Apache Isis

Apache incubator

Introducing...
Apache Isis

Ubiquitous Language

With a conscious effort by the team, the domain model can provide the backbone for that common language

Eric Evans,
Domain Driven Design

What is Naked Objects ?

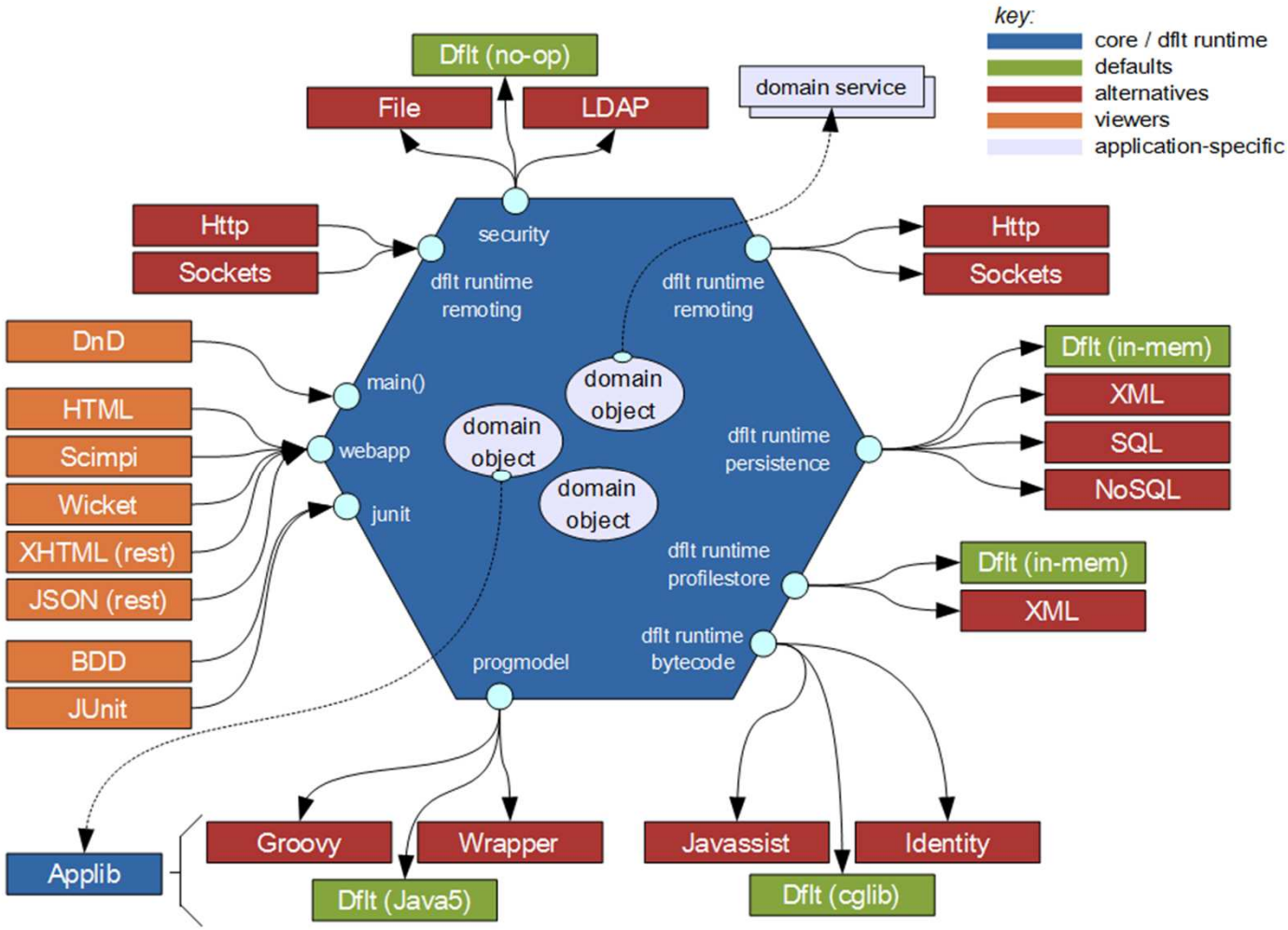
- An Architectural Pattern
  - automatically renders domain objects in an OOUI
  - fits in with the hexagonal architecture
- A Principle
  - all business functionality is encapsulated on the core business objects
  - “problem solver, not process follower”
- A natural bed-fellow for Domain-Driven Design
  - rapid prototyping & development

An example of the DRY Principle

- The UI representations correspond directly with the underlying domain object model

- So, for instance:
  - objects instances exposed as icons
  - object properties / collections exposed in forms
  - object methods exposed as menu items
    - eg Claim#submit(Approver)
  - repositories/domain services exposed as desktop icons
    - eg ClaimRepository, EmployeeRepository

What is Apache Isis ?



Apache Isis combines the naked objects pattern with the hexagonal architecture

Isis apps are just pojos

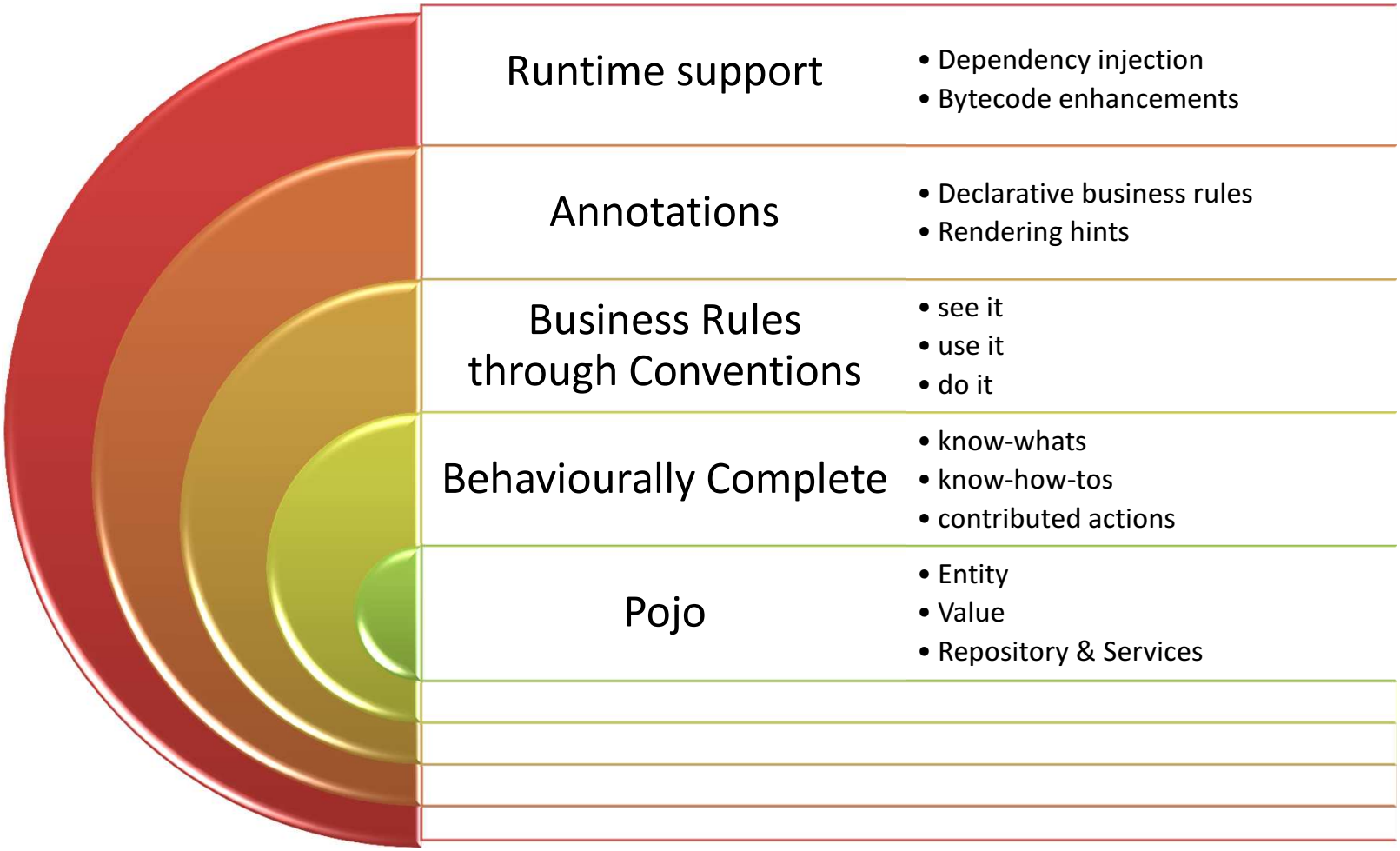
Claim.java

```
package org.nakedobjects.examples.claims.dom.claim;

import java.util.ArrayList;

public class Claim extends Ab

    // {{ Description
    private String descriptio
    @MemberOrder(sequence = "
    public String getDescript
        return description;
    }
    public void setDescriptio
        this.description = de
    }
    // }}

    // {{ Date
    private Date date;
    @MemberOrder
    public Date
        return d
    }
    public void
        this.dat
    }
    // }}
```

```
    // {{ Items
    private List<ClaimItem> items = new ArrayList<ClaimItem>();
    @MemberOrder(sequence = "6")
    public List<ClaimItem> getItems() {
        return items;
    }
    public void addToItems(ClaimItem item) {
        items.add(item);
    }
    // }}
```

```
    // {{ action: Submit
    public void submit(Approver approver) {
        setStatus("Submitted");
        setApprover(approver);
    }
    public String disableSubmit() {
        return getStatus().equals("New") ? null : "Claim has already been submitted";
    }
    public Object[] defaultSubmit() {
        return new Object[] { getClaimant().getApprover() };
    }
    // }}
```

The Isis Programming Model



So what does the app look like?

- Let's see...

```
mvn archetype:generate                                  \
    -D archetypeGroupId=org.apache.isis.support         \
    -D archetypeArtifactId=quickstart-archetype
```

Resources

- Apache Isis Incubator website
  - links to the mailing list (isis-dev), IRC (#apache-isis)
  - links the wiki, JIRA
  - http://incubator.apache.org/isis
  - how to use Isis' quickstart archetype

- Richard Pawson's original thesis on Naked Objects
  - http://incubator.apache.org/isis/Pawson-Naked-Objects-thesis.pdf

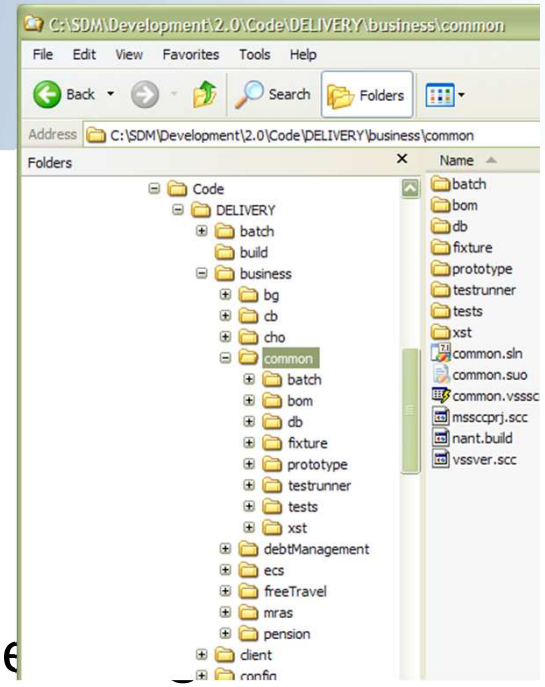
- Dan Haywood's book
  - http://www.pragprog.com/titles/dhnako

- Naked Objects on .NET
  - http://nakedobjects.net

The DSP: Why?

Strategic Agility	Operational Agility	Technical Agility
Respond to unforeseen changes in business requirements	Provide clerical officers with greater flexibility to solve customers' problems	Accommodate changes in technology

The DSP What?



- Platform for the future generation of business systems
  - the common BOM (a shared kernel)
  - a technology platform
    - UI, remoting, bespoke ORM, ...
- Specific applications replacing & extending e administration systems:
  - State pensions, Free Travel, Household Benefits, ECS, ...
  - Overpayment/Debt Management system, Medical Referrals, ...
- Integration with other systems, technologies and dept^{s}
  - BizTalk messaging, batch, scanning, barcodes, ...
  - Central Printing, SMS, other media, ...

Why the DSP's Naked Objects system makes for an interesting story:

Domain-driven design

- One of the purest examples of domain-driven design for a large-scale transactional business application, anywhere in the world
- Extreme re-use and sharing of objects between applications
- Enables easy modification in response to changing business requirements

Agile Development

- Possibly the first large-scale application of agile development within the public sector, anywhere in the world

Empowered Users

- A rich user interface to a core transactional business system

Powerful & Productive Environment

- User interfaces 100% auto-generated from the underlying business objects
  - with no custom coding to write or to maintain
- More opportunity to explore domain than otherwise possible