



Developing innovative custom business solutions with Google Apps

Jeff Ragusa, Google Apps SMB Channel Lead

David Hoff, Cloud Sherpas CTO

5/10/2011

Hashtags: #io2011 #GoogleApps

Feedback: <http://goo.gl/Kc8Oa>



Scope and Takeaways

We're talking about...

- Google Apps - based solutions
- Custom solutions

3 things to take away

1. Developers have power and flexibility
2. Customization can be lightweight or complex
3. There's a business here

Brief Agenda

- Background on Apps, bigger picture, partners
- Survey of customization tools
- Lightweight example usage in the wild
- Deep dive on more complex solution

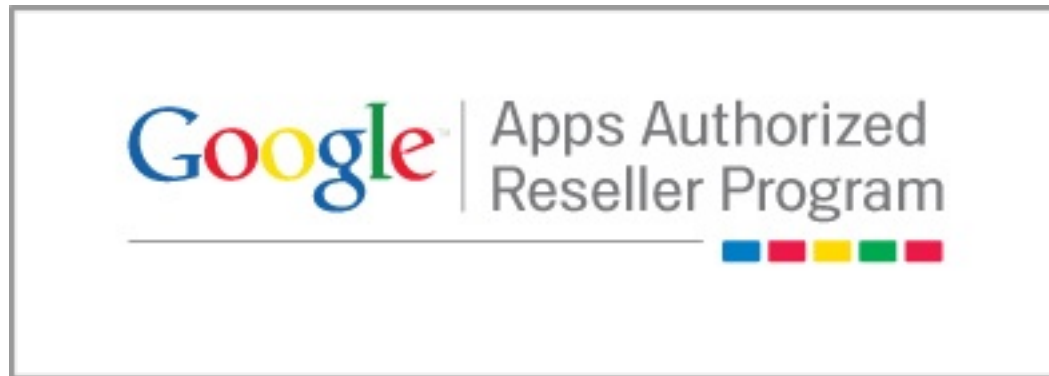
Google Apps for Business



- 3M+ businesses
- 30M+ active users
- 218 new features in 2010
- 99.9% uptime guarantee

www.google.com/a

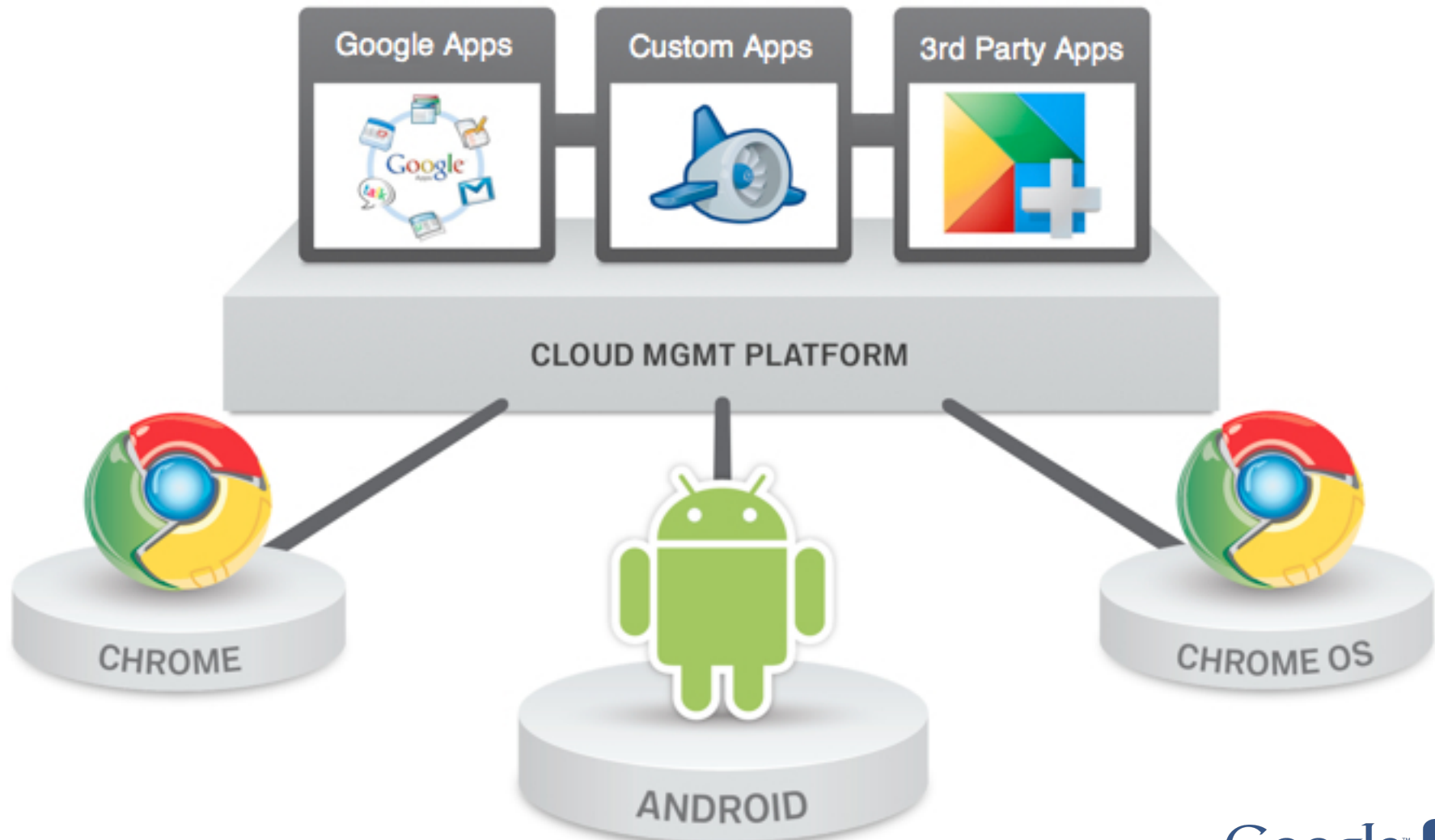
Google Apps solution providers



- Services-oriented: handling sales, implementation, consulting, support
- Face of technology to customer
- Bundled multi-vendor solution selling
- Trending toward custom development

www.google.com/apps/resellers

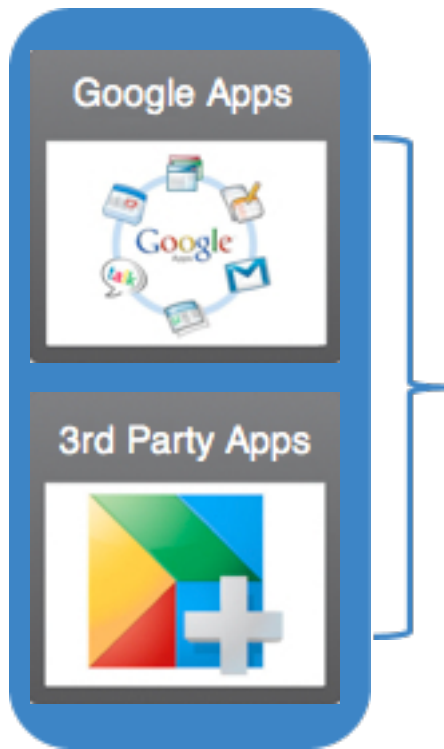
"100% web" vision for business



Web solution providers driving 100% web

Partners playing mix of three roles...

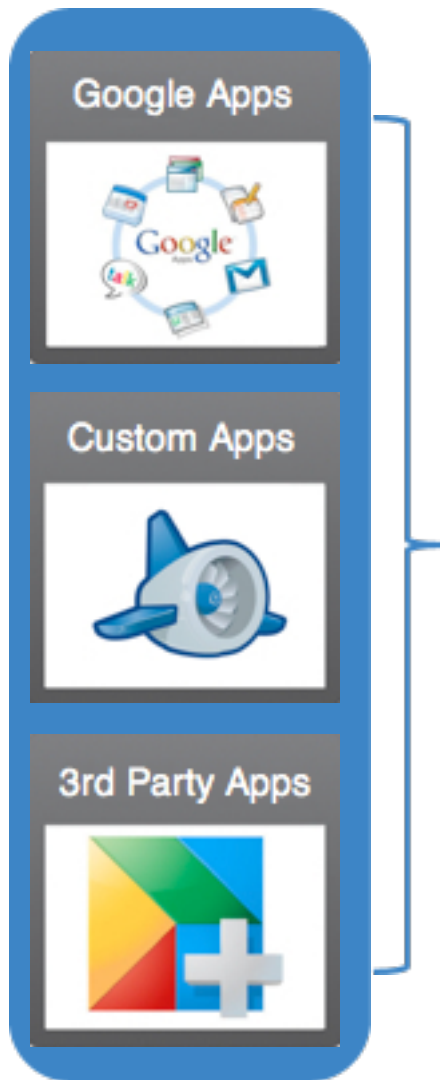
Web solution providers driving 100% web



Partners playing mix of three roles...

1. Managed Service Provider (MSP) / Value-Added Reseller (VAR)
 - Sell and deploy Google Apps to businesses
 - Implement, consult, and support
 - Source complementary applications

Web solution providers driving 100% web



Partners playing mix of three roles...

1. Managed Service Provider (MSP) /
Value-Added Reseller (VAR)
2. Systems Integrator (SI)
 - Create custom logic and user interfaces
 - Integrate applications into custom solutions

Web solution providers driving 100% web

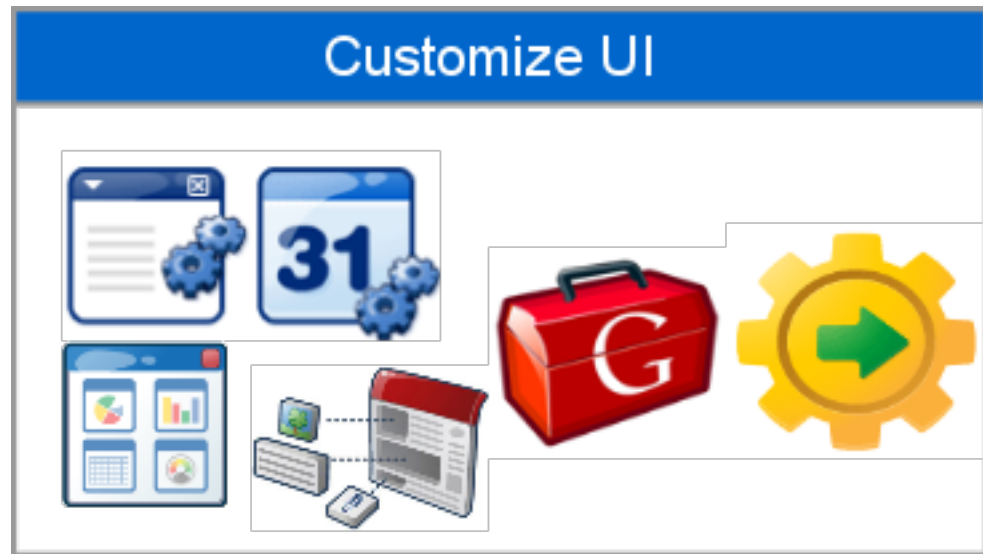
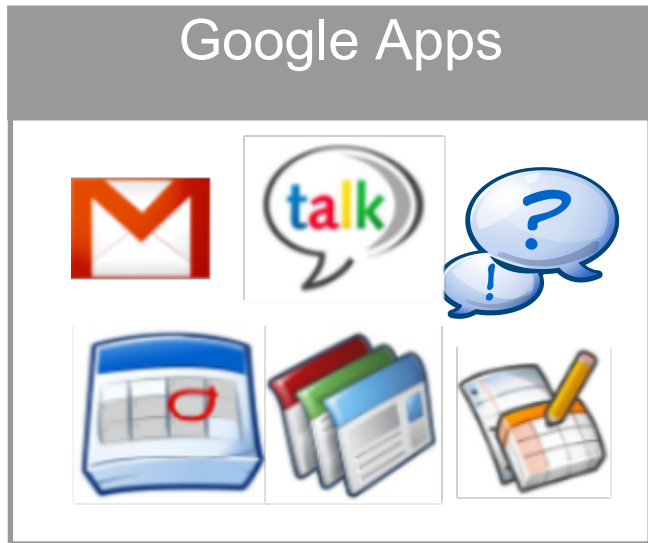
Partners playing mix of three roles...

1. Managed Service Provider (MSP) /
Value-Added Reseller (VAR)
2. Systems Integrator (SI)
3. Independent Software Vendor (ISV)



- Create new web applications
- Productize and sell through others

Key tools for customizing Google Apps



Google Apps Script

- Lightweight, cloud scripting framework
- Standard Javascript, executed server side
- Automate tasks, business logic, workflows

Collect user input through embedded graphical interfaces and menus

Manipulate Google application data:

**Sites
Spreadsheets
Docs List
Calendar
Contacts
Finance
Maps**

Bi-directional: triggers to respond to application events



**Send HTTP requests
Send email
Access Web Services via SOAP**

Example: Revevol training session scheduling

NEED: To efficiently schedule training sessions

OLD WAY: Inefficient manual matchmaking



Example: Revevol training session scheduling

SOLUTION:

- Built custom form UI, searches trainers in spreadsheet database



revevol I need a trainer

Pick a date:
MM/dd/yyyy hh:mm

Start time

End time

Choose a place:

Address

City

Country

Find the right competencies:

Training language

Trainer level



Example: Revevol training session scheduling

SOLUTION:

- Built custom form UI, searches trainers in spreadsheet database
- Displays interactive results pane, also with map view



Available trainers

First Name	Last Name	Address	
Level 3			
1 Romain	Vialard		<input checked="" type="checkbox"/>
2 Lynn	Jaber		<input checked="" type="checkbox"/>
3 Nicolas	Raimbault		<input type="checkbox"/>
Level 5			
5 Patricio	Diez		<input checked="" type="checkbox"/>
6 Tony	Harmide		<input checked="" type="checkbox"/>

Additional information:

Client

Description



Example: Revevol training session scheduling



SOLUTION:

- Built custom form UI, searches trainers in spreadsheet database
- Displays interactive results pane, also with map view
- Selected trainers get a calendar invite
- Sites, Spreadsheets, Maps, Calendar

★ **Training Google Apps Account** to me [show details](#) 2:40 PM (0 minutes ago)

Title: Training -Google
When: Tue May 3 15:00 – 23:00 (SGT)
Where: Singapore Singapore
Who: I_need_a_trainer!*
[more details »](#)

Going? Yes - Maybe - No

Your Agenda for Tue May 3, 2011
No earlier events
15:00 Training -Google
No later events
[view my calendar »](#)

Training -Google
Training language: English
Training Level: 3- Workshops - advanced
Additional information: Demo for Google I/O 2011
Event created by romain.vialard@revevol.eu

When Tue May 3 15:00 – 23:00 Singapore
Where Singapore Singapore ([map](#))

Example: Wadman Corporation delivery scheduling

NEED: To coordinate deliveries

OLD WAY: Phone calls



Example: Wadman Corporation delivery scheduling

SOLUTION:

- Form embedded in Google Site captures request



Name:

Company:

Email:

Delivery Type:

Requested Date:

Select Delivery Time Slot:

8:00 AM - 10:00 AM 2:00 PM - 4:00 PM

10:00 AM - 12:00 PM 4:00 PM - 6:00 PM

12:00 PM - 2:00 PM 6:00 PM - 8:00 PM



Example: Wadman Corporation delivery scheduling

SOLUTION:

- Form embedded in Google Site captures request
- Email notifications and approval queue



Select a request to approve

...	Name	Company Name	Email Address	Delivery Type	Date	Start	End	Status
...	Carl Edwards	Wholesale Flooring	carl@wfloor.com	Carpet	05/09/2011	02:00 PM	04:00 PM	Approved
...	Tom James	Acme Steel	tj@amcesteel.com	Steel Frame	05/11/2011	10:00 AM	12:00 PM	Approved
...	Ted Williams	Williams Lumber Yard	tedw@willumber.com	Lumber	05/11/2011	12:00 PM	2:00 PM	Approved
...	Jerry Atric	WC Supply Company	ja@wcsupply.com	Chairs	05/11/2011	08:00 AM	10:00 AM	Pending
...	Earl Hammer	EH Metal Co	eh@ehmetal.com	Nails	05/11/2011	06:00 PM	08:00 PM	Pending
...	John Smith	JS Electric	johns@jselectric.com	Cable	05/12/2011	04:00 PM	06:00 PM	Pending
...	Larry Engleman	Engleman Plumbing Supply	larry@eps.com	Piping	05/12/2011	06:00 PM	08:00 PM	Pending
...	Sally Stranton	SS Paint	sallys@sspaint.com	Paint	05/12/2011	08:00 AM	10:00 AM	Pending

Name: Company: Email: Delivery Type:

Requested Date: Start Time: Stop Time: Status:

Approve Delivery

Example: Wadman Corporation delivery scheduling

SOLUTION:

- Form embedded in Google Site captures request
- Email notifications and approval queue
- Approval auto-updates delivery calendar
- Sites, Calendar, Mail



Delivery Schedule							
Today	◀	▶					Print
Sun	Mon	Tue	Wed	Thu	Fri	Sat	
May 1	2	3	4	5	6	7	
8	9 2pm Wholes	10	11 10am Acme 12pm Williar	12	13	14	
15	16	17	18	19	20	21	
22	23	24	25	26	27	28	
29	30	31	Jun 1	2	3	4	

Events shown in time zone: Eastern Time

Google Calendar

Example: KIN event promotion and registration

NEED: Consistency in event management

OLD WAY: Manual, error prone, inconsistent

PJR

Example: KIN event promotion and registration



SOLUTION:

- Spreadsheet template captures structured event detail

File Edit View Insert Format Form (0) Tools Help Event Management		
Formula: Row1		
A	B	C
1	Row1	FIELDS BELOW THIS LINE REQUIRED FOR EVENT EMAILS
2	Event Name	Some event or other
3	Event Type	Webinar
4	Event Location	Online
5	Event Date	1 Jan 2011
6	Event Start Time	3:00 PM
7	Event End Time	4:30 PM
8	Number of Spaces	0
9	Signature	Phil
10	Reply-To Email	
11	cc:	
12	bcc:	
13	Additional Information for confirmation / cancellation emails	NB: This event has been re-scheduled
14	Joining Instructions, 1	You can join the presentation at [redacted] A recording will also be made available for offline viewing after the event.
15	Joining Instructions, 2	To join the audio for this conference, [redacted] and enter the PIN [redacted]
16		Non-uk access numbers can be found here: http://pdf.powwownow.com/GBR/en/enhanced/

Example: KIN event promotion and registration



SOLUTION:

- Spreadsheet template captures structured event detail
- Menu actions create Sites landing page, calendar event, news announcement
- Registration form event handler sends registration confirmation
- Sites, Calendar, Forms, Mail, Spreadsheets

	A	B	C
1	Row1	FIELDS BELOW THIS LINE REQUIRED FOR EVENT EMAILS	
2	Event Name	Some event or other	Enter name of event
3	Event Type	Webinar	Enter event type (use drop down)
4	Event Location	Online	Enter Event Location
5	Event Date	1 Jan 2011	Enter Event Date
6	Event Start Time	3:00 PM	Enter start time
7	Event End Time	4:30 PM	Enter end time
8	Number of Spaces	0	Enter Number of spaces available for this event, 0=no limit
9	Signature	Phil	Enter the signature to appear on the emails
10	Reply-To Email		Enter your email address for replies
11	cc:		Enter your email address(es) to receive copies of sent emails. Separate email addresses with commas
12	bcc:		Enter email address(es) to receive blind copies. Separate email addresses with commas
13	Additional Information for confirmation / cancellation emails	NB: This event has been re-scheduled	Enter additional information for registration confirmation email such as "EVENT RE-SCHEDULED" etc. Leave blank if no additional information required
14	Joining Instructions, 1	You can join the presentation at [redacted] A recording will also be made available for offline viewing after the event.	Enter details as required
15	Joining Instructions, 2	To join the audio for this conference, [redacted] and enter the PIN [redacted] Non-uk access numbers can be found here: http://pdf.powwownow.com/GBR/en/enhanced/	Enter details as required

Google App Engine

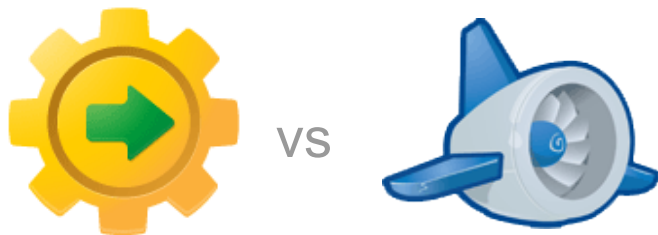


- Host custom application logic on Google's infrastructure
- Fast / easy development, simple administration
- Java or Python runtime environments
- Use Google Accounts, restrict access to domain
- Send email, send HTTP requests

Google App Engine

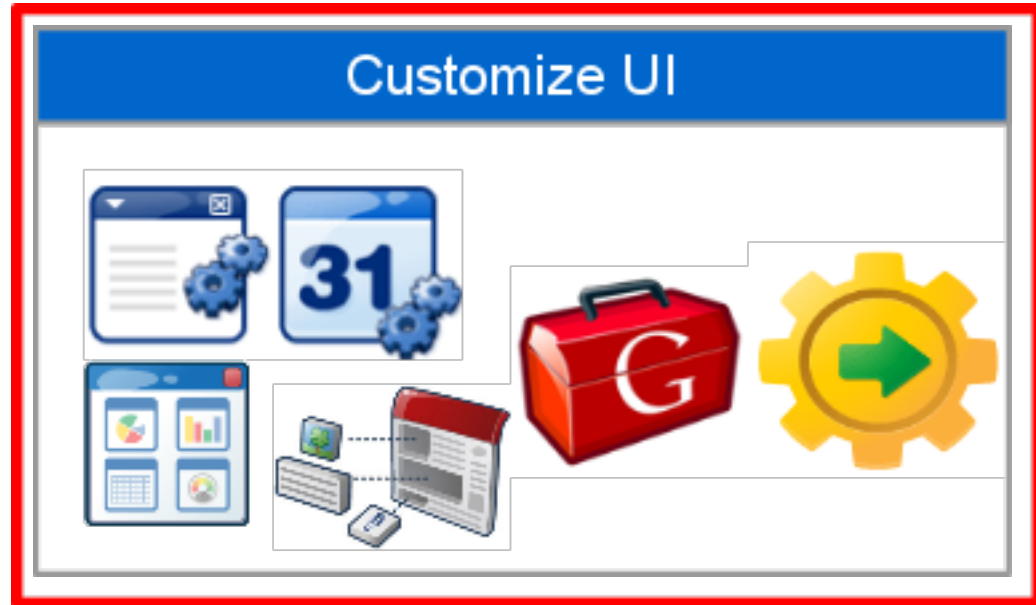
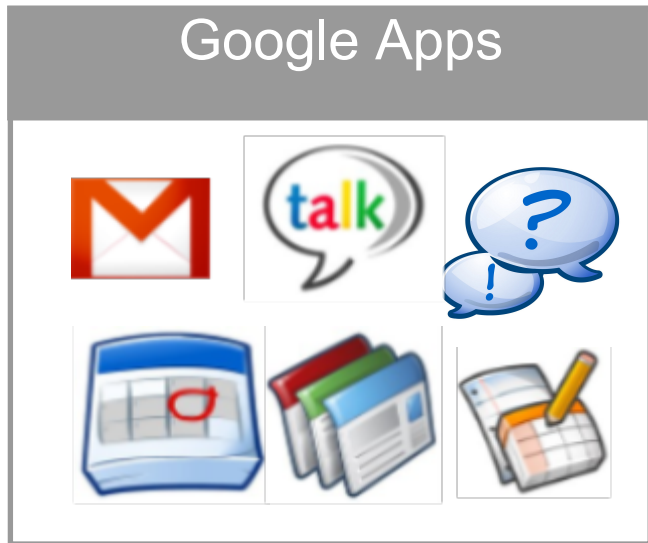


- Host custom application logic on Google's infrastructure
- Fast / easy development, simple administration
- Java or Python runtime environments
- Use Google Accounts, restrict access to domain
- Send email, send HTTP requests



- Use App Engine for..
 - Full standalone applications
 - Where need to persist state across requests

Key tools for customizing Google Apps



Google Web Toolkit



- Open source toolkit for building and optimizing browser-based application UIs
 - Easy to develop
 - Ajax-enabled
 - High performance
 - Runs across all browsers, including mobile browsers
- Develop in Java, compile to Javascript
- Nice integration with Google App Engine development

Example: Enterprise partner support portal

NEED: Integrated, on-demand ticket management for partners

OLD WAY: Siloed interface, not matching to exact use case

The Google logo is centered on the slide. It consists of the word "Google" in its signature multi-colored font: blue 'G', red 'o', yellow 'o', blue 'g', green 'l', and red 'e'.

Example: Enterprise partner support portal



SOLUTION:

- Data mashup app on Google App Engine, with custom user interface
- Pulls customer account and case data coming from multiple sources
- Leverage existing Google Accounts
- Google Web Toolkit, Google App Engine, Google Accounts

The screenshot shows a web application interface for a support portal. At the top, there are navigation tabs: "Customers" (selected), "Cases", and "Contact Us". On the left side, there is a "Customer Look-up" section with a text input field and a "Go" button. The main content area displays the details for a customer named "Organic City".

Organic City

Customer Name	Organic City	Created Date	3/17/2011 10:14 AM
Phone		Domain	organiccity.com
Billing Address	101 West 16th Street Austin, TX 78701 US		

Cases [+ New Case](#) All Cases

Case Number	Subject	Customer	Priority	Status	Date/Time Created
00972904	Lost Password again	Organic City	P4 - Low Impact	New	4/18/2011 1:43 PM
00972903	Accidentally deleted all email	Organic City	P4 - Low Impact	New	4/18/2011 1:43 PM
00972896	OAuth failure	Organic City	P3 - Medium Impact	New	4/14/2011 2:27 PM
00972894	Will expire in 2 months	Organic City	P3 - Medium Impact	New	4/13/2011 11:19 AM
00972893	Will expire in 2 months	Organic City	P3 - Medium Impact	New	4/13/2011 11:19 AM
00972890	Can't upload spreadhseet	Organic City	P4 - Low Impact	Closed	4/12/2011 11:08 AM
00972884	Need to reset admin password	Organic City	P4 - Low Impact	New	4/12/2011 10:27 AM

Gadgets



- Custom HTML or Javascript components
- Can be embedded in your web pages or in Gadget containers

Google Apps Gadget containers:

- Gmail: extend Gmail UI with added functionality
 - Sidebar Gadgets: bring other application UIs into Gmail UI
 - Contextual Gadgets: trigger new functionality within a specific email

Gmail Contextual Gadget: Appirio CloudWorks

Bringing Salesforce CRM into Gmail



ENTERPRISE in the CLOUD

Search Mail Search the Web [Show search options](#) [Create a filter](#)

Compose Mail

Inbox (1)
Priority Inbox (1)
Starred ☆
Sent Mail
Drafts

Follow up
Misc
Priority
5 more ▾

Contacts
Tasks

+ Chris Cloud
Search, add, or invite

- Workday Workers
Worker search
Ryan

- Business Actions
Update

- Chatter
Write something...
Hide Chatter

« Back to Inbox Archive Report spam Delete + - Move to ▾ Labels ▾ More actions ▾

Can we start on Monday? 📧 | X Inbox | X

☆ Izzy Impatient to me, sam.sales, paul.presales [show details](#) 10:37 PM (53 minutes ago) [Reply](#) ▾

Really eager to get us started on our new project. Any chance you can have your people on the ground Monday while we're finalizing the paperwork?

Can't wait,
Izzy

Izzy Impatient
VP Project Management
ACME
650-555-5555

Account Information	Chatter
<p>Do not sell to until payment received</p> <p>ACME 6150 Wilshire Blvd Ste 1 Los Angeles California US</p> <p>Description: Miscellaneous retail stores, nec, nsk</p> <p>Type: Customer</p> <p>Revenue: \$ 220,000</p> <p>Closed Ops: \$ 13,078,705</p> <p>Open Ops: \$ 1,125,000</p> <p>D&B Status: High risk of delinquency</p> <p>A/R Status: Hold - Credit Hold</p> <p>Owned By: Ryan Nichols</p>	<p> Yamini Rangan Just listened to ACME's earnings call-- real challenges in their business this quarter... Tuesday, September 14, 2010 22:04:07</p> <p> Ryan Nichols created "Can we start on Monday? - NO" View Details Monday, September 13, 2010 15:48:28</p> <p> Ryan Nichols This is terrible, I have a number of deal requets from them Monday, September 13, 2010 15:48:18</p> <p> Ryan Nichols created "Izzy is getting worried about our Project Status" View Details Sunday, September 12, 2010 17:22:31</p>

Record Email Log a Call Create Task Chatter

Gadgets

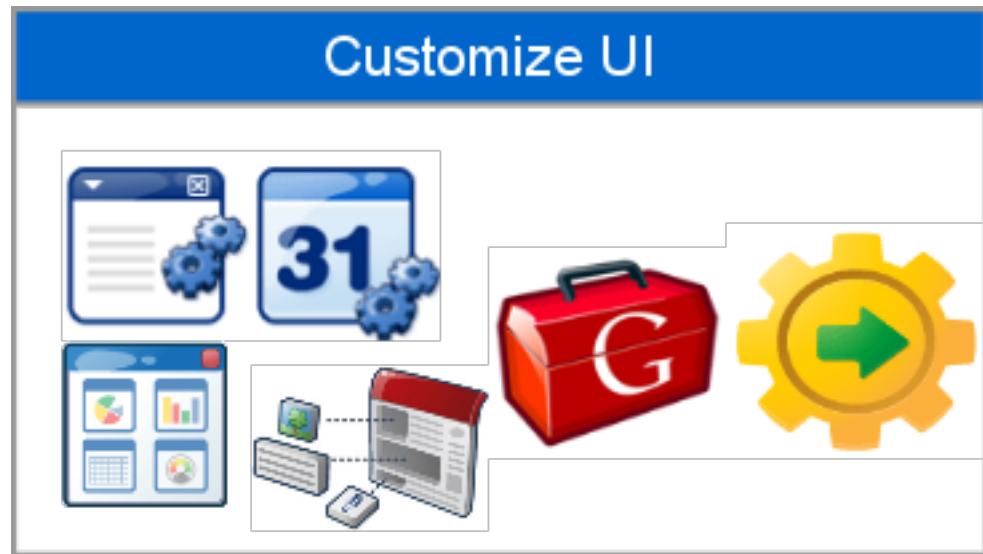
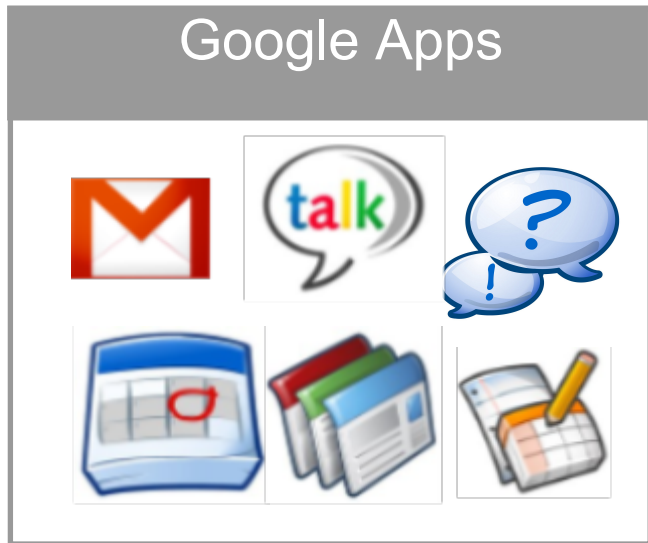


- Custom HTML or Javascript components
- Can be embedded in your web pages or in Gadget containers

Google Apps Gadget containers:

- Calendar: extend Calendar UI with added functionality
 - Sidebar Gadgets: basic sidebar + UI customization plug-ins
 - Event Gadgets: add custom events to any date
- Sites: extend any page to surface another web page or application UI
- Docs: use a spreadsheet as a data source
 - visualize spreadsheet data in unique ways on other web pages

Key tools for customizing Google Apps



Google Data APIs



- REST APIs for reading and writing data stored by Google Apps
- Data sent / retrieved via HTTP requests
- Client libraries in a variety of languages

Google Data APIs



- REST APIs for reading and writing data stored by Google Apps
- Data sent / retrieved via HTTP requests
- Client libraries in a variety of languages

Google Apps application data APIs

- Spreadsheets
- Document Lists
- Calendar
- Sites
- Contacts

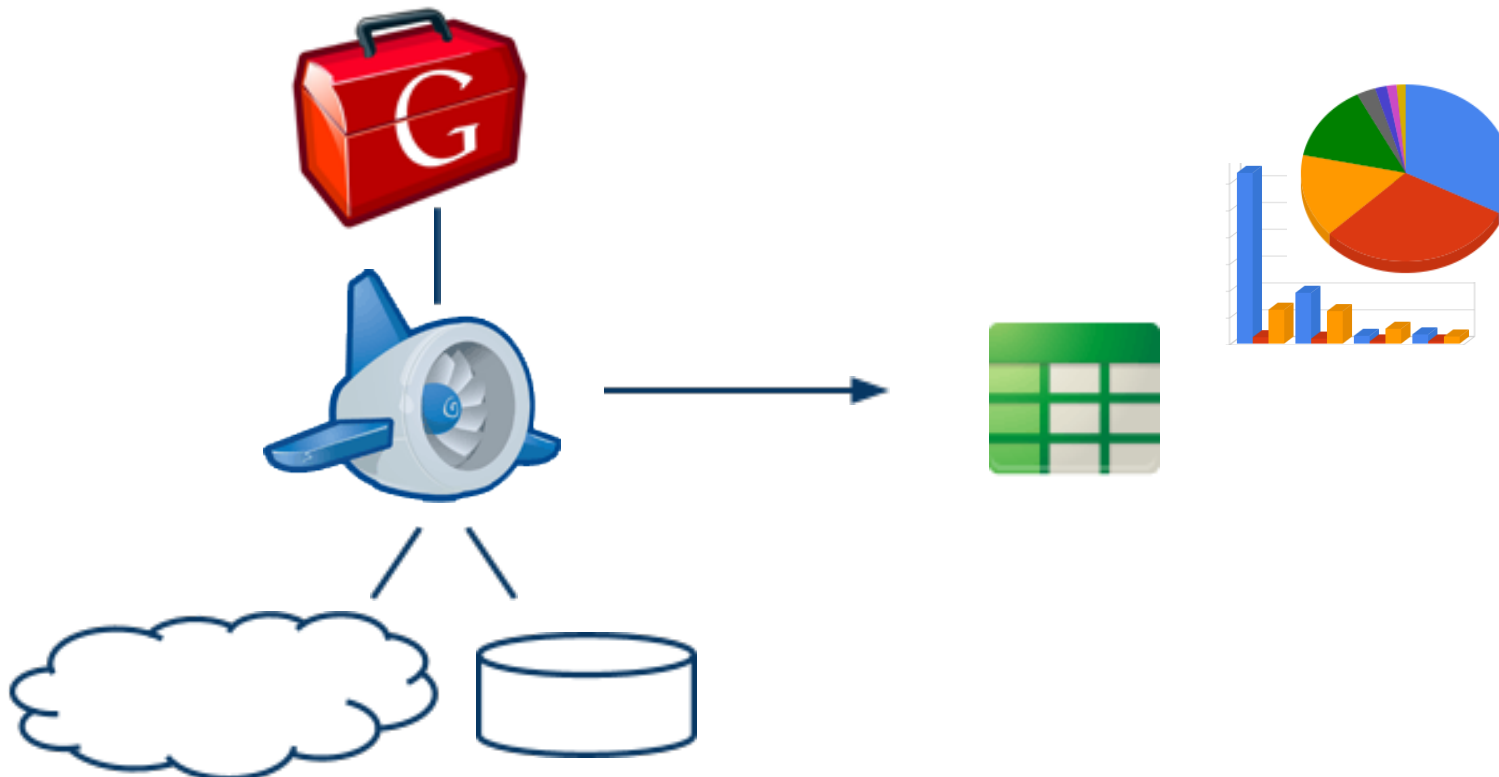
Administrative APIs

- Provisioning
- Reporting
- Admin settings
- Email settings
- User profiles
- Audit

Example: Performance reporting / visualization

NEED: Ad hoc reports, rich visualization, secure, sharable
SOLUTION:

- Google Web Toolkit for constructing queries
- Google App Engine for reporting logic
- Google Data APIs to populate a spreadsheet with report data
- Use spreadsheet for sharing, visualization, dashboard publishing





Cloud Sherpas

David Hoff, CTO

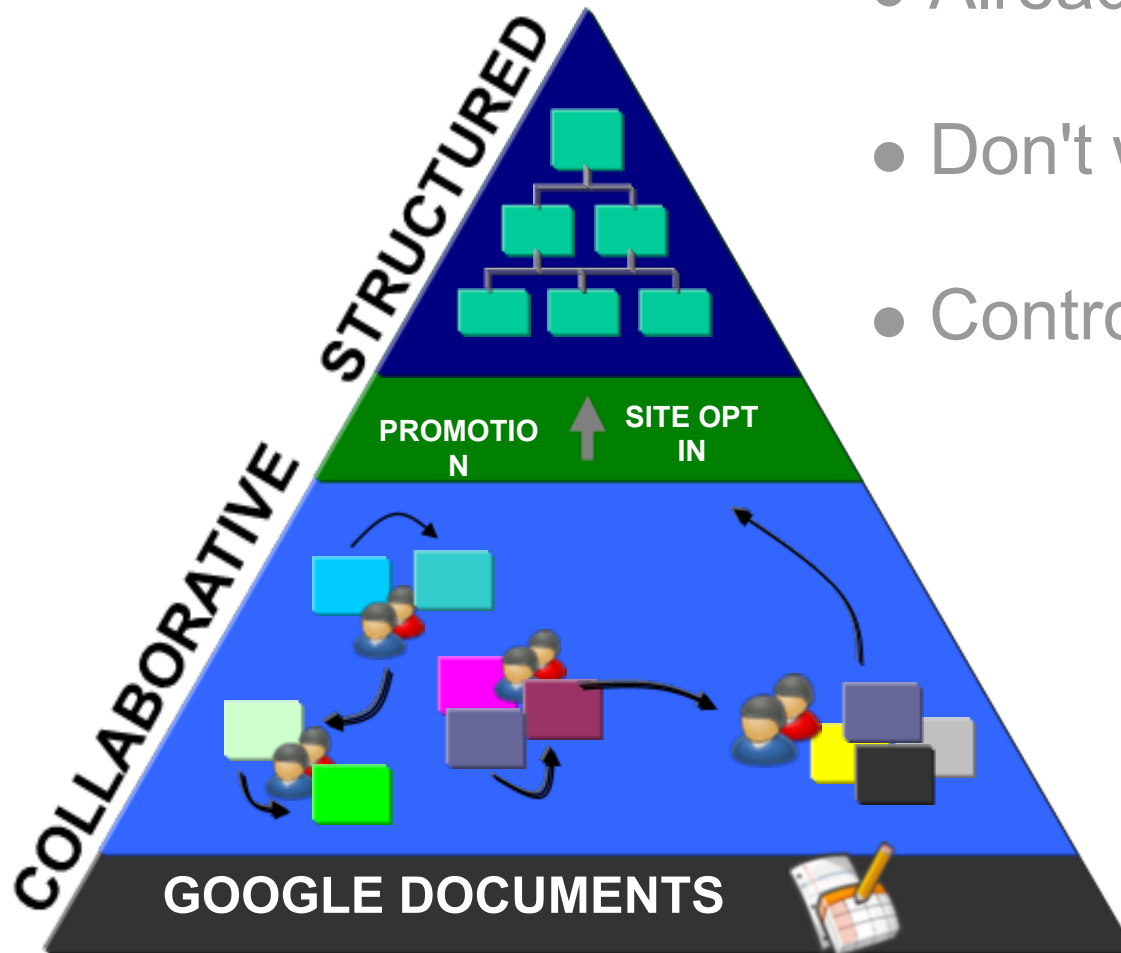
CHEP Intranet Challenges & Opportunities

- Multiple, disparate technologies
 - Open text (CHEP)
 - SharePoint (Recall)
 - Bespoke & SAP Enterprise Portal (misc locations)
 - Localized file servers
- Capability mismatch with needs
 - IS involvement required for simple needs
 - Poor search results
 - Taxonomy unmanageable
 - Content responsibilities unknown/unattended
 - Navigation redundant, lengthy and confusing

"It was like a large building with no residents"

Dale Tuck - Applications Director CHEP

Intranet Vision



- Already using sites & docs
- Don't want to stifle productivity
- Control corporate content



Search all sites

Home About Us Solutions Communications Teams People Regions & Countries Walter Training Jim Ritchie's Corner

Go to the Brambles Intranet

Edit my profile



Earth Day is April 22, 2011

Tim Center speaks on sustainability 11:30-12:30 lunch provided



Earth Day 2011

All CHEP employees in the Orlando area are invited to hear a presentation by Tim Center, Director of Sustainable Florida...

Quick Links

Walter Launch Video



Click here if you are having trouble playing the video

Brambles News

See All

Announcement - CHEP Information Systems restructure (4/6/2011)

Brambles Bulletin - Brambles successfully completes the acquisition of IFCD Systems (4/3/2011)

CHEP Americas News

See All

Required Safety Training Reminders (4/6/2011)

People Search



Search input field

SEARCH

Share Price (AUD)

A\$ 6.98

Change: +0.050 4/21/2011

Refresh Quote

This price is delayed by at least 20 minutes and is sourced from Yahoo! Finance.

Upcoming Events

See All

WBENC National Conference 2011 June 21-23 Las Vegas, NV

CPS Produce Research Symposium 2011 June 28, 2011 Orlando, Florida

United Fresh Summit 2011 May 2-5 New Orleans, LA

Wal-Mart 6th Annual Packaging Exposition 2011 April 12-13 Rogers, AR

Ozark Food Processors Exposition 2011 April 6-7

World Meeting Planner

Schedule



Feedback

Submit a request for your own site.

Managed Gadgets

"...gadgets that receive data from users authorized to submit changes to the site where they are located..."

- Based on JavaScript
- Dynamic capabilities
- Centrally managed
- Consistent Content

The screenshot displays the 'Brambles CHEP Sites Administration' interface. The main heading is 'Tools and Info'. A left-hand navigation menu includes 'Home', 'Gadget Specs URL List' (with sub-items for various environments like 'Production', 'Staging', 'AP', 'AP Staging', 'EMEA', 'EMEA Staging'), 'Gadget Whitelist Tool' (highlighted), and 'Sitemap'. The main content area is titled 'Gadget Whitelist Tool' and features a 'Domain Gadget Directory Manager' section. This section has tabs for 'Public Directory', 'Private Directory' (selected), 'Private Categories', and 'Directory Preview'. Below the tabs, there is a text prompt: 'Select private gadgets to publish to and unselect private gadgets to unpublish from the private gadget directory.' followed by a 'Refresh' button. A table lists several gadget files with corresponding 'Publish' or 'Unpublish' links:

Gadget File Name	Action
gadget-announcement-slider_v2.xml	Unpublish
gadget-announcements-links.xml	Publish
gadget-brambles-customer-experience-headlines.xml	Publish
gadget-brambles-headlines.xml	Unpublish
gadget-brambles-intranet-headlines.xml	Unpublish
gadget-brambles-intranet-logo.xml	Unpublish
gadget-brambles-intranet-news.xml	Unpublish
gadget-brambles-intranet-quicklinks.xml	Unpublish
gadget-brambles-intranet-staging-headlines.xml	Unpublish

Detailed Look

Go to the [Brambles Intranet](#)

[Edit my profile](#)



-- Quick Links --

Have you visited Jim Ritchie's Corner?

BLOG

The power of knowing your customer

Last week I had the opportunity to call on a customer that I called on almost a year ago. As many of you know, a year ago we were working hard to regain our credibility and trust with many customers and this one was no different. Read Jim's entire blog. [▶▶](#)



Walter Launch Video



Brambles News

[See All ▶▶](#)

[Announcement - CHEP Information Systems restructure \(4/6/2011\)](#)

To read Mark Wratten's announcement on the CHEP Information Systems...

[Brambles Bulletin - Brambles successfully completes the acquisition of IFCO Systems \(4/3/2011\)](#)

To read Tom Gorman's Brambles Bulletin on the acquisition of IFCO...

CHEP Americas News

[See All ▶▶](#)

[Required Safety Training Reminders \(4/6/2011\)](#)

As part of our Safety Training support efforts, the following is a

People Search



SEARCH

Behind the scenes

Go to the [Brambles Intranet](#)

[Edit my profile](#)

Google Gadget

"Logo Gadget"

Google Gadget

"QuickLinks Gadget"

Google Gadget

"CHEP Slider Gadget"

Google Gadget

"CHEP Video"

Google Gadget

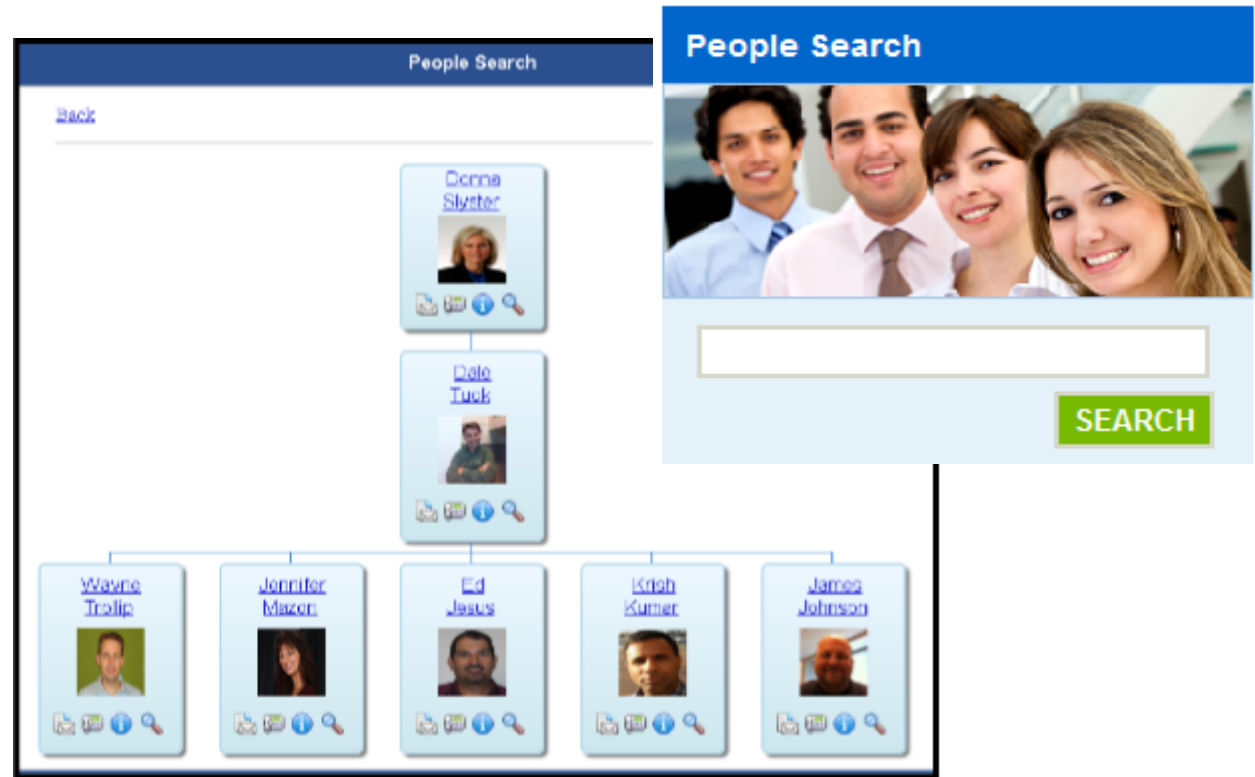
"News"

Google Gadget

"People Search"

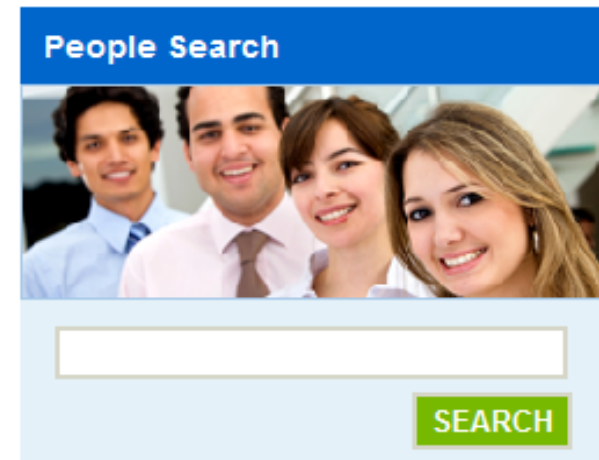
People Search

- Google App Engine
- GWT
- Reusable
- Search
- Directory profile
- User self editing
- Visualizations API



People Search

- Google App Engine
- GWT
- Reusable
- Search
- Directory profile
- User self editing
- Visualizations API



People Search Data Flow

- Active Directory to Google User Profiles via GADS
- User Profile to People Search via API
- Direct End User Edits
- Results published via Search Appliance Feed
- Federated Search of People & Content



Sites Creation Workflow In Action

google.com https://spreadsheets.google.com/a/macros/chep.com/exec?service=AKfycbxFOM

Date Created: 05/04/2011 11:39:03

Created By: walter.notification@chep.com

Request ID: 1304534343584

Request Status: Active

Site Template: CHEP-Project-Site-Template

Site Title: *

Site Purpose: *

Brambles Sites External User Report for: 04/24/2011 Inbox | X

★ walter.notification@chep.com to david.besier, krish.kumar, sian.thompson [show details](#)

Hello Governance Committee,

The External Site Identifier Script has run and identified the following sites that are available to external users and can be shared outside of the CHEP, Brambles, or Recall domains.

Site Name: global-customer-experience-insight-council
 Site URL: <https://sites.google.com/a/brambles.com/global-customer-experience-insight-council/>
 Site Owner(s): carey.sealy@brambles.com, david.besier@brambles.com, russell.liss@chep.com, sheila.farrier@brambles.com
 Domain(s) Shared With: writerstew.com
 Date Discovered: 12/08/2010

Site Name: brambles-ifco-integration
 Site URL: <https://sites.google.com/a/brambles.com/brambles-ifco-integration/>
 Site Owner(s): david.besier@brambles.com, sheila.farrier@brambles.com, janet.m@gmail.com

Site Summary Description: * (Enter a

Intended Audience: * (Who is

Submit

Site Name	Site Domain	Form Status	Site Owner(s)	External Domains	Date Created
co2	chep.com	Submitted	carlos.estecha@chep.com		5/4/2011 3:03:14
business-continuity-planning	chep.com	Submitted	jonathan.hatswell@chep.com-robert.port		5/4/2011 3:03:26
finance-emea	chep.com	Submitted	angela.parryjones@chep.com-jonathan.f		5/4/2011 3:06:45
fms-team	chep.com	Submitted	amy.schuh@chep.com		5/4/2011 3:06:53
fms-team-site	chep.com	Submitted	amy.schuh@chep.com		5/4/2011 3:07:00
chep-career-pathing	chep.com	Submitted	jaclyn.pinsoneault@chep.com-vanessa.t		5/4/2011 3:07:14
hiring-manager-resource-center	chep.com	Submitted	jaclyn.pinsoneault@chep.com-vanessa.t		5/4/2011 3:07:22
human-resources-career-pathing-project	chep.com	Submitted	vanessa.bouffard@chep.com		5/4/2011 3:07:30
marketing-by-vanessa	chep.com	Submitted	vanessa.bouffard@chep.com		5/4/2011 3:07:37
nbv	chep.com	Submitted	vanessa.bouffard@chep.com		5/4/2011 3:07:50
project-bow-wave	chep.com	Submitted	derek.hannum@chep.com-vanessa.bouf		5/4/2011 3:07:57
team-based-customer-operations-orlando-office-days	chep.com	Submitted	chris.lichterman@chep.com-patrick.jack		5/4/2011 3:08:05
testtest	chep.com	Submitted	vanessa.bouffard@chep.com		5/4/2011 3:08:12
vanessa	chep.com	Submitted	vanessa.bouffard@chep.com		5/4/2011 3:08:18
vanessa-in-marketing	chep.com	Submitted	vanessa.bouffard@chep.com		5/4/2011 3:08:25
rudida	chep.com	Submitted	andrew.rudd@chep.com		5/4/2011 3:11:42
logistica-fuenlabrada	chep.com	Submitted	joemaria.sagulosegovia@chep.com		5/4/2011 3:11:49
proactive-team	chep.com	Submitted	shane.davies@chep.com		5/4/2011 3:11:57
finance-knowledge-base	chep.com	Submitted	gino.sorrentino@chep.com		5/4/2011 3:12:03
central-europe	chep.com	Submitted	angela.parryjones@chep.com-petr.panac		5/4/2011 3:12:10
net-promoter-score-emea	chep.com	Submitted	angela.parryjones@chep.com-michaela.		5/4/2011 3:12:25
customer-on-boarding	chep.com	Submitted	kimberly.lacy@chep.com		5/4/2011 3:12:30

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sheet (<https://spreadsheets.google.com/a/chep.com/ccc?key=0A...pwQWc&hl=en>) to approve or deny external access.

Lessons Learned

- Involve stakeholders and users in every step
- Prioritize needs, plan in phases, release and re-evaluate
- Automate promotion process using APIs
- Gadgets for dynamic content (reuse where possible)
- Use groups to manage access
- Master "admin" user to own solution content
- App Engine is ideal hosting platform!
- Consider and test security at every phase

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