Richard H. Crawford 916-758-5604 (Home)
2804 Ganges Ave.
Davis, CA 95616
crawford@cs.ucdavis.edu
rcrawford@igc.apc.org

CURRENT STATUS: Researcher in computer security at University of California at Davis, Computer Science Department.

ARCHITECTURES: Sun UNIX, DEC Ultrix, Vax VMS, HP 3000, IBM PC
LANGUAGES: C, Lisp, SR, Icon, Modula-2, Pascal, Intel 80x86 and Motorola 680x0 Assemblers

PUBLICATIONS:

"Automated Assistance for Detecting Malicious Code" --- by R. Crawford, P. Kerchen, K. Levitt, R. Olsson, and M. Archer. Published in "Proceedings: Sixth International Computer Virus & Security Conference", March 1993.

"Semantic Issues in the Design of Languages for Debugging" --- by R. Crawford, R. Olsson, W. Ho, and C. Wee. Published in "Proceedings: IEEE Computer Society Fourth International Conference on Computer Languages", April 1992, pp. 252-261.

"A Testbed for Malicious Code Detection: A Synthesis of Static and Dynamic Analysis Techniques" --- by R. Crawford, R. Lo, J. Crossley, G. Fink, P. Kerchen, W. Ho, K. Levitt, R. Olsson, and M. Archer. Published in "Secure Networks --- Proceedings: Fifth International Computer Virus & Security Conference", March 1992, pp. 225-236.

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"A Dataflow Approach to Event-based Debugging" --- by R. Olsson, R. Crawford, and W. Ho. Published in "SOFTWARE --- Practice and Experience", Vol. 21, No. 2, Feb. 1991, pp. 209-229.

"Topics in Behavioral Modelling and Event-Based Debugging" --- by R. Crawford. M.S. Thesis, Dept. of Computer Science, University of California, Davis, CSE-90-49, December 1990.

"Dalek: A GNU, Improved Programmable Debugger" --- by R. Olsson, R. Crawford, and W. Ho. Published in "Proceedings: Summer 1990 USENIX Conference", June 1990, pp. 221-231.

EMPLOYMENT:

Hewlett-Packard, Knowledge Systems Laboratory (4/82 - 4/85)

SOFTWARE DEVELOPMENT ENGINEER: Member of HP-INFOCURE project to develop worldwide, interactive database for dissemination of technical information to Support Personnel and sophisticated end-users. Database to permit remote error logging and diagnosis of HP systems at customer sites. Access via X.25 lines or satellite links.

Analyzed information flows and designed organizational structures for appropriate responses. Recommended upgrade pathways for existing personnel.

Investigated the "SOFTWARE TRACKING & REPORTING SYSTEM" (STARS); a family of in-house IMAGE databases designed to track software bugs, fixes, and workarounds. Located and identified sources of relevant information, pinpointed regions containing corrupt data, and devised effective heuristics for extracting the most useful information.

Developed Pascal (mandated) system to construct input files for processing by a subsequent program. Using criteria resulting from my earlier investigation, selected contents were transferred from the IMAGE databases to sequential files in order to allow field service engineers to manually process entries and classify them by problem symptoms and cures.

Designed, developed, and tested a Classification & Verification module to interactively display incoming product information data to field engineers. These experts could scan through related sources and assign appropriate retrieval indices preparatory to loading that documentation into the relational database.

DEVELOPMENT ENGINEER: Researched and formulated specifications for air quality for computers located in harsh process-control environments, as well as those installed at relatively benign business sites. Studied the effects of atmospheric contaminants (both particulate matter and gas-phase corrosives) on the performance of computer equipment.

In conjunction with HP's Central Research Labs, refined an electrochemical technique for qualitative identification of corrosives, as well as quantitative determination of film thickness and extrapolated ambient corrosion rates. As project leader and principal engineer, I designed, developed, and specified measuring instruments and procedures for field service engineers to use in characterizing the severity of customer environments. I designed and implemented a worldwide atmospheric monitoring program in the organization.

Hewlett-Packard, Stanford Park Division (9/79 - 4/82)

PRODUCTION ENGINEER: Responsible for the mechanically tuned families of microwave and radio frequency signal generators. Provided engineering support to the test and assembly lines for these electro-mechanical instruments to meet the division's reliability and factory cost objectives. Specified, documented, redesigned, and performed cost analyses on various subsystems to improve product performance and reduce manufacturing costs.

MANUFACTURING ENGINEER: Provided engineering support for multi-spindle and milling centers. Optimized machining productivity and quality of finished parts. Investigated and corrected deficiencies in product documentation and process specification. Developed new manufacturing procedures and structured new fabrication routings to maximize operating efficiencies. Worked with electrical engineers in isolating the mechanical specifications that ensured proper electrical function while minimizing production costs.

TOOL DESIGNER: Designed and documented machine tooling and inspection fixtures for new products coming from R & D. Advised product designers regarding impact of mechanical design on tooling and production costs.

United Technologies, Chemical Systems Division (7/77 - 3/79)

TECHNICIAN: Tested physical properties of solid propellant samples (various modulii, thermal response). Calibrated pressure transducers and initiated tests for reliability. Performed reduction of data acquired subsequent to transducer implantation in subscale rocket motors.

EDUCATION - MS Computer Science; April 1991 from UC Davis.
BS Mechanical Engineering; June 1979 from UC Berkeley.
Honors: Pi Tau Sigma (Local Vice President, 1978)
(National Mechanical Engineering Honor Society)

SPECIALTIES - Optics: Constructed reflecting telescopes to 16" Dia.
Languages: Some German, Japanese, and Spanish.

INTERESTS - Astronomy, Backpacking, Cycling, Music,
Environmental activism, Global climate change,
Game-theoretic analysis of corporate dynamics,
Co-evolution of technology with organizational behaviors,
Cultural value theory, Cognitive Science, Logics, Combinatorics.

NGO Activist - ACLU, Common Cause, Computer Professionals for Social Responsibility, Electronic Frontiers Foundation, League of Conservation Voters, Natural Resources Defense Council, Sierra Club, Sierra Club Legal Defense Fund, Union of Concerned Scientists.

PERSONAL - U.S. citizen; born 27 July 1954.

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PERSONAL - U.S. citizen; born 27 July 1954.