IDRSOLUTIONS

"NetBeans IDE has been a critical tool in delivering our innovative PDF/HTML5 solutions to our customers on time. We have been impressed with its stability and performance and eagerly look forward to each new release."

Company: IDRsolutions

Location: Kent, United Kingdom

Url: http://www.idrsolutions.com

Industry: PDF Solution Provider

Oracle Products & Services:

- NetBeans IDE
- Java EE
- GlassFish
- Java Server Faces
- EJB 3.1
- JPA 2.0

Executive Summary

IDRsolutions is an ISV, building innovative commercial and open source Java solutions for handling PDF files in Java.

Organization

IDRsolutions has over 200 commercial clients worldwide including Adobe and Taleo. Software is developed and tested on a range of platforms including Apple Mac, Linux, and Windows variants.

The Business Issue

IDRsolutions has been developing a PDF to HTML5 and PDF to SVG converter aimed at enterprise customers looking to convert PDF files into HTML5 or into SVG for more convenient display on mobile platforms.

The converter was designed to be modular and to provide a framework for easy conversion to other formats. IDRsolutions was also looking for an alternative display format, in addition to HTML5/SVG, as a proof of concept.

The IDRsolutions team also had requirements for their existing PDF library: improving testing, and in preparation for the new Nashorn technology, updating its Rhino implementation used for JavaScript.

Key Challenges

- IDRsolutions wanted to standardize on the smallest toolset possible while working on Java—as well as with HTML5 and Javascript—on multiple platforms. HTML5 support had to be up to the standard of HTML5 support in current browsers, such as Chrome, Firefox, and Safari.
- With display technology, there are very few options that offer the technical capability of rendering complex PDF content seamlessly, and that also have mainstream appeal or use. The display technology would also need to be open and cross-platform.
- Given that the IDRsolutions software can be complex to setup for evaluation, a way was needed to make it as painless as possible for potential clients to easily try out the software with their PDF files – preferably via a simple to use web solution requiring zero installation.
- Writing JUnit tests can be time-consuming and automated testing can be tricky to implement.

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- Fogcreek's Mercurial-based Kiln system is IDRsolutions' current version control system, making good Mercurial support an absolute prerequisite.

Solution

- NetBeans IDE provides a single, cross-platform solution that allows the IDRsolutions team to standardize on a single platform for writing its Java-based PDF converter and debugging the produced HTML5 and JavaScript output.
- Involvement in the NetBeans IDE community testing program (NetCAT) has allowed IDRsolutions to be involved in the early development of the IDE, while being able to submit bugs and make suggestions even before the latest version of the IDE had been released.
- JavaFX and FXML provided an ideal cross-platform display solution. NetBeans IDE has always had superb support for both out-of-the-box. IDRsolutions had been looking at ways to remove its PDF viewer's dependency on the discontinued Java3D library for its PageFlow dispay mode, and to enhance the GUI in 2013. The IDE has provided a perfect testbed to develop these ideas and IDRsolutions removed the Java3D dependency from the product range in January 2013.
- GlassFish was chosen as a way to provide an easy-to-use web front-end for users trying out PDF to HTML5/SVG conversion. GlassFish is bundled with NetBeans IDE and is available as a standard option in the NetBeans IDE installer, which allows easy installation, development, and testing of software before deployment to the server.
- NetBeans IDE includes full support for JUnit, and automatically generates tests, together with sensible defaults for values to test. This makes writing JUnit tests quick and easy, and the tests can be run directly from the IDE.
- NetBeans IDE includes support for Jemmy, providing an automated GUI test tool. Jemmy is actually used to test NetBeans IDE itself, so there is extensive documentation available to get started with this technology.
- Nashorn, the latest JavaScript engine technology, is built into NetBeans IDE, making the IDE itself the biggest body of sample source code available for Nashorn.
- NetBeans IDE comes with full support for Mercurial, as well as support for other major version control systems—a useful advantage should IDRsolutions ever need to switch.

Business Value

- Standardizing on a single cross platform solution for multiple development tasks and test functions has reduced costs, with less time wasted and better development results.
- Simplification and automation of many tedious and time-consuming tasks lets the team focus on actual product development, and also results in more satisfied developers.
- Built-in access to the latest Java technologies and the opportunity to give feedback and influence NetBeans IDE's development has allowed the IDRsolutions team to evaluate and monitor evolving technologies, such as JavaFX, and be in a position to capitalize on them when fully matured.

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- Tight integration between NetBeans IDE and GlassFish makes adding, testing, and releasing new features easy and allows the team to rapidly evolve online offerings in response to customer feedback.
- Making test writing much easier with JUnit tools in NetBeans IDE has also made its usage more widespread throughout the IDRsolutions development team.
- The IDRsolutions developers are gaining highly marketable and transferable skills, and interacting with a large community of other developers.

Credits:

Mark Stephens

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