



SmallWiki 2 Magritte

Collaborative Content Management
Objects from Top to Bottom

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Outline

- ✧ Why another Wiki?
- ✧ What is SmallWiki?
- ✧ SmallWiki 2 – Evolution of a design
- ✧ Magritte – Meta-modelling in Smalltalk

Why another Wiki?

S///g

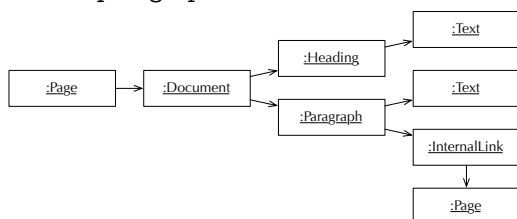
Stinky Strings

- ✧ Parsing code is duplicated everywhere
 - ✧ HTML, Text, LaTeX generation
 - ✧ Querying, Extracting data
 - ✧ Building indexes, references
- ✧ Regular expressions are slow
- ✧ Nearly impossible to extend
- ✧ Hard to test

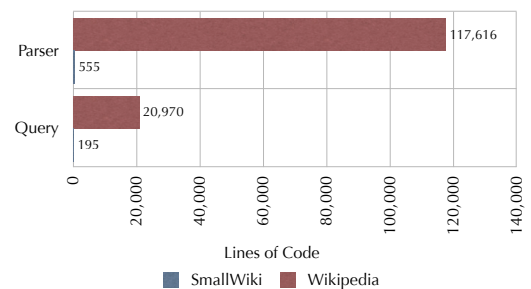
Object Oriented Design

!Heading

This is a paragraph with a *Link*



SmallWiki ↔ Wikipedia



What is SmallWiki?

- ✧ Content Management System (CMS)
- ✧ Application Development Framework
- ✧ Object oriented design
- ✧ Full extensibility and plug-ability
 - ✧ Widget library
 - ✧ Meta-model based
 - ✧ Different user interfaces
- ✧ Test driven development
- ✧ Open-source

Full Extensibility

Extensibility

Page Types

Commands

User Interfaces, Views

Persistency, Security

Existing Extensions

Photo Gallery

Calendar and Todo-List

Re-factoring Engine

Importing other Wikis

Open Source

- ✧ MIT License
- ✧ Unrestricted rights to ...
 - ✧ Copy
 - ✧ Modify
 - ✧ Redistribute
- ✧ ... as long as the original copyright and license terms are retained.

Test Driven Development

- ✧ Heavily tested
 - ✧ Portability
 - ✧ Extensibility
 - ✧ Evolution
- ✧ SmallWiki-Model: ~170 unit-tests
- ✧ Magritte-Model: ~1000 unit-tests

SmallWiki 1

- ✧ Autumn 2002: Started as an University Project.
- ✧ August 2003: ESUG Presentation Bled.
- ✧ September 2003: SmallWiki 1 Final Version Released.
- ✧ August 2004: 1st Prize in *The ESUG Innovation Technology Awards*.



Known Users

European Smalltalk User Group	www.esug.org
Hans Beck	www.hans-n-beck.org
Katholische Kindertagesstätte	www.kita-st-anna.de
Research Center on Structural Software Improvement	restructuring.ulb.ac.be
Seaside	www.seaside.st
Squeak	box1.squeakfoundation.org
Squeak Germany	www.squeak.de
Tierpark Köthen	www.tierpark-koethen.de
Tweak	tweak.impara.de
Software Composition and Decomposition (deComp)	decomp.ulb.ac.be
University of Berne	smallwiki.unibe.ch
WireSong	www.wiresong.ca

Known Implementations

Name	Environment	Description
SmallWiki	VisualWorks	Original Implementation
SmallWiki	#Smalltalk	Port to #Smalltalk by John Brant
SmallWiki	Squeak	Port to Squeak by Chris Burkert
Gaardner	Squeak, Seaside	Content Management System
TinyWiki	Squeak, Seaside	Wiki used in SqueakSource
PicoWiki	Squeak, Seaside	Generic Wiki Component

SmallWiki 2

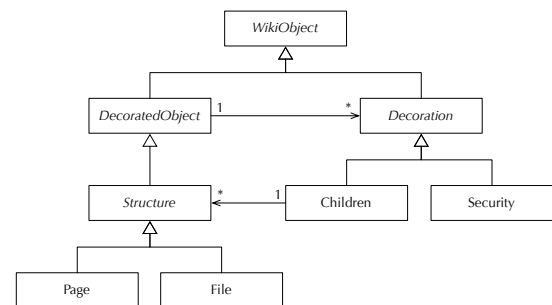
- ✧ June 2004: Started with a refined Model in VisualWorks using Seaside.
- ✧ December 2004: Changed primary Development Environment to Squeak.
- ✧ March 2005: Start of Software Design Course using SmallWiki 2.
- ✧ Winter 2005: SmallWiki 2 Final Version.



Changes & Enhancements

- ✧ Model and view are clearly separated
- ✧ Seaside is used as a default view
- ✧ Integration of a meta-framework
- ✧ New history- and storage-framework
- ✧ Enhanced document representation
- ✧ Built in query engine

Architecture

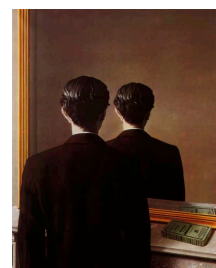


Current Status

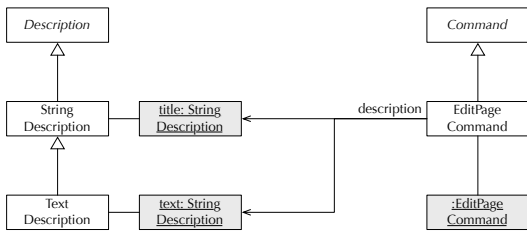
Package	Status
Structures, Decorations, Documents, Visitors, Commands	stable
Kernel, Views, Tests	incomplete
Persistence, Security	unfinished

Magritte

- ✧ Framework to describe classes and their instances (dynamically).
- ✧ Originally built for SmallWiki 2, but now also used in other projects.
- ✧ Magritte allows to automate
 - ✧ Building views, reports and validated editors
 - ✧ Processing queries
 - ✧ Storing objects



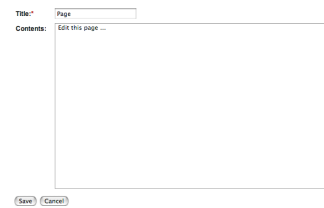
Edit Command



Seaside Component

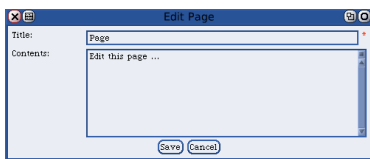
self call: aCommand asComponent

Edit Page



Morphic Component

aCommand asMorph openInWorld



Source Code

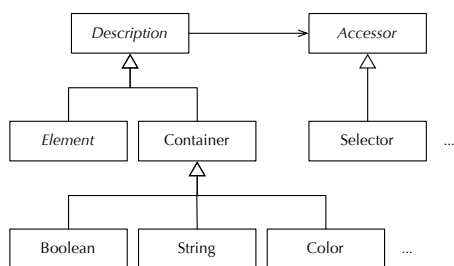
```

EditPageCommand class>>descriptionTitle
^ (StringDescription selector: #title label: 'Title' priority: 100)
beRequired;
yourself.

EditPageCommand class>>descriptionContents
^ TextDescription selector: #contents label: 'Contents' priority: 200.

```

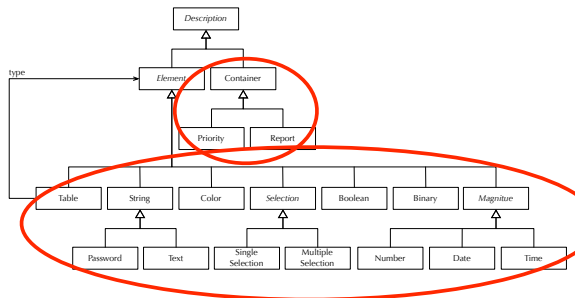
Description & Accessor



Descriptions

Property	Description
#accessor	Strategy to access the value.
#label	String to be used as label.
#comment	String to be used as comment or help-text.
#default	Object to be used as default value.
#readonly	true if the value is read-only.
#required	true if the value is required (not nil).
#condition	Condition the value has to satisfy.

Description Hierarchy



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Advantages of Magritte

- ✧ Describe once, get everywhere
- ✧ Automatically build views and editors, process queries and store objects
- ✧ The extensibility of all classes is ensured
- ✧ Fully customizable, e.g., it is possible to replace an automatically generated view with a modified or customized view

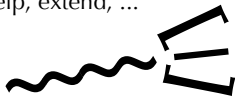
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SmallWiki

Conclusion

- ✧ Collaborative content management software
- ✧ High-level seaside web application framework
- ✧ Reusable components for content management
- ✧ Don't let PHP, Python, .NET, Java win the race
- ✧ Join, test, help, extend, ...



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