

# Intelligent Software Development Environments: Integrating Natural Language Processing with the Eclipse Platform

Submitted by [witte](#) [1] on Tue, 2011-05-31 17:11

- [Eclipse](#) [2]
- [nlp](#) [3]
- [semantic assistants](#) [4]

Title	Intelligent Software Development Environments: Integrating Natural Language Processing with the Eclipse Platform
Publication Type	Conference Paper
Year of Publication	2011
Refereed Designation	Refereed
Authors	<a href="#">Witte, R.</a> [5], <a href="#">B. Sateli</a> [6], <a href="#">N. Khamis</a> [7], and <a href="#">J. Rilling</a> [8]
Editors	<a href="#">Butz, C.</a> [9], and <a href="#">P. Lingras</a> [10]
Conference Name	24th Canadian Conference on Artificial Intelligence (Canadian AI 2011)
Tertiary Title	LNAI
Volume	6657
Pagination	408–419
Date Published	May 25–27
Publisher	Springer-Verlag
Conference Location	St. John's, Newfoundland and Labrador, Canada
Type of Work	Paper
ISBN Number	978-3-642-21043-3
Keywords	<a href="#">Eclipse</a> [11], <a href="#">NLP</a> [12], <a href="#">Semantic Assistants</a> [13]
Abstract	<p>Software engineers need to be able to create, modify, and analyze knowledge stored in software artifacts. A significant amount of these artifacts contain natural language, like version control commit messages, source code comments, or bug reports. Integrated software development environments (IDEs) are widely used, but they are only concerned with structured software artifacts – they do not offer support for analyzing unstructured natural language and relating this knowledge with the source code. We present an integration of natural language processing capabilities into the Eclipse framework, a widely used software IDE. It allows to execute NLP analysis pipelines through the Semantic Assistants framework, a service-oriented architecture for brokering NLP services based on GATE. We demonstrate a number of semantic analysis services helpful in software engineering tasks, and evaluate one task in detail, the quality analysis of source code comments.</p>
URL	<a href="http://www.springerlink.com/content/2664412325t894u3/">http://www.springerlink.com/content/2664412325t894u3/</a> [14]
DOI	<a href="https://doi.org/10.1007/978-3-642-21043-3_49">10.1007/978-3-642-21043-3_49</a> [15]
Copyright	Copyright © 2011 Springer-Verlag. This is the author's version of the work. It is posted here by permission of Springer for your personal use. Not for redistribution.
Acceptance Rate	28%

## Acknowledgments

This research was partially funded by an NSERC Discovery Grant. The JavadocMiner was funded in part by a DRDC Valcartier grant (Contract No. W7701-081745/001/QCV).

## Attachment

[cai11-saeclipse.pdf](#) [16]

## Size

429.57 KB



Except where otherwise noted, all original content on this site is copyright by its author and licensed under a [Creative Commons Attribution-Share Alike 2.5 Canada License](#).

## Source URL (retrieved on 2026-02-06 17:44):

<https://www.semanticsoftware.info/biblio/intelligent-software-development-environments-integrating-natural-language-processing-eclipse>

## Links:

- [1] <https://www.semanticsoftware.info/users/witte>
- [2] <https://www.semanticsoftware.info/category/blog-tags/eclipse>
- [3] <https://www.semanticsoftware.info/category/blog-tags/nlp>
- [4] <https://www.semanticsoftware.info/category/blog-tags/semantic-assistants>
- [5] <https://www.semanticsoftware.info/biblio/author/1>
- [6] <https://www.semanticsoftware.info/biblio/author/73>
- [7] <https://www.semanticsoftware.info/biblio/author/9>
- [8] <https://www.semanticsoftware.info/biblio/author/10>
- [9] <https://www.semanticsoftware.info/biblio/author/74>
- [10] <https://www.semanticsoftware.info/biblio/author/75>
- [11] <https://www.semanticsoftware.info/biblio/keyword/59>
- [12] <https://www.semanticsoftware.info/biblio/keyword/3>
- [13] <https://www.semanticsoftware.info/biblio/keyword/7>
- [14] <http://www.springerlink.com/content/2664412325t894u3/>
- [15] [http://dx.doi.org/10.1007/978-3-642-21043-3\\_49](http://dx.doi.org/10.1007/978-3-642-21043-3_49)
- [16] <https://www.semanticsoftware.info/system/files/cai11-saeclipse.pdf>