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Methodology Independent CASE Tool

A Prototype.

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Abstract

The object-oriented (OO) movement is at present split into many factions and as a result no standard has been defined. A direct consequence of this lack of consensus is that there are no mature CASE tools available. Current object-oriented CASE tools are methodology dependent. They are not driven by the need to enable the successful construction of OO software but rather to sell a particular methodology (at this time there are more than 30 different OO methodologies. Forcing the developer to use a particular methodology constrains his/her ability to select the most appropriate problem representation. To address these problems a research project aiming at the development of a methodology independent OO CASE tool has commenced. The thesis is the first stage in the tool development. It addresses two main problem areas of this research project:

- The development of a customisable user interface which utilises an abstract notation definition language.
- Support of the impementation phase of OO software.

A language which facilitates abstract definitions of graphical notations and the human computer interaction with them has been developed. The implemented graphical user interface uses the developed language to allow arbitrary notations and dialogues for OO models to be described and modified without recompilation of the CASE Tool.

Re-engineering facilities have been designed to allow a user to generate an OO model from existing OO source code. Automatic layout generation has been investigated and several auto-routing algorithms applied. The current tool generates Coad and Yourdon diagrams from C++ source code. The user can update and navigate the C++ source via the created OO model.

Based on the thesis results two papers were presented at the International conference on Object Oriented Information Systems in London, December 1994. A collaborative research has also commenced with the University of Technology, Sydney.

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