

## Browser Compatibility Testing

# Case Study

### Background

An important problem that a Client faced was the issue of testing its product across multiple operating systems and browsers. The application was a web based with different forms and RSS feeds and was being accessed from anywhere in the world.

### Challenge

- Primary challenge was to validate the correct results of application over different platforms. This involved the development of various OS and browser combinations and generating the environments.
- Performing the functional and browser compatibility testing across these combinations of operating systems and browsers.
- Gathering domain knowledge to suggest improvements.
- Establish a bug reporting mechanism for efficient and quick bug fixing.

### Response

Primary task in any testing activity is to gather the domain knowledge. Testing was supposed to last for two weeks and it also included domain gathering. Kualitatem QA team started off with the exploratory testing to get the understanding of domain and how the application works.



During this time frame the reporting framework was established and the development team was familiarized with how the testing cycle would work.

Subsequently, within a short time span, the cycle (bug report, bug fix, and build update) was established hence resulting in a proper Functional testing cycle. Each day QA activity included verifying the fixed bugs, looking for ripples and then looking for new bugs. Test scenario development and test case development was also a part of the activity.

The second week was dedicated to the Compatibility testing i.e. verification of the application on all the different platforms as per the Clients requirement detailed in Exhibit 1.

<i>OS</i>	<i>BROWSER</i>	<i>VERSION</i>
WIN Vista	IE	7.0
	Fire Fox	2.0
WIN NT	IE	6.0
	IE	7.0
	Fire Fox	1.5
	Fire Fox	2.0
WIN 2000	IE	6.0
	Fire Fox	1.5
	Fire Fox	2.0
WIN 98	IE	4.0
MAC 10.4	IE	5.2
	Fire Fox	1.5
	Fire Fox	2.0
	Safari	41
LINUX - FEDORA	Fire Fox	1.5
	Fire Fox	2.0
UBUNTU Dapper 6.6	Fire Fox	1.5
	Fire Fox	2.0

Exhibit 1

## Analysis

It is evident from exhibit 2 below, that as 60% of the bugs found during this activity were of critical nature. One interesting observation was that these critical bugs were at times only OS/Browser specific which means that application might not be able to even run in any other OS/Browser. This can be seriously threatening for those organizations that deploy B2B or B2C applications over internet.

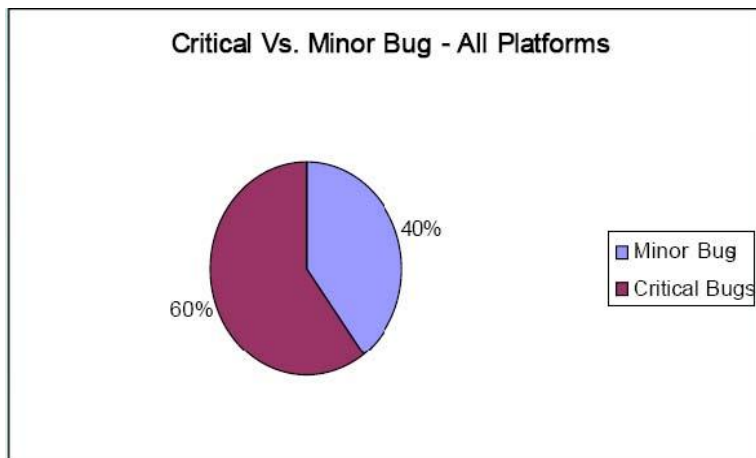


Exhibit 2

Exhibit 3 illustrates the importance of performing platform testing. It is evident that 45 % of the bugs were detected from any one Browser or OS and were found in all the Browser/OS. Whereas 55% of the bugs were found only in any one specific Browser or OS combination.

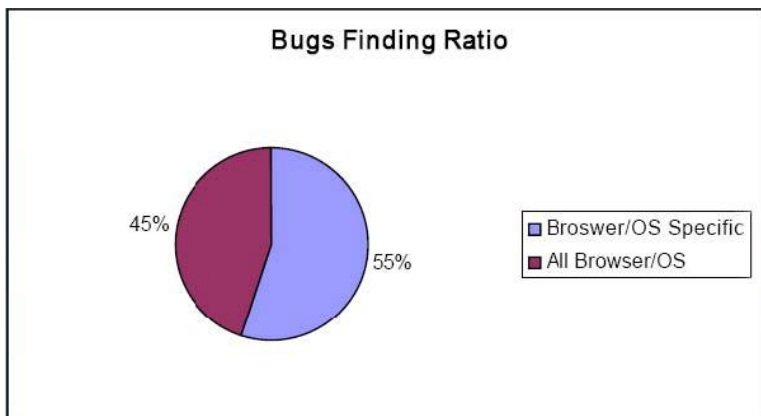


Exhibit 3

If we analyze exhibit 2 and 3 in parallel we reach the conclusion that if applications are not developed properly the issues can be found across different platforms which can seriously hamper the overall use. Ignoring the platform compatibility testing may result in serious flaws at the user end hence compromising the user satisfaction.

## Conclusion

Kualitatem provided seamlessly integrated software quality assurance services using innovative framework and latest standards. We also proposed different changes to the client in order to incorporate the issues raised so that fixing of them doesn't lead to any ripple effects.

Test engineers at Kualitatem added substantial value to the product by suggesting improvements in process flow and GUI after testing and checking the outcomes on different platforms. Several bugs were located that were not a part of test plans and test scenarios. Identifying these ripple effects clearly indicates the benefit of experience, skill, multidimensional thinking and independent verification and validation.

Working with Kualitatem resulted in client being able to understand its product quality in different environments and was able to target the issues of which the development team was unaware. Compatibility testing helped improve the Client's product and made him more confident about his updated application.