Software Engineering

All links to books and periodicals in proprietary digital libraries are “local” – each link will work without login on any campus with legitimate access to those libraries.

For a more comfortable library visit, use Google Chrome and, while you are scrolling through the titles, always right-click on the selected item’s link to “Open link in new tab” – after you close the new tab, your cursor will be where you right-clicked.

This section of the library was updated on 10 July 2015.

For more information, right-click on:
http://competitive-learning.org/Notes.pdf

This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivs 3.0 Unported License (available at: http://creativecommons.org/licenses/by-nc-nd/3.0/). This work is free for personal and classroom use as is; you may not use this work for commercial purposes.

Professor Joseph Vaisman
Department of Computer Science and Engineering, NYU-Poly
jv@competitive-learning.org
<table>
<thead>
<tr>
<th>Table of Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Software Development</td>
</tr>
<tr>
<td>Mathematics for Software Engineers</td>
</tr>
<tr>
<td>Software Engineering</td>
</tr>
<tr>
<td>Software Modeling and UML</td>
</tr>
<tr>
<td>Model-Driven Engineering</td>
</tr>
<tr>
<td>Software Architecture</td>
</tr>
<tr>
<td>Requirements Engineering</td>
</tr>
<tr>
<td>The Agile Manifesto and Its Signers</td>
</tr>
<tr>
<td>Agile Methods</td>
</tr>
<tr>
<td>Object-Oriented Engineering</td>
</tr>
<tr>
<td>Managing Software Development</td>
</tr>
<tr>
<td>Quality Management and Quality Assurance</td>
</tr>
<tr>
<td>Software Configuration Management</td>
</tr>
<tr>
<td>Testing and Debugging</td>
</tr>
<tr>
<td>Software Evolution and Maintenance</td>
</tr>
<tr>
<td>User Interfaces and Human Factors</td>
</tr>
<tr>
<td>Ideas, Opinions, and Surveys</td>
</tr>
<tr>
<td>Online Publications – Directly</td>
</tr>
<tr>
<td>Odds &amp; Ends</td>
</tr>
</tbody>
</table>
Introduction to Software Development

Also see:
the Introduction to Programming shelf in the Programming, ... section.

How to be a Programmer:
A Short, Comprehensive, and Personal Summary
Robert R. Read, PhD
http://samizdat.mines.edu/howto/

Heedless programming:
ignoring detectable error is a widespread hazard
Harold Thimbleby
Software: Practice and Experience,
Volume 42, Number 11 (November 2012)
http://dx.doi.org/10.1002/spe.1141

The Pragmatic Programmer: From Journeyman to Master
Andrew Hunt and David Thomas

Code Complete, Second Edition
Steve McConnell
Beautiful Code: Leading Programmers Explain How They Think
Andy Oram and Greg Wilson

Making Things Happen
Scott Berkun

Foundations of Security: What Every Programmer Needs to Know
Neil Daswani, Christoph Kern, and Anita Kesavan
http://dx.doi.org/10.1007/978-1-4302-0377-3

The Seductive Computer: Why IT Systems Always Fail
Derek Partridge
http://dx.doi.org/10.1007/978-1-84996-498-2

Coders at Work: Reflections on the Craft of Programming
Peter Seibel
Mathematics for Software Engineers

Also see: the Mathematics in Computer Science shelf in the Computer Science section.

Mathematical Approaches to Software Quality
Gerard O’Regan
http://dx.doi.org/10.1007/1-84628-435-9

Predicate Logic for Software Engineering
David Lorge Parnas
IEEE Transactions on Software Engineering, Volume 19, Issue 9 (September 1993)
http://dx.doi.org/10.1109/32.241769

The Logic of Computer Programming
Zohar Manna and Richard Waldinger
http://dx.doi.org/10.1109/TSE.1978.231499

A Logical Basis for Component-Oriented Software and Systems Engineering
Manfred Broy
Categories for Software Engineering
Jose Fiadeiro
http://dx.doi.org/10.1007/b138249

Software Engineering

Software Engineering: A Methodical Approach
Elvis C. Foster
http://dx.doi.org/10.1007/978-1-4842-0847-2

Software Engineering: Architecture-Driven Software Development
Richard F. Schmidt

Software Engineering: A Hands-On Approach
Design Science Methodology: 
for Information Systems and Software Engineering 
Roel J. Wieringa 
http://dx.doi.org/10.1007/978-3-662-43839-8

Continuous Software Engineering 
Jan Bosch (Editor) 
http://dx.doi.org/10.1007/978-3-319-11283-1

Software Engineering: International Summer Schools ISSSE 2009-2011, Revised Tutorial Lectures 
Andrea De Lucia and Filomena Ferrucci (Editors) 
http://dx.doi.org/10.1007/978-3-642-36054-1

Software Engineering Frameworks for the Cloud Computing Paradigm 
Zaigham Mahmood and Saqib Saeed (Editors) 
http://dx.doi.org/10.1007/978-1-4471-5031-2

Engineering and Software Engineering 
Michael Jackson
http://dx.doi.org/10.1007/978-3-642-15187-3_6
The Future of Software Engineering
Sebastian Nanz (Editor)
http://dx.doi.org/10.1007/978-3-642-15187-3

Is Old-Established Software Engineering Paradigm Entirely Out of Date?
http://dx.doi.org/10.1007/978-1-4419-7326-9_2
New Software Engineering Paradigm Based on Complexity Science - An Introduction to NSE
Jay Xiong
http://dx.doi.org/10.1007/978-1-4419-7326-9

Situational Method Engineering
Brian Henderson-Sellers, Jolita Ralyte, Par J. Agerfalk, and Matti Rossi
http://dx.doi.org/10.1007/978-3-642-41467-1

Rigorous Software Development:
An Introduction to Program Verification
Jose Bacelar Almeida, Maria Joao Frade, Jorge Sousa Pinto, and Simao Melo de Sousa
http://dx.doi.org/10.1007/978-0-85729-018-2
**** Formal approach to software engineering ****

Software Engineering 1: Abstraction and Modeling
Dines Bjorner
http://dx.doi.org/10.1007/3-540-31288-9

Software Engineering 2: Specification of Systems and Languages
Dines Bjorner
http://dx.doi.org/10.1007/978-3-540-33193-3

Software Engineering 3: Domains, Requirements, and Software Design
Dines Bjorner
http://dx.doi.org/10.1007/3-540-33653-2

John Derrick and Eerke A. Boiten
http://dx.doi.org/10.1007/978-1-4471-5355-9

Handbook on Agent-Oriented Design Processes
Massimo Cossentino, Vincent Hilaire, Ambra Molesni,
and Valeria Seidita (Editors)
http://dx.doi.org/10.1007/978-3-642-39975-6

Agent-Oriented Software Engineering: Reflections on Architectures, Methodologies, Languages, and Frameworks
Onn Shehory and Arnon Sturm (Editors)
http://dx.doi.org/10.1007/978-3-642-54432-3

Agent-Oriented Software Engineering XIII:
13th International Workshop, AOSE 2012
Jorg P. Muller and Massimo Cossentino (Editors)
http://dx.doi.org/10.1007/978-3-642-39866-7

Effective Prototyping for Software Makers
Jonathan Arnowitz, Michael Arent, and Nevin Berger

The Mythical Man-Month:
Essays on Software Engineering
Frederick P. Brooks, Jr.
Addison-Wesley Publishing, 1975
https://archive.org/details/mythicalmanmonth00fred
No Silver Bullet – Essence and Accidents of Software Engineering
Frederick P. Brooks, Jr.
Computer, Volume 20, Issue 4 (April 1987)
http://dx.doi.org/10.1109/MC.1987.1663532

No Silver Bullet: A Retrospective on Essence and Accidents of Software Engineering
Dennis Mancl, Steven Fraser, and William Opdyke
ACM SIGPLAN conference on Object-oriented programming systems and applications, OOPSLA ‘07
http://dx.doi.org/10.1145/1297846.1297873

No Silver Bullet: Software Engineering Reloaded
Steven Fraser and Dennis Mancl
http://dx.doi.org/10.1109/MS.2008.14

The Inevitable Pain of Software Development: Why There Is No Silver Bullet
Daniel M. Berry
http://dx.doi.org/10.1007/978-3-540-24626-8_4

Radical Innovations of Software and Systems Engineering in the Future, RISSEF 2002
Martin Wirsing, Alexander Knapp, and Simonetta Balsamo (Editors)
http://dx.doi.org/10.1007/b96009
Issue Topic – CMMI: Getting a Handle on Process

Software Process Definition and Management
Jurgen Munch, Ove Armbrust, Martin Kowalczyk, and Martin Soto
http://dx.doi.org/10.1007/978-3-642-24291-5

Software Engineering – Processes and Tools (Chapter IV)
Gerhard Weiss et al
http://dx.doi.org/10.1007/978-3-642-02127-5_5
Hagenberg Research
Bruno Buchberger, et al. (Editors)
http://dx.doi.org/10.1007/978-3-642-02127-5

Software Engineering Principles: A Survey and an Analysis
Normand Seguin, Alain Abran, and Robert Dupuis
Proceedings of the Third C* Conference on Computer Science and Software Engineering, C3S2E ‘10
http://dx.doi.org/10.1145/1822327.1822335

Collaborative Software Engineering
Ivan Mistrik, John Grundy, Andre van der Hoek, and Jim Whitehead (Editors)
http://dx.doi.org/10.1007/978-3-642-10294-3

Value-Based Software Engineering
Stefan Biffl, Aybuke Aurum, Barry Bohm, Hakan Erdogmus, and Paul Grunbacher (Editors)
http://dx.doi.org/10.1007/3-540-29263-2

The Correctness-by-Construction Approach to Programming
Derrick G. Kourie and Bruce W. Watson
http://dx.doi.org/10.1007/978-3-642-27919-5

Path-Oriented Program Analysis
J. C. Huang
http://dx.doi.org/10.1017/CBO9780511546990

Managing Humans: Biting and Humorous Tales of a Software Engineering Manager
Michael Lopp
http://dx.doi.org/10.1007/978-1-4302-4315-1

How to Recruit and Hire Great Software Engineers: Building a Crack Development Team
Patrick McCuller
http://dx.doi.org/10.1007/978-1-4302-4918-4

Software Product Line Engineering –
Foundations, Principles, and Techniques
Klaus Pohl, Gunther Bockle, and Frank van der Linden
http://dx.doi.org/10.1007/3-540-28901-1

24 Deadly Sins of Software Security:
Programming Flaws and How to Fix Them
Michael Howard and David LeBlanc
http://www.accessengineeringlibrary.com/browse/24-deadly-sins-of-software-security-programming-flaws-and-how-to-fix-them

Refactoring for Software Design Smells: Managing Technical Debt
Girish Suryanarayna, ganesh Samarthym, and Tushar Sharma

Back to the Table of Contents

==================================
Software Modeling and UML

Also see:

*the Petri Nets* shelf in the *Computer Science* section.

**Applying UML: Advanced Application**
Rob Pooley and Pauline Wilcox

**Codecharts: Roadmaps and Blueprints for Object-Oriented Programs**
Amnon H. Eden
http://dx.doi.org/10.1002/9780470891032

**DropBox: the Dresden Open Software Toolbox**
Uwe Aßmann et al.
Software and Systems Modeling,
Volume 13, Number 1 (February 2014)
http://dx.doi.org/10.1007/s10270-012-0284-6

**The Elements of UML 2.0 Style**
Scott W. Ambler
http://dx.doi.org/10.1017/CBO97805111817533
Meaningful Modeling: What’s the Semantics of “Semantics”?  
David Harel and Bernhard Rumpe  
IEEE Computer, Volume 37, Number 10 (October 2004)  
http://dx.doi.org/10.1109/MC.2004.172

Modeling and Analysis of Real-Time and Embedded Systems with UML and MARTE: Developing Cyber-Physical Systems  
Bran Selic and Sebastien Gerard  

Modelling Systems:  
John Fitzgerald and Peter Gorm Larsen  
http://dx.doi.org/10.1017/CBO9780511626975

Object-Oriented Analysis and Design for Information Systems: Modeling with UML, OCL, and IFML  
Raul Sidnei Wazlawick  

The Object Primer:  
Agile Model-Driven Development with UML 2.0, Third Edition  
Scott W. Ambler  
http://dx.doi.org/10.1017/CBO9780511584077
Sanford Friedenthal, Alan Moore, and Rick Steiner

The role of modeling in achieving information systems success: UML to the rescue?
Tor J. Larsen, Fred Niederman, Moez Limayem & Joyce Chan
Information Systems Journal,
Volume 19, Number 1 (January 2009)
http://dx.doi.org/10.1111/j.1365-2575.2007.00272.x

Software Modeling and Design:
UML, Use Cases, Patterns, and Software Architectures
Hassan Gomaa
http://dx.doi.org/10.1017/CBO9780511779183

UML @ Classroom:
An Introduction to Object-Oriented Modeling
Martina Seidl, Marion Scholz, Christian Huemer, and Gerti Kappel
http://dx.doi.org/10.1007/978-3-319-12742-2

UML in Practice
Marian Petre
“No shit” or “Oh, shit!”: responses to observations on the use of UML in professional practice
Marian Petre
Software and Systems Modeling, Volume 13, Number 4 (October 2014)
http://dx.doi.org/10.1007/s10270-014-0430-4

UML Xtra-Light: How to Specify Your Software Requirements
Milan Kratochvil and Barry McGibbon
http://dx.doi.org/10.1017/CBO9780511547003

The Unified Modeling Language – <<UML>>’98: Beyond the Notation; First International Workshop
Jean Bezivin and Pierre-Alain Muller (Editors)
http://dx.doi.org/10.1007/b72309

Use Case Driven Object Modeling with UML: Theory and Practice
Doug Rosenberg and Matt Stephens
http://dx.doi.org/10.1007/978-1-4302-0369-8

Several articles on UML
Model-Driven Engineering

Meta-Programming and Model-Driven Meta-Program Development: Principles, Processes and Techniques
Vytautas Stuikys and Robertas Damasevicius
Springer, 2013, 978-1-4471-4126-6
http://dx.doi.org/10.1007/978-1-4471-4126-6

Model-Driven Engineering Languages and Systems: 17th International Conference, MODELS 2014
Juergen Dingel, Wolfram Schulte, Isidro Ramos, Silvia Abrahao,
And Emilio Insfran (Editors)
http://dx.doi.org/10.1007/978-3-319-11653-2

Model-Driven Software Engineering in Practice
Marco Brambilla, Jordi Cabot, and Manuel Wimmer
Model-Driven Software Migration: A Methodology – Reengineering, Recovery and Modernization of Legacy Systems
Christian Wagner
http://dx.doi.org/10.1007/978-3-658-05270-6

Models @run.time: Foundations, Applications, and Roadmaps
Nelly Bencomo, Robert France, Betty H.C. Cheng, and Uwe Abmann (Editors)
http://dx.doi.org/10.1007/978-3-319-08915-7

Process Design for Natural Scientists: An Agile Model-Driven Approach
Anna-Lena Lamprecht and Tiziana Margaria (Editors)
http://dx.doi.org/10.1007/978-3-662-45006-2

Real-Life MDA: Solving Business Problems with Model Driven Architecture
Michael Guttman and John Parodi

Semantic Web and Model-Driven Engineering
Fernando Silva Parreiras
Software Architecture

Agile Software Architecture: Aligning Agile Processes and Software Architectures
Muhammad Ali Babar, Alan W. Brown, and Ivan Mistrik (Editors)

Software Architecture:
A Comprehensive Framework and Guide for Practitioners
Oliver Vogel, Ingo Arnold, Arif Chughtai, and Timo Kehrer
http://dx.doi.org/10.1007/978-3-642-19736-9

Essential Software Architecture, Second Edition
Ian Gorton
http://dx.doi.org/10.1007/978-3-642-19176-3
Economics-Driven Software Architecture
Ivan Mistrik, Rami Bahsoon, Rick Kazman, and Yuanyuan Zhang (Editors)

Software Architecture 1
Mourad Chabane Oussalah (Editor)
http://dx.doi.org/10.1002/9781118930960

Software Architecture 2
Mourad Chabane Oussalah (Editor)
http://dx.doi.org/10.1002/9781118945087

Decision-Making Techniques in Software Architecture Design: A Comparative Study
Davide Falessi, Giovanni Cantone, Rick Kazman, and Philippe Kruchten
ACM Computing Surveys, Volume 43, Issue 4 (October 2011)
http://dx.doi.org/10.1145/1978802.1978812

Data Architecture: From Zen to Reality
Charles D. Tupper

Pervasive Information Architecture:
Designing Cross-Channel User Experience
Andrea Resmini and Luca Rosati

Three Schools of Thought on Enterprise Architecture
James Lapalme
IT Professional,
Volume 14, Number 6 (November-December 2012)
http://dx.doi.org/10.1109/mitp.2011.109

Enterprise Software Architecture and Design:
Entities, Services, and Resources
Dominic Duggan
http://dx.doi.org/10.1002/9781118180518

Enterprise Architecture at Work:
Modelling, Communication and Analysis, Third Edition
Marc Lankhorst et al.
http://dx.doi.org/10.1007/978-3-642-29651-2

Collaborative Enterprise Architecture:
Enriching EA with Lean, Agile, and Enterprise 2.0 Practices
Stefan Bente, Dr. Uwe Bombsch, and Shailendra Langade
Platform Ecosystems: Aligning Architecture, Governance, and Strategy
Amrit Tiwana

Relating System Quality and Software Architecture
Ivan Mistrik, Rami Bahsoon, Peter Eeles, Roshanak Roshandel, and Michael Stal

Patterns, Programming and Everything
Karin K. Breitman and R. Nigel Horspool (Editors)
http://dx.doi.org/10.1007/978-1-4471-2350-7

Back to the Table of Contents
=======================================

Requirements Engineering

System Requirements Analysis, Second Edition
Jeffrey O. Grady
Requirements Engineering and Management for Software Development Projects
Murali Chemuturi
http://dx.doi.org/10.1007/978-1-4614-5377-2

Software & Systems Requirements Engineering: In Practice
Brian Berenbach
http://www.accessengineeringlibrary.com/browse/software-and-systems-requirements-engineering-in-practice

Requirements Engineering for Digital Health
Samuel A. Fricker, Christoph Thummler, and Anastasius Gavras (Editors)
http://dx.doi.org/10.1007/978-3-319-09798-5

Tom Gilb

Four Dark Corners of Requirements Engineering
Pamela Zave and Michael Jackson
ACM Transactions on Software Engineering and Methodology,
Requirements Engineering: Foundation for Software Quality
20th International Working Conference, REFSQ 2014
Camille Salinesi and Inge van de Weerd (Editors)
http://dx.doi.org/10.1007/978-3-319-05843-6

A Study of Emotions in Requirements Engineering
Ricardo Colomo-Palacios, Adrian Hernandez-Lopez,
Angel Garcia-Crespo, and Pedro Soto-Acosta
http://dx.doi.org/10.1007/978-3-642-16324-1_1

Organizational, Business, and Technological Aspects of the Knowledge Society: Third World Summit on the Knowledge Society WSKS 2010, Proceedings, Part II
Miltiadis D. Lytras, et al. (Editors)
http://dx.doi.org/10.1007/978-3-642-16324-1

Non-Functional Requirements in Software Engineering
Lawrence Chung, Brian A. Nixon, Eric Yu, and John Mylopoulos
http://dx.doi.org/10.1007/978-1-4615-5269-7

Managing Agile Project Requirements with Storytest-Driven Development
Rick Mugridge
IEEE Software, Volume 25, Number 1 (January-February 2008)
Capturing Security Requirements Using Essential Use Cases (EUCs)
Syazwani Yahya, Massila Kamalrudin, Safiah Sidek, and John Grundy
http://dx.doi.org/10.1007/978-3-662-43610-3_2

Requirements Engineering:
First Asia Pacific Requirements Engineering Engineering Symposium, APRES 2014
Didar Zowghi and Zhi Jin (Editors)
http://dx.doi.org/10.1007/978-3-662-43610-3

The Agile Manifesto and Its Signers

The Agile Manifesto (2001)
http://www.agilemanifesto.org/

The New Methodology
http://www.martinfowler.com/articles/newMethodology.html

Is Design Dead?
http://martinfowler.com/articles/designDead.html
Agile Methods

----------------------------------------

**Agile! – The Good, the Hype and the Ugly**
Bertrand Meyer
http://dx.doi.org/10.1007/978-3-319-05155-0

**An Introduction to Agile Methods**
David Cohen, Mikael Lindvall, and Patricia Costa
http://dx.doi.org/10.1016//S0065-2458(03)62001-2

**Agile Software Development Methodologies and Practices**
Laurie Williams
Advances in Computers, Volume 80 (2010)
http://dx.doi.org/10.1016//S0065-2458(10)80001-4

**Agile Systems Engineering (Chapter 4)**
Managing Agile:
Strategy, Implementation, Organisation and People
Alan Moran
Springer, 2015, ISBN 978-3-319-16262-1
http://dx.doi.org/10.1007/978-3-319-16262-1

Systems Engineering Agile Design Methodologies
James A. Crowder and Shelli Friess
http://dx.doi.org/10.1007/978-1-4614-6663-5

Agile Software Architecture:
Aligning Agile Processes and Software Architectures
Muhammad Ali Babar, Alan W. Brown, and Ivan Mistrik (Editors)
People-Centered Software Development: An Overview of Agile Methodologies
Frank Maurer and Theodore D. Hellman
http://dx.doi.org/10.1007/978-3-642-36054-1_7

Software Engineering: International Summer Schools, ISSSE 2009-2011
Andrea De Lucia and Filomena Ferrucci (Editors)
http://dx.doi.org/10.1007/978-3-642-36054-1

Being Agile: Your Roadmap to Successful Adoption of Agile
Mario E. Moreira
http://dx.doi.org/10.1007/978-1-4302-5840-7

Agile Project Management: Managing for Success
James A. Crowder and Shelli Friess
Springer, 2015, ISBN 978-3-319-09018-4
http://dx.doi.org/10.1007/978-3-319-09018-4

The Scrum Culture: Introducing Agile Methods in Organizations
Dominik Maximini
Springer, 2015, ISBN 978-3-319-11827-7
http://dx.doi.org/10.1007/978-3-319-11827-7

Agile Contracts: Creating and Managing Successful Projects with Scrum
Andreas Opelt, Boris Gloger, Wolfgang Pfari, and Ralf Mittermayr
http://dx.doi.org/10.1002/9781118640067

Agile Risk Management
Alan Moran
http://dx.doi.org/10.1007/978-3-319-05008-9

Love and Marriage: CMMI and Agile Need Each Other
Hillel Glazer

Issue Topic – CMMI: Getting a Handle on Process

Supporting agile software development through active documentation
Eran Rubin and Hillel Rubin
Requirements Engineering, Volume 16, Number 2 (June 2011)
http://dx.doi.org/10.1007/s00766-010-0113-9

“Leagile” software development:
An experience report analysis of the application of lean approaches in agile software development
Xiaofeng Wang, Kieran Conboy, and Oisin Cawley
The Journal of Systems and Software,
Volume 85, Number 6 (June 2012)
http://dx.doi.org/10.1016/j.jss.2012.01.061

Agile Software Development:
Current Research and Future Directions
Torgeir Dingsoyr, Tore Dyba, and Nils Brede Moe (Editors)
http://dx.doi.org/10.1007/978-3-642-12575-1

Agile Software Development:
Best Practices for Large Development Projects
Thomas Strober and Uwe Hansmann
http://dx.doi.org/10.1007/978-3-540-70832-2

Agile Software Construction
John Hunt
http://dx.doi.org/10.1007/1-84628-262-4

Agility Across Time and Space:
Implementing Agile Methods in Global Software Projects
Darja Smite, Nils Brede Moe and Par J. Agerfalk (Editors)
http://dx.doi.org/10.1007/978-3-642-12442-6
Process fusion: An industrial case study on agile software product line engineering
Geir K. Hansssen and Tor E. Faegri
The Journal of Systems and Software, Volume 81, Number 6 (June 2008) Pages 843-854
http://dx.doi.org/10.1016/j.jss.2007.10.025

Agile Alliance Digital Library – Articles
http://www.agilealliance.org/resources/articles/
Agile Alliance
http://www.agilealliance.org/

Back to the Table of Contents

Object-Oriented Engineering

Software Essentials: Design and Construction
Adair Dingle
http://www.crcnetbase.com/isbn/978-1-4398-4120-4

A Student Guide to Object-Oriented Development
Carol Britton and Jill Doake

Object-Oriented Construction Handbook: Developing Application-Oriented Software with the Tools & Materials Approach
Heinz Zullighoven

Object-Oriented Analysis and Design for Information Systems: Modeling with UML, OCL, and IFML
Raul Sidnei Wazlawick

When intuition and logic clash: The case of the object-oriented paradigm
Irit Hadar
Science of Computer Programming, Volume 78, Number 9 (September 2013)
http://dx.doi.org/10.1016/j.scico.2012.10.006

Validated Designs for Object-oriented Systems
John Fitzgerald, Peter Gorm Larsen, Paul Mukherjee, Nico Plat, and Marcel Verhoev
http://dx.doi.org/10.1007/b138800
Kent Beck’s Guide to Better Smalltalk: A Sorted Collection
Kent Beck
http://dx.doi.org/10.1017/CBO9780511574979

Object-Process Methodology: A Holistic Systems Paradigm
Dov Dori
http://dx.doi.org/10.1007/978-3-642-56209-9

Back to the Table of Contents

Managing Software Development

Managing Software Deliverables:
A software development Management Methodology
John W. Rittinghouse

A Tale of Two Transformations:
Bringing Lean and Agile Software Development to Life
Michael K. Levine
http://www.crcnetbase.com/isbn/978-1-4398-7975-7
Quality Management and Quality Assurance

Also see:
the Quality Management shelf in the Business section.

Systems and Software Quality: The next step for industrialization
Martin Wieczorek, Diederik Vos, and Heinz Bons
http://dx.doi.org/10.1007/978-3-642-39971-8

Introduction to Software Quality
Gerard O’Regan
http://dx.doi.org/10.1007/978-3-319-06106-1

A Practical Approach to Software Quality
Gerard O’Regan
http://dx.doi.org/10.1007/978-0-387-22454-1

Software Quality Engineering: A Practitioner’s Approach
Witold Suryn
http://dx.doi.org/10.1002/9781118830208

Software Quality Engineering: The Leverage for Gaining Maturity
Witold Suryn
http://dx.doi.org/10.1007/978-1-84628-941-5_2

Maturing Usability: Quality in Software, Interaction and Value
Effie Lai-Chong Law, Ebba Thora Hvannberg, and Gilbert Cockton (Editors)
http://dx.doi.org/10.1007/978-1-84628-941-5

Software Metrics: A Rigorous and Practical Approach, Third Edition
Norman Fenton and James Bieman
http://dx.doi.org/10.1201/b17461

Software Reliability Engineering: A Roadmap
Michael R. Liu
Proceeding of 2007 Future of Software Engineering Conference, FOSE ’07
http://dx.doi.org/10.1109/FOSE.2007.24

System Software Reliability
Hoang Pham
http://dx.doi.org/10.1007/1-84628-295-0

Design for Reliability
Dev Raheja and Louis J. Gullo (Editors)
Conquering Complexity
Mike Hinchey and Lorcan Coyle (Editors)
http://dx.doi.org/10.1007/978-1-4471-2297-5

What can software engineers learn from manufacturing to improve software process and product?
Norman Schneidewind
Journal of Intelligent Manufacturing,
Volume 22, Number 4 (August 2011) Pages 597-606
http://dx.doi.org/10.1007/s10845-009-0322-6

Software Project Effort Estimation:
Foundations and Best Practice Guidelines for Success
Adam Trendowicz and Ross Jeffrey
http://dx.doi.org/10.1007/978-3-319-03629-8

Software Cost Estimation, Benchmarking, and Risk Assessment:
The Software Decision-Makers’ Guide to Predictable Software Development
Adam Trendowicz
http://dx.doi.org/10.1007/978-3-642-30764-5

Practitioner’s Knowledge Representation:
A Pathway to Improve Software Effort Estimation
Emilia Mendes
http://dx.doi.org/10.1007/978-3-642-54157-5
Software Engineering Best Practices: Lessons from Successful Projects in the Top Companies
Capers Jones

Information Quality Management Capability Maturity Model
Sasa Baskarada
http://dx.doi.org/10.1007/978-3-8348-9634-6

Stefan Biffl and Johannes Bergsmann (Editors)
http://dx.doi.org/10.1007/978-3-642-27213-4

Software Product Quality Control
Stefan Wagner
http://dx.doi.org/10.1007/978-3-642-38571-1

Introduction to Engineering Statistics and Lean Sigma: Statistical Quality Control and Design of Experiments and Systems, Second Edition
Theodore T. Allen
http://dx.doi.org/10.1007/978-1-84996-000-7

Quality Control Applications
Dimitris N. Chorafas  
http://dx.doi.org/10.1007/978-1-4471-2966-0

**Practical Software Project Estimation: A Toolkit for Estimating Software Development Effort & Duration**  
Peter R. Hill  

**Applied Software Measurement, Third Edition**  
Capers Jones  
http://www.accessengineeringlibrary.com/browse/applied-software-measurement

Capers Jones  

**Systems Engineering: Building Successful Systems**  
Howard Eisner  
http://dx.doi.org/10.2200/S00349ED1V01Y201104ENG014

**Techniques and Tools for Designing an Online Social Network Platform**  
Panagiotis Karampelas
Exploring Complexity in Software Systems
Bart-Floris Visscher
PhD Thesis (June 2005)
Department of Computer Science and Software Engineering, University of Portsmouth, United Kingdom
http://www.clarity-support.co.uk/research/papers

The Project Management Paradigm
Ken Burnett
http://dx.doi.org/10.1007/978-1-4471-0617-3

Aligning Business Processes and Information Systems: New Approaches to Continuous Quality Engineering
Robert Heinrich
http://dx.doi.org/10.1007/978-3-658-06518-8

Aligning Organizations Through Measurement: The GQM+ Strategies Approach
Victor Basili, Adam trendowicz, Martin Kowalczyk, Jens Heidrich, Carolyn Seaman, Jurgen Munch, and Dieter Rombach
http://dx.doi.org/10.1007/978-3-319-05047-8

Relating System Quality and Software Architecture
Ivan Mistrik, Rami Bahsoon, Peter Eeles, Roshanak Roshandel, and Michael Stal
Software Configuration Management

Software Configuration Management Overview
Walter Tichy
http://www.ida.liu.se/~petfr/princprog/cm.pdf

Configuration Management for Senior Managers:
Essential Product Configuration and Lifecycle Management for Manufacturing
Frank B. Watts

Foundation Version Control for Web Developers
Chris Kemper and Ian Oxley
http://dx.doi.org/10.1007/978-1-4302-3973-4

Long Build Trouble Shooting Guide
Jonathan Rasmusson
Extreme Programming and Agile Methods: XP/Agile Universe 2004
Carmen Zannier, Hakan Erdogmus, and Lowell Lindstrom (Editors)

Spectrum of Functionality in Configuration Management Systems
Software Engineering Institute, Carnegie Mellon
Susan A. Dart
http://www.sei.cmu.edu/library/abstracts/reports/90tr011.cfm

Concepts in Configuration Management Systems
3rd International Workshop on Software Configuration Management, SCM ‘91
Susan Dart
http://dl.acm.org/citation.cfm?id=111062

Configuration Management with Version Sets: A Unified Software Versioning Model and Its Applications
Andreas Zeller
PhD Thesis (April 1997)
Configuration Management for Distributed Development in an Integrated Environment
Ulf Asklund
Department of Computer Science, Lund University

Software Configuration Management Using Vesta
Allan Heydon, Roy Levin, Timothy Mann, and Yuan Yu
http://dx.doi.org/10.1007/978-0-387-30852-4

Home Page of the Vesta Configuration Management System
http://www.vestasys.org/

Configuration Management Metrics
Frank B. Watts

CM Crossroads http://www.cmcrossroads.com/
Resources Directory http://www.cmcrossroads.com/cm-resources/

The Configuration Management Wiki-Web
http://www.cmcrossroads.com/cgi-bin/cmwiki/view/CM/WebHome

Software Configuration Management – a collection of definitions
Testing and Debugging

What Is Software Testing? And Why Is It So Hard?
James A. Whittaker
IEEE Software, Volume 17, Number 1 (January/February 2000)
http://dx.doi.org/10.1109/52.819971

Practical Software Testing: A Process-Oriented Approach
Ilene Burnstein
http://dx.doi.org/10.1007/b97392

Paul C. Jorgensen
Introducing Test Automation and Test-Driven Development: An Experience Report
Lars-Ola Damm, Lars Lundberg, and David Olsson
http://dx.doi.org/10.1016/j.entcs.2004.02.090

Software Test Automation:
An algorithm for solving system management automation problems
Abdul Rauf EM and E.Madhusudhana Reddy
Procedia Computer Science, Volume 46 (2015)
http://dx.doi.org/10.1016/j.procs.2015.01.004

n-Tiered Test Automation Architecture for Agile Software Systems
Patrick Day
Procedia Computer Science, Volume 28 (2014)
http://dx.doi.org/10.1016/j.procs.2014.03.041

Testing - free articles and open-source tools
James Bach
http://www.satisfice.com/articles.shtml
http://www.satisfice.com/tools.shtml
Satisfice, Inc.
http://www.satisfice.com/
Debugging by Thinking: A Multidisciplinary Approach  
Robert Charles Metzger  

Andreas Zeller  

Bill Blunden  
http://dx.doi.org/10.1007/978-1-4302-5108-8

Software Test Attacks to Break Mobile and Embedded Devices  
Jon Duncan Hagar  
http://www.crcnetbase.com/isbn/978-1-4665-7530-1

Unit Testing in Java: How Tests Drive the Code  
Johannes Link  

Improving Software Testing:
Technical and Organizational Developments
Tim A. Majchrzak
http://dx.doi.org/10.1007/978-3-642-27464-0

Software Testing in the Cloud: Migration and Execution
Scott Tilley and Tauhida Parveen
http://dx.doi.org/10.1007/978-3-642-32122-1

Software Testing
Yogesh Singh
http://dx.doi.org/10.1017/CBO9781139196185

Finding Bugs is Easy
David Hovemeyer and William Pugh
ACM SIGPLAN Notices,
Volume 39, Number 12 (December 2004)
http://dx.doi.org/10.1145/1052883.1052895

What Is a Test Case?
Revisiting the Software Test Case Concept
Dani Almog and Tsipi Heart
http://dx.doi.org/10.1007/978-3-642-04133-4_2
Software Process Improvement, 16th European Conference,
EuroSPI 2009
Rory V. O’Connor et al. (Editors)
TestGoal: Result-Driven Testing
Derek-Jan de Grood
http://dx.doi.org/10.1007/978-3-540-78829-4

Acceptance Testing vs. Unit Testing: A Developers Perspective
R. Owen Rogers
http://dx.doi.org/10.1007/978-3-540-27777-4_3

Extreme Programming and Agile Methods: XP/Agile Universe 2004
Carmen Zannier, Hakan Erdogmus, and Lowell Lindstrom (Editors)
http://dx.doi.org/10.1007/b99820

Advances in COMPUTERS, Volume 89
Atif Memon (Editor)

Advances in COMPUTERS, Volume 86
Ali Hurson and Atif Memon (Editors)
Complexity Theory: A New Paradigm for Software Integration
George F. Hurlburt
IT Professional, Volume 15, Number 3 (May-June 2013)
http://dx.doi.org/10.1109/mitp.2012.87

Exploring the Boundaries of Software Test Automation
(special issue)
Software Quality Journal,
Volume 19, Number 4 (December 2011)
http://link.springer.com/journal/11219/19/4/

State of the art:
Dynamic symbolic execution for automated test generation
Ting Chen, Xiao-song Zhang, Shi-ze Guo, Hong-yuan Li, and Yue Wu
Future Generation Computer Systems,
Volume 29, Number 7 (September 2013) Pages 1758-1773
http://dx.doi.org/10.1016/j.future.2012.02.006

Towards Automated Software Testing:
Techniques, Classifications and Frameworks
Richard Torkar
http://www.bth.se/fou/forskinfo.nsf/0/f1a6d04995a3622cc125719c004d9714/$FILE/Torkar_diss.pdf
A Survey of Combinatorial Testing
Changhai Nie and Hareton Leung
ACM Computing Surveys, Volume 43, Number 2 (January 2011)
http://dx.doi.org/10.1145/1883612.1883618

Memory as a Programming Concept in C and C++
Frantisek Franek
http://dx.doi.org/10.1017/CBO9780511584046

John Watkins and Simon Mills
http://dx.doi.org/10.1017/CBO9780511997310

Agile Testing: How to Succeed in an Extreme Testing Environment
John Watkins
http://dx.doi.org/10.1017/CBO9780511596797

Design Driven Testing: Test Smarter, Not Harder
Matt Stephens and Doug Rosenberg
http://dx.doi.org/10.1007/978-1-4302-2944-5

Domain-Specific Model-Driven Testing
Stefan Baerisch
http://dx.doi.org/10.1007/978-3-8348-9624-7

Model-Driven Testing: Using the UML Testing Profile
Paul Baker et al.
http://dx.doi.org/10.1007/978-3-540-72563-3

Test-Driven Development: An Empirical Evaluation of Agile Practice
Lech Madeyski
http://dx.doi.org/10.1007/978-3-642-04288-1

Model-Based Software Testing and Analysis with C#
Jonathan Jacky, Margus Veanes, Colin Campbell, and Wolfram Schulte
http://dx.doi.org/10.1017/CBO9780511619540

Composing Software Components: A Software-testing Perspective
Dick Hamlet
http://dx.doi.org/10.1007/978-1-4419-7148-7

The Testing Network: An Integral Approach to Test Activities in Large Software Projects
Pierre Henry
http://dx.doi.org/10.1007/978-3-540-78504-0

Successful Test Management: An Integral Approach
Iris Pinkster, Bob van de Burgt, Dennis Janssen, and Erik van Veenendaal
http://dx.doi.org/10.1007/978-3-540-44735-1

Pro Perl Debugging: From Professional to Expert
Richard Foley with Andy Lester
http://dx.doi.org/10.1007/978-1-4302-0044-4

Back to the Table of Contents

Software Evolution and Maintenance

The Evolution of the Laws of Software Evolution:
A Discussion Based on a Systematic Literature Review
Israel Herraiz, Daniel Rodriguez, Gregorio Robles, and Jesus M. Gonzalez-Barahona
Evolving Software Systems
Tom Mens, Alexander Serebrenik, and Anthony Cleve (Editors)
http://dx.doi.org/10.1007/978-3-642-45398-4

Evolution as "Reflections on Design"
Walter Cazzola
http://dx.doi.org/10.1007/978-3-319-08915-7_10

Models @run.time: Foundations, Applications, and Roadmaps
Nelly Bencomo, Robert France, Betty H.C. Cheng, and Uwe Abmann (Editors)
http://dx.doi.org/10.1007/978-3-319-08915-7

On the evolution of Lehman’s Laws
Michael W. Godfrey and Daniel M. German
Journal of Software: Evolution and Process,
Volume 26, Number 7 (July 2014)
http://dx.doi.org/10.1002/smr.1636

Software Evolution
Tom Mens and Serge Demeyer (Editors)
http://dx.doi.org/10.1007/978-3-540-76440-3
User Interfaces and Human Factors

Also see:
the Human-Computer Interaction shelf in the Computer Science section;
the Industrial Engineering and Design shelf in the Engineering section.

Foundations for Designing User-Centered Systems:
What System Designers Need to Know about People
Frank E. Ritter, Gordon D. Baxter, and Elizabeth F. Churchill
http://dx.doi.org/10.1007/978-1-4471-5134-0
Designing for Performance and User Experience
Avi Parush

Bridging UX and Web Development:
Better Results through Team Integration
Jack Moffett

UI is Communication:
How to design intuitive, user-centered interfaces by focusing on effective communication
Everett N. McKay

HCI and SE – The Cultures of the Professions
Joshi Anirudha
http://dx.doi.org/10.1007/978-3-540-73287-7_14
Usability and Internationalization, UI-HCII 2007
N. Aykin (Editor)
http://dx.doi.org/10.1007/978-3-540-73287-7

Human Factors Engineering as the Methodological Babel Fish:
Translating User Needs into Software Design
Neville A. Stanton  
http://dx.doi.org/10.1007/978-3-642-34347-6_1

Human-Centered Software Engineering,  
4th International Conference, HCSE 2012  
Marco Winckler, Peter Forbig, and Regina Bernhaupt (Editors)  
http://dx.doi.org/10.1007/978-3-642-34347-6

User Interface Inspection Methods:  
A User-Centered Design Method  
Chauncey Wilson  

Credible Checklists and Quality Questionnaires:  
A User-Centered Design Method  
Chauncey Wilson  

Brainstorming and Beyond: A User-Centered Design Method  
Chauncey Wilson  

Understanding Your Users: A Practical Guide to User Requirements Methods, Tools, and Techniques  
Catherine Courage and Kathy Baxter  
Letting Go of the Words: Writing Web Content that Works
Janice (Ginny) Redish

Thoughts on Interaction Design, Second Edition
Jon Kolko

Orchestrating Human-Centered Design
Guy Andre Boy
http://dx.doi.org/10.1007/978-1-4471-4339-0

User Experience Innovation
Christian Kraft
http://dx.doi.org/10.1007/978-1-4302-4150-8

Personas – User Focused Design
Lene Nielsen
http://dx.doi.org/10.1007/978-1-4471-4084-9

What makes software design effective?
Anthony Tang, Aldeida Aleti, Janet Burge, and Hans van Vliet
Introduction to Information Visualization
Riccardo Mazza
http://dx.doi.org/10.1007/978-1-84800-219-7

Information Visualization: Perception for Design, Third Edition
Colin Ware

Mutimodal Signal Processing:
Theory and Applications for Human-Computer Interaction
Jean-Philippe Thiran, Ferran Marques, and Herve Bourlard (Editors)

**** Here HCI means Human-Centered Informatics ****

Activity Theory in HCI: Fundamentals and Reflections
Victor Kaptelinin and Bonnie Nardi
http://dx.doi.org/10.2200/S00413ED1V01Y201203HCI013

**** Here HCI means Human-Centered Informatics ****

Making Claims: Knowledge Design, Capture, and Sharing in HCI
D. Scott McCrickard
http://dx.doi.org/10.2200/S00423ED1V01Y201205HCI015

**** Here HCI means Human-Centered Informatics ****
HCI Theory: Classical, Modern, and Contemporary
Yvonne Rogers
http://dx.doi.org/10.2200/S00418ED1V01Y201205HCI014

**** Here HCI means Human-Centered Informatics ****
Conceptual Models: Core to Good Design
Jeff Johnson
http://dx.doi.org/10.2200/S00391ED1V01Y201111HCI012

Human Attention and its implications for human-computer interaction (Chapter 2)
Claudia Roda
http://dx.doi.org/10.1017/CBO9780511974519.002

Human Attention in Digital Environments
Claudia Roda (Editor)
http://dx.doi.org/10.1017/CBO9780511974519

Intersection: How Enterprise Design Bridges the Gap between Business, Technology and People
Milan Guenther
Pervasive Information Architecture: Designing Cross-Channel User Experience
Andrea Resmini and Luca Rosati

Brave NUI World: Designing Natural User Interfaces for Touch and Gesture
Daniel Wigdor and Dennis Wixon

The Encyclopedia of Human-Computer Interaction
Interactive Design Foundation
http://www.interaction-design.org/books/hci.html

The magical number seven, plus or minus two: some limits on our capacity for processing information
George A. Miller
Psychological Review, Volume 63, Issue 2 (March 1956)
http://dx.doi.org/10.1037/h0043158

Features of Similarity
Amos Tversky
Psychological Review, Volume 84, Issue 4 (July 1977)
Factors that Affect Software Systems Development Project Outcomes: A Survey of Research
Laurie McLeod and Stephen G. MacDonell
ACM Computing Surveys, Volume 43, Issue 4 (October 2011)
http://dx.doi.org/10.1145/1978802.1978803

The State of the Art in End-User Software Engineering
Andrew J. Ko et al.
ACM Computing Surveys, Volume 43, Number 3 (April 2011)
http://dx.doi.org/10.1145/1922649.1922658

Funology: From Usability to Enjoyment
Mark A. Blythe, Kees Overbeeke, Andrew F. Monk, and Peter C. Wright (Editors)
http://dx.doi.org/10.1007/1-4020-2967-5

The Psychology of Cyberspace
John Suler
http://www-usr.rider.edu/~suler/psycyber/psycyber.html
Teaching Clinical Psychology Website
http://www-usr.rider.edu/~suler(tcp.html

As We May Think
Vannevar Bush
The Atlantic Magazine (July 1945)
Ideas, Opinions, and Surveys

Why Is Software So Slow?
Charles Simonyi (Interview)
The Atlantic (September 2013)

Writing Virtual Environments for Software Visualization
Clinton Jeffrey and Jafar Al-Gharaibeh
http://dx.doi.org/10.1007/978-1-4614-1755-2

The Software Industry: Economic Principles, Strategies, Perspectives
Peter Buxmann, Heiner Diefenbach, and Thomas Hess
http://dx.doi.org/10.1007/978-3-642-31510-7
Will Software Engineering Ever Be Engineering?
Michael Davis
Communications of the ACM,
Volume 54, Number 11 (November 2011) Pages 32-34
http://dx.doi.org/10.1145/2018396.2018407

The Science of Computing and the Engineering of Software
C.A.R. Hoare
Keynote address, QCon, 2009
http://www.infoq.com/presentations/tony-hoare-computing-engineering
QCon, The Annual International Software Development Conference
http://www.qconferences.com/

Is abstraction the key to computing?
Jeff Kramer
Pages 37-42
Communications of the ACM, Volume 50, Number 4 (April 2007)
http://dx.doi.org/10.1145/1232743.1232745

Empirical Software Engineering
Greg Wilson and Jorge Aranda
American Scientist,
Volume 99, Number 6 (November-December 2011)

Empirical investigation towards the effectiveness of Test First programming
Liang Huang and Mike Holcombe
Pages 182-194
Information and Software Technology, Volume 51 (2009)
http://dx.doi.org/10.1016/j.infsof.2008.03.007
A Guide to Experimental Algorithmics
Catherine C. McGeoch
http://dx.doi.org/10.1017/CBO9780511843747

Search-Based Software Engineering:
Trends, Techniques and Applications
Mark Harman, S. Afshin Mansouri, and Yuanyuan Zhang
ACM Computing Surveys, Volume 45, Number 1 (November 2012)
http://dx.doi.org/10.1145/2379776.2379787

Open Source: Technology and Policy
Fadi P. Deek and James A. M. McHugh
http://dx.doi.org/10.1017/CBO9780511619526

Innovation Happens Elsewhere: Open Source as Business Strategy
Ron Goldman and Richard P. Gabriel

Blog
http://blog.sei.cmu.edu/?location=secondary-nav&source=1358
Software Engineering Institute, Carnegie Mellon University
http://www.sei.cmu.edu/

CrossTalk: The Journal of Defense Software Engineering
http://www.crosstalkonline.org/

InfoQ – Facilitating the spread of knowledge and information in enterprise software development
(scroll down for free book downloads)
Principle of Lean Thinking (2002)
Mary Poppendieck
http://www.leanessays.com/search?updated-min=2002-01-01T00:00:00-06:00&updated-max=2003-01-01T00:00:00-06:00&max-results=13

Topic Index – Essays by Mary Poppendieck
http://www.leanessays.com/p/topic-index.html

Title Index – Essays by Mary Poppendieck

Recommended Reading – several free downloads
(InfoQ’s book series)

“Gangbang Interviews” and “Bikini Shots”:
Silicon Valley’s Brogrammer Problem
Tasneem Raja
Mother Jones Magazine (April 26, 2012)
http://www.motherjones.com/media/2012/04/silicon-valley-brogrammer-culture-sexist-sxsw

Software Development and Reality Construction
Christiane Floyd, Heinz Zullighoven, Reinhard Budde, and Reinhard Keil-Slawik (Editors)
http://dx.doi.org/10.1007/978-3-642-76817-0

Case Studies Research in Software Engineering:
Guidelines and Examples
Per Runeson, Martin Host, Austen Rainer, and Bjorn Regnell
Daniel Aarno and Jakob Engbloom

Information Systems Reengineering, Integration and Normalization, Third Edition
Joseph Shi Piu Fong
Springer, 2015, ISBN 978-3-319-12295-3
http://dx.doi.org/10.1007/978-3-319-12295-3

Systems Integration and Architecting: An Overview of Principles, Practices, and Perspectives
Andrew P. Sage and Charles L. Lynch
Systems Engineering, Volume 1, Number 3 (1998)
http://dx.doi.org/10.1002/(SICI)1520-6858(1998)1:3%3C176::AID-SYS3%3E3.0.CO;2-L

Software Project Management in a Changing World
Gunther Ruhe and Claes Wohlin (Editors)
http://dx.doi.org/10.1007/978-3-642-55035-5

IT Project Proposals: Writing to Win
Paul Coombs
http://dx.doi.org/10.1017/CBO9780511541339