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QA CHECK LIST

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Introduction

QA checklist is a checklist which gives information with regards to quality assurance activities. In simple terms **QA checklist** is a to-do list for controlling accuracy of testing processes. Checklists are guides for doing a particular procedure. Having a checklist will, at least make sure that guidelines are followed. This will also ensure that no step or area is missed.

Objective

This checklist is intended to provide system owners, project managers and other information systems development and maintenance professionals with guidance in identifying and planning quality assurance (QA) activities. The checklist reflects recognized QA activities to be performed throughout the information systems (IS) life cycle.

Scope

The purpose of this document is to provide or have a uniform and repeatable Quality Assurance Checklist for Web Application testing at the organizational-Excellerent- level. However, the document should also take into consideration that customer/client requirement is addressed. This document outlines the following major points:

1. Usability Testing
2. Functional Testing
3. Compatibility Testing
4. Security Testing
5. Performance Testing
6. Regression Testing
7. Responsive Testing
8. Accessibility Testing
9. Automation Testing
10. API Testing

Scope Definition

This section of the document defines the fore mentioned type of tests as follows:

1. Usability Testing

What is Usability Testing?

Usability testing is the practice of testing how easy a design is to use with a group of representative users. It usually involves observing users as they attempt to complete tasks and can be done for different types of designs. It is often conducted repeatedly, from early development until a product's release.

Goals of Usability Testing

The goal is to better understand how real users interact with your product and to improve the product based on the results. The primary purpose of a usability test is to improve a design.

Usability testing checklist:

- Web page content should be correct without any spelling or grammatical errors
- All fonts should be same as per the requirements.
- All the text should be properly aligned.
- All the error messages should be correct without any spelling or grammatical errors and the error message should match with the field label.
- Tool tip text should be there for every field.
- All the fields should be properly aligned.
- Enough space should be provided between field labels, columns, rows, and error messages.
- All the buttons should be in a standard format and size.
- Home link should be there on every single page.

- Disabled fields should be grayed out.
- Check for broken links and images.
- Confirmation message should be displayed for any kind of update and delete operation.
- Check the site on different resolutions (640 x 480, 600x800 etc.?)
- Check the end user can run the system without frustration.
- Check the tab should work properly.
- Scroll bar should appear only if required.
- If there is an error message on submit, the information filled by the user should be there.
- Title should display on each web page
- All fields (Textbox, dropdown, radio button, etc) and buttons should be accessible by keyboard shortcuts and the user should be able to perform all operations by using keyboard.
- Check if the dropdown data is not truncated due to the field size. Also, check whether the data is hardcoded or managed via administrator.

2. Functional testing

What is Functional Testing?

Functional Testing is a type of software testing that validates the software system against the functional requirements/specifications.

Goals of functional Testing

The goal of Functional Testing is to verify whether your product meets the intended functional specifications mentioned in the acceptance criteria.

Functional Test Checklist:

- Test all the mandatory fields should be validated.

- Test the asterisk sign should display for all the mandatory fields.
- Test the system should not display the error message for optional fields.
- Test that leap years are validated correctly & do not cause errors/miscalculations.
- Test the numeric fields should not accept the alphabets and proper error message should display.
- Test for negative numbers if allowed for numeric fields.
- Test division by zero should be handled properly for calculations.
- Test the max length of every field to ensure the data is not truncated.
- Test the popup message ("This field is limited to 500 characters") should display if the data reaches the maximum size of the field.
- Test that a confirmation message should display for update and delete operations.
- Test the amount values should display in currency format.
- Test all input fields for special characters.
- Test the timeout functionality.
- Test the Sorting functionality.
- Test the functionality of the buttons available
- Test the Privacy Policy & FAQ is clearly defined and should be available for users.
- Test if any functionality fails the user gets redirected to the custom error page.
- Test all the uploaded documents are opened properly.
- Test the user should be able to download the uploaded files.
- Test the email functionality of the system.
- Test to see what happens if a user deletes cookies while in the site.
- Test to see what happens if a user deletes cookies after visiting a site.
- Test all the data inside combo/list box is arranged in chronological order.

3. Compatibility Testing

What is Compatibility testing?

Compatibility testing is used to determine if your software is compatible with other elements of a system with which it should operate, e.g. Browsers, Operating Systems, or hardware.

Goal of Compatibility testing?

The purpose of Compatibility testing is to evaluate how well software performs in a particular browser, Operating Systems, hardware, or software.

Compatibility Test Checklist:

- Test the website in different browsers (Edge, Firefox, Chrome, Safari and Opera) and ensure the website is displaying properly.
- Test the HTML version being used is compatible with appropriate browser versions.
- Test the images display correctly in different browsers.
- Test the fonts are usable in different browsers.
- Test the Animated GIF's across different browsers.

4. Security Testing

What is Security Testing?

Security Testing involves the test to identify any flaws and gaps from a security point of view.

Goal of Security Testing

The overall goal of security testing is to reduce vulnerabilities within a software system.

Security Testing Checklist:

- Verify the web page which contains important data like password, credit card numbers, secret answers for security question etc. should be submitted via HTTPS (SSL).
- Verify the valuable information like password, credit card numbers etc. should display in encrypted format.
- Verify password rules are implemented on all authentication pages like Registration, forgot password, change password.
- Verify if the password is changed the user should not be able to login with the old password.
- Verify the error messages should not display any important information.
- Verify if the user is logged out from the system or user session was expired, the user should not be able to navigate the site.
- Verify to access the secured and non-secured web pages directly without login.
- Verify the "View Source code" option is disabled and should not be visible to the user.
- Verify the user account gets locked out if the user is entering the wrong password several times.
- Verify the cookies should not store passwords.
- Verify if, any functionality is not working, the system should not display any application, server, or database information. Instead, it should display the custom error page.
- Verify the SQL injection attacks.
- Verify the user roles and their rights. For Example, the requestor should not be able to access the admin page.
- Verify the important operations are written in log files, and that information should be traceable.
- Verify the session values are in an encrypted format in the address bar.
- Verify the cookie information is stored in encrypted format.
- Verify the application for Brute Force Attacks

5. Performance Testing

What is Performance Testing?

Performance testing, a non-functional testing technique performed to determine the system parameters in terms of responsiveness and stability under various workload.

Goal of performance testing:

Performance testing will determine whether the product meets speed, scalability and stability requirements under expected workloads.

Performance testing checklist:

- Evaluate if the current architecture can support the application at peak user levels.
- Evaluate which configuration sizing provides the best performance level.
- Evaluate application and infrastructure bottlenecks.
- Evaluate if the latest version of the software adversely had an impact on response time.
- Evaluate product and/or hardware to determine if it can handle projected load volumes.

6. Regression Testing

What is Regression Testing?

Regression Testing is re-running functional and non-functional tests to ensure that previously developed and tested software still performs after a change. Changes that may require regression testing include bug fixes, software enhancements, configuration changes

Goal of Regression testing:

The goal of regression testing is to catch the accidentally introduced bugs and to ensure that previously eliminated defects aren`t creatable. In such a way, regression testing ensures that code changes don't impact the existing program features. It has to be performed every time the developers modify a software component or a feature.

Regression Testing Checklist:

- As new capability is introduced, is the new capability tested?
- Have all previous tests been re-conducted with the results compared against expected results?
- Is every capability of the software supported with a test case and is the test case added to the test case library to support final and future system testing?
- As bugs are detected and fixed, is the test that exposed the bug recorded and regularly re-tested after subsequent changes are applied to the application?

7. Responsive Testing

What is Responsive Testing?

The Responsive design test means testing the website or URL from different devices. Practically, it is not possible to test the responsive website completely because to do so we need to set up various systems for various screen sizes.

Goal of Responsive testing:

The goal of many responsive designs is to give equivalent access to information regardless of device. A smartphone user does not have an equivalent experience to a desktop user if download times are intolerable.

Responsive Testing Checklist:

The responsive web design tester should make sure that responsive design is satisfying all the below-mentioned test scenarios to ensure it is a bug-free responsive design.

- Responsive website link or URL should be the same for all browsers in each and every device irrespective of the screen resolution.
- The display location of the content (images, sub-links, menus, etc.) of a responsive website should change dynamically as per the change in the screen resolution. That is, if we change the screen resolution from the size of the laptop to a mobile then the display of menu options should change dynamically.
- URLs of a responsive website should also be resolution specific.
- The same scenario can be tested from a laptop too. Open the RW from a desktop or laptop and click on the sub-link (mentioned in the pre-requisite of test scenario three) that is not responsive. The URL of the sub link should not change (as we are testing this scenario from the laptop the URL should remain the same)

8. Accessibility Testing

What is Accessibility Testing?

The Web is fundamentally designed to work for all people, whatever their hardware, software, language, location, or ability. When the Web meets this goal, it is accessible to people with a diverse range of hearing, movement, sight, and cognitive ability. Accessibility is essential for developers and organizations that want to create high-quality websites and web tools, and not exclude people from using their products and services. Web accessibility also benefits people without disabilities, for example people using mobile phones, smart watches, smart TVs, and other devices with small screens, different input modes, people with “situational limitations” such as in bright sunlight or in an environment where they cannot listen to audio, people using a slow Internet connection, or who have limited or expensive bandwidth.

The W3C Web Accessibility Initiative (WAI) develops technical specifications, guidelines, techniques, and supporting resources that describe accessibility solutions. These are considered international standards for web accessibility; for example, WCAG 2.0 is also an ISO standard.

Goal of Accessibility testing:

The main goal of web accessibility is it is accessible to people with a diverse range of hearing, movement, sight, and cognitive ability.

Accessibility Testing Checklist:

- Images should include equivalent alternative text (alt text) in the markup/code.
- Whether an application provides keyboard equivalents for all mouse operations and windows?
- Whether tabs are ordered logically to ensure smooth navigation?
- Whether shortcut keys are provided for menus?
- Whether all labels are written correctly in the application?
- Whether color of the application is flexible for all users?
- Whether an application has audio alerts?
- Whether a user is able to adjust audio or video controls?
- Check to ensure that color-coding is never used as the only means of conveying information or indicating an action
- Whether highlighting is viewable with inverted colors? Testing of color in the application by changing the contrast ratio
- Whether audio and video related content are properly heard by the disability people? Test all multimedia pages with no speakers in websites

9. Automation Testing

What is Test Automation?

Test automation refers to the automation of execution of test cases and comparing their results with the expected results with the help of an automation tool.

Goals of Test Automation

The goal of test automation is to provide fast feedback for developers, alert testers to problems well before they reach production, and free up testers to do more exploratory testing.

Automating all tests may sound appealing at first, but that's both difficult and impractical. Below are some guidelines to consider to help identify which manual tests should or should not be automated. As the old saying goes, just because you can automate something doesn't necessarily mean that you should.

- DO automate repetitive tasks.
- DO automate things users will do every day-business critical paths
- DO automate things that will save you time.
- DO automate tests that execute the same workflow but use different data for its inputs for each test run e.g. data-driven.
- DO automate things that involve a lot of data entry.
- DON'T automate test cases for features that are in the early stages and are expected to go through many changes.
- DON'T automate bugs you are sure will never be seen again.

10. API testing

What is API testing?

API testing is a type of software testing that involves testing application programming interfaces (APIs) directly and as part of integration testing to determine if they meet expectations for functionality, reliability, performance, and security.

Goal of API testing

The goal of API testing is to detect and recognize defects early, instead of them becoming larger issues during GUI testing.

API testing checklist:

- Verify that the API receives input and returns the expected output.
- Verify that the correct HTTP status code is returned.
- Verify basic performance test.
- Specify input with minimum required fields and with maximum fields.
- Verify that the API returns an appropriate response when the expected output does not exist.
- Perform input validation test.
- Verify the API's behaviors with different levels of authorization.

Expectations

- The team-QA is obliged to follow and repeat what is indicated here in this document
- The Team- QA is expected to expose the knowledge to Development or any stakeholder in need.

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