The Influence of Software Reuse on Programming Language Design

DISSERTATION

Presented in Partial Fulfillment of the Requirements for

the Degree Doctor of Philosophy in the Graduate

School of the Ohio State University

By

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* * * * *

The Ohio State University

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To my parents, Clarence and Mary Ann Harms,

my wife, Mary Beth,

and daughters, Rebecca Elizabeth, Gretchen Marie,

and Alisha Anne

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PUBLICATIONS

Types, Copying, and Swapping: Their Influences on the Design of Reusable Software Components, with B.W. Weide, Department of Computer and Information Science, The Ohio State University, Columbus, OH, March 1989, OSU-CISRC-3/89-TR13.

Efficient Initialization and Finalization of Data Structures: Why and How, with B.W. Weide, Department of Computer and Information Science, The Ohio State University, Columbus, OH, March 1989, OSU-CISRC-3/89-TR11.

"Deadlock-Avoidance Mechanisms in Distributed Systems", with A. Datta, S. Ghosh, and A. Elmagarmid, *Computer Systems Science and Engineering*, Vol. 3, No. 2 (April 1988), pp. 67-82.

Swapping — A Desirable Alternative to Copying, with B.W. Weide, Department of Computer and Information Science, The Ohio State University, Columbus, OH, January 1988, OSU-CISRC-1/88-TR2.

"Deadlock Avoidance in Real-Time Resource Sharing Distributed Systems: An Approach Using Petri Nets", with A. Datta and S. Ghosh, *Proceedings of the Real-Time Systems Symposium*, December 1984, pp. 49-61.

FIELDS OF STUDY

Major Field: Computer and Information Science — Software Engineering
Minor Fields: Programming Language Design, Compiler Construction Techniques, Computer Architecture, Formal Program Specification and Verification, and Theoretical Computer Science

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