

# Testing a Website

We all have to agree that in today's ever-changing and competitive world, the internet has become an integral part of our lives.

Most of us make our decisions by searching the information on the internet these days, hence hosting a website is no longer optional but mandatory for all kind of businesses. It is the first step in becoming and staying relevant in the market.

Just having a website is not enough. An organization is needed to develop a website that is informative, accessible and user-friendly. To maintain all these qualities, the website should be well tested, and this process of testing a website is known as web testing.

## What Is Web Testing?

Web testing is a software testing practice to test websites or web applications for potential bugs. It's a complete testing of web-based applications before making live.

A web-based system needs to be checked completely from end-to-end before it goes live for end users.

By performing website testing, an organization can make sure that the web-based system is functioning properly and can be accepted by real-time users.

The UI design and functionality are the captains of website testing.

## 1. Functionality Testing

- Check all internal and outgoing links, mail links and broken links
- Test forms used for receiving information from users and to interact with them.
- Check for data integrity and errors
- Validate your HTML/CSS
- Cookie testing, etc.

## 2. Usability Testing

Usability testing is the process by which the human-computer interaction characteristics of a system are measured, and weaknesses are identified for correction.

Usability Testing includes the following:

- The website should be easy to use.
- The instructions provided should be very clear.
- Check if the instructions provided are perfect to satisfy its purpose.
- The main menu should be provided on each page.
- It should be consistent enough.

### **3. Interface Testing**

In web testing, the server-side interface should be tested. This is done by verifying that communication is done properly. Compatibility of the server with software, hardware, network, and the database should be tested.

The main interfaces are:

- Web server and application server interface
- Application server and Database server interface.

### **4. Compatibility Testing**

The compatibility of your website is a very important testing aspect. See which compatibility test to be executed:

- Browser compatibility
- Operating system compatibility
- Mobile browsing
- Printing options

### **5. Performance Testing**

The web application should sustain to heavy load. Web performance testing should include:

- Web Load Testing
- Web Stress Testing

Test application performance on different internet connection speeds and networks like Dial-Up, ISDN, etc.

## 6. Security Testing

Following are some of the test cases for web security testing:

- Test by pasting the internal URL directly into the browser address bar without login. Internal pages should not open.
- If you are logged in using username and password and browsing internal pages then try changing URL options directly. I.e. If you are checking some publisher site statistics with publisher site ID= 123. Try directly changing the URL site ID parameter to different site ID which is not related to the logged-in user. Access should be denied for this user to view other's stats.
- Try some invalid inputs in input fields like login username, password, input text boxes, etc. Check the system's reaction to all invalid inputs.
- Web directories or files should not be accessible directly unless they are given download option.
- Test the CAPTCHA for automating script logins.
- Test if SSL is used for security measures. If it is used, the proper message should get displayed when users switch from non-secure HTTP:// pages to secure HTTPS:// pages and vice versa.
- All transactions, error messages, security breach attempts should get logged in log files somewhere on the webserver.

### Tools for practicing web testing:

- **CrossBrowserTesting:** CrossBrowserTesting allows you to make every web experience perfect, on any browser or mobile device with their cloud-based real device lab. Ditch your VMs and device lab. Easily run manual, visual, and Selenium tests in the cloud on 2050+ real desktop and mobile browsers.
- **LoadNinja:** LoadNinja lets you load test your web application with real browsers at scale, using test scripts that can be replayed immediately after recording, producing actionable browser-based performance data to isolate issues and debug errors in real-time.

## **Types of Web Testing**

### **1) Simple Static Website**

A simple static website will display the same content for all visitors who are visiting the website at different times. It is also known as an informational website. In a static website, the only developer can do changes that too in code only. This type of website will not have any major functionalities and it purely depends on UI design.

### **2) Dynamic Web Application [CMS Website]**

It is the type where the user can update and change their website content regularly. The web application is a combination of front-end and back-end programming.

The front-end will be HTML and CSS whereas back-end uses programming languages like PHP, Javascript, and ASP etc. With this backend, user/client can add or change the content on the website.

Testing a web application is not easy than testing a static website but not much difficult than testing an e-commerce website. Functionality testing is the most important thing to be performed while testing a web application. The web application may contain much-complicated functionality so tester needs to be very careful while testing.

### **3) E-commerce Website**

An e-commerce website is somewhat complicated when compared to the above two. The tester needs to be very cautious while testing an e-commerce site. There are huge things to be checked in e-commerce sites.

In the GUI section, you need to check all the features as in SRS and the same with the functionality. The functionality will be almost the same for all commercial websites.

Functionality-wise you need to check all pages such as the main page (includes featured products, special offers display, log in details, search functionality) product detail page, category page, placing an order, payment gateway everything has to be tested.

### **4) Mobile Website**

A responsive mobile website means making the content fit into the mobile device size instead of creating a version whereas a mobile website is creating a new version that is not a reflection desktop version. In the mobile website, you will have only limited pages, and unwanted functionalities are removed here.

Testing a mobile website is somewhat tedious rather than other types of websites. It will have separate designs and you need to be careful while testing the functionalities.

## **Maintaining a Website**

There are some regular website maintenance tasks you should perform on a scheduled basis. Scheduling at least monthly would be the timeline to start with.

### **Backing Up Your Website**

Backing up your website is something you should do all the time, especially if you are the type that uses the online interface of your store or blog to make changes. Things happen. Even though the web hosting company says they backup the sites on their servers, their last backup could have been before your last edit. If the server crashes for some reason or your site gets hacked, your edits will be gone if the web hosting company restores what they had backed up.

### **Monitor Website Outages**

If your site goes down, you want to be the first to know and not receive an email from someone else they cannot access your site.

SiteUp is a small program that runs on your computer in the background checking your site on a regular basis. It will notify you when the site is down with a popup. Obviously though, your computer has to be on for it work.

### **Check Domain Registration Information**

Look up in the WHOIS records what information is recorded for your domain name. Make sure it is correct. Sometimes when you initially sign up for your domain you would have used an email address that is no longer valid. This needs to be updated as when there is a problem with your domain or an expiry notice is sent out you won't get the emails. They are sent to the email address on record.

### **Test Website Speed**

Testing the download speed of your site regularly is important especially if you have added a new feature. Web surfers have a very short attention span. If your site is slow to load, they are not going to wait. You need to do everything you can to improve the download speed of your site or blog so visitors stay to read your content and hopefully provide you with organic incoming links by spreading the word for you what a wonderful site you have.

### **Link Check**

Links become broken over time with changes within the site and if you referenced someone in one of your articles or somewhere else within the site links could have changed or are broken.

The task to find broken links isn't too hard. Just use a link checker to test your external links and internal links at least once a month.

## **Software Updates**

Third party software, like your ecommerce software, WordPress and Joomla for example, are always updating their software. You need to keep on top these updates and install them as soon as they come out. The updates won't just be new features; they will include security updates too.

## **Traffic Stats**

Look at your web server stats to analyze your website traffic. If your web hosting account doesn't have website stats then get one installed which provides:

- Pages entered on and left on
- Time spent on the site
- Bounce rate
- Referring sites
- Countries your visitors are from
- Keywords/phrase that were used to find you

Google Analytics will provide some of this information. It may not be as complete as a website stats program that is run from your actual server.

## **Search Engine Results**

Are you showing up on the first page for the keywords/phrase you want to? If you have given it some time, e.g. a few months, to get onto the first page of the search results naturally then maybe it is time to look at your content and revise it.

## **Reputation Management**

Using Google Alerts, you can monitor your website name, your name, your brand and your content on the web.

Tracking your website address with Google Alerts is twofold:

1. You see who is linking to you and can pop over there and say thanks.
2. You can catch the use of your content without your permission.