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Let me introduce myself

My name is Lionel Deimel, and I'm a generalist whose most conspicuous skills are related to computers and to writing. I like to operate in an environment where I can employ a constellation of talents to accomplish a goal, and where quality work is valued.

What I can do for you

I can fill any of a number of roles, including that of teacher/trainer, analyst/critic, software engineer, user consultant, writer, and editor. A position that uses me most effectively would require that I play several related roles. This could mean doing several jobs for which it is impractical to hire more than one person, particularly in our current economic environment. I could also take on a more complex assignment or be a resource to others. Although it would be attractive to work in a software development environment where my software engineering and communication skills could be combined, I could also help end-users be more productive with their computing resources, as I have found this to be a satisfying activity as a consultant. I could happily work in a more purely communications position, particularly one involving advocacy of ideas I could believe in.

Who I am

I am a computer scientist with a strong background in science and mathematics. I am also an excellent writer, editor, reviewer, and critic, who values clear thinking and is acutely sensitive to the subtleties of expression. I am a good teacher, trainer, and organizer. Because I both enjoy working with colleagues and appreciate the synergy arising from collaboration, I prefer leadership to management. I have a talent for teasing the best out of individuals or small groups by asking critical questions or by offering unexpected insights. I try to resolve conflicts so that everyone achieves more than he or she thought possible.

I am interested in ideas, art, and music, and I have always thought of myself as an intellectual. I enjoy working with a variety of people, however, greatly appreciate the practical, and, people tell me, have a good deal of common sense. Because I enjoy helping others, people find me a patient teacher.

What I really care about

My academic background, and particularly my mathematical training, has made me a problem-solver. When others focus on content details, I often find it useful either to generalize the problem and model it or to simplify the problem by eliminating elements that seem extraneous. When working with others, especially in non-technical contexts, I often find that the two most important questions are "what problem are we solving?" and "what would an acceptable solution look like?" That latter question sometimes comes down to "who needs what?"

I like to make things, and I derive deep satisfaction from the beauty that can inhabit them. I appreciate the elegance of a clever proof, the transparency of a well-designed user interface, and the communication of just the right shade of meaning through judicious word choice in an essay. This aesthetic extends to those things I cannot produce—a perfectly proportioned steam locomotive or a Prokofiev piano sonata—but I particularly enjoy getting the details right myself, be they architectural or engineering details. Components should work together harmoniously, exhibiting a balance of elegance with utility and economy.

Two examples will serve to illustrate how my concerns manifest themselves and to suggest how they play out in the workplace:

- I am the rare programmer who actually likes to annotate code, a process I have reflected upon and studied empirically. I enjoy the challenge of explaining concisely what I have written, but I also know that articulating precisely what my program does forces me to verify that against what it *should* do. Moreover, careful examination of the code after it is written sometimes suggests alternatives and economies that did not present themselves earlier, thereby leading to a better product.
- The documents for which I did technical editing at the Software Engineering Institute were largely written for academics unfamiliar with the topics treated. I quickly learned the limitations of using expert reviewers, who were much better at evaluating fundamental technical correctness than they were at appraising the accessibility of the text to its intended audience. Experts, I found, unconsciously fill gaps and correct minor errors in the text without recognizing that the author has not been explicit or precise. Developing a kind of studied ignorance helped me uncover such lapses in the text and negotiate changes with the authors. In the case of a document on intellectual property protection written by two attorneys, I virtually rewrote the text to make it acceptable to computer professionals, yet I still managed to satisfy the authors.

How I've been educated

I entered the University of Chicago as a physics major, intending to get a firm grounding in theory before pursuing electronics engineering. I was already interested in computers and had built computer circuitry. As a third-year student, I took a computer course and became hooked on programming. After receiving an excellent liberal education and earning my A.B. in physics, I went to Georgia Tech, where I earned an M.S. and Ph.D. in information and computer science. My graduate work was interrupted by a stint as an Army bandsman, which advanced my musical education. On my return to Georgia Tech, I discovered the joy of teaching, which entailed both organizing knowledge for my own understanding and sharing my insights with others. Although my doctoral dissertation was in automata theory and my minor was mathematics, my subsequent professional interests have largely involved the pragmatics of software development and use. I have four decades of hands-on experience with uncounted computers—from second-generation behemoths to the latest PCs and Macs—operating systems, programming languages, and applications.

Where I've worked

After earning my Ph.D., I held faculty positions in computer science departments at North Carolina State University and Allegheny College. I was recruited as a Senior Computer Scientist by Carnegie Mellon University's then-new Software Engineering Institute. At the SEI, my responsibilities were to promote the discipline of software engineering to universities, to produce materials for software engineering education, and to manage the production of those materials, which were mostly written by outside authors. Since leaving the SEI, I have worked as a private consultant and as Manager of Special Services for a computer services firm. I have done corporate and individual training, assisted organizations in their transitions to upgraded computer networks, and acted as an IT resource for individuals and small firms. I develop and maintain Web sites and relational databases. I am especially pleased with my work with Microsoft Access databases, which allows me to develop complex, user-friendly interfaces, often for mission-critical applications.

In the past six years, I have volunteered a good deal of my time on behalf of Progressive Episcopalians of Pittsburgh. I serve on its board and was its first president. My work with PEP has exercised my computer skills and provided valuable experience in leadership, marketing, and public relations. I have written position papers and press releases and regularly dealt with reporters from the national media. For PEP or with its encouragement, I have also written influential pieces of analysis and advocacy. Because of this work, I sometimes identify myself as an Episcopal Church activist.

What I've accomplished

My accomplishments are varied. Here is a representative sample:

- I received two service awards from the Association for Computing Machinery for my work over eight years with the Scholastic Programming Contest. I served three times as director of this high-visibility international student competition and once as chief judge. I managed the contest budget and a staff of volunteer professionals. Innovations during my tenure include bringing the contest to the site of the ACM Computer Science Conference, the replacement of FORTRAN as the contest programming language by Pascal, and the incorporation of a local area network into the contest environment.
- I have published more than a dozen papers on computer science/software engineering education. The topics of these papers are varied, but they include issues of curricula, standards, test item construction, and teaching facilities. I have also published papers on program comprehension, algorithms, and other topics in computer science and engineering.
- I managed the development of curriculum modules for the Software Engineering Institute. For many of these subject-area guides to software engineering and software engineering education, my most important role was that of technical editor. I am co-author of one of the modules, *Unit Analysis and Testing*.
- As one of three former academics responsible for most of its publications, I have helped Progressive Episcopalians of Pittsburgh gain a reputation as a

source of reliable information and responsible opinion within a beleaguered Episcopal Church. Personal posts on my Web site and blog have also been influential within the church.

- When my church began a renovation project, leaders were concerned that the chaos of construction would cause parishioners to stay home. To keep people informed and interested, I created and maintained a “Construction Update” bulletin board for the duration of the project. This wall-mounted newsletter was so popular that I was asked to re-create it during another construction project several years later. I published an article about the project in a church journal.
- In developing a database for a steel fabricating company, I discovered that the software the company had been using only approximated the geometry of its products and, therefore, the quantity of steel they required. Although it was not specified explicitly as a job task, I developed a rigorous geometric description of the product and used that in the database to calculate more precisely the material required for any order. This resulted in better cost estimates and inventory control, unexpected benefits of the new application.
- One of the educational materials packages I created for the Software Engineering Institute is *Scenes of Software Inspections: Video Dramatizations for the Classroom*. It consists of a videotape containing 11 brief scenes related to software inspections, and a report analyzing the scenes and suggesting how they can be used in the classroom. The professionally acted scenes had been created for another project, but the interactive hardware on which they were to be displayed was never fully developed. I proposed and developed the repackaging that proved popular, particularly in commercial environments.
- I consulted as a technical expert for SAS Institute Inc. in connection with *SAS v. S&H Computer*. I developed evidence of copyright and license violations by examining program listings and other materials. I also developed the framework within which evidence was presented at the trial that ended in a ruling in favor of SAS.

What else I'm interested in

I love music, particularly the works of Prokofiev and Bach, but also jazz and folk. I sing in my church choir and do a bit of composing now and then. I follow developments in politics and science closely. I am a devoted listener to National Public Radio and only a somewhat less devoted viewer of a few favorite television shows. I am a baseball fan, railfan, photographer, and avid reader. I have regularly offered my technical skills in the service of my church, and, for many years, was audio-visual coordinator and Worship Commission secretary. Since launching my own Web site, “Lionel Deimel’s Farrago,” and an associated blog, I have become an active essayist and poet.