



Project: Amnesty International

Location: Amsterdam, Netherlands

Url: <http://amnesty.nl>

Industry: Human Rights

Oracle Products & Services:

- Java
- Java EE
- GlassFish
- Oracle iPlanet Web Server
- NetBeans IDE

Related Software:

- Microsoft SQL Server
- EclipseLink
- AppMachine

AMNESTY INTERNATIONAL

“We needed tools that would shield the complexity of building RESTful web services and instead would allow us to focus on domain-specific functionality as much as possible. NetBeans enables us to do exactly that because it is a feature-rich IDE that allows for rapid application development by means of design pattern templates and many advanced editor features, such as smart and expressive code completion.”

Executive Summary

Amnesty International is a global movement of more than 7 million people who take injustice personally. We are campaigning for a world where human rights are enjoyed by all.

We are funded by members and people around the world. We are independent of any political ideology, economic interest or religion.

The Business Issue

- Initially we needed NetBeans IDE because we had developed a smartphone app that we wanted to link to our customer relationship management (CRM) backend system. The app lets people engage in human rights issues by signing petitions. Some of the app users are already affiliated with Amnesty, others can be seen as future supporters for our causes. A real-time and stable link between the app and the CRM backend is essential for collecting signatures and making statements in the form of petitions.
- Also, we were creating a number of RESTful web services that allow the smartphone app to retrieve information from the central CRM database, allowing users to see how many people have already signed the petition. The web services consume JSON messages that represent data flowing from the app and vice versa.
- In addition, we needed a stable RESTful web service platform that would be able to support a varying load. A “call for action” typically generates peaks in the number of requests that are sent out by the app and have to be addressed by the web services and CRM backend database.

Key Challenges

- We found ourselves in a process where we needed to keep the same pace as the app development team. As both the user interface of the app as well as the link to the CRM backend were continuously being developed, we needed a platform that would be both flexible and fast in coding.
- The collaboration with the app development team needed a sandbox environment where shared web services could be published and tested. We needed a flexible release cycle that would let us both test completed code

as well as extend the functionality by adding new RESTful web services.

- Amnesty previously had been developing SOAP web services but was lacking experience building RESTful services and using JSON. We needed tools that would shield the complexity of building RESTful web services and instead would allow us to focus on the functionality as much as possible.

Solution

- The solution was to use NetBeans IDE because it includes development templates that allowed us to build RESTful web services that already took us close to where we needed to be in terms of connecting the smartphone app to our CRM system.
- The integration of NetBeans IDE with our SQLServer backend database was great because we could use the JDBC abstraction layer that transparently presents the database as a data resource. NetBeans IDE lets us explore database tables and entities through the EclipseLink persistence layer, making it easy to choose the CRM objects that need to be included in the integration.
- We find it really useful that NetBeans IDE works well with GlassFish as an application container. To cater for heavy loads, we built a cluster of GlassFish nodes, pre-empted by a Oracle iPlanet Web Server acting as a load balancer for the application container nodes.
- Thanks to NetBeans IDE, we discovered that using RESTful web services offers a more lightweight means of connecting partner systems to Amnesty technical infrastructures that conform to current IT development standards.
- The GlassFish cluster and the NetBeans IDE form a solid basis for development and deployment of Java EE applications. Once configured, the platform delivers an almost zero effort environment that has been proven stable even under heavy loads.

Business Value

- NetBeans is an IDE that is available for free and has a well-established ecosystem. Using NetBeans IDE as a free tool allowed us to dedicate our financial resources to our core business, which is to improve human rights for everyone, regardless of ideology, sexual orientation, or religion.
- Normally, it would have taken a long time to develop a link between the smartphone app and our CRM system, as it would have included a steep learning curve to master RESTful web service techniques. NetBeans IDE gave us the headstart that we needed in this project.
- We also found that we were much more flexible to work around the limitations of the API of the smartphone app. NetBeans IDE was able to counter the rigidity of the smartphone development environment by choosing different RESTful protocols and data formats. By doing so, we were able to develop a working prototype of the interface layer in a few weeks.

Credits:

Ed van Velzen
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