

Rebecca Wirfs-Brock

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SUMMARY

Rebecca Wirfs-Brock is an internationally recognized leader in the development of object design methodologies. 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 is 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 2003.

Rebecca has written numerous articles, lectured and presented tutorials on object design, architecture, agile design practices, analysis, and management topics. Rebecca's methodology contributions are based upon thirty years of hands-on software development experience. Through her writing, teaching, consulting, and speaking she popularizes the use of informal techniques and thinking tools for architects, designers, and analysts. Most recently she has conducted architecture reviews of enterprise applications and product platforms, advised an engineering group on design and architecture for a large embedded application, been a major contributor to the design and architecture of a telecommunications framework, led the development of an online banking system, and mentored teams on use case writing, 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 and product line architectures; development of custom training and requirements workshops for several industries. Developed and delivered object design, architecture, UML, use case writing, 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

Refereed Papers and Publications

León Welicki, Joseph Yoder and Rebecca Wirfs-Brock, “The Dynamic Factory Pattern”, PLoP 2008

León Welicki, Joseph Yoder, Rebecca Wirfs-Brock, and Ralph Johnson, “Towards a Pattern Language for Adaptive Object-Models”, PLoP 2007, 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”, PLoP 2006

Rebecca Wirfs-Brock, “What it Really Takes to Handle Exceptions in Use Cases” in forUse 2002 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

Ralph Johnson and Rebecca Wirfs-Brock, “Surveying Current Research in Object-Oriented Design”, Communications of the ACM, volume 33, issue 9 (1990)

Rebecca Wirfs-Brock and Brian Wilkerson, “Object-Oriented Design: A Responsibility-Driven Approach”, OOPSLA '89 Conference Proceedings

Rebecca Wirfs-Brock, “An Integrated Color Smalltalk-80 System”, p. 71-82, OOPSLA '88 Conference Proceedings

Selected Articles

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

PROFESSIONAL ACTIVITIES

Invited speaker, panel member, tutorial presenter, and workshop organizer at numerous conferences and users groups. Recent talks include "Lessons Learned from Architecture Reviews" keynote presented at SATURN 2009, "What Drives Design?" keynote presented at OOPSLA 2008, "Giving and Taking Design Criticism" and "Hands-On Responsibility-Driven Design" presented at Better Software 2008, "Skills for the Agile Designer" presented at Agile 2008, OOPSLA 2008, Architecture and Design World 2008; "The Art of Telling Your Design Story" presented at OOPSLA 2008, JA00 2008 Sydney and Brisbane, and Architecture and Design World 2008
IEEE Software Design Columnist, 2006-2009
Conference chair, Patterns Languages of Programming Conference 2009, PLoP 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-convener and co-founder of the Agile Open Northwest Conference, 2007-2009
Experience Report Chair, Agile Development Conference 2003
Adjunct Professor, Oregon Graduate Institute, 2002-2006. Taught CSE 504 Object-oriented 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 Practitioner and Demo Committees
Member of OOPSLA 2006 Onward! Track Committee
Member of the ECOOP 92 Program Committee