



ApacheCon US 2008

Empowering the social web with Apache Shindig

Henning Schmiedehausen
Sr. Software Engineer – Ning, Inc.



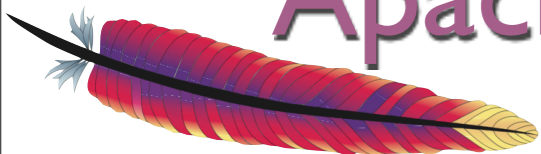
Ning

November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation

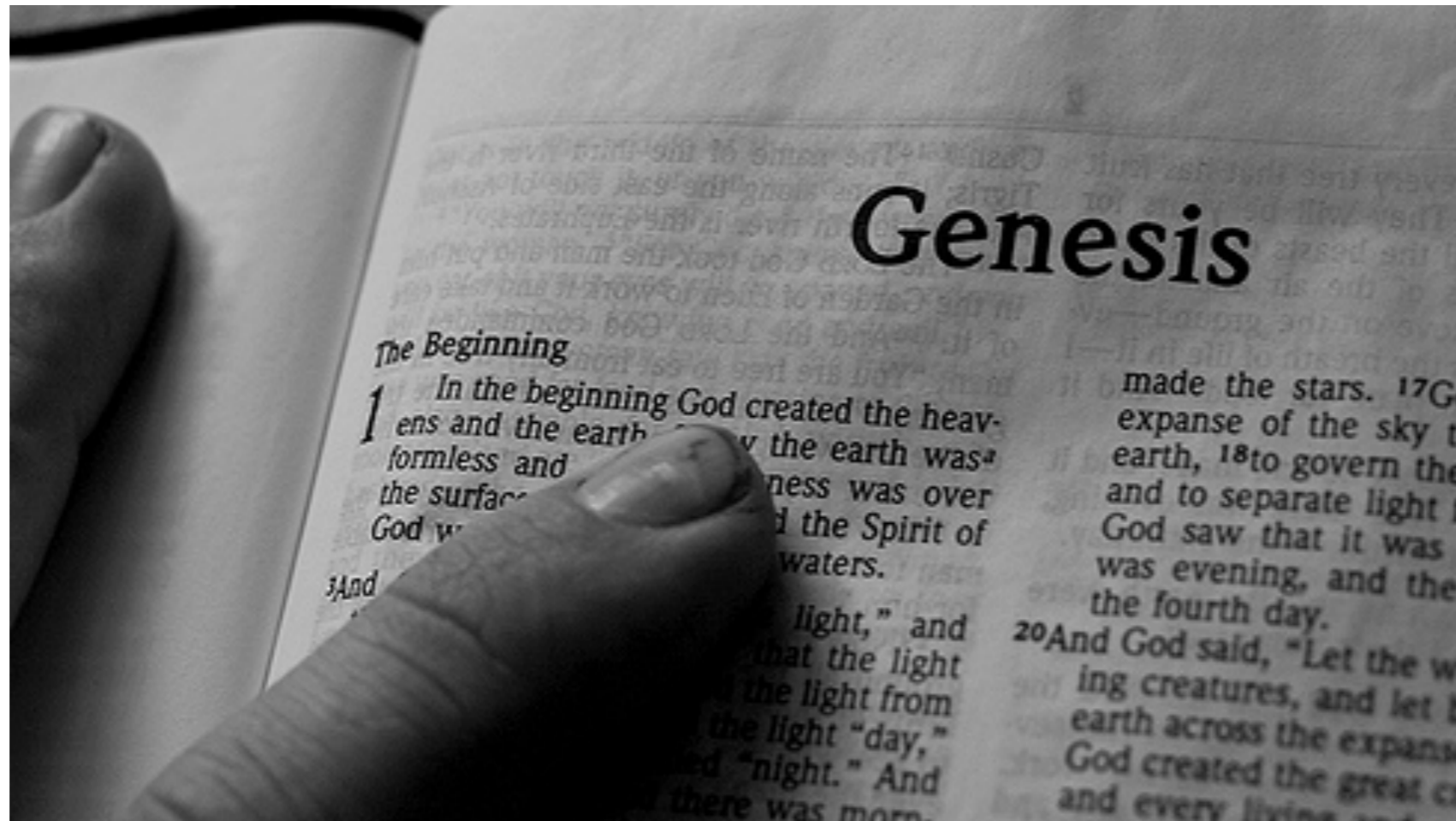
- **How the web became social**
- Get out of the Silo – Google Gadgets
- OpenSocial – A social API
- Apache Shindig
- Customizing Shindig
- Summary

ApacheCon US 2008



November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation



In the beginning...



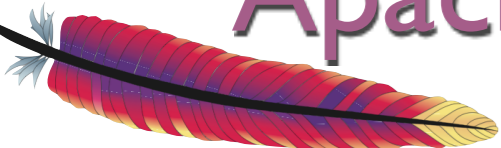
ApacheCon US 2008



...let there be web 2.0

- Web x.0 is about participation
- Users have personalized logins
- Relations between users are graphs
"small world phenomenon", "six degrees of separation", Erdős number, Bacon number

ApacheCon US 2008



November 3 - 7 • New Orleans
Leading the Wave of Open Source

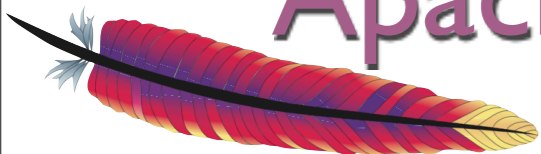
The Official User Conference of The Apache Software Foundation



The Silo problem

- How the web became social
- **Get out of the Silo – Google Gadgets**
- OpenSocial – A social API
- Apache Shindig
- Customizing Shindig
- Summary

ApacheCon US 2008



November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation



ApacheCon US 2008

iGoogle [Advanced Search](#) [Search Preferences](#) [Language Tools](#)

[Home](#) [News](#) [Feeds](#) [Blogs and Stuff](#) [Add a tab](#)

Weather ☰ ☱ ☲
København
 13°C
 Current: Mostly Cloudy
 Wind: E at 8 m/s
 Humidity: 67%
 Today: 15° | 11°
 Sat: 15° | 10°
 Sun: 16° | 10°
 Mon: 16° | 11°

Reuters: Top News ☰ ☱ ☲
 + [Hurricane Ike threatens Texas with wall of water](#)
 + [Lehman shares slide on Paulson bailout reluctance](#)
 + [Obama tries to regain his stride](#)

CNN.com - World ☰ ☱ ☲
 + [Hurricane Ike warning: Flee or die](#)
 + [Judge throws out Zuma corruption charges](#)
 + [Diplomat: Russia stalling over Georgia observers](#)

Google News ☰ ☱ ☲
 Top Stories | U.S. | World | Entertainment | Sci/Tech | +
[Galveston, New Orleans already feeling storm's impacts - Washington Post](#)
 Remember a week ago, when Ike was one of three active tropical systems in the Atlantic, in addition to the remnant... [all 3,747 news articles](#)
[What Is the Bush Doctrine, Anyway? - Washington Post](#)
 By Dan Froomkin Republican vice presidential nominee Sarah Palin's evident cluelessness when asked in an interview y... [all 784 news articles](#)
[Sarah Palin shows that the best defense may be a new television ad - Los Angeles Times](#)
 The best defense is not necessarily a strong offense. It may be a new ad, at least in the view of the ad team behind the Johr... [all 1,469 news articles](#)
[Two Venezuelan Officials Called Rebel Supporters - New York Times](#)
 By SIMON ROMERO CARACAS, Venezuela - The United States Treasury Department on Friday named Venezuela's top tw... [all 1,182 news articles](#)
[Mugabe to keep major powers under deal - Reuters](#)
 By Cris Chinaka HARARE (Reuters) - President Robert Mugabe will keep his job and head the cabinet under a power-shari... [all 1,838 news articles](#)
[Georgia attack is 'Russia's 9/11' - BBC News](#)
 He said the world had learnt lessons from the attacks in the US on 11 September 2001 and hoped the same would hap... [all 4,907 news articles](#)
[More >>](#)

NPR Topics: News
 + [Texas Coast Evacua](#)
 + [Some Galveston Res](#)
 + [Cuba Reeling From f](#)

NYT > NYTimes.com
 + [Lehman Said to Be L](#)
 + [Oil Slips Near \\$100 ;](#)
 + [Thousands in Texas](#)

BBC News | World |
 + [SA court rejects Zun](#)
 + [US sanctions stoke'](#)
 + [Israel river body is m](#)

iGoogle

- Users adds Gadgets to their homepages
- Gadgets share screen space
Google experiments with Canvas view
- Javascript, HTML, CSS
A gadget runs on the Browser!
- Predefined Gadgets API
Core APIs for IO, JSON, Prefs; optional APIs (e.g. flash, rpc, views)
- Third-Party gadgets available

"Hello World"

```
<?xml version="1.0" encoding="UTF-8" ?>
<Module>
  <ModulePrefs title="hello world example" />

  <Content type="html">
    <![CDATA[
      <b>Hello, World!</b>
    ]]>
  </Content>
</Module>
```

Gadget Anatomy

```
<?xml version="1.0" encoding="UTF-8" ?>
<Module>
  <ModulePrefs title="hello world example" >
    <Require feature="dynamic-height" />
    <Optional feature="flash" />
    <Locale lang="en" messages="en.xml" />
    <Locale lang="de" messages="de.xml" />
  </ModulePrefs>
  <UserPref name="text" display_name="Text"
    datatype="string" default_value="Hello,World!" />
  <Content type="html"><![CDATA[
    <div id="helloworld" />
    <script>
      prefs = new gadgets.Pref
      var text = pref
      document.getElementById('helloworld').innerHTML = "<b>" + text + "</b>";
    </script>
  ]]></Content>
</Module>
```

Metadata


Required and
Optional Features

Localization

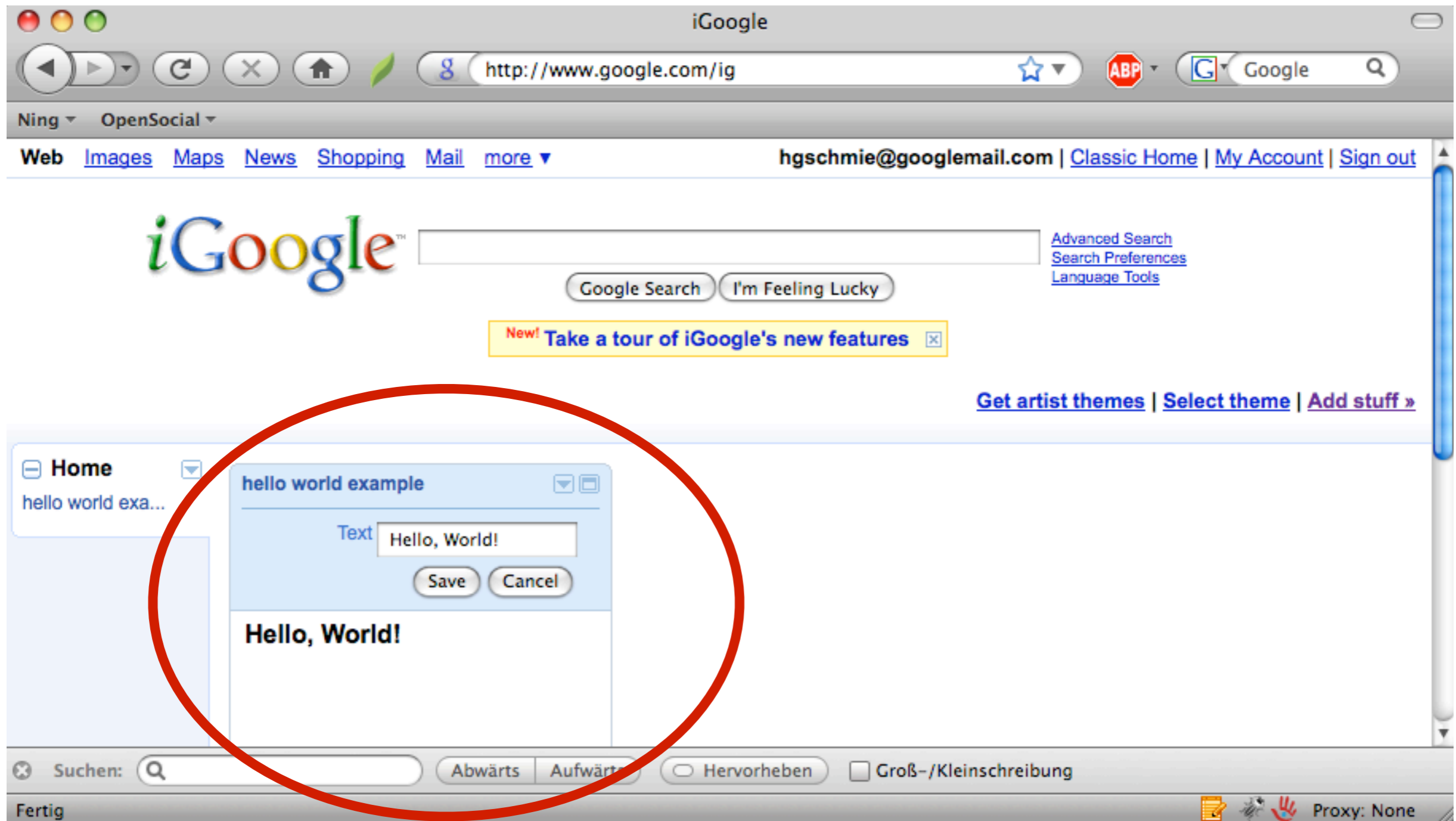
Preferences

Gadget Anatomy

```
<?xml version="1.0" encoding="UTF-8" ?>
<Module>
  <ModulePrefs title="hello world example" >
    <Require feature="dynamic-height" />
    <Optional feature="flash" />
    <Locale lang="en" messages="en.xml" />
    <Locale lang="de" messages="de.xml" />
  </ModulePrefs>
  <UserPref name="text" display_name="Text"
            datatype="string" default_value="Hello,World!" />
  <Content type="html"><![CDATA[
    <div id="helloworld" />
    <script>
      prefs = new gadgets.Prefs();
      var text = prefs.getString('text');
      document.getElementById('helloworld').innerHTML = "<b>" + text + "</b>";
    </script>
  ]]></Content>
</Module>
```



... on iGoogle




... on Ning

Meine persönliche Seite - Kristin und Henning in California

http://kristin-und-hen.ning.com/profil

Ning OpenSocial

Hauptseite Einladen **Meine Seite** Mitglieder Fotos Events Blogs Notes Verwalten



Welcome! Add Your Title Here

Letzte Aktivität Bearbeiten
[Privatsphäre](#)

Ihr -Feld Bearbeiten
[+ Add Text](#) Klicken Sie auf "Bearbeiten", um Text, HTML, Videos, Fotos oder [Widgets von Drittanbietern](#) zu diesem Feld hinzuzufügen.

Kommentare Bearbeiten
▶ Kommentieren
Noch keine Kommentare!

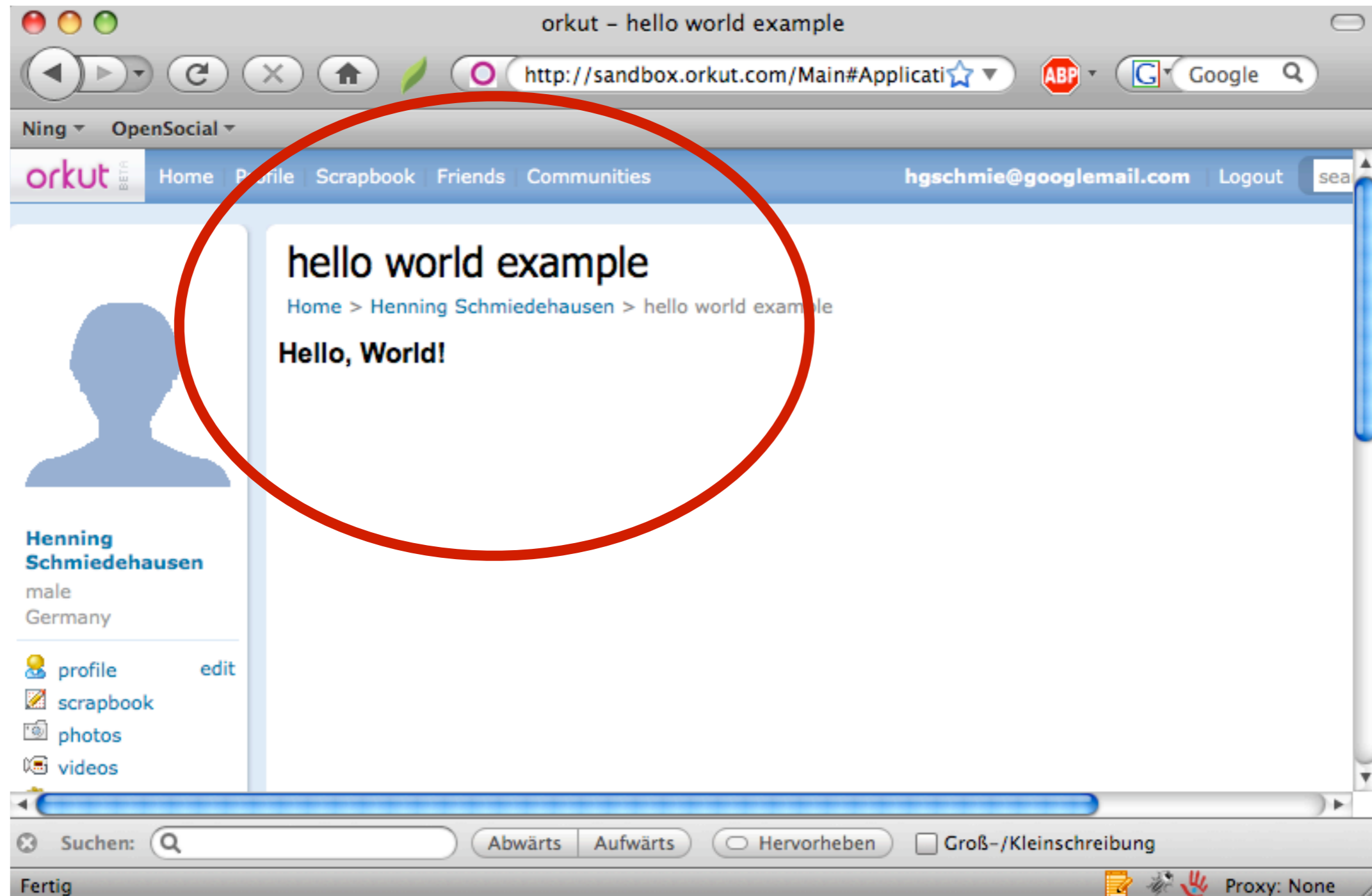
hello world example Edit

Hello, World!

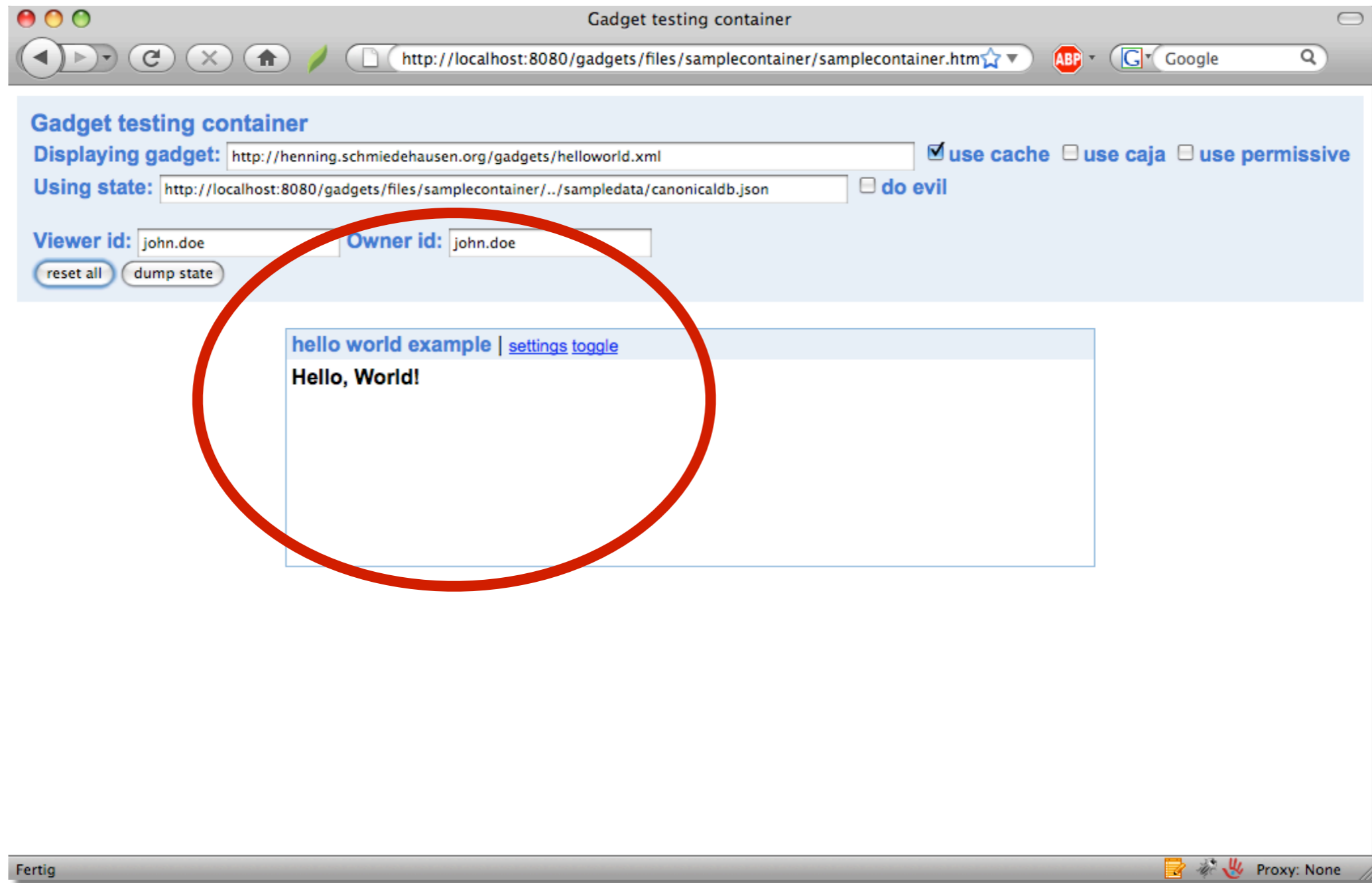
Henning Schmiedehausen
Männlich
Palo Alto
Vereinigte Staaten
Change [My Photo](#) or [Theme](#)
[Mit anderen teilen](#)
[+ Add Applications](#)

[Applications \(1\)](#)
[Blog-Beiträge](#)
[Events](#)
[Fotos](#)
[Photo Albums](#)

... on Orkut



... sample container



Write once, embed everywhere

- iGoogle / Google gadgets
- other web sites
- gadget enabled Containers (Websphere)

ApacheCon US 2008

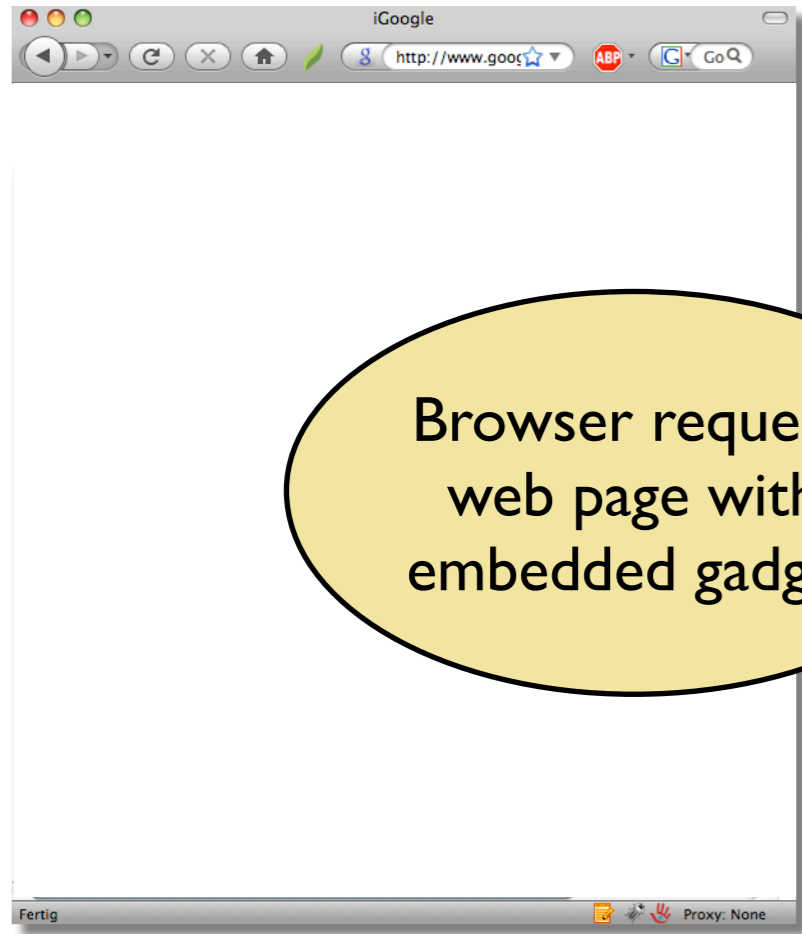


November 3 - 7 • New Orleans
Leading the Wave of Open Source

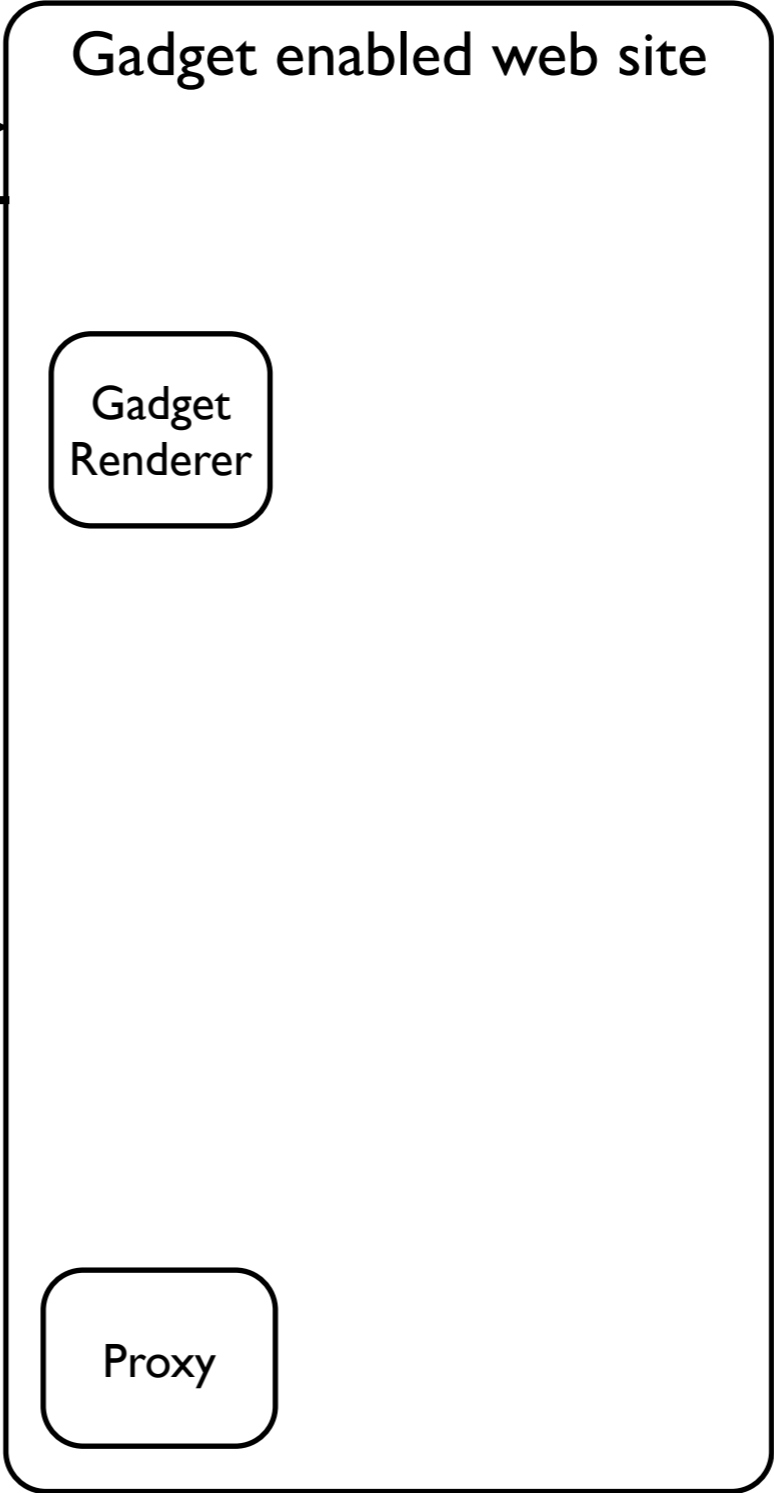
The Official User Conference of The Apache Software Foundation

How does it work?

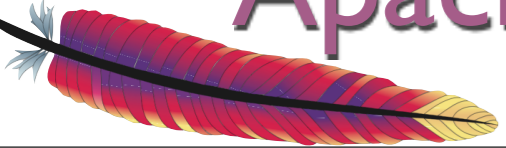
(the techie slides)



Browser requests web page with embedded gadget

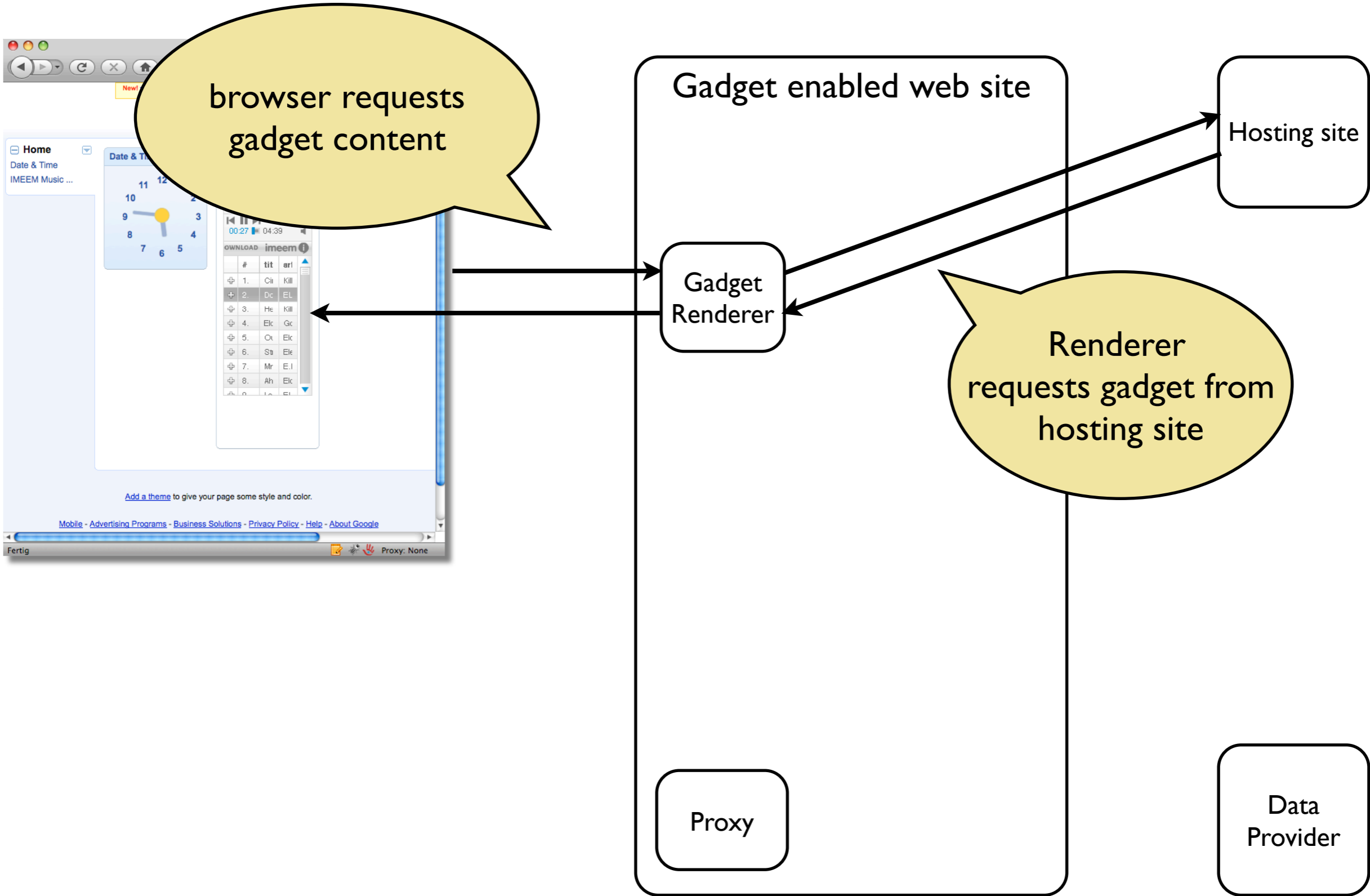


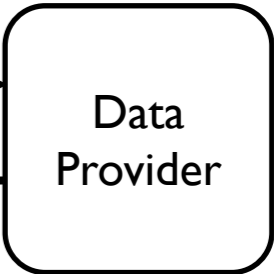
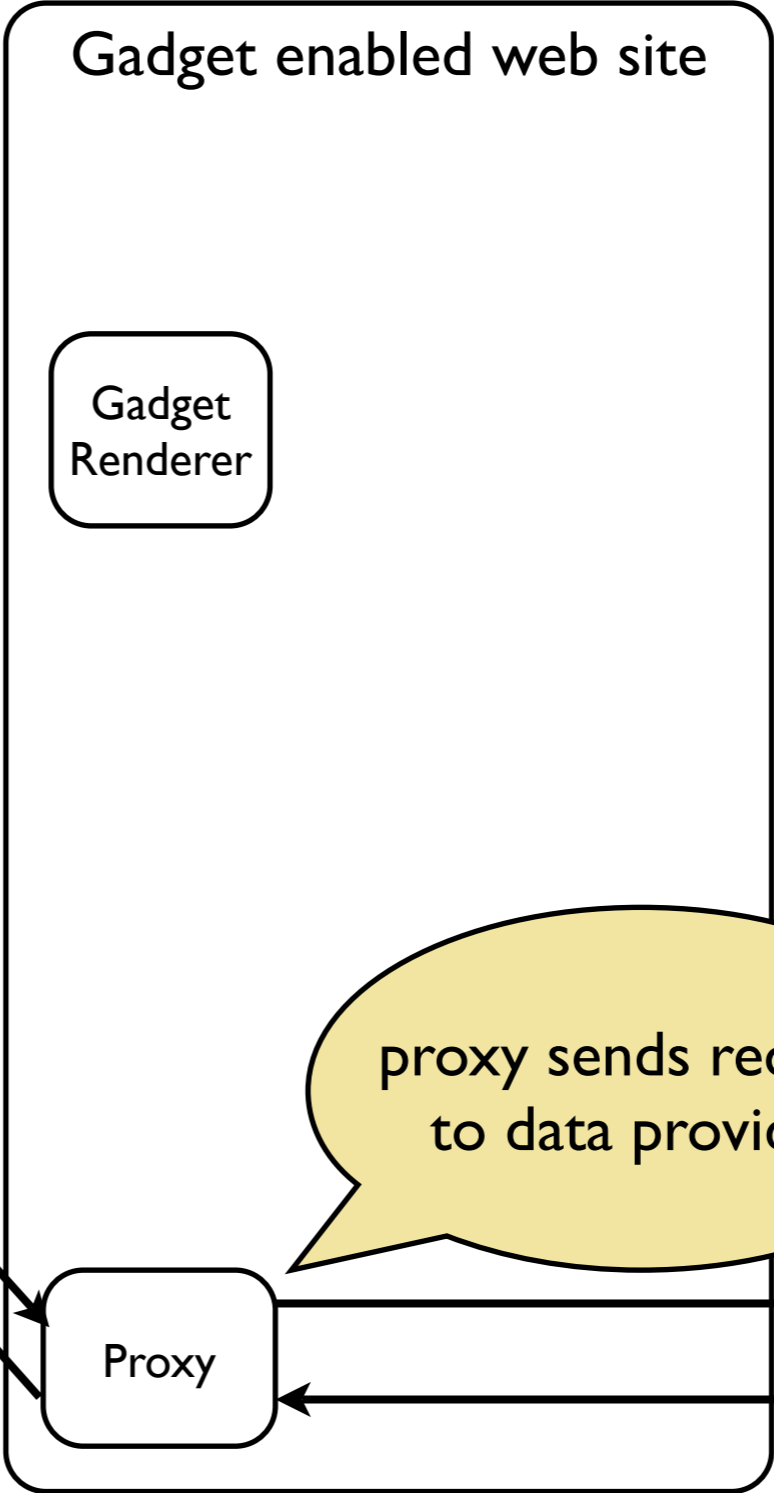
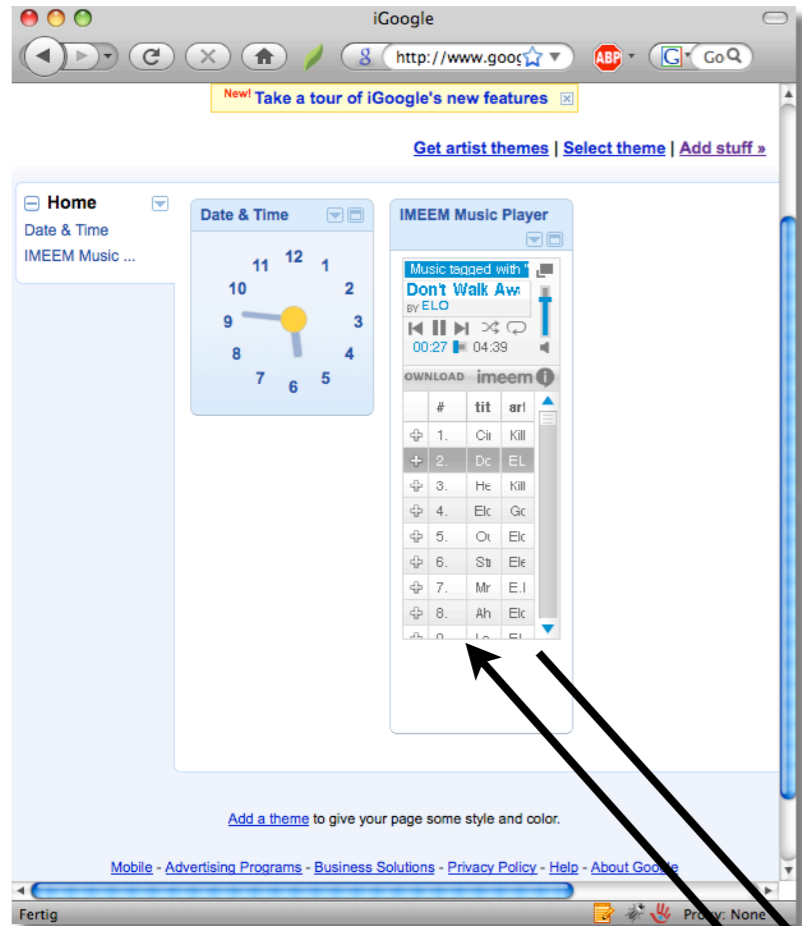
ApacheCon US 2008



November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation





gadget requests application data from its backend site

ApacheCon US 2008

November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation

But is it social?

- How the web became social
- Get out of the Silo – Google Gadgets
- **OpenSocial – A social API**
- Apache Shindig
- Customizing Shindig
- Summary

 **ApacheCon US 2008**

November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation



- Google launched OpenSocial Nov 1st, 2007
- Launch partners:
Bebo, Engage.com, Friendster, hi5, Hyves, imeem, NetModular, mixi, MySpace, Ning, orkut, Plaxo, SixApart, LinkedIn, Tianji, salesforce.com, Viadeo, Oracle, XING
- Plaxo and Ning delivered inside 24 hours

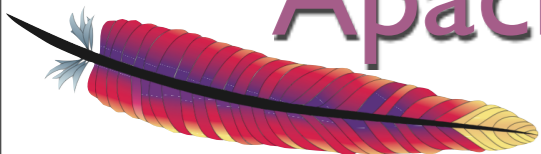
ApacheCon US 2008

November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation

- **opensocial 0.5: Nov 1st, 2007**
- **opensocial 0.6: Dec 21st, 2007**
- **opensocial 0.7: Jan 25th 2008**
- **opensocial 0.8: May 27th 2008**
- **opensocial 0.8.1: Sep 25th 2008**

ApacheCon US 2008

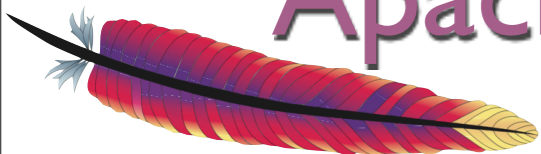


November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation

- social data API
 - persons
 - relationships
 - activities
- persistence API

ApacheCon US 2008



November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation

Person

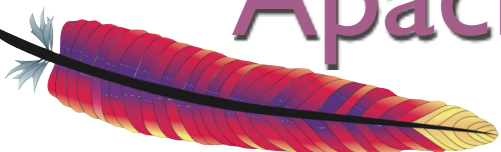
- Core building block of the social API

- Has a huge number of attributes

about_me, activities, addresses, age, body_type, books, cars, children, current_location, date_of_birth, drinker, email, ethnicity, fashion, food, gender, happiest_when, has_app, heroes, humor, id, interests, job_int job_interests, jobs, languages_spoken, living_arrangement, looking_for, movies, music, name, network_presence, nickname, pets, phone_numbers, political_views, profile_song, profile_url, profile_video, quotes, relationship_status, religion, romance, scared_of, schools, sexual_orientation, smoker, sports, status, tags, thumbnail_url, time_zone, turn_offs, turn_ons, tv_shows, urls

- Almost all are optional

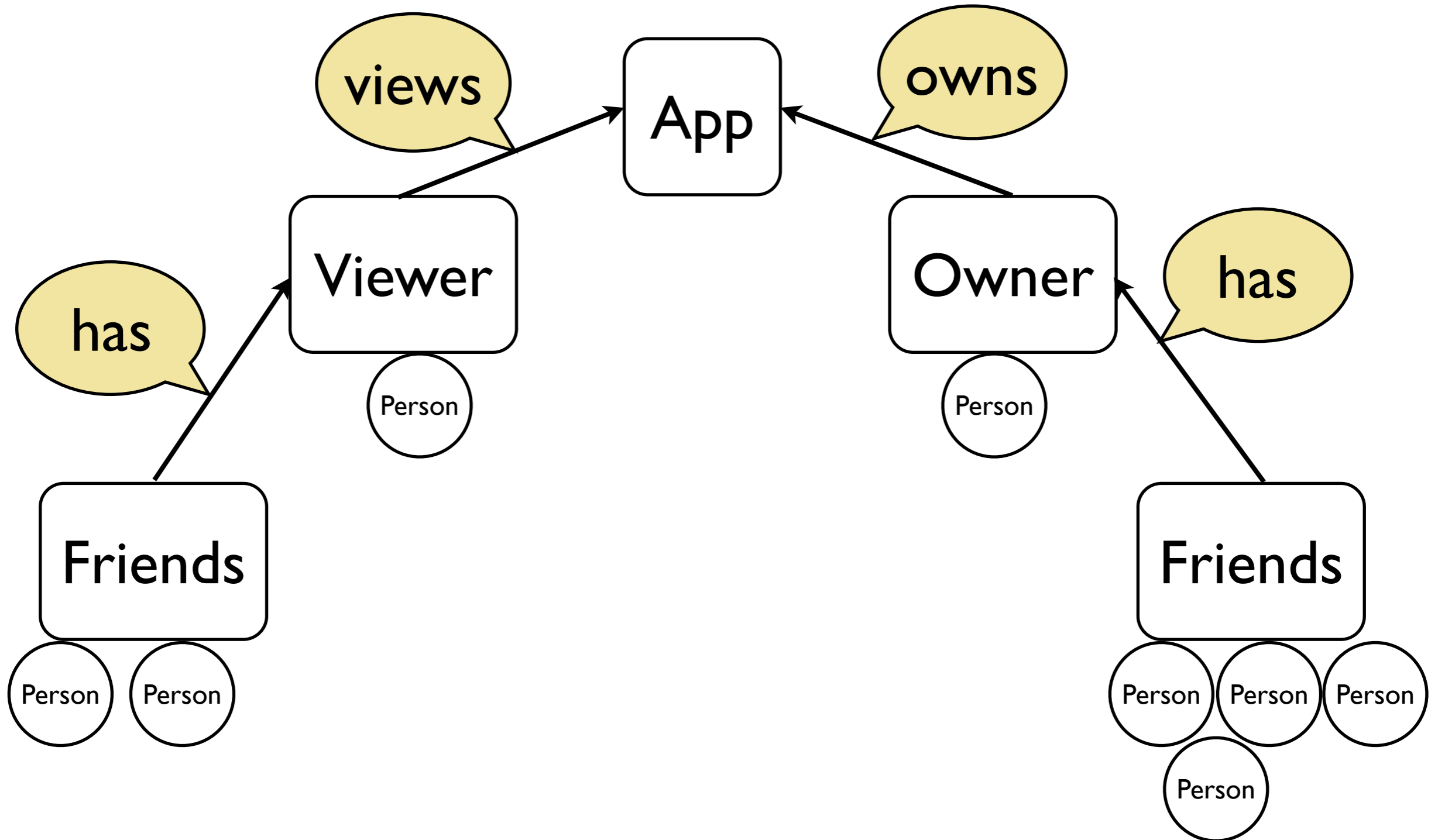
ApacheCon US 2008



November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation

Relationships



Activities

- Activities stream related to Applications
- Can contain URLs, Images, Videos
- Templating system for sharing URLs
- read and write access

 ApacheCon US 2008

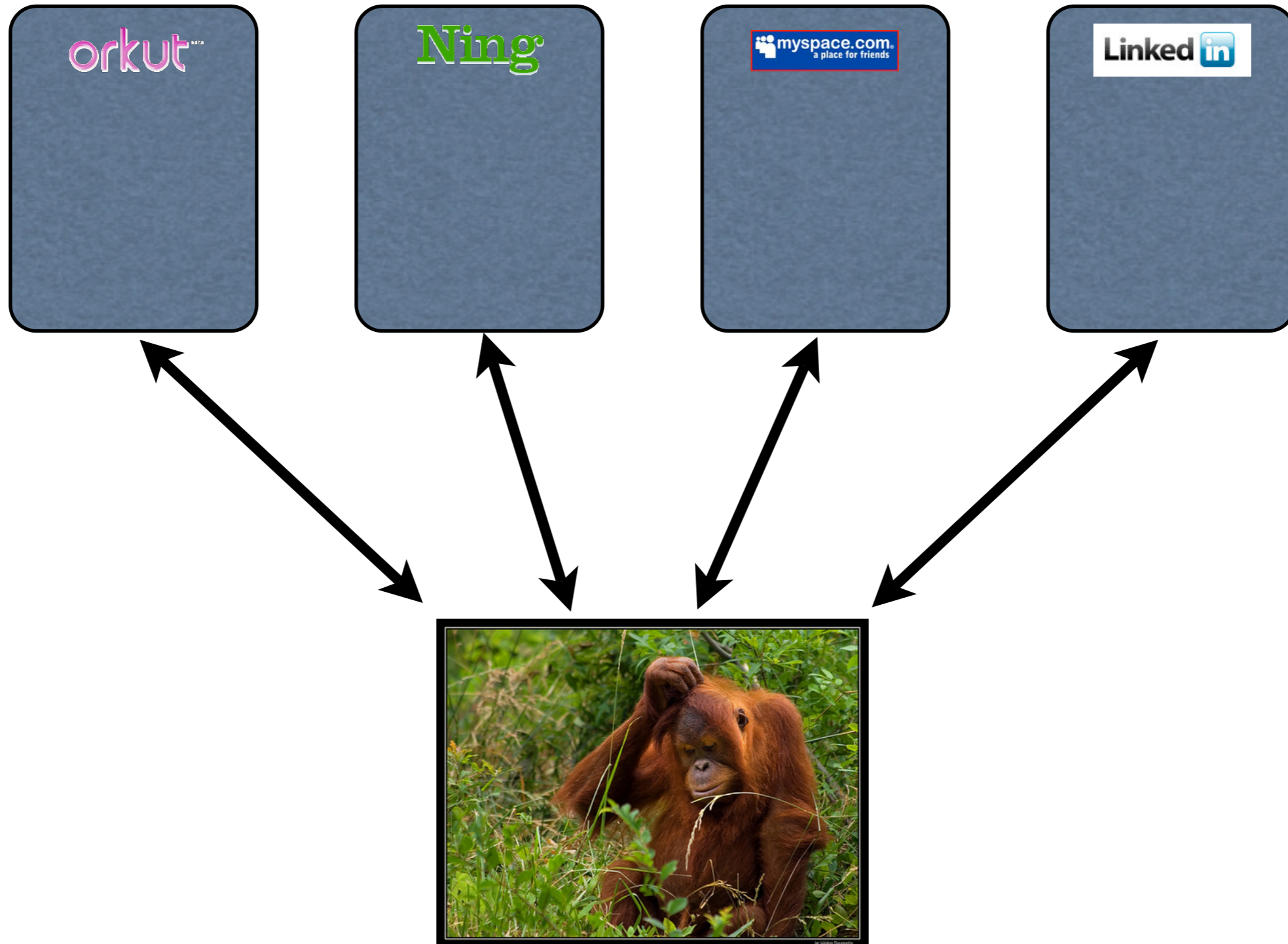
November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation

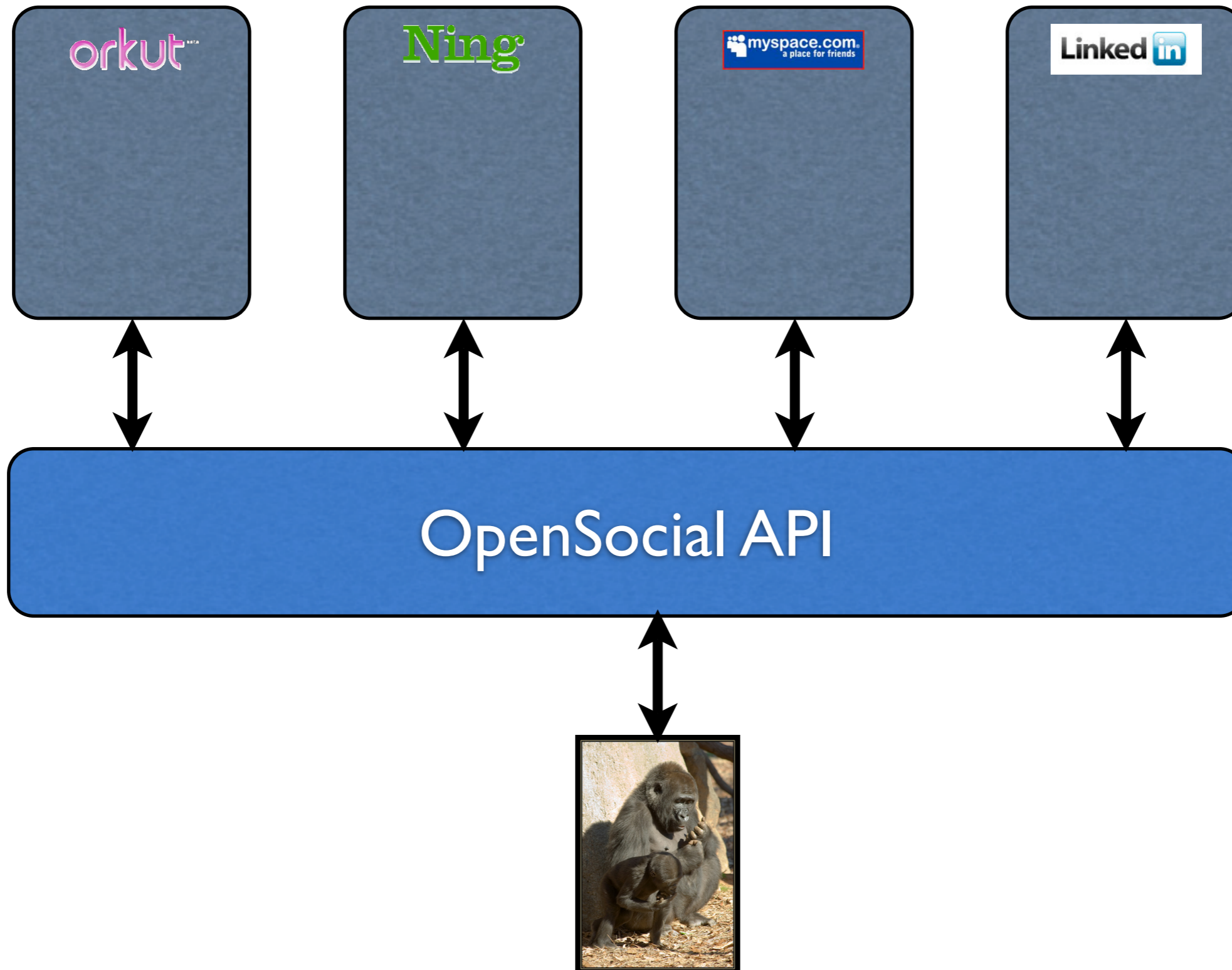
AppData

- Gadgets had to rely on Prefs or external backends for data storage
- AppData stores arbitrary key/value pairs
- write for own data,
read for related persons

before OpenSocial



with OpenSocial




```
<ModulePrefs title="going social">  
  <Require feature="opensocial-0.8" />  
</ModulePrefs>
```

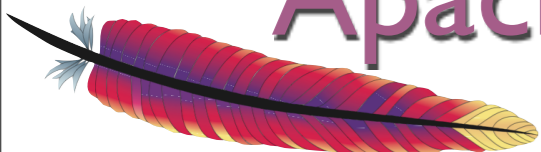
 ApacheCon US 2008

November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation

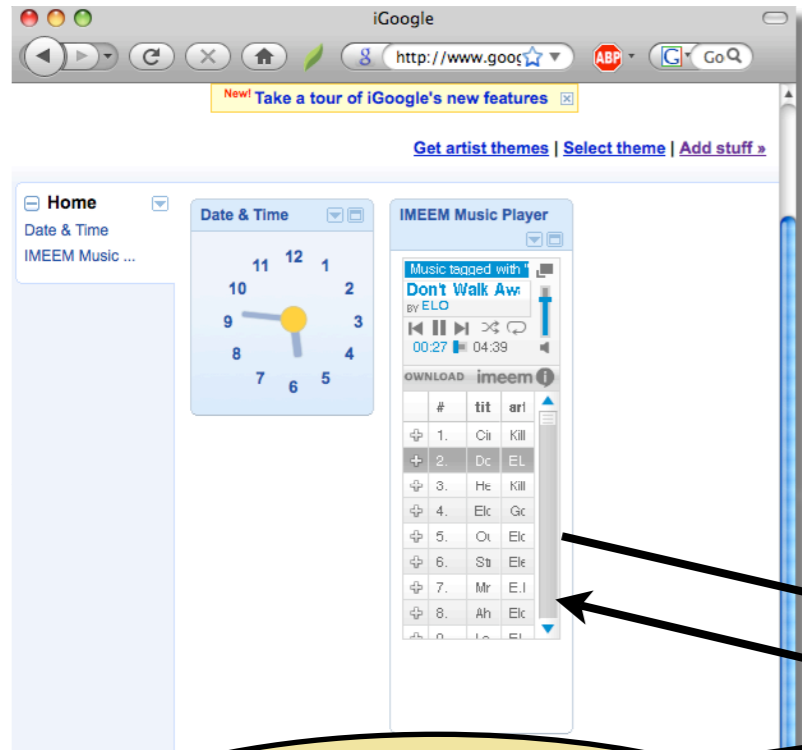
- up to opensocial-0.7:
- browser facing Javascript API, delivered as a feature to Gadgets
- Gadget Renderer
- Data Proxy
- OpenSocial API implementation

ApacheCon US 2008

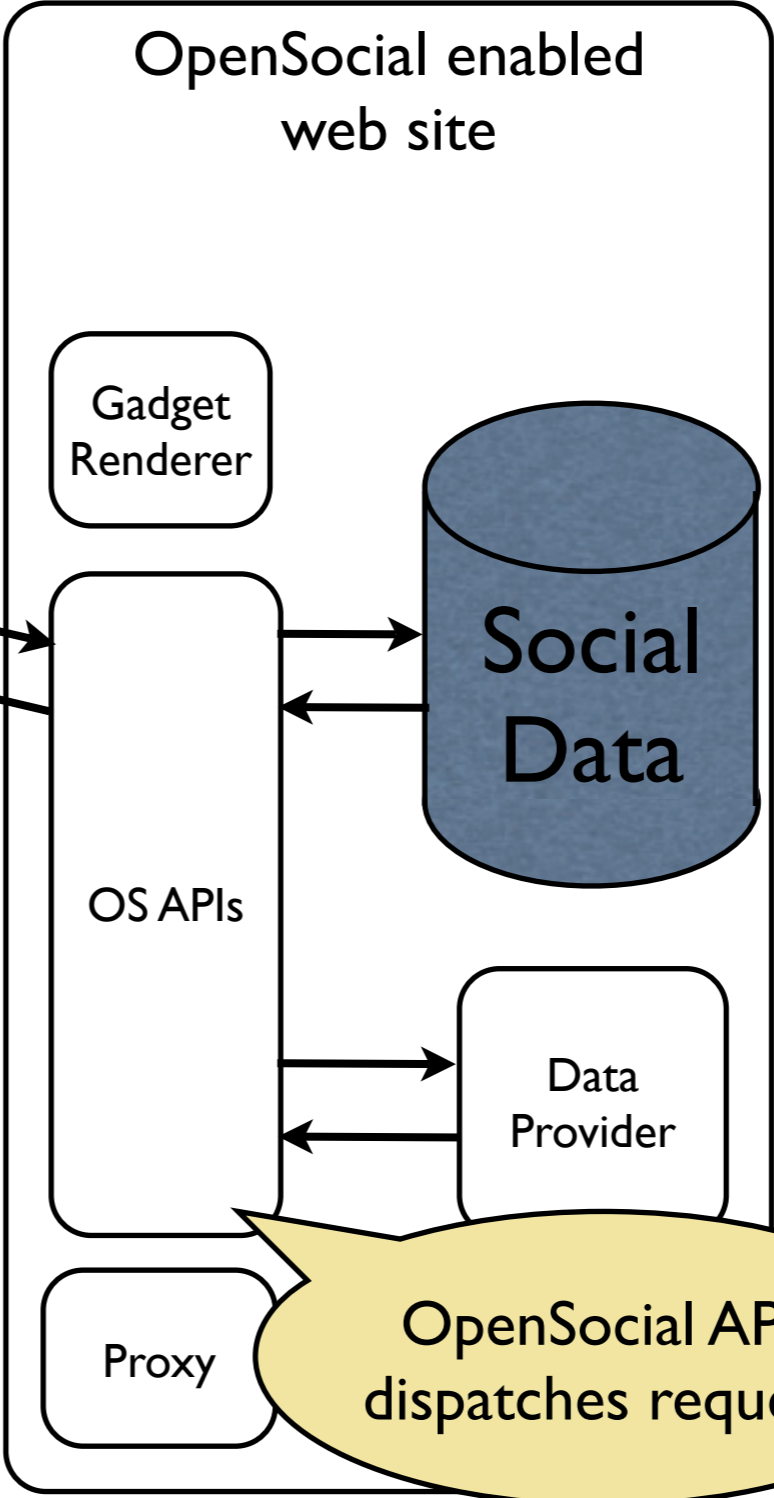


November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation



gadget requests social content



Hosting site

Data Provider

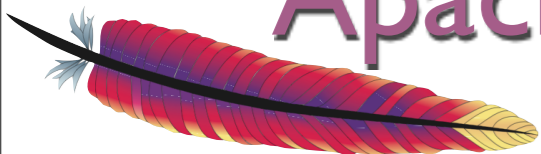
ApacheCon US 2008

November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation

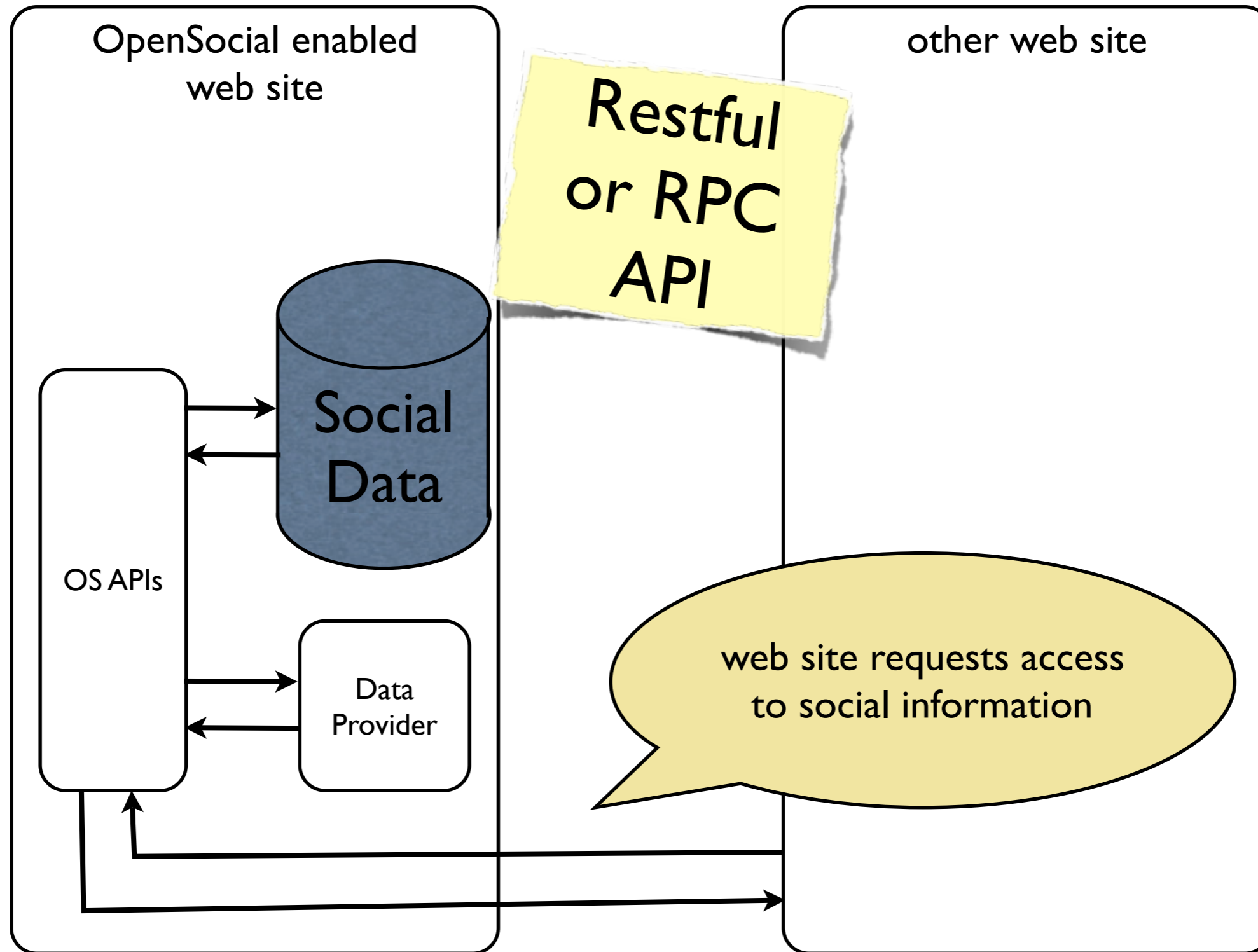
- since 0.8:
 - outward facing restful API
 - OAuth Core 1.0 service provider
 - OAuth Consumer Request extension
- since 0.8.1:
 - outward facing RPC API

ApacheCon US 2008



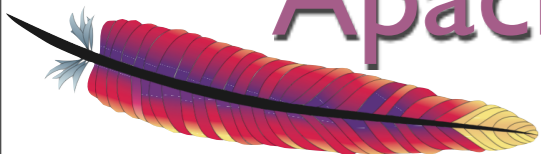
November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation



- How the web became social
- Get out of the Silo – Google Gadgets
- OpenSocial – A social API
- **Apache Shindig**
- Customizing Shindig
- Summary

ApacheCon US 2008



November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation

Apache Shindig

- Incubator podling since December 2007
- Reference implementation in Java and PHP
- Goal: OpenSocial 0.8.1 compliance
- no release yet, get it from SVN
(no logo either!)



ApacheCon US 2008

November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation

Shindig Components

- **Java implementation**
(PHP implementation is ~ similar)
 - Gadget renderer and server
 - Gadget data proxies
 - **OpenSocial Data Service**
including a sample implementation using JSON DB.
 - Caching infrastructure

HTTP Container

GadgetRenderer
Servlet

Gadget
Server

Data Proxy
Servlets

Cache

DataService Servlet

PersonService

ActivityService

AppDataService

ApacheCon US 2008

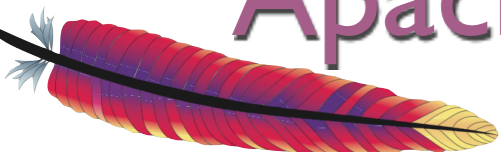
November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation

JavaScript Features

- fully gadget and opensocial spec compliant
- Caja ready (don't use in production yet)
- JSON and Restful container implementations
- customizable through JSON config

ApacheCon US 2008



November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation

Sample Container

Gadget testing container

http://localhost:8080/gadgets/files/samplecontainer/samplecontainer.htm


Gadget testing container


Displaying gadget: use cache use caja use permissive


Using state: do evil


Viewer id: Owner id:

Social Hello World | [settings toggle](#)

 **Ciao a tutti**
Georgey (2) male

 **여러분, 안녕하세요**
Janey (7) female

 **Hello World**
Malja (0) female

 **Hello World**
Johnny (0) male

Fertig Proxy: None

- How the web became social
- Get out of the Silo – Google Gadgets
- OpenSocial – A social API
- Apache Shindig
- **Customizing Shindig**
- Summary

 ApacheCon US 2008

November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation

Backend APIs

```
public class CustomPersonService implements PersonService {  
    public ... getPeople(...) { ... }  
    public ... getPerson(...) { ... }  
}
```

```
public class CustomActivityService implements ActivityService {  
    public ... getActivities(...) { ... }  
    public ... getActivity(...) { ... }  
    public ... deleteActivities(...) { ... }  
    public ... createActivity(...) { ... }  
}
```

```
public class CustomAppDataService implements AppDataService {  
    public ... getPersonData(...) { ... }  
    public ... deletePersonData(...) { ... }  
    public ... updatePersonData(...) { ... }  
}
```

PersonService

- Access to user specific information
- read-only access
- paging/filtering/sorting by the backend
- platform data mapping needed

Customizing

- Shindig is wired with Google Guice
- Implementation interfaces for
 - Security, Blacklisting
 - Caching, Fetching
 - Configuration, URL generation
 - Content rewriting
- Default implementations available

ApacheCon US 2008



November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation

...going social

- Shindig is one part of an OpenSocial site
- Other parts are
 - Application catalog
 - Invites / Messaging
 - Management (Blacklists, Security, Cache)
 - Developer sites (sandbox)

ApacheCon US 2008



November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation

- How the web became social
- Get out of the Silo – Google Gadgets
- OpenSocial – A social API
- Apache Shindig
- Customizing Shindig
- **Summary**

 ApacheCon US 2008

November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation

Resources

- <http://henning.schmiedehausen.org/opensocial>
 - Talk slides
- Apache Shindig Homepage
 - <http://incubator.apache.org/shindig>

Other resources

- <http://www.opensocial.org/>
- <http://code.google.com/api/gadgets>
- <http://groups.google.com/group/opensocial-and-gadgets-spec>
- <http://code.google.com/opensocial>
- <http://code.google.com/p/opensocial-resources>

 ApacheCon US 2008

November 3 - 7 • New Orleans
Leading the Wave of Open Source

The Official User Conference of The Apache Software Foundation

Q&A

(if time permits)

**Thanks for your
attention!**

(and to flickr for some of the images)