

IBM saves time and effort using Zend Framework to develop their latest Web 2.0 application



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Stewart Nickolas,
Lead Architect,
IBM Emerging Internet Technologies

Customer: IBM

Geography: United States

Industry: Information Technology

Challenges:

- Needed PHP components they had built to be widely reused at IBM
- Needed to support multiple databases easily
- Needed a clean, reliable, community-supported framework
- Did not want to invent a new framework, even though IBM had the resources to do that

Solution: Zend Framework and PHP 5

Background

IBM Emerging Internet Technologies' CTO David Boloker, an IBM Distinguished Engineer, has helped lead IBM's web strategy for several years. It was clear that the future for web applications was in the drag and drop paradigm and other UI techniques previously only available through desktop tools, but now available using techniques such as AJAX. IBM envisioned delivering intuitive drag and drop functionality that would enable business people to build applications themselves. "The people who work in Emerging Technologies," he explains, "We're dreamers." The dream is to make it possible for business people to create their own applications. In most cases, programmers would create the individual components, or widgets, but business people would build their own programs to make themselves more productive and efficient.

Together with Lead Architect Stewart Nickolas, Boloker and his team at IBM created QEDWiki, a powerful browser-based assembly canvas for mashups and situational applications. Although it is a term usually associated with mathematical proofs, QED in this case stands for Quickly and Easily Done. Aptly named, this mash-up tool quickly and easily enables users to build information portals and manage access to their business data in a collaborative way, using the powerful concept of wikis. The only difference with QEDWiki is that it is not just text that is manipulated, but entire data sets and other enterprise resources.

QEDWiki is a unique wiki framework in that it provides both web users and developers with a single canvas for both hosting and developing a broad range of Web 2.0 applications. The uses for QEDWiki can include, but are not limited to, the following:

- Web content management for a typical collection of wiki pages
- Traditional form processing for database-oriented CRUD (Create/Read/Update/Delete) applications
- Document-based collaboration
- Rich interactive applications that bind together disparate services
- Situational applications (or mashups)

An IBM online demonstration features an insurance claims processor creating a customized program in less than a minute using QEDWiki by dragging and dropping several widgets:

- An ACORD standard form (from the insurance industry)
- Policy holder data
- Address and phone number verification

With these three widgets in place, the claims processor is then able to access claims, verify the addresses and phone numbers, and see the policy holder's address on a map.

This example shows how QEDWiki acts as a nexus of sorts. The widgets were created by other users, deployed by the adjuster, and can now be shared by others in her department. In this model, there is no need to shop for and purchase an application or to request that the IT department develop one. Thus, someone with no programming background is able to create her own programs and to improve her and her department's efficiency.

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Zend's Involvement

Part of the core of QEDWiki is Zend Framework, a high quality open-source framework for developing web applications and web services with PHP. Designed in the true PHP spirit, Zend Framework delivers ease-of-use with powerful functionality and fast time-to-market for building modern, robust, and secure websites. "The framework delivers value to projects of any scope, from personal weblogs to integrated corporate ecommerce systems," says Andi Gutmans, co-CTO and co-founder at Zend Technologies.

After looking at a number of other possible solutions, IBM opted for Zend Framework as one of the key components to build QEDWiki on. As Nickolas comments: "The framework was focused in just the right areas for us." More specifically, it enabled the team to attain several of their project goals:

- Focusing on the application itself instead of devoting resources to creating their own framework, which a company with extensive resources like IBM could have done, but instead chose to benefit from the expertise that open-source code provided them.
- Using widely accepted database abstractions and components that already existed in Zend Framework and were widely accepted by the development community.
- Contributing to and mining a wealth of knowledge from the open source community.
- Benefiting from a rigorously tested, evolving code base as one of over 300 Zend Framework contributors, only a handful of which are Zend employees.

Zend Framework Benefits

Thorough Testing

Zend Framework's extensive unit tests, required for all contributed code, mean that exact situations can be recreated and problems diagnosed and pinpointed. Starting with version 0.3, IBM found Zend Framework to be extremely reliable and of high quality. Since upgrading to later versions, they have been able to support several additional databases with ease. "With so many developers in so many different environments, the code is much cleaner and more reliable, with fewer bugs or defects," says lead architect Nickolas.

Versatility

The components offered in Zend Framework for QEDWiki are also applicable to other PHP code that IBM works on. The variety of components and their ability to be reused translate into enormous productivity savings for IBM.

Community Responsiveness

With the responsiveness and vibrancy of the open source community, the IBM team has been able to get whatever input is needed, and implement customized features in just days, and most often within hours. Usually, with solely commercial products, necessary changes can sometimes take weeks or months to happen.

Efficiency

“Our team saved much time and effort,” says Nickolas, “by using Zend Framework’s building blocks on our QEDWiki project.” Three main benefits that have contributed to this efficiency for IBM are:

Database Abstractions

“When we first started using Zend Framework, we had certain database connectivity plans and we knew that we could make them happen with Zend’s framework roadmap. It’s worked like a charm; it’s like having an extended project team to do the database abstractions we needed,” says Stewart Nickolas.

MVC (Model View Controller) Architecture

The high-quality implementation of the MVC web application architecture provides a foundation for all Zend Framework applications. Boloker makes the point that, “Many leaders in the community have poured deep knowledge of their particular component area into Zend Framework — the kind of hard-won experience you just can’t buy. It’s a key reason IBM supports and is a big fan of open-source.”

More Secure Applications

Nickolas explains how his comfort level for security is higher with Zend Framework based-PHP applications, “In the specialized area of security in particular, having an open-source community vet the code and build in helper functions for preventing standard security holes and attacks—like SQL Injection—is a huge time-saver for us and another reason to go with Zend Framework.”

“From the start we have embraced and contributed to the project and are very excited to deliver QEDWiki based on the release of Zend Framework 1.0”

David Boloker,
Chief Technical Officer,
IBM Emerging Internet Technologies

Real World Solutions in Action

AccuWeather, The World's Weather Authority®, views QEDWiki as a breakthrough technology. They send weather bulletins to over 106 million Americans each day and are currently working with IBM to evaluate the AccuWeather QEDWiki widgets in order to establish pilot programs for the company's commercial clients. “Our clients in retail, energy, utilities, transportation, logistics, finance and insurance demand rapid access to the latest and most accurate weather information,” said Paul J. Raymond, Senior Product Manager at AccuWeather Inc. “Widget-delivered weather information allows our clients to be more productive in utilizing AccuWeather data to identify and exploit business opportunities while at the same time helping clients manage risks imposed by adverse weather conditions.”

AccuWeather is just one of the success stories resulting from the partnership between Zend and IBM. Zend is also proud to have Emerging Internet Technologies as a client, and to be seen as an integral part of their future. “From the start we have embraced and contributed to the project,” says Boloker, “and are very excited to deliver our product based on the release of Zend Framework 1.0”

For more information please see: framework.zend.com