



IBM Software Group

Web 2.0 for Business and IT

New media and Web-Oriented Architectures

mashups social_networking
AJAX business IBM
enterprise_computing Web2.0
innovation ATOM

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twitter.com/dr_rick

MBCS CITP, Open Group Certified Master IT Architect

The world has changed

- In it's first day on sale, Grand Theft Auto IV took \$310m, more than double the record for a Hollywood opening weekend (\$151 for Batman the Dark Knight).
- In 2006, a survey for Google reported that UK daily internet usage overtook TV watching.

What does Web 2.0 mean to you?

An explosion of new environments



What does Web 2.0 mean to you?



An explosion of content

<http://flickr.com/photos/shawdm/820926627/>

What does Web 2.0 mean to you?

The convergence of media channels





What does Web 2.0 mean to you?

A need to move faster

See <http://www.twitscoop.com/> to find out what the world is tweeting about right now

What does Web 2.0 mean to you?



See <http://crimebaltimore.com/> for an example of using a map-based mashup to increase the consumability of information

A need to take better decisions

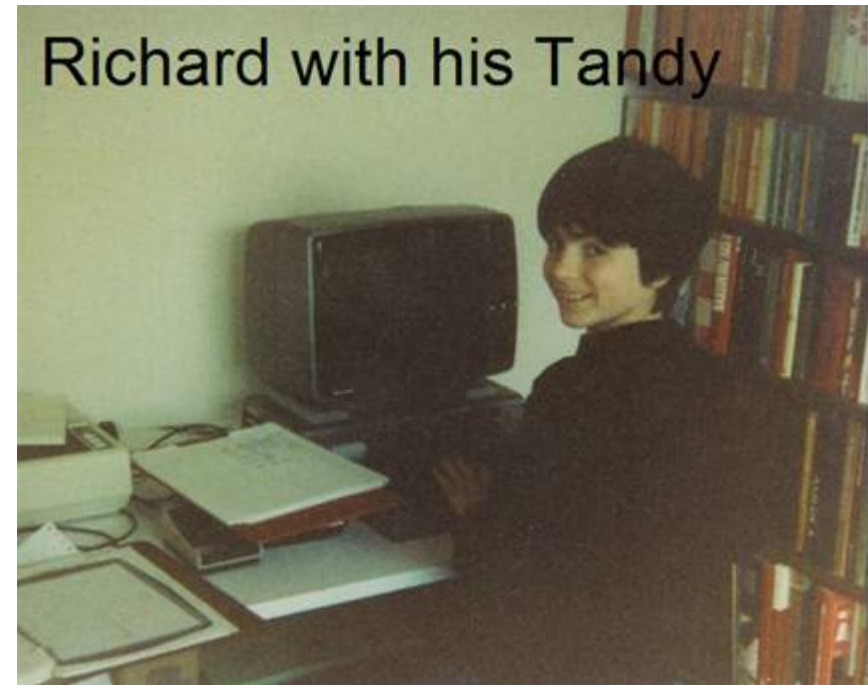
What does Web 2.0 mean to you?

A need to interact differently



The youth of yesterday played
football, bought My Little Pony
and watched Grange Hill

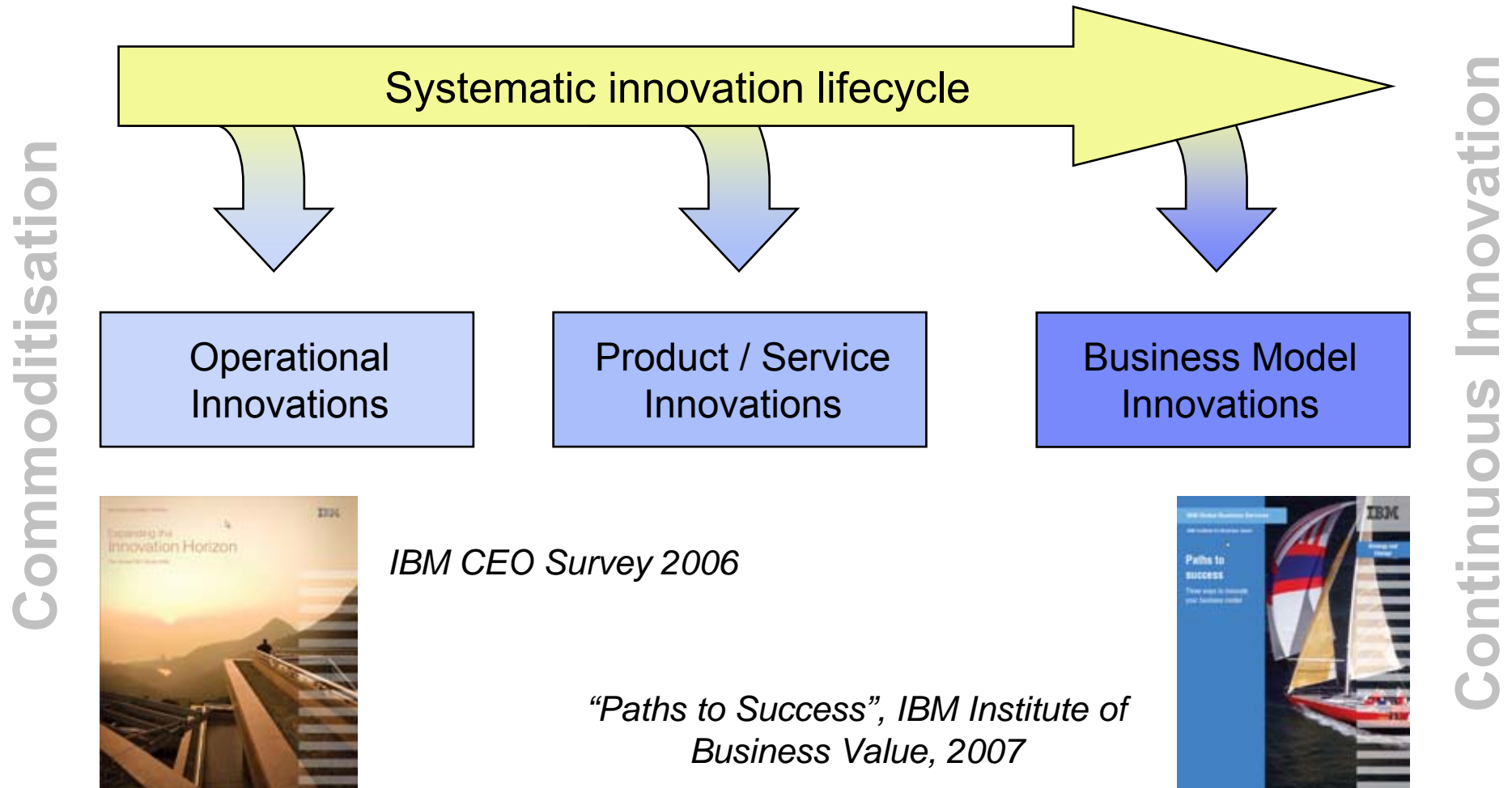
(and in some cases learnt to
code Z80 assembler)



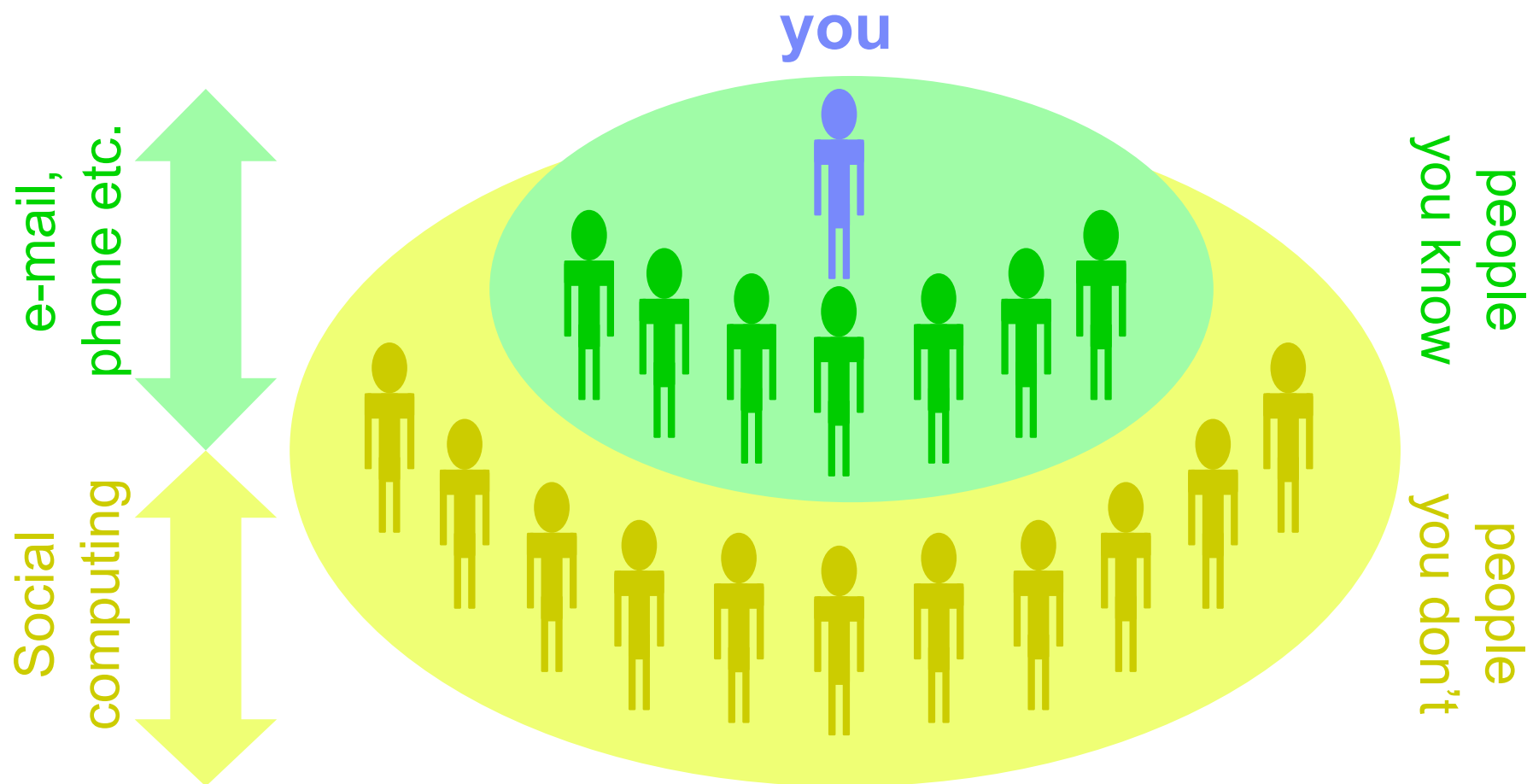
The youth of today are defining
the usage patterns for the most
sophisticated communication
medium the world has ever seen

And now they've got jobs

Organisations are seeking systematic innovation ...



The internet has dramatically increased connectivity ...



... which can be exploited for innovation ...



Project Launchpad

Launch hundreds vs. dozens of new offerings each year

Customer Challenges

- Increase customer stickiness
- Increase revenues
- Combat intense competition

Innovation Factory Highlights

- Accelerates co-creation with customers and partners
- Drives continuous improvements with user feedback
- Automates portal creation by business users
- “FanView” and “Family Locator” services already launched



Nascar Nextel FanView



Family Locator

By working with IBM, Sprint is piloting a light-weight, open Web2.0 platform for collaboration between Sprint innovators, partners and end users. With this solution, Sprint will be able to accelerate time-to-market for new offerings, and strengthen its reputation as an innovative company.

Wing Lee, Director of Innovation Realization, Sprint



... to create new transactions ...

See <http://www.zopa.com/>



... or new markets

See <http://www.miniusa.com/play-collectibles-roof-gallery.html#> for the BMW Mini roof designer

Exploiting Web 2.0

Syndication

Provide syndicated access to applications, information and services through APIs and widgets

Enterprise Mashups

Rapidly create, share and evaluate applications to access and manipulate content and services

Community Enablement

Engage end users, employees and customers in new dialogues and interactions through social computing

Rich User Experiences

Improve real-world metaphors and visualisation of complex data through rich media user interfaces



Syndication

See <http://www.urban-resources.net> for an example of syndication at work through the Amazon associates programme

Widgets



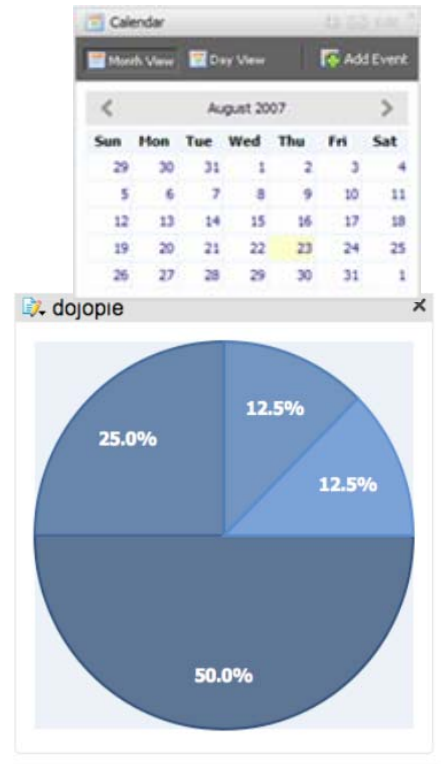
Rich User Interface

Usage statistics

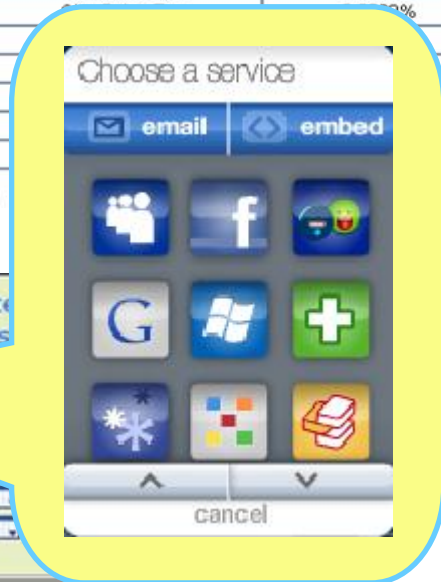
Licensed service

City of ANITA in CASS County, State of IA, 50020

Local Sales & Use Taxes	
Category	Tax Rate (%)
State Sales Tax	0.0500%
State Use Tax	0.0500%
County Sales Tax	0.0200%
County Use Tax	0.0000%



Advertising



Syndication through social media

The image illustrates the integration of social media with mobile devices. On the left, a screenshot of a Mozilla Firefox browser shows a Facebook profile for Julia Demel. The profile features a BuddyComm widget with the heading "BuddyComm Contact Centre". Below this, a "Step 1 of 3: Select WHO to contact" section lists several contacts with their status: Brian Peaston (is in Helsinki), Alex Phillips (is out to lunch), Andy Strowbridge (is back at work), Gareth Jones (is at work), and Gavin Astur (is on vacation). Each contact has a checkbox and icons for mobile and desktop status. Below the list, a "Step 2 of 3: Select HOW to contact them" section offers "Call" and "Message" buttons. On the right, a Nokia N73 mobile phone displays the BuddyComm mobile interface, showing a list of contacts with checkboxes and status indicators, mirroring the desktop view. A green vertical banner with the text "CLICK ME!" is positioned between the desktop and mobile views.

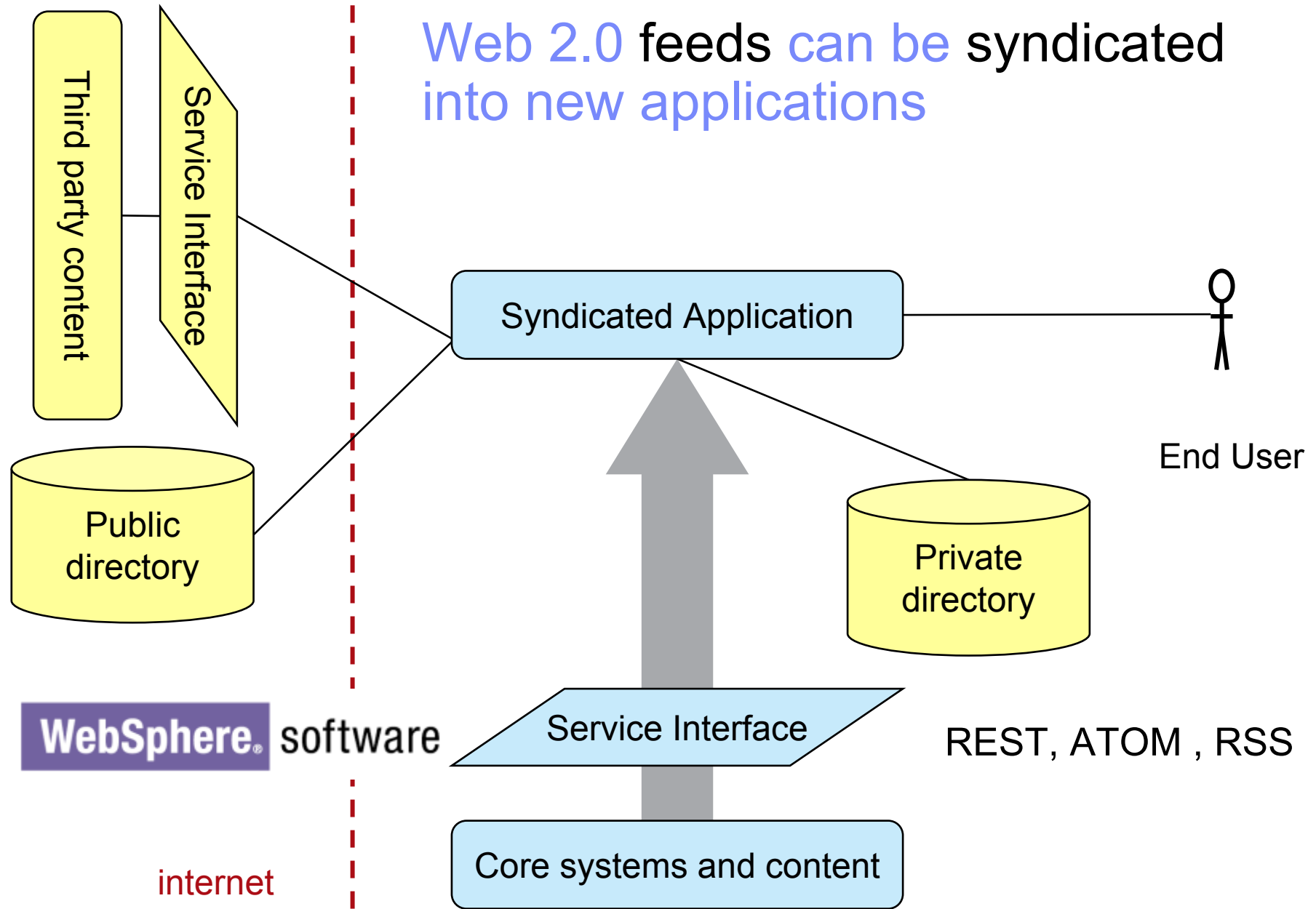
Why Web 2.0 feeds work

- Web 2.0 feeds works by exposing business data and transactions as REST services.
- REST services are like Web services – both are XML interactions via HTTP.
- But ...
 - Web services have rich capabilities for security and transactionality and tend to be coded using Development tools
 - Web services are called by application code in a server environment
 - REST is simple and can be hand coded
 - REST can be called from a browser using JavaScript

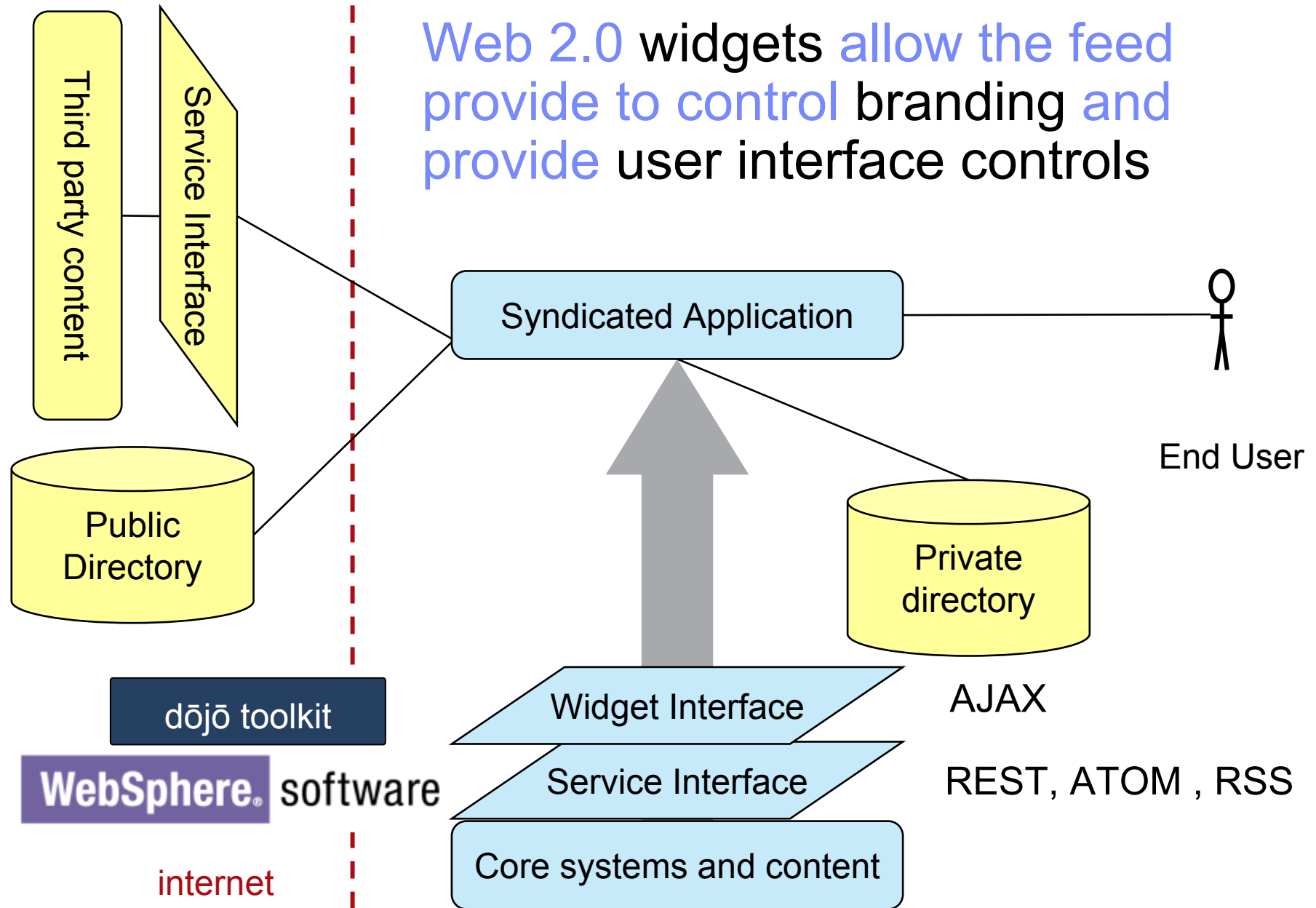
Extensive use in enterprise integration

Extensive use in end-user applications

Web 2.0 feeds can be syndicated into new applications



Web 2.0 widgets allow the feed provide to control branding and provide user interface controls

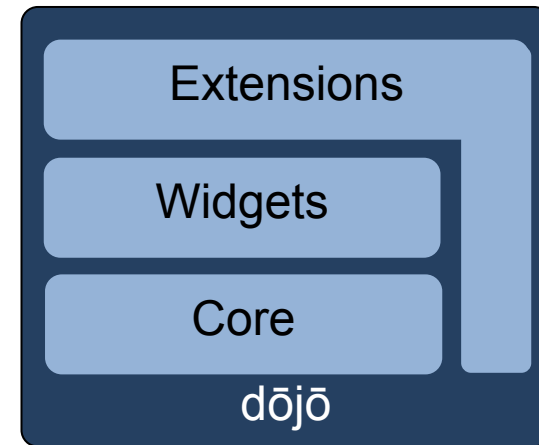


Dealing with the wildness of widgets

- **Many channels**
 - Desktop IPTV
 - Mobile devices
 - Social networking platforms
 - Virtual worlds
 - ...
- **Enterprise concerns**
 - Security
 - Internationalisation
 - Accessibility
 - ...
- **Heterogeneous environments**
 - Multiple browsers
 - Multiple widget toolkits
 - Multiple UI technologies (Air, Silverlight, Ajax)
 - 100s of social networks
- **Key Elements for achieving interoperability**
 - Coexistence
 - Communication
 - Metadata
 - Security

Dōjō 1.0

IBM supported Open Source AJAX toolkit
Ships in 25+ IBM software products




100+ Leading vendors, open source projects and companies using Ajax
Workgroups include interoperability, tooling, security, gadgets, mobile devices

Dojo widgets provide inbuilt support for Internationalisation

Dojo Car Store (Globalized Version)

Please choose your preferred language: English(United States) ▼



The screenshot displays a web application interface for a car store. At the top, there is a language selection dropdown menu set to 'English(United States)'. Below this, a gallery of car images is shown. The main content area is split into two columns. The left column features a 'BENZ' section with a large image of a black sedan, a description 'Benz car has very good performance.', and a table with columns 'ID', 'Name', 'Per-Price', and 'Quantity'. The right column features a 'Shopping Cart' section with a table with columns 'ID', 'Name', 'Per-Price', 'Quantity', and 'Total Price'. A 'Total Price:' label and a 'Check Out' button are located below the cart table. A yellow callout box on the right side of the interface points to the language dropdown menu with the text 'Select a different language here ...'. The browser status bar at the bottom indicates 'WebSphere Ajax'.

ID	Name	Per-Price	Quantity
1	BENZ	100,000.00	1

ID	Name	Per-Price	Quantity	Total Price
----	------	-----------	----------	-------------

Total Price:

Select a different language here ...

WebSphere Ajax

<http://ajaxdemo.dfw.ibm.com/DojoGlobalizationDemo/DojoCarStore/index.jsp>

Dojo widgets provide inbuilt support for Internationalisation

Dojo汽车商店

请选择您的语言: 中文(中国)

奔驰

丰田 购物车

编号	名称	单价	数量	总价
1	奔驰	¥ 100,000.00	1	

添加到购物车

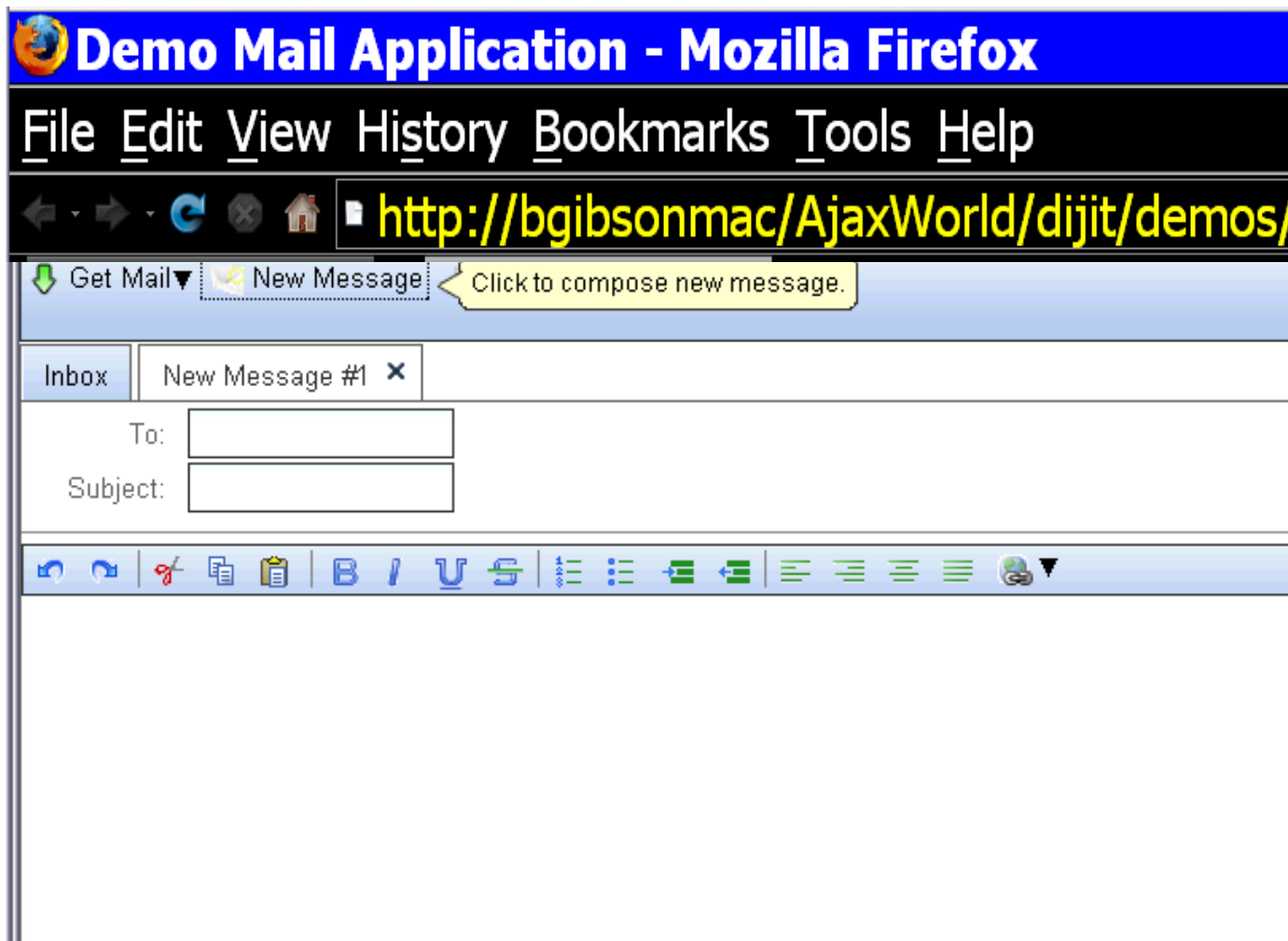
WebSphere Ajax

... and the webpage switches language – including calendar and number formatting and text direction

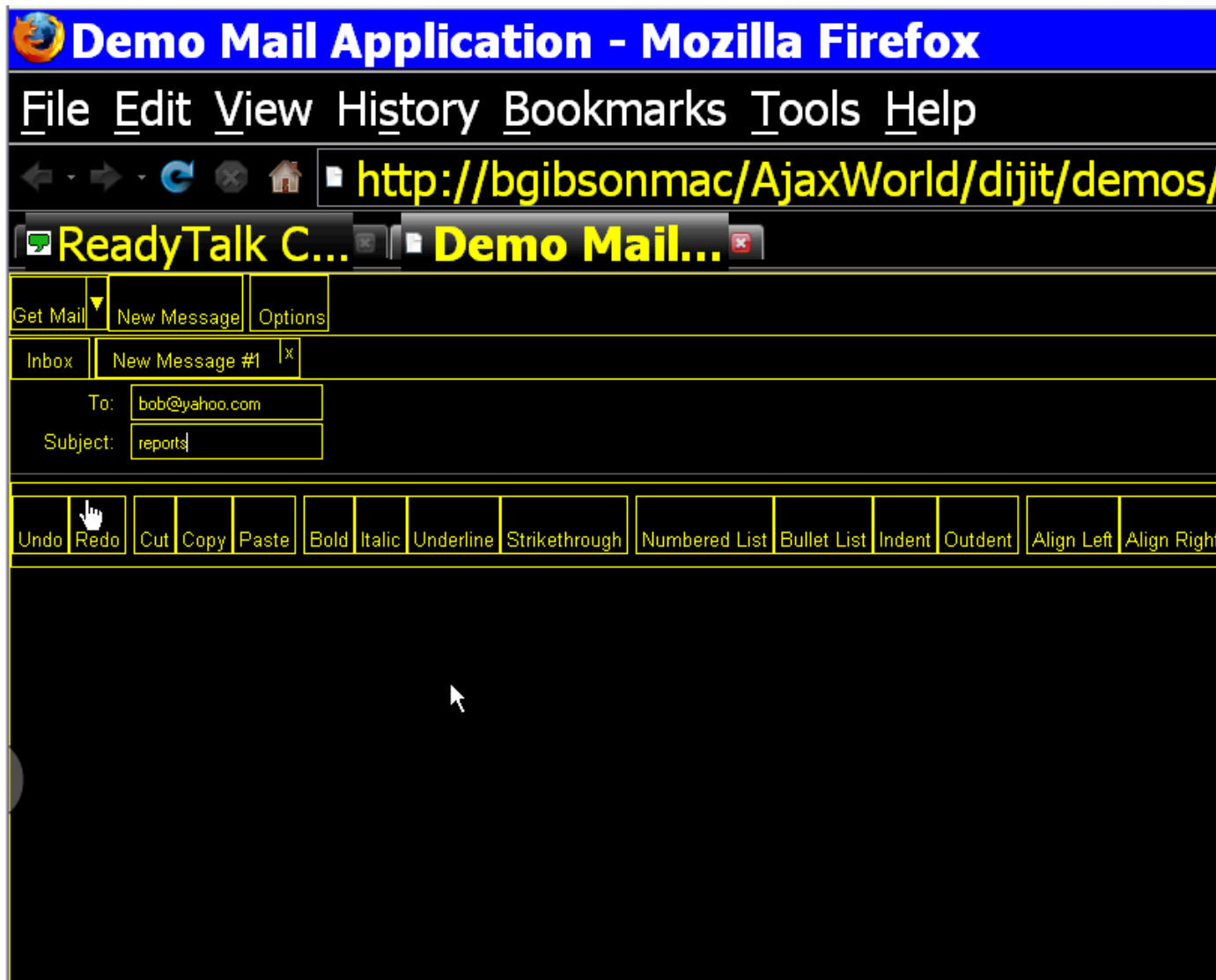
<http://ajaxdemo.dfw.ibm.com/DojoGlobalizationDemo/DojoCarStore/index.jsp>

Accessible Rich Internet Applications (ARIA)

- **WAI-ARIA addresses Web 2.0 accessibility issues**
- **Published as a last call working draft February 24th 2009 by the Web Accessibility Initiative (WAI)**
- **Developed at IBM and donated to W3C**
- **Supported by Window-Eyes & JAWS screen readers**
- **Implemented in Firefox browser**
- **Microsoft added support in IE8 beta, initial reports positive with JAWS and Window-Eyes**
- **Used by Dojo, AOL, Yahoo, Google, SAP**
- **DHTML Style Guide group is defining widget behaviors**



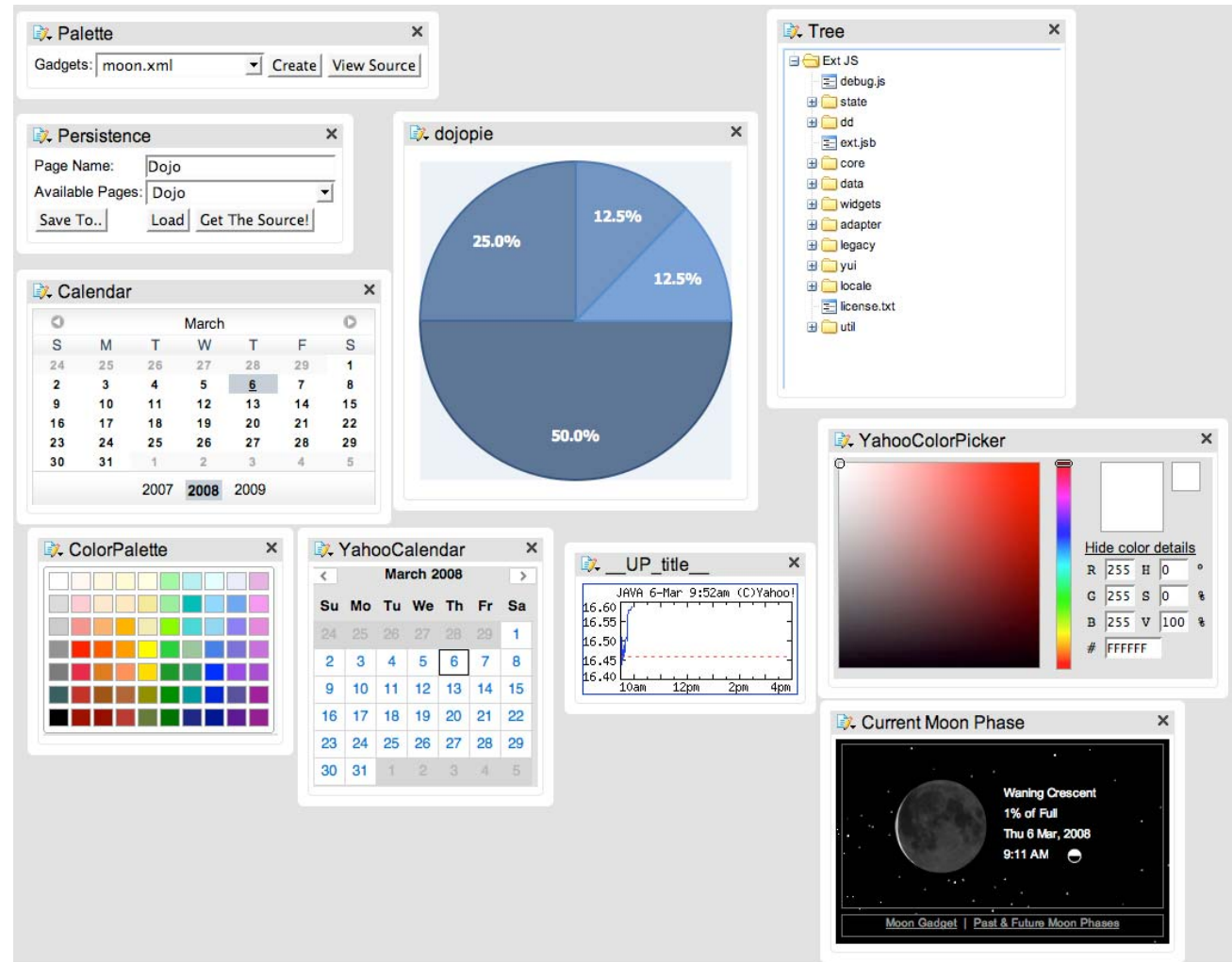
Windows high contrast mode without ARIA



Windows high contrast mode with ARIA

Interoperability between multiple widget providers

- Dojo
- YUI
- Google Gadgets
- Ext
- Services
 - Strikelron
 - Dapper Daps
 - ...
- Rich Text Editing
 - TinyMCE
 - ...
- Simple JavaScript widgets



The screenshot displays a collection of widgets from various providers, including:

- Palette**: A window for managing gadgets, showing 'moon.xml' as the selected gadget.
- Persistence**: A window for saving and loading page data, with 'Dojo' as the page name.
- Calendar**: A standard monthly calendar for March 2008.
- ColorPalette**: A grid of color swatches for selection.
- YahooCalendar**: A calendar widget from Yahoo!
- UP_title**: A small window showing a line graph with data points.
- dojopie**: A pie chart widget showing three segments: 50.0%, 25.0%, and 12.5%.
- Tree**: A file explorer window showing a directory structure for 'Ext JS'.
- YahooColorPicker**: A color selection tool with a color wheel and RGB/Hex input fields.
- Current Moon Phase**: A widget showing the current moon phase as 'Waning Crescent' (1% of Full) on 'Thu 6 Mar, 2008' at '9:11 AM'.

Enterprise Mashups

Request Reader

CICS_PolicyRequest_List[23]

- Sunshine Brick Company
10 Brickyard Drive Bloomington, Illinois
- Corky's
1312 Vandalia St Collinsville, Illinois
- Sparky's Pianos
210 W North Ave Chicago
- Taurus
14 N Peoria St # B101 Chicago, Illinois
- IBM
201 Danada Sq W, Wheaton, Illinois
- Super Stacker Corp
1949 N Ridge Blvd Chicago, Illinois
- IBM
4164 Arthur Ave Brookfield, Illinois
- BestPlace Hotels
1953 N Clybourn Ave Chicago, Illinois
- Smokey's Sandwiches
2369 N Clark St Chicago, Illinois
- IBM
3724 N Clark St Chicago, Illinois

Insurance Details

Personal Details

Customer Name: BestPlace Hotels
Customer Id: 14
Address: 1953 N Clybourn Ave Chicago, Illinois
Zip code: 60614

Policy Details

Request Date: 2007-03-19
Requested Start Date: 2007-04-08

Property Details

Property Type: Hotel
Fire Rating: [5 blue squares, 1 red square]
Crime Rating: [5 blue squares, 1 red square]
Flood Rating: [5 blue squares, 1 red square]
Weather Rating: [5 blue squares, 1 red square]

insure Map

Shirley's Pastries
Customer Id: 2
Total Risk: 28000
Claim Date 1: 2007-11-2
Value: 4350
Cause: Theft

High Risk Zip Code: \$170000

Syndicated Content

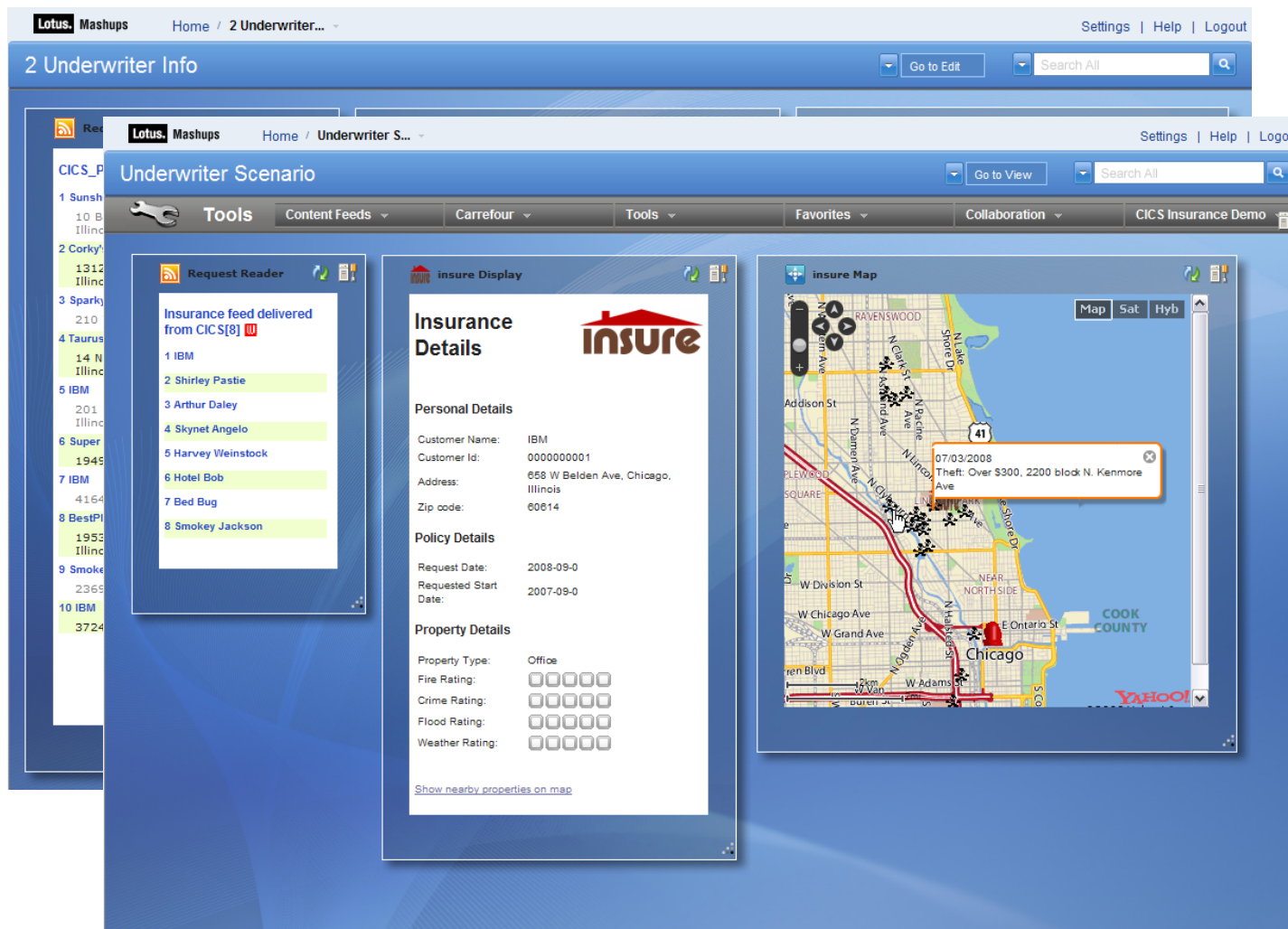
- CICS Insurance applications
- OpenStreetMaps
- Chicago Police Dept.
- Chicago Fire Dept.

Mashup Platform

- Lotus Mashups
- Mashup Hub

Pilot Mashup implemented by Emerging Technology Services and CICS Development

Enterprise Mashups



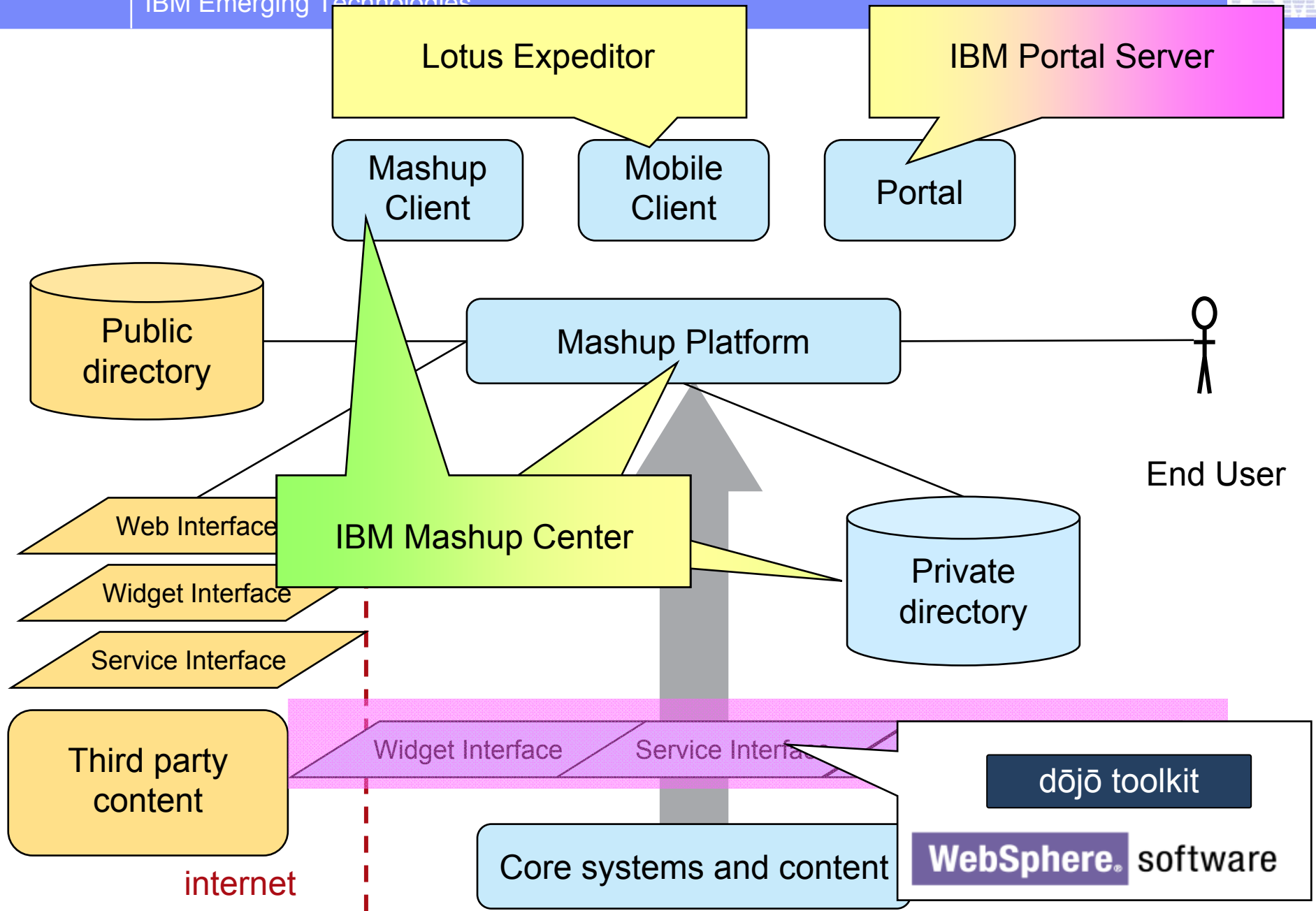
Syndicated Content

- CICS Insurance applications
- OpenStreetMaps
- Chicago Police Dept.
- Chicago Fire Dept.

Mashup Platform

- Lotus Mashups
- Mashup Hub

Pilot Mashup implemented by Emerging Technology Services and CICS Development



APIs, toolkits and communities

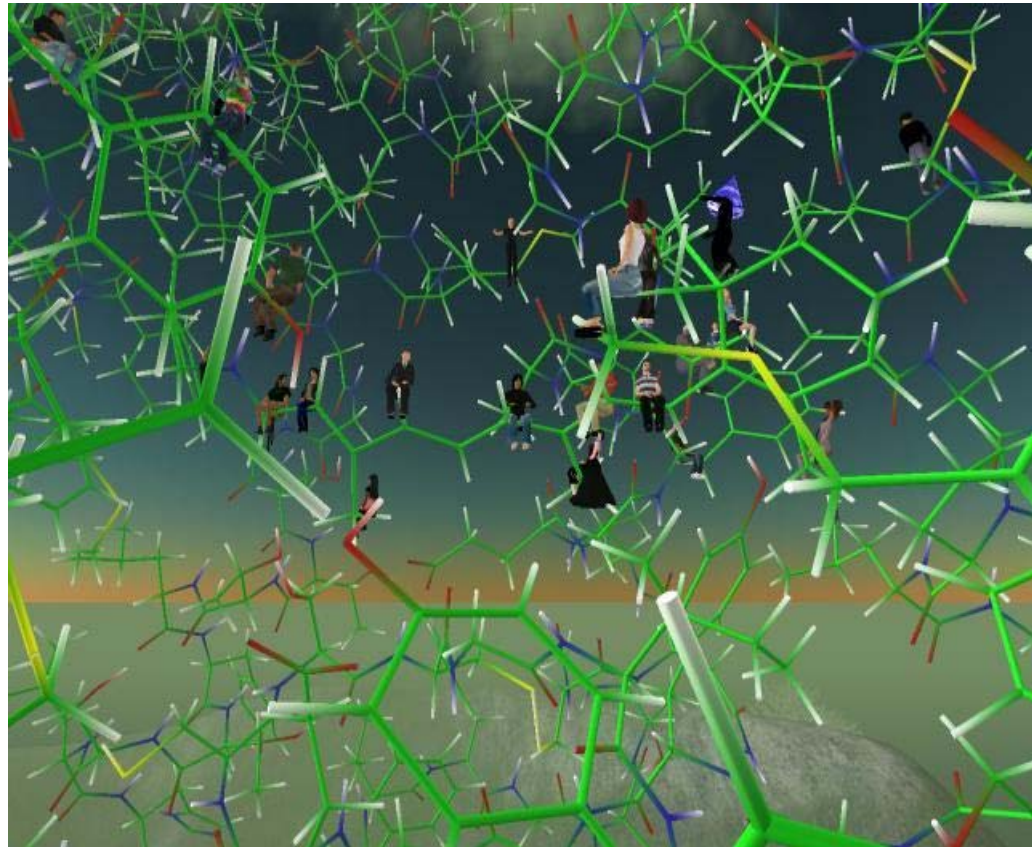
- **Some examples**

- <http://backstage.bbc.co.uk>
- <http://www.showusabetterway.com>
- The Sprint example shown earlier is a similar approach, but within a defined, closed community

Community Enablement

*The collaborative enterprise
and markets as
conversations*

- Collective **Selectivity**
- Collective **Creativity**
- Collective **Knowledge**
- Collective **Insight**



Collective selectivity

Mission

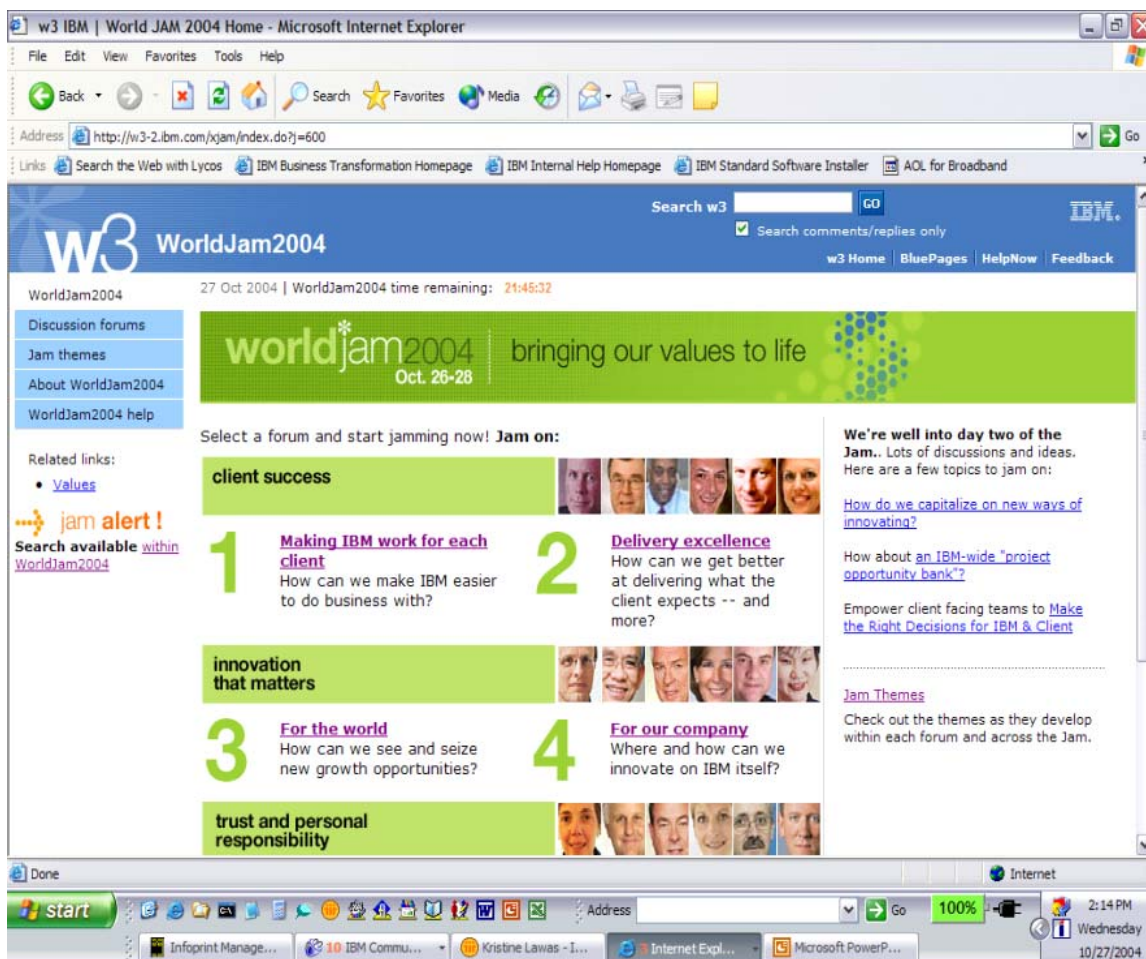
- Showcase comic artists
- Build intellectual property
- Establish community of readers

Features

- Submissions open to amateurs and professionals
- Users read original comics, comment, blog and rate the material
- Use of Adobe Flash Technology
- Web 2.0 and open source technologies enable collaboration, innovation and flexibility for future feature growth

<http://www.zudacomics.com/>

Collective creativity



<https://www.collaborationjam.com/>

WorldJam2001

a new collaborative medium to capture best practices on 10 urgent IBM issues.

6,046 posts
268,233 views

ValuesJam

an in-depth exploration of IBM's values and beliefs by employees

9,337 posts
1,016,763 views

WorldJam2004

focused on pragmatic solutions around growth, innovation and bringing the company values to life

32,662 posts
2,378,992 views

InnovationJam2006

IBMers, family and clients discuss how to combine IBM's new technologies and real world insights to create new market opportunities

37,000+ posts
3,000,000+ views

Collective knowledge

Twitter reported Ohio being called for Obama – the first of the key swing states - 15 minutes before mainstream UK broadcasters.

Twitter reported New Mexico being called for Obama at 2:30am UK, whilst mainstream broadcasters were still showing McCain with a clear lead. The first called New Mexico for Obama about 10 minutes later.

At 2:54am UK, most news sources were reporting a clear lead for Obama; one broadcaster known for its pro-republican stance was still reporting 0 states for each candidate – an anomaly that was noticed and caused widespread adverse comments.

At 3:26am UK Twitter reported Florida being called for Obama, whilst mainstream broadcasters showed McCain with a 2 point lead.

Collective insight



many eyes

Visualizations : Tag Cloud of

Can't see the visualization? Download the latest Flash plug-in

Created by: [Triggerfinger](#) Created on: Wednesday Oct 12, 2005

1 word
 2 word
 Compare
 McCain
 Obama

Search:

sen obama home values

america faces america tom american blood americans taxes energy independence freddie mac general petraeus great horned owl nuclear fuel oil drilling overhead projector power plants run time ago tough decisions tough economic troops home vital

american people
 american people
 american people
 american people
 american people

health care health g

tax cut
 tax cut
 tax cut
 tax cut
 tax cut

george bush
 insurance companies
 middle class

Data file: [McCain Obama Presidential debate transcript](#)

[share this](#)
[watch this](#)
[add to topic hub](#)
[rate this](#)

Comments (5)



Martin Wattenberg says:
Romney spends a large amount on Media/Polling/Voter Contact, in both absolute and comparative terms.
Posted Friday August 03, 9:54 AM
[see view for this comment](#)



Martin Wattenberg says:
Here's another view that lets you compare proportions.
Posted Friday August 03, 9:57 AM
[see view for this comment](#)



Martin Wattenberg says:
Here I've switched rows, columns and highlighted the biggest spenders in each category.

Romney: biggest spender in consulting & media.
Obama: biggest in salaries, travel, administration.
McCain: biggest in payroll.
Clinton: biggest in events.
Posted Friday August 03, 10:00 AM
[see view for this comment](#)



Martin Wattenberg says:
Someone pointed out to me that Clinton pays almost no payroll taxes and benefits, compared to the others—even though the amount she spends on salaries is reasonably high. Why would this be?
Posted Saturday August 04, 1:17 PM
[see view for this comment](#)

pillholer says:
Wow, this is slick as heck! I really like this visualization. To answer the question about Clinton and payroll taxes... Again, it's a reporting problem. The FEC does not require candidates to report salaries any particular way, so, some of them break out payroll taxes and benefits as a separate line item, and others don't. Actually, come to think of it I think Clinton is the only one that doesn't, but I could be wrong. So, the best way to look at payroll is actually to combine salaries and taxes/benefits. That's the best apples-to-apples. I had them broken out because certain reporters wanted to look at certain candidates and find out who is making what in before-tax income. In truth, I probably should have combined those fields for this visualization... a very good point there.
Posted Saturday August 25, 11:01 AM

<http://www.many-eyes.com/>

Challenges for successful digital communities

- **Motivating individuals or joining the crowd**
- **Realising collective value**
- **Creating trust**
- **Creating intimacy and interactivity**

Balancing individual motivation and collective value

See <http://www.wesabe.com/> or
http://blog.wired.com/monkeybites/2006/11/wesabe_is_new_c.html for discussion



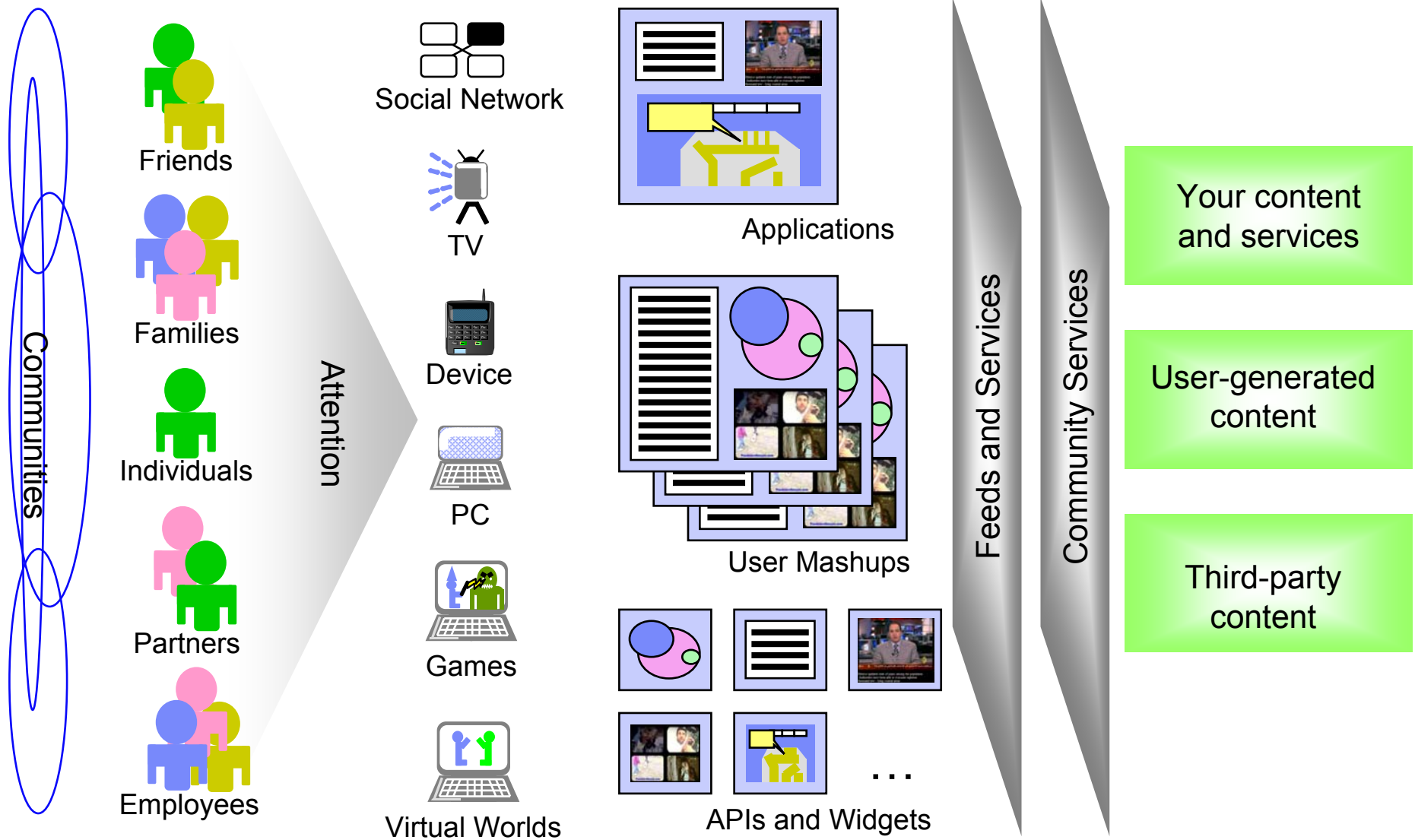
Joining the crowd

See <http://www.lendingclub.com/> or
http://www.netbanker.com/2007/05/new_person_to_person_lending_club_hopes_facebook_intgration_allows_it_to_propser.html
for discussion

<http://www.lendingclub.com/>

Reach out

Pull in





Collective **un**intelligence

See <http://news.bbc.co.uk/1/3013959.stm> for an example of a community that wasn't intelligent

Common interest communities

Friendly

e.g. Facebook, Linked-In



Content-Sharing

e.g. youtube, Flickr



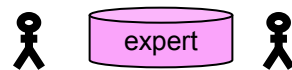
Collaborative

e.g. letsbuyit.com, Wesabe, Wikipedia



Transaction-orientated communities

Clinic



e.g. PickURAdvisor

Marketplace



e.g. Etsy, Threadless,
e-Bay, Prosper, Zopa

Broadcaster



e.g. BBC, Financial Times

Commercialisation of community interactions

- **LinkedIn**
 - Generates introduction fees by connecting consumers (of jobs) with providers.

- **Pick UR Advisor**
 - Generates cross-sell and up-sell opportunities by connecting individual customers to financial advisors.

- **Zopa**
 - Charge a commission on each transaction generated through the site.

Trust through reputation

- See <http://www.technorati.com/> for an example of a reputation system

Trust through transparency

- See <http://beta.bankrate.com/> or <http://www.progressive.com/> for two examples of transparency

Trust through reliability


- See <http://www.ebay.com/> for an example of a reputation system

Trust through connectivity

Here & Now

People around me

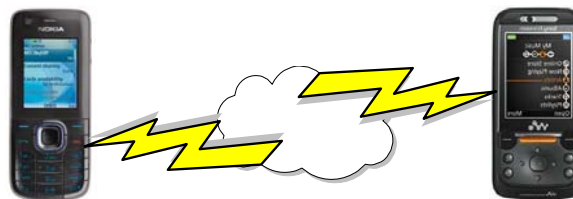
Rick Robinson
 Web 2.0
 Advocate, IBM
 Hursley
 Development
 Lab, Emerging
 Technologies
 and CICS
 Strategy



You both know:

- Andy Bravery
- Fintan Mcelroy

Web Integrated Mobile Functionality
 ©2008 IBM Human Centric Solutions



Here & Now

People around me

Kevin Brown
 Application
 Architect



Common manager: Jon Butts

You are connected to Kevin on Fringe
 and Beehive

You both know:

- Gareth E Jones
- Dale Lane
- Michael I Bradley
- David Barker
- Christopher Gibson
- Andy Brown
- Helen Bowyer
- Andy Dean
- Richard Appleby
- Robert Smart
- Jon Butts
- Mark Phillips
- Graham White
- Dave Conway-Jones
- Dominic Bramley

Trust through participation

- See <http://www.changeeverything.ca/> for an example of participation in the local community

Intimacy

- See <http://wellsfargo.com/somedaystories> for an example of a closer dialogue with customers



Interactivity

- See Bank of America's configurable alerts service

Rich interfaces and immersive experiences



Eternal Egypt
Home

My Visit ▶ My Collection ▶

Map

The Map of Egypt lets you navigate geographically among the artifacts, characters, and places. You can use the controls to adjust what is displayed on the map. Click any location on the map to learn more.

For detailed instructions, click the Help link at the top of the page.

Mereruka
Type: Priest
[View details...](#)
Died: Saqqara Necropo

Previous Next
Reset
 Show titles

Overview

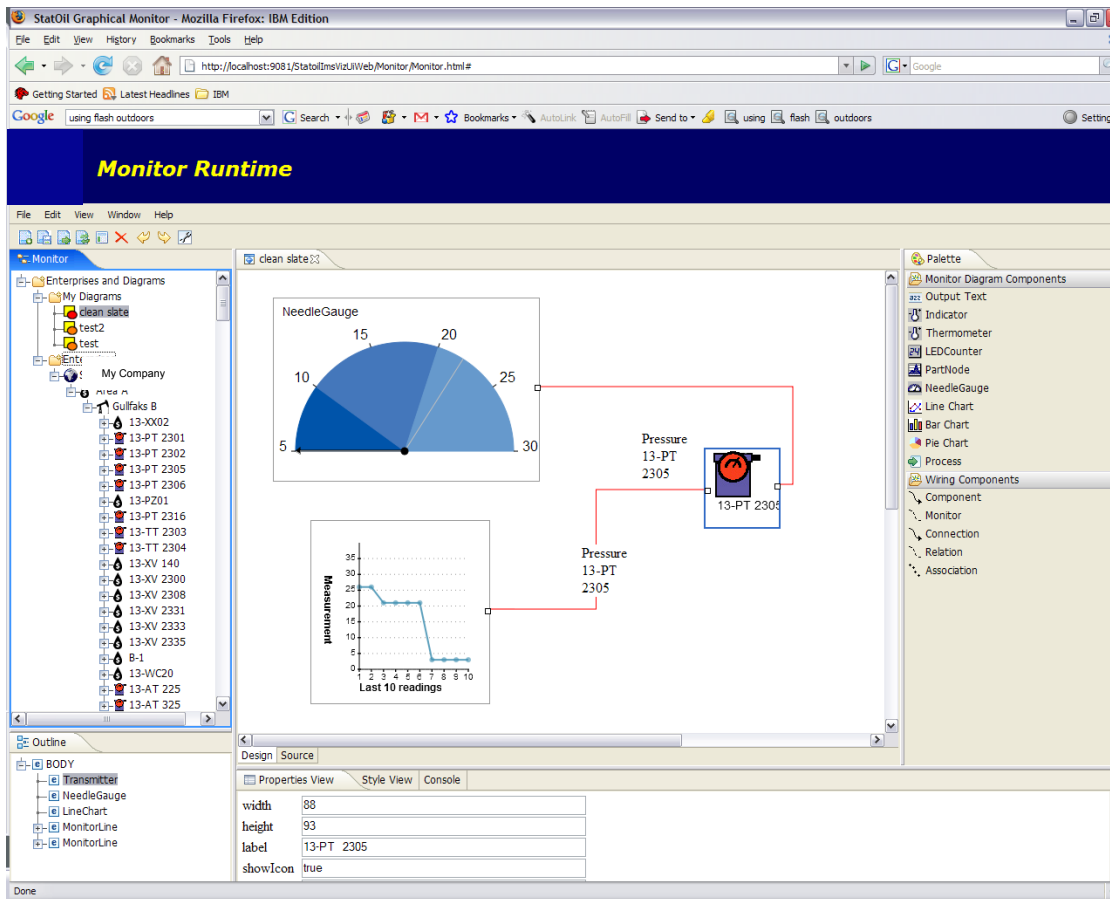
Zoom

Legend
 Artifacts
 Characters
 Places

1 - 10 of 102

Rich interfaces and immersive experiences

- Operations staff create schematics of installations to drive operational tasks such as monitoring, service scheduling, deployment planning
- Required information stored in disparate sources such, e.g. spreadsheets, physical documents



Features

- “zero footprint” browser solution
- Intuitive drag/drop user interface
- Automation of many existing manual tasks
- Visualisation of real-time data feed from the field

SWG Services Solution

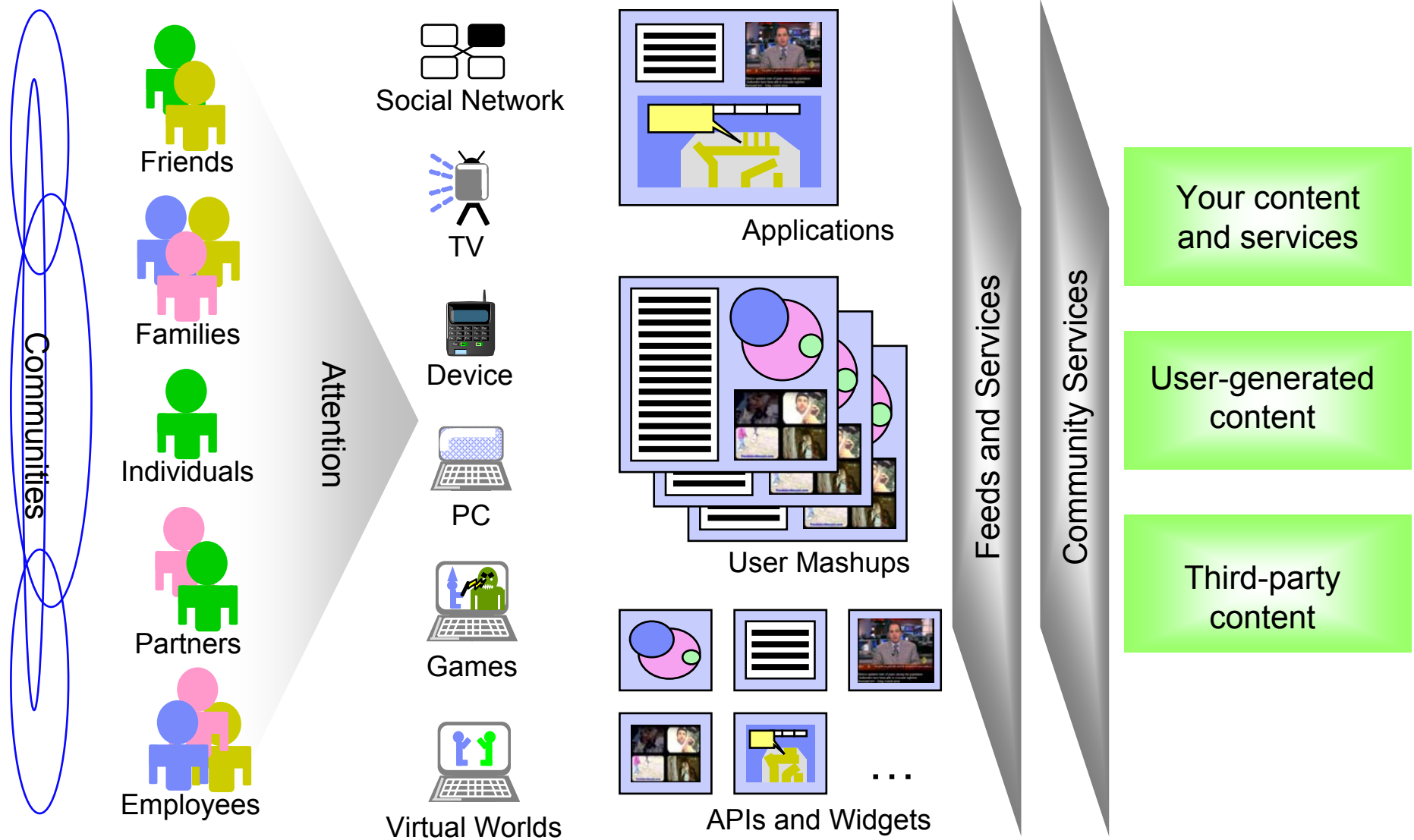
- WAS AJAX Feature Pack / Comet
- IBM Research Hale framework
- Dojo Open Source platform for the browser

Myth 2.0

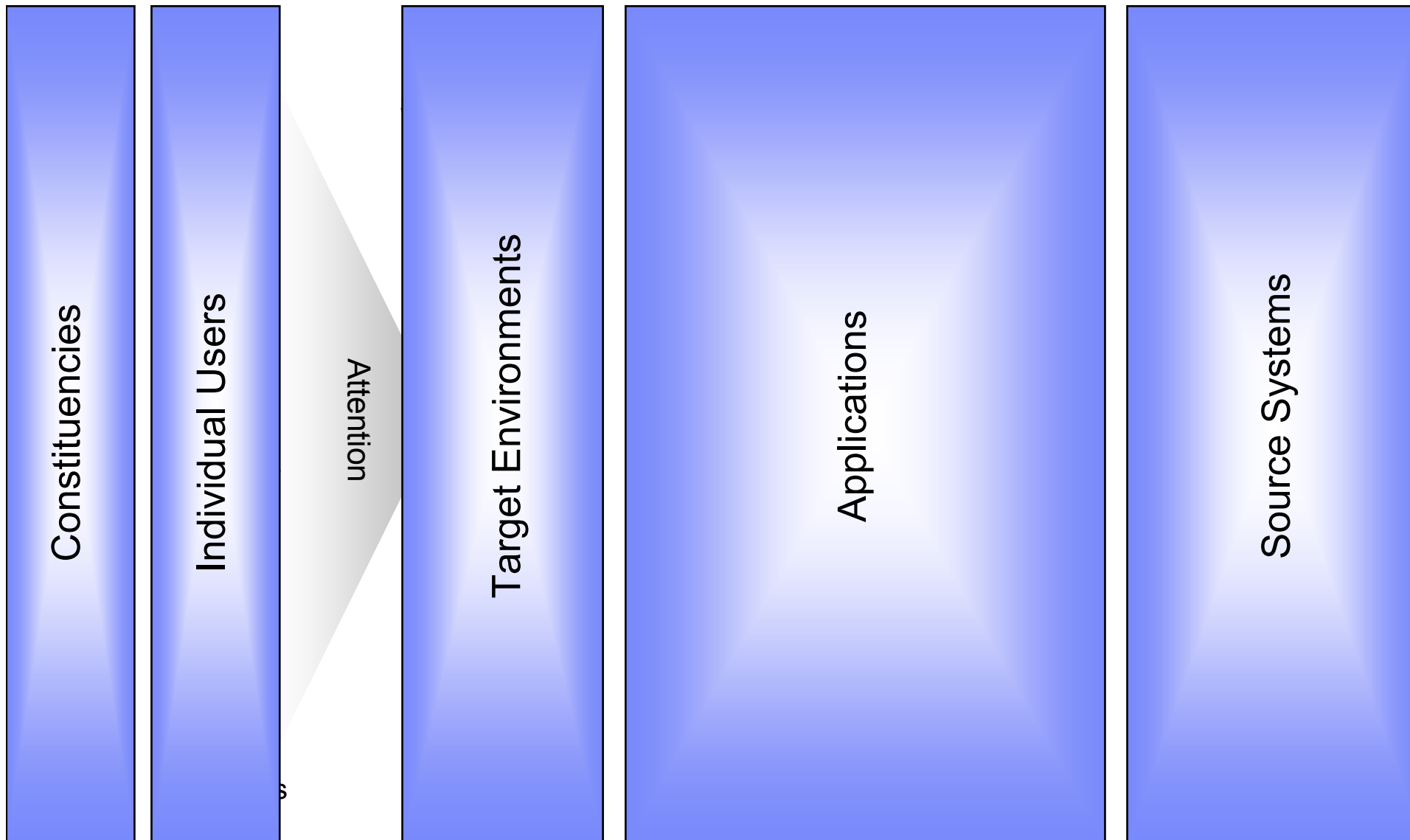


Web 2.0 is not about **architecture**

Web 2.0 end-user channels architecture

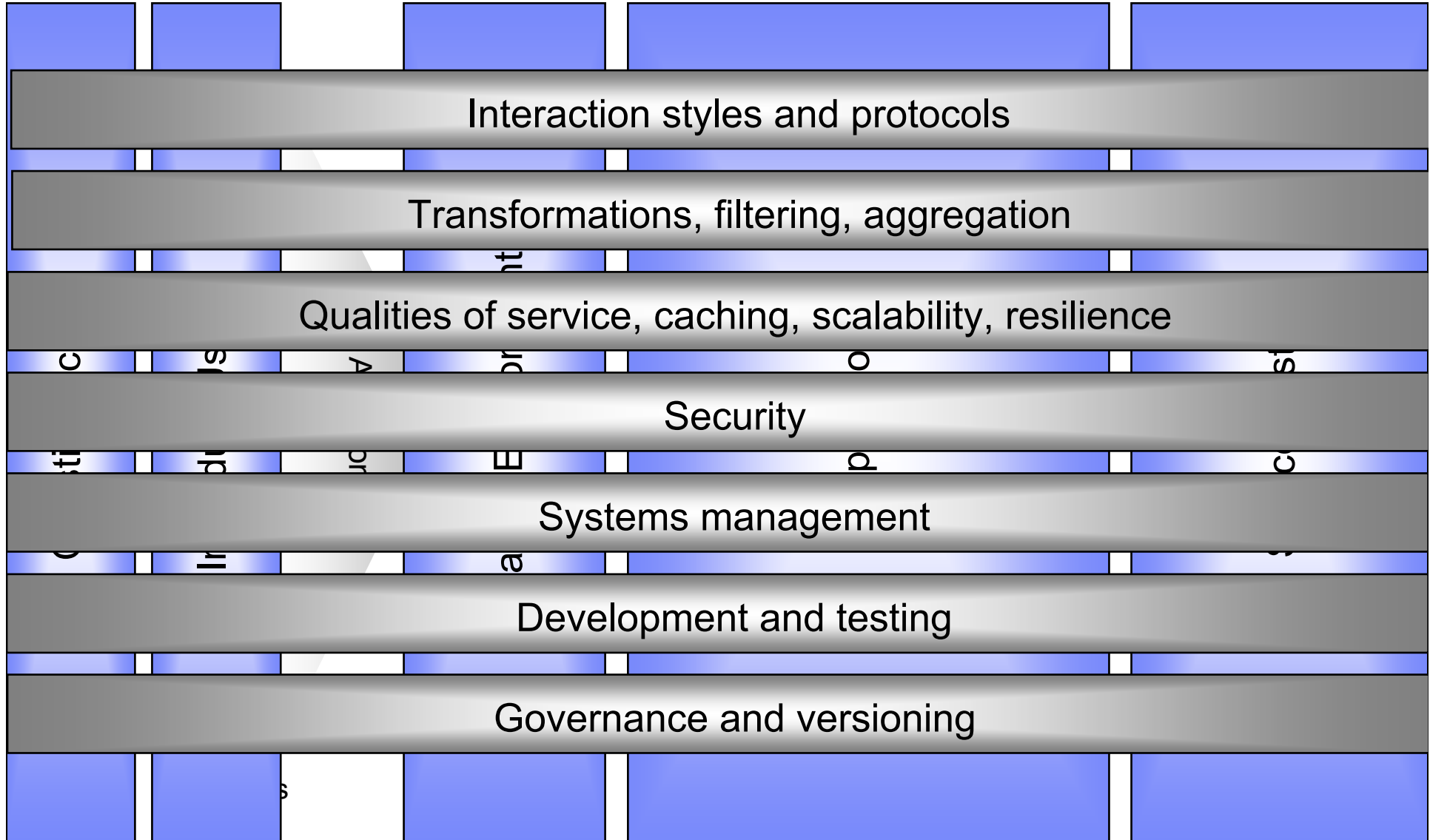


Layers

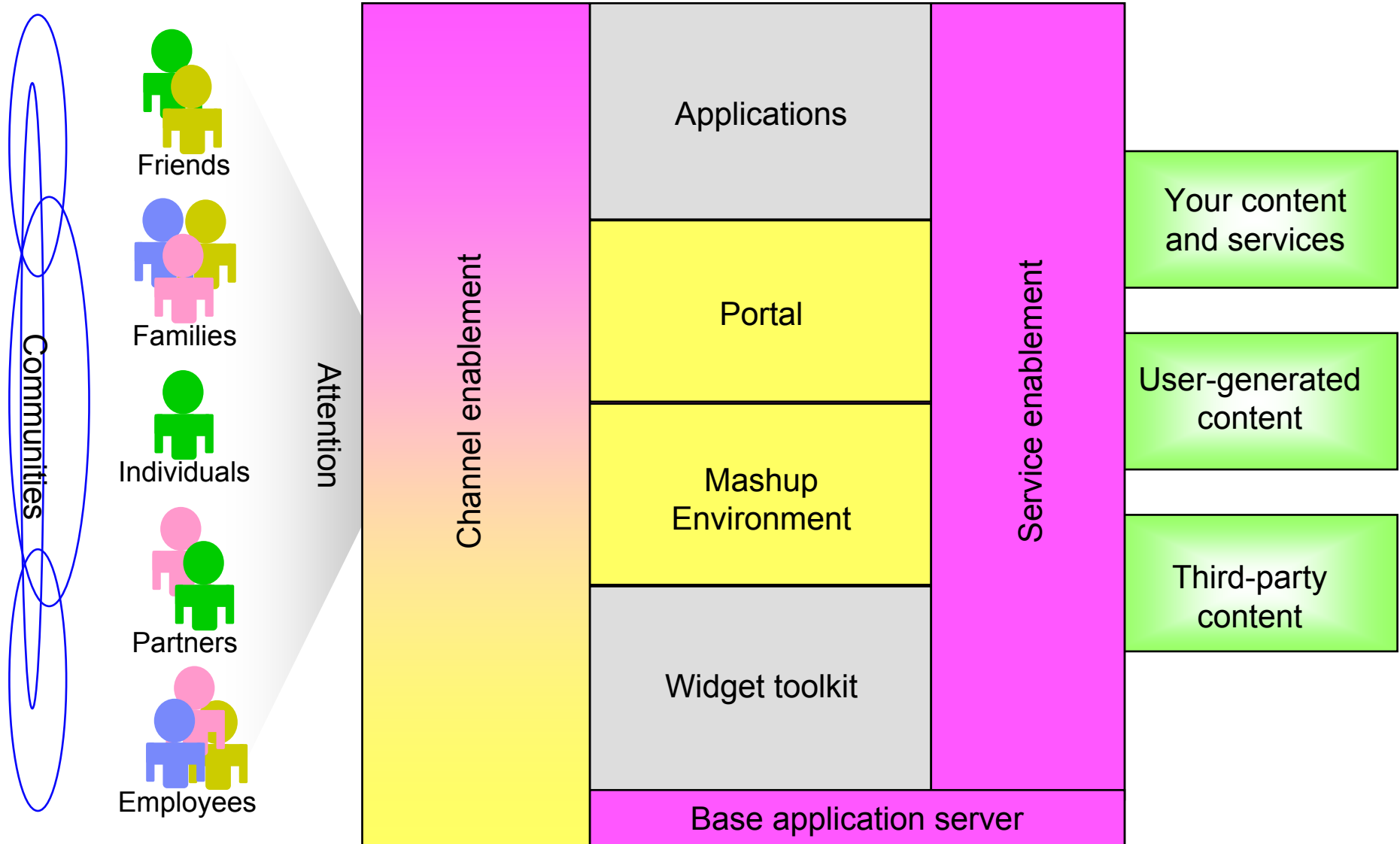




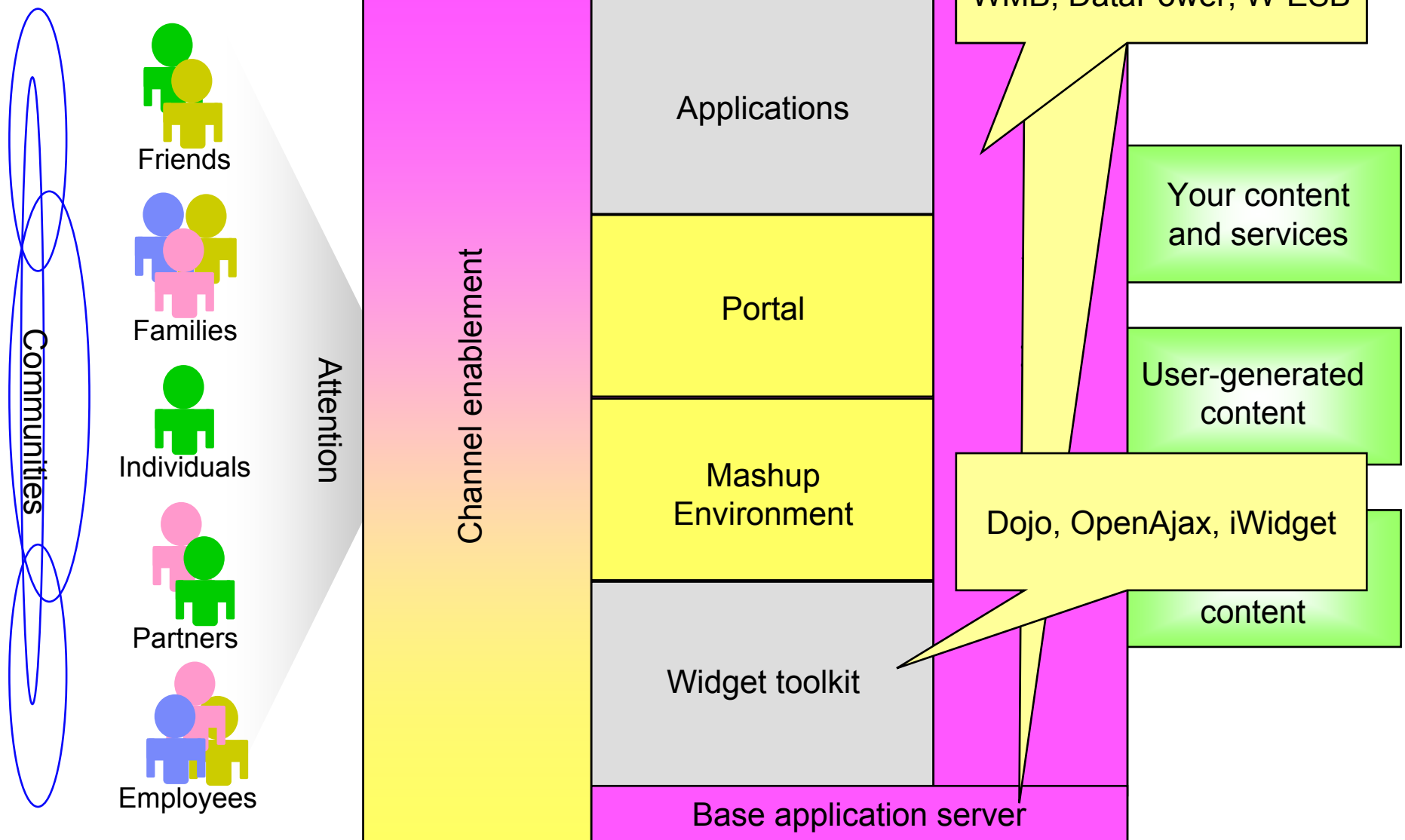
Cross-cutting considerations



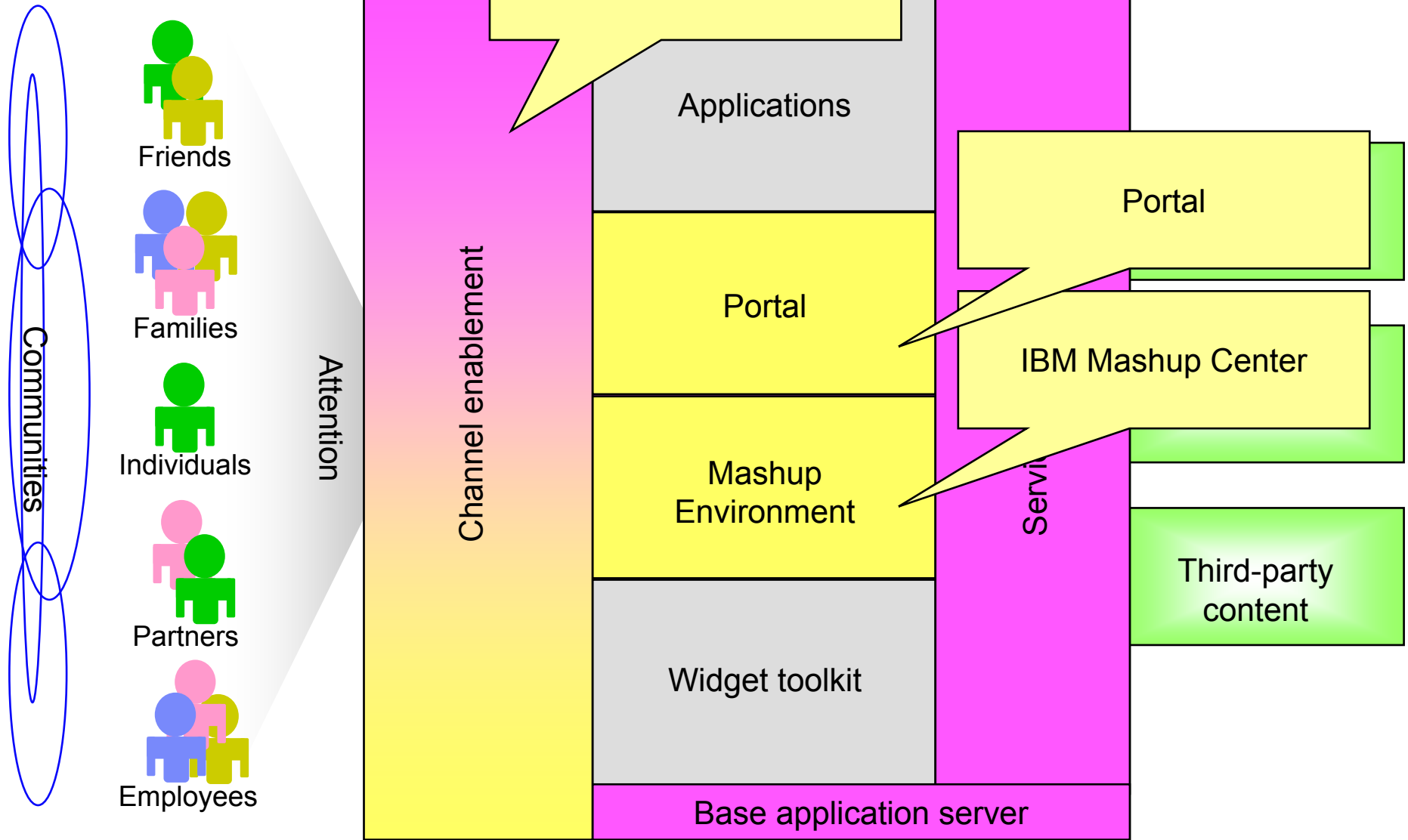
IBM Software component mapping



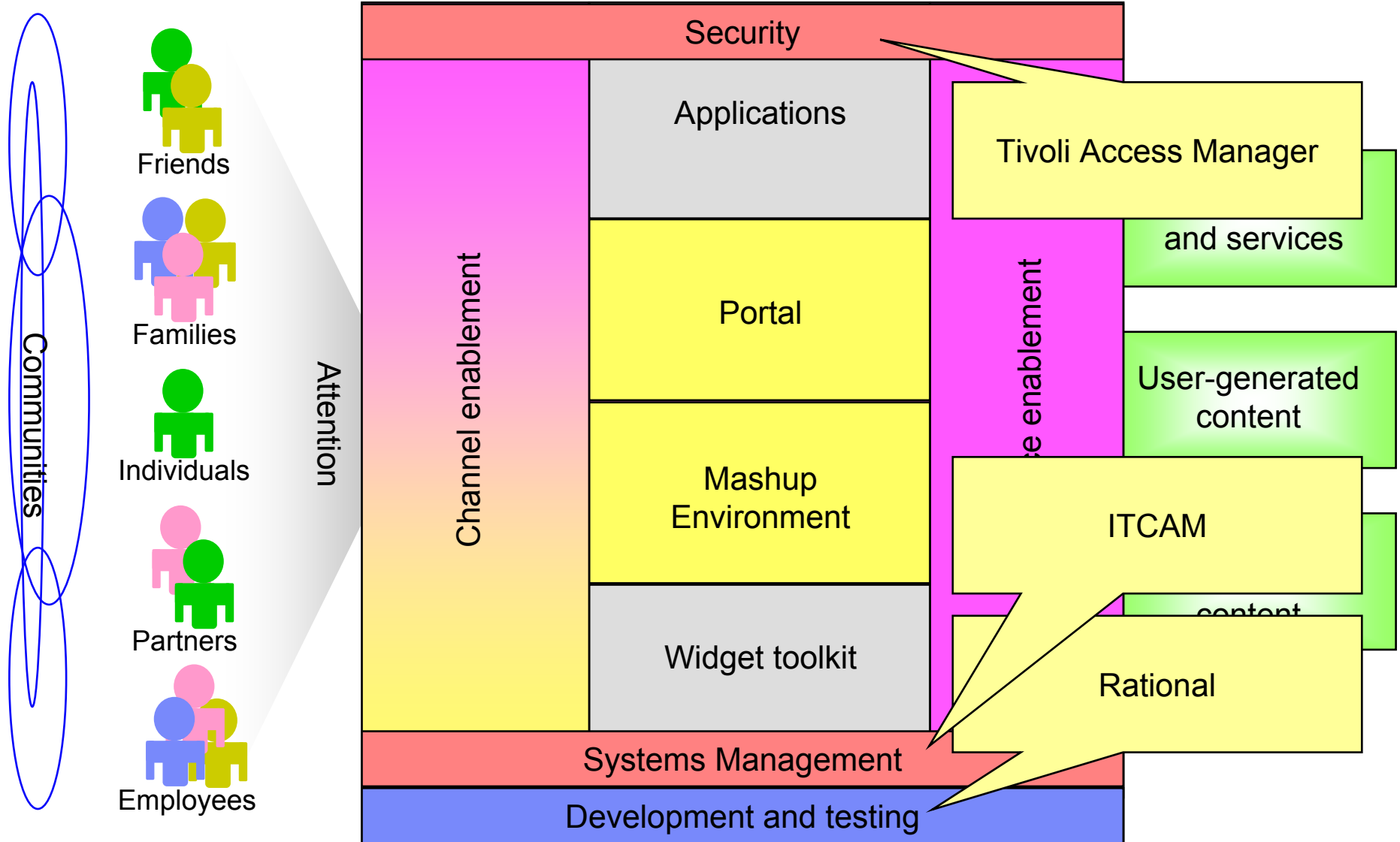
IBM Software component mapping



IBM Software comp



IBM Software component mapping

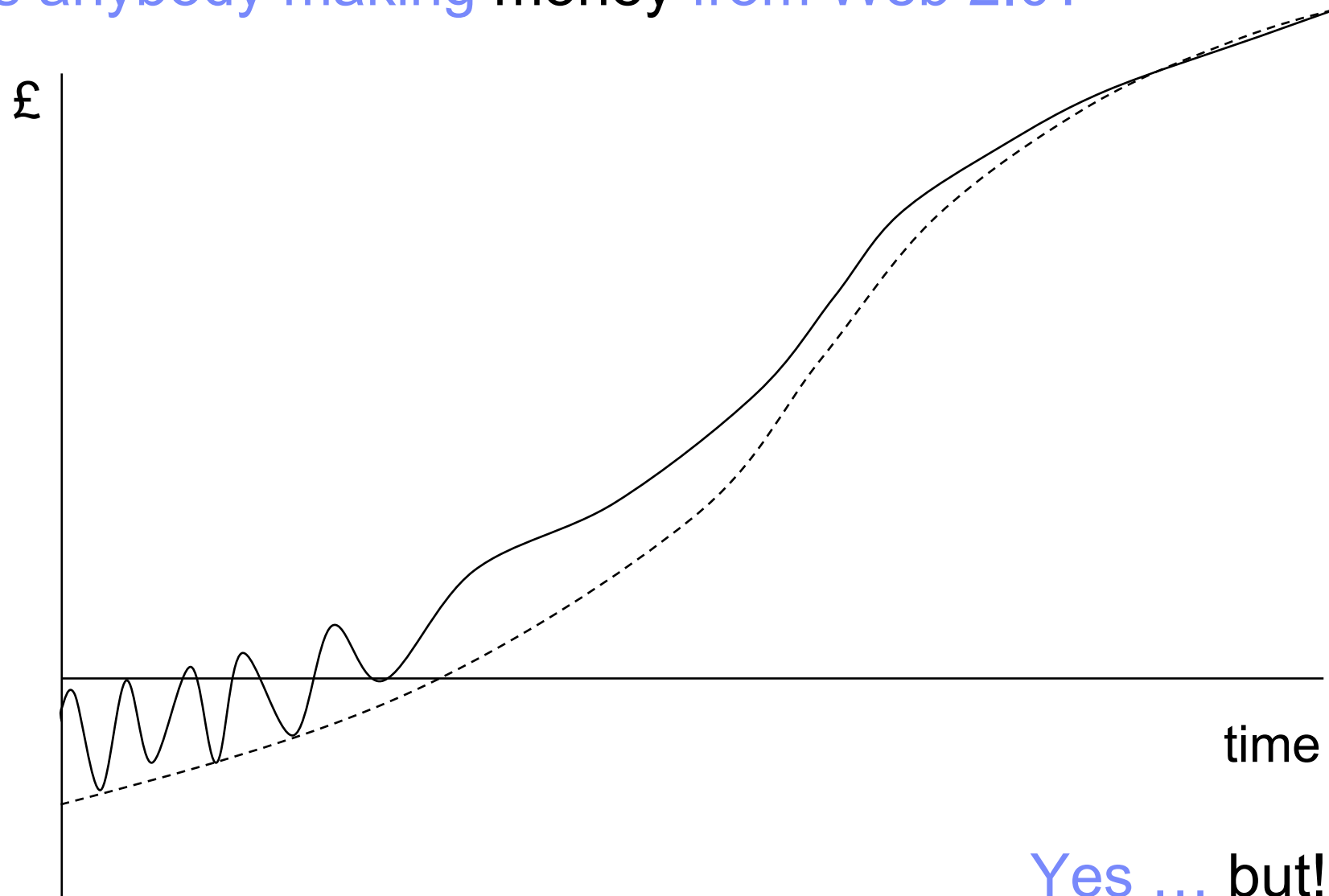




IBM WebSphere software enables Web 2.0 applications, services and widgets

- **IBM WebSphere Portal** extends SOA and Web 2.0 across the enterprise with trusted performance, scalability, and security - exceeding user expectations with Web 2.0 features using AJAX and REST for a richer, more responsive user interface.
- **IBM WebSphere sMash** advances Smart SOA's simplicity and accelerates the alignment of Business and IT by allowing Developers to quickly and simply deliver dynamic Web 2.0 based applications, enabling mashups. It is a development and execution environment for dynamic web applications.
- **WebSphere Application Server Feature Pack for Web 2.0** provides an Ajax development framework that leverages existing SOA and JEE assets to deliver rich user experiences. Web 2.0 to SOA Connectivity allows Ajax clients and mash-ups to leverage external web services, internal SOA services, and JEE assets. Extends enterprise data to customers and partners through web feeds.
- **WebSphere Commerce Web 2.0** enhancements deliver streamlined user buying process with an Ajax based rich, interactive, and natural shopping experience that engages buyers with active participation and community elements such as product reviews and user generated content.
- **WebSphere MQ 7.0 (integrated with HTTP Bridge)** is the Universal Messaging Backbone for SOA. It provides Web 2.0 developers with an elegant way to access business data from MQ enabled applications via the Bridge for http feature, using the simplicity and richness of REST based web services and Ajax without requiring any MQ client or MQ programming skills.
- **WebSphere DataPower SOA Appliance** provides a bridge between Web 2.0 and enterprise SOA environments by providing Service (REST, JSON-RPC, ATOM, and RSS to WS-*) mapping. Websphere Datapower also provides Ajax and mashup security proxy and traffic monitoring.
- **Web 2.0 SupportPac for CICS** Generate Atom feed documents and Atom entry documents in response to HTTP requests directed to CICS.
- **WebSphere Message Broker v6.1** supports REST service interfaces to message flows.

Is anybody making money from Web 2.0?



What could you do?

- Develop a **presence** in Web 2.0
- Encourage employees to become visible **ambassadors**
- **Explore** social behaviours in online marketing campaigns
- Provide open APIs and create **innovation** communities
- Provide **self-help tools** to encourage new interactions with your customers
- Find new ways to explore customer **information**
- Explore **new communication techniques** and integrate them with existing channels
- Encourage customer contributions and **testimonials**



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Thankyou

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AJAX business IBM
enterprise_computing Web2.0
innovation ATOM

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