



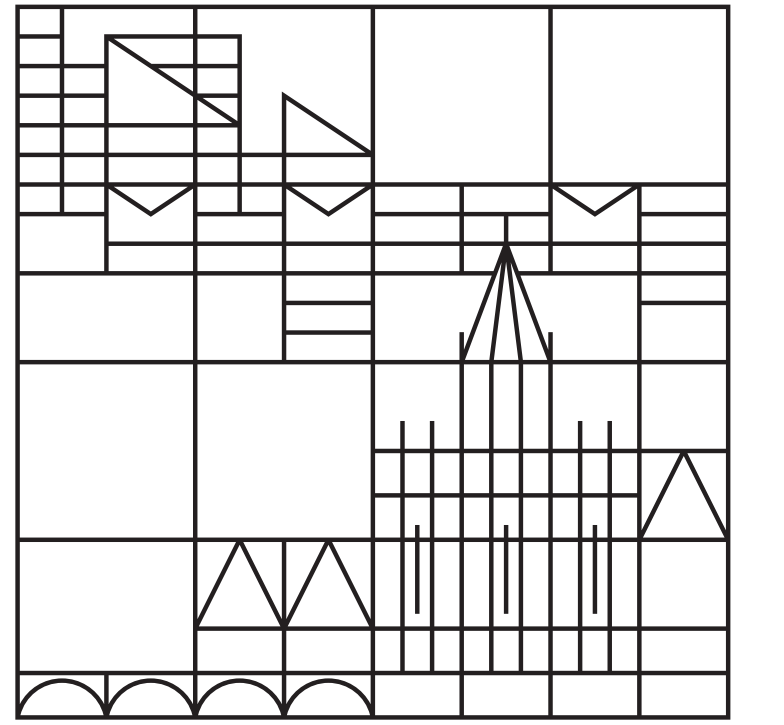
# eXLEpse: An Eclipse-Based, Easy-to-Use Editor for Computational LFG Grammars

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## Motivation

- traditional computational grammar development in LFG uses EMACS and the command line to interact with XLE
- can be difficult for students new to: EMACS, Unix, or both
- XLE syntax not intuitive; error handling not supportive throughout

## Goals

- provide a development platform with the look & feel of the user's operating system (via Eclipse)
- let the user concentrate purely on the development of the grammar
- assist the user by better and more comprehensive error handling
- lower the learning curve of any novice in the field (e.g., in grammar development courses)

## Problems Addressed

Usability problems in grammar development with XLE include:

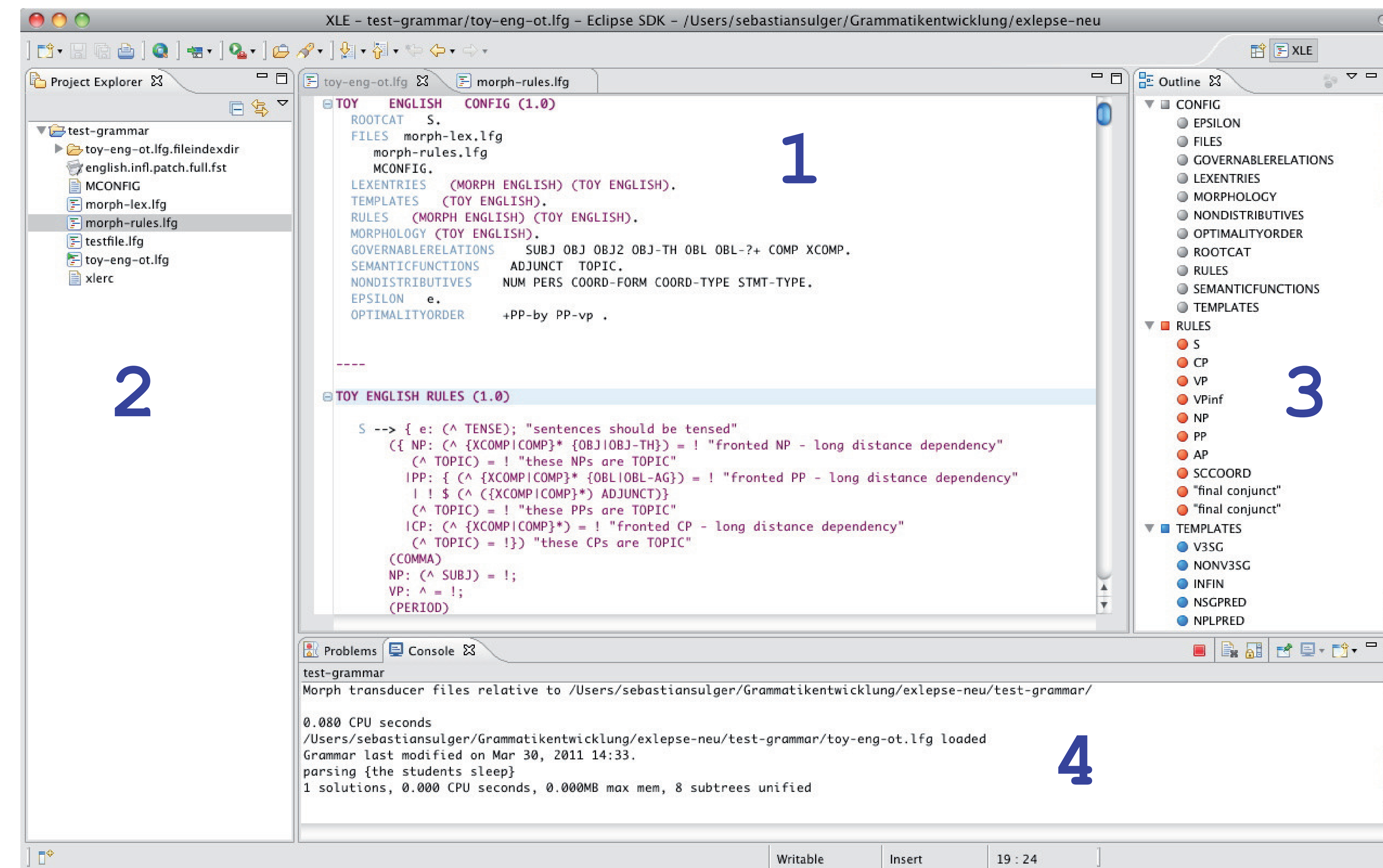
- cryptic shortcuts in EMACS: not conforming with any current convention
- sentence parsing: separate buffer in addition to grammar/testsuite buffers
- XLE error messages: clues printed in separate buffer
- XLE syntax: arbitrary symbols; e.g. dot (smallest visible symbol) separates single entries

## Implementation

eXLEpse was developed as an Eclipse plugin:

- powerful open-source development platform
- can be extended by plugins in various ways (e.g., Subclipse, git, Google, ...)

## Screenshot - The eXLEpse Perspective



## Main Features

- **Eclipse Customization:** only components needed for XLE grammar development are visible (“eXLEpse perspective”)
  - one or more editors in the central work area (1);
  - project explorer with project files (2);
  - outline view (3);
  - complete XLE console/error view (4).
- **Grammar File Outline:** all parts of grammar file & main entries shown; selection of a specific entry marks corresponding line in grammar & highlights that line
- **Content Assist for Configuration Section:** request for proposals via **CTRL+Space**; proposals: all config entries not used in current configuration section
- **Syntax Highlighting:** all parts of grammar file colored individually - improves readability; colors can be changed using preferences dialog
- **Folding:** Sections may be folded for better overview of larger files
- **Parsing:** direct interface to XLE; parse dialog for sentence input via toolbar
- **Testsuite Editor:** edit testfiles, parse testfile sentences from within the editor
- **Error Detection:** “Problems” tab gives overview of errors; immediate feedback - user may navigate to error directly
- **XLE Console:** XLE console output is shown in bottom window; results of parse are displayed; user can interact with XLE directly

## Collaborative Grammar Development

Eclipse comes with support for Subversion (<http://subversion.apache.org/>) via the Subclipse plugin:

- full integration of Subversion functionality without leaving eXLEpse
- improved organization especially for bigger grammar development projects

## “Preferences” Settings

Parameters of the eXLEpse plugin to be adjusted via the preferences dialog of Eclipse:

- set paths to XLE binaries, documentation, x11 path
- set default encoding of LFG grammar files
- set syntax highlighting colors for editor

## Installation & Licensing

Default installation mechanism in Eclipse:

- download and install Eclipse (<http://www.eclipse.org/downloads/>); tested from 3.5.2 through 3.6.1
- add the Subclipse and eXLEpse plugins using the ‘Install New Software’ dialog OR ...
- Eclipse bundle, Subclipse & eXLEpse integrated: <http://exlepse.org/> (tested on Mac OS X, Linux)

Licensing:

- eXLEpse uses the EPL license (free software)
- source is published (collaboration welcome!)

## Bug Reports & Feature Requests

Please send bug reports, feature requests and other related questions to:

[sebastian.sulger@uni-konstanz.de](mailto:sebastian.sulger@uni-konstanz.de)