David J. Dixon

SUMMARY

A seasoned human factors and ergonomics professional with broad experience not only in applying human factors principles to interface design, but also in working with developers and users identifying and solving usability problems. A passionate advocate of User-Centered Design with the unique ability to gather user requirements and analyze data as well as effectively communicate the findings and implications to varied audiences in diverse industries.

KEY AREAS OF EXPERTISE

User Centered Design
- User requirements gathering and specification
- Competitive evaluation
- User interface evaluation and validation
- Benchmark assessment
- Wire frame development
- Use case design

Human Factors Methods
- Low and high fidelity prototype development
- Contextual analysis
- Survey design
- Task analysis
- Storyboard development
- Job analysis

Usability Testing
- Usability test design and analysis
- Paper and pencil testing
- Heuristic evaluation
- Cognitive Walkthrough
- Expert review
- Remote usability testing

Ergonomics
- Hazard and job analysis
- Ergonomic survey development and analysis
- Risk factor control development
- Ergonomic Plan development
- Ergonomics awareness training for employees

WORK EXPERIENCE

Ergonomics Experience

ERGONOMIC TECHNOLOGIES CORP. **2010-present**

Provides Ergonomic Consulting Services to ETC clientele.

CRAWFORD & COMPANY / AMERICAN RISK CONSULTANTS – Consulting Ergonomist / Ergonomics Lab Director **1994-1997**

Provided ergonomic services to a wide variety of clients across the country. Served as expert resource for internal ergonomics consultants in branch offices. Services provided to clients included: ergonomic job analyses and recommendations to improve jobs, training on ergonomics for supervisors and employees, expert witness testimony in workers' compensation court cases, ergonomic analysis of work alternatives. Performed computer-aided analysis of postures, lifts, and job strength requirements. Also performed Underwriting Risk Analyses on trucking firms, chemical distributors, construction projects, etc. Examples of ergonomic experience are listed below. (Additional examples available upon request.)

- Analyzed 10 jobs in steel mill for ergonomic injuries and recommended changes that resulted in significant reductions in on-the-job injuries.

- Taught Ergonomic Awareness course to all 350 employees of mirror manufacturing company resulting in significant cost reductions for ergonomic injuries.

ERGORISK SERVICES – Ergonomist **1994**
(A DIVISION OF BIOMECHANICS CORP. OF AMERICA)

Developed training courses on ergonomics for education of clients. Courses were targeted for upper management, supervisors and engineers, employees. Special topics courses on Back and Wrist Injuries, OSHA Ergonomic Standard Update, etc. were also developed.

NC DEPARTMENT OF LABOR, OSHA Division – Consulting Ergonomist **1993-1994**

Assisted in developing concept and wrote concept paper justifying NC Ergonomic Resource Center, a joint project between the NC Department of Labor and NC State University. Acted as liaison with NC State University during project development. Coordinated details for all aspects of project, including briefing businesses and state legislators, writing grant for federal funds, developing statistics to support project.

Interface Design Experience

McKesson – User Interface Design Engineer (Contract) **2007 - 2009**

Re-designed the user interface for the next release of one of McKesson's clinical software products used in hospital laboratories. Activities included prototyping screen layouts in Visio, re-designing menu structure and overall navigation, designing user interface patterns and maintaining product UI pattern library. Presented updated prototype screens to internal stakeholders to gather feedback. Worked with other UI designers to insure consistency in the clinical software product line.

Medtronic – Principal Human Factors Scientist **2005 - 2007**

Developed technical solutions for complex, system-wide usability problems affecting pacemakers and implantable cardioverter defibrillators (ICDs). Lead user-centered design activities for products including collecting feedback from users relating to pacemaker and ICD design and features, designing prototypes and iterative usability testing.

- Collected and analyzed information from physicians at Heart Rhythm Society meeting to validate innovative screen design reducing the complexity of user navigation to diagnostic information.
- Collected and analyzed information on device optimization procedures from physicians and nurses at Cleveland Clinic to refine user requirements for a new feature to aid heart failure patients.
- Used story boards to collect feedback on the type and amount of pacemaker/ICD information physicians want and how far back in the patient's device history they want to see.
- Collected and analyzed information from Medtronic field representatives to determine the most important attributes in future versions of device programmers.
- Assessed user needs and determined ease-of-use in a re-designed graphical device trends screen via usability testing.
- Designed state-of-the-art usability lab to be built at new division headquarters.

3M Company – Contract Human Factors Engineer **2004 – 2005**

Applied User-Centered Design techniques to improve eProductivity software user interfaces. Collected and analyzed ergonomic data used to compare commercial cleaning product to competitive products. Performed heuristic evaluation of 3M product websites.

- Usability tested current e-productivity information retrieval methods compared to an integrated user interface prototype. The results proved the new interface superior to current methods of accessing information and saved the company significant time and money.
- Usability tested (as part of a team) competitive commercial mops compared to new 3M commercial mopping system. Results showed that the 3M mop system was superior to the competition in terms of ergonomics and ease-of-use. The study provided support for 3M marketing claims as well as validating the mop design as reducing user effort.
- Usability tested new on-line expense system to verify that it met user requirements. The testing proved that the new system was a substantial improvement over the old system and resulted in a significant cost savings for 3M.
- Researched and justified the acquisition of an eye-tracking system for human factors department to better serve the needs of our internal clients. The system allowed Human Factors to optimize the design of web pages for 3M products.

Ingenix (division of United Health Group) – Contract Usability Specialist 2004

Designed, prototyped and tested the user interface for an award-winning, proprietary, web-based software product. (To see a preview of the product, go to http://www.ingenix.com/content/attachments/igx_pce_for_payers_brochure.pdf.)
Activities included: developing use cases, product feature list, wire frames, usability testing scenarios, designing prototypes, usability testing and producing design recommendations for developers.

- Designed and ran 4 iterative usability tests on software product interface over 6 months leading to award-winning product design.

IBM CORPORATION – Advisory Human Factors Engineer 2000 – 2002

Applied User-Centered Design (UCD) methodology as part of a team to improve usability of hardware and software for AS/400 servers. Designed surveys and early prototype tests to solicit feedback from customers to apply to new product design. Conducted interviews and focus groups with customers to collect data on product concepts and features. Trained product developers in applying User-Centered Design principles.

- Worked with industrial design to evaluate external products for branding by IBM thus saving significant development cost.
- Represented the Human Factors department on the company-wide UCD Advisory Council and helped in promoting and evaluating UCD techniques used throughout IBM **.**

CDI, INCORPORATED – Contract Human Factors Engineer for IBM 1998 - 2000

Provided usability expertise to xSeries (formerly Netfinity) server product development engineers and programmers. Designed and tested graphic user interfaces for computer cluster software. Planned, designed, and conducted product usability tests; analyzed and reported results. Made recommendations for improving usability of server products. Additional experience included: survey design and analysis, developing usability objectives, collecting and interpreting field data on product usability.

- Tested IBM customer engineers on typical service tasks to develop standardized service menu. This increased the efficiency of IBM service while allowing customers to anticipate service costs.
- Tested the usability of wordless instructions for the installation of server hard drive units in racks. Resulted in significant changes in the instructions to prevent user errors.

SYKES ENTERPRISES, INCORPORATED – Human Factors Engineer/Manager 1992-1993

Provided human factors support services to clients. Services included: usability testing (planning, design and implementation), user interface design, interface prototyping, competitive product interface analysis, user requirements specification, documentation usability review, and usability testing training. Wrote proposals for client contract work. Developed marketing plan for human factors services and actively marketed SEI's human factors services to clients. Broadened scope of human factors services offered by SEI. Provided project management for human factors.

IBM CORPORATION – Human Factors Engineer 1984 - 1992

Provided human factors support for Local Area Network Products including (a) developing and implementing product user interface strategy (b) providing leadership in user interface design (c) playing a lead role in interface evaluation via user walkthroughs and customer disclosures (d) assisting product development with usability test implementation and data analysis (e) resolving usability problems (f) serving as technical consultant on human factors issues for planning, engineering, and marketing (g) negotiating support plans and contracts.

- Re-designed and tested wordless instructions for data connector assembly. Usability testing comparing original instructions with new instructions showed a 51 percent reduction in assembly time.

Marketing & Training Experience

TEXAS INSTRUMENTS – Market Research Analyst 1981 - 1983

Designed and coordinated market research projects and analyzed data for calculators and educational products.

TEXAS INSTRUMENTS – Training Analyst 1980 – 1981

Tracked and analyzed training data for technical jobs in semiconductor manufacturing. Analyzed jobs and developed criterion-referenced instruction materials for training programs.

EDUCATION

Ph.D. 1985 Texas Tech University -- Experimental Psychology/Human Factors Engineering
M.A. 1978 Stephen F. Austin State University -- Clinical Psychology
B.A. 1972 Stephen F. Austin State University – Psychology

PROFESSIONAL MEMBERSHIPS

- Human Factors and Ergonomics Society
- Usability Professionals' Association