# Prabuddha Biswas

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**SUMMARY:**

Seasoned technology executive with diverse experience in high performance software architectures, data management, e-commerce and mobile applications. I shepherded several new initiatives where I conceived the idea, gathered requirements, developed the architecture, built and managed the team, and successfully delivered the product on a tight schedule and with high quality. Subsequently, I focused on fostering the business partnerships and vendor relationships. I also worked with the field consultants and early-adopter customers. I have skillfully handled projects with components being done in groups distributed across the globe. I have demonstrated the ability to simultaneously manage multiple, complex projects to deliver innovative products with stellar business results.

I have demonstrated business acumen by taking a leadership role in defining product strategies based on market demands, competitive pressures and project team strengths. My strong communication skill is invaluable in building good relationships between groups, ‘selling’ new concepts and projects to senior management, partners and customers. I have built teams with great camaraderie and infused them with my excitement. My technical strengths are evident from my education, projects, patents and published papers.

**EDUCATION:**

1. Executive Program, MIT Sloan School of Business, May’06.
2. Ph.D. in Electrical and Computer Engineering, University of Massachusetts, Amherst. May'93.
3. M.S. in Electrical and Computer Engineering, University of Massachusetts, Amherst. June'85.
4. B.Tech in Electrical Engineering from the Indian Institute of Technology (IIT), Delhi. May'83.

**EXPERIENCE:**

**VP Engineering, Smart Desktop/ Director, EMC Corporation, May 2008 - present**

1. ***Intelligent way to organize and search your personal cloud data***

Smart Desktop allows users to organize their data by associating them with projects, clients, or customers. It also provides a resource ranking algorithm that makes personal information search more relevant. This project was based on a patent pending machine intelligence technology. I was brought into the team to bring experienced leadership to take the product to market. Soon after we delivered out final beta the company was merged with Pi Corporation and Mozy to form Decho Corporation. Decho stands for “digital echo” and its goal is to help people protect and manage their ever increasing body of personal digital data.

1. **Achievements:**

* Brought discipline to a university startup to take a research project to a finished product.
* Introduced a more agile development environment. Created small feature teams with members from product management, development and testing working closely.
* Took a fresh view of the project by going back to interaction design. Employed a design firm to develop user personas and a set of clear user scenarios. Then focused development and testing on those scenarios. Performed usability studies to understand the strengths and weaknesses.
* Performed system performance analysis to optimize system responsiveness. Enforced performance metrics.
* Advised the marketing team on business intelligence and analytics driven decision making.

**Founder and Board member, Health MAP Inc. April 2008 - present**

1. ***Mobile medical data collection and workflow application***

Start-up venture to allow chronic patients to collect weight, blood glucose and blood pressure data using a Bluetooth enabled mobile phone. The mobile application also asks a set of personalized questions to validate data and ensure health status of the patient. The data is then sent to a monitoring center. The patient’s data is analyzed and alerts are sent to the attending nurse/disease manager to follow up if discrepancies are detected. The system will interface with the patient’s electronic medical record. There is a portal for disease managers and doctors to track the health of patients. A doctor can also scan a patient’s report and the information is automatically routed to the medical data monitoring server. The technology is being reviewed by a mobile operator in South-east Asia and by a hospital giant in India. I am driven by the huge philanthropic possibilities of this venture.

1. **Achievements:**

* Conceived the project idea, developed business plans and received angel funding
* Developed business relationship with Sharp Labs and Apollo Hospitals.
* Helped the team to develop the architecture and make the design choices.

**Director of Technology, Amazon.com, April 2006- April 2008**

1. ***Online demand generation and world-wide marketing***  
   Took the helm of a group with negative growth and low morale in the face of Goggle’s stiff competition and transformed it into a team that delivered over $3B of traffic to the Amazon retail platform through affiliate sites. We put in place a development methodology that can react quickly to rapidly changing market needs and focus on long term projects at the same time. We delivered exciting products with high quality and operational efficiency. We used page context, user behavior information and aggregate site statistics to deliver appropriate product advertisements on affiliate sites. I introduced a version of the Agile development methodology to the team and brought a new focus on customer interaction based design philosophy.  
     
   **Achievements:**

* Delivered traffic growth to Amazon.com through the affiliate sites that far exceeded expectation.
* Significantly improved the overall health of the program as reflected by the number of new affiliates signing to the program and the number of affiliates driving sales to the site.
* Delivered many innovative products in a very short period of time
  + Contextual advertisements
  + Affiliate storefront tool
  + Interesting Widgets that promote Amazon products and services
* Optimized the data feeds sent to comparison-shopping and deal sites to save millions of dollars to the Amazon bottom line.
* Introduced a focus on user-interaction based design philosophy. Improved site design and the usability of our products and services. Studied web access behavior and applied analytics towards decision-making.
* Improved operational efficiency. We have tripled the throughput since 2006 at constant hardware cost. Started an “operational excellence” team in Bangalore, India.
* Responsible for affiliate payment system with SOX controls.

**Director of Software Development, Oracle Corporation, 1996-2006**

Lead software development teams working on two new areas for Oracle.

1. ***Location Services***  
   Proposed a patented idea of a location aware application infrastructure in the Oracle database and Application Server. The platform facilitates the development of mobile applications like field service, asset management and expense reporting on the Oracle stack. The mobile phone technology and the world of Internet were coming together and we saw an opportunity to make that interaction intelligent with the knowledge of the location of the user. The location services platform allows content to be integrated from the Internet or database sources. The framework allows for load balancing and rule based data source selection. We provide a Java client that is integrated into the Oracle JDeveloper IDE. We also provide a Web Services interface and a rich JSP tag library to facilitate application development. Client libraries are provided for the PocketPC and J2ME platforms. This product has gone through 3 complete release cycles. Managed a globally distributed team on three continents.   
      
   **Achievements:**

* Conceived of the idea and proposed the architecture for incorporating location services in the Oracle Application Server product. Received two patents on the architecture.
* Worked with existing customers and product mangers to refine the concepts.
* Developed a team and delivered on every aspect of product development process – specification, design, development, testing, integration, documentation and training.
* Responsible for developing the business relationships with content partners and working with field consultants for final delivery to customers.
* The Oracle Application Server is recognized as one of the industry leading middle-tier platforms and analysts recognized location services as one of the strong and distinguishing features of the product.
* Presented project with Oracle Chief Marketing Officer in keynote address at Oracle World.

1. ***Sensor Data Model – RFID support***  
   Leading the engineering team developing the framework in the Oracle database to enable storage, retrieval, dissemination and analysis of sensor data – the Sensor Data Model (SDM). The SDM allows applications to flexibly define sensor metadata and environmental characteristics. The framework provides a J2EE based web services front end and an Oracle database repository. It includes indexing schemes to efficiently access sensor data and it links ‘raw’ sensor observations to business events. The SDM supports the EPCglobal tag and information services standard APIs that will enable data exchange between organizations within a company or between trading partners.  
   **Achievements:**

* Responsible for developing Oracle’s Sensor data management strategy and architecture.
* Develop the detailed task list, schedule, resource estimates and the phased execution plan.
* Represent project to senior executive management for architecture approval and funding.
* Lead the engineering team developing the Sensor Data management framework.
* Delivered pilot version for NASA in 6 months.
* Deploying pilots at major retail, logistics and government customer sites.
* Represent Oracle on industry standards committees.
* Mentored team member into both Harvard Business and MIT Sloan MBA programs.

**Technical Director, Digital Equipment Corporation, 1992-1996**

1. Led the team responsible for the complete suite of performance analysis tools for Windows NT, Digital Unix and OpenVMS. The product had a client data collections component, a centralized repository and a server based performance advisor component. The system analyst could monitor real-time performance, set alert rules and also perform capacity planning.  
     
   **Achievements:**

* Led a group of over 25 experienced team members with major contentious issues.
* Leveraged my background in operating systems to lead the development of complex rules to detect system performance degradations.
* Developed detailed memory management, I/O subsystem and CPU scheduling models for accurate capacity planning.
* Achieved an annual revenue around $40 million (in 1995).
* The profitable product was sold to Computer Associates in 1996.

**R&D Software Engineer, Digital Equipment Corporation, 1985-1992**

1. Worked on the OpenVMS file system development and All-in-1 office productivity software suite. Developed analytic models for software performance that led to significant design improvements. Used disk I/O trace data collected at customer sites to drive simulation models. Project led the design and development of the repository component of the architecture. Responsible for the design analysis of a new log-based file system.  
     
   **Achievements:**

* Hands on experience in software development, testing, performance analysis through 2 major release cycles.
* Selected for the “Graduate Engineering Education Program” fellowship to pursue Ph.D. degree. This is a full salary fellowship for higher education awarded to outstanding engineers.
* Finished Ph.D. in 2 years (1990-1992). Received a patent on storage cache design based on thesis.
* Received “Outstanding Achievement” awards from the Divisional Vice President.
* Rose rapidly from Software Engineer to Senior Engineer and then to Principal engineer in 4 years.

**PATENTS:**

I have 7 patents in the areas of:

1. Location-aware, mobile application infrastructure (Patent #6594666, 6954764, 9993670)
2. I/O, data management and file system caching. (Patent #5390318, 5636355, 6378043, 11433379)

**PUBLICATIONS:**

1. “Location based Content Syndication”, IEEE International Conference on Mobile Data Management, Berkeley, CA, January 2004.
2. “Location Caching in the Mobile Middleware platform”, 3rd International Conference on Mobile Data Management, Singapore, January 2002.
3. “Location based Service Visibility”, INET 2001 Conference, Stockholm, June 2001.
4. “Location Based Services”, Chapter in book on Mobile Computing, Kluwer publisher, 2001.
5. "Location-aware Application Infrastructure", Proceeding of the W3C and WAP Workshop on Position Dependent Services, Sophia Antipolis, France, February 2000.
6. "Caching Issues in Database Systems", Proceeding of the 1st International Workshop on Software Performance, Santa Fe, New Mexico, October 1998.
7. "End-to-End Response Time Analysis ", Proceedings of CMG'97 International Conference on Management and Performance Evaluation of Computer Systems, San Diego, California, December 1997.
8. "Performance Analysis of Distributed File Systems with Non-Volatile Caches ", Proceedings of the 2nd International Symposium on High Performance Distributed Computing, Spokane, Washington, July 1993.
9. "Trace Driven Analysis of Write Caching Policies for Disks", Proceedings of the 1993 ACM Sigmetrics International Conference on Measurement and Modeling of Computer Systems, Santa Clara, California, May 1993.
10. "Analysis of File I/O Traces in Commercial Computing Environments", Proceedings of the 1992 ACM Sigmetrics and Performance'92 Conference, Newport, Rhode Island, June 1992.
11. "File and Directory Access Characterization of VAX/VMS Environments", Proceedings of the 10th International Conference on Distributed Computing Systems, Paris, France, May 1990.
12. "Modeling the Memory Management System in VAX/VMS for Capacity Planning", Proceedings of CMG'90 International Conference on Management and Performance Evaluation of Computer Systems, Orlando, Florida, December 1990.
13. "Characterizing and Modeling Ethernet Performance of Distributed DECwindows Applications", Digital Technical Journal, Vol.2, No.3, Summer 1990. Also presented at the 1990 ACM Sigmetrics Conference Poster Session, Boulder, Colorado, May 1990.
14. "Modelling Contention Sensing Memory Management Systems: A VAX/VMS Case Study", Digital TR-651. Presented at the 7th International Conference on Mathematical and Computer Modeling, Chicago, Illinois, August 1989.
15. "Performance Analysis and Modeling of an Office Server in a Distributed PC Environment ", Proceedings of CMG'88 International Conference on Management and Performance Evaluation of Computer Systems, Dallas, Texas, December 1988.
16. "Load Balancing in VAXclusters ", Digital TR-652, Presented at the 1988 ACM Sigmetrics Conference Poster Session, Santa Fe, New Mexico, May 1988.

**HONORS:**

1. Invited speaker at IEEE International Conference on Distributed Computing in Sensor System, Marina del Ray, Los Angeles, USA, 2005.

1. Invited panel speaker at International Conference on Mobile Data Management Conference, 2002. Industry Program Committee member in 2004.
2. Invited speaker at a National Science Foundation (NSF) forum on Research Experience for Undergraduate students at DePauw University, July 1997, 1998, 2003.
3. Graduate Engineering Education Program Fellowship by Digital Equipment Corporation to pursue research towards a Ph.D. degree. 1990.
4. Research and Advanced Development (RAD) Committee funding at Digital Equipment Corporation to investigate the design and analysis of file system caching algorithms. 1989.
5. Engineering Achievement Award for outstanding performance at Digital Equipment Corporation. June 1988.
6. Invited speaker on computer architecture topics at the University of Massachusetts, Amherst. 1985.
7. Best Senior Project award at the Indian Institute of Technology (IIT), Delhi for the design and implementation of a microprocessor based bioreactor control system. May 1983.