IGN Entertainment, Division of Fox Interactive Media, Chooses Zend to Build Next Generation Platform

Customer:	IGN Entertainment, a division of Fox Interactive Media
Geography:	Brisbane, California (with worldwide presence)
Industry:	Entertainment, Gaming, and Lifestyle web properties
Challenges:	Build a long-term platform using best practices and design patterns to enhance applications & performance for the IGN community sites network
Solution:	Zend Framework

"Zend Framework is incredibly effective for IGN because it does not impose its structure, and allows us to make our own architectural decisions."

Tony Ford,
Engineering Manager,
IGN Entertainment

Fox Interactive Media's IGN Properties

IGN is one of the premier providers of online digital entertainment, with properties such as IGN.com, RottenTomatoes.com, and AskMen.com, in addition to a large number of video and computer games sites, including MMO (massively multi-player online) gaming. In addition to IGN, other Fox Interactive Media divisions also oversee MySpace.com and the web infrastructure for American Idol, among others.

New Platform Strategy and Challenges Faced

In January 2007 with only Zend Framework version 0.3 available, a duo of select engineers at IGN, Steve McNabb and Tony Ford, made the decision to build on Zend Framework (ZF). With over 50 sites to manage, the IGN community sites team is cross-functionally organized and is composed of development engineers as well as production, design, and editorial staff. Sites already built on Zend Framework include Grand Theft Auto 'Hood, Super Smash Bros World, and Voodoo Extreme, with others being rolled out over time.

Their web development team spent the first quarter of 2007 addressing strategic technology choices and now, a year after adopting ZF, they are very happy to have made that choice. Their initial reason for choosing Zend was for the cutting-edge, object-oriented features Zend Framework had. They knew the community sites platform they planned to build would take the better part of a year to fully develop and they wanted something that was catching on and backed by a reputable team like Zend and a large community they could rely on. They focused their rebuild on the following factors:

- Eliminate code duplication in their legacy PHP applications
- Develop code that was easy to maintain and easy to extend
- Build a library of core/base functionality across their sites: articles, comments, ratings, media (video/stills), viewer polls, etc.
- Make extensive use of a database model design with built-in validation
- Use the IGN internal standard templating system Smarty for their producers, designers, and artists
- Boosts in performance were a welcome side-benefit of most of the above refactorings

They have multiple sites, multiple modules per site, and multiple users, all who need core functionality like authentication and authorization, which ideally is shared across those multiple sites and/or modules or "networks of sites." They use their own proprietary single-sign-on (SSO) solution, but make extensive use of Zend Framework's Authentication, Authorization, and Access Control List (ACL) components.

Several different core backend applications existed prior to the IGN community group taking on these sites, but none of them were built on proven best practices or design

patterns such as Model-View-Controller (MVC)—IGN needed to improve the codebase so they could work quickly and more efficiently to develop new applications and to make it easier for their online properties to constantly change and adapt to new products and markets.

Early Choices, Later Refactorings

With Zend Framework they liked the focus on components. ZF does not come with a 'drop-in the whole kitchen sink' approach, it employs a philosophy that Andi Gutmans, Zend Co-Founder and CTO calls Zend Framework's "use at will" architecture.

For instance, the very early versions of Zend Framework didn't have the database modeling & validation that IGN was comfortable with. Right away, in the best tradition of open-source software development, they customized CakePHP's database layer, dropped it in, and bolted it on to Zend Framework.

Just 12 months later, Zend Framework's large and vibrant community had matured and the support for database modeling and validation had grown to the point where IGN wanted to incorporate it. **In less than a week IGN completely refactored their database code** from the hard-to-maintain in-house code they'd been using.

With over 30 different database model classes comprising tens of thousands of lines of PHP 5 code in their core platform, refactoring the database layer was a non-trivial task to say the least. "We are just so happy with it. I really was surprised at how quickly we were able to upgrade and use the new Zend Framework database features. This is a true testament to ZF. Makes our lives wrangling PHP code all day much easier," said Tony Ford.

IGN Entertainment has worked with the Smarty templating system for a number of years so it would have been quite a departure to adopt a different view object. "Easy. In a matter of a day we had ZF working with Smarty", Tony Ford said. Even today, they continue to use Smarty for all their templating; this means they use third party components when needed, but ZF gives them a full stack framework and a set of best practices for the majority of their work.

Leveraging Zend Framework

Having built an entirely new platform from the ground up with Zend Framework, the engineers at IGN are in a position to highlight several of the components from which they derived the most benefit.

Making extensive use of MVC, including the front controller, rewrite router, response object, and a large number of action controllers & views they will produce for the more than 50 sites they're responsible for, the IGN Entertainment team uses the ZF-based MVC architecture throughout their design.

One of the features they appreciate most about Zend Framework is the **ability to combine different components and use them together**. One of the combinations that IGN made use of was with Zend_Db and Zend_Validate. "We were able take these components, add to them, and change them as needed; this is how we built the validation we needed into our database model classes," stated Steve McNabb, web developer for community sites at IGN Entertainment. "We also designed before & after save methods, built a tight integration between our forms and database, and ensured the integrity of the structured data that they returned. Overall, the speed and reliability of our development has improved significantly with Zend Framework."

"We use Zend_Config_Ini to store a lot of data about the platform and our sites, but we don't want all of that data read from disk and parsed on every page request," said Tony Ford, "so we combined that functionality with Zend_Cache to store our configuration data in a memcached instance. This makes the site very configurable, and doesn't detract from performance for it either." The community sites team controls a number of variables with this configuration data, from things as varied as 'news items' & 'user comments' per page to 'database server host name'. They even store all custom routes used by the MVC component in configuration files.

Summary

IGN Entertainment is a leading media company and division of Fox Interactive Media. The IGN community sites team chose Zend Framework mainly for its modern, pick-and-choose style. They have built extensively upon it, extending and leveraging the work accomplished in the open-source Zend Framework community and they now plan on leveraging their new platform to build and manage a large number of new community-based sites for IGN Entertainment.

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For more information see:
framework.zend.com