Leif Berg, Ph.D.

Education

Ph.D. Human-Computer Interaction
Iowa State University, 2015.

B.A. Computer Science
St. Olaf College, 2009.

Contact

leif.berg@gmail.com
lpberg.github.io

Experience

Sr. User Experience Researcher

R&D Computer Science
Sandia National Labs
Jul. 2015 - Present

Designing and executing quantiative and qualitative research to improve user experience within complex sociotechnical systems. Demonstrating measurable ROI using metrics and analytics.

Leading corporate initiatives to enhance the UX capability of the organization. Guiding high level strategy and direction. Creating standards, templates, tools, and proccesses to ensure high quality and meaningful outcomes.

Teaching a variety of UX training courses enabling employees to incprporate UX into their products and servivces. Mentoring students and junior researchers. Established Community of Practice to engage Sandia community in UX topics.

Transformed how IT services are discovered and requested by partnering with service managers to conceptualize, prototype, and implement an IT service catalog emphasizing service design principles.

Graduate Research Assistant

Virtual Reality Applications Center
Iowa State University
Jan. 2011 - May 2105

Explored human-computer interactions and user experience across a variety of immersive user interfaces.

Leveraged virtual reality technologies to discover new design processes. Investigated synergy between normative and description design methodolgies.

Engaged numerous industries to understand pervasiveness of virtual reality use and technologies.

Microsoft Design Research Internship

Windows Research
Microsoft Corporation
May 2013 - Aug. 2013

Impacted design thinking of designers, researchers, and program managers surrounding core user experiences in Windows 8.1.

Investigated how Windows 8.1 updates would be received by varying groups of end-users through the design and execution of research studies.

Applied critical thinking and analytics to study results to support product development and future design directions.

HCI Research Internship

Biomedical Informatics
Research Center
Marshfield, WI
May 2012 - Aug. 2012

Strengthened designers and product managers understanding of how medical staff perceive and utilize electronic health record systems.

Executed in-depth usability studies with physicians to identify salient user experience issues in an electronic health record prototype.

Skills

Technical
R, Python, Lua, HTML, C++, JavaScript, SQL

Methods
Affinity Diagramming, Contextual Inquiry, Statistics, Field Observation, Heuristic Analysis, KLM Modeling, Prototyping, Interviews, Service Design, Surveys, Task Analysis, Usability Testing

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Interests

Service Design	Vehicle Detailing	Human-Computer Interaction
Board & Video Games	Decision-Making	Logic Puzzles
Scandivian History	Classical Music	User Experience

Research

Enhanced Immersive Technology to Improve Collaborative Decision Making

Funded by the National Science Foundation, research explored new design methodologies combining analytical tools for design decision making and immersive sensory environments to support complex design.
Spring 2011 - Spring 2015.

Capstone Research Project: Image Compression (Undergraduate)

Directed a team of students in the design and implementation of an image compression algorithm in Python. Researched existing literature to establish goal benchmarks. Final design compressed image data by exploiting polygon mesh connectivity utilizing a special segmentation method. Fall 2009.

Sociotechnical Analysis of Regents Hall, St. Olaf College (Undergraduate)

Conceptualized prospective human-computer interactions within the Regents Hall of Natural Science at St. Olaf College. Surveyed collaborative spaces to identify potential interaction issues. Observed and interviewed potential users to influence future space alterations. Presented findings and recommendations to the building's design team. Spring 2008.

Publications

Full list available at lpberg.github.io.

Berg, L. P., & Vance, J. M. (2016). ***Industry use of virtual reality in product design and manufacturing: a survey****. Virtual Reality, 1-17.*

Berg, L. P., & Vance, J. M. (2016). ***An Industry Case Study: Investigating Early Design Decision Making in Virtual Reality****. Journal of Computing and Information Science in Engineering. Accepted.*

Berg, L., Behdad, S., Vance, J., and Thurston, D. (2015). ***Disassembly Sequence Evaluation: A User Study Leveraging Immersive Computing Technologies****. Journal of Computing and Information Science in Engineering. 15(1)*

Behdad, S., Berg, L., Vance, J., and Thurston, D. (2014). ***Immersive Computing Technology to Investigate Trade-offs under Uncertainty in Disassembly Sequence Planning****. Journal of Mechanical Design. 136(7)*

Berg, L., Mahnke, A., Moritz, R. (2013). ***Integration of Cognitive Modeling in the Evaluation of an Electronic Health Record.*** *HFES 2013 Symposium on Human Factors and Ergonomics in Health Care. March 11-13, Baltimore, Maryland, USA.*

Extracurricular & Service

President
HCI Student Group
Iowa State University
2011 - 2012

Graduate Student Mentor
HCI Graduate Program
Iowa State University
2011 - 2015