

## Department of Computer Science and Software Engineering

### Master Thesis Defense

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Title:	ELIDE: An Interactive Development Environment for the Erasmus Language
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### ABSTRACT

The process-oriented programming language Erasmus is being developed by Peter Grogono at Concordia University, Canada and Brian Shearing at The Software Factory in England. Erasmus is based on communicating processes. The latest version of the compiler is operating in command-line mode. As the compiler evolved, we recognized that there was a lack of an editor or an integrated development environment (IDE) for this new language. Our objective is to construct a suitable IDE for the Erasmus language called ELIDE by understanding the feature of Erasmus language such as cells, processes, ports, protocols, messages, and message passing, which are the main heart of this programming language. At the same time we wanted to enable ELIDE with the features that are available in IDEs of new languages like Ruby and Erlang. In this respect, after detailed studies on current text editors, IDEs and their features and evolution of IDEs, we designed and implemented an integrated development environment for Erasmus language.

To speed up the implementation process, we decided to choose one of existing platforms as our base and develop Erasmus-specific features on top of it. There were many platforms available. Most of these platforms were used but finally we chose NetBeans. This thesis describes the development of this new tool for Erasmus programmers. It must be noted that the design of the ELIDE was an iterative process though what we present is the final result. ELIDE is a strong environment for a complete programming support for Erasmus language with built-in compile/debug/run ability. The most important features included in ELIDE are Syntax coloring, Code folding, Code completion, Brace matching, Coding tips, Indentation and Annotations. ELIDE is capable of adding more features later in case there is a need. Furthermore ELIDE can be used for an easy integration of editing and visualizing support for Erasmus language building block such as cells, processes, ports, protocols, messages, and message passing.

We also conducted a preliminary user survey of Erasmus and ELIDE involving a number of graduate students. The results were quite encouraging with respect to the group surveyed and current capabilities of Erasmus and newly designed ELIDE. This study confirmed that it was a must for the Erasmus language to have a customized IDE to empower Erasmus language capabilities as a process-oriented language teaching and research purposes.