

## 6.8: Quality assurance

The software development cycle has one final step before the website goes live, quality assurance. This is often referred to as QA. It is a crucial step to ensure that website delivery is of the highest standard and that the client expectation is in line with the agreed Statement of Work. This step is independent of the design and development phases and involves various end-user test cases. Test cases ensure that the graphical user interface (GUI) promotes a great user experience (UX). QA involves two steps: functional and user-interface testing (Thompson, 2015).

### Functional testing

This involves testing the features of a website to ensure that they are functioning correctly. Functional testing should be done early in the development cycle as it speeds up development, increases quality and reduces the risk of errors towards the end of the project. Testing can take place either manually by a tester or be completely automated using an application (AppPerfect, 2016).

### User interface testing

This is the process of testing whether users can engage with the site as envisioned during development. It also includes testing all features such as screens with controls, like menus, dropdowns, buttons, icons, toolbars, dialogue boxes, forms, and all other user interface features on the site.

User interface testing is crucial as it is the users' experience of the site that will determine if they will use the site or application in future or not. If an interface is not intuitive and is difficult to understand users are unlikely to use that product again. Testing is essential.

The following should be checked during GUI testing:

- Can users input the necessary information into the user fields?
- Does the feature execute the desired function when activated?
- Are error messages displayed correctly and for the correct function?
- Is the font appropriate?
- Is the text aligned?
- Are the colours and fonts, and even error messages, visually appealing?
- Are the images clear and displaying correctly?
- Are the images correctly aligned, and do they appear where they are supposed to?

#### Note

You can read more about GUI testing at [www.guru99.com/guitesting.html](http://www.guru99.com/guitesting.html).

- Are the GUI elements positioned correctly for different screen sizes and resolutions?

(Guru99, n.d.)

### Cross browser and device testing

With the myriad of browsers and devices available, developers need to ensure that their websites render acceptably across all of them. Perfection is extremely difficult as each browser and device renders a website slightly differently. To ensure compatibility, developers write cross-browser code. If a feature is not supported, a fallback must be in place to ensure that it degrades gracefully.

If you are deploying your site across a range of devices, each version needs to be checked. And if the site is designed to be responsive, check the GUI across a range of devices to test the responsiveness of the design and that all the elements work across the various devices and possible views.

Test websites on different browsers and operating systems, for example Google Chrome on IOS and Google Chrome on Android devices. Various tools are available to assist in this process, one being BrowserStack ([/www.browserstack.com](http://www.browserstack.com)). BrowserStack allows you to test various operating systems and devices from within your browser (MDN, 2016).

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