Rumer: A Relationship-Based Programming Language with Predicate References*

Stephanie Balzer and Thomas R. Gross

Department of Computer Science, ETH Zurich

Abstract. Classical *references* provide few guarantees on the objects they refer to: we may obtain an object conforming to the declared type of a reference (including free access to all objects reachable from the requested one) but we are left in the dark about both the state of the retrieved object and the system. In this paper, we introduce *queries* as a replacement for references to access objects. Since queries return only objects meeting a specified selection criterion, queries can be viewed as *predicates* over the system state space. We discuss the implementation of such predicate references in *Rumer*, a programming language supporting explicit relationships.

* The full version of this report can be obtained by emailing the authors.