



Master Thesis Defense

Speaker: Rana M.D. Issa

Supervisor: Dr. Grogono

Examining Committee: Drs. Constantinides, Radhakrishnan and Dr. Shiri (Chair)

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ABSTRACT

This thesis presents design patterns for the emerging programming language Erasmus that is based on a process-oriented paradigm. We have developed these patterns using the current version of Erasmus, mE, and its corresponding compiler MEC. The design patterns are inspired on some of the patterns presented in the book [GHJV95]. Also, we have followed the elements of documentation templates that appear in that book. The patterns are presented visually; the figures show the high-level structure of the design patterns. Since the tendency of software development is to shift to concurrent and distributed computation, new paradigms are emerging to accommodate this shift. Erasmus is one of these new developing paradigms. We try in this thesis, through developing design patterns for Erasmus, to demonstrate and prove that process-oriented programming is a viable and valid paradigm. We also compare process-oriented programming presented by Erasmus with object-oriented programming in the implementation of the design patterns. We have chosen a set of design patterns that represent the different categories that appear in the book [GHJV95] and we tried to preserve the essential concepts of the original designs. However, the designs are not a direct translation of their counterparts in OOP. Rather, the designs make use of the abstraction of POP and find solutions from within the paradigm itself. That is why in some designs, for one pattern in OOP we have created two or three design patterns in mE.