Eclipse Eiffel Development Toolkit – EDT

MASTER THESIS PROJECT PLAN

1. PROJECT DESCRIPTION

Overview

Eclipse is a multi-language software development platform comprising an IDE and a plug-in system to extend it. It is written primarily in Java and is used to develop applications in this language. Through plugins, Eclipse also allows to develop applications in other languages like C, C++, Cobol, Python, Perl, PHP, OCaml and a lot of others.

The goal of this thesis is to also have a plugin that allows Eiffel programming with Eclipse. This might bring Eiffel some attention from the Eclipse community and eases the learning of Eiffel for students already programming Java with Eclipse. Also, the Eiffel compiler from EiffelStudio itself benefits since it will be used “out of context” for this thesis and therefore gets a throughout evaluation and test.

Scope of the work

It seems that some work in this area has already been done but it either stopped or is not widely known. The existing implementations need to be evaluated and, depending on the quality and usefulness, either one of them has to be updated and extended or a new implementation needs to be started.

Intended results

A working plugin that is easy to install is expected. Basic features that should be supported are:

- Integration into the “New Project” wizard (similar to the Java Project wizard)
- Editing all important project settings as in EiffelStudio (similar to the Java Project settings)
- Incremental compilation

Additional features could be:

- Syntax highlighting
- Code completion
- Refactoring support
- Debugging support

If time permits, a lot of other useful features can be done during the thesis. The ideas for the features can be taken from the way Eclipse handles Java or EiffelStudio handles Eiffel. Experienced programmers can comment on which features they consider especially valuable.
2. BACKGROUND MATERIAL

Reading list
Will be determined during the thesis. It depends largely on whether a new plugin is started or an existing solution is continued.

3. PROJECT MANAGEMENT

Objectives and priorities
The feature sections from the “intended results” chapter are presented by priority and it is expected that they will be tackled in that order.

Criteria for success
If the basic features as described in “intended results” can be implemented and have similar usability and speed as the same features for programming Java, the thesis is considered a success.

Quality management

Documentation
- Master thesis report (in English)

Validation steps
Continuous feedback from the supervisor will guide the development process.

4. PLAN WITH MILESTONES

The time organization can only be estimated after learning what plugins already exist and having considerable knowledge of how Eclipse works internally. Therefore, the thesis organization will be part of the validation steps (see above) with the supervisor.