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**"R-RIO: Um Ambiente para Suporte à Construção e à Evolução de Sistemas Dissertação de Mestrado'**

One of the great problems presented during the implementation phase of the software development life cycle is the difficult to separate what the system must do (defined by the operational requirements) from what it must attend (defined by the operational requeriments). This difficult in the separation of concerns of the application hinders the maintenance of the system and the reuse of its parts in other applications.

This work analyzes four paradiggms that try to solve this problem, computational reflection, composition-filters, aspect-oriented programming and configuration. Based on the results of this analysis, we present the R-RIO (Reflective, Reconfigurable Interconnectable Objects) approach to contribute for the solution of the separation of concerns' problem. The approach extends the configuration paradigm in such a way to allow not only the description of the architecture of an application but also its relevant operational aspects.

Based on a software model associated with the approach, a Java based prototype is implemented, what makes it portable among distinct platforms of hardware and operational systems. This prototype offers primitives for configuration that allow the programmer to specify synchronization, distribution and communication aspects at a highlevel of abstraction.

The idea of generic connectors, that can be used to bind any pair of module ports, independently of their signatures, is also presented in this work. This allows to reuse particular connector implementations to support interactions between different modules, without any code customization.