

## Objective

To apply my experience in human factors, software engineering, and education to design interfaces to be efficient, safe, and enjoyable for people to use.

## Education

- **M. A. Applied Cognitive Psychology**, University of Houston-Clear Lake, May 2011
  - Practicum Project: **Online Statistics Text** ([www.onlinestatbook.com](http://www.onlinestatbook.com))*
    - ▶ Developed survey to assess former students' impressions of text, results were used in paper submitted to International Conference on Teaching Statistics (ICOTS)
    - ▶ Tested user navigation through website and interaction with textbook simulations
    - ▶ Updated the Online Statistics text using User-Centered Design strategies
  - Human Factors Methods Project: **Prescription Labels***
    - ▶ Researched accidental prescription medication poisonings
    - ▶ Developed two label prototypes to reorganize information
    - ▶ Tested prototypes for readability and comprehension
  - Research Lab Project: **Using the Keyboard to Issue Commands***
    - ▶ Worked with a team to research whether Keyboard Shortcut Users are faster at other input methods
    - ▶ Co-authored a paper for HFES that discussed the results
  - Ergonomics Methods Course Project: **Ergonomic Risks of Sports Photography***
    - ▶ Observed a sports photographer working at a track meet
    - ▶ Photographed static postures, evaluated risks using the Rapid Entire Body Assessment
    - ▶ Presented results at the University of Houston-Clear Lake Student Research and Creative Arts Conference
  - Research Design and Statistics Course Project: **Alarms: Discrete Sounds vs. Sonifications***
    - ▶ Tested discrete alarm design against continuous alarm design to determine which was better for relaying the severity of an alarming situation to users engaged in another task
    - ▶ Led a team of three in designing and executing project
    - ▶ Presented the results at the University of Houston-Clear Lake Student Research and Creative Arts Conference and the 2009 Texas Regional Human Factors and Ergonomics One-Day Conference
  - User-Centered Design Course Project: **Dell Laptop Computers***
    - ▶ Conducted user testing and discovered issue of user inadvertently engaging touchpad mouse while typing
    - ▶ Practiced the User-Centered Design lifecycle to modify Dell Laptop and test modifications
    - ▶ Presented deliverables to Usability Engineer at Dell, including user profile, task analysis, usability goals, prototype, and test results
  - Coursework*
    - ▶ User-Centered Design, Research Design and Statistical Measurement, Human Factors Methods and Analysis, Ergonomics Methods and Analysis, Human Factors Engineering, Advanced Cognitive Psychology, Biological Basis of Behavior, Advanced Social Psychology, Learning Principles, Practicum, Internship
- **M. Ed. Curriculum and Instruction**, Texas A&M University, August 2006
  - Action Research Project: **Summarization in Mathematics***
    - ▶ Researched the impact of daily summarization upon student retention of new information
- **B. S. Computer Engineering**, Texas A&M University, December 2004
  - Senior Design Project: **Indoor Navigation System***
    - ▶ Developed a small-scale GPS-like system that used a network of mote sensors to guide a user through a building on a predetermined path

## Professional Experience

- **Software Engineer**, GHG Corporation, April 2011 to present  
*Aircraft Simulation Program Flight Management System Integration*  
 Currently providing support to improve functionality of software for the Shuttle Training Aircraft
- **Research Associate Intern**, SA Technologies, January 2011 – March 2011  
*Army Unmanned Systems Display Design*  
 Designed displays used by Soldiers to command unmanned vehicles
  - ▶ Implemented user test findings, design specifications, and system requirements to optimize usability, situation awareness, and consistency with other designs
  - ▶ Created wireframes and storyboards in PowerPoint
  - ▶ Presented designs in review meetings
  - ▶ Participated and provided feedback in design reviews
  - ▶ Managed small project to create help tags for displays, which involved delegating to team members, handling and verifying rapidly changing data, and interfacing with non-local partners responsible for software implementation
- **Software Engineer, Associate**, Lockheed Martin, November 2007 – September 2011  
*ISS Mission Control Center Command Displays*  
 Maintained user interface applications used by flight controllers in the NASA Mission Control Center
  - ▶ Explored human factors requirements in complex control environments, reviewed user concerns, developed software, and inspected code changes
  - ▶ Used customer requirements to correct software discrepancies
  - ▶ Served on Safety Committee, which included participating in Implementation Team to help achieve OSHA VPP Star Certification, inspecting work areas for potential hazards, and presenting safety information to team members
  - ▶ Completed Lean/Six Sigma Green Belt training in July 2009, facilitated three brainstorming activities
  - ▶ Completed Apollo Root Cause Analysis training in October 2008, lead one analysis session
- **Software Engineer Intern**, GHG Corporation, June 2006 – September 2007  
*Aircraft Simulation Program Advanced Validation System Upgrade*  
 Designed, implemented, and tested application software for environmental and airborne hardware models as part of the Gulfstream II Simulator upgrade project to eliminate obsolescence risks and support hardware updates
  - ▶ Learned basic principles of aeronautics and avionics unique to NASA's Shuttle Training Aircraft
  - ▶ Applied relevant C++ coding standards to design and write object-oriented programs
  - ▶ Documented operating instructions and comparisons to legacy system for ease of testing and maintenance
  - ▶ Presented designs and test results in meetings with NASA customer
- **Algebra I Teacher**, Brenham High School, August 2005 – May 2006  
 Taught algebra to 90 ninth-grade students, 42% of whom had histories of poor academic performance
  - ▶ Evaluated effectiveness of lessons and adjusted accordingly by varying activities and learning strategies according to student needs and abilities
  - ▶ Emphasized problem-solving skills and the relevance of using these skills in the real world

## Peer-Reviewed Conference Proceedings

- Peres, S. C., Lane, D. M. & **Griggs, K. R.** (2010). Using simulations for active learning: The query first method in practice. Proceedings of the 8th International Conference on the Teaching of Statistics, Ljubljana, Slovenia.
- Jardina, J. R., Peres, S. C., Nguyen, V., Megasari, A., **Griggs, K. R.**, Pinales, R. & Amos, A. N. (2009). Keyboard Shortcut Users: They Are Faster at More Than Just Typing. Proceedings of the Human Factors and Ergonomics Society 53rd Annual Meeting, San Antonio, USA.

## Conference Presentations

- Griggs, K. R.**, Bogus, S. J. & Westmoreland, D. W. (April, 2009). Alarms: Discrete sounds vs. sonifications. Poster presented at the Texas Regional Human Factors and Ergonomics One-Day Conference, Houston, TX.

## Activities

- Human Factors and Ergonomics Society (HFES), 2008 – Present  
Currently serving on committee to organize information about professions in Human Factors and Ergonomics
- Houston HFES, 2009 – Present
- HFES Student Chapter at UHCL, 2009 – 2010  
*Co-President of Internal Affairs*  
Served on the first executive council of the chapter recognized by HFES and UHCL
- Lockheed Martin Leadership Association, 2008 – 2010  
Developed leadership skills by attending seminars and interacting with current and aspiring leaders
- Foundation for International Space Education 2008 – 2009  
*Secretary of the Executive Board*  
Maintained meeting minutes and assisted with preparations for the United Space School, a two-week program to introduce international high school students to the NASA-JSC Community
- Sarah's House Volunteer, 2006 – 2008  
Tutored, entertained, and cared for children of residents of a local women's shelter
- Washington county Boys & Girls Club Volunteer, 2006  
Tutored elementary students in math after school

## Awards

- 2010 Outstanding Graduate Student in Psychology, *UHCL School of Human Sciences and Humanities*
- NASA Constellation Team Award, *MCCS Preliminary Design Review*
- NASA JSC Group Achievement Award, *MCCS Preliminary Design Review Team*
- NASA JSC Certificate of Appreciation, *Transformation of the ISS to Six-Person Crew Capabilities*
- Facilities Development & Operations Contract Team Excellence Award, *OSHA/VPP Star Implementation Team*
- Best Student Poster, *2009 Texas Regional Human Factors and Ergonomics One-Day Conference*
- NASA Group Achievement Award, *Shuttle Training Aircraft Advanced Digital Avionic System Upgrade Team*
- Shuttle Training Aircraft Peer Award, *Advanced Validation System Upgrade Project*

## Current Interests

Usability and User-Centered Design, Safety, Warnings and Hazard Communications, Error Reduction, Training and Education, Human-Computer Interaction