OpenLaszlo 4.0 - Java ME, Ajax and beyond

Max Carlson
Co-Founder and Lead Runtime Architect, Laszlo Systems

August 1, 2007
Laszlo Systems: Leader in RIA Software

Pioneer of Rich Internet Applications (RIA) and Ajax
- Founded in 2000
- First release of RIA platform in 2002
- Embraced open source with OpenLaszlo in 2004
  - 350,000 downloads to date
- OpenLaszlo 4 supports delivery of RIAs in Flash, Ajax and Java

How we make money
- Professional training and support
- Custom design and development of OpenLaszlo applications
- Commercial software built on top of OpenLaszlo
  - Laszlo Mail
  - Laszlo Webtop
OpenLaszlo: Enabling Web-Delivered Rich Applications

HTML, page-based apps

DHTML Enhancements

Simple Ajax apps

Advanced Ajax apps

Desktop Application Replacement

Ajax toolkits

OpenLaszlo
OpenLaszlo applications: Wide range of function, interface

- Laszlo Mail
- Pandora
- Walmart
- H&R Block
- Barclay’s
- IBM
- Gliffy
- Worrydream.com
- Cafe Press
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
Ajax Toolkits vs. OpenLaszlo For Advanced Apps

- 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
Developing in OpenLaszlo

- XML and JavaScript
- Standard OOP patterns apply
- Cool, forward-looking features
  - Declarative data binding
  - Constraints
  - Animation
- Component-oriented
- Laszlo in 10 minutes
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
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’
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!)
Developing in OpenLaszlo

- XML and JavaScript
- Standard OOP patterns apply
- Cool, forward-looking features
  - Declarative data binding
  - Constraints
  - Animation
- Component-oriented
- Laszlo in 10 minutes
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!