

Case Study: Quality Control for Mission Critical Software: GOP

Project Overview

The Republican Party faces multiple technological challenges and an underwhelming presence on the Web leading to a defeat in the 2008 Presidential race. To overcome the technological challenges and the absence of connectivity with the voters, they need a mission-critical web 2.0 ground zero and a testing partner that can help them do this first time right.

Challenges

In the year 2008, the GOP (Republican National Committee) faced a tough challenge from the ground-up guerilla campaign effort implemented by the Democratic Party. The Democratic Party campaign was a combination of a complex combination of smart Web 2.0 IT solutions and real-world effort. While the Republican National Committee had strong support from the masses, and a vast pool of campaigner on the fields, it lacked a centralized portal from where to spread the message virally to the actively online US voters. In addition, an obsolete and traditional website, based on antiquated technologies did not instill the sense of confidence to the tech-aware demographic in the US.

Solution

To counter these challenges, the RNC launched a massive effort to implement a centralized IT portal from where to spread and disseminate the message of the Republican party to the millennial demographic through various social networking neighborhoods and communities.

While the RNC hired the best talent in the industry to build these solutions, they needed a highly reliable and mature Quality Control team that can work with multiple graphic design, Web design and software development teams to drive their mission-critical project to a bug-free state.

This is where the Preyas Consulting Quality Team stepped in. Among a large number of candidates that responded to RNC's public RFP, the Preyas Consulting team was selected as the Quality Leadership team for GOP's new website.

You can hire the best programmers in the industry but your software is only as good as your testing team. A good quality control team ensures you have the objectivity to step back or zoom in to the behavior of your product.

Strategy

While the landing page for the GOP.com website looks simple and direct, the underlying components are technically complex, and ensure that the data flow from gop.com successfully "connects" with several social networking neighborhoods and communities. In addition, secure payment systems are implemented to allow GOP to collect campaign donations from various parts of the world.

The Preyas Consulting team was engaged early on in the project, to review the functional specifications, testing strategy, testing methodology and coding standards to ensure that the GOP development team implemented



the GOP.com asset in compliance with industry standard best practices. A detailed analysis was performed for all the functions on the website and use case scenarios generated to ensure various functional nuances were considered.

Security

In addition to various PR functionality, web services, integration with multiple social media and integration with legacy databases, the GOP.com website also contains functionality to accept secure payments from Republican supporters all over the world. A global payment network needs compliance with strict security controls and security features to protect voter data and payment information.

The Preyas Consulting team performed rigorous security testing that included the entire gamut of barriers to a professional hacker's techniques. The scope of security testing included:

- Cross-site scripting
- HTTP header injection
- SQL injection
- HTTP response splitting
- Buffer overflows and
- Code injection

Advanced research and exhaustive surveys of vulnerability incidents in the Security industry has revealed that covering these tests protects web assets from around 97% of security vulnerabilities.

Performance

The Preyas Consulting Quality team also performed automated performance testing on the website to ensure that all critical areas of the website are able to serve simultaneous traffic of up to 5000 users. Useful feedback provided by the Preyas Consulting team was used by the development team to improve the performance of the website.

Results

Since the launch of the GOP.com website, the website has seen a total monthly traffic ranging between 20,000 and 60,000 per day, reaching as high as 200,000 per day on certain days. The website has not experienced any security attacks, defect reports, bugs, outage or performance issues except during regular maintenance windows and when there are subsequent changes made to the website.

Conclusions

Hiring a mature testing team is key to successful product and project launches. Hiring a mature Quality organization is critical for organizations involved in in-house development activities and software companies that regularly deliver software solutions and products for their clients.