


Kenneth Maxwell

User Experience / Human Factors Professional

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Profile

In my work, I bring together psychology, science, engineering, aesthetics and business knowledge to create exceptional customer experiences that are simple, satisfying, engaging and pleasant throughout the many touch points and contexts of the customer's journey. I have used qualitative and quantitative research to empathize with and understand the customer and translate the insights obtained into new experience designs using Design Thinking and Agile methods in conjunction with an array of User-Centered research and design techniques.

In the past 8 years, while a contractor in IBM's CIO Design team, I have led the research and design efforts for several enterprise-size projects that transformed how IBMers worked. In these projects I have used IBM's Design Thinking approach and instructed project teams in its various techniques and practices. This experience has given me an understanding of how the techniques work to obtain the expected user experience and business outcomes and how to tailor the method to the needs of different projects.

Prior to my IBM experience I had led research and design work on many innovative products and systems.

My interests are to lead efforts for envisioning, innovating and realizing new human-technology systems that enable and foster delightful human experiences.

Selected Accomplishments and Innovations

Researched and Designed a new integrated UX architecture for a suite of Quote-to-Cash applications at IBM (used by 25,000 financial professionals at IBM).

Contributed statistical expertise to develop IBM's guidelines for using the Net Promoter Score (NPS).

Designed a new workflow and performance model for IBM's Employee Performance Development Software resulting in a significant increase in user satisfaction (used by all IBM employees).

Co-invented an adaptive, location and rich-context-driven mobile device and social network user experience for Stick Networks. The system incorporated a mixed-initiative, empathic interaction style to achieve a highly personalized experience through probabilistic delivery of each user's desired content.

Co-inventor of five patents related to location-aware mobile devices

Education

Ph.D. Cognitive Psychology

Related area: Artificial Intelligence
New Mexico State University, 1983

Professional Certification

Certified Human Factors Professional CHFP
Board of Certification of Professional Ergonomics (BCPE)

Expertise

User Research

Usability Testing
A/B Testing
Cognitive Walkthrough
Ethnographic research studies
Contextual Inquiry
Usability Metrics
Information Architecture

Heuristic Review
Personas
Empathy and Journey Mapping
Focus Groups
Surveys
Task / Activity Analysis
Scenario-Based Analysis / Design

Experience Design

Conceptual Design
Wireframes
Prototypes and Mockups

Interactive (clickthrough) prototypes
Collaborative, Co-creation Design
Design Playbacks

Research and Design Tools

Sketch, Axure
InVision
Slack, Mural, GitHub

SurveyGizmo
Zoom, Webex
UserTesting
UserZoom

Methodologies / Processes

Design Thinking
Agile Development

User-Centered Design
DesignOps

General

Cognitive Psychology
Artificial Intelligence
Statistics

Experience

IBM, CIO Design

UX Researcher and Designer, Contractor
April 2010 - December 2018

Performed full-range of User-Centered Analysis, Design and Test activities within a Design Thinking Methodology and Agile Process

- UX Research and Design Lead on multiple enterprise-level applications.
- Focal point for global business applications
- Statistics and metrics resource
- Newsletter coordinator

Wireless Agents, LLC

Founding Partner, Inventor
2002 - Present

Perform intellectual property development and management activities.

- Location Awareness
- Contextual Content Delivery
- Adaptive Awareness User Experience
- Relationship Network
- Personalized Behavioral Learning
- Engagement and Loyalty

BMK Consultants, LLC

Founding Partner, Consultant
2002 - 2009

Performed UX and Human Factors research and design activities.

- Product Strategy
- User Research
- Design Concept and Prototyping
- Investor Reviews

Red Gap Communications

Human factors Specialist
2007 - 2008

Performed UX and Human Factors research and design activities for advanced products.

Auto-Guided Invoice Process System

- Developed a computational process model
- Created early prototypes

Call Context Awareness System

- Created early concept model

Sychron

Consultant: UX Research and Design
2006 - 2007

Performed research and created a Concept Model for a new Administrator Experience for OnDemand Virtual Desktop System

- Created Administrator activity models
- Created a Goal-Directed Interaction Paradigm

Stick Networks Inc.

Co-founder, Human Factors Director
1999 - 2001

Co-invented a revolutionary handheld awareness / communication device and network.

Experience (Cont.)

Tandem/Compaq Computers

Human Factors Design Lead, Contractor
1995 - 1999

Designed Advanced Graphical Serviceability Software Systems:

- Designed new user experience for service, maintenance and administrative users to provide Tandem/Compaq NonStop High-Availability system services.
- Designed a holistic serviceability process within a broad services supply chain.

Human Performance Measurement

Principal Investigator
1994 - 1995

Program Manager and Principal Investigator for Air Force contract to design and develop real-time sensing technology for an augmented reality simulation system.

Human Performance Institute

Faculty/Research Associate
1992 - 1994

Taught graduate-level course:

Human Factors of Agile Manufacturing Systems

Research areas:

- Human-performance models for Human-Computer Interaction
- Modeling visual information processing performance
- Workload analysis for distributed tele-robotic systems

Tandem Computers

Human Factors Design Lead, Contractor
1991 - 1993

Designed Advanced Graphical Serviceability Software Systems:

Designed new user experience for service, maintenance and administrative users to provide Tandem NonStop High-Availability system services.

General Dynamics

Senior Engineering Specialist
1983 - 1991

Deputy Program Manager and Technical Lead: Air Force's Intelligent Pilot Decision-Aiding Contract

Principle Investigator and Technical Lead for numerous advanced pilot decision-aiding systems using artificial intelligence and cockpit automation.

Cofounded an A.I. research and test lab

Planned and oversaw flight tests for pilot visibility during concept phase for the National Aerospace Plane.

Publications and Conference Papers

- Maxwell, K. (2014). High-level task analysis: Using cognitive task analysis in human-machine system design, Chapter 33. In J. D. Bronzino and D. R. Peterson (Eds.). *The Biomedical Engineering Handbook: Medical Devices and Human Engineering*, Fourth Edition. Boca Raton, FL: CRC Press, Taylor & Francis Group.
- Maxwell K. (2014). Human-computer interaction design: Usability and user experience design, Chapter 35. In J. D. Bronzino and D. R. Peterson (Eds.). *The Biomedical Engineering Handbook: Medical Devices and Human Engineering*, Fourth Edition. Boca Raton, FL: CRC Press, Taylor & Francis Group.
- Maxwell, K. (2009). Constructing a persona of the North Texas Chapter Professional. Paper presented at the Spring meeting of the NTC-HFES. April, 2009.
- Maxwell, K. J. (2006). High-level task analysis: Cognitive components, Chapter 79. In J. D. Bronzino (Ed.). *The Biomedical Engineering Handbook: Biomedical Engineering Fundamentals*, Third Edition. Boca Raton, FL: CRC Press, Taylor & Francis Group.
- Maxwell, K. J. (2006). Human-computer interaction design, Chapter 81. In J. D. Bronzino (Ed.). *The Biomedical Engineering Handbook: Biomedical Engineering Fundamentals*, Third Edition. Boca Raton, FL: CRC Press, Taylor & Francis Group.
- Maxwell, K. (2004). Engineering a career. *APS Observer*, Vol. 17, Number 4.
- Maxwell, K. (2002). The Maturation of HCI: Moving beyond usability toward holistic interaction. In J. M. Carroll (Ed.) *Human-Computer Interaction in the New Millennium*. pp. 191-209, New York, NY: ACM Press.
- Maxwell, K. (2001). Individualizing the mobile-device user experience. Paper presented at the Joint NTC-HFES/Texas IDSA Symposium.
- Maxwell K. J. (2000). Human-computer interface design issues, Chapter 151. In J.D. Bronzino (Ed.). *The Biomedical Engineering Handbook*, Second Edition. Boca Raton, FL: CRC Press.
- Maxwell, K. J. (2000) High-level task analysis: mental components, Chapter 151. In J. D. Bronzino (Ed.). *The Biomedical Engineering Handbook*, Second Edition. Boca Raton, FL: CRC Press.
- Maxwell, K. (1998). Using use-case scenarios for human-machine interaction requirements and design. Paper presented at the Joint NTC-HFES/Texas IDSA Symposium.
- Maxwell, K. (1996). A system-performance based approach to integrating software engineering and human-computer interaction requirements. Paper presented at the User-Centered Requirements Engineering Workshop: Integrating Methods from Software Engineering and Human-Computer Interaction, sponsored by the British Computing Society and the British Human-Computer Interaction Group; York, England.
- Maxwell, K. (1995). Real-time sensing of human-body segment position and orientation using inertial guidance methods and micro-miniature technology. Air Force Office of Scientific Research. STTR Phase I Final Report, Contract Number: F49620-94-C-0085.
- Maxwell, K. J. and Kondraske, G. V. (1992). A Dynamic Visual Information Meter for Characterizing Demands on Human Visual Information Processing Resources. Human Performance Institute, Technical Report TR 92-006R.

Publications and Conference Papers (Cont.)

Maxwell, K.J. (1995). High-level task analysis: Mental components. In J. D. Bronzino (Ed.) The Biomedical Engineering Handbook, pp. 2233-2248. Boca Raton, FL: CRC Press.

Maxwell, K. J. (1995). Human-computer interface design issues. In J. D. Bronzino (Ed.) The Biomedical Engineering Handbook, pp. 2263-2277. Boca Raton, FL: CRC Press.

Maxwell, K. J. and Kondraske, G. V. (1992). A Dynamic Visual Information Meter for Characterizing Demands on Human Visual Information Processing Resources. Human Performance Institute, Technical Report TR 92-006R, Version 0.9.

Maxwell, K. J. (1988). Human factors considerations in engineering AI systems. U.S. Women Engineer, 34, 4, 30-34.

Davis, J. A., Maxwell, K. J., Lineberry, M. C., Huber, R. R., and Balbirnie, E. C. (1986). Artificial Intelligence applications to pilot decision aiding, (Report AFWAL-TR-86-3054). Air Force Wright Aeronautical Laboratories; Wright –Patterson AFB, OH.

Maxwell, K. J. and Brandon, F. R. (1985). Artificial intelligence applications to pilot decision aiding. Paper presented at the SAE Fourth Aerospace Behavioral Engineering Technology Conference; Long Beach, CA.

Maxwell, K. J. and Davis J. A. (1984). Artificial intelligence implications for advanced pilot-vehicle interface design. Paper presented at the AIAA/IEEE 6th Digital Avionics Systems Conference; Baltimore, MD.

Maxwell, K. J., & Schvaneveldt, R. W. (1983). The PSYCHLAB programming system: A tool for developing experimental control programs. Behavior Research Methods and Instrumentation, 15, 49-56.

Maxwell, K. J. (1983). A scripts analysis of fact retrieval from memory. Doctoral Dissertation, Department of Psychology, New Mexico State University.

Schvanaveldt, R. W., Goldsmith, T. E., Durso, F. T., Maxwell, K. J., Acosta, H. M., and Tucker, R. G. (1982). Structures of memory for critical flight information, (Report AFHRL-TP-81-46). Operations Training Division, Air Force Human Resources Laboratory; Williams AFB, AZ.

Maxwell, K. J. (1980). Effects of context on word recognition and the interpretation of word meaning. Paper presented at the Rocky Mountain Psychological Association Conference; Tucson, AZ.

Maxwell, K. J. (1978). Effects of context, semantic relatedness, and the interpretation of word meaning. Master's Thesis, Department of Psychology, New Mexico State University.

Maxwell, K. J. and Paap, K. (1978). Does semantic context really fail to directly access appropriate word meanings. Paper presented at the Rocky Mountain Psychological Association Conference; Denver, CO.