Domain Annotations

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bleeding-edge .net

GREAT INDIAN DEVELOPER SUMMIT

Metadata in Code

Languages have used several ad hoc mechanisms to store metadata

• keywords	`Override`
• formatted comments	`/// <summary>`
• naming conventions	`testFooBar()`
• marker interfaces	`Serializable`

.NET Attributes

Attributes are an extensible facility

- language features (keywords) are not

Attributes are available at runtime

- metadata in comments is not

Attributes are first class language elements

- supported by IDE, compiler, and reflection

Attributes can have program code

`[Test]`
`[Browsable(true)]`
	markers for frameworks/tools

`[SoapDocumentMethod]`
`[DisplayName("Address")`
	configuration/mapping

`[AssemblyTitle(…)]`	developer/user information

`[Audit]`
`[RequiresTransaction(…)]`
	point-cut markers

`[MaxValue(1000)]`
`[MaxLength(50)]`
	parameterized markers

`@Override`
`[Layer("Domain")]`
	structural rules

`[PartyPlaceThing]`	domain specific annotation

Domain Annotations

Added to domain objects

- classes, methods, even arguments

Concerned with domain concepts

- type defined in domain namespace

Can have multiple uses

- might even be created before it is used

What you'll see

Leroy's Lorries

- a stock management / logistics application
- based on a real application we worked on

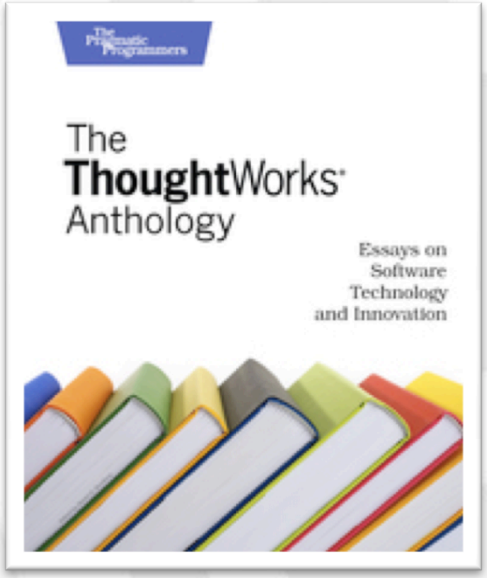
What you’ll see

Attributes with polymorphic implementations

- validation – length and unique constraints

Domain attributes

- data classification & navigational hints
- attributes are used across auditor, permission checker, and data loader services



The Pragmatic Programmers

The ThoughtWorks Anthology

Essays on Software Technology and Innovation

Thank you!

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Attributes are code

Should describe something intrinsic

- generally change when code changes
- should not change for

Should only contain default configuration

- overrideable by external mechanism
- **but**: consider convention for default configuration!

Don’t go crazy!

Should only be used where they make sense…

- `[TestFixture]` is redundant
- `[SetUp]` has better alternatives

Should not have side effects

- if they contain code, this should be stateless (function-like) code

Assumptions…

Should be used cautiously

- `[WebMethod]` does not make a method a service

Never assume presence of an annotation

- objects may be decorated