

product development | mechanical engineering | program management

I leverage twelve years' experience in product development consulting to provide clients with engineering creativity and problem solving skills, as well as the ability to bridge gaps between technical and marketing teams. Throughout my career, I have utilized my leadership, communication, and organizational skills to help shepherd projects from initiation through to manufacturing, maintaining a holistic view of the project requirements and end goals while also tracking the numerous individual details for functionality, usability, and aesthetics. I am proficient in mechanism development; part design for injection molding, sheet metal, extrusion, and machining processes; and CAD modeling (utilizing Pro/ENGINEER). I am well-versed at integrating user research and industrial design into a robust engineering process. A generalist by nature, I am a fast learner adept at applying my varied experiences to each new project.

Professional Experience:

Essential, Inc. [Boston, MA]

November 2003 – May 2009

Principal Engineer and Program Manager for a product development consulting firm.

Confidential Professional-Audio Product Line – Shure, Inc.

A full line of high-end professional performance equipment (rack-mounted gear, bodypacks, and microphones).

- *Program Manager* – Led an internal team of engineers and industrial designers and coordinated with the client's technical and marketing groups, facilitating weekly status meetings that fostered collaboration, even amongst client team members themselves, and drove towards critical-path milestones.
- *Technical Lead* – Coordinated the development of a wide range of products, maintaining team focus on functionality, usability, and aesthetics. Engineering challenges included mechanism development and design for manufacturing and assembly. Coordinated several rounds of prototype construction and testing.
- Provided design intent guidance and engineering support as client teams completed development internally.

Catalyst Dx and SNAPshot Dx Veterinary Diagnostic Instruments – IDEXX Laboratories

A blood chemistry analyzer and immunoassay reader for veterinary, in-clinic testing.

- *Program / Client Manager* – Maintained a long-running client relationship by adding value in what was an industrial design program. Scoped all work, and maintained budgets and schedules. Worked closely with all aspects of the business: engineering, marketing, operations, clinical chemistry, up to executive management.
- *Technical Lead* – Defined the instrument architecture and enclosure part breakout for manufacturing and assembly. Participated in brainstorming and design review activities with client's internal team.
- Performed user research with veterinarians and technicians; interviewed ~40 internal stakeholders.

Compass Office Desking System – Wright Line

A highly modular, freestanding furniture system for government, commercial, educational and laboratory markets.

- Co-developed one of two design directions to be tested through evaluative user research during the design exploration phase. Developed preliminary CAD databases to prove concept feasibility.
- *Program Manager / Technical Lead* – Led a team of engineers and industrial designers in the detailed development of the selected design direction. Developed components and interconnections for load-bearing joints. Worked extensively with client's internal manufacturing and component sourcing departments.

Athletic Performance Testing Equipment – Athletic IQ

Four test stations to quantify students' physical performance (jump, height/weight/reach, flexibility, power-throw).

- *Program Manager / Technical Lead* – Managed a team of engineers to hold to an aggressive timeline. Led all concept generation, prototyping, testing, and development activities.
- Coordinated prototype and pilot production manufacturing (sheet metal, steel weldments, injection molding).

Other Projects:

Surgical Blood (Red Cell) Salvage Device – Haemonetics**PepperPad Internet / Media Device** – Pepper Computer, Inc.**2010 Line of Baby Monitors** – First Years**Loudbox Amplifier & On-Board Acoustic Guitar Preamps** – Fishman**Stand-Alone Selective Delipidation Instrument** – Lipid Sciences, Inc.

Professional Experience (continued):

Fitch:Worldwide [Boston, MA]

December 1997 – October 2003

Senior Engineer and Program Manager in Fitch's product development team.

Extracorporeal Plasma Processing Instrument – Lipid Sciences, Inc.

A therapeutic plasma-processing instrument (plasma delipidation), intended to reverse atherosclerosis.

- *Program / Client Manager* – Scoped project work, developed schedule and budget, and coordinated with other development partners as the Fitch representative on the program's joint-management team. Largely responsible for defining the division of labor amongst the partners, keeping the joint team aware of the overall program goals, and driving progress against specified program milestones. Led a multidisciplinary, cross-location Fitch team (engineering, industrial design, user interface, research).
- *Technical Lead* – Directed the disposable set concept development and machine architecture activities. Created machine layouts and volumetric models. Generated user protocols.
- Coordinated development efforts with hardware and disposables manufacturing partners.
- Participated in brainstorming and critical design reviews with core-technology development partner.

Endoscopic Surgical Toolset – Cardioventions (Ethicon, Inc.)

A second-generation endoscopic saphenous vein harvesting toolset used for thoracic surgery (CABG).

- *Technical Lead* – Coordinated all concept generation activities. Created new product concepts and an altered system architecture to improve usability, and defined the procedural steps for the surgeons.
- Participated in generative research, including user interviews, surgical observation, and device training.
- Developed preliminary prototypes for user testing to validate the new system architecture.

Arthroscopic Surgical Instrument – Smith + Nephew

An instrument for soft tissue repair in the shoulder, incorporating a unique anchoring technology into a multifunctional, automated device positioned to redefine the state of the art.

- *Technical Lead* – Led concept generation, subsystem development, and system architecture definition. Co-developed surgical technique for soft tissue fixation utilizing this technology. Built breadboard models and performed evaluative on cadaveric samples.
- Created a functional, proof-of-concept system prototype for evaluative testing and end-user research.
- Coordinated a team of electrical engineers in developing custom hardware and LabView control software.

Enzymatic Blood-Type Conversion Instrument – ZymeQuest, Inc.

A prototype laboratory instrument to enzymatically convert A-, B-, or AB-type blood to universal donor O-type.

- Assessed and corrected existing design problems and redesigned the infrared remote temperature sensor enclosure and centrifuge fluid-expressing systems. Helped redefine the wet and dry disposable kits.
- Assembled three prototype units, including wiring harnesses and pneumatic plumbing.
- Responsible for delivering a 3D database, drawing package, assembly instructions, and BOM.

Other Projects:

Extensional Rheometry Test Instrument – Cambridge Polymer Group

Athletic Footwear Cushioning Technology – adidas

Industrial Uninterruptible Power Supply – Acumentrics

Digital Whiteboard Computer Peripheral – Virtual Ink

Modular Retail Display System – LOOK

Education:

Rensselaer Polytechnic Institute [Troy, NY]

December 1997

Master of Engineering, Mechanical Engineering, GPA 4.0/4.0

Concentration: Mechanical Design and Manufacturing (Automation)

Taught a course (3D modeling and drawing practices) and worked in the Center for Automation Technologies.

Northeastern University [Boston, MA]

June 1996

Bachelor of Science, Mechanical Engineering, GPA 4.0/4.0

Honors: Carl S. Ell Presidential Scholarship, President's Award, Tau Beta Pi, Pi Tau Sigma

Co-op positions at Fitch, Inc. (product development) and UroMed Corp. (start-up medical device company).