

<http://www.cs.uky.edu/~raphael/>

Raphael Finkel received a PhD from Stanford University in 1976 in the area of Robotics. He was a faculty member of the University of Wisconsin -- Madison from 1976 to 1987. He has been a professor of computer science at the University of Kentucky in Lexington since 1987. His research involves distributed data structures, distributed algorithms, and distributed operating systems.

Dr. Finkel was associated with the first work on quad trees, k-d trees, quotient networks, and the Roscoe/Arachne, Charlotte, Yackos, and Unify operating systems. He was involved in developing DIB, a package for distributing tree-structured computations in a dynamic fashion on an arbitrary number of computers.

His other past research includes tools for Unix system administration (SAT: a distributed database used by each host to build its own specific configuration files; Pulsar: a monitoring tool that receives regular reports from each host and displays them), databases (Qddb: arbitrary-length attributes with replication and sub-attributes, a graphical user interface; Dexter: conversion of data to human-readable form specific to the user), operating systems (Unify: distributed shared memory with relaxed consistency in both temporal and spatial dimensions), and distributed algorithms (DIB: distributed backtracking, especially applied to constraint-satisfaction problems). Many of these projects can be found via <http://www.cs.uky.edu/~raphael> .

Recent projects include formalizing natural-language morphology with default inheritance hierarchies, designing and implementing a web-based scheme for students to work on organic chemistry homework, and using constraints to generate puzzles like Sudoku, to model an advise-giving scenario, and to build and solve logic puzzles. Most recently he has collaborated with the Endangered Language Alliance to design and implement Kratylos, a facility to let natural-language researchers upload lexical and corpus datasets and browse and analyze the results.

Dr. Finkel has published over 50 articles in refereed journals and conferences and has produced over 50 technical reports. He has written two textbooks: *An Operating Systems Vade Mecum*, (Prentice-Hall, 1988), and *Advanced Programming Language Design* (Benjamin-Cummings, 1996). He has co-authored *Morphological Typology: From Word to Paradigm* (Cambridge University Press, 2013). He is also a coauthor of *The Hacker's Dictionary* (Harper and Row, 1983).

Dr. Finkel has received several teaching awards. He is a member of the ACM and the IEEE Computer Society. He is a past editor of the *IEEE Transactions on Parallel and Distributed Systems*.