

VERSANT

RSSOwl

RSSOwl Soars with db4o

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Developers in the RSSOwl team were feeling pressure from the competition. Other RSS readers were moving ahead in terms of features and extensibility. And as loyal as they might have been, hundreds of thousands of RSSOwl 1.x users made it clear they wanted more, and might start migrating to other readers if the team didn't get to work.

Facing a total rewrite of their RSS/RDF/Atom news reader, the team implemented db4o, the object database and persistence engine from Versant. By embedding db4o, the team was able to come to market more quickly than with a relational database, and with an application that contained no SQL, required less maintenance and used fewer memory resources.

According to Benjamin Pasero, who heads the RSSOwl development team, users wanted to be able to store news locally and they wanted better search capabilities. They also demanded automatic software updates and the ability to add their own features. „In summer 2005, it became clear to us that it was going to be very hard to catch up with the features of other readers without redesigning everything. We started working on RSSOwl 2.0 from scratch.“

Making the newsreader faster

Aside from making the newsreader faster, easier to use and customizable, the team also wanted to keep expansion simple. „If other developers are interested in extending RSSOwl with more functionality, we wanted them to be able to use our persistence solution without having to learn a new language.“ Implementing a relational database would require application model extensions and likely require complex schema evolutions through a separate DDL. When using db4o, the application model and the database schema are the same, so application extensions naturally extend to the database schema without unnecessary complication. „From our experiments with other persistence solutions, db4o was definitely the one where we had a prototype up and running in the shortest time.“

But Pasero and his Java team didn't arrive at db4o—or even an object database—right from the start. They first tried the HyperSQL Database and the H2 Database Engine, open-source relational databases written in Java.

„Not being able to use object-oriented patterns when developing for the em-



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Benjamin Pasero
Head of Development
RSSOwl

bedded database was really hard with plain HSQLDB and H2. We wanted a consistent programming model that was easy to use and understand.“

Things got a little easier, he said, when they added Oracle Toplink JPA Essentials, which layers the Java Persistence API on top. „But it was not very easy to learn.“ They looked at Oracle’s Berkeley DB Java Edition, but did nothing serious with it, and soon began to realize that a relational database might not be the way to go.

„RSSOwl heavily relies on fine-grained events being sent out from database operations. Having to use a relational database seemed to make this particular need very hard to implement“ because a SQL command would have to be developed, stored and called up for each event, resulting in unnecessary complexity and serious loss of application performance, Pasero said.

db4o was straight forward

“The advantage of db4o over the RDBMS was that db4o provides easy-to-use event mechanisms” that are triggered along with changes to database entities, he explained. “db4o was straight forward, closer to the object

using the database was quite [large], and added quite a bit to the size of the application.“ Both of those problems disappeared when db4o came into the picture. The object database also allowed them to avoid SQL.

„We really didn’t want to ‚pollute‘ our code with SQL statements. We have an object-oriented programming background, so being able to use this knowledge with a database is just perfect for us. It was one of the main reasons for favoring db4o against others; none of which satisfied our needs and goals for an embedded database.“

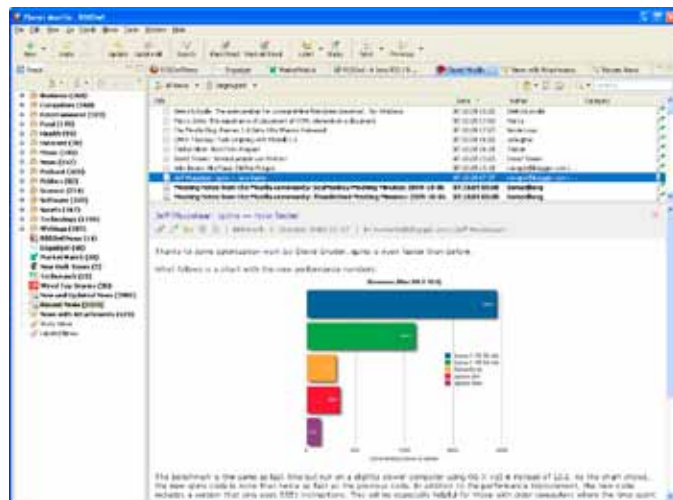
db4o and Eclipse

Db4o also leverages the Eclipse value proposition. By integrating with the Eclipse Rich Client Platform framework, Pasero was able to use Eclipse mechanisms for adding automatic software updates and interface extension building to his software. „Kudos to the db4o team. We were really happy to find out that open source projects can integrate db4o without extra cost.“ Moreover, integration with Apache’s Java-based Lucene full-text search engine brought advanced search features, and news articles are, of course, stored in db4o. According to Pasero, the RSSOwl tool

RSSOwl - a news aggregator for RSS and Atom News feeds.

RSSOwl is released under the Eclipse Public License and written in Java, using db4o by Versant for data storage.

RSSOwl is free software and available for everybody.



oriented programming model and faster in terms of performance.“

There was another consequence of adding the relational hierarchy; growing resource demands, both in the size of the executable file and the memory required to run it. „We found that with so many layers, the memory footprint while

received SourceForge’s Project of the Month award in Jan., 2005, and has been downloaded more than a million times.

Available as open source, RSSOwl 2.0 is based on Java 5 (instead of 1.4.2, as was 1.x) and SWT, can be downloaded now at <http://www.rssowl.org>.



RSSOwl – Highlights

RSS / RDF / Atom Newsreader

Downloads > 500 per Day
> 1,000,000 in total

Open Source /
Platform Independent

Initial Development:
Summer 2005 for version 2.0,
Summer 2003 for version 1.0

Latest Release:
2.0 in October 2009
(after 9 Milestone Releases)

Database features

db4o by Versant
Easy to use API
Object-oriented
Small footprint



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