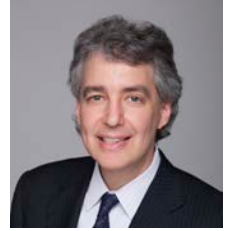


Craig Rosenberg, Ph.D.

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Dr. Rosenberg has worked on many high-profile cases and advanced engineering projects for a wide range of Fortune 500 companies including Google, Samsung, Amazon, Boeing, IBM, Disney, Nintendo, Dell, AT&T, Motorola, Ericsson, LG, Sony, HTC, Mattel, United States Army and Air Force, NASA, Federal Aviation Administration and many others.

Dr. Rosenberg has been retained 75 times, written over 65 reports and declarations, has testified in State and Federal courts, at 20 depositions, and before the USPTO.

Dr. Craig Rosenberg is an accomplished software architect, software engineer, user interface designer, human factors and systems engineer with extensive expert witness experience specializing in software, user interface, and human factors issues for embedded, mobile, web, desktop, and server software.

Dr. Rosenberg has been retained as an expert witness numerous times for both plaintiff and defense assisting clients in intellectual property and trade secret cases in the areas of user interface, software design and architecture, and human factors for mobile, web, desktop, embedded, and server environments.

Dr. Rosenberg specializes in software engineering, user centered design, information architecture, user experience, systems engineering, object oriented analysis, complex systems, and modeling and simulation. He has extensive experience in the entire software design and development life cycle applied to a wide range of domains from mobile devices through enterprise class mission critical applications.

He has published 21 research papers in professional journals and proceedings relating to user interface design, computer graphics, and the design of spatial, stereographic, and auditory displays.

His company, Global Technica, has been a preferred engineering supplier to Boeing since 1996 designing, analyzing, and implementing numerous projects including advanced mobile, desktop, and server software used in the areas of Air Traffic Control, Missile Defense, Army communications, Unmanned Aerial Vehicles, Simulation, Command and Control, and Cyber and Homeland Security applications.

Dr. Rosenberg is an expert software architect and developer with the C, C++, C#, and Java languages.

Dr. Rosenberg designed the first two-way pager for AT&T in 1995 and 1996. This very high profile project involved designing the feature set, user interface and user interaction design and specification, as well as all graphical design and graphical design standards.

He is the founder and CEO of a Seattle technology company focusing on location tracking applications for GPS enabled smart phones as well as the inventor, designer, and author of several GPS mobile application software products currently available for iPhone and Android devices.

He was the Chief Technology Officer of DataPrism, a company that produces an object oriented application platform for authoring and deploying rich networked solutions running in web browsers on mobile devices. DataPrism focused on virtualizing computing to allow applications to run in web browsers.

He was the entrepreneur in residence for a well-funded Los Angeles based venture capital company focusing on investments in mobile technology companies and entertainment media companies.

He designed a complete VoIP phone system for the consumer market that included an extremely wide set of user interface features not typically found on household mobile phones such as Microsoft Outlook integration, YouTube integration, internet radio, file browsing and file sharing.

He designed and developed interactive multimedia games as well as educational software for children and adults and was responsible for functional specification, software design and architecture, user interface design, application prototyping, software development, focus group testing, and internet research.

While working on his Ph.D., he developed one of the very first spatial musical instruments that utilized multiple six dimensional spatial trackers to create and record electronic music.

He developed a suite of device drivers to interface high end spatial tracking systems made by Polhemus and Ascension with computing systems made by Silicon Graphics, DEC, NEXT, Apple Macintosh, and IBM PCs.

Dr. Rosenberg was the lead human factors engineer for Eyematic Corporation designing advanced facial tracking and facial recognition software for the entertainment and homeland security markets.

He has designed and developed software for mobile, micro, server, embedded, and supercomputer platforms for the aerospace, defense, communications, entertainment, computer, manufacturing, and product development markets for over 25 years.

He was the sole recipient of a \$10,000 scholarship award from I/ITSEC for advancing the field of interactive computer graphics for flight simulation.

He received a prestigious award from the Link Foundation for his work furthering the field of flight simulation and virtual interface design.

He has won two clean energy engineering awards from the City of Los Angeles for the design of an energy saving product.

He created five book covers for books by Harcourt Brace Publishing that feature the authors Arthur C. Clarke, Isaac Asimov, and Stephen King and his computer graphics animations appear in the movie *Beyond the Mind's Eye* produced by MIRAMAR.

Dr. Rosenberg is a member of ACM, IEEE, and the Human Factors Society and has taught Human Factors and User Interface Design at the University of Washington.

EDUCATION

Ph.D. Human Factors
University of Washington, 1994

M.S. Human Factors
University of Washington, 1990

B.S. Industrial Engineering
University of Washington, 1988

Graduate GPA: 3.83

SELECTED LAW FIRMS

Baker Botts
Berg & Androphy
Bryan Cave
Bunsow de Mory
Covington & Burling
Davis Wright Tremaine
Dentons
Farella Braun Martel
Finnegan
Fish & Richardson
Frier Levitt
Gowlings
Greenberg Traurig
Hagens Berman
HammerSchmidt Broughton
Hanson Bridgett
Hart Wagner
Hinkle

Holland & Hart
Honigman Miller
Hovey Williams
King and Spalding
Klein, O'Neil & Singh
Knobbe Martens
McDermott and Will
McKool Smith
McNaul Ebel
Meyers Roman
Morrison Foerster
Norton Rose Fullbright
Paul Hastings
Perkins Coie
Quinn Emanuel
Riezman Berger
Ropes and Gray
Stern Kessler
Susman Godfrey
Sutton McAughan Deaver
VB Attorneys
Williams McCarthy

SELECTED CASE HISTORY

Case	Law Firm	Type	Area
24/7 v. Live Person	Honigman Miller	Patent Dispute	User Interface
Allvoice v. Microsoft	Susman Godfrey	Patent Dispute	Voice Recognition
AIT v. Salesforce	Hagens Burman	Patent Dispute	Software Architecture
ARCzar v. Nintendo	Perkins Coie	Patent Dispute	Augmented Reality
Ford Class Action	Hagens Burman	Consumer Prot.	Human Factors
Core Wireless v. LG	Bunsow / Hueston	Patent Dispute	User Interface
Creative v. LG	Fish and Richardson	Patent Dispute	User Interface
Creative v. Sony	Fish and Richardson	Patent Dispute	User Interface
BeUbiq v. CCG	Farbstein & Blackman	Trade Secret	Development Failure
Burke v. Sproule	Gomez Trial Attorneys	Trade Secret	Software Architecture
Nokia v. HTC	McDermott and Will	Patent Dispute	User Interface
Edulog v. DML	McNaul Ebel	Trade Secret	User Interface
Ericsson v. Apple	McKool Smith	Patent Dispute	GPS and User Interface
FTC v. Amazon	Perkins Coie	Consumer Prot.	User Interface
Uniloc v. GE	Sutton McAughan	Patent Dispute	User Interface for EMR
Glasses.com v. Ditto	Holland and Hart	Patent Dispute	Augmented Reality
GSS v. MobilLogic	Williams McCarthy	Trade Secret	Software Architecture
IV v. Google	Knobbe Martens	Patent Dispute	User Interface
Lennon v. Sephora	Hanson Bridgett	Patent Dispute	Augmented Reality
Level One v. Penske	Riezman Berger	Trade Secret	Software Architecture
LDR v. Majority Rules	Meyers Roman	Trade Secret	User Interface
Location Labs v. LocatioNet	Dentons	Patent Dispute	GPS and User Interface
Lodsys v. Google	King and Spaulding	Patent Dispute	User interface
Lyft v. VanderZanden	Paul Hastings	Consumer Prot.	GPS Tracking
Nokia v. HTC	McDermott and Will	Patent Dispute	User Interface
PDIC v. Harmonix	Finnegan	Patent Dispute	Virtual Reality
PDIC v. Konami	Morrison Foerster	Patent Dispute	Virtual Reality
Rovi v. Comcast	McKool Smith	Patent Dispute	User Interface
Rovi v. Comcast	Ropes and Gray	Patent Dispute	User Interface
Samsung v. Apple	Quinn Emanuel	Patent Dispute	User Interface
Securus v. Global Tel	Gruber Elrod	Patent Dispute	User Interface
Select Retrieval v. BH	Farney Daniels	Patent Dispute	User Interface
Senderra v. Spud	Frier Levitt	Trade Secret	Software Architecture
Silver State v. Garmin	Knobbe Martens	Patent Dispute	GPS and User Interface
Silver State v. Foursquare	Knobbe Martens	Patent Dispute	GPS and User Interface
SmartPhone v. HTC	McDermott and Will	Patent Dispute	User Interface
Spice v. Zegers	Hart Wagner	Trade Secret	User Interface
Softview v. ATT/Motorola	Kilpatric Townsend	Patent Dispute	User Interface
Softview v. Dell	Farella Braun Martel	Patent Dispute	User Interface
Softview v. Samsung	Covington & Burling	Patent Dispute	User Interface
Sony v. Arris, Pace	Fennigan	Patent Dispute	User Interface
Tatsoft v. InduSoft	Berg & Androphy	Trade Secret	User Interface
Title Source v. HouseC	Greenberg Traurig	Trade Secret	Software Architecture
Titus v. Boldon James	Gowlings	Trade Secret	Software Architecture
Trichel v. Union Pacific	VB Attorneys	Wrongful Death	Human Factors
Valmont v. Lindsay	Hovey Williams	Patent Dispute	User Interface
Wertman v. Roche	James Vernon & Weeks	Wrongful Death	Human Factors
Yama Capital v. Canon	Hagens Burman	Patent Dispute	User Interface

SELECTED PUBLICATIONS / PRESENTATIONS

Rosenberg C., Advanced Systems Engineering and Human Factors Engineering, International Forum on Composite Material Applications for Large Commercial Aircraft, Shanghai, China, 2011.

Parks P. and Rosenberg C., Interactive Distributed Simulation Environment for Collaborative Technology Experiments and Analysis, SimTecT, Brisbane, Australia, 2008.

Crutchfield J. and Rosenberg C., Predicting Subjective Working Ratings: A Comparison and Synthesis of Operational and Theoretical Models, HCI-Aero Conference Proceedings, Seattle, WA, 2006.

Barfield, W., Rosenberg, C., and Furness, T.A., Situation Awareness as a Function of Frame of Reference, Computer-Graphics Eyepoint Elevation, and Geometric Field of View, International Journal of Aviation Psychology, Vol 5, pp. 233-256, 1995.

Rosenberg, C., Barfield W., and Lotens, W., Virtual Environments and Advanced Interface Design, Augmented Reality Displays, Oxford University Press, pp. 542 – 575, 1995.

Barfield, W., and Rosenberg, C., Judgments of Azimuth and Elevation as a Function of Monoscopic and Binocular Depth Cues Using a Perspective Display, Human Factors, Volume 37, Number 1, 1995.

Rosenberg, C. and Barfield, W., Estimation of Spatial Distortion as a Function of Geometric Parameters of Perspective, IEEE Transactions on Systems, Man and Cybernetics, Volume 25, Issue 9, September 1995.

Barfield, W. and Rosenberg, C., Perspective versus Stereoscopic Displays for Spatial Judgments, accepted for publication, Human Factors, 1994.

Barfield, W. and Rosenberg, C., and Furness, T., Situational Awareness as a Function of Frame of Reference, Virtual Eyepoint Elevation, and Geometric Field of View, International Journal of Aviation Psychology, 1994.

Rosenberg, C. and Moses, B., Future Human Interfaces to Computer Controlled Sound Systems, 95th Annual Audio Engineering Conference, New York, New York, October 1993.

Barfield, W. and Rosenberg, C., Comparison of Stereoscopic and Perspective Display Formats for Spatial Tasks, SID Conference, Seattle, Washington, September 1993.

Barfield, W. and Rosenberg, C., Spatial Situational Awareness as a Function of Frame of Reference, Virtual Eyepoint Elevation, and Geometric Field of View, SID Conference, Seattle, Washington, September 1993.

Barfield, W., Rosenberg, and Cohen, M., Presence as a Function of Frame of Reference within Virtual Environments (Technical Report). Seattle, Washington, University of Washington, Sensory Engineering Lab, 1993.

Lion, D., Rosenberg, C., and Barfield, W., Overlaying Three-Dimensional Computer Graphics with Stereoscopic Live Motion Video: Applications for Virtual Environments, SID Conference, Seattle, Washington, September 1993.

Barfield, W., and Rosenberg, C., The Effect of Geometric Field of View and Tunnel Design for Perspective Flight-Path Displays, Transactions of the Society of Automotive Engineers, Seattle, Washington, July 1992.

Rosenberg, C., and Barfield, W., The Effects of Scene Complexity and Object Density for Low Level Flight, Sixth International Symposium on Aviation Psychology, Columbus Ohio, September 1991.

Barfield, W., Rosenberg, C., and Levasseur, J., The Effect of Icons, Earcons, and Commands on the Design of a Hierarchical On-line Menu, IEEE Transactions on Professional Communication, 1991.

Barfield, W., Rosenberg, C., and Kraft, C., Relationship Between Scene Complexity and Perceptual Performance for Computer Graphics Simulations, Displays: Technology and Applications, 179-185, 1990.

Barfield, W., Lim, R., and Rosenberg, C., Visual Enhancements and Geometric Field of View as Factors in the Design of Perspective Displays, Proceedings of the Human Factors Society 34th Annual Meeting, Orlando, Florida, 1470-1473, 1990.

Barfield, W., and Rosenberg, C., The Effects of Scene Complexity on Judgments of Aimpoint and Altitude During Final Approach, Proceedings of the Human Factors Society 34th Annual Meeting, Orlando, Florida, 61-65, 1990.

Barfield, W., Rosenberg, C., and Kraft, C., The Effect of Visual Cues to Realism and Perceived Impact Point During Final Approach, Proceedings of the Human Factors Society 33rd Annual Meeting, Denver Colorado, 1989.

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