Laszlo Systems
OpenLaszlo: Ajax and Beyond

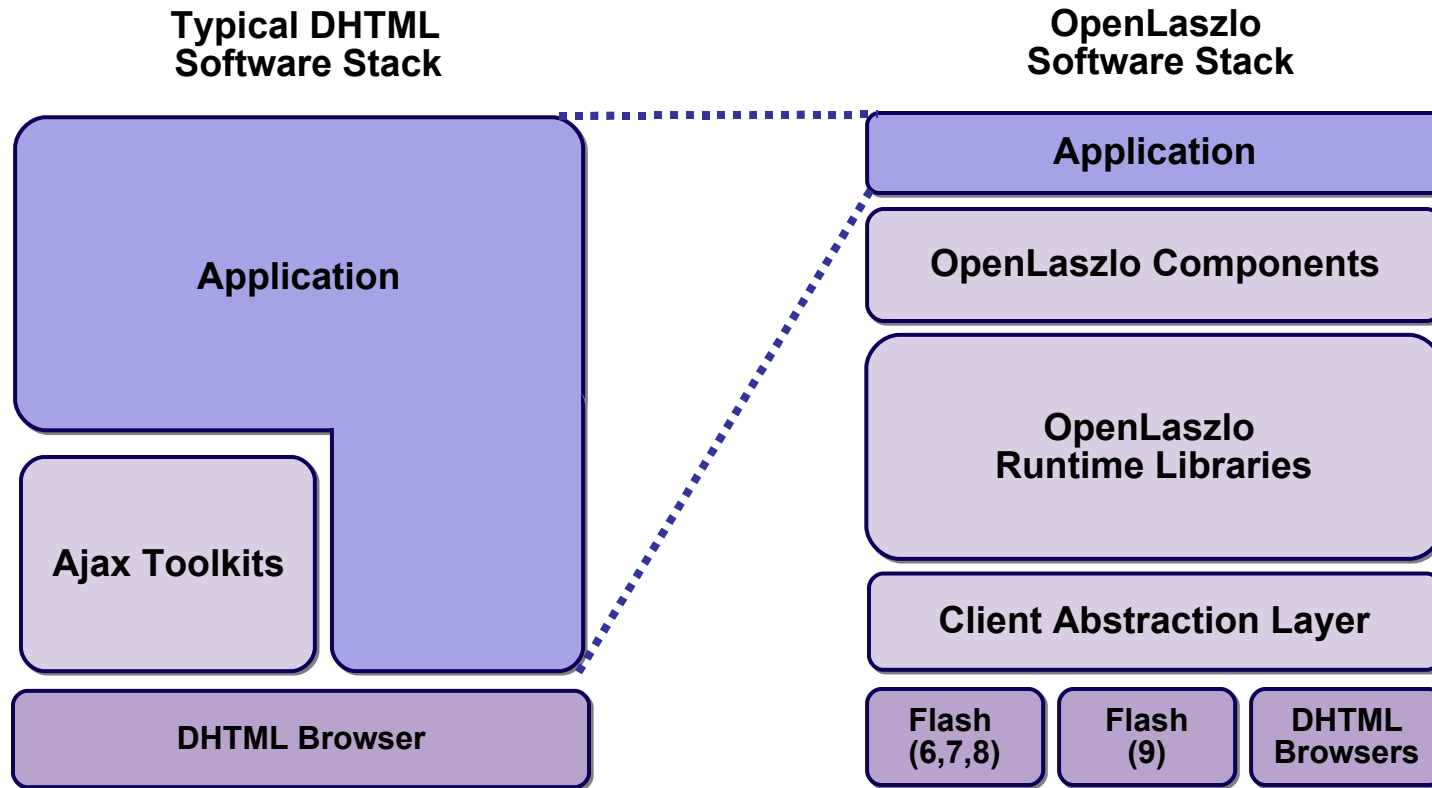3/26/08

Transforming the Web Experience™

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Introducing **OpenLaszlo 4**

- Blurring the lines between Ajax and RIA
  - OpenLaszlo 4 Demos
  - Orbit demo

- Support for several runtimes
  - DHTML/AJAX
  - Flash 7 and 8 (Flash 9 support coming soon)

- An architecture that can grow
  - Mobile Ajax
  - Java ME (Project Orbit)
    - Collaboration between Sun and Laszlo
  - Other runtimes

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Ajax Toolkits vs. OpenLaszlo For Advanced Apps

Typical DHTML Software Stack

OpenLaszlo Software Stack

Application

Application

OpenLaszlo Components

Ajax Toolkits

OpenLaszlo Runtime Libraries

Client Abstraction Layer

DHTML Browser

| Flash (6,7,8) | Flash (9) | DHTML Browsers |

- Lack of high-level framework and rich component library means more code, complexity and less functionality
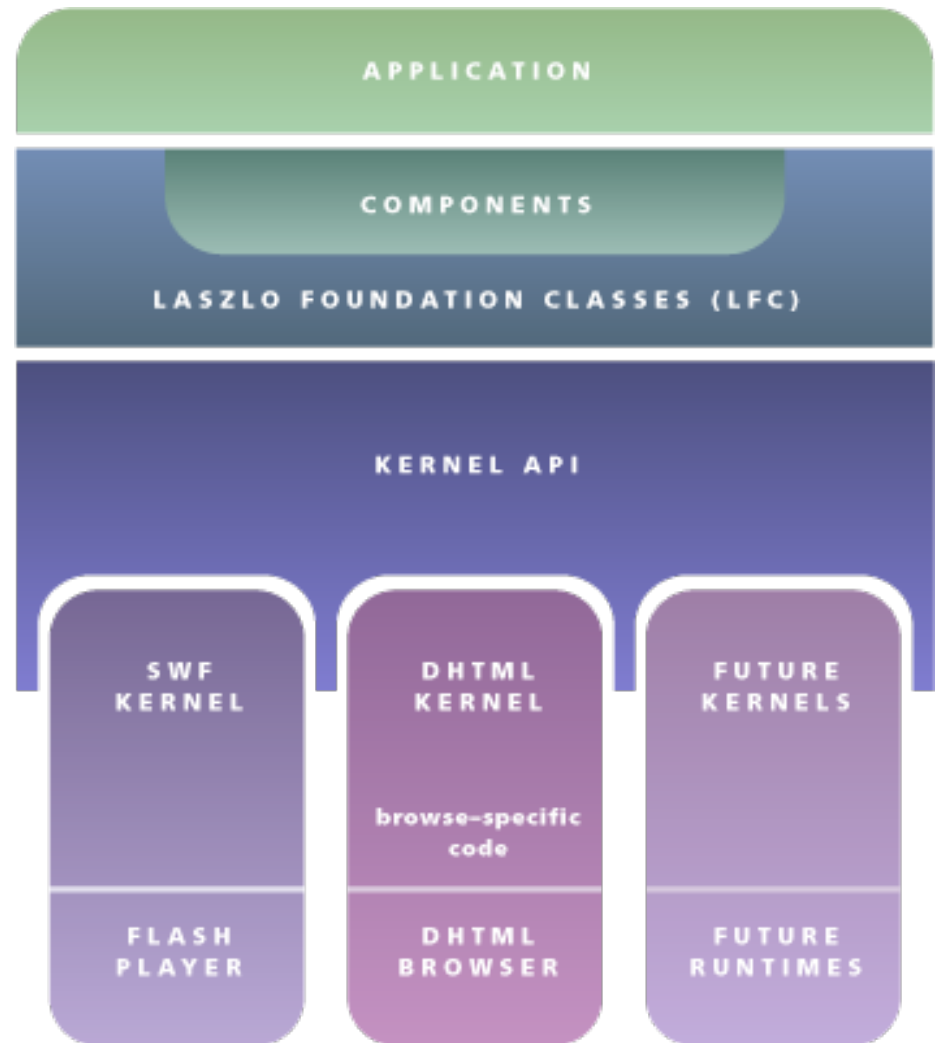- Functions within apps are typically tied to certain (versions of) browsers

- Richness of components and framework reduces code for sophisticated apps
- Abstraction layer insulates developer from browser/runtime idiosyncrasies

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Compiler architecture

- Application LZX/XML is transformed to JavaScript 2

- JavaScript 2 compiled to runtime representation
  - Compressed JavaScript 1.2 for DHTML runtime
    - Can use native JavaScript 2 for Firefox 3, upcoming browsers
  - Bytecode for Flash runtimes

- Pre-compiled runtime library is delivered with application
  - Special runtime libraries provide instrumented code for profiling and debugging

- Debugging and Profiling
  - Adds embedded debugger for use inside applications - with Firebug support for DHTML

Kernel architecture

- Each runtime has a lightweight JavaScript kernel

- Kernel APIs isolate the LFC from runtime idiosyncrasies

- Adding new runtimes is relatively easy

APPLICATION

COMPONENTS

LASZLO FOUNDATION CLASSES (LFC)

KERNEL API

SWF KERNEL

DHTML KERNEL

FUTURE KERNELS

browse-specific code

FLASH PLAYER

DHTML BROWSER

FUTURE RUNTIMES

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Developer experience

- All of this compilation/runtime magic is transparent

- Just edit your LZX on the server and hit reload in the browser to see your changes

- Choose which runtime you want at any time

- No browser or runtime idiosyncrasies - it 'just works'

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Cool new cross-runtime features in 4.0

- **Dynamic vector graphics**
  - HTML 5 canvas implementation

- **HTML display**
  - Laszlo application controls all aspects of the display

- **Unobtrusive embedding**
  - Pages are searchable/indexable as regular HTML
  - Applications unobtrusively replace HTML in documents while maintaining state

- **History/state management**
  - Stores application state in the URL
  - Enables bookmarking and deep linking

- All work consistently across Flash and DHTML (even IE!)

Comprehensive Documentation and Support

Comprehensive built-in
documentation

The first book is now out at
http://manning.com/klein/

Active developer lists and
forums

Get involved!
Help us build the best
cross-runtime RIA platform
out there!

Rich Web Applications with OpenLaszlo

LASZLO IN ACTION

Norman Klein
Max Carlson
with Glenn MacEwen

MANNING