



Ajax Libraries

Getting Started with Ajax



Getting Started

- **Libraries**
- **Debugging**
- **Development**



Libraries

- **DWR**
- **GWT**
- **Echo2**
- **Dojo**
- **Prototype / Script.aculo.us / Moo**
- **Atlas**
- **Yahoo UI Widgets**



Types of Ajax Library

Browser

Beautification

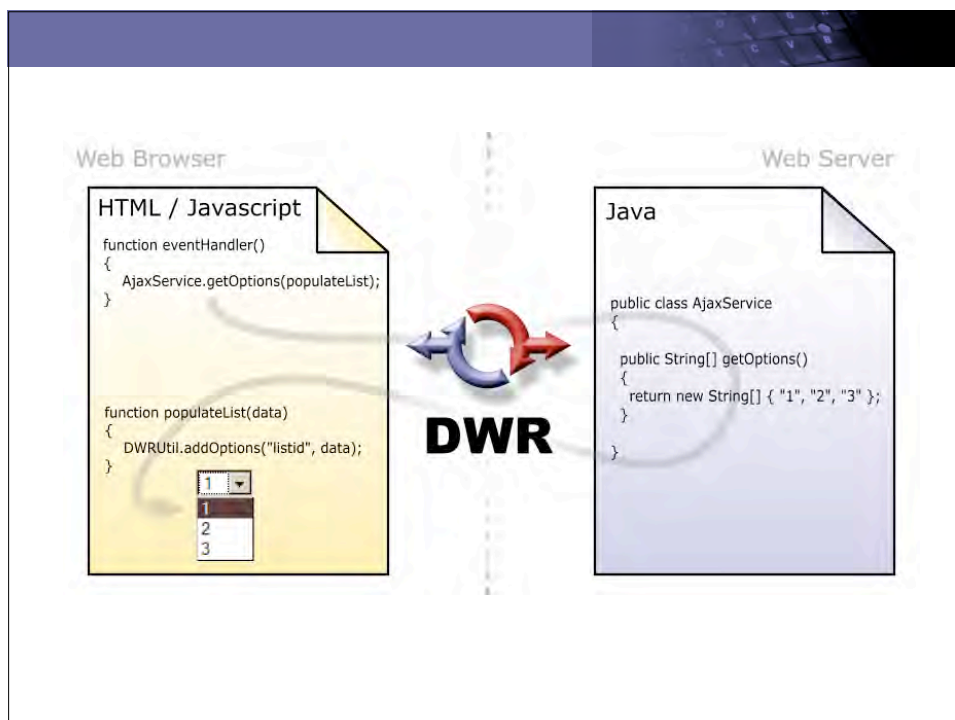
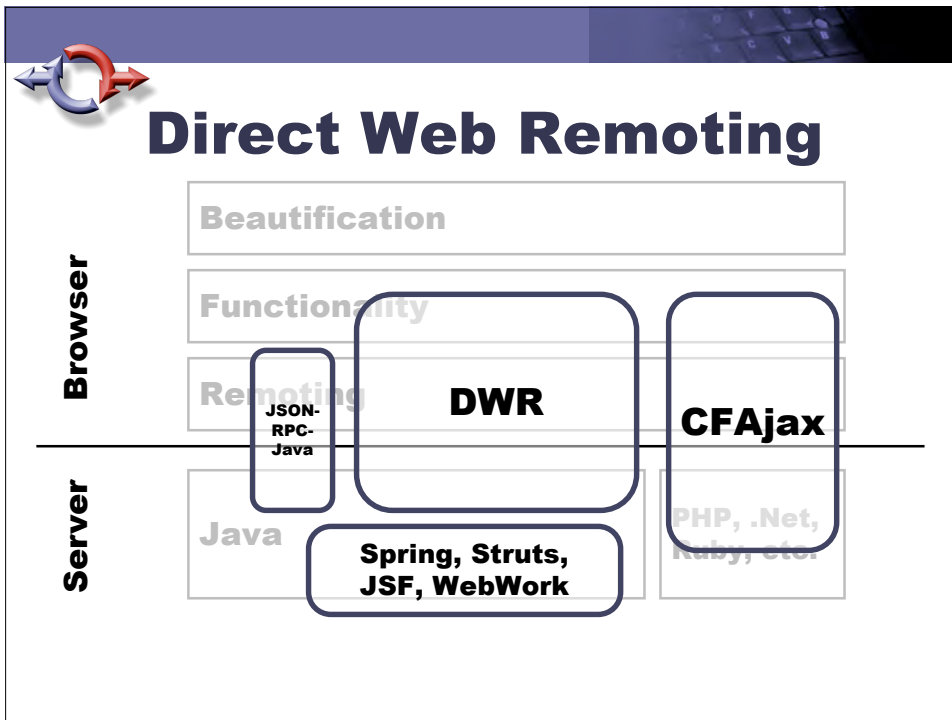
Functionality

Remoting

Server

Java

**PHP, .Net,
Ruby, etc.**





Direct Web Remoting

<http://directwebremoting.org/>

- ✓ **Reverse Ajax**
- ✓ **Good at integration**
- × **More widgets needed**
- × **Need to learn Javascript**
- × **Concerns over security**



Google Web Toolkit





Google Web Toolkit

Example Code:

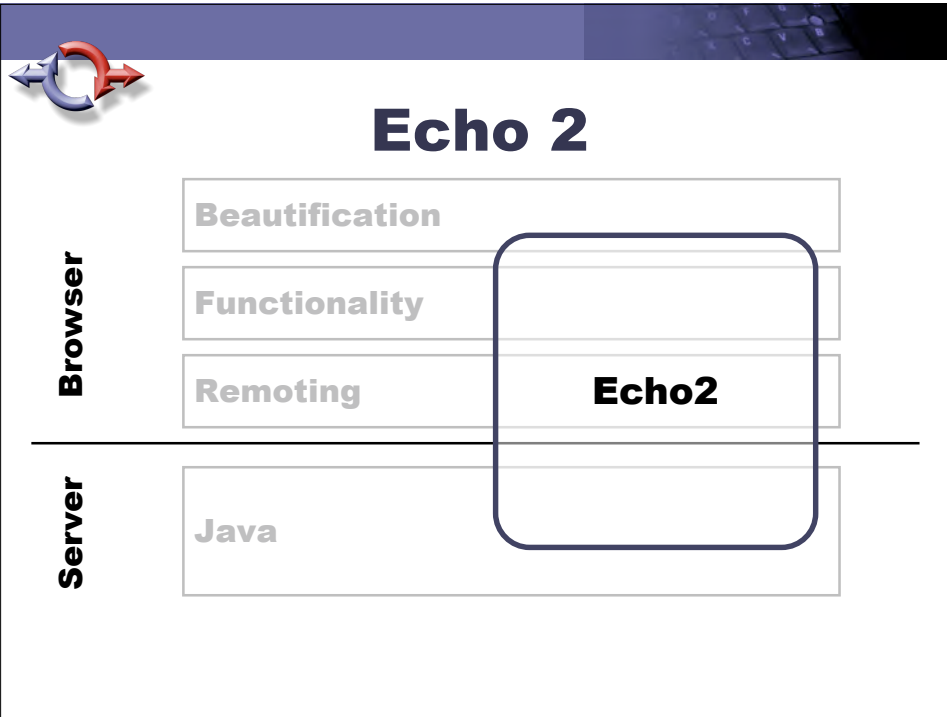
```
public class Hello implements EntryPoint {
    public void onModuleLoad() {
        ClickListener cl = new ClickListener() {
            public void onClick(Widget sender) {
                Window.alert("Hello, AJAX");
            }
        };
        Button b = new Button("Hi", cl);
        RootPanel.get().add(b);
    }
}
```



Google Web Toolkit

<http://code.google.com/webtoolkit>

- ✓ **Compilation step is very clever**
- ✓ **Fast take-up**
- × **Not properly open source**
- × **Forced upgrades**
- × **Poor layout language**



The diagram illustrates the Echo 2 architecture, divided into two main layers: Browser and Server. The Browser layer includes three components: Beautification, Functionality, and Remoting. The Server layer includes Java. A rounded rectangular box labeled 'Echo2' spans across the Functionality and Remoting components in the Browser layer and the Java component in the Server layer, indicating that Echo2 is a cross-layer application. A horizontal line separates the Browser and Server layers. In the top left corner, there is a logo consisting of three curved arrows in blue, red, and grey.

Echo 2

Example Code:

```
class HelloWorldApp extends ApplicationInstance {
    public Window init() {
        Window window = new Window();
        ContentPane contentPane = new ContentPane();
        window.setContent(contentPane);
        Label label = new Label("Hello, world!");
        contentPane.add(label);
        return window;
    }
}
```



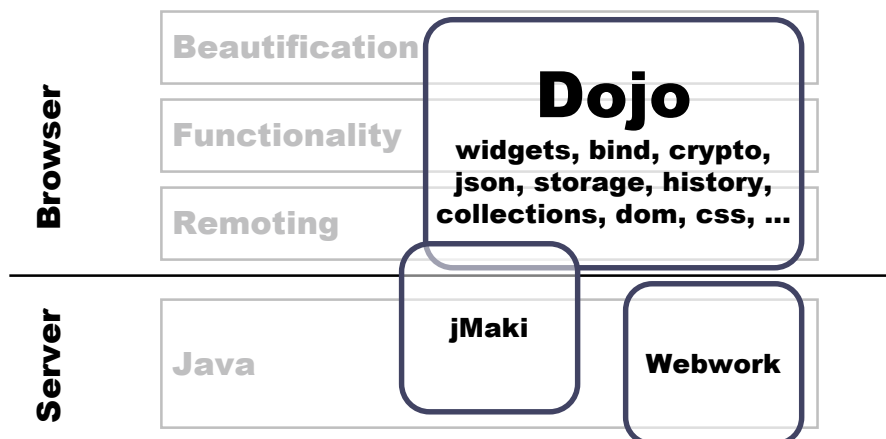
Echo 2

www.nextapp.com/platform/echo2/echo/

- ✓ **Large number of components**
- × **Heavier server load**
- × **Poor layout language**
- × **Browser compatibility quns**



Dojo





Dojo

Example Code:

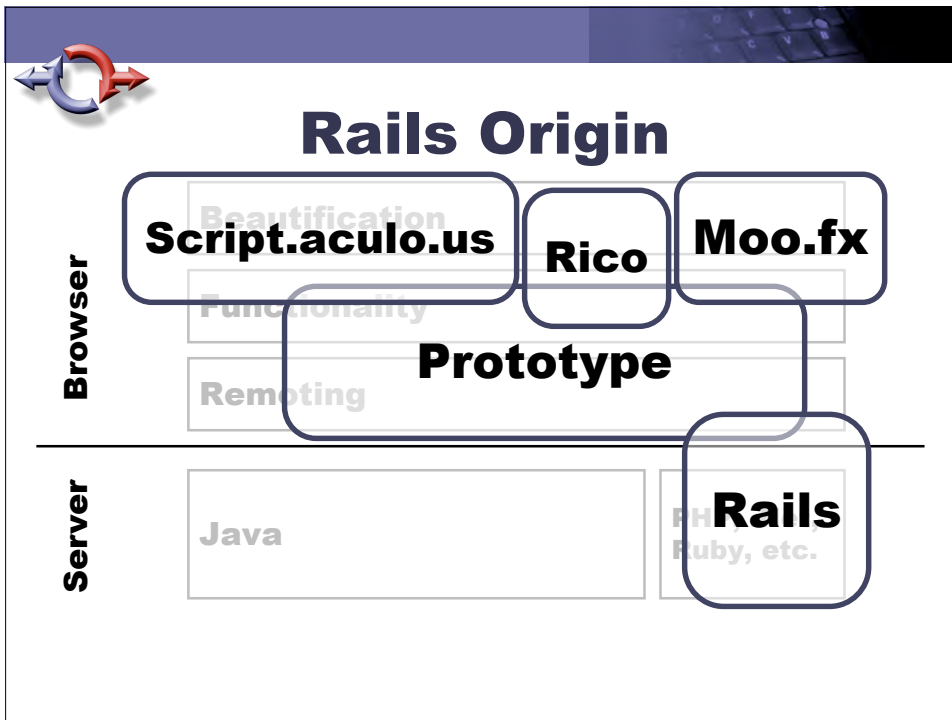
```
<script src="/path/to/dojo/dojo.js" ...>
<script type="text/javascript">
  dojo.require("dojo.widget.Editor");
</script>
...
<div dojoType="Editor" items="textGroup">
  some content
</div>
```



Dojo

<http://dojotoolkit.org/>

- ✓ **Huge scope**
- ✓ **Lots of momentum**
- × **Poor documentation**
- × **Concerns over bug counts**



Rails Origin

Example Code:

```
Effect.BlindUp('passwd');  
Effect.BlindDown('passwd');
```



Rails Based

<http://script.aculo.us/>

<http://prototype.conio.net/>

- ✓ **Very nice eye-candy**
- ✓ **Innovative Style**
- × **Poor documentation**
- × **Rails focus**
- × **\$**



Assorted

Browser

Beautification

Functionality

Remoting

**Yahoo!
Widgets**

Microsoft

Atlas

Server

Java

PHP, .Net,
Ruby, etc.



Debugging

- **Firefox**
- **Internet Explorer**
- **Safari**
- **Opera**



Firefox

- **Firebug:**
<http://www.joehewitt.com/software/firebug/>
- **WebDev Toolbar:**
<http://chrispederick.com/work/webdeveloper/>
- **Venkman:**
<http://getahead.ltd.uk/ajax/venkman/>
- **DOM Inspector:**
<http://www.mozilla.org/projects/inspector/>
- **Console2:**
<http://forums.mozillazine.org/viewtopic.php?t=318102>



Internet Explorer

- **Script Debugger**

<http://www.microsoft.com/downloads/details.aspx?familyid=2F465BE0-94FD-4569-B3C4-DFDF19CCD99&displaylang=en>

- **IE Developer Toolbar**

<http://www.microsoft.com/downloads/details.aspx?familyid=E59C3964-672D-4511-BB3E-2D5E1DB91038&displaylang=en>

- **Visual Studio.net (Express)**



Safari

- **DOM Inspector**

<http://webkit.opendarwin.org/blog/?p=41>

- **Javascript Console:**

```
defaults write com.apple.Safari \  
  IncludeDebugMenu 1
```

- **Web Inspector:**

```
defaults write com.apple.Safari \  
  WebKitDeveloperExtras -bool true
```

- **`window.console.log(message);`**



Opera



Developer Tools

- **Eclipse - JSEclipse**
<http://www.interaktonline.com/Products/Eclipse/JSEclipse/Overview/>
- **Eclipse - MyEclipse**
<http://www.myeclipseide.com/>
- **IntelliJ**
<http://www.jetbrains.com/idea/>



Gotchas

- **Safari < 2.0 only does GET**
- **IE sometimes caches GET replies**
- **Don't reuse XHR objects**
- **Watch out for cross domain XHR security**



Approaches

- **Single-page vs. multi-page**
- **Cross-domain XHR**
- **Accessibility**
- **Search**



Any Questions?

<http://getahead.ltd.uk/blog/joe>

<http://getahead.ltd.uk/dwr>