

ROBERT C. ALLEN, Ph.D., CPE

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HUMAN FACTORS ENGINEER

Human Factors and Ergonomics (HFE) professional with 17 years of experience in the Human Factors, Ergonomics, and Safety disciplines for multiples lines of businesses. Prior military background applying human factors and usability analysis for simulation-based training systems. Proven record of applying expertise in HFE-related national and international standards to ensure safety, efficiencies, accessibility, and best practices.

Core Competencies

Ergonomics Analysis ▪ Human Centered Safety and Design ▪ Usability Evaluations ▪ Human Computer Interaction
ADA ▪ Control Panel Design ▪ Workstation Design ▪ Standards Development ▪ Risk Management ▪ Lighting Safety
Anthropometrics ▪ Motion and Simulator Sickness ▪ Electromagnetic Radiation Safety ▪ Presentations & Training

PROFESSIONAL EXPERIENCE

WALT DISNEY PARKS & RESORTS (WDP&R), Lake Buena Vista, FL

4/2004 – 10/2018

Human Factors & Ergonomics Specialist

- Applied HFE and usability analysis to ensure Guest and Cast Member safety as HFE Specialist for Worldwide Standards & Auditing and Worldwide Safety & Design Assurance groups.
- Helped design accessible applications for persons with disabilities through usability analysis.
- Conducted Heuristic Evaluations of software systems, including both Guest and Cast-Facing systems.
- Wrote or co-wrote several internal standards including those related to Control Panel Design.
- Considered anthropometry, strength limits, and demographics related to system designs such as vehicle restraint systems, biometric interfaces, touch screen kiosks, interactive (hands-on) play devices, control panel interfaces, accessibility systems, prop design, etc.
- Assessed workload to minimize human error.
- Evaluated electromagnetic and photobiological safety and provided recommended safe levels for Guests and Cast Members.
- Performed Guest behavior psychology evaluations as well as simulator and motion sickness analysis.

Select Accomplishments:

- Significantly reduced or eliminated performer injuries causing show cancellations by conducting ergonomic and task analysis and providing input for a puppet design standard that was subsequently published; the show has not been cancelled since recommendations were applied in 2006.
- Researched computer standards and ADA sources to provide design recommendations for a Smart Phone-style device being developed for Guests with Disabilities (GWD); the device obtained positive feedback from GWDs and is currently in use within the WDP&R environments.
- Applied knowledge of anthropometrics to determine the proper height and finger placement surface for a new biometric system for Walt Disney World; was awarded a patent for the biometric surface interface. Recipient of a Disney Inventor's Award.
- Evaluated multiple standards and provided data to designers to develop new touch screens used for persons in wheelchairs that were subsequently implemented in several venues.
- Developed procedure to quickly measure light levels found within WDP&R. Data used to determine needed light level adjustments at several locations, eliminating light level-related incidents.

NAVAIR ORLANDO TRAINING SYSTEMS DIVISION, Orlando, FL

12/2000 – 4/2004

Human Factors Research Psychologist

- Served as Principal Investigator, Technical Lead, Project Engineer, and Technical Point of Contact with SECRET security clearance for numerous military programs.
- Conducted Human Factors, Usability, Human Computer Interaction, and Training Analysis.
- Monitored contractors and contractor recommendations.

Select Accomplishments:

- Served as Team Member in two DARPA projects: VIRTE (virtual environment training environments) and AugCog (augmented cognition) and Principal Investigator in Human Computer Interaction evaluation of hardware/software relating to deployable training systems.
- Incorporated Usability Analysis into Marine Corp training system upgrade schedule (CACCTUS); evaluated scenario generation system, touch screens, computer monitors, headsets, and computer interfaces for prototypes of future system to develop a tablet-based training application.
- Evaluated lap-top based training software for Naval training and authored a report based on heuristic evaluation of training application.

EARLY CAREER

Prior to 2000

- **Graduate Teaching Assistant at the University of Central Florida.**
- **Experimental Research Psychologist Trainee at FAA Technical Center.**
 - Co-developed a new experiment examining eye-movements of Air Traffic Controllers during unexpected intrusions.
- **Research Fellow at the Army Research Institute.**
 - Provided input on three Virtual Reality experiments examining team formation and training in a Local versus Distributed setting.
 - Dissertation topic run under ARI; topic was the effects of field of view on locomotion and search performance in real and virtual environments.

EDUCATION

- **Certified Non-Ionizing Radiation Safety Officer** – NARDA Symposium, Orlando, FL.
- **Certified Professional Ergonomist (CPE)** – HFES Annual Meeting, San Francisco, CA.
- **Doctorate in Applied Human Factors and Cognitive Psychology** – University of Central Florida.
- **Master's Degree: Engineering Psychologist** – New Mexico State University.
- **Bachelor's Degree in Psychology** – Eastern College, PA

AFFILIATIONS

- American Society of Safety Professionals (ASSP): 2006 – Present.
- Chartered Institute of Ergonomics and Human Factors (CIEHF): 2006 – Present.
- Space Coast Chapter of the HFES (SCHFES): 2005 – Present.
- Usability Professionals' Association (UPA): 2002 – Present.
- National Defense Association (NDA): 2001 – 2003.
- Human Factors & Ergonomics Society (HFES): 1994 – Present.

TUTORIALS

Training sessions and tutorials at conferences/workshops for topics including: User Interface Design, Web Design, Questionnaire Design, Augmented Reality, Virtual Environments Usability, Acquisition 101 & 102 Certification, Aging Workforce, Safety in Motion, Safety in the Workplace, Hearing Protection and Conservation, Clinical and Behavior Based Ergonomics, Non-Ionizing Radiation Safety, BIFMA Ergonomics Guideline for Office Furniture, Liberty Mutual Ergonomic Institute Program Development, Cognitive Task Analysis, and MicroSaint.