



# Curriculum Vitae

## User Experience Design, Usability Research & Expert Witness Services

### Key Skills

- Over 30 years of experience and leadership in software, web, mobile and device user experience design and development, specializing in user research, task analysis, design, prototyping, and usability evaluation.
- Usability heuristic reviews of prototypes and products, providing quick and inexpensive feedback on key product design, interaction, navigation and content.
- Extensive experience creating corporate UX and UI guidelines and standards.
- Usability research and evaluation of hardware/software product requirements and user experience documentation.
- Expert witness experience in numerous cases, including Federal Trade Commission litigation, software patent and product design litigation.
- Eleven-year career in IBM's leading-edge Common User Access (CUA) User Interface Architecture group. Team designed and prototyped IBM's OS/2 object-oriented user interface. Consistently ranked as an outstanding performer at IBM.
- Author of two well-known books, "The Elements of User Interface Design" (John Wiley & Sons, 1997) and "The GUI-OOUI War: The Designer's Guide to Human-Computer Interfaces" (John Wiley & Sons, 1994). Author of numerous magazine articles on Web interface design and journal articles on Graphical User Interfaces (GUIs).
- Conference/symposium keynote speaker on user experience and usability.

## Work History

**1993 – present Founder and Principal Consultant  
(20+ years) Interface Design and Development, LLC  
Scottsdale, AZ | Boulder, CO**

Founder and principal consultant, Interface Design and Development, LLC, a consulting firm specializing in PC and Web application and website software development. Activities included consulting, designing, and prototyping for top software and Internet companies using user experience methodologies, Web site and application design, and iterative user evaluations.

**1999 – 2001 Co-Founder and Chief Usability Officer (CUO)  
(2 years) ReCare, Inc., Austin, TX**

Co-founded ReCare, Inc., a medical software company, and served as the company's Chief Usability Officer (CUO) from 1999 - 2001. ReCare's innovative system created a paperless electronic medical record for the patient, while providing physicians with specialty-specific information. The system also cross-referenced pharmaceutical information and documented patient-specific orders. The system was designed for touchscreen tablet devices and was HIPAA-compliant (Health Insurance Portability and Accountability Act).

**1993 - 1994 Senior Consultant/Instructor  
(2 years) IS International, Inc., Boca Raton, FL**

Senior consultant, designer, and instructor for software design, development, and education. Activities included consulting, designing, and instructing major software vendors and companies on software usability and Graphical User Interfaces.

**1992 - 1993 Senior Instructor/Developer  
(1 year) Information and Interface Education  
IBM Skill Dynamics, Austin, TX**

Member of Systems and Software Information and Interface Education department. Responsible for development, marketing, and delivery of user interface design, CUA, usability, and multimedia curriculum. Provided education and consulting for IBM, external customer and vendor developers on system software design. Developed and taught object-oriented interface design courses.

IBM Performance: Received three "1" yearly evaluations (highest possible: "far exceeds in all areas") during 11-year IBM career. All other career evaluations were "2" ("consistently exceeds in all areas").

**1989 - 1992      Advisory User Interface Architect and Consultant  
(3 years)          Advanced CUA Architecture  
IBM Programming Systems, Austin, TX**

Member of IBM's Advanced CUA (Common User Access) Architecture department. Conducted research, design, prototyping, testing, and publication of IBM's (CUA) software user interface architecture. The CUA user interface architecture consisted of user interface guidelines and controls for enabling platforms including Windows, OS/2, and OSF/Motif (Unix), software development tools, and key strategic products developed by IBM, vendors, and customers.

Areas of responsibility: Multimedia, kiosks, transaction processing user interfaces, user interface consulting, and education. Worked closely with IBM worldwide development, key IBM vendors and customers. Served as liaison and consultant to key IBM strategic software business partners, including Lotus and Microsoft. Work involved consulting on software product design, conducting product reviews, developing and presenting demonstrations and education on IBM's current and future direction in user interface architecture and design.

**1982 - 1989      User Interface Architect/Consultant,  
(7 years)          Human Factors/Usability Engineer  
IBM Corporation, Austin, TX**

Designed software products, conducted usability tests and developed and taught interface design and usability courses.

**1981 - 1982      Usability Engineer, 1-year internship  
IBM Corporation, Boulder, CO**

Designed software product documentation and conducted usability studies.

**1976 - 1982      Instructor, Teaching and Research Associate  
Psychology Graduate School  
University of Colorado, Boulder, CO**

Developed and taught undergraduate course, "Fundamentals of Psychological Research." Taught and supervised undergraduate cognitive psychology courses and laboratory sections. Nominated for the Teaching Excellence Award, 1981.

Conducted cognitive and quantitative psychology research in memory, learning, reading comprehension and text processing. Experience in experimental design, software development, computer simulation and statistical analyses. Developed eye movement methodologies for cognitive psychology research.

# Expert Witness Experience

## **Federal Trade Commission v. DIRECTV, Inc.**

### **2013 – Present**

Mandel is currently a user experience (UX) and usability expert for the Federal Trade Commission (FTC) regarding deceptive website practices by DIRECTV, Inc. The work began in September 2013 and is ongoing.

#### **Expert Activities:**

- Expert Report (September 16, 2016)
- Deposition (October 5, 2016)
- Expert Rebuttal Reply Report (November 28, 2016)
- Deposition (December 9, 2016)
- Trial testimony (beginning Fall 2017)

## **Synca Direct Inc. v. Scil Animal Care Company & Vet Novations**

### **July 2016 — Present**

Dr. Mandel is serving as an expert witness representing the defendant, Scil Animal Care Company in a software contract licensing dispute.

#### **Expert Activities:**

- Expert Report (July 21, 2016)
- Expert Rebuttal Reply Report (August 12, 2016)
- Deposition (2017, to be scheduled)

## **Microsoft Corporation v. Motorola, Inc.**

### **April - August 2011**

Dr. Mandel served as an expert research consultant for Motorola, Inc., defendant in the 2011 Microsoft Corp. vs. Motorola, Inc. patent infringement lawsuit (Patent No. 5,664,133, September 1997). The Complaint was filed by Microsoft Corporation against Motorola in the International Trade Commission (337-TA-744) and in federal court in the Western District of Washington (210-cv-01577).

Mandel was hired by and worked on the litigation from April - August 2011. Mandel conducted research on the patent infringement lawsuit and provided materials for discovery. Mandel, as an IBM team member, published materials that pre-dated and invalidated the Microsoft user interface design patent.

#### **Expert Activities:**

- Mandel provided expert deposition testimony with attorneys from Microsoft Corp., Motorola, Inc. and IBM Corp., Phoenix, AZ, June 2011.

# Education

## **Ph.D., M.A., Cognitive and Quantitative Psychology**

M.A. (1980), Ph.D. (1983)  
University of Colorado, Boulder  
Teaching Excellence Award, 1981  
Faculty-Staff Scholarship Award, 1979-1982

## **B.S., Psychology**

Miami University, Oxford, Ohio, 1974  
Grade Point Average: 3.4/4.0  
Dean's List (Academic Honor Roll), 1970-1974  
Athletic Scholarship (Tennis), 1970-1974  
Student Scholar-Athlete Award, 1974  
Scholastic Achievement Scholarship, 1971-1972

# Publications

## **Books**

***The Elements of User Interface Design***, Wiley & Sons, 1997

***The GUI-OOUI War: A Designer's Guide to Human-Computer Interfaces***,  
Wiley & Sons, 1994

***Object-Oriented Interface Design: IBM Common User Access Guidelines***,  
QUE, co-author, 1992

***User/System Interface Design***, Encyclopedia of Information Systems, Academic  
Press, 2002

## **Journal and Magazine Articles**

***Resuscitating User Experience: A Touchscreen System for EMS and  
Fire/Rescue Professionals***, *User Experience Magazine*, November 2007

***Quality Technical Information: Paving the Way for Usable Print and Web  
Interface Design***, *ACM Journal of Computer Documentation* (Aug. 2002)

***A Solid Intranet in Eight Steps***, *Web Techniques Magazine*, July 2001

## **Other Publications**

***CUA Guide to Multimedia User Interface Design***, IBM, author, 1992

***CUA Guide to User Interface Design***, IBM, co-author, 1991

***CUA Vision: Bringing the Future into Focus***, IBM video, 1991

***Eye Movement Investigation of Comprehension Process Models***, IBM, 1986

# Conference/Seminar Presentations

- 2015** UXPA 2015 International Conference – Presentation
- 2014** Internet User Experience (IUE) Conference – Keynote Presentations
- 2013** IxDA Phoenix Design Week – UX Methods and Madness Panelist
- 2013** Internet User Experience (IUE) Conference – Keynote Presentations
- 2010** Rocky Mtn. Direct Marketing Association – DM Day (Keynote Session)
- 2009** Keynote Address, User eXperience Russia 2009, Moscow Russia
- 2008** Rocky Mountain HFE Society, Invited Presentation - **Healthcare Usability**
- 2007** Rocky Mtn. Direct Marketing Association – DM Day (Session & Workshop)  
Usability Professionals’ Association Conference (Panel Presentation)  
World Usability Day 2007 – Kickoff Event (Introduction and Case Study)  
Direct Marketing Assoc. of So. California (Keynote Session – Web Usability)
- 2003** DCDotComm Conference – Washington, DC (Keynote Session)
- 2002** Seybold Seminars Boston, San Francisco (1-day, two 1/2-day tutorials)
- 2001** Web2001 Conference - San Francisco (1-Day Web Design tutorial)  
Seybold Seminars - Boston, San Francisco (1-Day Web Design tutorial)
- 2000** Web2000 Conference (New York)  
Seybold Seminars – Boston, San Francisco (1-Day Web Design tutorial)
- 1999** Web99 Conference (San Francisco, Boston, Austin – 2 seminars each)  
Software Development 99 (San Jose, Washington, DC – 2 seminars each)  
Seybold Seminars (1-Day Web Design workshop)

## Major Clients

### **Detroit Edison (DTE Energy), Detroit, Michigan**

Long-term user experience and usability consultant for one of the largest energy companies in the US. Worked with DTE’s CEO, CIO and Information Technology groups to design, prototype and test public-facing websites and applications and internal applications for call center representatives and employees of the deregulated electric and gas corporation.

### **General Motors Corporation, Detroit, Michigan**

Iteratively designed and prototyped passenger touchscreen displays for autonomous vehicles. Designed and created introduction video for first-time passengers. Planned and conducted usability research on passenger touchscreen displays with potential autonomous vehicle passengers.

### **Hunter Douglas, Broomfield, Colorado**

Conducted expert UX and usability evaluation of Hunter Douglas PowerView motorization system, an evolutionary new system that automatically moves shades so homeowners don't have to. The system includes motorized shades, a network controller, remote controls and a smartphone or tablet app for homeowners to create and schedule customized rooms and scenes that allow shades to operate on their own throughout the day. Link:

<https://www.hunterdouglas.com/operating-systems/powerview-motorization>

**Lloyds TSB Bank, Geneva Switzerland**

Designed and prototyped websites for Lloyds TSB International Private Banking division. Created banking sites where international customers can view financial portfolios, make transactions and communicate with Lloyds TSB account representatives.

**Microsoft Corporation, Redmond, Washington**

Conducted UX expert reviews and led international user experience research project on Microsoft's key customer productivity, customer relationship management (CRM) and Cloud products compared to their major industry competitors. Created user research strategy, designed test plan, test methodology and defined usability study tasks and measurements. Conducted and managed usability studies in 4 different countries.

**PayPal, Scottsdale, Arizona and San Jose, California**

User experience and interaction design for PayPal's redesigned web presence. Designed and prototyped consumer- and merchant-facing desktop and mobile web experiences. Worked in remote, agile and lean product teams. Designed usability evaluations on design prototypes and products.

**Pearson Education, Chandler, Arizona**

User research consultant for past 6 years with the world's largest education company. Designed and upgraded Pearson's internal usability lab. Conducted usability tests on education websites, applications and mobile apps. Research participants included students, parents, teachers and administrators. Worked with internal clients to define test charter, test plan, conduct test, analyze data and report findings. Used eye-tracking methodology in user testing.

**Target Corporation, Minneapolis, Minnesota**

Developed Intranet User Interface Guidelines for Target Corporation, the fourth largest retailer in the United States. Created guidelines as a site on the company intranet site. Tested the guidelines in a usability lab. Designed and developed libraries of Web layouts, frames, and graphics and forms templates for use across the corporation (5 retail chains). Defined usability test plans and strategies to encourage developers to use guidelines to design Intranet sites.

**UnitedHealth Group, Minneapolis, Minnesota**

Designed, prototyped and conducted usability evaluations of new healthcare software application for use by clinicians and case managers in the field. Large-scale project involved building a new architecture and user interface from scratch to replace three separate but integrated enterprise applications. Users are healthcare professionals with minimal computer skills using tablet and laptop PCs working in hospitals, care facilities, and patient homes. United HealthCare is one of the largest health insurance companies in the U.S.

### **ZOLL Data Systems, Broomfield, Colorado**

Guided design and usability testing of next-generation touch-screen pen-based EMS field data collection and management program, **RescueNet TabletPCR**. Product is used by EMS and Fire/Rescue teams in the field to document patient information, history, vital signs, medical and trauma assessments, interventions, and treatment during the entire patient care process up to delivering the patient to a hospital Emergency Room. To conduct field research, I rode in ambulances for four days, watching medical techs and paramedics use the hardware and software in the field. Link: <https://www.zolldata.com/Products/RescueNet-ePCR/>

## **Other Clients**

### **ACT! (Sage Software), Scottsdale, Arizona**

Conducted heuristic usability evaluations and performed several iterations of formal usability lab evaluations with users of ACT!, the #1 selling contact and customer manager software. Worked on ACT! 7 and ACT! 10.

### **AIM Technologies Inc., Austin, Texas**

Revamped AIM's sports reward program sites, **FanCard™** and **Sports Rewards™** and AIM's web site. AIM provided consumer loyalty solutions to organizations. Using interactive kiosk technology, AIM enabled clients to better understand customers, while increasing revenues and communications.

### **Blair.com, Warren, Pennsylvania**

Worked closely with VP and IT Director to improve design, navigation, and usability of the **Blair.com** and **Crossing Pointe** Websites. Conducted heuristic reviews and developed design prototypes. One of the nation's first and largest direct marketers, Blair Corporation is a top-ranked consumer apparel cataloger in the United States with annual sales of more than \$560 million.

### **Bristol-Myers Squibb, Hopewell, New Jersey**

Developed information architecture and user interface design for BMS identity management system and request submission application. Created HTML prototypes for user feedback and usability evaluation.

### **Calendars.com, Austin, Texas**

Conducted expert reviews and usability testing of Calendars.com, America's largest calendar company. Developed customer surveys and conducted usability evaluations.

### **C-COR Corporation, State College, Pennsylvania**

Designed network management software for NOC (Network Operations Center) operators of cable companies. Also designed mobile software solutions for cable technicians in the field. Created a corporate interface style guide across divisions and products for C-COR. C-COR develops broadband management systems (BMS) software for voice, video, and high-speed data.



**CSC Continuum Corporation, Austin, Texas**

Reviewed software products and developed User Interface Style Guide for insurance industry software development company. Determined user interface design guidelines for PC-based and World Wide Web-based software. Designed sample Web Java application user interfaces.

**Dex Media (Division of R. H. Donnelley), Denver, Colorado**

Designed, prototyped and conducted usability evaluations of software applications for sales and marketing representatives of hardcopy and online yellow pages advertising. Users with minimal computer skills use tablet and laptop PCs in the field and home office to sell advertising. Dex is a division of R.H. Donnelley, the nation's third largest Yellow Pages publisher with significant online and local search capabilities.

**emsCharts, Pittsburgh, Pennsylvania**

Redesigned touchscreen PC-based product for tablet PCs and notebook computers. emsCharts allows emergency service personnel to collect electronic patient information in real-time using mobile software. I rode in air rescue helicopters to conduct user research with paramedics and nurses.

**ePropose, San Francisco, California**

Designed PC- and web-based interfaces for ePropose's developer toolkit to build e-Commerce Websites. ePropose provides an advanced solution for building and operating B2B eMarkets that work the way eBusiness should work. Collaborated with cofounder, John Tibbetts, on many client projects, including IBM, DTE Energy and USAA Insurance.

**Exterprise, Inc., Austin, Texas**

Architected and designed user experience for a startup company in Austin's Technology Incubator. Exterprise pioneers E-Business applications for the automation of Enterprise Marketing Management (EMM) processes. Developed the user interface architecture and style guide for Enterprise's PC and web-based products.

**First American Corporation, St. Petersburg, Florida**

Conducted user/task analysis, design, prototype, and usability tests for Human Resources intranet Website.

**Freescale Semiconductor, Phoenix, Arizona**

Conducted user research, wireframed and prototyped designs for Freescale's website home page. Goals were to reduce clutter, increase font size, focus on Freescale's positioning statement and update the site design.

**Holt, Rinehart and Winston, Austin, Texas**

Customized education on user interface design principles and techniques for one of the largest educational CD-ROM multimedia publishers. Holt, Rinehart and Winston is the education publishing subsidiary of Harcourt Brace.

**IBM Global Services, Network Computing Development, Service Delivery Technology Center, Austin, Texas**

Improve the usability and interface design of IBM AssetWorks products. Reviewed and designed PowerBuilder-based and Web-based software AssetWorks products, documentation and Web presence. Developed user interface guidelines for PC and Web-based software products.

**Johnson & Johnson Information Technology, New York, New York**

Designed and prototyped web-based interface for enterprise-wide remote access authentication tool. Johnson & Johnson is the world's most comprehensive and broadly based manufacturer of health care products, as well as a provider of related services, for the consumer, pharmaceutical, and medical devices and diagnostics markets.

**MediaPrise, Austin, Texas**

Built an interface style and metaphor for all user types of MediaPrise's Web site and application. MediaPrise revolutionizes the presentation, merchandising, and sale of B2B products and services on-line.

**MedImpact Direct, San Diego, California**

User experience and usability consultant for new subsidiary of MedImpact, a Pharmacy Benefits Manager (PBM). MedImpact Direct offers mail-order, home delivery pharmacy services. MedImpact Direct is a consumer-oriented business rather than the business-to-business model for the parent corporation. I designed the public website, registration and log-in workflow and the secure consumer portal for managing prescriptions and ordering refills. I also created a consumer-focused user experience process and a usability testing process.

**Motive, Inc., Austin, Texas**

Helped Motive assess their usability process and initiate a usability directive within the company. Motive powers online customer care by offering software solutions that automatically connect online users to a company's answers and experts when they have problems. These products are used to build unique e-service networks that help companies foster customer loyalty, drive revenue, supercharge service capacity, and increase market share.

**National Council of Teachers of Mathematics, Reston, Virginia**

Designed and prototyped companion Web site (tightly-coupled with hardcopy book) for non-profit organization's Principles & Standards training materials.

**Newgistics, Inc., Austin, Texas**

Designed interfaces for Newgistics' ValetProcessor, used by package return processors in retail distribution centers. Newgistics is an innovative supply chain management company that integrates technology with established logistics systems to create operational efficiencies for multiple business verticals. Clients include retailers Spiegel and Newport News.

**Novartis Pharmaceuticals, Emeryville, California**

Conducted user task analyses, user research and usability testing on Novartis Smiths Detection hardware and software. Developed product requirements document (PRD). Task analyses were performed to identify potential risks exposed by user actions in the normal course of performing typical tasks. Key objectives were to identify attributes of the UI that could lead to safety or data integrity issues and to allow customers to set up systems with the need of a Field Service Engineer (FSE).

**OKbridge, San Diego, California**

Reviewed and redesigned OKbridge site's registration process. Conducted heuristic evaluations of OKbridge website and online game. Worked closely with founder and development staff to design and prototype the next generation of the online game. Focused on needs and requirements of both expert-level and novice bridge players through user evaluations. OKbridge is an online bridge club dedicated to serving the worldwide bridge community by providing superior software and service. With more than 18,000 members from over 90 countries, it is the world's largest member-supported online bridge club.

**Sun Microsystems, Broomfield, Colorado**

Conducted usability tests of current and prototype Internet and intranet Websites for Sun Microsystems. Used streaming video technology to broadcast usability sessions live or archived to any Sun location in the world.

**Swiss Bank Corporation, Basel, Switzerland**

Developed User Interface Style Guide for SBC's software development. Designed interfaces for bank clerks to sell services and collect customer data.

**TCSI Corporation, Alameda, California**

Designed a Web-based prototype of new user interface style for a network management software company.