

Rebecca Wirfs-Brock

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SUMMARY

Rebecca Wirfs-Brock is an internationally recognized leader in the development of effective software design and architecture techniques. She invented the set of development practices known as Responsibility-Driven Design. Among her widely used innovations are use case conversations and object role stereotypes. She was the design columnist for IEEE Software and the author of the classic text, *Designing Object-Oriented Software*. Her most recent book, *Object Design: Roles, Responsibilities and Collaborations*, was published in 2002.

Although best known as a software design guru she is also an innovator of techniques for simply expressing complex requirements and effectively developing and communicating software architecture. She frequently helps product engineering, IT, and startup organizations with technical strategies, frameworks and architecture as well as with effective teamwork and agile development practices. Rebecca's methodology contributions are based upon thirty years of hands-on software development experience. Most recently she has conducted architecture reviews of enterprise applications and product platforms, reviewed the design and implementation of a medical analytics framework, advised an engineering group on design and architecture for a large embedded application, and mentored teams on framework design, architecture, and managing incremental and iterative object-technology projects.

EMPLOYMENT HISTORY

1997-present **Wirfs-Brock Associates**

President and founder of a company specializing in the transfer of object expertise and design skills to teams and companies. Consulting projects include architecting an Operations Support Systems integration framework for a telco company; advising management, architects and lead designers of telephone switch control software; advising a large financial company on how to support flexibility and variation in their software system; technical oversight of a government application tracking youth offenders in the state of Oregon; architecture tradeoff analysis training and consulting for a state agency; agile feature-level use cases for a cell phone company; review of a product line architecture and design for the next generation of a market-leading web application; architecture review of integrated enterprise applications; development of custom training and requirements workshops for several industries. Developed and delivered enterprise application design, agile architecture, object design, UML, use case, and design-focused courses to industrial clients.

1991-1997 **Instantiations/Digitalk/Parcplace-Digitalk**

Chief Technologist for the professional services organization of a Smalltalk language vendor. Grew organization from 4 to 60 people and through two mergers. Created a set of "best practices", developed strategic application frameworks, and was technical lead for key consulting engagements at Fortune 1000 companies. Developed training curriculum and courses that successfully introduced thousands of students to object design and programming. Maintained a high external profile by writing columns, speaking at numerous conferences and tradeshow, and OOPSLA conference leadership. Advised senior management on strategic issues and business opportunities.

1976-1991 **Tektronix**

Principal Engineer, Portable Oscilloscopes Division

Object technologist for a team developing the TDS family of oscilloscopes using embedded Smalltalk.

Principal Engineer, Graphics Workstations Division

Software Architect for a 3-D Visualization Workstation.

Principal Engineer, Tek Labs, Software Productivity Technologies Group

Program Manager Reusable Components. Led the development of the Color Smalltalk product.

Principal Engineer, AI Machines

Software Development Manager for the 440x AI workstation family.

Senior Engineer, Information Display Division.

Software Project Leader for the 410x family of low cost raster graphics terminals.

Senior Engineer, Graphics Computing Systems
Software Project Leader for the 4909 file server.
Software Engineer, Microprocessor Development Products
Designed and implemented a universal linking loader.
Software Evaluation Engineer, Information Display Products

EDUCATION

B.A., Computer Science and Psychology, University of Oregon (Phi Beta Kappa)
Graduate work in Computer Science, Oregon State University

PATENTS AND PUBLICATIONS

Patent

U.S. Patent #4,635,049 Apparatus for Presenting Image Information for Display Graphically, Warren Dodge and Rebecca Wirfs-Brock

Books

Object Design: Roles, Responsibilities, and Collaborations, Rebecca J Wirfs-Brock and Alan McKean, Addison-Wesley, 2003

“Designing Objects and their Interactions: A Brief Look at Responsibility-Driven Design” chapter in *Scenario-Based Design: Envisioning the Work and Technology in System Development*, John Carroll, Ed., John Wiley & Sons, 1995

Designing Object-Oriented Software, Rebecca J Wirfs-Brock, Brian Wilkerson, and Lauren Wiener, Prentice Hall, 1990

Selected Articles

Rebecca Wirfs-Brock, “The Responsible Designer” in volume 26, number 6 of IEEE Software

Rebecca Wirfs-Brock, “Design for Test” in volume 26, number 5 of IEEE Software

Rebecca Wirfs-Brock, “Principles in Practice” in volume 26, number 4 of IEEE Software

Rebecca Wirfs-Brock, “Creating Sustainable Designs” in volume 26, number 3 of IEEE Software

Rebecca Wirfs-Brock, “Designing with an Agile Attitude” in volume 26, number 2 of IEEE Software

Rebecca Wirfs-Brock, “Designing in the Future” in volume 26, number 1 of IEEE Software

Rebecca Wirfs-Brock, “Designing Then And Now” in volume 25, number 6 of IEEE Software

Rebecca Wirfs-Brock, “Enabling Change” in volume 25, number 5 of IEEE Software

Rebecca Wirfs-Brock, “Up-front Design” in volume 25, number 4 of IEEE Software

Rebecca Wirfs-Brock, “Design Strategy” in volume 25, number 3 of IEEE Software

Rebecca Wirfs-Brock, “Connecting Design with Code” in volume 25, number 2 of IEEE Software

Rebecca Wirfs-Brock, “Valuing Design Repair” in volume 25, number 1 of IEEE Software

Rebecca Wirfs-Brock, “Does Beautiful Code Imply Beautiful Design?” in volume 24, number 6 of IEEE Software

Rebecca Wirfs-Brock, “Designing Extensible Classes” in volume 24, number 5 of IEEE Software

Rebecca Wirfs-Brock, “Giving Design Advice” in volume 24, number 4 of IEEE Software

Rebecca Wirfs-Brock, “Handling Design Criticism” in volume 24, number 3 of IEEE Software

Rebecca Wirfs-Brock, “Toward Design Simplicity” in volume 24, number 2 of IEEE Software

Rebecca Wirfs-Brock, “Driven to...Discovering Your Design Values” in volume 24, number 1 of IEEE Software

Rebecca Wirfs-Brock, “Explaining Your Design” in volume 23, number 6 of IEEE Software

Rebecca Wirfs-Brock, “Toward Exception Handling Best Practices and Patterns” in volume 23, number 5 of IEEE Software

Rebecca Wirfs-Brock, “Designing For Recovery” in volume 23, number 4 of IEEE Software

Rebecca Wirfs-Brock, “Refreshing Patterns” in volume 23, number 3 of IEEE Software

Rebecca Wirfs-Brock, “Characterizing Classes” in volume 23, number 2 of IEEE Software

Rebecca Wirfs-Brock, “Looking for Powerful Abstractions” in volume 23, number 1 of IEEE Software

Rebecca Wirfs-Brock, “Adding to Your Conceptual Toolkit: What’s Important About Responsibility-Driven Design” in the Report on Object Analysis and Design, volume 1, number 2

Rebecca Wirfs-Brock, “Designing Scenarios: Making the Case for a Use Case Framework”, The Smalltalk Report, volume 4, number 3

Rebecca Wirfs-Brock, “The Art of Designing Meaningful Conversations”, The Smalltalk Report, volume 4, number 5
Rebecca Wirfs-Brock, “Characterizing Your Objects” in the Smalltalk Report, volume 2, number 5
Rebecca Wirfs-Brock, “Characterizing Your Application’s Control Style” in the Report on Object Analysis and Design, volume 1, number 3
Rebecca Wirfs-Brock, “How Designs Differ” in the Report on Object Analysis and Design, volume 1, number 4

Refereed Papers and Publications

Rebecca Wirfs-Brock and Joseph W. Yoder, “Patterns for Sustaining Architectures”, presented at PLoP 2012.
Eli Acherkan, Atzmon Hen-Tov, David H. Lorenz, Lior Schachter, Rebecca Wirfs-Brock, Joseph W. Yoder, “Dynamic Hook Points”, presented at Asia PLoP 2011
Atzmon Hen-Tov, David H. Lorenz, Lena Nikolaev, Lior Schachter, Rebecca Wirfs-Brock, Joseph W. Yoder, “Adaptive Object-Model Metadata Evolver”, presented at PLoP 2010
Atzmon Hen-Tov, Lena Nikolaev, Lior Schachter, Rebecca Wirfs-Brock and Joseph W. Yoder, “Adaptive Object-Model Evolution Patterns”, presented at SugarLoaf PLoP 2010
León Welicki, Joseph Yoder and Rebecca Wirfs-Brock, “Adaptive Object-Model Builder”, presented at PLoP 2009
León Welicki, Joseph Yoder and Rebecca Wirfs-Brock, “The Dynamic Factory Pattern”, presented at PLoP 2008
León Welicki, Joseph Yoder, Rebecca Wirfs-Brock, and Ralph Johnson, “Towards a Pattern Language for Adaptive Object-Models”, Companion of the ACM SIGPLAN Conference on Object Oriented Programming, Systems, Languages and Applications, OOPSLA 2007
Rebecca Wirfs-Brock, James Noble and Paul Taylor, “Problem Frame Patterns: An Exploration of Patterns in the Problem Space”, presented at PLoP 2006
Ralph Johnson and Rebecca Wirfs-Brock, “Surveying Current Research in Object-Oriented Design”, p. 104-124, Communications of the ACM, volume 33, issue 9 (1990)
Rebecca Wirfs-Brock, “An Integrated Color Smalltalk-80 System”, p. 71-82, OOPSLA ’88 Conference Proceedings
Rebecca Wirfs-Brock and Brian Wilkerson, “Object-Oriented Design: A Responsibility-Driven Approach”, p. 71-75, OOPSLA ’89 Conference Proceedings
Joaquin Miller and Rebecca Wirfs-Brock, “How Can a Subsystem Be Both a Package and a Classifier?” in the UML 1999 Conference Proceedings
Rebecca Wirfs-Brock, “What it Really Takes to Handle Exceptions in Use Cases” p. 341-370 in forUse 2002 Conference Proceedings

PROFESSIONAL ACTIVITIES

Invited speaker, panel member, tutorial presenter, and workshop organizer at numerous conferences and users groups. Recent talks include: “Why We Need Architects (and Architecture) on Large Scale Agile Projects” and “Agile Quality Scenarios: How to Be Nimble and Precise” at Agile 2013, “Maintaining Your Code Clint Eastwood Style” at ITAKE 2013, “Managing Project Risk and Incremental Design Innovation” at IEEE Software Experts Summit 2011; “Why we Need Architects (and Architecture) on Agile Projects” at Agile Portugal 2011 and YOW! 2011; “Agile Development: Does it Have to Be All In or Fold?” keynote at Agile Portugal 2011, a company’s internal agile conference 2010 and CBSoft 2010; “Nature of Order: Inspiration or Esoteric Distraction?” keynote at SugarLoaf PLoP 2010 and PLoP 2010; “When should you consider meta-architectures?” at QCon 2010; and “Rulemakers and Toolmakers: Adaptive Object Models as Agile Division of Labor” tutorial at QCon 2010 and SPLASH 2010; “Skills for Agile Designers” tutorial at SPLASH 2010; “Understanding Design Complexity” at Agile 2010; “Writing Effective Agile Use Cases” at Agile Software 2010, “Lessons Learned from Architecture Reviews” keynote presented at SATURN 2009 and Øredev 2009; “What Drives Design?” keynote at OOPSLA 2008 and Øredev 2009.

Hillside Group (patterns community non profit) Board Member 2010- and Treasurer, 2011-
Agile Insights (Experience Reports) Stage Co-Producer for Agile 2011, Agile 2012, Agile 2013
IEEE Invited Speaker and agile architecture track chair at SATURN 2011
IEEE Software Design Columnist, 2006-2009
IEEE Software Advisory Board Member, 2010-
Co-conference chair, SugarLoaf Patterns Conference, SugarLoaf 2010
Conference chair, Patterns Languages of Programming Conference 2009, PLoP 2009
SD Best Practices and SD West Advisory Board Member, 2003-2009
Agile Alliance Board Member, 2003-2006

Experience Report Chair, Agile 2005; Experience Report Committee Member Agile 2004, 2006, 2007, 2009;
User Experience Stage Reviewer Agile 2008
Software Development Best Practices Conference Advisor, 2004-2009
Co-convenor and co-founder of the Agile Open Northwest Conference, 2007-2013. Board chair of the Agile Open Northwest non-profit, 2010-
Experience Report Chair, Agile Development Conference 2003
Adjunct Professor, Oregon Graduate Institute, 2002-2006. Taught CSE 504 Object Analysis and Design, Fall 2002
Member of the UML 2002 and UML 1999 Program Committees
Conference Chair of OOPSLA 95
Member of OOPSLA Executive Steering Committee, 1995-1997
Program Chair of OOPSLA 92
Practitioner Reports Chair, OOPSLA 2002 and OOPSLA 1993
Tutorial Presenter at OOPSLA 1990-2008
Invited speaker at the OOPSLA 2001 Educators' Symposium
Member of numerous OOPSLA Program, Practitioner, and Tutorial Committees
Member of OOPSLA 2008 Demo Committee
Member of OOPSLA 2006 Onward! Track Committee
Member of the ECOOP 92 Program Committee