

specification of the user interaction models and design of the complete graphical user interface for both of these broadband systems

Conducting applied research to support medium-and-near term business goals

- Conducted ecologically-valid quality assessments of near-real-time video delivery to determine optimum DSL bandwidth requirements
- Conducted studies into user perceptions of Voice over IP. Conducted laboratory ITU P.800 studies, live field trial studies on a national network and longitudinal studies of CPE-based VoIP solutions
- Conducted research into users' perceptions of internet use under varying levels of bandwidth in an effort to understand DSL bandwidth requirements
- Conducted research into the dimensions along which users judged their overall web-surfing experience, as a function of the attributes of web page design and delivery
- Conducted collaborative research with the University of Texas Graduate School Information (Dr. Sanda Erdelez) into the serendipitous discovery of information while using the internet
- Conducted collaborative research with the University of Texas Graduate School of Information (Dr. Randolph Bias) into user perception of wait time while on hold when using telephone menu systems
- Initiated and coordinated a decade-long longitudinal study of the usability of SBC products and services through the global administration of a usability survey instrument. (Brook's SUS, 1986)
- Conducted longitudinal studies of user behavior while using SBC's first consumer internet portal, developing novel techniques for the visualization of the data
- Performed testing of numerous non-DSL broadband technologies to understand human perceptions of the various connection technologies.
- Mentored graduate student (Rebecca Grier, University of Cincinnati) doctoral research into visual attention mechanisms and web page design. Research involved extensive use of an ERICA eye-tracking system for data collection

Design, development and analysis of Web and Internet applications

- Led the Human Factors effort in the design and development of the global information architecture for the first generation of SBC's corporate and affiliate web presence (SBC, Southwestern Bell, Pacific Bell). Efforts included needs analysis, categorization studies, prototyping and extensive lab testing.
- Designed and developed SBC's first consumer internet portal
- Performed multiple projects to insure compliance with universal design goals and government requirements (Section 508 of the Workforce Rehabilitation Act and Section 255 of the 1996 Telecommunications Act)
- Led the Human Factors effort in the design and development of SBC's first Ecommerce offering, the DSL self-ordering tool. Tool allowed users to qualify their location and computer and then order and configure DSL
- Performed testing of numerous web-based hardware and software solutions to insure compliance with SBC Usability Standards. Performed design and development work with vendors to improve these products. Product categories evaluated include parental controls, virus protection, PC backup, content filtering, electronic yellow pages, advertising technologies, email appliances and web appliances
- Author of SBC's Web Design Guidelines

- Rice University Admissions Office Faculty Phone-a-Thon, 2010
- Rice University Owl Days Speaker, 2010
- Rice University Psychology Undergraduate Research Pool Administrator, 2008, 2009, 2010, 2011, 2012
- Rice University Psychology Undergraduate Advising Committee, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012
- Rice University Faculty Senate Faculty Evaluations Committee, 2006/2007
- Rice University Faculty Senate Nominations and Elections Committee, 2005/2006, 2006/2007
- President, Houston Chapter, Human Factors and Ergonomics Society 2007, 2008
- Director (Chair 1), Houston Chapter, Human Factors and Ergonomics Society 2010, 2011, 2012
- Chair, Human Factors and Ergonomics Society Communications Technical Group 2004, 2005, 2006, 2007, 2008
- Executive Planning Committee, Texas Regional Human Factors and Ergonomics Society Conference 2008, 2011
- Executive Planning Committee, 2009 Houston Human Factors and Ergonomics Society Conference
- Program Chair, Houston Human Factors and Ergonomics Society Conference: 2010, 2012
- Conference co-chair, 3rd Conference Houston Human Factors and Ergonomics Society, 2006
- Conference co-chair, 6th Conference on Human Factors and the Web, 2000
- Member, Human Factors and Ergonomic Society (HFES)
- Member, Southwestern Psychological Association (SWPA)
- Member, Association for Computing Machinery SIGCHI
- Member, Usability Professionals Association (UPA)
- Ad Hoc Reviewer for:
 - Behavior Research Methods, Instruments and Computers
 - Journal of Usability Studies
 - Interacting with Computers
 - Human Factors
 - MobiSys
 - Journal of Medical Internet Research
 - Vaccine
 - Human Factors and Ergonomics Society, Perception and Performance Technical Group
 - Human Factors and Ergonomics Society, Communications Technical Group
 - Human Factors and Ergonomics Society, Internet Technical Group
 - Human Factors and Ergonomics Society, Health Care Technical Group
 - Human Factors and the Web
 - Association for Computing Machinery Computer-Human Interaction Special Interest Group
 - Wiley Publishing
 - Sage Publications
 - Cengage Publishers
 - NASA Human Research Program

GRANTS AND FUNDING

National Institute of Standards and Technology (through IDox). Voting Systems: Analysis of Auditory Ballot Interfaces. Co-PI. \$82,000. 2011-2012

National Science Foundation Grant #CNS-1049723, Usability of Voting Systems. PI. \$170,000, 2010-2012.

National Science Foundation Grant #HCC- 0803556, Understanding and Optimizing Wireless Mobile Computing for Underserved Urban Communities. Co-PI. \$569,000 total funding 2008-2011

ExxonMobil – Software Ergonomics and Usability. PI. \$36,700: 2009-2011

United States Cancer Pain Relief Committee (through UTMDACC) Development of an Intelligent Monitoring System for Cancer Pain Using Bayesian Statistical Models. PI. \$62,361. PI : 2009-2011

ExxonMobil – Software Ergonomics. PI. \$33,000: 2008-2009

Brown Teaching Grant – Human Factors of Non-Traditional Interfaces. \$2699: 2008

Howard Hughes Medical Institute, Undergraduate Science Education – Beyond Traditional Borders. Collaborator. Grant total \$2,198,923. Collaboration total \$317,323: 2005-2009

COURSES TAUGHT

- Introduction to Human Factors and Ergonomics Design PSYC 370 Fall 2005, Fall 2006, Fall 2007, Fall 2008, Fall 2009, Fall 2010, Fall 2011
- Methods in Human Computer Interaction PSYC 409/609 Spring 2007, Fall 2008, Spring 2011
- Advanced Topics: Human Factors of non-traditional interfaces PSYC 480/640 Fall 2007, Spring 2010
- Advanced Topics: Medical Human Factors PSYC 480/640 Spring 2009, Spring 2012
- Statistical Methods for Psychology PSYC 339 Spring 2006, Fall 2006, Spring 2008, Fall 2009, Fall 2010, Fall 2011
- Seminar in Human Computer Interaction PSYC 531 Spring 2007, Spring 2008, Fall 2009, Fall 2010, Spring 2012
- Supervised Research PSYC 485 (48 students), CSCI 390 (2 students), CogSci Honors (2 students), SSURE winners (2 students)
- Supervised Readings PSYC 488 (2 students)
- Rice Century Scholar Advisor (2 students)
- Graduate student committees served on: 18
- Graduate student committees chaired: 3

PATENTS

Kortum, P., Knott, B. and Bushey, R. (2012). System and method for on-hold caller controlled activities and entertainment. U.S. Patent No. 8,130,936. Washington, DC: U.S. Patent and Trademark Office

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Sullivan, M., Kortum, P., Joseph, K.M. and Pasquale, T. (pending). System, method and user interface to deliver message content. U.S. Publication No. 20070039036. Washington, DC: U.S. Patent and Trademark Office

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Pierce, M., Kortum, P. and Pasquale, T. (pending). Method of using an entertainment system and an apparatus and handset for use with the entertainment system. U.S. Publication No. 20060230421. Washington, DC: U.S. Patent and Trademark Office

Kortum, P. and Sullivan, M. and Brandt, J. (pending). System and method of using a remote control and apparatus. U.S. Publication No. 20080100492. Washington, DC: U.S. Patent and Trademark Office

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Kortum, P., Bangor, A. Sullivan, M. and Brandt, J. (pending). Personal bill denomination reader. U.S. Publication No. 20080187210. Washington, DC: U.S. Patent and Trademark Office.

Kortum, P., Sullivan, M. and Brandt, P. (pending). System and method for displaying a video stream. U.S. Publication No. 20090073321. Washington, DC: U.S. Patent and Trademark Office.

Kortum, P. and Sullivan, M. (pending). Unified interface for managing DSL services. U.S. Publication No. 20080098308. Washington, DC: U.S. Patent and Trademark Office.

Kortum, P. and Brandt, J. (pending). Restoring base configuration on software testing computer U.S. Publication No. 20080004857. Washington, DC: U.S. Patent and Trademark Office.

Sullivan, M., Kortum, P. and Pratt, J. (pending). Methods, systems, and computer program products for presenting transaction-specific marketing at the point-of-sale and related devices. U.S. Publication No. 20100088149. Washington, DC: U.S. Patent and Trademark Office.

Kortum, P. and Sullivan, M. (pending). Cellular Telephone Credit Card Charging using APR and Rewards. Publication Number Pending. Washington, DC: U.S. Patent and Trademark Office.

PUBLICATIONS AND REFEREED CONFERENCE PROCEEDINGS

Tossell, C.C., Kortum, P., Shepard, C.W., Rahmati, A., and Zhong, L. (submitted). Characterizing smartphone use in the real world: A longitudinal study investigating what users do on the internet. Submitted to Human Computer Interaction.

Rahmati, A., Shepard, C., Tossell, C., Zhong, L., and Kortum, P. (submitted). Practical Context Awareness: Measuring and Utilizing the Context Dependency of Mobile Usage. Submitted to the ACM Annual International Conference on Mobile Computing and Networking, ACM Mobicom 2012

Ziegler, C. and Kortum, P. (submitted). The Relationship Between Trust and Usability in Systems Submitted to the Proceedings of the Human Factors and Ergonomics Society, Santa Monica, CA: Human Factors and Ergonomics Society.

Kortum, P. and Scharff, L.V.S. (submitted). Where's my webpage? How aesthetic changes affect user performance when critical navigation links change. Submitted to the Proceedings of the Human Factors and Ergonomics Society, Santa Monica, CA: Human Factors and Ergonomics Society.

Evans, R. and Kortum, P. (submitted). He says, She Says. Does Voice Affect Usability? Submitted to the Proceedings of the Human Factors and Ergonomics Society, Santa Monica, CA: Human Factors and Ergonomics Society.

Rahmati, A., Shepard, C., Tossell, C., Zhong, L., Kortum, P., Nicoara, A. and Singh, J. (submitted). Seamless Flow Migration on Smartphones without Network Support. Submitted to IEEE Transactions on Mobile Computing.

Rahmati, A., Shepard, C., Tossell, C., Zhong, L., and Kortum, P. (in press). Exploring iPhone Usage: The Influence of Socioeconomic Differences on Smartphone Adoption, Usage and Usability. *ACM SIGCHI's International Conference on Human-Computer Interaction with Mobile Devices and Services, MobileHCI 2012*.

Tossell, C.C., Kortum, P., Shepard, C.W., Rahmati, A., and Zhong, L. (in press) Getting Real: A Naturalistic Methodology for Using Smartphones to Collect Mediated Communications. *Advances in Human Computer Interaction*.

Tossell, C.C., Kortum, P., Shepard, C.W., Rahmati, A., and Zhong, L. (in press) An Empirical Analysis of Smartphone Personalization: Measurement and User Variability. *Behaviour and Information Technology*.

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