

Larry Mellon

Over ten years in the design and implementation of large-scale virtual worlds for games and training simulations

Career Synopsis

At EA, I was one of the key leads in turning around their flagship online game, The Sims Online (and later, The Sims 2.0) by shifting the game to a stable, scalable architecture and by creating *industry-leading automated test and measure tools to accelerate production. The tools became a studio priority for all games. Prior to EA, I held leadership roles in other types of large-scale virtual worlds, where I helped develop and spread ideas across several industry groups.* At Emergent Game Technologies, I was the system architect and a key contributor to the business model, business development and fundraising. My career began with OO design and programming for distributed systems, parallel supercomputers and learning systems.

Qualifications

I quickly pick up new skills and new fields; I have found and fixed critical path problems at the architecture, implementation, management and executive levels. My broad background inside and outside of technology is very useful in cross-team roles: skills in communication, technology, creative work, leadership and business development provides a bridge across both customer and company groups. *As a System Architect, Team Lead, Software Lead or Technology Advocate, I can absorb, coalesce and communicate ideas across all groups; creating a unified vision, a technology path and an Agile process to get there.* My versatility allows me to take on new, complex problems, solve old, broken problems or scale software and processes. I enjoy taking on new project roles, either to fill gaps in a team or to tackle a new challenge. Previous experience:

- Roles: System architect, developer, team lead, business development, technology advocate, writer
- Fields: Games, OO parallel & distributed simulation, Agile process, automated testing, analytics, scale

Objectives

I have structured my career path to build the expertise for both pure technology roles and complex, multifaceted roles, such as a Product Manager, Producer or Senior Technologist. My long-term objective is to be part of creating new types of online games, especially story-driven games, where my role impacts the business model, the general game requirements and the production/operations model. To get there, I need to extend my skill set, targeting leadership and hands-on roles in all aspects of production: from code to content. My current focus is creating rapid Measure/Change/Measure cycles via analytics, automation and architecture: *Iterative Innovation is a low cost, low risk model to find the fun factor and to grow a customer base.* A Sims 2.0 artist best articulated why I work so hard on such tools and processes. We had never met, but he stopped me in the hallway one day and said "I just wanted to thank you for making the pain go away."

Virtual Worlds Consultant (Architecture, Scalability, Analytics, Process Acceleration, Automated Testing)

June 2007 - present

I help design and build stable, scalable online games via rapid, iterative development. I teach courses on automated testing and analytics, focusing on accelerating Agile game development: user metrics go to the designers, risk metrics to management and performance metrics to engineering. *Consulting provides me time to search for the right opportunity and time to focus on my writing projects (science fiction and software engineering).* Joining a team with new challenges to tackle is my goal, not consulting.

System Architect, Technology Advocate, Business Development

Emergent Game Technologies: January 2005 – June 2007

I was the technology lead at Emergent, a startup for the iterative development and deployment of online games. I held business planning and system architecture responsibilities, and was one of three leads in fundraising and business development across the US, Korea and China, acquiring over \$10 million in VC funding. We grew from three people to over 80 people, with sales showing 100% year-on-year growth. As Technology Advocate, I helped guide our industry to new business and production models via writing white papers, co-authoring an MMO textbook, presenting conference lectures, participating in working groups and working with customers to highlight how our tools affected critical industry problems.

System Architect, Business Development

Automation Corporation: July 2004 – January 2005

Following the success of the automated test and measure systems I created for EA/Maxis (described below), I left to pursue a market opportunity: the entire industry was hitting production scalability problems. I designed tools to allow rapid design iteration, in the Agile development model, targeting large-scale, online games.

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Simulation Lead, Automated Testing Lead, Analytics Lead, Associate Development Director

Electronic Arts, Maxis Studio: June 2001–July 2004

I was a key lead in replacing the brittle system architecture of EA's flagship MMO title, *The Sims Online*, and in starting a massive re-factoring project to increase development speed and stability. I rebuilt the simulation code for client/server execution and helped structure the code-base for a large development team. I then built a new team to field my automated testing designs, which used a single, data-driven client to run many critical tests (pre-check-in, synchronized multi-client, system load and content regression). Next, I designed a metrics system that supported server debugging, realistic load testing and gameplay analysis. *These new techniques proved so effective that TSO's entire production focus shifted to revolve around automated testing, taking several months off the schedule. Extending this work was a top studio priority and proved to be a key tool in shipping The Sims 2.0.*

Senior Software Architect

Orcus 3D Inc.: August 2000 – February 2001

Lead architect for an MMO engine and hosting startup. I was responsible for system analysis and design, focusing on scalability and load-balancing approaches within a cluster and across networks. I also made significant contributions to marketing and management. Orcus fell in the .com crash.

Senior Computer Scientist, Branch Manager, Technology Advocate

SAIC: 1993 - 2000

I was a lead architect for DARPA's *Advanced Distributed Simulation* project (scaling and integrating virtual worlds). We helped define scalability techniques such as interest management and predictive contracts, and how to integrate real-time simulations and faster-than-real-time simulations with live range exercises. I was also the system architect and technical writer for business development projects, winning contracts such as the *Synthetic Theater of War* (a \$50M contract). I was one of the 'plank-holder' architects for the *HLA RTI 2.0*, a network engine which became the standard for integrating all military simulations. I was a PI in DARPA's *Advanced Simulation Technology Thrust* (cluster computing for real-time, large-scale virtual worlds). As Technology Advocate, I worked with groups to quickly learn their problem space and where our technology would help; I wrote white papers, presented conference lectures and attended or led industry focus groups.

System Programmer, Technology Advocate, Trainer, et al

Jade Simulations: 1988 - 1993

I designed and built transport layers for a simulation engine across supercomputers and clustered workstations. I built automated test and measure tools for QA and Production (a very early use of Test Driven Development). I also worked with users to develop specifications and build new systems, such as a distributed Blackboard and checkpoint/restart tools for clustered workstations. I co-wrote and taught training courses for object-oriented design, large-scale software development and parallel processing techniques. As Technology Advocate, I quickly learned client's domains and their problems, then educated where our software would help. I helped unify customer, business and engineering groups via online forums, white papers, example programs, analysis tools and conference lectures.

System Programmer, Trainer

University of Calgary and Alberta Research Council groups: 1983 – 1987

I was an application programmer and UI designer on UNIX and Multics. I co-wrote and taught Multics introductory courses. I built extensions and did support work for the JADE distributed system tools. I designed and built Macintosh group communication and knowledge acquisition tools and UNIX distributed classrooms.

Education

1989: B.Sc. University of Calgary (Minors coursework in Ancient History, Modern Dance & English Literature).

1990, 1994: Masters coursework in Parallel Simulation and Massively Parallel Computer Architectures.

Interests

Writing textbooks and science fiction; garden design; collecting art; leading community projects; playing Go

Bibliography www.maggotranch.com/biblio.html

Over a dozen papers and lectures on scaling game development, analytics, automated testing, system architecture, virtual world training simulations and scalability techniques for parallel and distributed systems.