

WORKSHOPS

WORKSHOPS

Chair: Peter F. Sweeney,
IBM T.J. Watson Research Center

The workshop program for OOPSLA 2001 includes a large number of workshops that spans a wide range of relevant and timely topics. Workshops are intensive collaborative sessions where groups of object technologists meet to surface, discuss, and attempt to solve challenging problems facing their field. Workshops also provide the opportunity for representatives of a technical community to coordinate efforts, and to establish collective plans of action.

To ensure a sufficiently small group for effective interaction, workshop attendance is managed by the organizers of each workshop. Prospective attendees are required (typically) to submit a position paper outlining their opinions on an aspect of the workshop's topic. Participants have been chosen based on the relevance of their position paper to the workshop theme. Workshop presentations are at the discretion of the organizers but all attendees are expected to contribute to the discussion. After the workshop, the organizers are responsible for reporting results to the object community via a short summary that will appear on the workshop's Web site.

Workshops are full day events that occur on either of the first two days of the conference. Workshop organizers and participants must register at the conference for at least the day of their workshop. Workshop participants must check-in at the registration desk before attending the workshop, preferable the evening before. The workshops are categorized below in tracks for ease of selection; individual workshops may be found in multiple tracks. For more information on a particular workshop, please visit its web page.

WORKSHOPS BY DATE

Sunday, October 14, 2001

1	Feyerabend - Redefining Computing	Marriott Hotel — Salon B
2	Refining the Practices of Extreme Programming	Marriott Hotel — Florida Salon I
3	Agile Software Development Methodologies: Raising the Floor or Lowering the Ceiling	Marriott Hotel — Florida Salon II
4	Human Issues of Agile Processes	Marriott Hotel — Florida Salon III
5	Fifth Workshop on Pedagogies and Tools for Assimilating Object-Oriented Concepts	Marriott Hotel — Meeting Room 2
6	Advanced Separation of Concerns	Marriott Hotel — Meeting Room 6
7	Specification and Verification of Component-Based Systems	Marriott Hotel — Meeting Room 1
8	Testing Enterprise JavaBeans	Marriott Hotel — Meeting Room 3
9	Managing Variability in Domain Engineering Using OO Technology	Marriott Hotel — Meeting Room 13
10	Architectural Patterns for Wireless Computing	Marriott Hotel — Salon C
11	Towards Patterns and Pattern Languages for OO Distributed Real-time and Embedded Systems	Marriott Hotel — Salon D
12	Semantics of Enterprise Integration	Marriott Hotel — Meeting Room 5
13	Third Workshop on Best-practices for Business Rules Design and Implementation	Marriott Hotel — Meeting Room 7
14	Workshop on C++ Template Programming	Convention Ctr — Room 5-6
15	Parallel/High-Performance Object-Oriented Scientific Computing	Marriott Hotel — Meeting Room 4
16	Domain-Specific Visual Languages	Marriott Hotel — Meeting Room 10
17	Objects, XML, and Databases	Convention Ctr — Room 3

WORKSHOPS

Monday, October 15, 2001

- 17 Objects, XML, and Databases
- 18 Agile Processes Workshop
- 19 Object-Oriented Web Services
- 20 Software Archeology: Understanding Large Systems

CHANGE IN SCHEDULE

- 21 Patterns and Techniques for Designing Object-Oriented Mobile Wireless Systems
- 22 Beyond Design: Patterns (mis)used
- 23 The Three-Tier Architecture Pattern Language
- 24 Engineering Complex Object-Oriented Solutions for Evolution
- 25 Tenth OOPSLA Workshop on Behavioral Semantics: Back to Basics
- 26 Business Aligned Software Architectures
- 27 Representing Software Architectures
- 28 Software Visualization
- 29 UML Modeling for Enterprise Distributed Object Computing
- 30 Generative Programming
- 31 First OOPSLA Workshop on Language Mechanisms for Programming Software Components

WORKSHOPS BY DATE

Convention Ctr —
Room 5

Marriott Hotel —
Florida Salon I

Marriott Hotel —
Salon B

Marriott Hotel —
Florida Salon II

*Will now be combined
with Workshop 10 and
held on Sunday,
Marriott Hotel —
Salon C.*

Convention Ctr —
Room 6

Marriott Hotel —
Florida Salon III

Marriott Hotel —
Meeting Room 2

Marriott Hotel —
Meeting Room 3

Marriott Hotel —
Meeting Room 7

Marriott Hotel —
Meeting Room 13

Marriott Hotel —
Meeting Room 4

Marriott Hotel —
Meeting Room 5

Marriott Hotel —
Meeting Room 11

Marriott Hotel —
Meeting Room 6

WORKSHOPS BY TRACK

Agile Methods

The workshops in this track explore issues about agile, lightweight software development methodologies.

- 2 Refining the Practices of Extreme Programming
- 3 Agile Software Development Methodologies: Raising the Floor or Lowering the Ceiling
- 4 Human Issues of Agile Processes
- 18 Agile Processes Workshop

Architecture

The workshops in this track explore many aspects of software architecture including enterprise applications, architectural patterns, and the specification and design of architectures.

- 9 Managing Variability in Domain Engineering Using OO Technology
- 10 Architectural Patterns for Wireless Computing
- 12 Semantics of Enterprise Integration
- 13 Third Workshop on Best-practices for Business Rules Design and Implementation
- 20 Software Archeology: Understanding Large Systems
- 23 The Three-Tier Architecture Pattern Language
- 24 Engineering Complex Object-Oriented Solutions for Evolution
- 25 Tenth OOPSLA Workshop on Behavioral Semantics: Back to Basics
- 26 Business Aligned Software Architectures
- 27 Representing Software Architectures
- 28 Software Visualization
- 29 UML Modeling for Enterprise Distributed Object Computing

Components

Component technology holds the promise of plug-and-play software and a new way to assemble applications. The workshops in this track focus on the design, implementation, verification, and testing of components.

- 7 Specification and Verification of Component-Based Systems
- 8 Testing Enterprise JavaBeans
- 9 Managing Variability in Domain Engineering using OO Technology
- 12 Semantics of Enterprise Integration
- 23 The Three-Tier Architecture Pattern Language
- 24 Engineering Complex Object-Oriented Solutions for Evolution
- 29 UML Modeling for Enterprise Distributed Object Computing
- 31 First OOPSLA Workshop on Language Mechanisms for Programming Software Components

Concurrency

The workshops in this track explore concurrency as it applies to wireless computing, distributed real-time and embedded systems, and scientific computing.

- 10 Architectural Patterns for Wireless Computing
- 11 Towards Patterns and Pattern Languages for OO Distributed Real-time and Embedded Systems
- 15 Parallel/High-Performance Object-Oriented Scientific Computing

Emerging Technologies

Emerging technologies are those new technologies that have the potential to have a big impact on object technology. The emerging technologies that the workshops in this track explore include wireless computing, web services, and new ways to use patterns.

- 1 Feyerabend - Redefining Computing
- 6 Advanced Separation of Concerns
- 9 Managing Variability in Domain Engineering using OO Technology
- 10 Architectural Patterns for Wireless Computing
- 12 Semantics of Enterprise Integration
- 16 Domain-Specific Visual Languages
- 17 Objects, XML, and Databases
- 19 Object-Oriented Web Services
- 22 Beyond Design: Patterns (mis)used
- 24 Engineering Complex Object-Oriented Solutions for Evolution
- 30 Generative Programming

Fundamentals

The workshops in this track explore fundamental issues underlying object-oriented technology. Some of those issues that are explored include reinventing computing, investigating object behavior visually, and determining the ways that programmers understand large systems quickly.

- 1 Feyerabend - Redefining Computing
- 7 Specification and Verification of Component-Based Systems
- 20 Software Archeology: Understanding Large Systems
- 28 Software Visualization

Internet Technologies

Although the impact of internet technologies on object technology is enormous, these technologies have been around long enough to no longer be categorized as emerging. The workshops in this track explore issues of integrating internet technologies into an enterprise, the next generation of web services, and how to engineer e-Commerce solutions.

- 17 Objects, XML, and Databases
- 19 Object-Oriented Web Services
- 24 Engineering Complex Object-Oriented Solutions for Evolution

Java Technologies

The workshops in this track explore focus on Enterprise JavaBeans: how to test them and the issues that arise when they are used as a framework for three-tier architectures.

- 8 Testing Enterprise JavaBeans
- 23 The Three-Tier Architecture Pattern Language

Languages

The workshops in this track explore the linguistic support that is needed to support component, generative, modular, and scientific programming with object technology.

- 6 Advanced Separation of Concerns
- 14 Workshop on C++ Template Programming
- 15 Parallel/High-Performance Object-Oriented Scientific Computing
- 16 Domain-Specific Visual Languages
- 30 Generative Programming
- 31 First OOPSLA Workshop on Language Mechanisms for Programming Software Components

Meta-level and Reflective

- 16 Domain-Specific Visual Languages
- 25 Tenth OOPSLA Workshop on Behavioral Semantics: Back to Basics

Middleware

Middleware is the layer of software that sits on top of an operating system and provides run-time services to applications. The workshops in this track explore the run-time support that is required for distributed real-time and embedded systems, wireless computing, and the integration of emerging technologies.

- 10 Architectural Patterns for Wireless Computing
- 11 Towards Patterns and Pattern Languages for OO Distributed Real-time and Embedded Systems
- 13 Third Workshop on Best-practices for Business Rules Design and Implementation
- 17 Objects, XML, and Databases
- 19 Object-Oriented Web Services
- 24 Engineering Complex Object-Oriented Solutions for Evolution

Patterns

The workshops in this track explore the codification of problems and their solutions for a wide range of activities and look for new ways to use this codification.

- 11 Towards Patterns and Pattern Languages for OO Distributed Real-time and Embedded Systems
- 12 Semantics of Enterprise Integration
- 13 Third Workshop on Best-practices for Business Rules Design and Implementation
- 22 Beyond Design: Patterns (mis)used
- 23 The Three-Tier Architecture Pattern Language
- 25 Tenth OOPSLA Workshop on Behavioral Semantics: Back to Basics

People and Project Management

The workshops in this track are concerned with the human aspects of object technology.

- 4 Human Issues of Agile Processes
- 5 Fifth Workshop on Pedagogies and Tools for Assimilating Object Oriented Concepts
- 25 Tenth OOPSLA Workshop on Behavioral Semantics: Back to Basics

Reengineering and Refactoring

- 6 Advanced Separation of Concerns

Requirements Analysis

- 25 Tenth OOPSLA Workshop on Behavioral Semantics: Back to Basics

Small and/or Mobile

The workshops in this track explore embedded and wireless systems.

- 10 Architectural Patterns for Wireless Computing
- 11 Towards Patterns and Pattern Languages for OO Distributed Real-time and Embedded Systems

Testing

- 8 Testing Enterprise JavaBeans

UI and Usability

- 28 Software Visualization

UML

- 29 UML Modeling for Enterprise Distributed Object Computing



Feyerabend - Redefining Computing

*Sunday
Marriott Hotel — Salon B*

Organizers:

Richard Gabriel, *Sun Microsystems, Inc.*
(rpg@dreamsongs.com)

Ron Goldman, *Sun Microsystems, Inc.*

Joseph Bergin, *Pace University*

Fifty years into the First Computing Era some of us in the computing arena have come to realize we've made a false start that can't be fixed, and for us to finally be able to produce lasting, correct, beautiful, usable, scalable, enjoyable software that stands the tests of time and moral human endeavor, we need to start over. Perhaps we'll be able to salvage some of what we've learned from the First Era, but we expect almost everything except the most mathematical fundamentals to be brushed aside.

This workshop is one in a series leading up to an event to reinvent computing. For that event we will be putting together the most diverse group of 75 people possible in a remote but subtly beautiful locale.

The result of the 2-week event will be the first steps toward a road map for massive rebuilding of computing — both as a theoretical endeavor and as a practice — and toward a plan to accomplish it.

In this workshop we will focus on technology ideas inspired from object technology to be used as a starting point for the Feyerabend Project.

URL: <http://www.dreamsongs.com/Feyerabend.html>

Tracks: Emerging Technologies; Fundamentals

2

Refining the Practices of Extreme Programming

*Sunday
Marriott Hotel — Florida Salon I*

Organizers:

Ken Auer, *RoleModel Software, Inc.*
(kauer@rolemodelsoft.com)

Ward Cunningham, *Cunningham & Cunningham*

Extreme Programming (XP) has been building some notoriety over the last few years. Although it is still an enigma to many who've heard about it, there are others who are actively doing it. This workshop will be a place where extreme programming practitioners can come together to challenge and encourage each other as they share what they've been doing and where they are going and work together to refine their art. Rather than introduce or defend XP, we will be working together to examine what works and doesn't work and determine how to improve the practice and enlarge the applicable domain. We will be applying some of the XP practices throughout the day to produce a living Best Practices hypertext manual.

URL: <http://www.rolemodelsoft.com/OOPSLA2001/xp>

Track: Agile Methods

3

**Agile Software Development Methodologies:
Raising the Floor or Lowering the Ceiling?**

*Sunday
Marriott Hotel — Florida Salon II*

Organizers:

Laurie Williams, *North Carolina State University*
(williams@csc.ncsu.edu)

Steven Fraser, *Nortel Networks*

The use of agile, lightweight software development methodologies can raise the floor for organizations that have historically used ad hoc, “code and fix” processes. Transitioning from an immature to a disciplined process requires a behavioral and cultural change. These developers might find a transition to agile methodologies palatable where otherwise they would find a transition to a heavyweight process unthinkable. Many would agree that it would be beneficial if agile methodologies were adopted by organizations that now operate in “code and fix” mode.

Many organizations on the quest for higher and higher levels of CMM maturity are also considering and transitioning to various agile methodologies. Is this change beneficial to these organizations? Or, are they in fact, lowering the ceiling, and compromising beneficial practices that were previously incorporated? Often, these same organizations are under renewed pressure to react to innovations and market changes at warp speed. Heavyweight processes might prevent them from responding to these changes rapidly enough. Additionally, agile methodologies might allow practitioners from heavyweight organizations to “come out of the closet” and admit they were actually not following their process.

This workshop’s goal is to bring together practitioners who have experiences from both the “raise the floor” and the “lower the ceiling” perspectives and explore the issues involved in an organizations adoption of agile, lightweight software development methodologies.

URL: <http://collaboration.csc.ncsu.edu/agile>

Track: Agile Methods

4

Human Issues of Agile Processes*Sunday**Marriott Hotel — Florida Salon III***Organizers:***Jens Coldewey, Coldewey Consulting, Germany (jens_coldewey@acm.org)**Jutta Eckstein, Objects in Action, Germany**Pete McBreen, McBreen Consulting, Canada**Alastair Handley, Pragmatic Software Consulting Services, Canada*

The “Manifesto for Agile Software Development” (<http://www.agilealliance.org/>) states the following important values for agile processes:

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

In looking at these values, we find that there are many human issues that pervade the agile software development process. These human issues effect team management as well as client management and the ways in which they collaborate.

The intention of this sequel to last year’s OOPSLA workshop “Deploying Lightweight Processes” is to identify and illuminate these human issues. We are looking for insights that may help people and organizations prepare for the effects of Agile Processes and the cultural changes that they bring, as well as insights into the psychological systems on which Agile Processes are based.

URL: <http://www.coldewey.com/publikationen/conferences/oopsla2001/AgileWorkshop/>

Tracks: Agile Methods; People and Project Management

5**Fifth Workshop on Pedagogies and Tools for Assimilating Object-Oriented Concepts**

Sunday
Marriott Hotel — Meeting Room 2

Organizers:

Jürgen Börstler, *Umeå University, Sweden*
(jubo@cs.umu.se)

Isabel Michiels, *Vrije Universiteit, Brussel, Belgium*

Successfully applying object technology during the software development life cycle requires a thorough understanding of object-oriented concepts. However, learning as well as lecturing these concepts have proven to be very difficult, especially for those who first adopted a procedural way of thinking.

Many OO teaching approaches are limited to teaching a specific object-oriented programming language. Furthermore they often use a strict bottom-up approach and focus on the control structure part of the language. This gives students/trainees the impression that there is a central unit of control in each program, which can be fully controlled by the developer. However, this does not match well with the idea that responsibilities are distributed among (encapsulated) objects.

The goal of this workshop is to share experiences about alternative teaching approaches and tools to improve the teaching and learning of the basic concepts of object technology rather than teaching a specific programming language. Participants will furthermore reflect upon the learning process to identify key requirements for the understanding of the basic concepts and propose feasible orderings of the teaching material.

URL: <http://www.cs.umu.se/~jubo/Meetings/OOPSLA01/>

Track: People and Project Management

6

Advanced Separation of Concerns

Sunday
Marriott Hotel — Meeting Room 6

Organizers:

Kris De Volder, *University of British Columbia, Canada*
(kdvolder@cs.ubc.ca)

Maurice Glandrup, *University of Twente, The Netherlands*

Siobhán Clarke, *Trinity College, Ireland*

Robert Filman, *NASA Ames Research Center*

Separation of concerns is at the core of software engineering. It refers to the ability to identify, encapsulate, and manipulate those parts of software that are relevant to a particular concept, goal, purpose, or issue. Object-orientation has significantly improved our ability to achieve good separation of concerns. Developers can now produce modular implementations of fairly complex systems. However, software complexity has since grown to tremendous proportions. Thus today we face even more challenging development tasks and the next generation of separation of concerns problems are emerging. Recently, many researchers have become aware of this fundamental problem and begun to gain some understanding about its underlying causes. They have proposed potential solutions based on, for example, new, crosscutting modularity mechanisms (aspects) and support for multiple dimensions of overlapping concerns. This workshop is intended to bring together those researchers and practitioners interested in pushing the frontier in this important area.

URL: <http://www.cs.ubc.ca/~kdvolder/Workshops/OOPSLA2001/ASoC.html>

Tracks: Emerging Technologies; Languages; Reengineering and Refactoring



Specification and Verification of Component-Based Systems

Sunday
Marriott Hotel — Meeting Room 1

Organizers:

Dimitra Giannakopoulou, *NASA Ames Research Center*
(dimitra@ptolemy.arc.nasa.gov)

Gary Leavens, *Iowa State University*

Murali Sitaraman, *Clemson University*

This workshop's goal is to explore foundations for applying formal techniques to component-based systems. Specification and reasoning techniques are urgently needed to permit composition of systems from components, for which source code is unavailable. We would like to bring together researchers and practitioners in the areas of component-based software and formal methods, to address these problems. The idea is to focus more of the effort in formal methods on component-based systems. Besides functional behavior, we are also interested in reasoning about concurrency, mechanization and scalability, and performance (time and space). The participants will brainstorm about these and related topics in formal methods for component-based systems to understand both the problems involved and how formal techniques may be useful in solving them. The expected result of the meeting is an outline of collaborative research topics and a list of areas for further exploration.

URL: <http://www.cs.iastate.edu/~leavens/SAVCBS/index.html>

Tracks: Components; Fundamentals

**8 Testing Enterprise JavaBeans**

Sunday
Marriott Hotel — Meeting Room 3

Organizers:

Oliver Vogel, *Systor, Switzerland*
(oliver.vogel@systor.com)

Markus Voelter, *Mathema, Germany*

Components, in general, and Enterprise Java Beans (EJBs), in particular, are coarse-grained reusable units of software. Yet to be successfully reused, EJBs must exhibit certain quality characteristics, perhaps more so than other software artifacts. One successful way of creating quality software is testing. Extreme programming, and other light weight software development processes, have found that testing is an essential aspect of software development. However, testing EJB is different than testing normal code, because EJBs are executed on the server, inside the container which provides certain infrastructure services. Neither the EJB specification nor current EJB books cover testing in depth. Yet, systems having to fulfill quality of service requirements cannot be built without a clear understanding and adequate development of testing strategies.

This workshop seeks to explore successful techniques for EJB testing.

URL: <http://www.voelter.de/oopsla2001>

Tracks: Components; Java Technologies; Testing



Managing Variability in Domain Engineering using OO Technology

Sunday
Marriott Hotel — Meeting Room 13

Organizers:

Bedir Tekinerdogan, *University of Twente, The Netherlands*
(bedir@cs.utwente.nl)

Mehmet Aksit, *University of Twente, The Netherlands*

Krzysztof Czarnecki, *DaimlerChrysler, Germany*

Sholom Cohen, *Software Engineering Institute, USA*

Domain engineering aims to promote systematic reuse by focusing on the development of assets for families of applications within a given contextual scope instead of the development of single applications for a specific context. The activities of domain engineering require a system-family focus to deal systematically with variability across the family of applications.

Variability is a quality factor expressing the ease with which existing components can be adapted. Variability is both an important concern in domain engineering and in object-oriented (OO) software development. The basic goal of variability is to quantify reuse and ease of developing a family of applications.

OO technology encompasses a diversity of variability at different abstraction levels. At the analysis and design level, OO technology provides useful techniques such as use cases, scenarios, framework design and the Unified Modeling Language. At the implementation level, OO supports variability with language features such as polymorphism, inheritance and subtyping.

This workshop's goal is to identify the OO technologies that are useful for managing and expressing variability in domain engineering.

URL: <http://trese.cs.utwente.nl/oopsla01-variabilityWS/>

Tracks: Architecture; Components; Emerging Technologies

10**Architecture Patterns for Wireless Computing**

Sunday
Marriott Hotel — Salon C

Organizers:

Steffen Schaefer, *IBM*
(steffens@acm.org)

Steve Marney, *EDS*

Tony Willis, *Fundamo*

Kari Parkkinen, *dna Finland*

In some respects, wireless solutions are not very different from standard e-Business systems and are implemented with the same or similar technology.

But clearly, the standard Web 'Request/Response' model, e.g., as implemented through WAP is not enough. Offline-work, messaging, and data replication are just a few examples where Wireless Computing goes beyond 'internet for small screens'. As in other e-Business systems, Java, C++ and XML are often used for implementation at the server side, as well as on the pervasive device. Using such well known technology as a base, this workshop aims at identifying reference architectures and design patterns that are specific, or at least typical for Wireless Computing.

The goal is to exchange experience about architecture issues for Wireless Computing. We will aim to produce tangible results, e.g., architecture or design patterns for specific issues, and try to reach consensus on approaches for resolving problems and identify strategies.

URL: <http://www.dnainland.fi/oopsla>

Tracks: Architecture; Concurrency; Emerging Technologies; Middleware; Small and/or Mobile

11

**Towards Patterns and Pattern Languages for OO
Distributed Real-time and Embedded Systems**

*Sunday
Marriott Hotel — Salon D*

Organizers:

Michael Kircher, *Siemens*
(Michael.Kircher@mchp.siemens.de)

Prashant Jain, *Siemens*

Douglas Schmidt, *University of California, Irvine*

Angelo Corsaro, *Washington University, St. Louis*

Distributed real-time and embedded (DRE) systems are becoming ubiquitous, not just in the aerospace domain, but also in telecommunications, automotive, and process control. As software replaces functionality traditionally provided by hardware, better software development technologies are needed to ensure end-to-end system quality of service properties and to control lifecycle costs.

Increasingly, object-oriented (OO) technologies are being considered as the underpinning for mission-critical DRE systems. Because OO technologies were not initially intended for the time and space constraints of DRE systems, researchers and practitioners often struggle to apply OO techniques effectively so their tasks become easier, not harder.

What are common patterns and practices that can be applied to overcome many recurring challenges and constraints related to developing DRE systems? The goal of this workshop is to bring together researchers and practitioners from the field of DRE systems to begin documenting a common “pattern language” for DRE systems.

URL: <http://www.cs.wustl.edu/~mk1/RealTimePatterns>

Tracks: Concurrency; Middleware; Patterns; Small and/or Mobile

12**Semantics of Enterprise Integration***Sunday**Marriott Hotel — Meeting Room 5***Organizers:**

Sergio de Cesare, *Brunel University, UK*
(sergio.decesare@brunel.ac.uk)

Mark Lycett, *Brunel University, UK*

Paul Allen, *Computer Associates, UK*

Grant Holland, *Sun Microsystems, USA*

Tony Morgan, *Unisys, UK*

The growth of the Internet and the expansion of e-commerce systems have accentuated pre-existing problems related with systems interoperability and the definition of common semantics throughout business organizations. Consequently, an increasing amount of cost and effort is dedicated to the integration of systems and applications. The issues involved, however, are not just related to infrastructure and technology. Indeed fundamental problems exist around the understanding of what 'concepts' are shared, how they relate and what mechanisms should be adopted to allow systems to communicate and interoperate at levels.

This workshop welcomes the participation of academics, researchers and practitioners interested in approaches aimed at achieving the integration of enterprise systems.

URL: http://www.site-project.org.uk/events/sei2001_workshop/

Tracks: Architecture; Components; Emerging Technologies; Patterns

13**Third Workshop on Best-practices for Business Rules Design and Implementation**

Sunday
Marriott Hotel — Meeting Room 7

Organizers:

Ali Arsanjani, *IBM*
(arsanjan@us.ibm.com)

Joseph Yoder, *The Refactory, Inc.*

Alan Abrahams, *Cambridge University*

Reza Razavi, *Université Pierre et Marie Curie*

Jeff Oakes, *The Hartford*

Keith Levi, *Maharishi University of Management*

Rules are the heart of business logic. Businesses implement their information systems upon the pillars of business rules. Yet, writing scalable, robust, and adaptable business rules for business objects in today's e-business and n-tier architectures is a challenge! The goal of this workshop is to categorize and capture, in pattern format, the best and successful practices relating to the design and implementation of business rules within the context of business objects and components.

URL: www.mum.edu/cs_dept/aarsanjani/business-rules/oopsla2001

Tracks: Architecture; Middleware; Patterns



Workshop on C++ Template Programming

Sunday
Convention Ctr — Room 5-6

Organizers:

Yannis Smaragdakis, *Georgia Institute of Technology, USA*
(yannis@cc.gatech.edu)

Nicolai Josuttis, *Author and Consultant, Germany*

One of the most exciting research areas in C++ focuses on the use of templates, especially as a means to support generic and generative programming. A number of powerful, flexible, and useful techniques have been developed but these efforts appear isolated and are only known to a few experts. This workshop will gather the community of people interested in C++ template programming. The goal is dual: first, to increase the visibility of information likely to be helpful to other workers in the field of C++ template programming; second, to clearly establish, and hopefully advance, the state-of-the-art in C++ template programming.

URL: <http://www.oonumerics.org/tmpw01/>

Track: Languages

15

Parallel/High-Performance Object-Oriented Scientific Computing

Sunday
Marriott Hotel — Meeting Room 4

Organizers:

Kei Davis, *Los Alamos National Laboratory*
(kei@lanl.gov)

Joerg Striegnitz, *John von Neumann Institute for Computing*

Andrew Lumsdaine, *University of Notre Dame*

Bernd Mohr, *John von Neumann Institute for Computing*

Todd Veldhuizen, *Indiana University*

Jeremy Siek, *University of Notre Dame*

While object-oriented programming has been embraced in industry, particularly in the form of C++ and to an increasing extent Java, its acceptance by the parallel scientific programming community is still tentative. In this domain performance is invariably of paramount importance, where even the transition from FORTRAN 77 to C is incomplete, primarily because of performance loss. On the other hand, three factors together practically dictate the use of language features that provide better paradigms for abstraction: increasingly complex simulations, numerical algorithms, and hardware (e.g. deep memory hierarchies, numbers of processors, communication, and I/O).

This workshop seeks to bring together practitioners and researchers in this field to demonstrate or propose libraries, techniques, idioms, or general approaches to OO software development particularly relevant to high performance scientific computing; also their expected, realized, or intrinsic limitations or shortcomings.

URL: <http://www.c3.lanl.gov/~poosc01/>

Tracks: Concurrency; Languages

16**Domain-Specific Visual Languages**

Sunday

Marriott Hotel — Meeting Room 10

Organizers:

Juha-Pekka Tolvanen, *MetaCase Consulting and University of Jyväskylä*
(jpt@metacase.com)

Kalle Lyytinen, *Case Western Reserve University*

Jeff Gray, *Vanderbilt University*

Steven Kelly, *MetaCase Consulting*

In a domain-specific visual language, the models are made up of elements representing things that are part of the domain world, not the code world. The language follows the domain abstractions and semantics, allowing developers to perceive themselves as working directly with domain concepts. Thus, the language raises the abstraction to the problem domain, making development work faster and easier.

Some of the issues that we would like to see addressed in this workshop are:

- Industry/academic experience reports describing success/failure in implementing and using domain-specific languages/tools
- Separation of concerns and the application of new modularity technologies (e.g., aspect-oriented/subject-oriented) to domain-specific languages
- Approaches to identify constructs for domain-specific languages
- Novel approaches for code generation from domain-specific models
- Issues of support/maintenance for systems built with DSL's
- Evolution of languages in accordance with domain
- Metamodeling frameworks and languages
- Tools for supporting domain-specific languages
- Specific domains where this technology can be most productive in the future (e.g. visual DSL's to describe aspects of embedded systems, product family, systems with multiple implementation platforms)

URL: <http://www.isis.vanderbilt.edu/OOPSLA2K1>

Tracks: Meta; Emerging Technologies; Languages

**17 Objects, XML, and Databases***Sunday**Convention Ctr — Room 3**Monday**Convention Ctr — Room 5***Organizers:**

Akmal Chaudhri, *Informix Labs, USA*
(akmal@soi.city.ac.uk)

Awais Rashid, *Lancaster University, UK*

During the past few years, there has been a considerable interest and growth in a number of new and emerging technologies, such as XML. For many organizations already using object-orientation with database management systems, XML data adds a new dimension that brings considerable flexibility and promise, but also adds new uncertainties and issues as to how to effectively manage that data. The recent trend towards XML servers, native XML databases and support for XML in existing relational databases is a testimony to the importance of this issue for the vendor community as well. However, whilst these commercial offerings are becoming available, what are the issues that need to be explored to effectively use Object-Oriented, XML and Database Systems? The goal of this workshop is to bring together academics, practitioners, users and vendors to explore the issues that these communities currently face in the integration and effective use of these technologies.

URL: <http://www.soi.city.ac.uk/~akmal/oopsla01.dir/01-workshop.html>

Tracks: Emerging Technologies; Internet Technologies; Middleware

18**Agile Processes Workshop**

Monday
Marriott Hotel — Florida Salon I

Organizers:

Mike Beedle, *e-Architects, Inc.*
(beedlem@e-architects.com)

Ron Jeffries, *Object Mentor, Inc.*

Ken Schwaber, *Advanced Development Methods*

Robert Martin, *Object Mentor, Inc.*

Jim Highsmith, *Information Architects, Inc.*

Dave Thomas, *The Pragmatic Programmers*

The goal of this workshop is to understand and contrast the different agile processes in existence today such as: XP, SCRUM, ASD, Crystal, FDD, Pragmatic and DSDM. A detailed examination of each agile process will be conducted to understand its practices. Case studies for each process will be provided as empirical evidence. Similarities, differences, synergies and misfits among different agile processes practices will be examined both from practice and theory.

URL: <http://www.agilealliance.org/oopsla2001>

Track: Agile Methods

19**Object-Oriented Web Services**

Monday
Marriott Hotel — Salon B

Organizers:

Brent Hailpern, *IBM T.J. Watson Research Center*
(bth@watson.ibm.com)

Don Batory, *University of Texas at Austin*

Richard Gabriel, *Sun Microsystems, Inc.*

Aditya Mathur, *Purdue*

Peri Tarr, *IBM T.J. Watson Research Center*

Sanjiva Weerawarana, *IBM T.J. Watson Research Center*

XML has started a revolution on the web: from static formatted content to dynamic self-defining information with real semantics. The addition of semantics is only the first step to providing real applications, known as “web services,” to internet users. The first generation of web-service infrastructure is in development, allowing one web service to issue a request to another and to register/describe/find a service to use (e.g., SOAP, WSDL, UDDI).

Eventually, web services will become electronic utilities that are delivered to end users over the internet, representing a critical new application domain in electronic commerce. Like traditional utilities, such as electricity, web services will be metered and customers will pay for their use. The terms of use (called service level agreements or SLAs) of the services will include functionality, performance, and reliability. The need to dynamically monitor and control SLAs and to respond to changing needs and resources, imposes challenging requirements on the design, development, deployment, and evolution of web services.

This workshop explore issues in, and new technologies and methodologies to support the engineering and deployment of, web services.

URL: <http://www.research.ibm.com/people/b/bth/OOWS2001.html>

Tracks: Emerging Technologies; Internet Technologies; Middleware

20

**Software Archeology:
Understanding Large Systems**

Monday
Marriott Hotel — Florida Salon II

Organizers:

Brian Marick, *Testing Foundations*
(marick@visibleworkings.com)

Ward Cunningham, *Cunningham and Cunningham*

Andrew Hunt, *The Pragmatic Programmers*

Dave Thomas, *The Pragmatic Programmers*

How do you come to grips with 1,000,000 lines of code right away?

Programmers are often given a large system they've not seen before, built by people they don't know, touched by many people since, documented sketchily if at all. They're told to improve it. Their task might be to fix a bug, add a feature, or complete a refactoring. They are under time pressure, so they need to minimize the total time spent learning and the time spent improving.

In this workshop, we will share techniques and approaches for understanding enough about a lot of code in not much time. We are concerned not just with speed, but also with confidence: how can you know you've made an improvement, not made the system worse?

URL: <http://www.visibleworkings.com/archeology>

Tracks: Architecture; Fundamentals

*CHANGE IN SCHEDULE***Patterns and Techniques for Designing
Object-Oriented Mobile Wireless Systems**

Will now be combined with Workshop 10 and held on Sunday, Marriott Hotel — Salon C.

Organizers:

Kirthika Parmeswaran, *Telcordia Technologies*
(kirthika@research.telcordia.com)

Andrew Campbell, *Columbia University*

Ravi Jain, *Telcordia Technologies*

Mobile applications and services are exploding in the market today. However, typically value-added applications have been developed as additions to the most basic application of all, which is mobile wireless voice and data access, or developed as specialized vertical services. Despite the proliferation of mobile wireless services being introduced in the marketplace, it is not yet clear which will be the “killer apps” and for which market segments and in which regions. Therefore, it is critical that frameworks be built to enable rapid creation and deployment of mobile wireless services leveraging not only reusable components but also design and deployment patterns, including the adaptation and optimization patterns essential in mobile wireless environments. The goal of this workshop is to identify the challenges as well as discuss and document the design patterns and OO techniques used for building mobile wireless systems. An aim of the workshop is to provide a forum for a stimulating discussion between the participants on the requirements and features of common APIs, both between mobile clients and servers, and between services and the mobile application framework.

URL: http://www.argreenhouse.com/society/mobility_workshop.shtml

Tracks: Components; Emerging Technologies; Patterns; Small and/or Mobile

22

Beyond Design: Patterns (mis)used

Monday
Convention Ctr — Room 6

Organizers:

Christa Schwanninger, *Siemens, Germany*
(christa.schwanninger@mchp.siemens.de)

Elisa Baniassad, *University of British Columbia, Canada*

Gail Murphy, *University of British Columbia, Canada*

Vera Seidel, *Siemens, Germany*

In the past seven years, a strong pattern community has been built, as is reflected in a number of conferences. This community has largely focused on the writing and using of patterns. But design patterns are important for reasons beyond capturing and transferring information about recurring problems and their solutions. For instance pattern information can aid reverse engineering tasks, or it can be used to determine useful language improvements or extensions. Currently, research centered on such concepts occurs at the periphery of the pattern community, and hence there has been limited opportunity for researchers interested in other aspects of pattern research to interact with the pattern community. Our goal is to diversify and expand the pattern community with these additional views, to find points of collaboration and to share insights about patterns.

URL: <http://www.schwanninger.com/OOPSLA2001/>

Tracks: Emerging Technologies; Patterns

23

The Three-Tier Architecture Pattern Language*Monday**Marriott Hotel — Florida Salon III***Organizers:**

Prashant Jain, *Siemens*
(Prashant.Jain@mchp.siemens.de)

Michael Kircher, *Siemens*

Kirthika Parameswaran, *Telecordia Applied Research Labs*

Three-tier applications have gained increasing acceptance and popularity in the software industry. A large number of distributed systems and enterprise applications are built using three-tier architectures. Component technologies such as Enterprise Java Beans (EJB) and CORBA Component Model (CCM) make use of three-tier architectures to provide frameworks for component development and deployment. The goal of this workshop is to discover and document the common patterns and pattern languages among the architectures of three-tier systems. The patterns, interwoven as they are, will be used to formulate a pattern language for three-tier systems. The workshop will be especially valuable to system architects as well as software developers attending OOPSLA. The pattern language formulated at the workshop will provide a powerful and effective means of documenting and describing architectures of three-tier systems.

URL: <http://www.cs.wustl.edu/~pjain/ThreeTierPatterns>

Tracks: Architecture; Components; Java Technologies; Patterns

24

**Engineering Complex Object-Oriented Solutions
for Evolution**

Monday
Marriott Hotel — Meeting Room 2

Organizers:

Siobhán Clarke, *Trinity College, Ireland*
(siobhan.clarke@cs.tcd.ie)

Simon Dobson, *Conceptual Drift Ltd., Ireland*

Vinny Cahill, *Trinity College, Ireland*

Robert Filman, *NASA Ames Research Center*

Complex object-oriented solutions present challenges with respect to evolution and adaptability. Yet evolution and adaptability are necessary requirements to support business-to-business processes across the internet. Advances are being made in software engineering support for complex development, such as component-based development, and advanced ways of separating concerns. An interesting suite of object-oriented solutions, that builds on both mature infrastructures (such as CORBA), and on newer platforms (such as Java and agent systems), have been used to developing the first generation of business-to-business e-commerce solutions.

Nevertheless, if more complex e-commerce solutions are to be engineered, rather than simply built, what new set of issues must be confronted? This workshop is intended to bring together researchers and practitioners to discuss the issues inherent in engineering complex solutions for evolution and adaptability. The goal is to identify those issues which directly affect the successful deployment and evolution of a complex system and which are poorly supported by current methods, and to explore directions for research and development to address these omissions.

URL: www.dsg.cs.tcd.ie/ecoose/oopsla2001/

Tracks: Architecture; Components; Emerging Technologies; Internet Technologies; Middleware

**Tenth OOPSLA Workshop on Behavioral Semantics: Back to Basics**

Monday
Marriott Hotel — Meeting Room 3

Organizers:

Haim Kilov, *Independent Consultant*
(haimk@acm.org)

Kenneth Baclawski, *Northeastern University*

The purpose of this workshop is to improve the understanding and use of precise semantics in object-oriented (OO) specifications and designs. The goal is to be a focal point that brings together theoreticians and practitioners to share their experience with making semantics precise, clear, concise and explicit in OO business specifications, business designs, and system specifications and designs. Papers can range from academic research to industrial “war stories.” This is the tenth anniversary of this OOPSLA workshop series. The specific emphasis this year is to return to the basics to recapture insights and ideas that might otherwise slip into oblivion (or at best be reinvented), while also looking forward to the future of the field.

URL: <http://www.ccs.neu.edu/home/kenb/oopsla2001>

Tracks: Architecture; Meta; Patterns; People and Project Management; Requirements Analysis

26

Business Aligned Software Architectures

Monday
Marriott Hotel — Meeting Room 7

Organizers:

Vladimir Bacvanski, *InferData Corporation*
(vladimir@inferdata.com)

John Vernon, *JP Morgan Chase*

The goal of IT departments within large enterprises is to deliver technology solutions that support the services and operation of the business, i.e. its business architecture. One way to meet this goal is to have the application architecture specification be traceable to the business architecture specification. The specification of how a component specification will be implemented and deployed, its technical architecture, needs to be traceable to the application architecture. Recently, modeling and component technologies started playing an important role in development of enterprise applications, but modeling and components do not provide sufficient means for development of business aligned software architectures. What is needed is an architecture framework consisting of methods for specifying architectures, including the different views of architecture, guidelines for deciding the levels of abstraction at which architectures will be specified, and principles describing how abstractions are derived from each other.

Such a framework will meet the goals described above.

This workshop's goal is to identify key issues in developing business aligned software architecture and to identify a set of best practices for dealing with introduction of the architecture program in an enterprise.

URL: <http://www.inferdata.com/resources/oopsla2001/bizaligned>

Track: Architecture

27

Representing Software Architectures

Monday
Marriott Hotel — Meeting Room 13

Organizers:

Thad Scheer, *Sphere of Influence*
(tscheer@att.net)

Scott Pringle, *Lockheed Martin*

Chris Kauffman, *Epiphany Software Inc.*

In this workshop, software architects will exchange ideas about how to represent architectural structures and concepts in a commercial setting. The workshop will explore representation techniques that participants have found useful, essential (or irrelevant); and will discuss pitfalls in representing software architectures. The workshop's theme is carried forward from an OOPSLA 2000 birds-of-a-feather session on the same subject. Participants of the workshop will describe their expectations for architectural representations and share their experiences regarding what works and what doesn't. The workshop's focus is on establishing "practical" guidance, not on developing formal systems of complete specification. The objective of this workshop is to enhance our understanding of how software architecture is "best" represented (i.e. communicated) for commercial projects.

URL: http://home.att.net/~tscheer/OOPSLA_01/oopsla01.htm

Track: Architecture

28**Software Visualization**

Monday
Marriott Hotel — Meeting Room 4

Organizers:

Wim De Pauw, *IBM T.J. Watson Research Center*
(wim@us.ibm.com)

Steven Reiss, *Brown University*

Gary Sevitsky, *IBM T.J. Watson Research Center*

This workshop looks at current work in the area of software visualization with an emphasis on software understanding through visualization. It explores new visualization techniques and their application to software problems at every phase of the development lifecycle. It also covers work on frameworks for gathering and analyzing data for software visualization, software visualization systems, the use of visualization in combination with other analysis techniques, and experiments and experiences with software visualization. In addition to providing an overview of current research in the area, it provides a forum for discussion and cooperation among researchers in this and related areas.

URL: <http://www.research.ibm.com/people/w/wim/oopsla2001>

Tracks: Architecture; Fundamentals; UI and Usability

29

UML Modeling for Enterprise Distributed Object Computing

Monday
Marriott Hotel — Meeting Room 5

Organizers:

Fred Cummins, *EDS*
(fred.cummins@eds.com)

Arne Berre, *SINTEF*

Cory Casanave, *Data Access Technologies*

Yoshi Nagase, *Tech-Arts and Consortium for Business Objects Promotion*

David Zenie, *Iona Technologies*

Sandy Tyndale-Biscoe, *Open-IT, Ltd.*

Hiroshi Miyazaki, *Fujitsu*

UML (Unified Modeling Language) has been widely accepted by the industry as the lingua franca for modeling object-oriented systems. In March of 1999, the Object Management Group (OMG) issued a Request for Proposals for a specification to define a UML Profile for Enterprise Distributed Object Computing (EDOC). Since that time, a number of companies have participated in the development of proposals that are in the process of converging toward a single specification. Preliminary proposals are currently available. In addition, OMG has introduced the Model Driven Architecture (MDA). MDA will redirect OMG efforts toward specifications expressed in UML and mapped to multiple technologies. The UML Profile for EDOC is expected to become a key element of MDA, providing the specification meta-model for enterprise systems. A final proposal of the UML Profile for EDOC is expected to be presented to the OMG in July of 2001.

The purpose of this workshop is to engage participation outside OMG and the specification submitter group to discuss how the UML profile might be refined, extended and incorporated in development tools, as well as to discuss related work that could leverage this profile.

URL: www.enterprise-component.com/oopsla2001

Tracks: Architecture; Components, UML

30

Generative Programming*Monday**Marriott Hotel — Meeting Room 11***Organizers:**

Krzysztof Czarnecki,
DaimlerChrysler Research and Technology, Germany
(czarnecki@acm.org)

Greg Butler, *Concordia University, Canada*

Craig Cleveland, *Independent software consultant, USA*

Kris De Volder, *University of British Columbia, Canada*

Lutz Dominica, *Siemens Corporate Technology, Germany*

Ulrich Eisenecker, *University of Applied Sciences Kaiserslautern, Germany*

Yannis Smaragdakis, *Georgia Tech, USA*

This workshop invites practitioners, researchers, academics, and students to discuss experiences with generative techniques and the role of these techniques in object-oriented development.

- synergy between object-oriented technology, components, and generative techniques
- styles of generators (application generators, generators based on XML technologies, template languages (e.g., JSP), template metaprogramming, transformational systems, intentional languages, aspects, subjects, etc.), particularly their uses and limitations;
- generation of code artifacts, such as application logic, UIs, database schemas, and middleware integration;
- generation of non-code artifacts such as test cases, documentation, tutorials, and help systems;
- capturing configuration knowledge, for example, in DSLs, and extensible languages;
- influence on software architecture (e.g., building and customizing frameworks and applying patterns);
- testing generic and generative models; and
- industrial applications of generative technology.

This workshop's goal is to provide a forum for participants to share their experiences, to assess the state-of-the-art and the state-of-the-practice generative programming techniques, to consolidate successful techniques, and to identify the most promising application areas and open issues for future work.

URL: www.generative-programming.org/oopsla01-workshop.html

Tracks: Emerging Technologies; Languages

**First OOPSLA Workshop on Language Mechanisms for Programming Software Components**

Monday
Marriott Hotel — Meeting Room 6

Organizers:

Vugranam C. Sreedhar, *IBM T.J. Watson Research Center*
(sreedhar@watson.ibm.com)

David H. Lorenz, *Northeastern University*

Although there are many models for component-based software development, most of these models are based on sets of standards and frameworks (APIs), and are implemented on top of a mainstream object-oriented programming language. Very little research has been done in understanding and promoting the key concepts in component-oriented programming; that is, identifying what exactly is component-oriented programming and what language mechanisms exist for component-oriented style of programming. This workshop intends to bring together researchers, practitioners, and implementers to present their experience in component programming in a forum that will allow them to collaborate and exchange ideas. This workshop's goal is to address two questions:

- 1 What are the key ingredients of component-oriented programming?
- 2 How to express these key ingredients in a component-oriented programming language?

URL: <http://www.ccs.neu.edu/home/lorenz/oopsla2001/>

Tracks: Components; Languages

NOTES: