

## Web Application Testing

### Testing Concepts

The purpose of a structured testing environment is for program developers and testers to have an organized, formal area in which to test their programs.

Different types of program testing include **“Sanity” testing**, which is the testing of new features in a program to ensure they are working the way they are supposed to; **“Smoke” testing**, a general test of the functionality of the application’s core features; **“Functional” testing**, which is a deeper test of the various parts and pieces of functionalities in the program; **“Regression” testing**, the testing of older features to make sure that new features or changes are not breaking them or making them work incorrectly; **“Integration” testing**, which is the testing of coordinated pieces of functionality, such as inputs and outputs, in the program to ensure they work together properly; **“Acceptance” testing**, a general form of testing where the main purpose is making sure that the program is operating the way the client wants it to; **“Unit” testing**, the testing of the smallest bits of functionality in the program.

Because of the straight-forwardness, beginning-to-end, operation of automated testing, tests like Smoke, Regression, and Integration testing are most applicable in these environments due to their testing of the overall functionality of an application. Sanity, Functional, Acceptance, and Unit tests aren’t exactly ideal for an automated testing environment because they are focused on specific areas of the application, and not necessarily the entirety of it.

### Testing Technologies

The purpose of website testing is to ensure that the functionalities and security of the website are in proper, working order.

In automated testing, the website is tested by a series of functions, which access parts of the website by a unique identifier (css selector, id, name, etc.) and running that part’s functionality. These functions are strung together to create a flow of action that is like that of a user of the website.

Some advantages of using automated testing are that it takes less time than an actual user, doesn’t take a person’s time to do the manual testing that can be used on other activities, and a step-by-step action pattern that doesn’t vary.

Some disadvantages of using automated testing are that there are types of testing that it cannot do, such as UX testing, and in certain situations it can be more difficult to set up a test function than it would be to do so manually

Some automated testing software includes Selenium, which is supported by IE, Firefox, Chrome, Safari, Opera, and Edge browsers, Sahi, supported by IE, Firefox, Safari, Opera, and other modern browsers, and Test Studio, which is supported by Chrome, Firefox, Safari, and IE.

Learning about automated web testing, as well as various types of tests, has given me a better knowledge of testing in general, as well as given me various aspects of future application projects to test.