

Presentation of Reasoning on UML Models as a Plugin for Eclipse Platform

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1 The Vision - Introduction

Eclipse employs plug-ins in order to provide all of its functionality on top of (and including) the runtime system, in contrast to some other applications where functionality is typically hard coded. The Eclipse SDK includes the Eclipse Java Development Tools, offering an IDE with a built-in incremental Java compiler and a full model of other Java source files.

In this project you will develop a new plug-in for Eclipse platform. The plug-in will be first used, and hopefully extended in the future in order to present results of reasoning operations on UML models, such as UML Class Diagrams. While the core reasoning package already implemented, it lacks an extendable user-friendly GUI plug-in for interaction with the modeler.

2 Requirements

1. **Plug-In.** The key to seamless integration of tools with eclipse is the plugin. Thus, the developed plug-in must be integrated with Eclipse in exactly the same way as other plug-ins. A good starting point for the GUI level can be USE software available at <http://www.db.informatik.uni-bremen.de/projects/USE/>. You should use the USE Java model to present your GUI. More detail about the exact requirements available upon request.
2. **User interface.** The GUI you develop for the plug-in must be extremely user friendly and usable. Your creativity providing a support for further extension of this GUI to other features is the key issue in this project. As an example consider a tabbed window, where every functionality resides in its own tab. In this way the new features to come will reside in a new tab, without a need to change or somehow influence on previous features.
3. **Technology you should use.** The project must be implemented in Java, and designed to run smoothly on Eclipse platform. Proper design and planning of the code should be taken seriously into consideration, to allow further extension of a project.

3 Project Administration

The project is performed as a part of research of finite satisfiability in UML class diagram. There are some ready parts already implemented, so it will be

easy to visualize the results. If you are interested in performing this project please contact prof. Mira Balaban.