

Dean Knudson

Experience

Associate Professor – Capstone Coordinator
North Dakota State University – Fargo, ND

I am currently coordinating the Capstone Projects for the Computer Science department at NDSU. During the past three academic years we have had over 40 projects that were staffed by approximately 140 seniors and graduate students. These projects were all externally sponsored by companies such as Microsoft, Phoenix International, IBM, ATK, Cargill, Thomson West, Forum Communications, Infinity Windows, Sundog, Mind Tremors, Honeywell, Polaris, CNSE and Noridian.

Development Manager/Project Manager
Microsoft Business Solutions - Fargo, ND

I was a Development/Project Manager in the Business Solutions Division of Microsoft, Inc. My responsibilities included managing a team of software developers in the research phase of an architectural restructuring project which became the Microsoft Business Framework. My team did the research for and built the prototype system that was used as a proof of concept for this software development platform. I moved into a development/project management role when the development phase of this project was officially started. I was the Development Manager for one of the key subsystems, the Application Framework team. During this time my team pioneered several new processes into our division such as model-based development and SEI Level 3 processes.

Section Manager
Northrop Grumman Corp. - Rolling Meadows, IL

I was a Section Manager in the Software Engineering Department at Northrop Grumman. My responsibilities included managing four groups dealing with the following: Support Tools, Lab Support, Database Generation Systems, IR&D Prototyping (IR Jammer, RF Jammer, Neural Nets for Tracking, Data Fusion, and Genetic Algorithms), Simulation Systems, and Automated Test Equipment Software. These areas include real-time embedded software, real-time lab support software, and non-real-time support software.

In addition to software development, my department at one time included the Software Engineering Process Group. I was instrumental in our site achieving an SEI Level 3 rating in 1996 and working for a year on meeting Level 4 requirements. I also coordinated the sale of software to commercial companies, set up cooperative education programs with local universities, wrote proposals for new contracts, and managed company-funded research programs with various universities.

Section Chief
Systems and Research Center (SRC), Honeywell Inc. - Minneapolis, MN

I managed the Systems Architecture and Engineering research group at SRC. We covered a wide range of technologies including distributed computing, architecture design and analysis, instrumentation of parallel processing systems, real-time Ada, and distributed Ada with an emphasis on embedded real-time systems.

I managed the successful merger of two groups at SRC and extended the contract base of this group to include Air Force and NASA contracts. A major accomplishment was negotiating a Distributed Ada technology transfer contract with Verdex Corp. This was a precedent-setting contract that made our research available to Honeywell divisions through a non-Honeywell commercial source.

Director of Engineering

CPT Corp. - Eden Prairie, MN

I was responsible for all software development at CPT, a \$250 million company. This included all commercially sold software as well as development and support software and hardware. My department played a major role in changing CPT from a stand-alone word-processing company to one selling office automation systems. During this time, I increased the technical capabilities of the department and introduced the concept of networked systems with UNIX-based hosts into CPT. I also sold the idea of a new product line consisting of a network of small portable terminals, with both voice and data capabilities, which could be used stand-alone or in clusters. In addition, I started an engineering group in Ireland in order to take advantage of tax incentives and low salaries in Ireland as well as to better service European OEM contracts. During the year that this group was being expanded, I spent several months in Ireland coordinating the project with CPT/U.S. headquarters.

While at CPT, I also worked closely with Sales and Marketing. I also was given special assignments such as visiting companies that CPT was considering purchasing in order to evaluate them from a technical standpoint. These included both terminal and voice mail companies. I looked into new technologies for CPT, concentrating on Expert Systems. I developed one expert system, a hardware configuration system, for use by salesmen.

Assistant Technical Director
ITT – Advanced Technology Center - Shelton, CT

I had a significant role in establishing the basis of a new digital switching system, which eventually became a \$1 billion program for ITT and is now a switching system used in Europe and other countries (the 1240E). It is based on a distributed architecture with several hundred processors, and it had to be developed in a very short timeframe with work being distributed across several countries. Because of my accomplishments, I advanced through 3 levels of technical management responsibility.

My department consisted of 65-70 people with advanced degrees and the areas of responsibility at various times included the following: Operating System, Distributed Data Base Control System, Man-Machine Communications, Call Processing, and System Integration.

Member of Technical Staff
Bell Laboratories - Naperville, IL

My work included feature development for electronic switching systems (#1 ESS) including the following: call processing, service observation, centrex features, traffic features, and a special-purpose network management system for private networks. I also worked on defining services to be offered in the future.

Education

Ph.D., Computer Science, Northwestern University, Evanston, IL
M.A., Mathematics, Bowling Green State University, Bowling Green, OH
B.A., Mathematics, Concordia College, Moorhead, MN