Barry Perlman
336 Harvard Street, Cambridge, MA 02139
bp@barryperlman.com
617 492 2779

Objective:
> Creation of new high-quality software technologies as a consultant.

Summary:
- Systems software architect, embedded systems to supercomputers.
- Manager, leader and individual contributor at all stages of product life cycle.
- Successful deliveries of projects both started fresh and inherited in chaos.
- Familiarity with all layers of abstraction from distributed objects to microcode.

Experience:

2008 – 2012:   **Tokutek, Inc. – Consultant**
> Development of MySQL database storage engine, including design and implementation of nested transactions, checkpoint and recovery, transactional file operations, engine status, file system monitoring and data flow control, automatic version upgrade, miscellaneous enhancements and optimizations.

2003 – 2008:
> RFID software development for **Radianse**;   RFID research for **France Telecom**; Technology capture, documentation and teaching for **Harvard University**.

1997 – 2002: **Mitsubishi Electric Research Laboratory (MERL) – Consultant**
- Speech-operated wireless device: Designed and implemented (Python) client and server (using purchased speech recognition software). Awarded patent 7,158,499.
- Distributed shared memory: Defined, designed, and implemented scalable shared memory for large number of widely dispersed processes. Defined new semantics from first principles to improve functionality and reduce complexity from predecessor system ("Spline"). Objects in shared memory are Java objects.
- Distributed virtual environment: Co-designed and implemented scalable multiserver architecture for specialized distributed object manager ("Spline") used for large distributed virtual environments.

1993 – 1997: **Thinking Machines Corporation – Consultant**
- Project leader for integrating CM5 massively parallel supercomputer with Sun workstations. Created architecture and detailed design of new message passing system, and extended CM5 process model to include asynchronous workstation processes. System comprises daemons, libraries, and zero-copy drivers. Led team of five engineers from specification through field installation.
- Project leader for checkpoint/restart feature of CM5 supercomputer. Wrote functional specification, coordinated with customers and other engineering groups, led team of three engineers, designed and implemented Unix file restoration and other software.

1992 – 1993: **Open Software Foundation (OSF) – Consultant**
- Managed external supplier of DCE (Distributed Computing Environment) application software. Reviewed design and code for correct use of DCE and for threadsafety and POSIX compliance. Tracked schedule, identified issues and solutions.
- Designed and wrote mutex debugging library for multithreaded applications using POSIX threads.

1986 – 1991: **Apollo Computer, Inc. (Division of Hewlett-Packard) – Consultant**
- Member of three-engineer team that restructured all network logic in Domain/OS operating system for major improvements in performance and maintainability.
- Wrote Ethernet driver in Domain/OS for company's first joint HP/Apollo computer, wrote SCSI disk driver and SCSI cartridge tape driver for Domain/OS.
- Modified Aegis operating system to accommodate new memory management hardware and expand per-process virtual memory.

1984 – 1985: **Tau Tron, Inc. (Division of General Signal) – Consultant**
  • Designed hardware/software architecture for 48-channel DS-3 telecommunications system for Bell Labs, directed implementation.
  • Managed development of software for a new type of telecommunications monitoring and control equipment. Supervised five engineers from functional specification through field installation. This system comprises a multiprocessor hierarchy.
  • Co-authored winning proposal in competitive process for next generation telecommunications monitoring equipment for AT&T.

1981 – 1983: **Modicon division of Gould, Inc. – Development Manager**
  (Manufacturer of specialized processors for real-time industrial machine control.)
  • Managed definition and design of software for company's first multiprocessor controller. Created system architecture, staffed project, managed team of seven engineers.
  • Defined new Unit Operations Controller, a major departure from company's existing product line. Analog loop controller was configured with graphic data flow language.

1979 – 1981: **Tau Tron, Inc. – Senior Project Engineer**
  • Established microprocessor capability in previously hardware-only manufacturer. Selected the processor, development environment and bus architecture. Established software development process and related infrastructure.
  • Designed and managed implementation of company's first microprocessor-based product (DS-3 telecommunications test set). Wrote simple embedded operating system.

1977 – 1979: **Modicon division of Gould, Inc. – Software Engineer**
  • Designed I/O architecture for new product line of industrial controllers, implemented in software and microcode.
  • Specified, designed, and led implementation of of major enhancements to existing controller in software and microcode.

1976 – 1977: **Wang Laboratories, Inc. – Programmer**
  • Wrote statistics and other mathematical applications, wrote system utilities.

Education:
  Harvard University Extension School
    Courses in C++, Object Oriented Systems, Unix, Internet Architecture, XML, 1991 – 2005
  Boston University
    M.Sc. in Computer Engineering, May 1983
    Certificate in Applied Project Management, December 2006
  State University of New York at Stony Brook
    B. S. in Applied Mathematics and Computer Science (double major), May 1978

Other:
  Massachusetts Institute of Technology (MIT): Professional advisor ("Master") for course "Performance Engineering of Software Systems" (6.172), MITPOSSE program

  Harvard University Extension School: Teaching Fellow for courses "Unix Systems Programming", "Computer Protocols and Internet Architecture"