There are a lot of a number of tools available for functional testing. One should opt for a tool which is on-demand, easy to learn, generic and effective.

One can choose the best one as per the requirement of the environment, organization, cost, skills etc.

Following are 10 tools for functional testing:

# **Ranorex Studio**

Ranorex Studio is a commercial Windows GUI test automation tool that supports functional UI testing on desktop, web, and mobile applications. Used by over 4,000 companies worldwide, Ranorex Studio is easy for beginners with a codeless click-and-go interface and helpful wizards, but powerful for automation experts with a full IDE.

**Features of Ranorex Studio:**

* Reliable object identification, even for web elements with dynamic IDs.
* Shareable object repository and reusable code modules for efficient test creation and reduced maintenance.
* Customizable test report with video reporting of test execution – see what happened in a test run without having to re-run the test!
* Run tests in parallel or distribute them on a Selenium Grid with built-in Selenium Webdriver support.
* Integrates with tools like Jira, Jenkins, TestRail, Git, Travis CI, and more.

# **test IO**

Running functional tests with test IO lets us call upon the skill and insight of thousands of testing professionals to improve the quality of our websites and mobile apps. Over two hundred customer-obsessed organizations rely on the power and flexibility of test IO to ship high-quality software faster.

* **Test on real devices** – Expand coverage to hundreds of devices, platforms, and real people in real-world conditions. Make sure our software works everywhere.
* **Get feedback from real humans** – Their professional testers have fresh and unbiased eyes on the product. Testers find bugs that our internal team might not catch.
* **Release faster** – Human-powered doesn’t mean slow. It remove the QA bottleneck with on-demand, flexible testing that scales up with our needs.

# **Selenium**

Selenium is an open source functional testing tool and one can download and use it without any cost. It is supported by the Apache 2.0 license. It is a web application testing product and it accepts many languages to write its test scripts, the languages namely include

* C#
* Java
* Perl
* PHP
* Python
* Ruby
* Groovy

It can be deployed on

* Windows
* MAC OS
* Linux.

Selenium can be learned in two parts – Selenium IDE and Selenium WebDriver or Selenium RC. Selenium IDE is nothing but the record and play part of the tool. And it’s better to use Selenium Web driver for testing web applications. The Selenium Web – driver is an advanced form of Selenium RC, which takes care of the later limitations.

**Features:**

* It’s an open source product.
* Accepts multiple languages for test scripts.
* Easy to use and has many active users/organizations.

# **Telerik Test Studio**

This is one of the most simple and user-friendly testing tools in the market. It provides functional, exploratory, performance as well as load testing solutions. Though it’s not free, its subscription to download the complete tool along with its license is available at a reasonable amount of $170 per month.

It comes with Visual Studio plug-in, hence in order to bring the best out of this tool, one must know the visual script.

**Features:**

* Very user-friendly.
* Limited coding in the visual script is required.
* With a built setup and configuration.
* It supports multiple browsers.
* Parallel execution of test scripts is possible here.
* All the locators are inbuilt and centralized.
* The test scripts can be used again.
* Test maintenance cost is very less.

# **Coded UI Test (CUIT)**

By using the CUI test tool one can completely automate tests for validating the functionality and the behavior of the application. Before considering this tool, one must check for the latest cost of the CUI test tool and VSTS licenses cost with Microsoft.

**Features:**

* Easy to install and set up.
* Less use of scripting.
* Understands tables and its contents very logically.
* The database manager is XML based.
* User support and documentation are easily accessible.

# **Micro Focus Unified Functional Testing (UFT)**

The UFT is a combination of Micro Focus QTP (GUI testing tool) and Micro Focus Service Test (API testing tool). In this tool, Visual basic scripting is used to automate the scripts. Here, users can combine manual, automated and framework based test scripts in one IDE.

**Features:**

* It supports Web, Siebel, people-soft, Java .Net, SAP, Oracle, Web Services, and many other languages and platforms.
* Provides extended support for mobile testing (smartphone, tablets).
* It can be combined with QC and is easy to schedule and monitor.
* Very simple to use, understand, navigate and generate reports of validation results.
* Its license is very costly and works on Windows OS only.
* Its scripting process is easy and takes less time, but the execution of scripts is a time taking process.

# **Sahi**

Sahi is an open-source automation testing tool. It is easy to set up and understand the concept of the record and playback scripts. Sahi being an open source provides limited functionality when compared to the other open source tools.

However, its enhanced version Sahi Pro is a paid tool with license and has an additional set of features to make the tool a complete commercial version package. JavaScript-based scripts are used for programming test scripts.

**Features:**

* This tool is basically for testers using Agile and traditional environments for web applications.
* It is a browser and OS independent.
* It supports data-driven testing by connecting to Excel or CSV file.
* Low cost and low time are required for maintenance.
* Scripts and playbacks are easy to create and maintain.
* Introducing Sahi automation to manual testers is easy and comfortable.

# **TimeShiftX**

TimeShiftX is a date simulation software that lets your time travel software into the future or past for temporal testing of all date sensitive functionality and code such as year-end, daylight savings, leap year, billing, rates, policies, etc.

TimeShiftX uses virtual clocks to enable time travel inside the Active Directory without changing system clocks, editing code or isolating servers.

**Features:**

* **Instant Time Travel:** No system clock changes are needed. Just enable TimeShiftX and start time shift testing your software.
* **Active Directory Compatibility:** Safely time travel inside Active Directory, Kerberos, LDAP, and other domain authentication protocols.
* **Total Software Compatibility:** TimeShiftX enables time shifting for all applications and databases such as SAP, SQL, Oracle, WAS, and .NET.
* **Cross-Platform Time Travel:** TimeShiftX is compatible with all platforms, operating systems, containers, and cloud environments.

# **SoapUI**

This is an excellent open-source tool for functional, load, compliance and security testing to test/work with

* SOA (service-oriented architectures)
* REST (representational state transfers) web services.

SOAPUI PRO is the commercial version which has additional features to increase productivity. SOAPUI is cross-platform and also supports IDEA, Eclipse, and NetBeans. Apart from testing, this tool can be used in inspecting, invoking, development, simulation, and mocking.

**Features:**

* It is a very simple and completely open-source testing tool for technical as well as the non-technical user.
* Includes advanced functionality like a comprehensive view of the project, easy data-driven tests, powerful HTTP monitor etc.
* Strong, easy and flexible reporting tools: Printable, HTML reports, and Data Export.
* One can create one’s own plug-in or can use any existing third-party plug-ins.

# **TestComplete**

TestComplete is a great functional testing tool for Web, Desktop as well as Mobile Applications. In order to create the test scripts, the user can use different languages like

* Jscript
* VBScript
* C++
* C#, etc.

**Features:**

* Keyword and Scripted, both types of testing can be done with this tool.
* It can execute many tests at the same time in different virtual machines.
* It supports many bug tracking tools like Bugzilla, Jira, VS 2005, team system etc.
* It uses an object-based approach to automate tests. Hence accepts the GUI and other control changes.

# References

<https://www.softwaretestinghelp.com/tools/top-30-functional-testing-tools/> [Accessed: December 14, 2019]