Patterns 10 Years After: Developments and Trends in the Patterns World

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JAOO
September 25 - 30
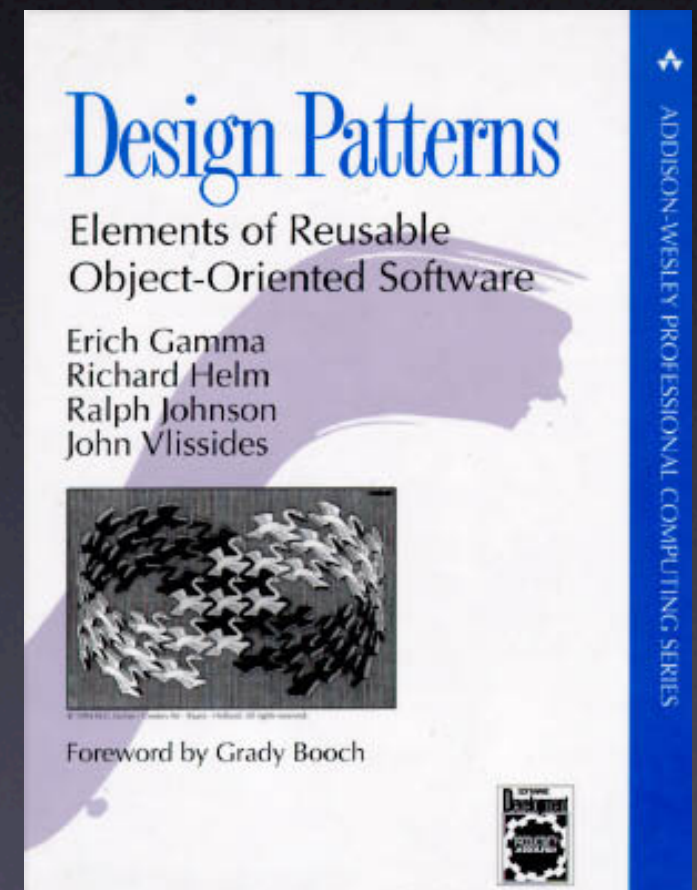Denmark   2005

10 Years!

- OOPSLA 1995 program:
  - *Patterns: Cult or Culture?*
  - *Patterns in Practice*
- JAOO 2005 program:
  - *Role of Patterns in Software Engineering*
  - *Pushing the Limits*

Outline

- 10 years of patterns

- 3 data points

- Who ?

- Why ?

- Trends

Then...

- 1995:
  - eBay, Amazon, Google, Yahoo!, Java
  - Design Patterns, the GoF book
- Other pattern books
  - Analysis Patterns
  - POSA
- Conferences
  - Pattern Languages of Programs (PLoP)
  - Others (OOPSLA, ECOOP, etc.)

Now...

- Patterns: not a thing of the past

- PLoPD Volume 5

- In a good position to:

  - Summarize current patterns work
  - Present some notable developments
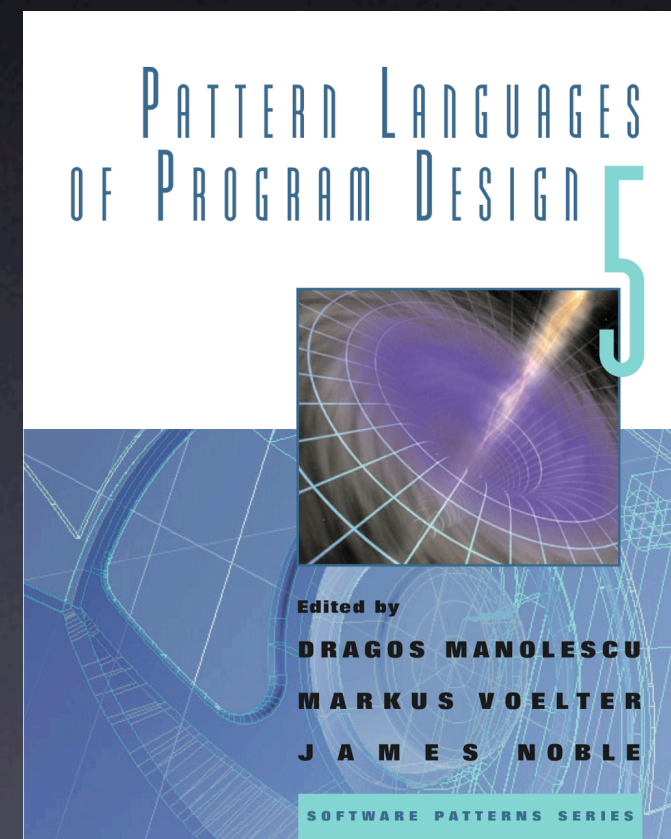 - Reflect on trends

Data Point 1: PLoPD 5

Pattern Languages of Program Design
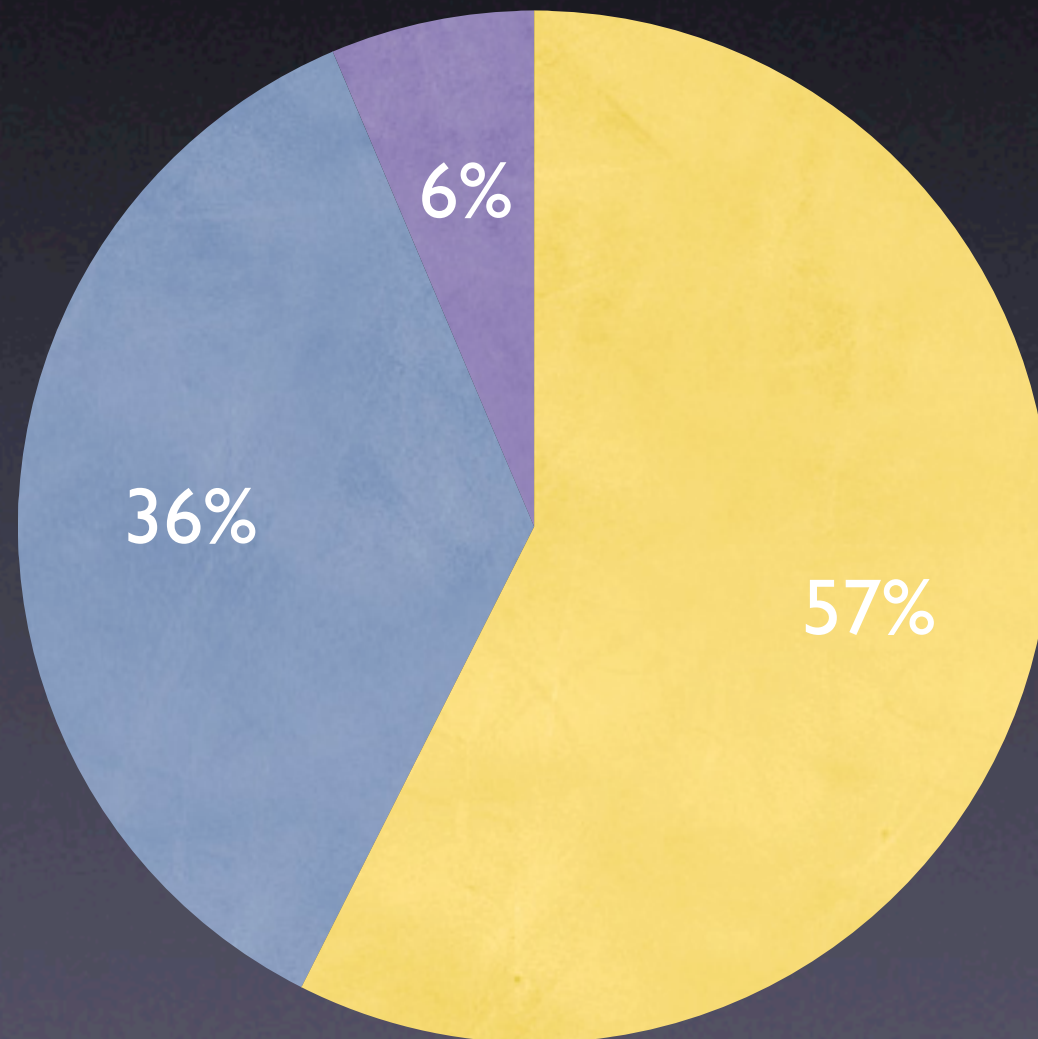

1995   1996   1997   1999

PLoPD 5

70+ submissions covering
1998-2004

- PLoP and ChiliPLoP (USA)

- EuroPLoP and VikingPLoP (Europe)

- KoalaPLoP (Australia)

- SugarLoafPLoP (Brazil)

- MensorePLoP (Japan)

PATTERN LANGUAGES
OF PROGRAM DESIGN 5

Edited by
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SOFTWARE PATTERNS SERIES

PLoPD5 Submissions

● Academia ● Industry ● Ambiguous

6%

36%

57%

Submission Areas

- Traditional: design, architecture, analysis, ...
- Technologies: agents, aspects, meta-patterns, ...
- Specialized domains: real-time, distributed, ...
- Other domains: usability, peopleware, pedagogical...
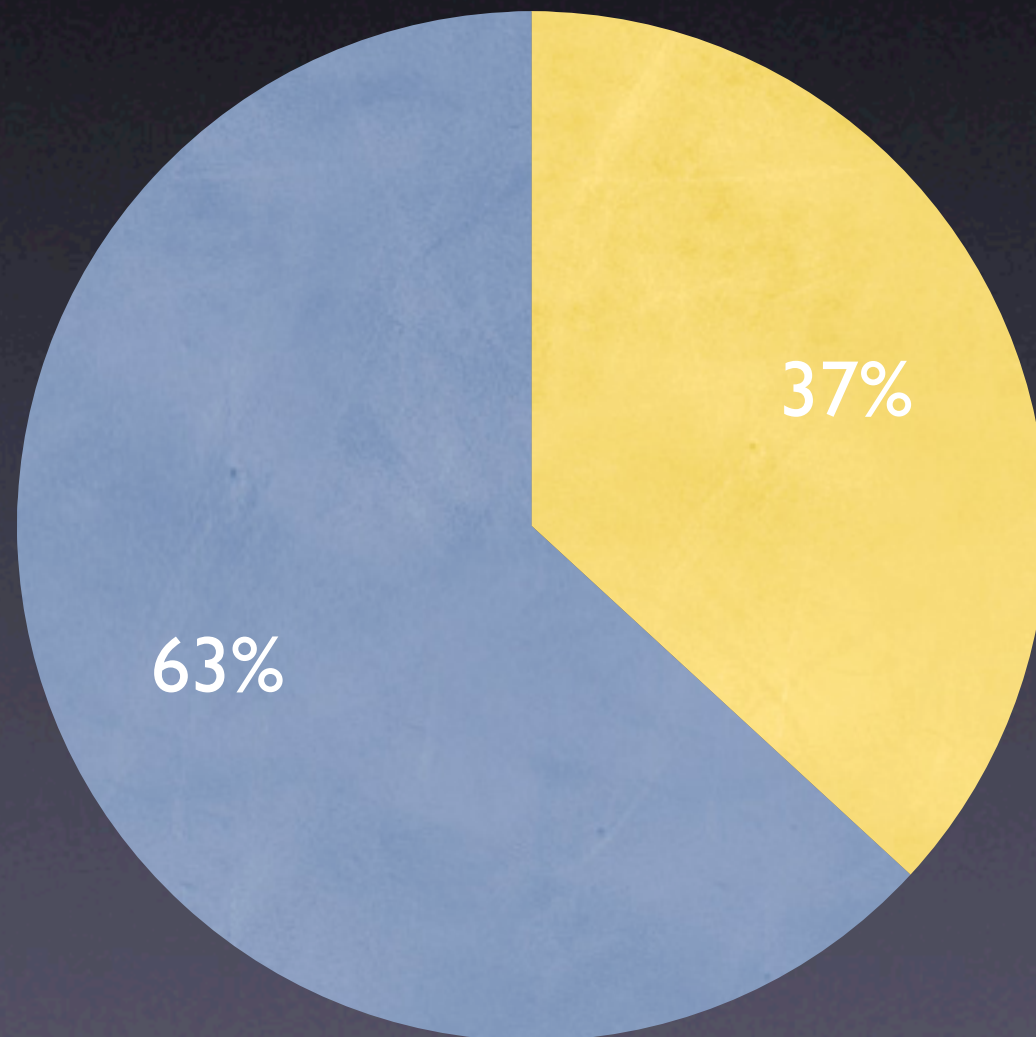
PLoPD5 Sneak Preview

- Part I: Design
  - Dynamic Object Model
  - Domain Object Manager
  - Encapsulate Context
- Part II: Concurrency and Resource Management
  - Real Time and Resource Overload Language
  - A Pattern Language for Efficient, Predictable, Scalable, and Flexible Dispatching Components
  - Time-Triggered Transmission

- Part III: Distributed Systems
  - De-Centralized Locking
  - The Comparand Pattern
  - Service Discovery
- Part IV: Domain Specific Patterns
  - MoRaR: A Pattern Language for Mobility and Radio Resource Management
  - Content Conversion and Generation on the Web

- Part V: Architecture
  - Patterns for Plugins
  - The Grid Middleware Architectural Pattern
  - Some Patterns of Component and Language Integration
  - Patterns for Successful Framework Development
- Part VI: Meta-Patterns
  - Advanced Pattern Writing
  - A Language Designer's Pattern Language
  - The Language of Shepherding
  - Patterns of the Prairie Houses

PLoPD5 Composition

Data Point 2: Books in Progress

People-oriented	Dave Hoover and Adewale Oshineye, *From Apprentice to Journeyman* Mary Lynn Manns and Linda Rising, *Fearless Change*
Architecture	Grady Booch, *Handbook of Software Architecture* Martin Fowler, *Patterns of Enterprise Application Architecture*

Architecture Goals	Jenifer Tidwell, *Designing Interfaces: Patterns for Effective Interaction Design* Markus Schumacher et al, *Security Patterns*
Technologies	Microsoft, *Web Service Security Patterns* Gregor Hohpe, *Service Interaction Patterns* Dragos Manolescu and Boris Lublinsky, *Orchestration Patterns in SOA*

Other

Frank Buschmann, Kevlin Henney and Doug Schmidt, *POSA4*

Robert Hanmer, *Patterns of a Telecommunication System*

Data Point 3: Other Projects

Microsoft	**Pattern Share** Pattern support in Visual Studio Patterns of Service Orientation
IBM	**Pattern Solutions** Implementations of SOA and ESB patterns in IBM's tools suite

Who ?

- Patterns community - the Hillside Group (hillside.net)

- Academics

- Industry

  - Big guns (IBM, Sun, Microsoft)

  - Consultants

Why ?

- Learning from experts

- Common vocabulary for communication

- Reuse

- Documentation

Trends

- Shift beyond object-oriented design
- Shift towards pattern languages
- Emergence of several pattern classes:
  - Explain technologies
  - Achieve architectural qualities
  - Explore a domain
- Industry support
- Meta-patterns

Parting Thought

Many of the ideas that made a big splash 10 years ago have gone extinct. Patterns, which started without economic incentives, evolved and continue to attract attention.

For More Information

- PLoPD5 on Amazon.com

- Hillside.net

- Pattern projects in progress: http://micro-workflow.com/patternprojects