**Automation Tool Analysis**

**Identify the right Automation Tool:**

Identification of right automation tool is critical to ensure the success of the testing project. The selection of the tool depends on some factors which play major role in tool identification:

1. The application and its technology which is to be tested.
2. Detailed testing requirement
3. Skill set available in the organization
4. License cost of the tool
5. Support available on various technical problems
6. Different platforms/browser support

**Comparison Matrix:**

While analyzing various automation tools, a comparison of key parameters helps to select the right tools for specific requirement of the project. We have created a comparison chart of tools on important parameters which are necessary for this case study.

Please find the below for detailed comparison:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Parameters** | **Criteria** | **QTP** | **Selenium** | **Watir** | **GEB** |
|  | License cost | QTP is HP licensed product available through single- seater floating or concurrent licenses | Selenium is an open-source software and is free | Watir is an open- source (BSD) family of Ruby libraries for automating web browsers and is free | GEB is open source software based on Groovy and is free. |
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| **Ease of Adoption** |  |  |  |  |  |
|  | Ease of support | Dedicated HP support | User and professional community support available | Limited support on open source community | Limited support on open source community |
|  |  |  |  |  |  |
|  | Script creation time | Less | Much more | More | More |
|  |  |  |  |  |  |
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|  |  |  |  |  |  |
|  | Scripting language | VB Script | Java, CSharp, Python, Ruby, Php, Perl, JavaScript | Ruby | Groovy |
|  |  |  |  |  |  |
|  | Object recognition | Through Object Spy | Selenium IDE, | OpenTwebst (web | GEB IDE |
|  |  |  | FireBug, FirePath | recorder) |  |
| **Ease of Scripting and Reporting Capabilities** |  |  |  |  |  |
|  | Learning time | Less | Much more | Much more | Much more |
|  |  |  |  |  |  |
|  | Script execution | High | Low | Low | Low |
|  | speed |  |  |  |  |
|  |  |  |  |  |  |
|  | Framework | In-built capability to build frameworks such as keyword- driven, data-driven and hybrid | JUnit, NUnit, RSpec, Test::Unit, TestNG, unittest,Cucumber | Ruby supported Frameworks - RSpec, Cucumber, Test::Unit | Grails, Gradle, Maven |
|  | Continuous integration | Can be achieved through Jenkins | Achieved through Jenkins | Achieved using Ruby script | Achieved using Grails, Gradle |
|  | plug-in along with Jenkins Gradle plug-in |
|  |  |  |  |  |  |
|  | Non browser-based app support | Yes | No | No | No |
|  |  |  |  |  |  |
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|  |  |  |  |  |  |
|  | Operating system support | Windows 8/8.1/7/ XP/Vista (No other OS) | Windows, MAC OS X, Linux, Solaris (OS support depends on web-driver availability) | Windows 8.1, Linux | Windows XP/Vista/7, Linux, DOS (OS support depends |
|  | 13.10, MAC OS X 10.9, | on web-driver |
| **Tools Usage** | Solaris 11.1 (need JSSH compiled) | availability) |
|  |  |  |  |  |  |
|  | Browser Support | IE (version 6-11), | Firefox, IE, Chrome, | Firefox, IE, Chrome, | Firefox, IE, Chrome, |
|  |  | Firefox (version | Opera, Safari | Opera, Safari | Opera, Safari |
|  |  | 3-24), Chrome (up to version 24) |  |  |  |
|  |  |  |  |  |  |
|  | Device Support | Supports iOS, Android, Blackberry, and Windows Phone via licensed products such as PerfectoMobile and Experitest | Two major mobile platforms iOS and Android | Two major mobile platforms iOS and Android | Driver available for iOS (iPhone and iPad) |

**Why Selenium?**

We chose Selenium as the correct candidate for the automation tools among various for below reason:

1. It is open source and free.
2. Selenium is web testing light weight tool.
3. It is having technical set up with Eclipse IDE.
4. It can be used with Java on which we can find very good support and information available over internet.
5. Very good support for various problem from different users on the internet.
6. Test execution are fast and reliable.
7. Window UI handling can be integrated with AutoIT scripts.
8. Although it requires a very good knowledge of programming skills but once skills are earned then it may have benefit over cost.
9. It can be integrated with Jenkins for continuous integration.

**Team’s suggestions are Welcome.**