Enterprise Mashup

A closer look at Mashup and its Enterprise adoption!

Disclaimer: The views are personal

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Cognizant
Discussion Points

- **Mashup**
  - Mashup Defined and Elaborated
  - Mashup Types
  - Mashup Examples

- **Enterprise Mashup**
  - Portal Vs Mashup
  - Current stage of Enterprise
  - Mashup integration points
  - Concerns in Enterprise Mashup

- **Demo Screens**
  - Mashup usage in sample Application

- **Summary**
  - Parting Thoughts
A Mashup is a web application that combines data from more than one source into a single integrated tool.
Mashup – Simplified definition

• A web Mashup is a website or web application that uses content from more than one source to create a completely new service

• Content used in Mashup is typically sourced from a third party via a public interface or so called API

Mashup – Pictorial representation
Mashup Characteristics

- Content comes from different independent applications
- Components producing the content are from different technologies
- These components are integrated by using lightweight approaches
- This combination provides new way of using the components
- Collaborative composition
- Support ad hoc application assembly
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Mashup - Styles
## Server side Vs Client side Mashup

<table>
<thead>
<tr>
<th>Client side Mashup</th>
<th>Server side Mashup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy to implement</td>
<td>Easy to access other information servers</td>
</tr>
<tr>
<td>No need to provide server side component</td>
<td>Can serve as a buffer to take care of problems</td>
</tr>
<tr>
<td>Perform better</td>
<td>Content Manipulation</td>
</tr>
<tr>
<td>Can reduce processing load on server</td>
<td>Support caching, format change</td>
</tr>
<tr>
<td>Difficult to handle security requirements</td>
<td>Security requirements handled easily</td>
</tr>
<tr>
<td>No buffer to shield from other site problems</td>
<td>Can make multiple concurrent &amp; async calls</td>
</tr>
<tr>
<td>Need to handle data of any size / Format</td>
<td>May have performance bottlenecks</td>
</tr>
<tr>
<td>Constraints on making many async calls</td>
<td>Need to provide server side proxy</td>
</tr>
</tbody>
</table>
Quiz time -1

Gangadhar Bhadani

- India’s best known wikipedian
- Associated with Wikipedia since Sept 2005
- Contributed to > 500 articles on variety of topics
Mashup underlying technologies

Mashup (Web 2.0)
- Light weight
- De-facto standards
- Versatile and multipurpose
- Uses the web as platform

Traditional Integration
- Tight integration
- Cumbersome
- Integration is a big project

Mashup with Yahoo! Pipe

- Web application from Yahoo! With GUI for building Mashup applications
- Combine many feeds into one, then sort, filter and translate it
- Geocode favorite feeds and browse the items on an interactive map.
- Grab the output of any Pipes as RSS, JSON, KML, and other formats
- You can publish your pipes and share with others
- You must try it @ http://pipes.yahoo.com/pipes/
Yahoo! Pipe – Simple example
Yahoo! Pipe – Simple example

TechFeedsPipe

Do I hate BPM? No, I hate BPM Products.
John Reynolds has a post at Java.net entitled Why do Java developers hate BPM? where I think he completely misses the problem with “BPM” products. Java developers hate BPM. The preceding sentence is (of course) intentionally tailored to be controversial. People tend to read controversial...

Sussman on DVCS, Van Zyl using CIT+SVN
Ben Collins-Sussman has an interesting blog entry about Distributed Version Control titled “Version Control and the 80%”. Here’s an excerpt…” In a nutshell: with a centralized system, people are forced to collaborate and review each other’s work; in a decentralized system, the default...

Multi-Language VM
OpenJDK community has a new project, Multi-Language VM (or just mvm). It is announced by John Rose, from Sun, on the announcement list. The focus of the project will be to prototype JVM features beneficial for dynamic languages and remove “pain points” that current dynamic language developers...
Mashup with Google Map

- The Google Maps API lets you embed Google Maps in your own web pages with JavaScript
- The API provides a number of utilities for manipulating maps
- It supports adding content to the map through a variety of services to build Enterprise applications
- The Google Maps API now adds supports for Mapplets (Maps + Gadgets), which allow you to embed externally hosted applications within Google Maps
Quiz Time - 2

- Creator of Wikipedia
- Launched on 15th January, 2001
- 75,000 active contributors
- 7,500,000 articles in more than 253 languages
- 1,835,642 articles in English

Jimmy Wales
Can we talk about how it is relevant in Enterprise?
Current scenario of Enterprise - 1:
Too many applications and Technologies to manage

- Multiple Web Applications
- Inconsistent design & Technology
- Expensive to maintain
- Expensive to administer
- Expensive to integrate
- User need to work on multiple apps
- Overall IT bottleneck
Rationalization with Enterprise Portals

• Rationalize legacy webapps into the portal
• Unified application stack
• Common infrastructure
  • Common security
  • Administration
  • Content delivery
Mashup’s role

- Acts as a stepping stone
- Incremental approach
- Middle ground for applications which can not be migrated to portals
Current scenario of Enterprise - 2:

*Lengthy application construction phase*

- Long App development cycles
- Fixed set of features
- No easy support for assembly
- No easy support for customization
Mashup’s role

- Ad hoc application development
- User in control
- Need based assembly
- Need based customization
- Business users can do work without involving IT
Current scenario of Enterprise:

No access to outside world

- Restricted to Enterprise boundary
- No integration with consumer apps
- Not effective reuse
Mashup’s role

• Ability to integrate with external apps
• Effective reuse
• Reduced development cycle
What is wrong with traditional integration then?

- High cost
- Long running development
- May need overall understanding of existing application
- Lack of expertise
- Integration with external entities too complex
- Overall reduced business agility
# Mashup – Are they same as Portals?

<table>
<thead>
<tr>
<th>Portals</th>
<th>Mashup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older technology, extension to traditional web server model</td>
<td>Newer, &quot;Web 2.0&quot; technology</td>
</tr>
<tr>
<td>Approaches aggregation by splitting role of web server into two phases - markup generation and aggregation of markup fragments</td>
<td>Adopts a more fundamental approach to content aggregation without regard to markup</td>
</tr>
<tr>
<td>Aggregates presentation-oriented markup fragments (HTML, WML, VoiceXML, etc.)</td>
<td>Can operate on pure XML content and also on presentation-oriented content (e.g., HTML)</td>
</tr>
<tr>
<td>Content aggregation takes place on the server</td>
<td>Content aggregation can take place either on the server or on the client</td>
</tr>
<tr>
<td>Aggregated content is presented 'side-by-side' without overlaps</td>
<td>Individual content may be combined in any manner, resulting in arbitrarily structured hybrid content</td>
</tr>
<tr>
<td>Read and update event models are defined through a specific portlet API</td>
<td>CRUD operations are based on REST architectural principles, but no formal API exists</td>
</tr>
<tr>
<td>Portlet behavior is governed by standards</td>
<td>Specific Mashup standards are expected to emerge</td>
</tr>
</tbody>
</table>

Quiz Time - 3

- Second Life
Types of Enterprise Mashup

- **Application – 1**
  - UI
  - Business Logic
  - Database

- **Mashup**
  - Presentation level
  - Logic based
  - Data based

- **Application – 2**
  - UI
  - Business Logic
  - Database
Presentation level Mashup

- Set of simple widgets each facing content from different source
- Information and layout is retrieved and either remixed or just placed next to each other
- Many of the AJAX Desktops (or personalized start pages) fall into this category
- Portals where portlets fetch data from multiple sources

Source: http://blogs.zdnet.com/Hinchcliffe/?p=8
Logic based Mashup

- Comparative complex
- Involves programming
- Programmatic access to business logic through REST / SOAP services
- Example: Combination of a Google map service with a price comparison service
- Act as an adopter that connect to any web enabled application
Data level Mashup

• Extracts and collects data from a different web enabled data sources

• Result of content integration can be made available in
  • Database
  • XML
  • RSS
  • Etc
Inside a Mashup

Users
- AJAX
- HTML

Mashup Builder
- Widget

Mashup
- RPC
- JMS
- SQL
- WS*
- API
- Atom
- REST
- API
- RSS
- WS*
- SQL

Data Sources
- DB
- Web
- App
- Web Scrapping
- WS*
- SQL

Mashup – Stake holders and life cycle

- Create
- Improve
- Control
- Assemble
- Collaborate
- Customize

Mashup
Theory looks good, but…
Top Challenges for Enterprise Mashup

1. Mashup assembly model is not yet commonly accepted
2. Services, which are backbone of Mashup, are immature
3. Discrepancy in widget model
4. Who will create, maintain and support Mashup?
5. Security
6. Data quality & accuracy

Source – Dion Hinchcliffe’ ZDNet blog (16th October 2007)
Top Challenges for Enterprise Mashup

7. Version Management

8. Awareness of potential

9. Support by major Software vendors

10. Lack of killer demo Mashup applications

Source – Dion Hinchcliffe’ ZDNet blog (16th October 2007)
Quiz Time - 4

- Dion Hinchcliffe
Simple demo use case

- Consolidated portal to find out client names and addresses in a given city
- Shared calendar and To-do list
- Weather report
- Flight details
- Chart
- Travel arrangement
- City information
- Recreation, etc

Mr. John, VP Marketing
XYZ Inc, USA
Mashup role in the demo

API NAME: Sparkline Generator
URL: http://bitworking.org/projects/sparklines/

Input: query parameters to http://bitworking.org/projects/sparklines/spark.cgi

Output: An image with values plotted

Google Map
Mashup role in the demo

API Name: Weather Channel API
URL: http://www.weather.com/services/xmlsoap.html

Input: City Name, no of days
Output: XML
Global SoA – Change in model?

The world basically and fundamentally is constituted on the basis of harmony. Everything works in co-operation with something else.
Is Enterprise Mashup a hype?

- 21% of executives are using or have plans to adopt Mashup in the enterprise – 2007 McKinsey Survey on Internet Technologies

- By 2010, Mashup will be the dominant model (80 per cent) for the creation of composite enterprise applications - Top 10 Technologies for 2008 : Gartner

- 22% of the senior executives mentioned about using Mashup as on today and 42% have plans to use – Economic Intelligence unit survey, 2007

<table>
<thead>
<tr>
<th>Technology</th>
<th>Plan to use</th>
<th>Use now</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mash-ups</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Online communities</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Solicitations of Innovations</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>RSS</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>Blogs, Wikis</td>
<td>32</td>
<td>33</td>
</tr>
</tbody>
</table>

How early adopters are using Web 2.0
Does your company currently use web technologies or processes to increase sharing and collaboration, or plan to use them within two years? (% respondents)

Source: Economist Intelligence Unit survey, January 2007
Summary

• Mashup are not about developers writing code, but about users designing information

• Using Mashup help you:
  – do more in less time
  – and don’t have to reinvent the wheel

• Collaboration is messy, frustrating, time consuming … and indispensable
References

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3. Whitepapers and products from www.kapowtech.com
6. Sun JavaOne presentations
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8. Programmableweb http://programmableweb.com
Q/A
Thank you!
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