

Linux Workshop 2004b: NumericalGecko Eclipse Plug-in – The Case for Open Source



The following is a short chronological account of the project's progress, and our various uses of open source methodology.

1. **The need:** In the period preceding the start of the workshop, Netta had found that during her work on a certain project, she constantly had to convert back and forth between decimal numbers and the Unicode table, and that no such service was available for her development environment (and quite possibly for any development environment).
2. **The Eclipse IDE:** As the workshop started, we became acquainted with the Eclipse IDE, and decided to attempt to write an Eclipse plug-in, featuring various conversion tables, including Unicode, to address the problem Netta had recently encountered.
3. **Finding existing solutions:** As this first proposal was rejected, we set out to find a similar pre-existing application and merely convert it into an Eclipse plug-in, rather than write everything ourselves from scratch. That application turned out to be [Johann Loefflmann's NumericalChameleon](#), a very powerful open source java universal converter, and thus the Numerical Gecko Eclipse plug-in project was born.
4. **Starting a sourceforge project and choosing a license:** After deciding on the project and writing the initial documents, we went ahead and opened a new open source project on [sourceforge](#). We chose GPL as our public license, to comply with Numerical Chameleon's license, and because it's one of the most well known and popular public licenses.
5. **Learning the Eclipse IDE:** Before starting to write the project, we wanted to do a few things. First and foremost was getting to know the Eclipse IDE and its plug-in development environment (PDE). To that extent, Netta, which was to be responsible of the GUI and basic framework studied all of the relevant documents and examples in the [Eclipse home page](#), and Erez started using Eclipse exclusively for any type of software development (mainly school exercises, written in C and C++). All the reference sites we used can be found on our [links](#) page.
6. **Communicating with the original author:** Next, we took the sources and binaries for the NumericalChameleon application, studied them, translated the interface to Hebrew (using on-line and off-line dictionaries and atlases, to translate hundreds of scientific terms and country names), and contributed our translation to the NumericalChameleon project. During that time we had established a friendly connection with Johann, NumericalChameleon's author, and asked him for advice regarding our upcoming project. NumericalChameleon's next version included our Hebrew translation, and a new right-to-left appearance, and credited us for our part.
7. **Using other open source projects:** During the development period we attempted to utilize the open source community as much as possible. We

- were developing everything on Eclipse, using Johann's original source code as the basis for our new software. Before adding new features, we attempted to locate pre-written open pieces of software that would help us, and in several occasions added external packages to our project, either in their original form or in a modified one. (The SWT Calendar component and the Eclipse Plugin for generating Web Services Java clients are two examples, both are linked from our [links](#) page). Whenever we encountered problems, we turned to Eclipse's user manuals or discussion forums for help, and when that didn't work, we could always learn from other people's examples, by downloading other open source plug-ins and studying their methodology.
8. **Using sourceforge tools:** Our use of sourceforge was not limited to just announcing our project and distributing files either. During the entire development process we had used CVS to monitor changes to our sources and prevent redundancies and code loss. We had also used some of sourceforge's task management tools, dividing the project into sub-projects, assigning them to either of us and setting timeframes for their completion. Finally, we posted announces about upcoming and new releases to the project main page.
 9. **Creating a project homepage:** When the project was nearing completion, and we were in the testing stages (see relevant document), we had uploaded and linked our new [project home page](#), which contains basic information and links regarding Numerical Gecko.
 10. **Contributing to the original project:** After releasing our first beta version, we had contacted Johann again, and asked him to try out our new project. He did, and was generally impressed with Numerical Gecko, but was also helpful in pointing out a bug or two. We had also offered to contribute some of our new features, which can be converted to work with the original NumericalChameleon, to the original project, and that may happen in that project's next version.
 11. **Publishing the project:** At this point we had also contacted two leading Eclipse plug-in sites, and requested to publicize our project. Both [eclipse-plugins](#) and [eclipseplugincentral](#) agreed and posted links to our website.
 12. **Recruiting other developers:** Before releasing our official release, one of Netta's friends joined our development team to contribute a new skin to Numerical Gecko. Within a few days he came through, and made that important contribution.

Epilogue

That's it. We were done. Our official version had been uploaded to sourceforge (in both Windows and UNIX versions). Only time will tell if this project will become a major success or will simply be forgotten. Johann, impressed by the work we had done, sent the following email message to all of the people in the NumericalChameleon developers mailing list, and his words seem like a fitting summary to this experience:

```
From: Johann N. Loefflmann [mailto:jonelo@jonelo.de]
Sent: Tuesday, August 10, 2004 7:50 PM
To: announce@numericalchameleon.dev.java.net
Subject: NumericalChameleon and the Gecko
```

Hi folks,

```
I would like to inform you about the project called
"Numerical Gecko". It is an open source project which
is done as a workshop at the Tel Aviv University
in Israel.
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From the homepage at <http://geckoplugin.sourceforge.net/>
"Numerical Gecko is an Eclipse Plugin based on the popular
Java tool NumericalChameleon [1.6.0]. It's purpose is to
help Java developers increase their productivity when using
the Eclipse IDE, by providing them with an efficient,
easy to use conversion utility. The plugin supports
bi-directional conversions of many units in many different
fields, and can seamlessly integrate the results into
the Eclipse environment".

I really appreciate these kind of projects, because
the authors of the Numerical Gecko project will also
contribute new features to the NumericalChameleon project
and it shows how Open Source can change the world
(at least my world ;-)

Regards,
Johann