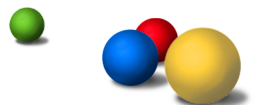




# How We Built Google Calendar

Carl Sjogreen, Product Manager  
September 2006



# Agenda

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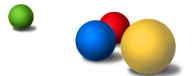
- What You Should Expect From This Talk
- The Road to Google Calendar
- Key Insights: Hindsight is 20-20
- Questions



# What You Should Expect From This Talk

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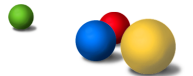
- Give you a picture of how Google Calendar came into being
- Share some insights we learned that apply to most web products / companies
- NOT a “how we put the HTML together kind of talk”



**Before we begin...**

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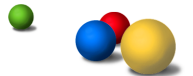
How many people have used Google Calendar here?



**Demo**

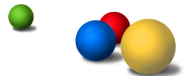
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Quick Demo



# The Road To Google Calendar

- In the beginning...
  - A largely “classic” Google product team
  - 1 product manager and 3 engineers
  - Origin from both from customer feedback & internal interest
  - Seemed like a space with little innovation – nothing out there was “right”
- Okay, now I’ve got a team and a vague idea...
  - “Google should do something in the Calendar space”



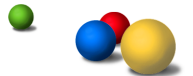
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What now?

# The Road to Google Calendar: Talking to Customers

- First thing's first – go talk to “real” customers
  - Sounds cliché, but it's amazing how little it's really done
  - “real” customers, not your silicon valley geek buddies
- Spoke to many people, sometimes even in their homes
  - Students, families, schools, working couples, PTA organizers
  - Tried to find a whole spectrum of different technical backgrounds
  - Keep probing: Busy is not the same as “needs a calendar”
- Key themes emerged quickly
  - Calendars are *necessary* but just a *chore*
  - Calendars are really *personal & emotional*
  - Calendar “collaboration” is just *too hard*



# The Road to Google Calendar: Our Vision

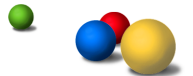
(it's important to have one)

- Set out to build a calendar that works for you
  - Fast, visually appealing, and joyous to use
  - Drop dead simple to get information into the calendar
  - More than boxes on a screen (reminders, invitations, etc.)
  - Easy to share so you can see your whole life in one place
- Designed for a *consumer* world where not everyone has a calendar (or one on the same system)
  - Open APIs (import and publish)
  - Invitations for everyone



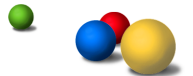
# The Road to Google Calendar: Development

- Vision in hand, we set off to turn an idea into reality!
- Lots and lots of prototyping
  - Relatively easy to get a basic system up and running; details are hard
  - Focused on getting interactions and user model right before thinking about scale (a significant challenge for us)
- Internal Use: Pros & Cons
  - Got a ton of great feedback from other Googlers
    - Got the interaction basics right & generated a lot of feature ideas
  - However, keep in mind that your early users might not be your target users



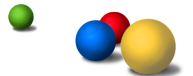
# The Road to Google Calendar: Development

- Once we felt we had it mostly right, worked on making it real
  - Backend infrastructure designed for scale
  - Front-end / UI rewrite to pixel perfect mocks + static HTML
  - Doing all the hard parts (recurrences, parsing icals, API testing, interop, etc.)
- Worked on our UI design in stages as well
  - Get the interactions down and try them out
  - Focus on the look & feel while engineers are making it real
  - Save the pixel pushing for when you know you have it right



# The Road to Google Calendar: Launching

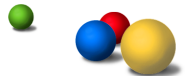
- Private betas are a Good Thing
  - Even with all our internal testing, we learned a ton from testing with a small group of “real users”
    - Quickadd improvements (being smart isn’t always best)
    - Underestimated the importance of import
    - Fixed a bunch of issues with SMS alerts
    - Better support for small screens
- Launch day: 4/12/06
  - Flipped the switch, and didn’t sleep for the next 36 hours!



# Key Insights

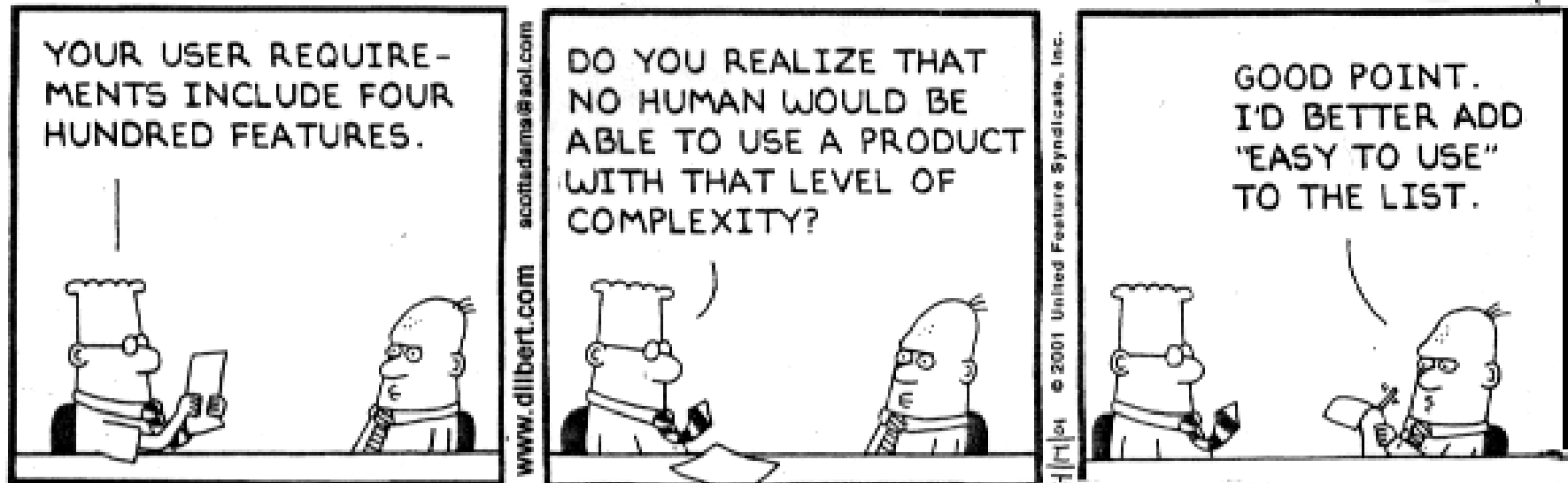
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6 key insights that might be useful for your next product or company



# Insight #1: Easy is the Most Important Feature

**DILBERT** by Scott Adams

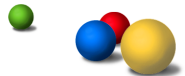


# Insight #1: Easy is the Most Important Feature

“Simple things should be simple, and complex things should be possible”

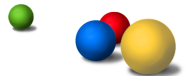
Alan Kay, Disney Fellow and VP of R&D, The Walt Disney Company

- Always have an eye on the minimum useful feature set that most people will use
  - Talking to a grandma in NYC
  - A mother loves quickadd (& then prints out the calendar for the fridge)
- Product usage tracks directly to how easy a feature is to find & use
  - Creating calendars = easy
  - Finding calendars = not easy enough
- Figure out what you absolutely have to get right and relentlessly refine it
  - Redesigned the “event page” at least 3 times
  - Kept adding new ways to get events into the system up until days before we launched
- Don’t spend too much time on the less important areas
  - Know where you’ll get the most bang for the buck



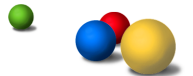
# Insight #2: Know Your Real Competition

- Know what your competition does well
  - We spent a lot of time looking at the market – online and desktop
- But, the competition that keeps me up at night is paper
  - **~6 billion** people in the world, all who have things going on in their lives
  - **~300 million** desktop calendar users (mostly at work)
  - **~10 million** web calendar users
- Clearly the need to “keep track of your time” is being met through other means than electronic calendars



# Insight #2: Know Your Real Competition

- Non-tech and low-tech mechanisms are the way that *most people* communicate and interact
  - Email vs. Evite
  - Notepad vs. Tada Lists
  - The “kitchen calendar” vs. Google Calendar
- Paper has a bunch of great advantages that you need to beat
  - Easy to carry with you
  - Doesn't require boot time
  - Doesn't require a login
- Focus on removing the hurdles to adoption
  - Import, offline, mobile, etc.
  - Mimic the flexibility of paper
- Focus on what the web can do that paper can't
  - Collaboration
  - Access from anywhere



# Insight #3: Visual Design Matters

Quick Add **NEW!**

Create Event

My Calendar

- Active Events
- Declined Events
- All Day Events

Favorite Calendars

Add a calendar

« 12/2006 »

• 26	27	28	29	30	1	2
• 3	4	5	6	7	8	9
• 10	11	12	13	14	15	16
• 17	18	19	20	21	22	23
• 24	25	26	27	28	29	30
• 31	1	2	3	4	5	6

« Prev Today Next »

Dec 10 - 16, 2006

Day 4 Days Week Month List

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:00am							
10:00am					Another meeting	A long meeting	
11:00am							
12:00pm							
1:00pm		Some meeting					
2:00pm							
3:00pm							
4:00pm							
5:00pm							
6:00pm				Some other thing			
7:00pm							



# Insight #3: Visual Design Matters

Google Gmail Calendar Photos Spreadsheets all my services » sjogreen@gmail.com | Settings | Help | Sign out

Google Calendar BETA  Search My Calendars [Show Search Options](#)

[Create Event](#) Today **Sep 10 - 16 2006** [Print](#) [Day](#) [Week](#) [Month](#) [Next 4 Days](#) [Agenda](#)

[Quick Add](#)

« **September 2006** »

S	M	T	W	T	F	S
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
1	2	3	4	5	6	7
8	9	10	11	12	13	14

▼ Calendars

My Calendars +

- Carl Sjogreen - Gmail

Other Calendars +

- Pat Jones
- 2006 FIFA World Cup
- AdSense Calendar
- Brett's Flavorpill SF
- Silicon Valley and Bay Area Events
- The Most Awesome Test Calendar Ever

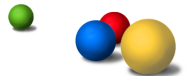
Search public calendars [Manage calendars](#)

	Sun 9/10	Mon 9/11	Tue 9/12	Wed 9/13	Thu 9/14	Fri 9/15	Sat 9/16
8am						PMTS: Deadline for U	
9am							
10am							
11am							
12pm							
1pm	1:00pm Ⓜ Skating the Lake Merced Loop						
2pm							
3pm							
4pm							
5pm							
6pm			6:00pm Ⓜ Women's Bouldering Night				
7pm		7:00pm Ⓜ Roller Soccer		7:00pm Ⓜ Hump Day	7:00pm Ⓜ Roller Soccer		
8pm	8:00pm Ⓜ Bad Movie Night					8:00pm Ⓜ Friday Night Skate	
9pm							

# Insight #3: Visual Design Matters

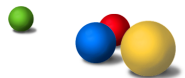
“Great Design” It's that ineffable quality that certain incredibly successful products have that makes people fall in love with them despite their flaws.” Joel Spolsky, Great Design

- Great Design = Usability + Visual Joy
  - iPod vs. everyone else
  - Bang & Olufsen vs. your average stereo
- Usability is clearly essential, but visual design helps create a personal connection
  - Our Stanford student interview
- If you are spending hours a day “living in” a product, it needs to feel good to you
  - What’s your favorite color?



# Insight #4: Build products for people who don't want to use them

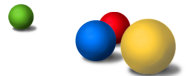
- Not everyone who can benefit from your service actually wants to use it
  - Changing behavior and workflows are very very hard
- Need to make it as easy as possible for people to use your product with as little work as possible
  - Google search and its nearly infinite work/reward ratio
  - Easy to get started *and* easy to use long term
- Get your product in front of the applications people use every day
  - Can you integrate with email in a meaningful way?
  - Can you install something on the desktop (links count)?
  - Can you integrate with Google's applications (home page, toolbar, desktop)?
- And then make it painless for people to start using your product *without* fully switching into a new way of doing things
  - Tried to make a calendar that was useful even for casual users
  - Can use us just as a text message reminder service and never load the calendar



# Insight #5: Timing Launch Properly

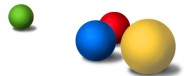
“Launch early and often, but not too early (the first time)”

- Launch early and often is the mantra of web companies
  - It *is* a fundamental structural difference that sets web companies apart from packaged software
- However, the old adage of “you can only launch once” still applies
  - Leverage internal testing and private betas to get feedback early, but...
  - Make sure that you have something worthwhile once you land on digg / techcrunch / etc.
- Launching is hard to do (it’s never an easy call)
  - In our case, expectations were very high
  - Should we have waited for sync for example?
  - Ask yourself if you could really see your target user using what you have at day one, or switching from something else



# Insight #6: Driving Usage

- We have a steady rate of new users signing up daily with very little marketing
  - How?
- Think about how your product can generate touchpoints that extend beyond your app (and make it easy to do so)
  - “Add stuff” from my site – “Remind me with Google Calendar”
  - “Publish stuff” to my site – embeddable calendars
  - “Tell a friend” – invitations & sharing
- Social reinforcement is key for validation
  - My friend telling me to use a product is 10x more valuable than hearing it from the company. Make social reinforcement easy.
- Relentlessly remove account signups
  - This is pretty obvious, but it was surprising to me *how* much of a barrier accounts can be



# Questions

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Questions

