SWAZoo - AIDA

A Smalltalk Web Application Server

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On the sunny side of the Alps

Contents

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AIDA/Web

- A Web server
- Framework for dynamic web applications

Where is usefull?

- 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

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
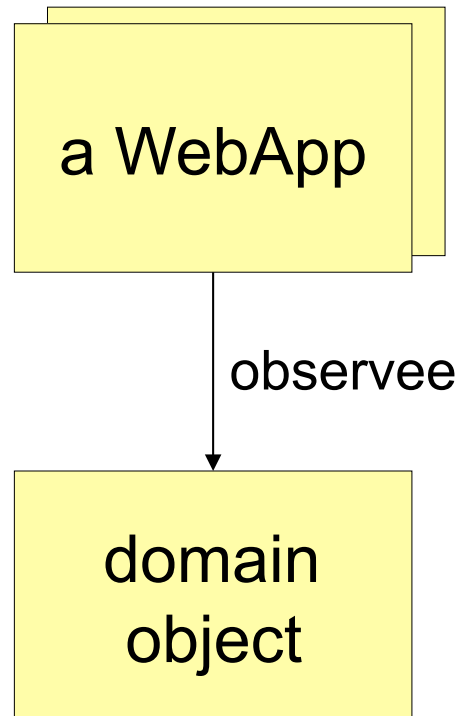 - ... connected by URLI links

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

a WebApp

observee

domain
object

MVC on Web

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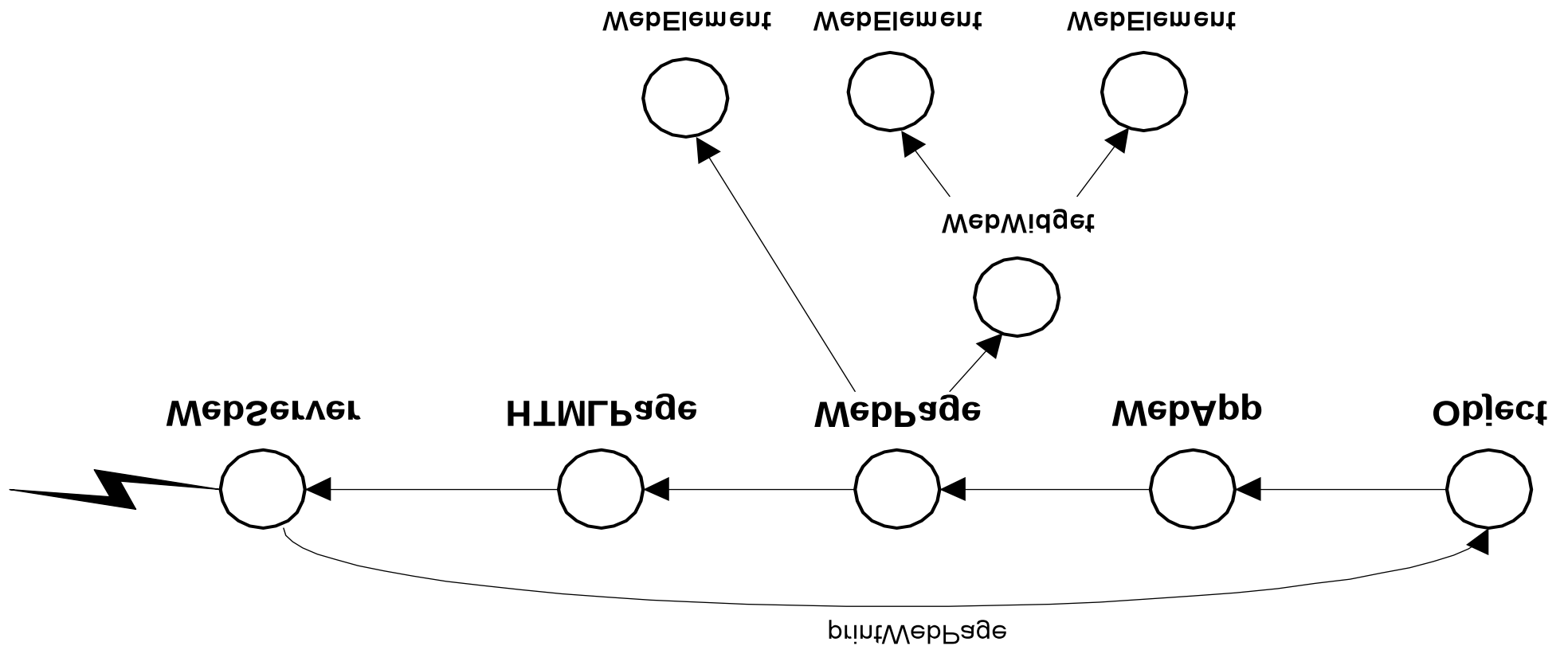
MVC on Web

- 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

SWAZoo

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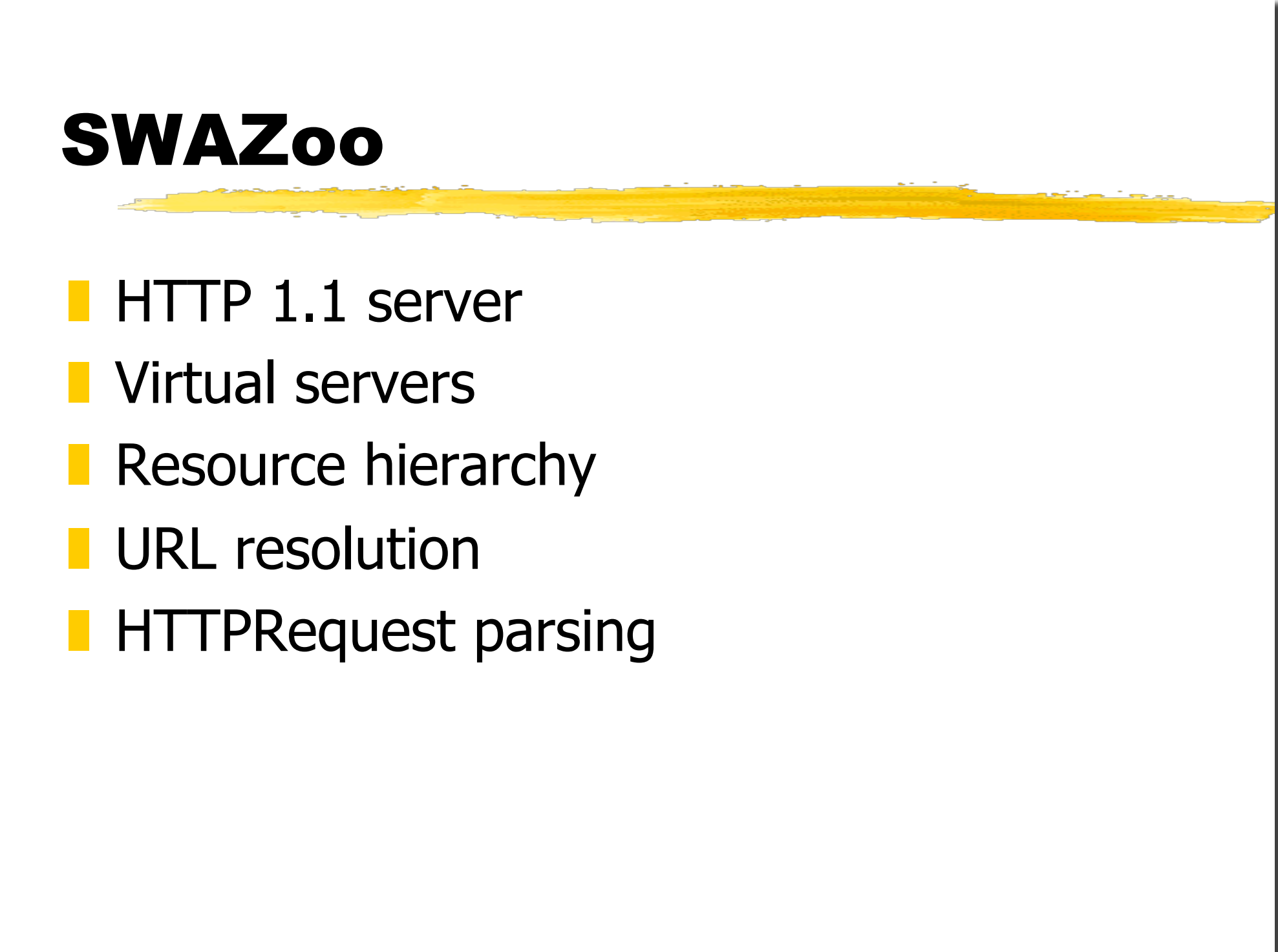 - VisualWave, VisualAge SST

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?