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Engineering & Scientific Consulting

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Professional Profile

Mr. DeVries is a Human Factors Managing Scientist at Exponent, and has previously held titles of User Experience Manager and Senior Researcher. In his over 24 years of combined experience, he has run and/or planned well over 200 studies and research engagements over a wide variety of research methods and across a wide variety of domains including consumer and business products, higher education, telecom, military, and insurance. Mr. DeVries designs and conducts user experience research across all phases of the product development lifecycle. He designs and conducts usability tests, cognitive walk-throughs, participatory design, benchmarking, competitive comparison, survey research, heuristic evaluation, process evaluation, concept validation, icon effectiveness, task and function prioritization, requirements identification, persona development, time on task studies, and focus groups. Mr. DeVries creates studies to ensure that business, product, design, engineering, and other immediate needs are considered, and applies findings to optimize user experience, reduce product usage errors and customer concerns, and identify new user requirements and business opportunities.

As a manager, Mr. DeVries leads research efforts to meet their objectives, and defines strategies for implementing programs such as standardizing metrics, benchmarking, and process improvements. Mr. DeVries accomplishes this by working with various client functional groups, such as Product, Engineering, Marketing, Analytics, Accessibility, Customer Service, C-level management and IT to identify research needs, and then define the research program and deliverables. He has extensive experience conducting design research and working directly with design teams in traditional, agile, and hybrid product development lifecycles.

Mr. DeVries also designs and manages user experience/human factors labs, including the Human Factors Lab at the Exponent Technology & Engineering Center and previously the User Experience Center at the John Sperling Center for Educational Innovation, both in the Phoenix, AZ area.

Academic Credentials & Professional Honors

M.S., Psychology, University of Idaho, 1995

B.A., Psychology, University of North Texas, 1991

Prior Experience

Mr. DeVries has worked within several industries, including time as a Senior Researcher, User Experience Research Manager, and Usability Consultant. Mr. DeVries' more recent positions include:

- Interim UX Director, Research Manager, & Sr. Researcher, Apollo Education Group, 2011 - 2016

- UX Research Consultant, IBM and Physicians Mutual, 2010
- Human Factors Engineer, Sprint Nextel, 2000 - 2009
- UX Research Consultant, StorageTek and Intel, 2000
- UX Researcher, Loadstone Research, 1996 - 1999

Patents

US Patent 8,345,061: Enhancing viewability of information presented on a mobile device, January 1, 2013(Landry SJ, Lai HH, DeVries MJ, Schumaker C).

US Patent 7,304,678: Appliance and method for communicating and viewing multiple captured images, December 4, 2017 (Dow JC, Dalton DL, Rudd ML, Ruffatto KC, Formosa D, Nieves S, Hamburger P, DeVries MJ, Shepard N, Khovaylo M).

US Patent 7,133,162: Appliance and method of using same having a user help capability, November 7, 2006 (Dow JC, Dalton DL, Rudd ML, Ruffatto KC, Formosa D, Nieves S, Hamburger P, DeVries MJ, Shepard N).

US Patent 7,079,181: Appliance and method of using same having a delete capability for saved data, July 18, 2006 (US Patent 7,133,162: Appliance and method of using same having a user help capability, November 7, 2006 (Dow JC, Dalton DL, Rudd ML, Ruffatto KC, Formosa D, Nieves S, Hamburger P, DeVries MJ, Shepard N).

US Patent 7,038,717: Appliance and method for menu navigation, May 2, 2006 (Dow JC, Dalton DL, Rudd ML, Ruffatto KC, Formosa D, Nieves S, Hamburger P, DeVries MJ, Shepard N).

US Patent 6,995,875: Appliance and method for navigating among multiple captured images and functional menus, February 7, 2006 (Dow JC, Dalton DL, Rudd ML, Ruffatto KC, Formosa D, Nieves S, Hamburger P, DeVries MJ, Shepard N).

US Patent 6,972,792: Appliance and method for capturing images having a user error interface, December 6, 2005 (Dow JC, Dalton DL, Rudd ML, Ruffatto KC, Formosa D, Nieves S, Hamburger P, DeVries MJ, Shepard N).

US Patent 6,819,341: System and method of establishing communication between an appliance and an external device, November 16, 2004 (Dow JC, Dalton DL, Rudd ML, Ruffatto KC, Formosa D, Nieves S, Hamburger P, DeVries MJ, Shepard N).

US Patent 6,549,304: Scanning appliance and method having user help capability, April 15, 2003 (Dow JC, Dalton DL, Rudd ML, Ruffatto KC, Formosa D, Nieves S, Hamburger P, DeVries MJ, Shepard N).

US Patent 6,518,982: System and method of selecting pages that an appliance is sending, February 11, 2003 (Dow JC, Dalton DL, Rudd ML, Ruffatto KC, Formosa D, Nieves S, Hamburger P, DeVries MJ, Shepard N).

US Patent 6,469,689: Appliance and method of using same having a capability to graphically associate and disassociate data with and from one another, October 22, 2002 (Dow JC, Dalton DL, Rudd ML, Ruffatto KC, Formosa D, Nieves S, Hamburger P, DeVries MJ, Shepard N).

US Patent 6,466,231: Appliance and method of using same for capturing images, October 15, 2002 (Dow JC, Dalton DL, Rudd ML, Ruffatto KC, Formosa D, Nieves S, Hamburger P, DeVries MJ, Shepard N).

US Patent 6,441,927: Appliance and method for viewing captured images, August 27, 2002 (Dow JC,

Dalton DL, Rudd ML, Ruffatto KC, Formosa D, Nieves S, Hamburger P, DeVries MJ, Shepard N).

US Patent 6,441,927: Appliance and method for viewing captured images, August 27, 2002 (Dow JC, Dalton DL, Rudd ML, Ruffatto KC, Formosa D, Nieves S, Hamburger P, DeVries MJ, Shepard N).

Publications

Conference Proceedings Publications

DeVries MJ, Gordon, SE. COG-C: A tool for estimating cognitive complexity and the need for cognitive task analysis. Proceedings of the Human Factors and Ergonomics Society 38th Annual Meeting 1994, p.943.

DeVries MJ, Gordon, SE. Estimating cognitive complexity and the need for cognitive task analysis. Proceedings of the Human Factors and Ergonomics Society 38th Annual Meeting, 1994, pp. 1023-1027.

Conference Presentations

DeVries MJ, Gordon, SE. COG-C: A tool for estimating cognitive complexity and the need for cognitive task analysis. Proceedings of the Human Factors and Ergonomics Society 38th Annual Meeting, 1994.

Project Experience

Mr. DeVries seeks to employ research methods and metrics that answer both the research questions and the business questions behind them.

End user requirements gathering

- Designed and conducted research to observe and measure product use to provide insights into new features, potential new products, and user tasks and preferences.
- Designed and conducted research on feature usability versus usefulness in support of redesign prioritization.

Icon/Warning evaluation method

- Designed and developed a method of evaluating icons that utilizes metrics such as task association and naming accuracy, and provides feedback such as icon design changes and user style preferences. The method may also be used in the design of warning symbols.

Help/Instructions evaluation

- Designed and conducted testing on instruction manuals and other online and physical product help systems.

Survey research

- Worked with stakeholders to identify survey objectives in light of business needs, then identified the questions, determined the analysis requirements, designed, launched, and provided insights on the survey.

Focus group research

- In coordination with clients, he designed moderation guides to meet business and immediate research objectives. Includes longitudinal groups that meet regularly over the development of a product to provide end-to-end customer insights on product elements such as design, marketing, packaging, and customer support.

Design research

- Methods include concept testing, prototype evaluation, iterative design research, usability testing, user acceptance testing, post-launch design validation.
- Common results include issue severity, solution options, new feature identification, readiness to launch, and next validation steps.

Comparative & heuristic evaluations

- Designed and developed a task-based heuristic evaluation methodology that compares and scores similar task-based products. Scoring accounts for design problems, advances in designed experiences, and tasks not found among all products being compared. The method has been used successfully several different products and could be applied to user task-based processes.
- Conducted heuristic evaluations on products and websites including cognitive walkthroughs, cognitive task analysis, task analysis, and standard design heuristics.

Out of the box testing

- Designed and conducted testing of user's initial experience with products, from package opening to first successful use.

Integrated data research

- Designed and conducted studies that looked at the combination of data from user behavior, user survey data, and systems information to evaluate product usefulness and changes in user perceptions.
- Designed and conducted studies that look at how usability measures (e.g., System Usability Score) and marketing measures (e.g., Net Promoter Score) change over time with changes in product design.

Develop strategic decision support tools

- Identify business metrics that support strategic decisions, and design and implement measurement activities that map user behaviors and system data onto the business metrics.
- Data types have included web analytics, usability (SUS), marketing (NPS), bug counts, and standards compliance.
- Data summarization techniques include customer experience maps, issue categorization and severity, and product scoring.

Aesthetics measurements

- Designed and developed a method of evaluating product aesthetics and benchmarking them over time to identify user perceived improvements.

Usability/Human Factors Labs: Design and Management

Mr. DeVries has designed and managed several usability labs. His lab designs account for business objectives, use scenarios, requirements obtained for end users (e.g., researchers, designers, product teams, clients, research participants, visitors), budget limitations, and Facilities processes. Examples include:

- 2016 - A human factors lab extension of the Exponent Technology and Engineering Center in Phoenix, AZ. The lab features two control and two participant rooms. The AV system is designed to support camera inputs from many sources, including wireless cameras and input from mobile device cameras and screens.
- 2011 - The high tech User Experience Center (UXC) at the Apollo Education Group's John Sperling

Center for Educational Innovation in Tempe, AZ. The UXC features two labs, each comprising control, participant, and design rooms, as well as a focus group room. The lab sports a "see any camera view at any location" iPad-driven technology.

- 1997 - Usability lab/Focus Group center. The lab was designed to support movement of ceiling cameras to cover various viewing needs. The control/observation room was designed to support viewing through a two-way mirror as well as camera views. The participant room was designed to support a variety of scenarios, including a space large enough to support a focus group.