Mashing Up with Google Mashup Editor and Yahoo! Pipes

Gregor Hohpe

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Who's Gregor?

- Distributed systems, enterprise integration, service-oriented architectures, mashups
- Write code every day. Share knowledge through patterns.
- www.eaipatterns.com
A Brief History of Time

- **Web 1.0**
  - Static HTML pages, Shopping Sites
  - User oriented

- **Web 1.5**
  - Web Services
  - Machine oriented

- **Web 2.0**
  - Web as platform, lightweight programming
  - Data Feeds
  - User contributed content, collective intelligence
  - Mashups
Mashups

A web application that combines data from more than one source into an integrated experience.

- RIA = Rich Internet Applications
- Combine multiple data feeds
- Often read-only
- User developed
- Access services over Internet
- Ad-hoc, easy to change
- Mashups on mashups
Mashup Anatomy

Front-End

- Google Mashup Editor
- QED Wiki
- JavaScript Libraries
- Microsoft Popfly

Transform / Aggregate

- Yahoo! Pipes
- Snaplogic
- Microsoft Popfly
- IBM Damia

Data Sources / Adapters

- Dapper
- Openkapow
- Snaplogic
- StrikeIron

(not meant to be complete nor a recommendation)
Example: My Travel Map

Google Calendar with Conference Events

Yahoo! Pipes

Geo Enriched Feed

Google Mashup Editor Interactive Application
Starting Point: Google Calendar
### Calendar Feed

Since Google Calendar is a web-based calendar, the feed is easy to use and accessible from any device with an internet connection. Here's an example of how you can get a feed:

1. **Locate your calendar on Google Calendar.**
2. **Click on the gear icon.**
3. **Select 'Add or remove calendars.'**
4. **Choose 'Add feed.'**
5. **Enter the URL for your calendar feed.**

   ```
   http://www.google.com/calendar/feed/xml?cid=0%3Agoogle.com%3Acalendar%3Agregorhohpe%40gmailcom%3Agroup
calendar.google.com/public/basic
   ```

   Note: Replace the URL with your own calendar feed URL.

### Options

- **Auto-accept invitations:**
  - Check this box to automatically accept invitations to events that you are free for.
- **Show invitations:**
  - Uncheck this box to hide invitations that you have already accepted.
- **Show only free:**
  - Check this box to show only events that you are available for.
- **Show only busy:**
  - Uncheck this box to show all events, including those you are not available for.

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Yahoo! Pipe

URL Builder
- Base: http://www.google
- Path elements: k6bnejmmglue0r11
- public/full
- Query parameters

Fetch Feed
- URL
  - url [wired]

Location Extractor

Rename
- Mappings
  - item.content content
  - item.gd.when.startT
- Copy As: link, description

Pipe Output
Yahoo! Pipes

- Data flow pipeline editor
- Input: any XML, Output: RSS, JSON, KML
- Visual, browser-based editor, simple debugging by inspection
- Pipes hosted at Yahoo!, accessible via URL
- Users can share and clone pipes
Google Mashup Editor

- AJAX development framework
- Rich rendering off data feeds using templates
- Browser-based IDE
- One click deployment
- Event model for rich user interactivity
- User entered data (by application / by user)
- Built-in support for Google Maps
Mashup Editor Application

```xml
<gm:page title="GregorConferenceMap">
<h1>Gregor's Conference Travel</h1>
<table width="900">
  <tr valign="top">
    <td width="300">
      <gm:list id="myList" data="http://pipes.yahoo.com/pipes/pipe.run?_id=...&_render=rss" pagesize="10">
        <gm:handleEvent src="map"/>
      </gm:list>
      <gm:item id="item" template="itemTemplate">
        <gm:handleEvent src="myList"/>
      </gm:item>
    </td>
    <td class="mainPanel">
      <gm:map id="map" data="${myList}" latref="geo:lat" lngref="geo:long">
        <gm:handleEvent src="myList"/>
      </gm:map>
    </td>
  </tr>
</table>
</gm:page>
```
Gregor’s Conference Travel

- DEBS - Distributed Event-based Systems
- W-Jax
- SD West
- TSS/S Europe

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```xml
<gm:list>
  <gm:handleEvent src="map"/>
</gm:list>

<gm:item ... >
  <gm:handleEvent src="myList"/>
</gm:item>

<gm:map ... >
  <gm:handleEvent src="myList"/>
</gm:map>
```
Programming Models

- Data pipeline
- Declarative within HTML DOM tree
- Query pipeline (IBM Damia)
- Visual programming back in vogue?
  - Intuitive
  - Scalability concerns
Snags (Small Picture)

- Spec vs. common practice, e.g. RSS GUIDs
- Atom vs. RSS feed formats
- Absence of schema does not mean no data mapping issues
- XPATH (in various guises)
- Debugging (especially in declarative models)
Snags (Big Picture)

- License agreements
- Inside the enterprise
- Security
- Service-level agreements
- Contract changes
- Scalability
Useful Tools

**FEED Validator**

For Atom and RSS and KML

[Image of FEED Validator]

Sorry

This feed does not validate.

- **Line 6**, column 895: guid values must not be duplicated within a feed:
  - 1He4hDAw3BGEdk38dLqO2Q_d4l3cd98f00b204e9800998ecf8427e (4 occurrences)
  - [help](#)

www.feedvalidator.org

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Mashups vs. SOA vs. Web Services vs. EAI

Mashups
- User-driven
- Bottom-up
- Quick time to value
- Laissez faire
- Design by sample data
- Reuse by copy-paste
- Uses services

EAI / SOA
- IT driven
- Top-down
- Longer time
- Robust, guarantees
- Design by contract
- Service re-use
- Uses services

It's all (still) about integration!
Resources

- **Blog / Tutorial**
  - [www.eaipatterns.com/ramblings.html](http://www.eaipatterns.com/ramblings.html)
  - [code.google.com/support/bin/topic.py?topic=12044](http://code.google.com/support/bin/topic.py?topic=12044)

- **Products**
  - [code.google.com/gme](http://code.google.com/gme)
  - [pipes.yahoo.com](http://pipes.yahoo.com)

- **Market Watch / Directories**
  - [programmableweb.com](http://programmableweb.com)

- **Events**
  - Mashup Camp