

SWAZoo - AIDA



A Smalltalk Web Application Server

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On the sunny side of the Alps

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AIDA/Web



- A Web server
- Framework for dynamic web applications

Where is useful?



- Internet

- web sites, portals, e-shops, e-commerce, newspapers, discussion forums, ...

- Intranet, Extranet

- Web based business apps
- B2B
- CRM, Document systems, Unified messaging
- ...

Competition



- Java
 - IBM WebSphere
 - ...
- Microsoft

AIDA/Web demo

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Download it and try!



- <http://www.eranova.si/aida>
 - complete source
 - small demo
- Open source

Architecture



- Original design ideas
- MVC for the Web
- WebElements
- Session management
- Security
- Persistent everything
- Smalltalk Server Pages

Original design ideas



- Web of objects
 - ... connected by object references
- Web ob pages
 - ... connected by URLI links

Original design ideas



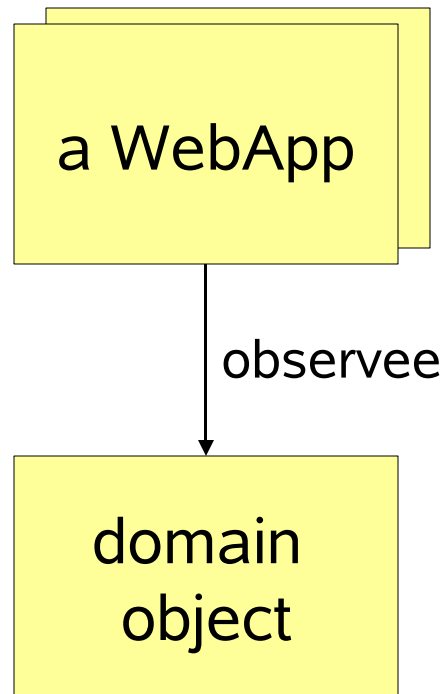
- Every object should be able to represent itself as a web page
- Object references should be mapped to URL references and vice-versa (automatically!)

MVC on Web



- Complete separation of presentation from domain model
- Observer pattern: domain object are not aware of presentation

MVC on Web



MVC on Web



- Multiple Views of the same object
 - discussions - hierarchical/cronological
- Registration of web print methods for different views

MVC on Web



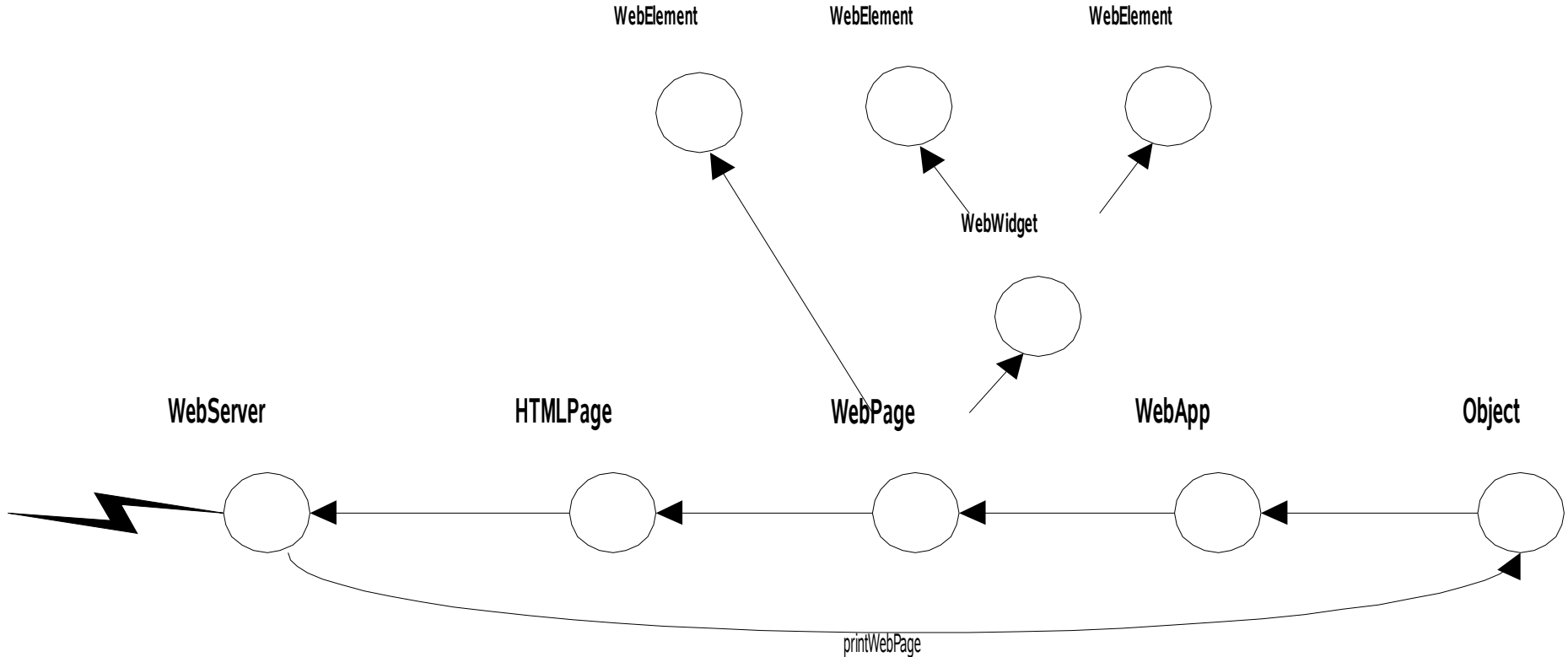
- Web forms
 - Input fields connected to domain object attributes with a pluggable adapter
 - Submit button
 - Action methods

WebElements



- Smalltalk objects representing the elements of a web page
 - text, url links, images, tables, input fields, ...
- Composite objects
 - nesting of web elements
 - reusable web components

Complete path of a WebRequest



Session management



- Sessions used to separate users from each other
- Web is stateless
- Session identification
 - cookies
 - parameter in an URL
- Sessions are permanent and persistent

Security



- Access rights
 - who is allowed to view or update my object?
 - Access rights for each view
 - separate right for update (form submit)
- URL links to the prohibited objects are inactive
- Authentication

Security



- SSL (Secure Socket Layer)
- SSLSocketAccessor
- Seamless integration in AIDA/Web

Persistent Everything



- Almost all objects of AIDA/Web are persistent
 - requests, sessions, security, ...
- Gemstone or Versant ODB used
- Lightweight TransactionMonitor
- Caching on a AIDA/Web side
- 35.000 hits/h

Smalltalk Server Pages



- Calls to Smalltalk from HTML static pages
- Like ASP, JSP, ...
- `<AIDA WebStatistics printCounter>`

Examples

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SWAZoo



- Smalltalk Web Application ZOO :-))
- a CampSmalltalk project
- Merging all Web related work together
 - Commanche, Hydrogen, ByteSmiths toolkit, AIDA/Web
 - VisualWave, VisualAge SST

Internet related CS projects



- Internet Client/Server framework
- Smalltalk Web Application Server
- SOAP
- XML

SWAZoo



- HTTP 1.1 server
- Virtual servers
- Resource hierarchy
- URL resolution
- HTTPRequest parsing

Discussion



Smalltalk in e-commerce world?