Laszlo Systems

RIA Architecture and platforms

SAM-SIG 2005

Oliver Steele
Chief Software Architect
Laszlo Systems, Inc.
June 22, 2005

Outline

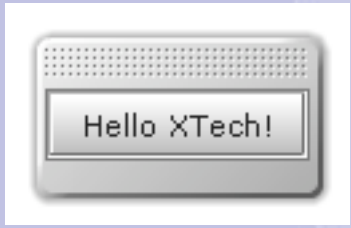
- OpenLaszlo Platform
- RIA Architecture
- Flash and HTML

OpenLaszlo Project

- Project history
  - 2001: Laszlo Systems funded; implementation begins
  - 2002: Preview release; deployment by Behr; Laszlo series A
  - 2003: LPS 1.0; deployment by Earthlink, Yahoo SBC
  - 2004: LPS 2.0; open source; additional deployments; Laszlo Mail announced; Series B
  - 2005: OpenLaszlo 3.0 – serverless; drawing API; back button; external contributions; additional commercial deployments; first open source deployments
- Project status
  - Related projects: IDE4Laszlo (IBM), LPS4Biz, NetKernel, LazDoc
  - User groups in US, Germany, Japan
  - External contributions to code, QA, docs, and articles
- Sponsorship – Laszlo Systems, Inc.
  - Uses the platform for proprietary application development
  - Provides services and support to ISPs and ISVs

An OpenLaszlo Program

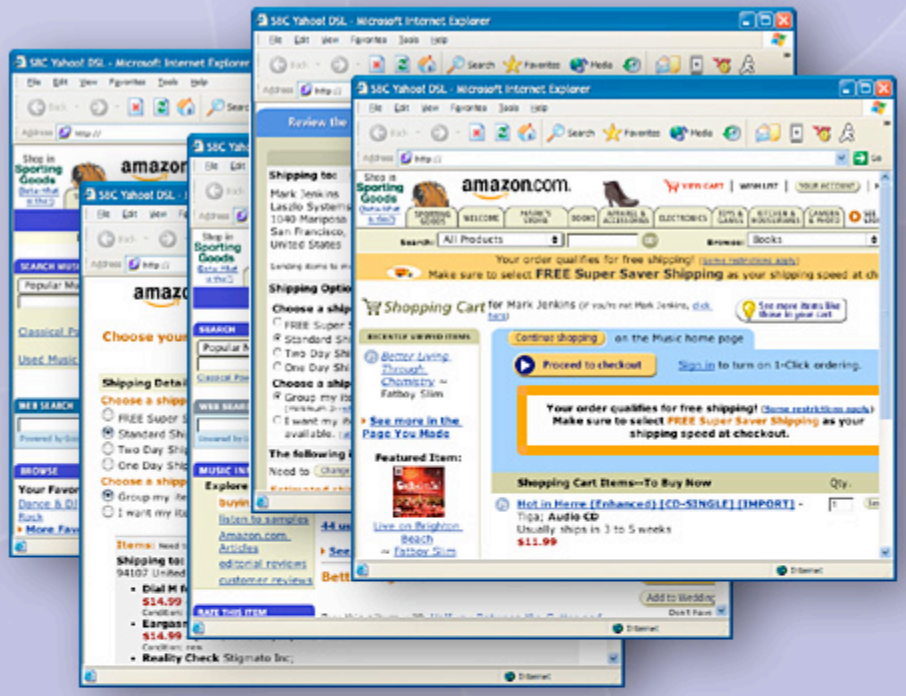
```
<canvas>
  <window>
    <button>Hello SAM-SIG!</button>
  </window>
</canvas>
```



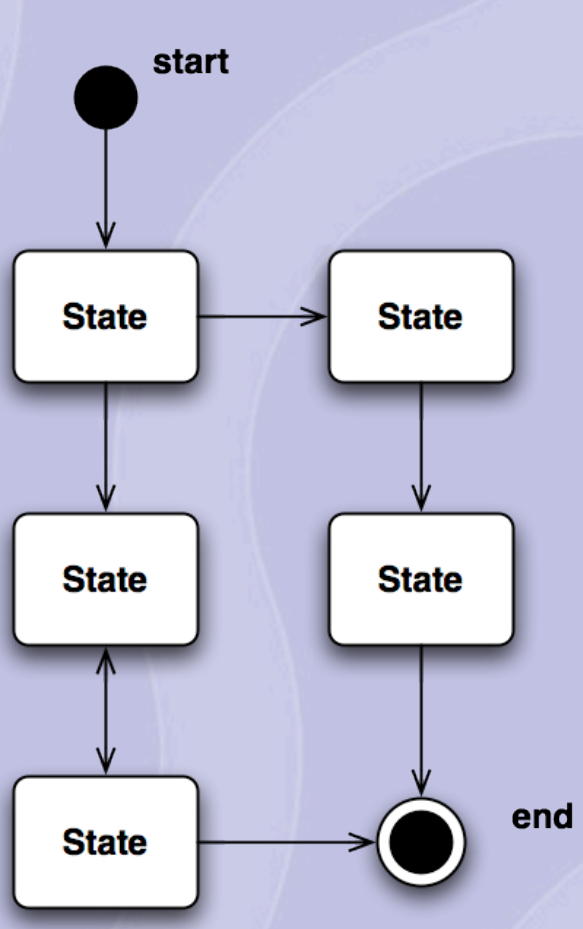
Project Goals

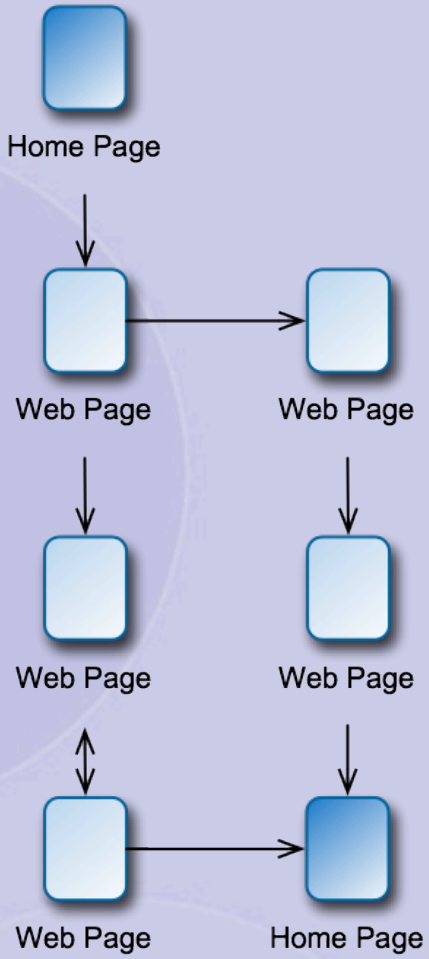
- Open
  - Open source license
  - Community participation
  - “No asterisks”
- User experience
  - Desktop-quality applications
  - Broadcast-quality design
  - Zero-install
- Developer features
  - OOP and abstraction
  - Standards-based
  - Declarative UI

Multipage HTML



Multipage HTML



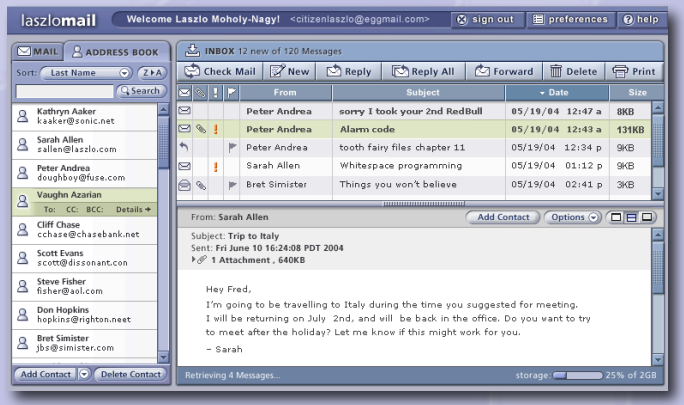


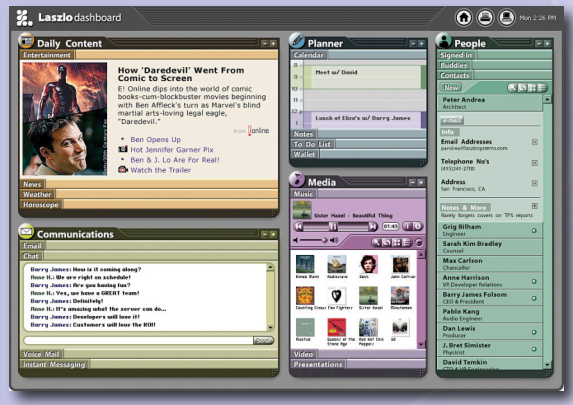
Challenge tasks

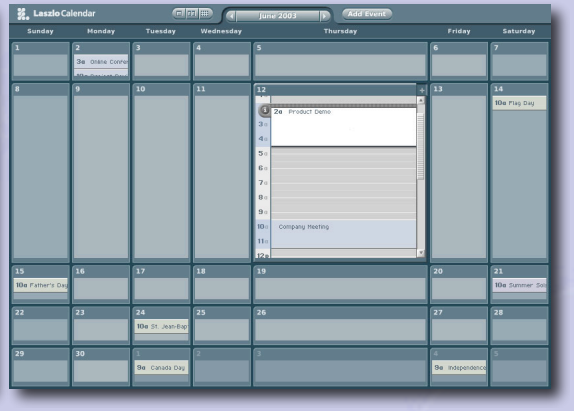
- Organizing data
- Moving appointments
- Managing lists
- Signup
- Checkout

Demos

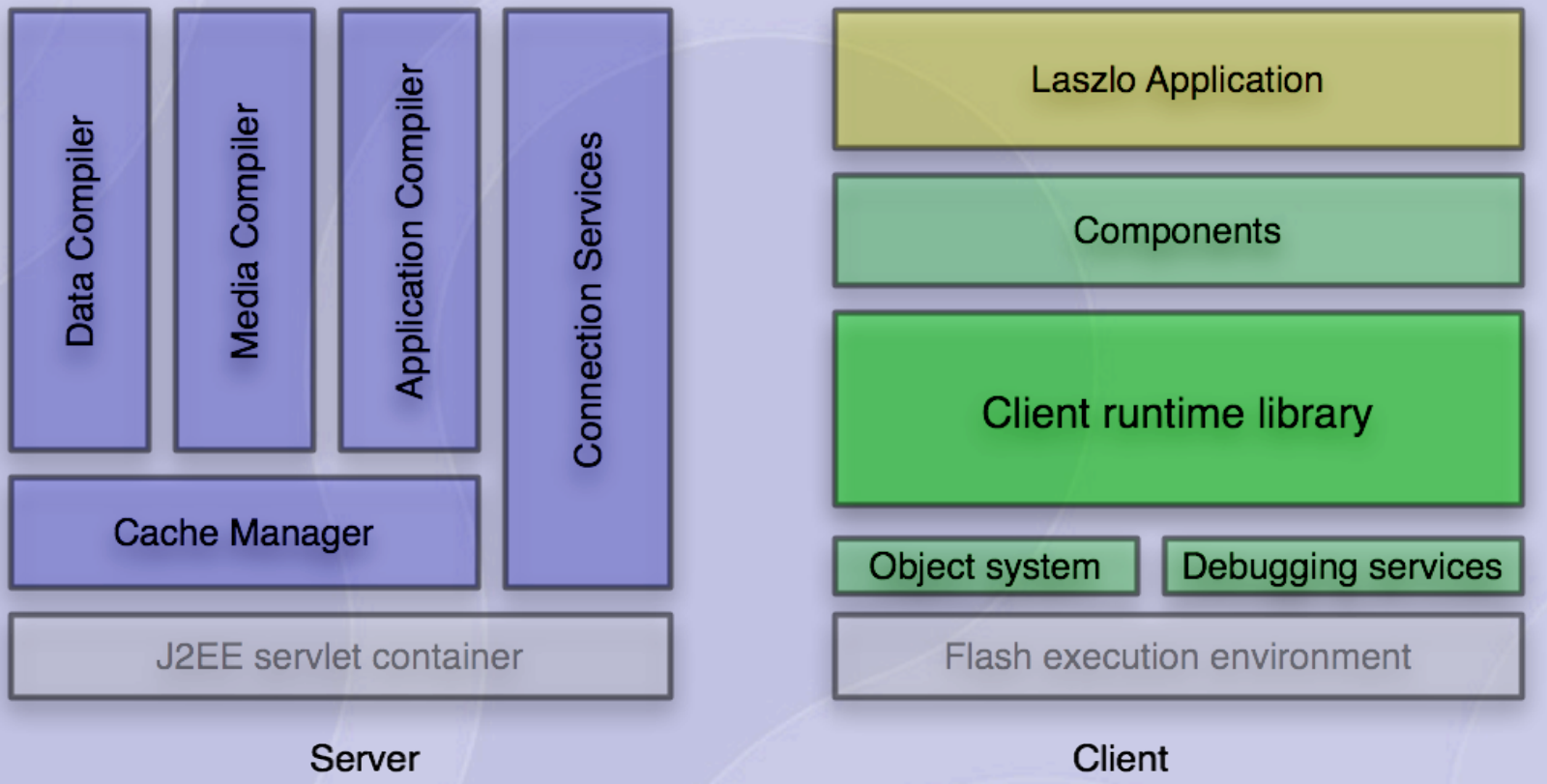
Demos


laszlomail
Welcome Laszlo Moholy-Nagy!
sign out
preferences
help
MAIL
ADDRESS BOOK
INBOX 12 new of 120 Messages
Check Mail
New
Reply
Reply All
Forward
Delete
Print
From
Subject
Date
Size
Peter Andrea
sorry I took your 2nd RedBull
05/19/04 12:47 a
8KB
Peter Andrea
Alarm code
05/19/04 12:43 a
131KB
Peter Andrea
tooth fairy files chapter 11
05/19/04 12:34 p
9KB
Sarah Allen
Whitespace programming
05/19/04 01:12 p
9KB
Bret Simister
Things you won't believe
05/19/04 02:41 p
3KB
From: Sarah Allen
Add Contact
Options
Subject: Trip to Italy
Sent: Fri June 10 16:24:08 PDT 2004
1 Attachment , 640KB
Hey Fred,
I'm going to be travelling to Italy during the time you suggested for meeting.
I will be returning on July 2nd, and will be back in the office. Do you want to try
to meet after the holiday? Let me know if this might work for you.
- Sarah
Add Contact
Delete Contact
Retrieving 4 Messages...
storage
25% of 2GB

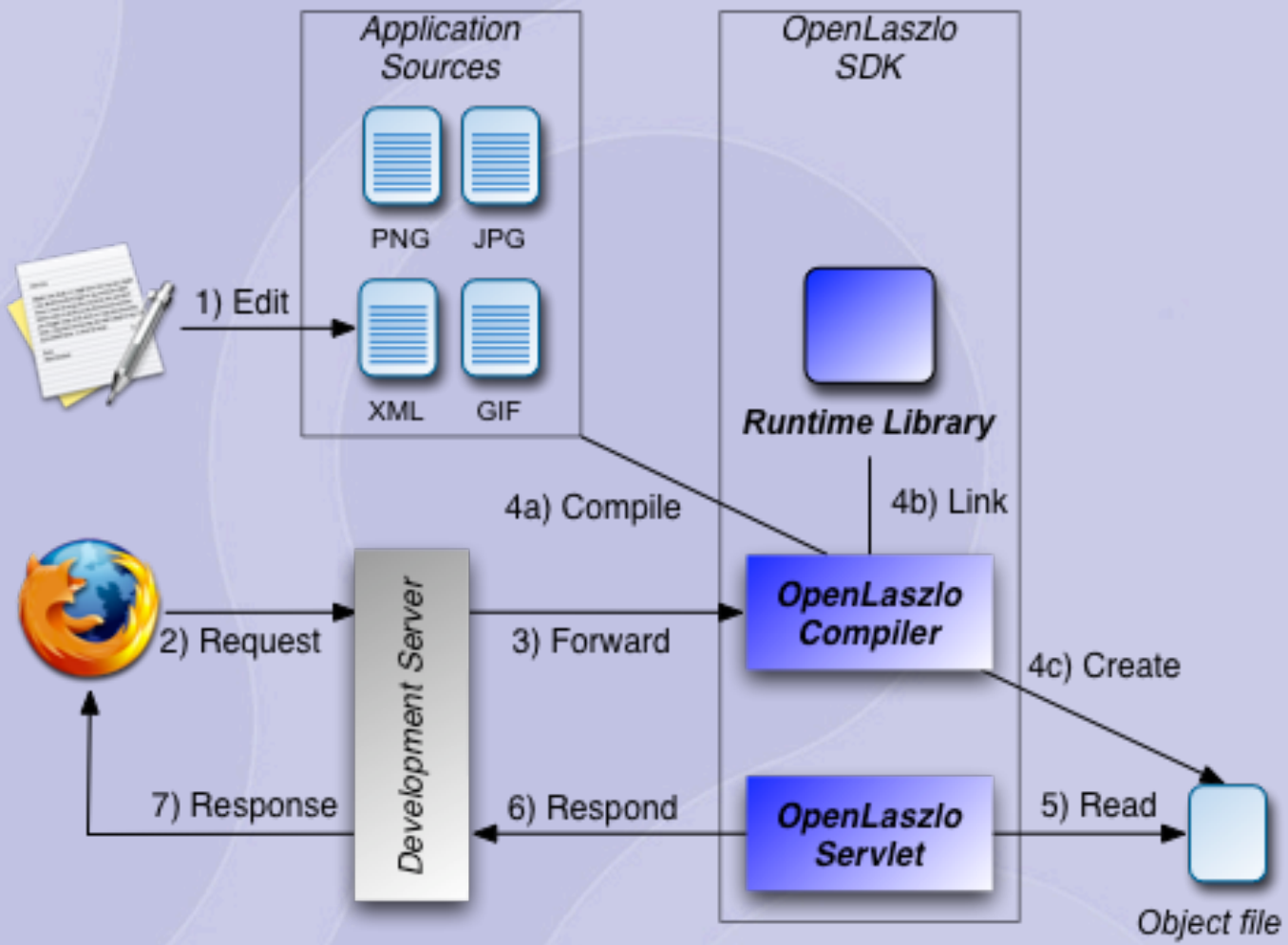

Laszlo dashboard
Daily Content
How 'Daredevil' Went From Comic to Screen
Planner
People
Media
Communications


Laszlo Calendar
June 2003
Add Event
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday

Platform Architecture



Development Workflow



Platform Features

- Views
- Layout
- Animation
- Media
- Events
- Scripting
- Inline HTTP
- Drawing API
- Data binding
- Tag libraries
- Declarative constraints
- Compiler-time optimization

- Component library
  - Button, checkbox, …
  - Tree
  - Grid
  - Slider
  - Window
  - Dialog box
  - Tabbed panes
  - Hierarchical menus
- Keyboard navigation
- Data-driven components

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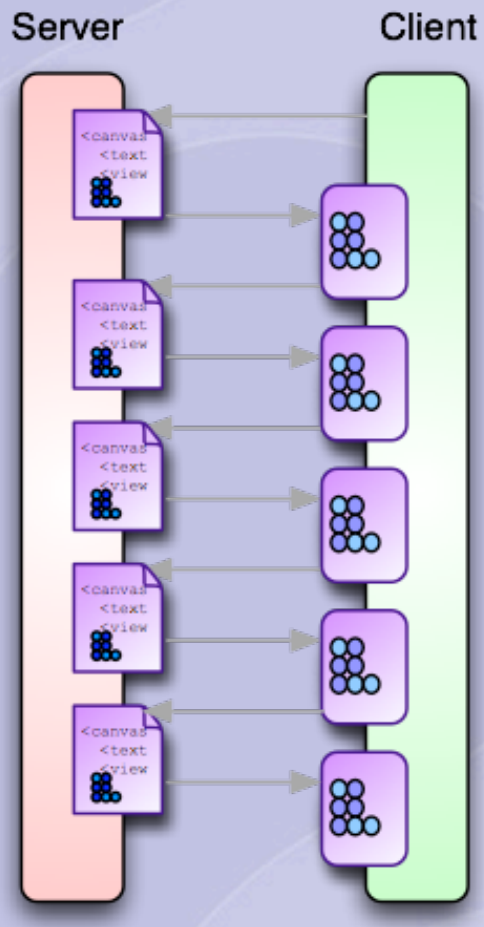
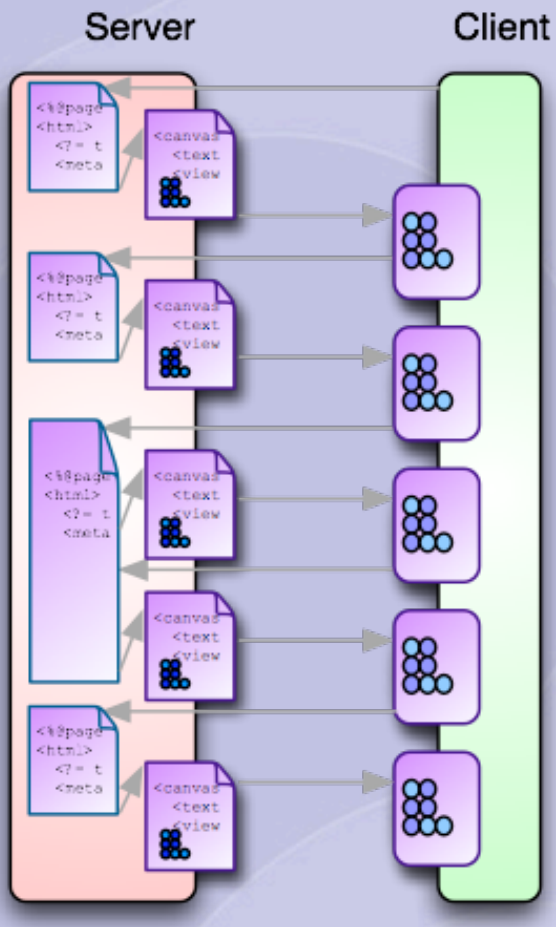
“AJAX”, in HTML

Document Data Flow



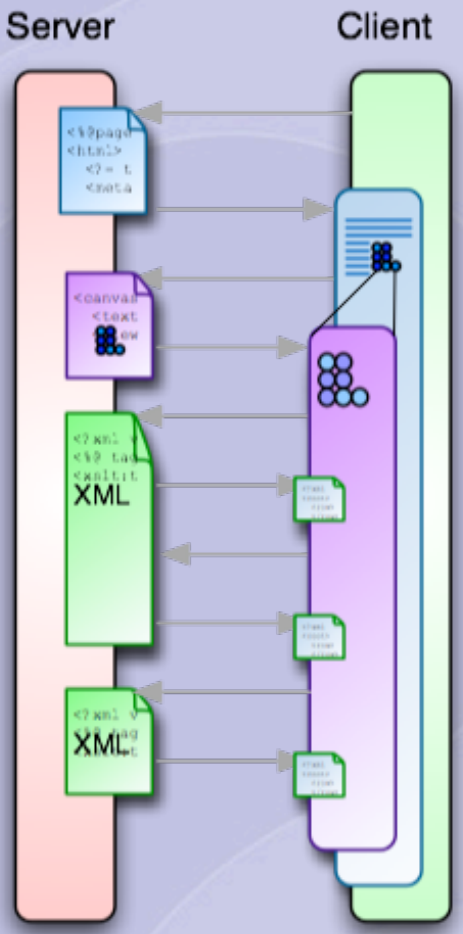
"Server-side client application..."

Webapp Data Flow



...with code generation

RIA Data Flow



Client-side web application

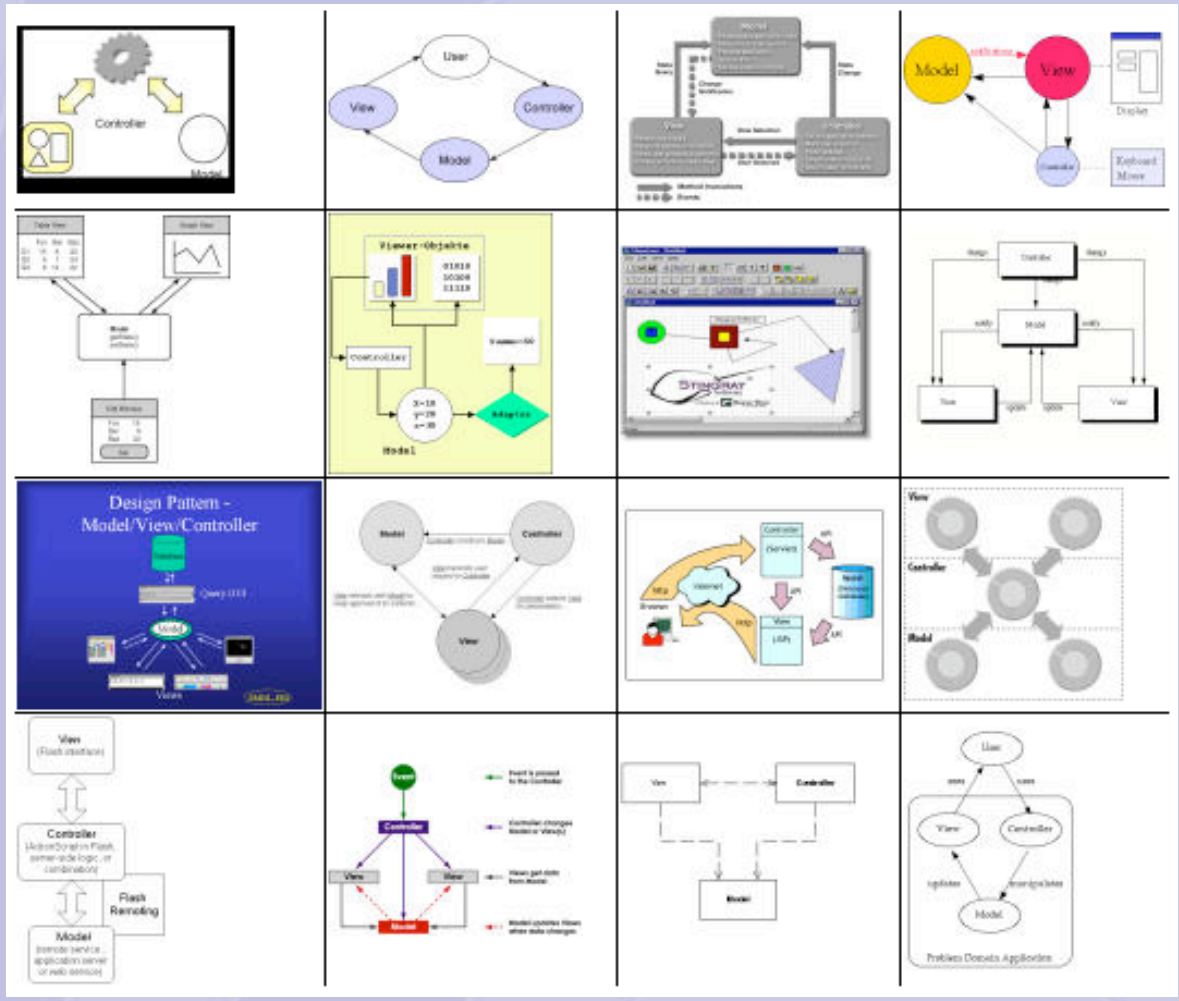
Code Samples

More Info

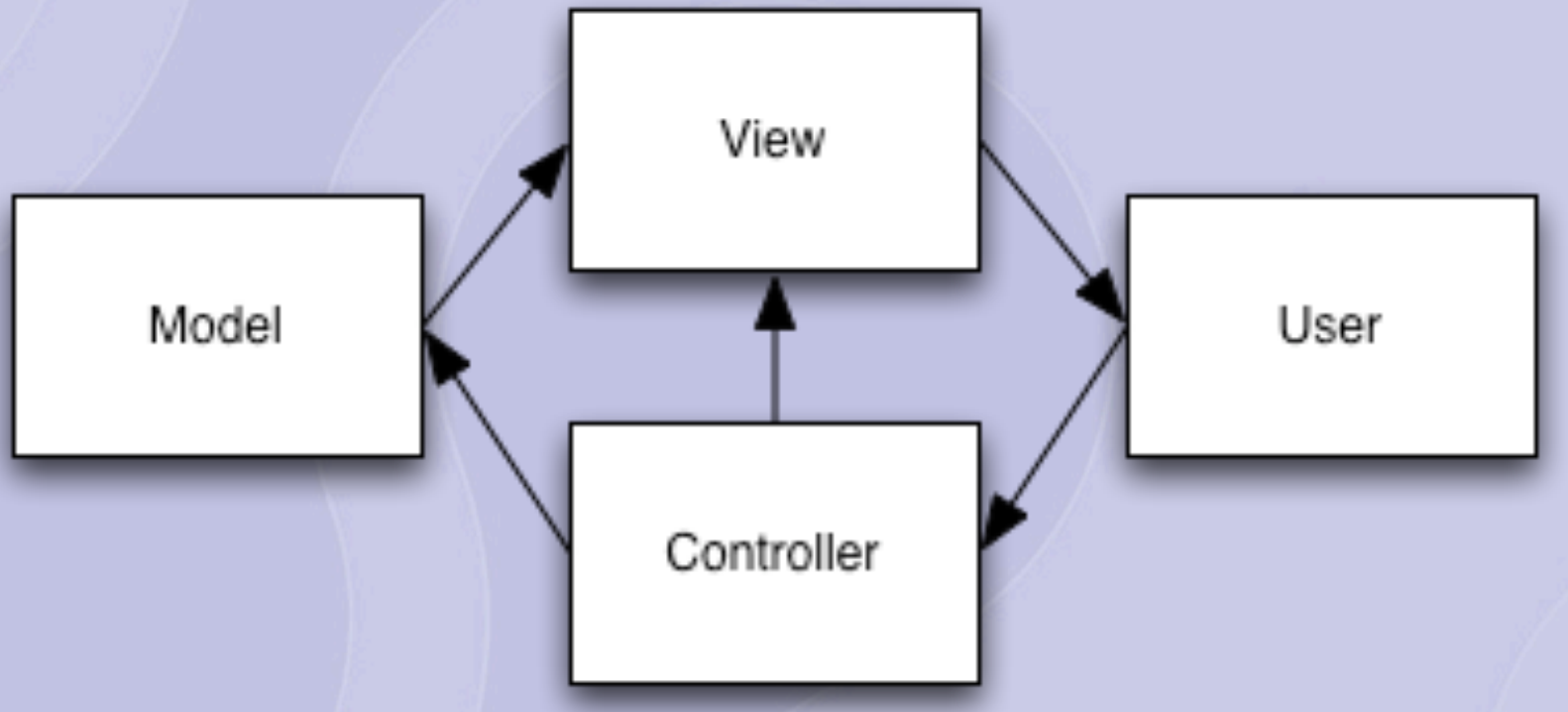
- OpenLaszlo.org
  - Downloads
  - Source repository
  - Bug tracking
  - Mailing lists
  - Wiki
- LaszloSystems.com
  - Demos & Customer showcase
  - Online documentation
  - Commercial services
  - Developer forums

RIA Architecture

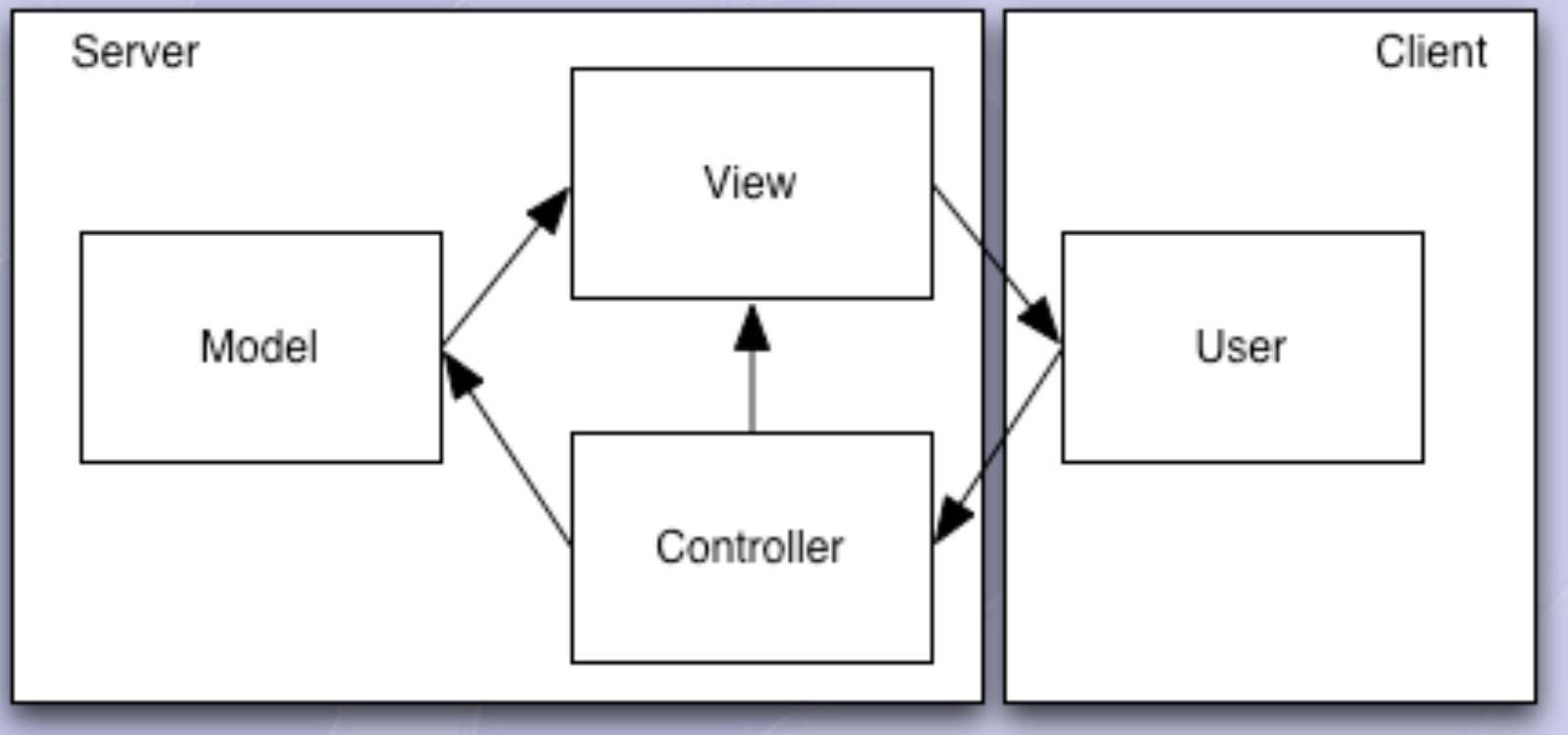
Model View Controller



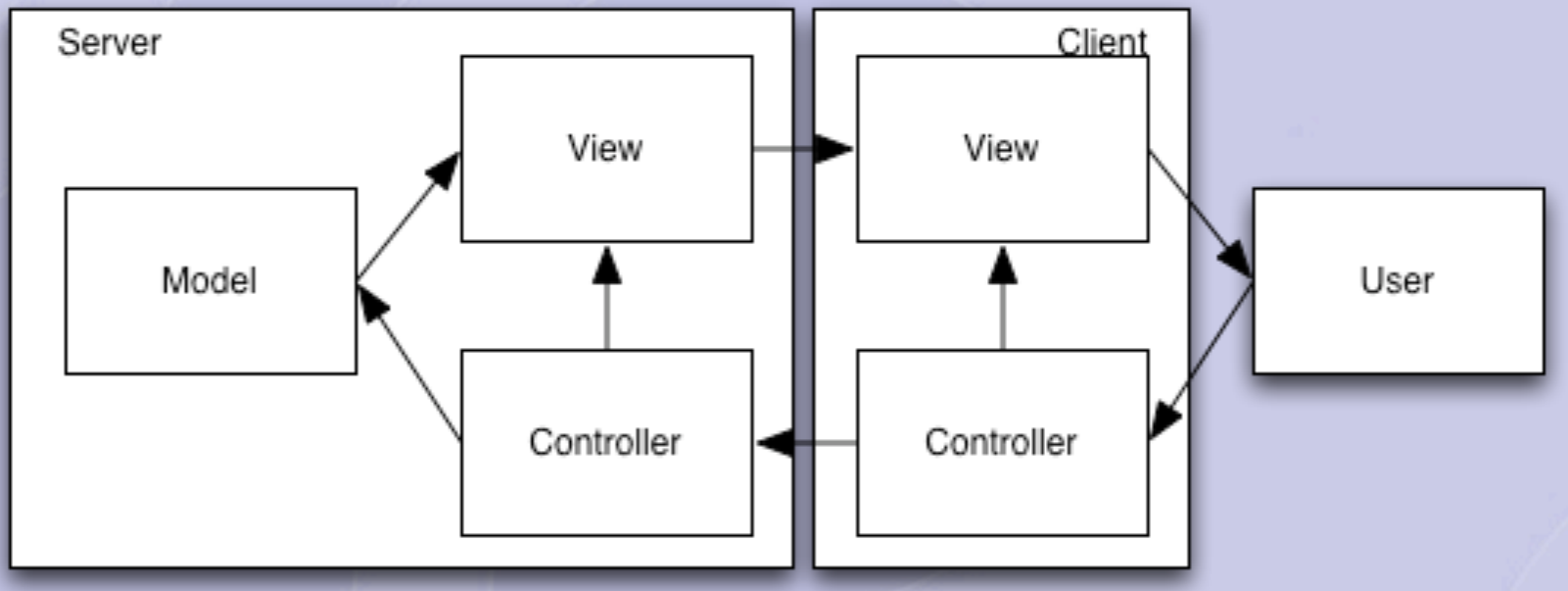
Model View Controller



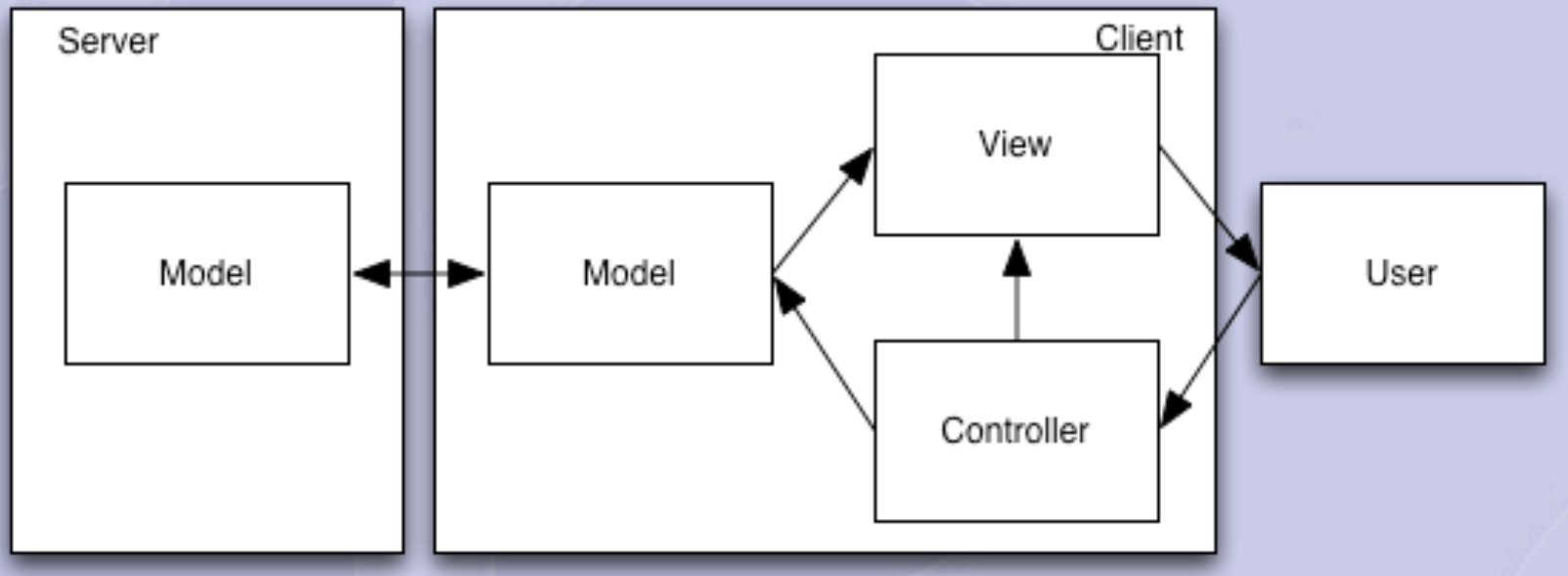
Server-side application architecture



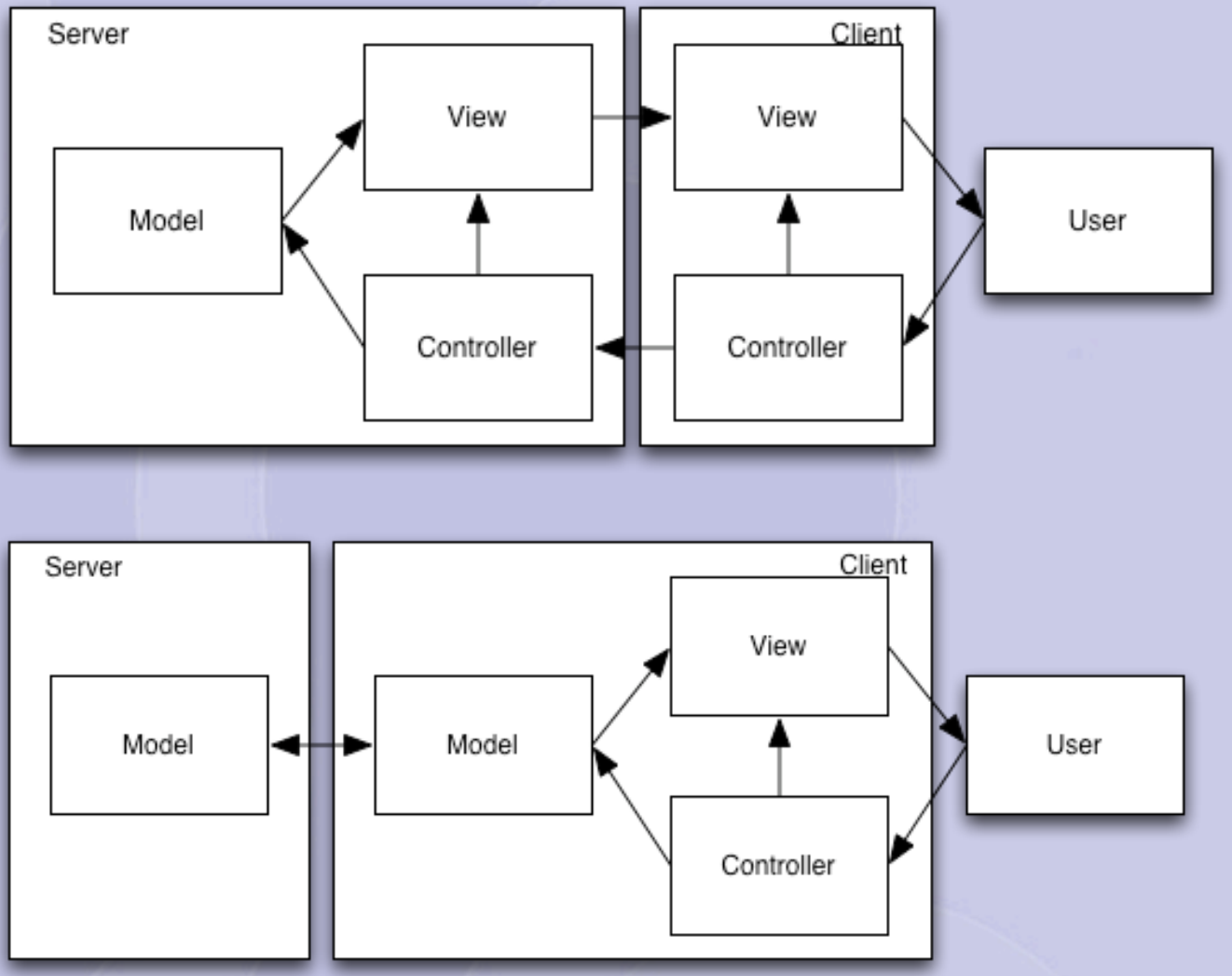
Server-side application architecture + browser



Rich Client Architecture

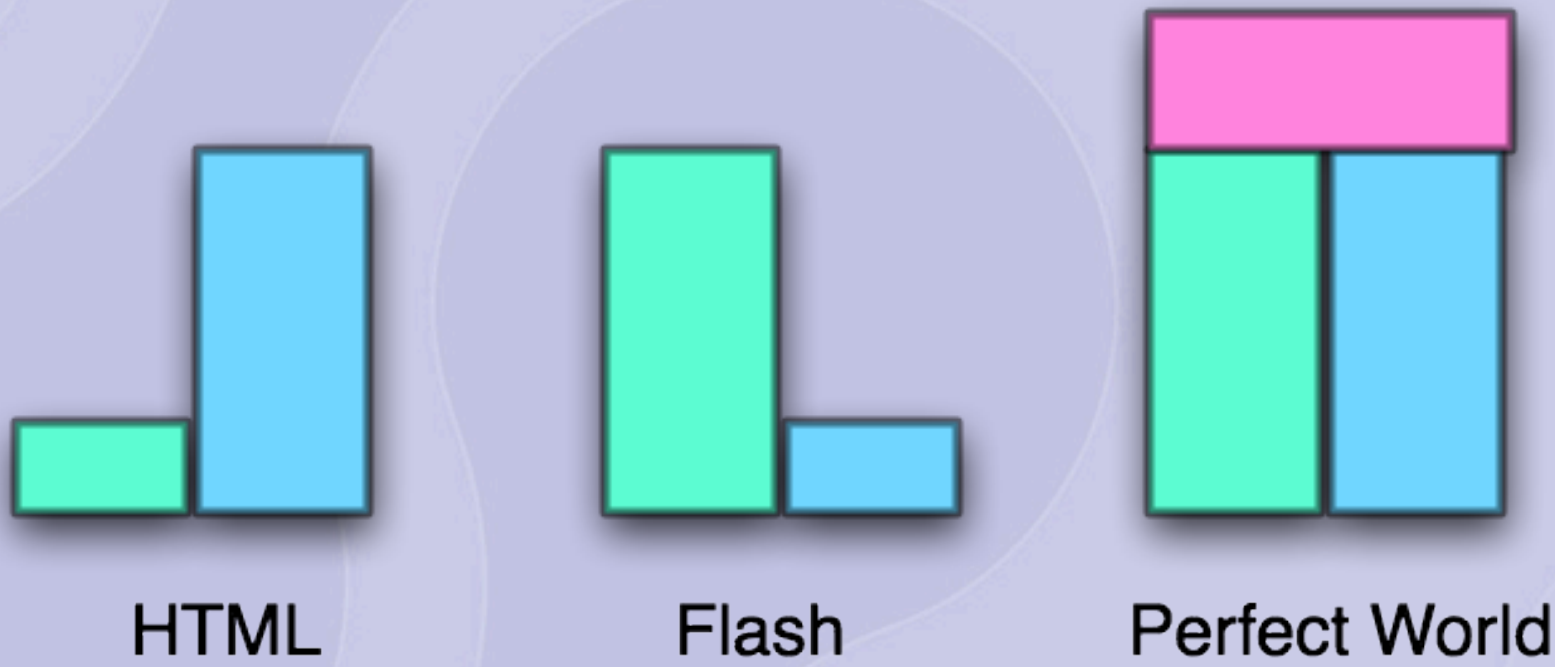


Server- and client-side architectures



Flash and HTML

Flash and HTML

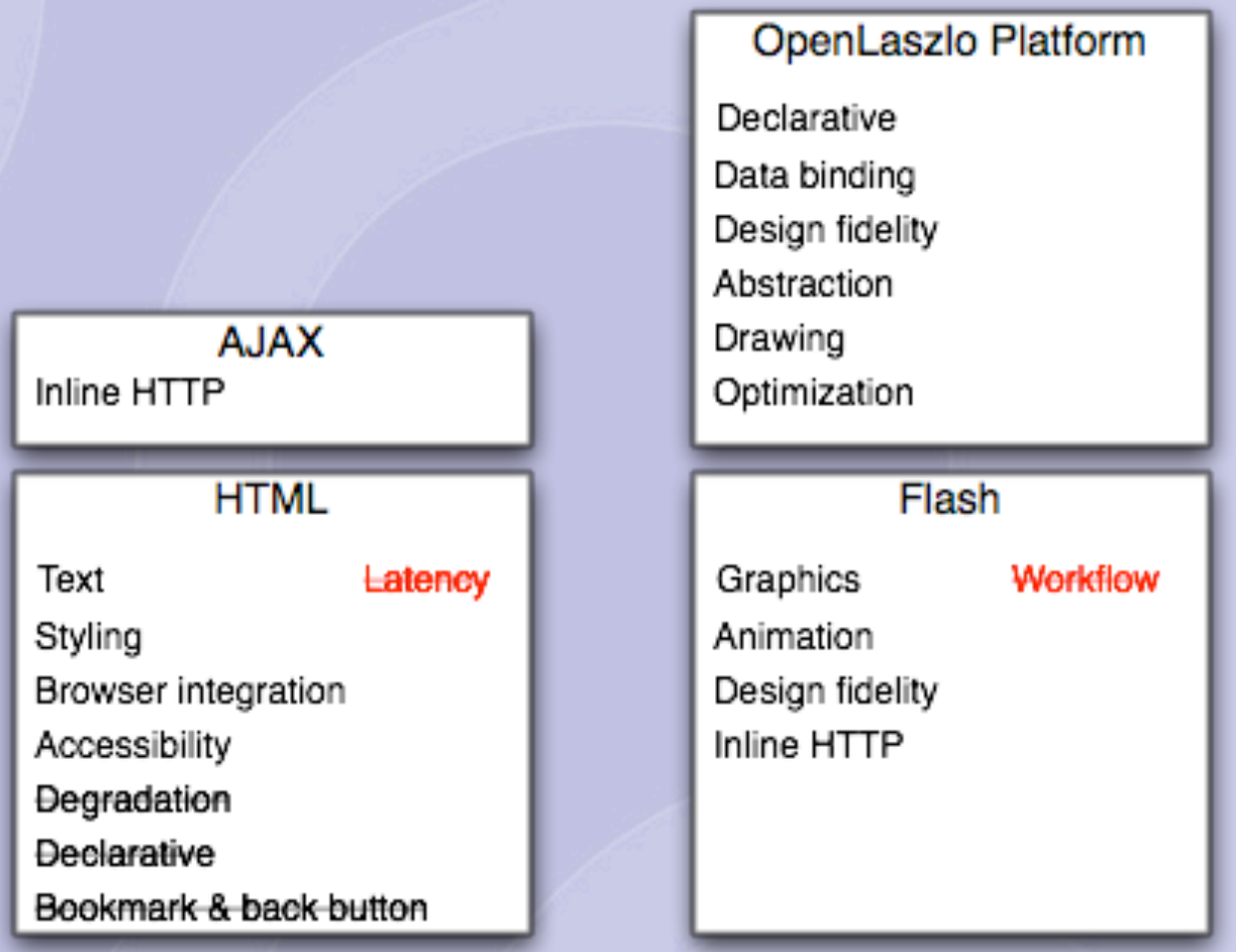


Comparison

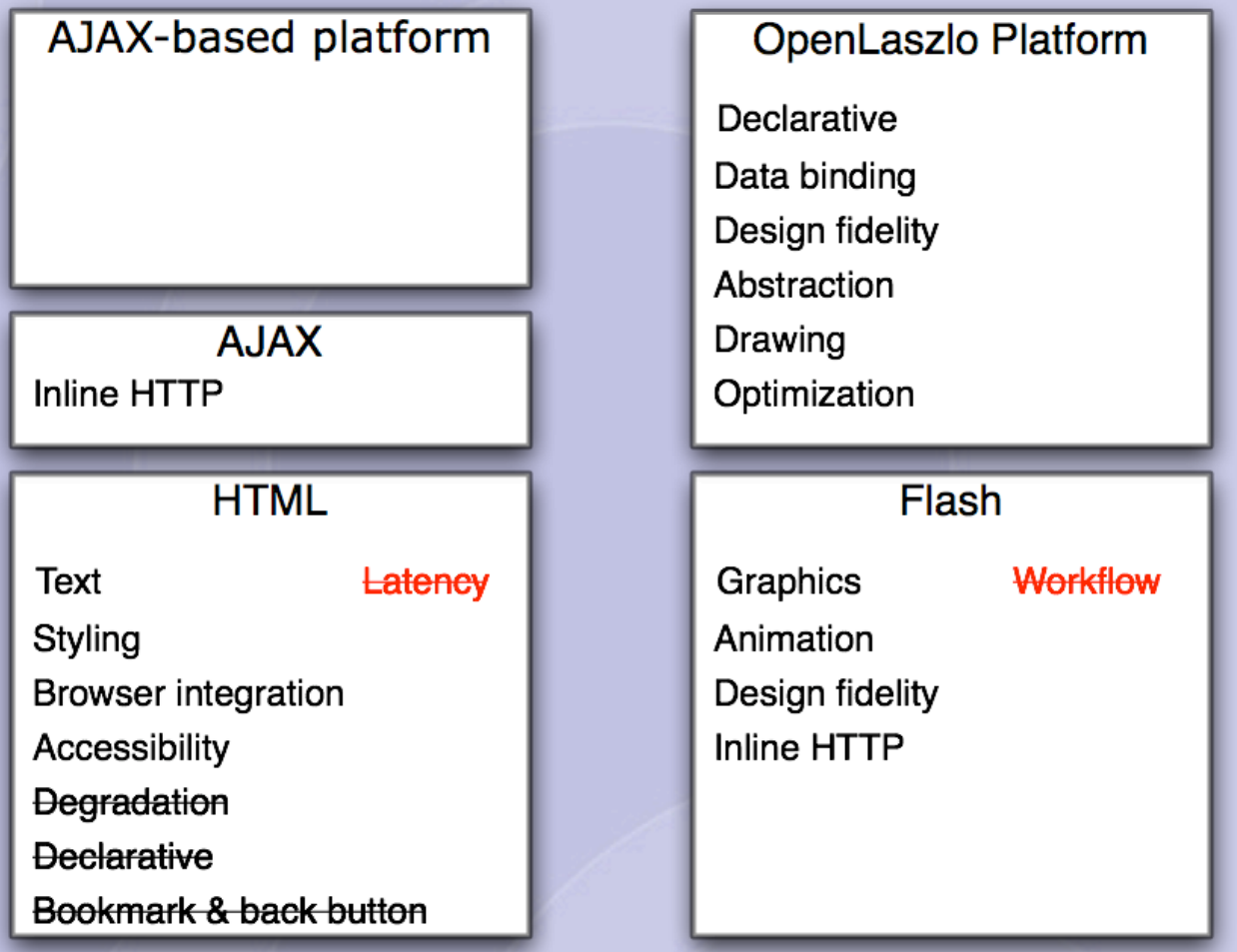
HTML	
Text	Latency
Styling	
Browser integration	
Accessibility	
Degradation	
Declarative	
Bookmark & back button	

Flash	
Graphics	Workflow
Animation	
Design fidelity	
Inline HTTP	

Comparison


OpenLaszlo Platform
Declarative
Data binding
Design fidelity
Abstraction
Drawing
Optimization
AJAX
Inline HTTP
HTML
Text
Latency
Styling
Browser integration
Accessibility
Degradation
Declarative
Bookmark & back button
Flash
Graphics
Workflow
Animation
Design fidelity
Inline HTTP

Comparison


AJAX-based platform
AJAX
Inline HTTP
HTML
Text
Latency
Styling
Browser integration
Accessibility
Degradation
Declarative
Bookmark & back button
OpenLaszlo Platform
Declarative
Data binding
Design fidelity
Abstraction
Drawing
Optimization
Flash
Graphics
Workflow
Animation
Design fidelity
Inline HTTP

Challenge Problems

Challenge Problems

- Model synchronization
- Multimodal interfaces
- Higher-level programming
- Bookmarks, back button, and undo
- Search
- Text *and* graphics/animation

Q&A