

# ELIZABETH A. BUIE

*"Enhancing the User Experience, to Drive Success"*



**Web Sites ♦ Web Applications ♦ Desktop Applications ♦ Enterprise Applications  
Command-and-Control Systems ♦ Intranets ♦ Printed Materials ♦ Training Workshops**

- ◆ A three-decade career in human-computer interaction, user-centered design, and the user experience, with a keen eye for visual design, honed by photographic training and experience
- ◆ Clients spanning diverse organizations — government agencies, businesses, and nonprofits
- ◆ Expertise in myriad products and systems
- ◆ Published author and editor, with a forthcoming book from Morgan Kaufmann and a six-year column in "interactions" magazine

## KEY ACHIEVEMENTS

- ◆ Co-edited the forthcoming book *Usability in Government Systems: User Experience Design for Citizens and Public Servants*, to be published by Morgan Kaufmann Press, May 2012; coauthored the chapter "Getting UX into the Contract."
- ◆ Strategized and conducted user research and usability assessment (usability testing and expert reviews) for web sites and social media applications of the Federal Aviation Administration (FAA) and US Department of Transportation (DOT)
- ◆ Participated in the redesign of ORD@Work, the intranet for the Environmental Protection Agency's (EPA's) Office of Research and Development (ORD).
- ◆ Designed interaction/interface for the US Patent and Trademark Office's Patent File Wrapper (PFW), a planned system for managing patent application examination. Worked closely with USPTO to understand examiners' needs, tasks, and issues, and with Flex prototyper to keep mockups and interactive prototype in sync. USPTO praised design as well as speed of gaining understanding of examiners' tasks and issues.
- ◆ Led team that redesigned the web site of the American Library Association ([www.ala.org](http://www.ala.org)). Designed and coordinated full range of activities across redesign life cycle: stakeholder interviews, user focus groups, usability testing, web planning workshop, information architecture, graphic design, member opinion surveys. (Detailed information is on the ALA wiki, at [wikis.ala.org/webplanning](http://wikis.ala.org/webplanning).) Redesign received high praise from ALA and its members. Also developed visual design of ALAConnect, a social media site for ALA members, by adapting the ala.org design so that ALAConnect would be recognizable as belonging to ala.org but also be visually distinct.
- ◆ Conducted usability evaluation of enterprise applications for Plateau Systems, Inc. Won first project in competitive bid, then was chosen as sole-source provider because of exceptional work delivered.
- ◆ Conducted usability study of US Citizenship and Immigration Services' E-Verify system, through which employers verify new employees' eligibility to work in the United States and which was receiving major complaints about usability. Conducted expert review, designed/conducted usability tests, interviewed users, analyzed results, wrote report. Implementation of findings could lead to greater use of E-Verify.
- ◆ Designed interaction/interface of FAA's touchscreen-based En-Route Information Display System (ERIDS) for air traffic controllers. Strong understanding of the technology and its constraints enabled effective communication and collaboration with developers. Controllers love the system, and those who viewed it at beta sites urged adoption in their own facilities.
- ◆ Conducted usability assessment of FedTraveler.gov, part of a project to assess the three Federal e-Travel services both independently and in parallel. Worked with other teams to define common assessment methods and report structure/format without allowing the evaluations to bias one another.
- ◆ Directed the conduct of research designed by National Library of Medicine to study readability of health information for low-literacy consumers. Advised NLM on study design, instrument validity, statistical significance. Study validated NLM's "Term Difficulty Test" concept as a measure of comprehension.
- ◆ For recommendations from clients, managers, and coworkers, see Elizabeth's LinkedIn profile: [www.linkedin.com/in/elizabethbuie](http://www.linkedin.com/in/elizabethbuie).

## QUALIFICATIONS SUMMARY

- ◆ Deep and broad skills in diverse user experience techniques:
  - ◊ **Client research** — stakeholder interviews, design/facilitation of workshops and focus groups
  - ◊ **User research** — user interviews, surveys, information categorization and prioritization
  - ◊ **Requirements specification** — elicitation, definition, analysis, allocation
  - ◊ **Information architecture** — card sorting, category/hierarchy development, naming, conceptual modeling, task analysis, site maps/indexes, layout, navigation design
  - ◊ **Interaction design** — concept generation, cognitive models, personas/profiles/scenarios, task matrices and flow diagrams, construction of mockups and prototypes
  - ◊ **Interface design** — selection of fonts/colors/widgets; selection/tailoring/application of guidelines
  - ◊ **Experimental research** — experiment design/conduct; quantitative/qualitative data analysis
  - ◊ **Usability inspection** — heuristic evaluation, guidelines-based expert review
  - ◊ **Usability testing** — test design, test administration, data analysis, recommendations
  - ◊ **Accessibility review** — site inspection, exercise with the JAWS screen reader, Section 508 guidance
- ◆ Outstanding written communication skills: editor of a column in *<interactions>* for six years, with two articles published there; published in *The Washington Post* and in *System Development*; member of the editorial board of *Journal of Usability Studies*; former member of the editorial board of *<interactions>*; countless project documents and reports delivered, with ideas clearly communicated
- ◆ Familiarity with standards, guidelines, best practices, and the human factors principles behind them: member since 1992 of the HFES 200 Committee and contributor to the ANSI/HFES-200 standard, “Human Factors Engineering of Software User Interfaces”

## KEY PROFESSIONAL EXPERIENCE

6/2007– **Luminanze Consulting, LLC, Silver Spring MD** [www.luminanze.com](http://www.luminanze.com)  
 present **PRINCIPAL CONSULTANT**  
 Consulting in the field of user-centered design, human factors, and the user experience.

**Key Projects at Luminanze**

- ◊ User research strategy, user research, and usability assessment for FAA/DOT web sites ([www.faa.gov](http://www.faa.gov)). Planning, preparation of scripts for interviews and usability testing, support to participant recruiting. Prime contractor: Network Designs, Inc. (current)
- ◊ Usability assessment and redesign support to US Department of Energy Loan Programs Office web site ([lpo.energy.gov](http://lpo.energy.gov)). Review of existing design and plans for new design. Prime contractor: Network Designs, Inc. (current)
- ◊ Support to information architecture and template design for intranet of EPA’s Office of Research and Development. Prime contractor: User-Centered Design, Inc.
- ◊ Interaction/interface design for the USPTO’s planned PFW. Prime Contractor: InfoReliance.
- ◊ Web site redesign for American Library Association ([www.ala.org](http://www.ala.org)). Prime contractor: UserWorks, Inc. (Continued work begun as UserWorks employee.)
- ◊ Human factors study of USCIS’s E-Verify system. Prime contractor, Computer Sciences Corporation.

9/2009– **Computer Sciences Corporation, Chantilly VA** [www.csc.com](http://www.csc.com)  
 present **DATA ARCHITECT PRINCIPAL LEADER**  
 Technical leadership of user-centered interaction/interface design.

**Key Projects at CSC**

- ◊ Redesign of interaction and of look and feel for Global Entry, automated kiosk of the US Customs and Border Protection (CBP) that provides expedited customs and immigration clearance for preapproved, low-risk travelers on their arrival in the US. Review current design, create wireframes and mockups, communicate design to management and development teams, prepare rationales for design strategies. (current)

### Key Projects at CSC (cont.)

- ◊ Interaction redesign for Global Online Enrollment System (GOES), CBP web site for the public to enroll in CBP Trusted Traveler programs and update their information. Review current design, create mockups, communicate design to management and development. (current)

9/2005-

### UserWorks, Inc., Silver Spring MD

[www.userworks.com](http://www.userworks.com)

5/2007

#### PRINCIPAL USABILITY SPECIALIST AND DIRECTOR OF INTERACTION DESIGN

Project management and technical leadership of a variety of projects in human factors research, usability assessment, and interaction design. Mentoring of colleagues in human factors principles and practices, interaction and interface design, and statistical issues affecting research projects. Writing of proposals for new business. Staff photography.

### Key Projects at UserWorks

- ◊ Directed redesign of the American Library Association's web site. Directed the usability assessment of the existing site. Designed and facilitated ALA's web planning workshop on redesign goals, process, and next steps. Directed the information architecture and graphic design for redesigned site. Designed surveys to collect member input during redesign process. Mentored junior team members.
- ◊ Directed and conducted usability assessment (testing and expert review) of FedTraveler.gov, part of a project to assess the U.S. Government's three e-Travel services independently. Worked with other teams to define common assessment methods and report structure/format without allowing the evaluations to bias one another.
- ◊ Conducted usability assessment of U.S. Department of Education's "Fundamentals of Title IV Administration" workshop. Reviewed materials, facilitated discussions, created/analyzed online surveys.
- ◊ Directed the conduct of a research project designed by the National Library of Medicine, to investigate the readability of health information by low-literacy consumers.

3/1977-  
9/2005

### Computer Sciences Corporation, Rockville MD (and other locations)

[www.csc.com](http://www.csc.com)

#### SENIOR PRINCIPAL ENGINEER

System engineering and interaction/interface design on dozens of projects. Analysis, specification, design, development, and evaluation of web sites, web applications, desktop applications, and complex command-and-control systems. Specification and analysis of system and software requirements; definition of human-computer interaction (HCI) engineering role in system life cycle. Founder and cochair of CSC's User Experience Community.

### Key Projects at CSC

- ◊ Interaction/interface design of ERIDS for FAA. Designed new color scheme and layout; designed/produced on-screen buttons. Wrote style guide. Analyzed, designed, prototyped new and revised screens; participated in software design reviews and build/release testing.
- ◊ Helped redesign U.S. Nuclear Regulatory Commission's web site. Conducted user interviews, focus groups, usability testing, expert review for analysis of existing design. Contributed substantially to redesign of information architecture, navigation, and look. Analyzed user feedback on prototype and supported development of Phase I site.
- ◊ Redesigned intranet of US Food and Drug Administration's (FDA's) Center for Devices and Radiological Health (CDRH).
- ◊ Technical lead, system engineering support for Flight Operations Segment (FOS) of Earth Observing System (EOS) satellite program. Helped NASA review, guide, and assist development/testing contractors. Contributed to development of operations concept, provided expert review of HCI, designed/conducted usability testing.
- ◊ Supported NASA/Goddard Space Flight Center on orbit determination systems and spacecraft control centers.
- ◊ Supported AERITALIA and Space Software Italia (Italy) on human factors / HCI for the Crew Work Station of the International Space Station's Columbus (European) laboratory.

**SELECTED PUBLICATIONS** (for the complete list, see the bottom of my online resume, at [www.luminanze.com/about/resume.html](http://www.luminanze.com/about/resume.html))

Buie, E., & Murray, D. (in press). *Usability in government systems: User experience design for citizens and public servants*. Boston, MA: Morgan Kaufmann.

Buie, E., & Vallone, A. (1997). Integrating HCI engineering with software engineering: A call to a larger vision. In Smith, M. J., Salvendy, G., & Koubek, R. J. (Eds.), *Design of Computing Systems: Social and Ergonomic Considerations (Proceedings of the Seventh International Conference on Human-Computer Interaction)*, Volume 2. Amsterdam, the Netherlands: Elsevier Science Publishers, 1997, pp. 525-530.

Buie, E., & Vallone, A. (1995). Human-system interaction development: An integral part of the systems engineering process. In *Proceedings of the Fifth Annual International Symposium of the National Council on Systems Engineering*, 1995. pp. 927-930.

Hefley, W., Lynch, E., Buie, E., Muller, M., Hoecker, D., Carter, J., & Roth, J. T. (1994). Integrating Human Factors with Software Engineering Practices. In *Proceedings of the Human Factors and Ergonomics Society 38th Annual Meeting*, 1994, pp. 315-319. Republished in G. Perlman, G. K. Green, & M. S. Wogalter (Eds.) *Human Factors Perspectives on Human-Computer Interaction: Selections from Proceedings of Human Factors and Ergonomics Society Annual Meetings, 1983-1994*. Santa Monica, CA: HFES, 1995, pp. 359-363.

**EDUCATION / FOREIGN LANGUAGE**

M.S., Mathematics, 1975; B.S., Mathematics (honors, 1974), North Carolina State University

M.A., Human Development, University of Maryland, 1990. Thesis: "Jungian Psychological Type and Subjective Satisfaction with Using a Computer for Educational Statistics"

Fluent in Italian