B.J. Johnson — Instructor, Computer Science

Curriculum Vitae

- Teaching as part-time instructor at LMU, Los Angeles, CA. since fall semester, 2005
- Current PhD candidate in Information Systems and Technology at Claremont Graduate University, Claremont, CA.
- Over 34 years in aerospace industry as:
  - Software Engineer
  - Programmer/Analyst
  - Project lead
  - Requirements analyst
  - Software system architect
  - Satellite payload test engineer
  - Electronics test engineer
  - Software support engineer
- Extensive background in automated test control, telemetry and command systems, and data storage/presentation facilities
- Past Employment by Raytheon, Hughes Aircraft, and IBM
- Currently employed as software engineer/architect at Boeing
- Software projects for customers such as DirecTV, NASA, the Department of Defense, Lockheed Martin, Intelsat, and many other government and commercial entities

Education

- B.S.C.S., Loyola Marymount University, 2002
- M.S.C.S., Loyola Marymount University, 2005
- Candidate for Ph.D. degree, Claremont Graduate University
- Main research interests:
  - Training using 3D Virtual Worlds
  - Software engineering process improvement
  - Agile software development methods
  - Requirements document production/translation
  - Knowledge-based Systems
  - Natural language understanding
  - Robotics and autonomous systems
  - Emergent behaviors in software, hardware, and social situations

Publications and Presentations

- *Applying the Rapid Application Development (RAD) Process to Satellite Payload Test Software* (March, 2011)
- *Using Appreciative Inquiry for User Requirements Gathering in Information Systems Education* (submitted to JISE January, 2013)
- Literature review paper concerning Knowledge Management and Social Media, in process, no working title
- *TWELVE: Training With Experiential Learning in Virtual Environments (*Doctoral Dissertation in progress)
- One book in process, working title *Software Engineering: What Undergrads Need to Know*

Past Professional Projects

- Spacecraft Data Acquisition and Control software
- Equipment control translation language
- Telemetry and Command Interface Hardware/Firmware
- Test rack upgrade software (several different projects)
- Magellan Venus Radar Mapper project test equipment and software
- Automated image processing system software
- Programs for "earned value" and "percent complete" tracking
- Arthroscopic camera internal display design
- Guitar/keyboard audio signal processing equipment
- R.F. amplification and filtering devices and software
- Digital signal processing and multiplexing devices and software
- Microprocessor-controlled A-to-D conversion custom board
- Board game micro-controller design and implementation
- Support software for equipment calibration, location tracking, and management
- Database/graphics and spooler software
- DEC-Decnet and HP-DS/1000 networking systems
- Automated UNIX/HP-UX and RTE-A systems administration functions
- RS232/RS422/GPIB computer and peripheral interface controllers and software
- Software version description and version updating
- "sed", "awk", "bash", "C-shell", and "Korn-shell" scripts

Recent Personal / Volunteer / School Projects

- UCLA Research Study Website (now OBE)
- Westside Child Trauma Council Website
- CESIUM, the Capillary Electrophoresis Simulation Implemented Using Matlab
- RAPID, the Remote Access Product Information Database
- KOPE, the Knowledge-based Online Psychological Evaluator
- CHMS, the Circulatory Health Monitoring System
- COOL-APS, combines the CLIPS Object-Oriented Language / Aspect-oriented Programming concepts

- RPN Calculator - implemented in three different languages for comparison purposes
- Client-server version of the game "Concentration" implemented in Java
- Server-based chat program written in Python and Tcl/TK
- Porting programs to different platforms / languages
- Towers of Hanoi (written in *MASM* of all things!)
- Magic Squares game (written in Fortran)
- Pegs in the Holes game (written in C)
- Several versions of text-based number guessing games
- Hosts of HTML/JavaScript "practice" programs

Organization Memberships

- Association for Computing Machinery (ACM)
  (held L.A. chapter chair and vice-chair positions)
- Tau Beta Pi Engineering Honor Society
- Alpha Sigma Nu Jesuit Honor Society
- Boeing Scholars Program
- Boeing Mentoring Program
- Security+ Certified Professional

Contact Information

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