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

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- Eclipse [2]
- nlp [3]
- semantic assistants [4]

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Abstract	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.
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