one time every 4 weeks to discuss the milestones required and to ensure that the project requirements are the same as the milestones executed by the test team.

Excluded Testing

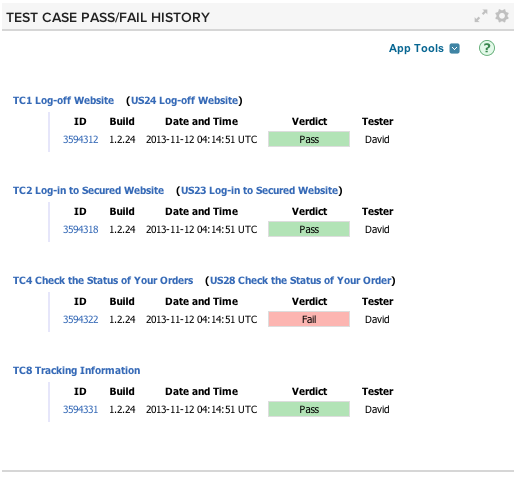
Any white box testing will be excluded as the website wasn’t not developed by the same company that is executing the testing plan.

Measure and Metrics

1. The requirements used.
2. The objective of each test case.
3. The input and the output expected
4. Errors detected in the website
5. Test cases
6. Pass or fail of the test cases
7. Time spent on each test cases or test suite

Item Pass/Fail Criteria

A guideline procedure for the testers to know and ensure which test cases are pass and which are fail. The criteria are passed as the function of the system is operate as expected



The pass and fail criteria is success if expected output is as the results of the function.Applied this to the websiteThe test case is passed if the user login with valid username and password and the website redirect it to the main page signed in with the username.The test case will fail if the output is different from expected output. There is a displaying percentage of passing test cases.

Suspension Criteria and resumption requirement

* Specify criteria to be used to suspend the testing activity
* Specify testing activates which must be redone when testing is resumed.

However, it is inapplicable to the scope of the project [because we do not have huge number of test cases and we do not have activities like missing code functionalities that test cased depend on missing development code.

Testing Deliverables

1. Acceptance test plan
2. System/Integration test plan
3. Unit test plans/turnover documentation
4. Screen prototypes
5. Report mock-ups
6. Defect/Incident reports and summaries
7. Test logs and turnover reports
8. Test plan document (documenting the functionality of the system and divide these functionality whether if black and grey testing also include which tools will be used.
9. Test cases list of functionality of the website to be tested (black and grey testing)
10. Test case Specifications (specify what are the functions of the website and what test cases will apply to these functions, the type of the testing whether it is positive or negative testing
11. Tools and their output (selenium IDE and selenium web driver with Java Programming language).
12. Simulators
13. Static and dynamic generators (not applicable)
14. Error log and execution log (in selenium IDE there is a record so that when you do the same test case a green light is appear if the test case pass and red light is appearing If the test case is fail, in selenium web driver the console of Java ide is logging whether the test case is passed or fail.
15. Problem reports and corrective actions (using web driver and TestNG folder output we can extract reports).

Remaining Test Tasks

This section of the test plan identifies further outstanding activities that are not covered within this plan. For instance, if the project is multi-phased or if the application is delivered as incremental releases there will be areas of functionality that this plan cannot address.

Applied to the project the upcoming phase, will include executing the grey test cases using Selenium Web driver and java Application, Load, performance, stress testing will be applied also in the second deliverable using JMeter.

Environment needs

To test Washington post’s website there will be some needed requirements such as:

1. An internet connection to be able to access the online website.
2. Computers or laptops.
3. Mozilla Firefox browser and some plugins to be installed on it such as; Selenium IDE for the black-box testing and Selenium web drivers and Eclipse for the grey-box testing
4. Firebug and Fire-path add-on to get the path of the elements of Washington Post website.

Staffing and training:

Special skills and experience required to apply the website’s testing process.

1. Be aware of object oriented programming language principles “Java programming language”.
2. The staff to be trained on how to use Selenium IDE and be able to understand the meaning of each output and commands.
3. Good communication skills.
4. Knowing how to get and use testing reports of TestNG.
5. Documentation testing results in an organized understandable way.

Responsibilities

|  |  |  |  |
| --- | --- | --- | --- |
|  | Test  Team | Dev  Team | Client |
| Acceptance test Documentation & Execution | X |  | X |
| System/Integration test Documentation & Exec. | X | X |  |
| Unit test documentation & execution |  | X |  |
| Test procedures and rules | X | X |  |
| Test cases | X |  |  |
| black box and grey box testing | X |  |  |
| White Box Testing |  | X |  |
| load and performance measurement test cases | X |  |  |
| System Reviews | X | X | X |

Schedule

Project duration: 31 days

1. Meeting with the development team to understand the website flow. (1 day )
2. System Design review to understand the website structure. (3 days)
3. Review of requirements and features by the test team.(1 week)
4. Development of the system test plan. (3 days)
5. Development of the acceptance test plan.(3 days)
6. Execute the System test plan using Selenium web driver. (1 week)
7. Execute the acceptance test plan using Selenium IDE. (1 week)

Planning Risks and Contingencies

In project testing decision makers should decide to mitigate or accept risks. Risk managers are responsible of creating detailed plans to deal with critical situation that the testing process may face. The plans and procedures are necessary to lower possible risk and handle failures.

Generic risk that is common in all projects based on the risk of previously common projects. Specific risk, is another risk identification that is more difficult to handle due to unpredicted occurrence. Common factors that affect project risk include:

1. Nature of testing
2. Size of testing functionality
3. Experiences and skills
4. Staff integration
5. Instability of software

Furthermore, environmental, restructuring of organization, and safety are also factors that affect project’s risk.

|  |  |
| --- | --- |
| Manage Risks | |
| 1. Preparing and Mitigating | 1. Planning a response plan 2. Brainstorm mitigation possibilities |
| 1. Responding | 1. Execute response plan 2. Operation Centers for assistance (Ward, 2011) |
| 1. Recovering | 1. Eliminate unnecessary testing processes. (require real time changes) 2. Relay more on local resources |

# References

Ward, M. (2011, July 21). *Contingency Planning.* Retrieved from IEEE: https://www.ieee.org/documents/2011\_07\_23\_contingency\_planning\_confs.pdf

End of Document!