Design Patterns on Sitecore: The Good, the Bad and the Ugly

Mike Reynolds
What’s a Design Pattern?

• “General reusable solution to a commonly occurring problem“

• Describes how to solve a problem
  • Can be across different contexts

• Provides a common language for developers

• Is not a cookie-cutter code solution!
Design Patterns: History

• Proposed by Christopher Alexander (1970s)
  • A Pattern Language: Towns, Buildings, Construction
    (http://amzn.to/1BtaalH)

• Kent Beck and Ward Cunningham applied the concept to programming (1987)
  • Presented results at Object-Oriented Programming, Systems, Languages & Applications (OOPSLA)
Are Design Patterns Always Good?
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Decorative Pattern

• Encapsulates an object with the same interface
  • Also a “wrapper”

• Adds/removes/alters functionality on the inner instance
Decorator Pattern
Decorator Pattern

Let’s see some code!
Decorator Pattern

/sitecore/content/Home/Cat Page Two/Sub Page Four

Sub Page Four says Meow!
Decorator Pattern
Decorator Pattern

Look at the URL and look at the Item path.

Sub Page Four

Subtitle for Sub Page Four

Item path: /sitecore/content/Home/Cat Page Two/Sub Page Four

Sub Page Four says Meow!
Decorator Pattern

Sub Page Four

Subtitle for Sub Page Four

Out of the box functionality still works!

Sub Page Four says Meow!
Template Method Pattern

- Defines the main “algorithm” in an abstract base class
- Provides stubs (abstract methods) for subclasses to “fill in the blanks”
- May also offer hooks (virtual methods)
  - Can further alter the main “algorithm”
Template Method Pattern

```
// ...
doSomething();
// ...
PrimitiveOperation1();
// ...
PrimitiveOperation1();
// ...
doAbsolutelyThis();
// ...
```

```
AbstractClass

PrimitiveOperation1()
PrimitiveOperation2()
TemplateMethod()
doAbsolutelyThis()
doSomething()
```

```
ConcreteClass

PrimitiveOperation1()
PrimitiveOperation2()
doSomething()
```
Template Method Pattern

Let’s see some code!
Template Method Pattern

- Item name has invalid characters.
- Both warnings appear.
- The Item has more than 20 child Items.
Template Method Pattern

I removed the invalid characters. I'm about to click 'OK'.

Clicked this, and the Rename dialog appeared.
Template Method Pattern

The Item was renamed.

Let's click this.
Template Method Pattern

I'm sure I'm sure ;)

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Template Method Pattern

Something is happening. ;)

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Template Method Pattern

The Item is now an Item Bucket.

No more warnings. :D
• Defines a family of classes with the same interface

• Encapsulates each class instance

• Makes the instances interchangeable within that family
Strategy Pattern

```
Context

<interface> Strategy
+execute()

ConcreteStrategyA
+execute()

ConcreteStrategyB
+execute()
```
Strategy Pattern

Let’s see some code!
Thank you!

Get in Touch:
Twitter: @mike_i_reynolds
Sitecore Slack: @sitecorejunkie
LinkedIn: http://bit.ly/1Csu1N8
Blog: http://sitecorejunkie.com