Pattern Landscapes

– or what we can learn from Dating Patterns

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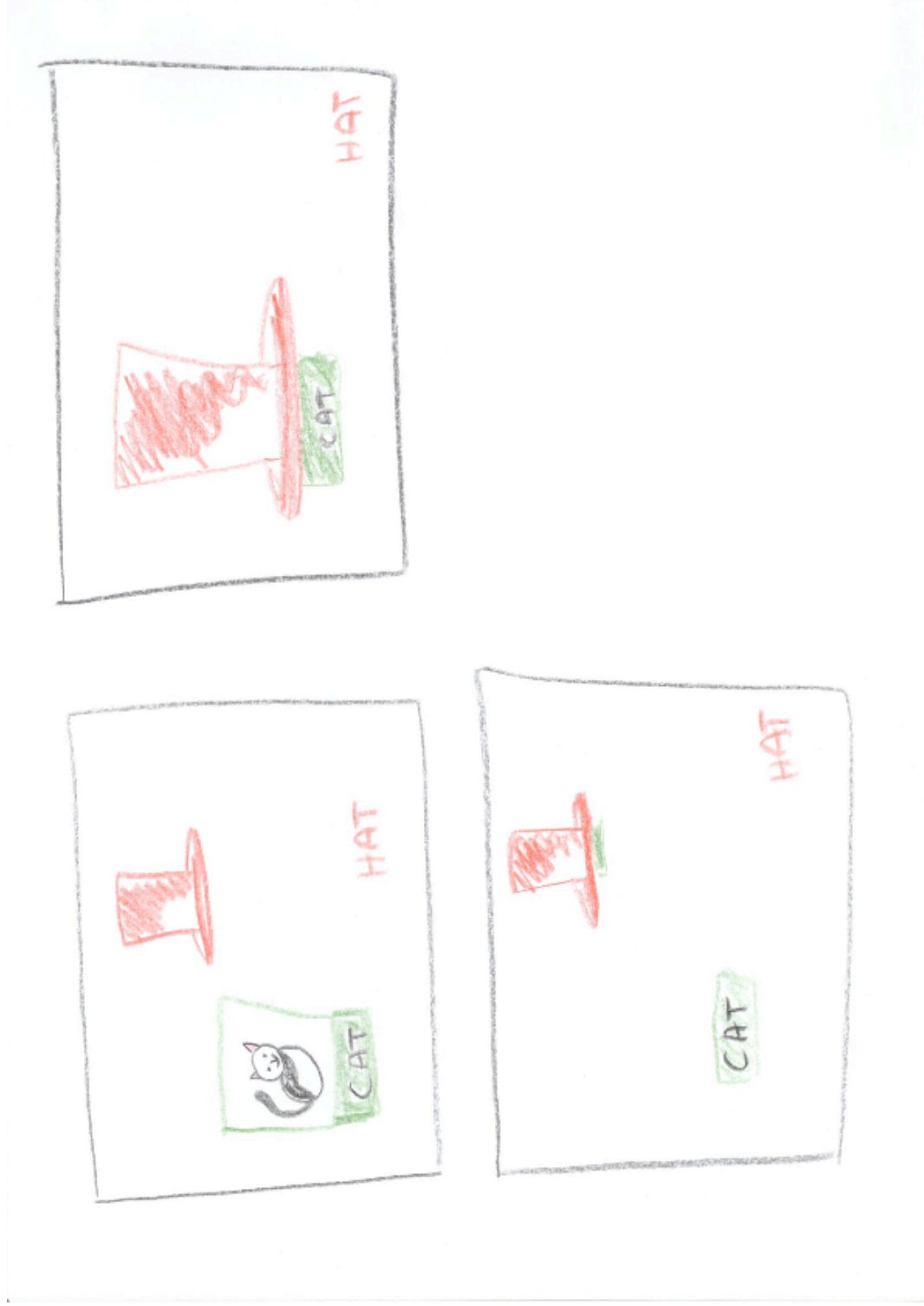# If you only remember one thing.

Let it be this:

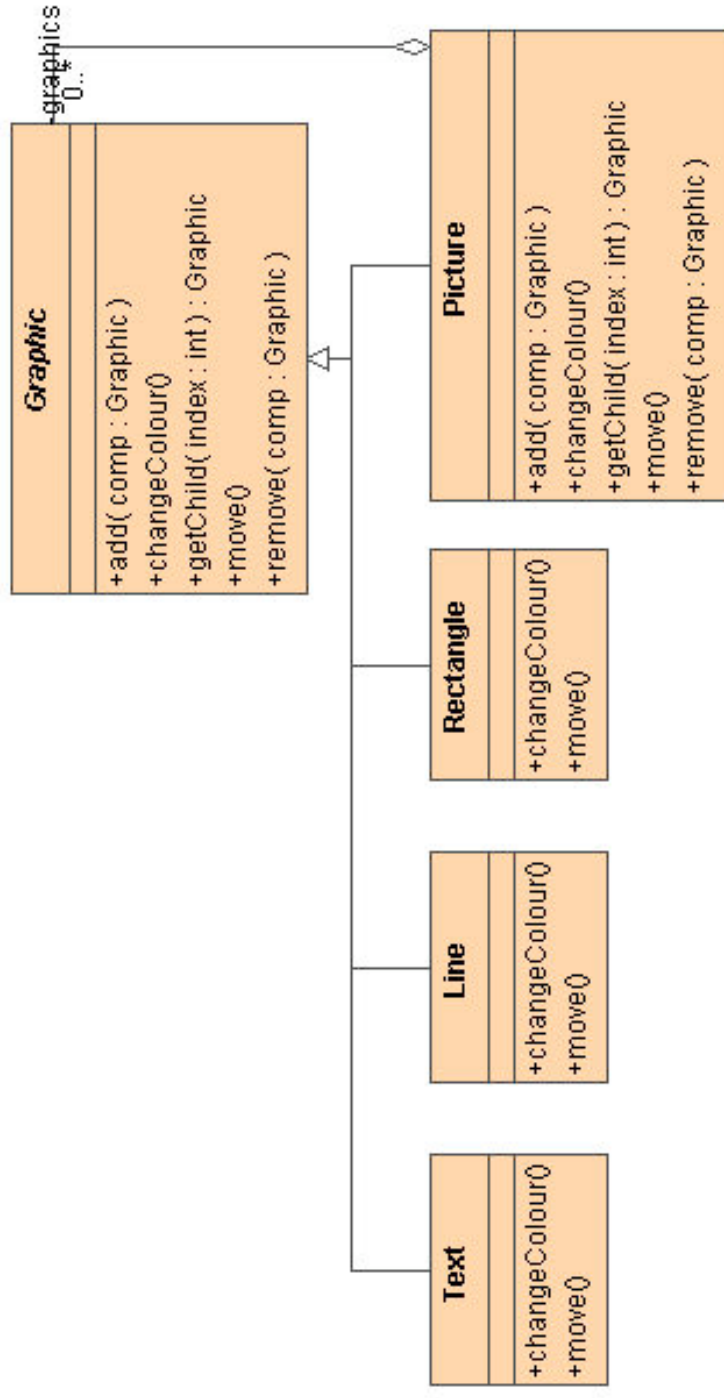Patterns are a useful tool of communication

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Agenda

- History and motivation
- More than GoF
- Outside the domain
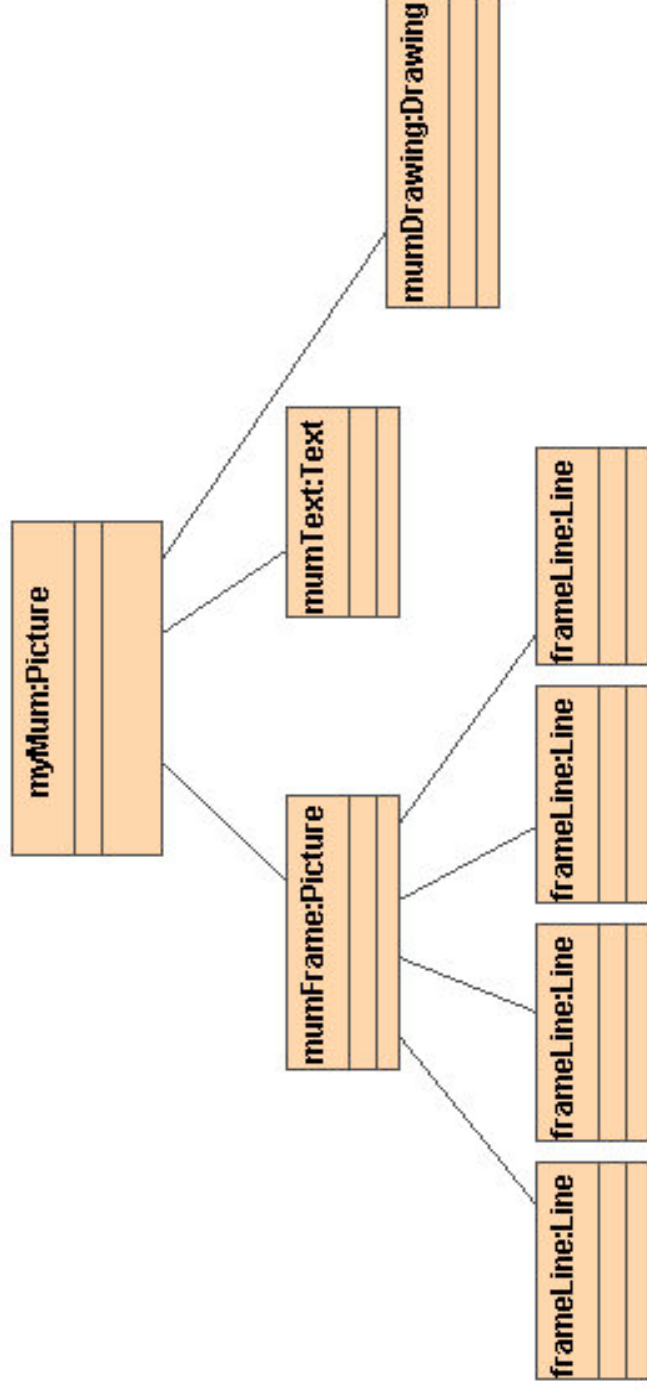- Different scales
- Enable communication
- Future

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Type Structure

Graphic
- +add(comp : Graphic)
- +changeColour()
- +getChild(index : int) : Graphic
- +move()
- +remove(comp : Graphic)

graphics 0..*

Picture
- +add(comp : Graphic)
- +changeColour()
- +getChild(index : int) : Graphic
- +move()
- +remove(comp : Graphic)

Rectangle
- +changeColour()
- +move()

Line
- +changeColour()
- +move()

Text
- +changeColour()
- +move()

Dynamic structure

myMum:Picture

mumText:Text

mumDrawing:Drawing

mumFrame:Picture

frameLine:Line

frameLine:Line

frameLine:Line

frameLine:Line

Consequences

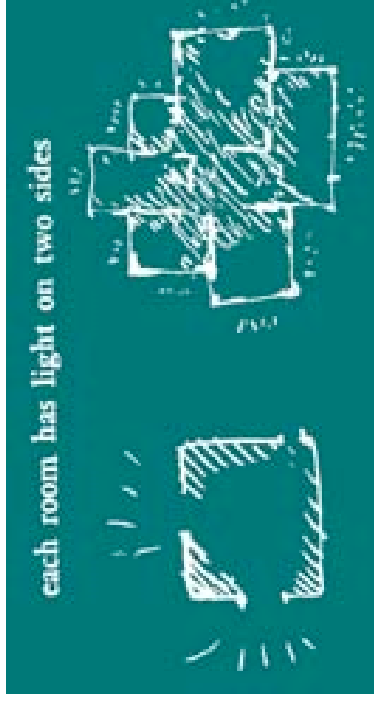- A recursive structure

- Makes the client simple

- Adding new components is easy

- Adding new functionality is not easy

- Design is overly general

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Discussion

- Where to put the "child"-operations

- Introduce "parent pointers"?
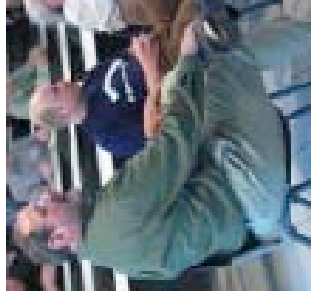
- Child ordering?

- Caching?

The Pattern Concept

- Christopher Alexander, Architect
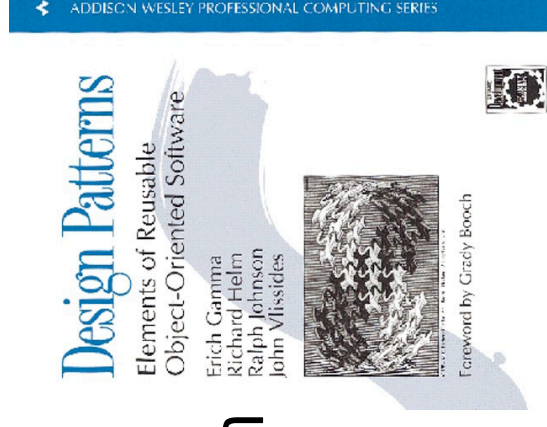
each room has light on two sides

- A new world of Objects
- A few had the experience to pass on

The first decade

- It all started in 1987, but...
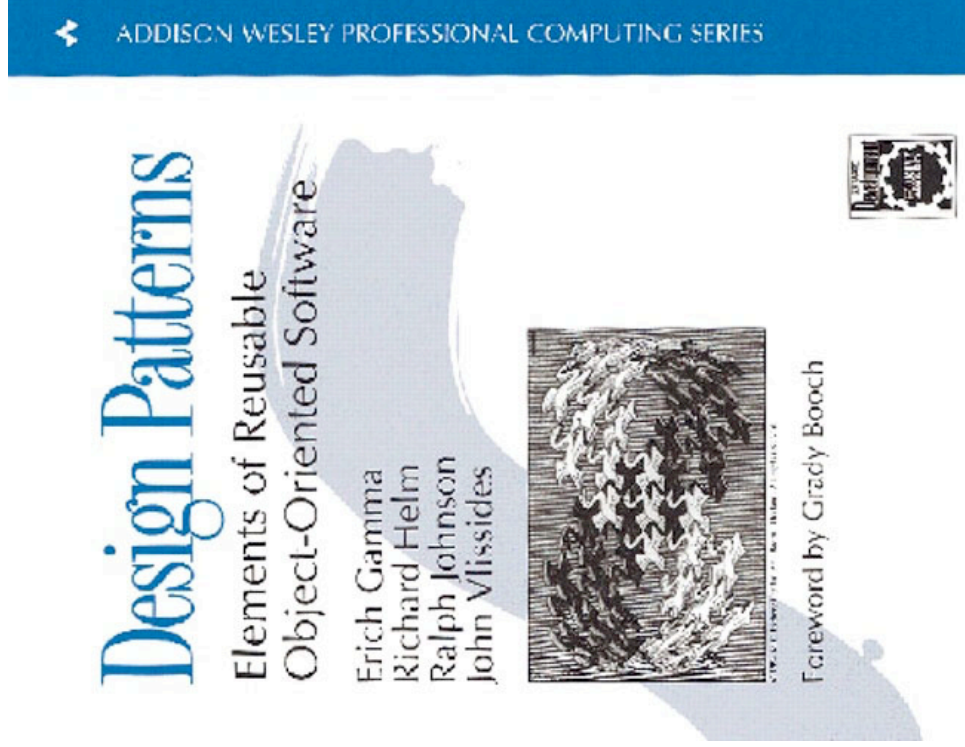
- For most people, not until GoF in 1995

ADDISON WESLEY PROFESSIONAL COMPUTING SERIES

Design Patterns
Elements of Reusable
Object-Oriented Software

Erich Gamma
Richard Helm
Ralph Johnson
John Vlissides

Foreword by Grady Booch

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Descriptions of Patterns

"Providing proven solutions to recurring design problems that arise in a given context"

"Abstract solutions to often recurring problems in a domain."

Patterns document proven design experience — they exercise an "aggressive disregard for originality" (Brian Foote).

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A Pattern Example

Design Patterns: Elements of Reusable Object-Oriented Software — Erich Gamma, Richard Helm, Ralph Johnson, John Vlissides. Foreword by Grady Booch. Addison Wesley Professional Computing Series.

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* Dating design patterns *

"How many times, have you thought 'Boy, I sure wish there was an easier way to pick up women, like published API with code samples?' What would you say if such documentation was not only available, but succinctly put into 22 design patterns and given formal descriptions just like the ones in your UML book? "

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Fifth Position Break

Problem

You want to easily find women and create sessions by exposing desirable services and attributes

Forces

- Women love dancing
- Very few men engage in this behavior

Solution

Use Fifth Position Break to meet and impress extensive numbers of women on demand

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Fifth Position Break

Strategies

- There's no business like show business
- Swinging with girls of unknown pleasure
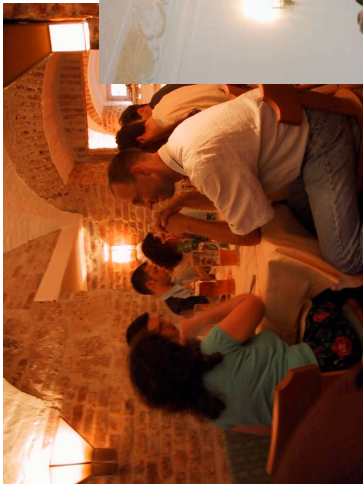
Benefits and drawbacks

- A magic button for instantiating dating objects
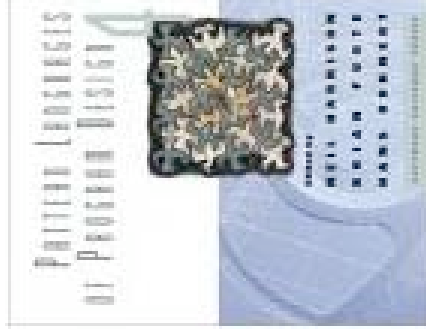- Requires significant resource investment of time and money
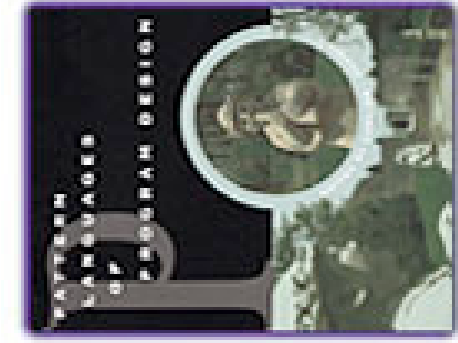
Related Patterns

- Exposed Collector - engage in a variety of activities to meet women
- Pandimensional Renaissance Differentiator - learning a variety of skills and interests

Movement - PLoP conferences

Movement - PLoP books

* Beyond GoF

Flexible OO-design is supported by GoF

- GoF **and** PLoP books, POSA books, Google, etc...

- DPs **and** Beauty vs. Intelligence, Mars & Venus books

Googlistics

- Web 2.0 Patterns: 2.000+
- JavaScript patterns: 5.000+
- Enterprise patterns: 33.000+
- Design Patterns: 4.440.000+
- Analysis Patterns: 101.000+

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* Domain Specific Patterns

- Patterns, covering the recurring problems in a specific domain, i.e. a specific technology or a specific problem domain

- These can sometimes be used outside the domain as general patterns

Surprise Statefulness

Problem

You want to convince the target female that you are a package of extremely desirable resources and differentiate yourself from other dating service providers

Forces

- Women view men as somewhat self-centered
- Women assign significant value to a man who takes the trouble to make her private data persistent

Solution

Use optimistic persistence to implement explicit storage and retrieval of her private attributes

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Surprise Statefulness

Strategies

- Standard text retrieval strategy [do you still use that wooden hula hoop ring?]
- Object instantiation strategy [give her an old LP of of the first band she ever saw]

Benefits and drawbacks

- Considerable investment up front
- Dirty Reads
- Mismatched data and client
- Corresponding high return

Related Patterns

- Interested Listener - listen

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Interested Listener

Problem

- You want to enter and maintain conversational state with a client, high-quality request/ response cycles, without exhausting system resources

Forces

- Without knowledge of attributes, maintaining conversational state is difficult
- Talking to another person can be boring
- Talking about yourself is almost always interesting

Solution

- Get the public or private attributes by calling standard getter methods
- With these in hand, run more complex methods

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Interested Listener

- Strategies
  - askForDirectionsOrInformation, askHerAboutHerBook, askHerAdviceAboutSomething
  - Implement **LookLikeYouAreListening**

- Benefits and drawbacks
  - Easier than thinkOfSomethingClever
  - More effective than seenYouHereBefore
  - Sometimes your data is stored in a friendZone cookie

- Related Patterns
  - Dating Savant

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* Different Scales

- Architectural patterns, design patterns, programming idioms

- MVC - Observer

- Facade

- Pipes and filters

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Cary Grant helper

Problem

You want your services to be regarded as superior and appealing prior to and during conversational state, and during sessions, particularly those you want to be stateful

Forces

- It's a clients market
- Women want classic romantic implementations

Solution

Use Cary Grant helper to apply the rarely used but stable and reliable set of politeness rules by implementing Gentleman 1.0

Cary Grant helper

Strategies

- Hold doors, pull out chairs
- Let her order first, pay compliments

Benefits and drawbacks

- You cannot hold the chair for everbody
- Implements Gentleman 1.0, which is a companion to an older version of Woman 1.0 (which took over from Lady 4.0.3). Lady code is still present in the woman spec.

Related Patterns

- Fifth Position break - dancing
- Interested Listener - listening
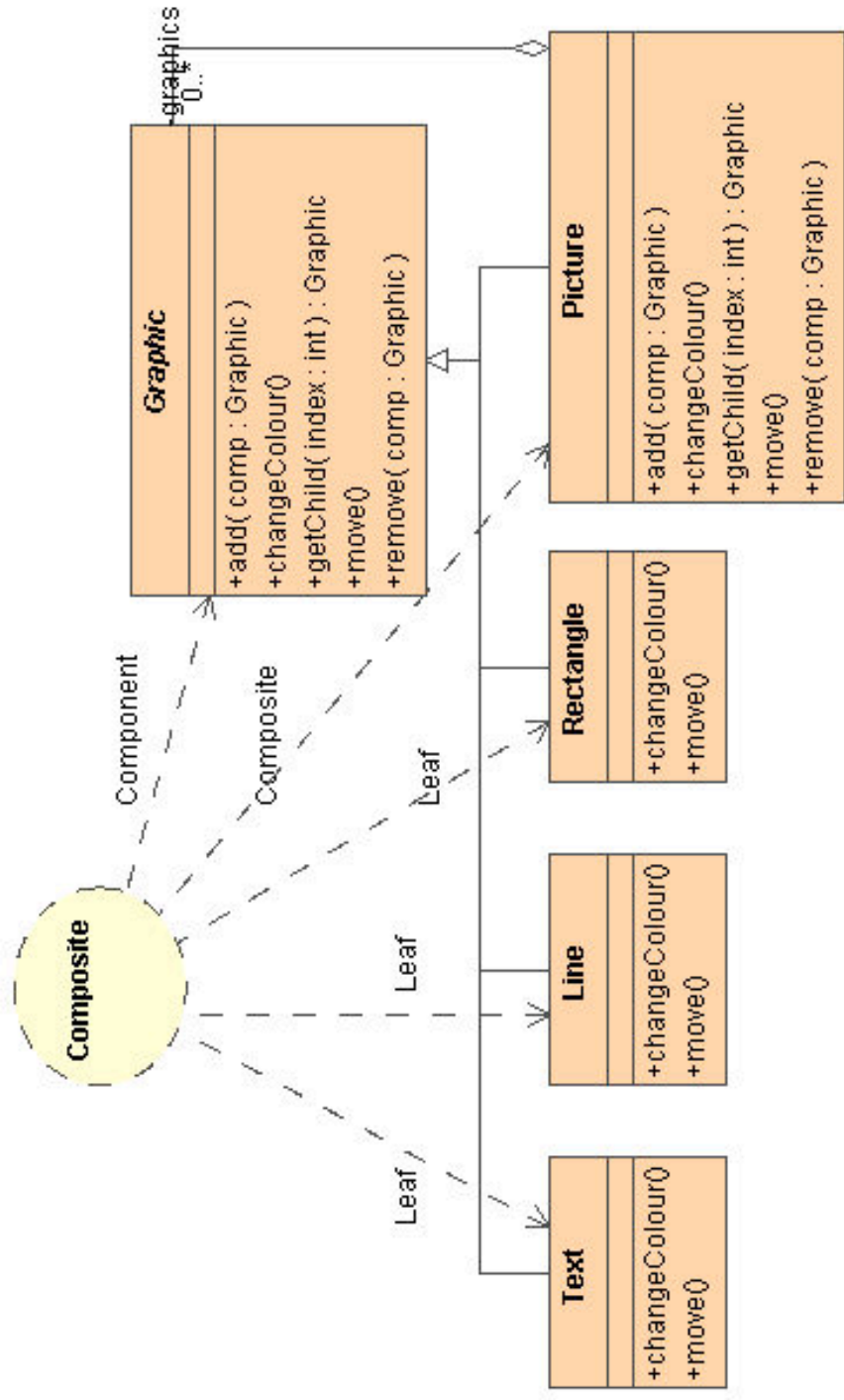- Decorated Visitor Honeypot - set up an appealing honeypot

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*Communication

- Common vocabulary
- Catchy names
- Learn from them, others communicate experience
- Communicate within company, workplace

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Jini Singles Bar

Problem: You're a great catch, of course, and you're looking for someone smart, funny, beautiful, who can talk about rock-climbing, Slashdot, politics and 19th century Serbo-Croatian playrights. It would also be nice if she were 24, between 5'6" and 5'8", of French extraction, interested in the songs of Owen Margolis, with dark long brown hair. However, you have not yet found this woman.

Documentation - Composite

Double Bottleneck - development

Problem

You have a suspected bottleneck

Forces

- Bottleneck needs to be removed
- Functionality cannot change
- Profilers won't tell you everything

Solution

If you cannot remove it, double it!

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Double Bottleneck - development

Strategies

- Call the remote method twice
- Run the algorithm twice

Benefits and drawbacks

- You will find the bottleneck quicker
- It might be a false positive
- You have not solved the problem when it is discovered

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Relations between patterns

Composite

- Iterator - traversing composites

- Chain of Responsibility - component-parent link

- Decorator - to decorate with responsibility

- Visitor - localizes operations and behavior

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Unexpected Resource God

Problem

You want to find women and establish conversational state that can lead to sessions, with minimal effort

Forces

- Women are typically colder than men
- It's a whole lot easier to use the social engineering approach than to try to batter down her firewall with a frontal assault

Solution

Initiate connections using needed system resources unavailable to the target

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Unexpected Resource God

Strategies

Medical, travel, weather, food, child entertainment

Benefits and drawbacks

- Hard storage limits
- Context awareness

Related Patterns

- Decorated Visitor Honeypot - create interesting environments
- Goto guy - be the one with the answers

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Decorated Visitor Honeypot

Problem

You want to connect to and create conversational state with women, but you want them to do all the work

Forces

- There are women in your general realm
- Women notice their surroundings more than men

Solution

- Establish an appealing, novel environment and thus externally initiated connections

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Decorated Visitor Honeypot

Strategies

Chocolate, interests, kittens, babies, decorate yourself [t-shirt with Finnish sayings]

Benefits and drawbacks

- It is not cheap
- Women will be initiative

Related Patterns

- Unexpected Resource God
- Goto Guy - be the one with the answers

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*The future - the concept

- Patterns and antipatterns will pair up

- Avoid the word "pattern"!

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If you only remember one thing.

Patterns are a useful tool of communication

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Literature

- 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"

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Literature

- Architecture Goals
  - Jenifer Tidwell, "Designing Interfaces: Patterns for Effective Interaction Design", nov. 2005
  - Markus Schumacher et al, "Security Patterns - integrating security and systems engineering", dec. 2005

- Service Patterns
  - Gregor Hohpe, "Enterprise Integration Patterns"
  - Dragos Manolescu and Boris Lublinsky, "Orchestration Patterns in SOA"

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Literature

- Frank Buschmann, Kevlin Henney and Doug Schmidt, "POSA4"

- Robert Hanmer, "Patterns of a Telecommunication System"

- Dragos Manolescu, Markus Völter, James Noble, "PLoP5"

- Kathy Sierra et al., "Head first design patterns"

- Solveig Haugland,"Dating design patterns"

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