

Google™



Beyond Cut & Paste: Deep Integrations with Google Friend Connect

Arne Roomann-Kurrik & Chris Schalk

5/27/2009

Post your questions for this talk on Google Moderator:

<http://code.google.com/events/io/questions>

Direct link:

<http://bit.ly/beyondcutpaste-questions>



Who We Are

- **Chris Schalk**

- Developer Advocate, Google
- Speaks about the benefits of Google Friend Connect around the world
- Author of *Plane Crazy*

- **Arne Roomann-Kurrik**

- Developer Programs, Google
- Writes samples and documentation for developers
- Author of *The Chow Down*

Who You Are

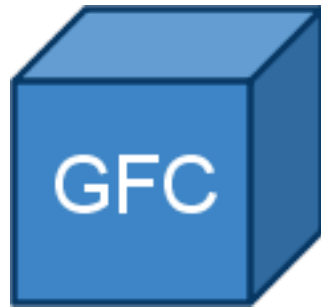
- Web developer
- Experienced working with server-side technology
 - Java, PHP, Ruby, Python
 - SQL, Object Data Store
- Probably have an existing website
 - Users visit your site for a specific theme or activity
 - Existing database of registered accounts
- Heard about Google Friend Connect
 - Don't need a quick integration
 - Have additional questions

You Might Be Interested In How Google Friend Connect...

- Can let you accept sign-ins from several social networks *plus* OpenID
- Can deliver a richer social experience for all of your users
- Enables your users to send invites and notifications to their friends, increasing your site's exposure and growth

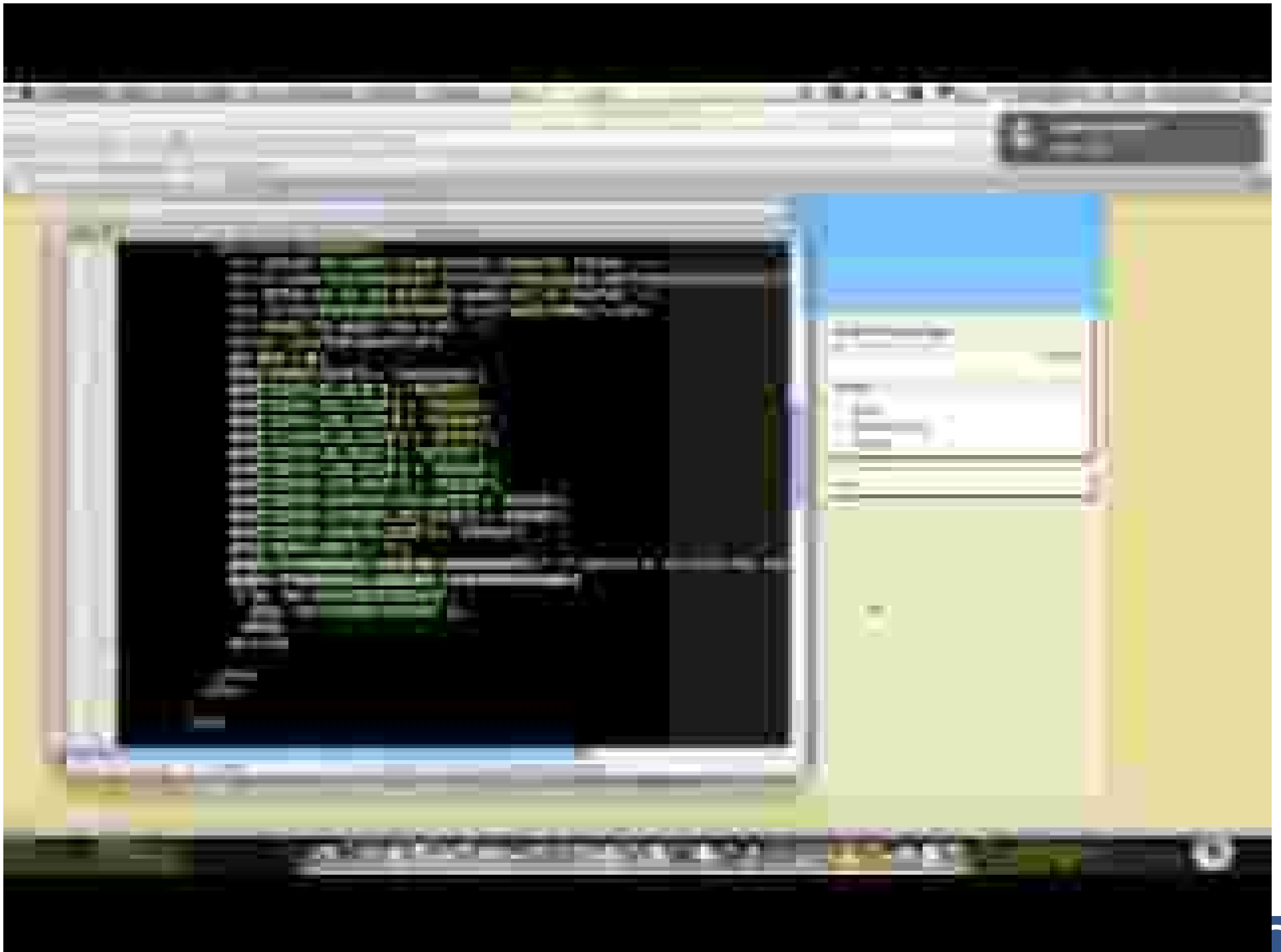
And We're Here To Answer Your Questions!

- Google Friend Connect (**GFC**):
 - Is a "meta" social network
 - Reads/Writes to OpenSocial social networks
 - Reads from Portable Contacts sites
 - Exposes its own OpenSocial developer APIs
 - JavaScript gadgets
 - RESTful server-to-server calls
 - Has no icon:



Demo: "Cut & Paste"

Google Friend Connect



<http://www.youtube.com/watch?v=ty5Q6XF1424>

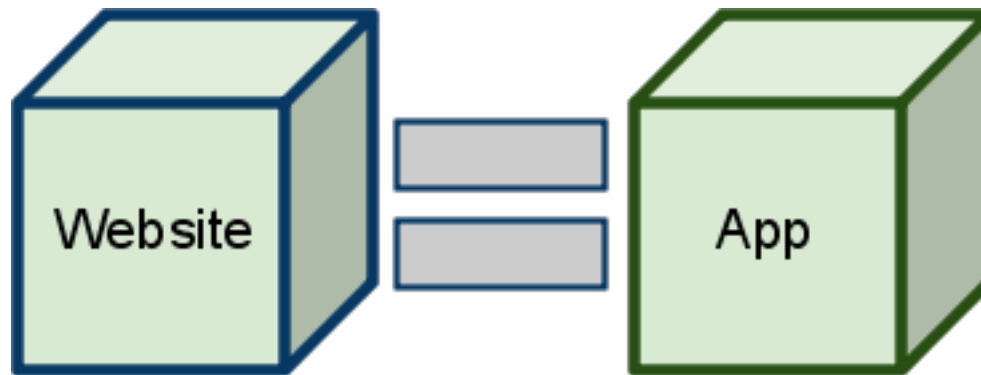




Why Friend Connect?

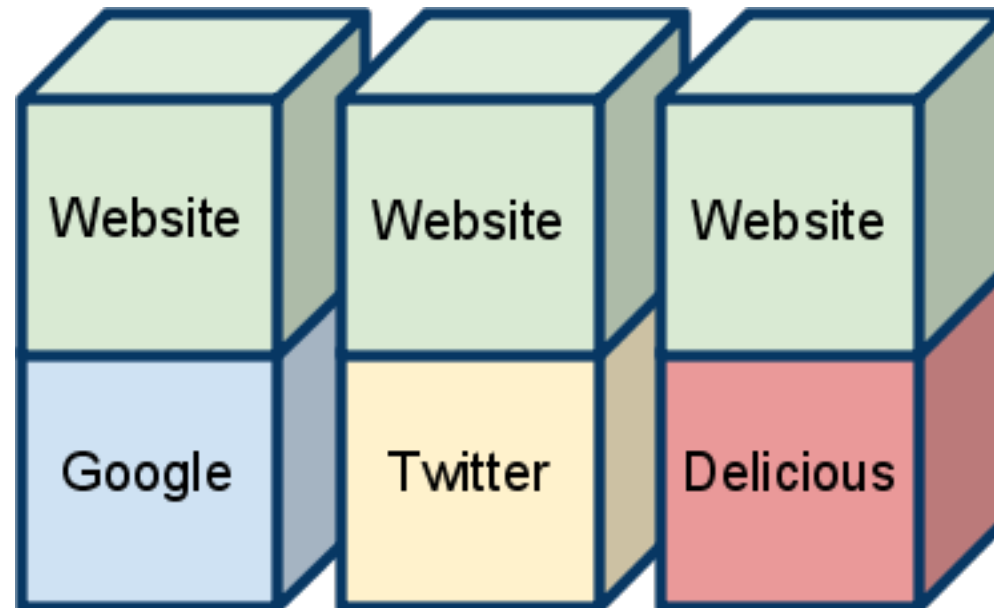
You're Probably A Social Developer Already

- A website is a social app!
 - Use social signals in your content
 - Highlight user generated content on your site
 - Pull data from web services
 - Post notices to social websites



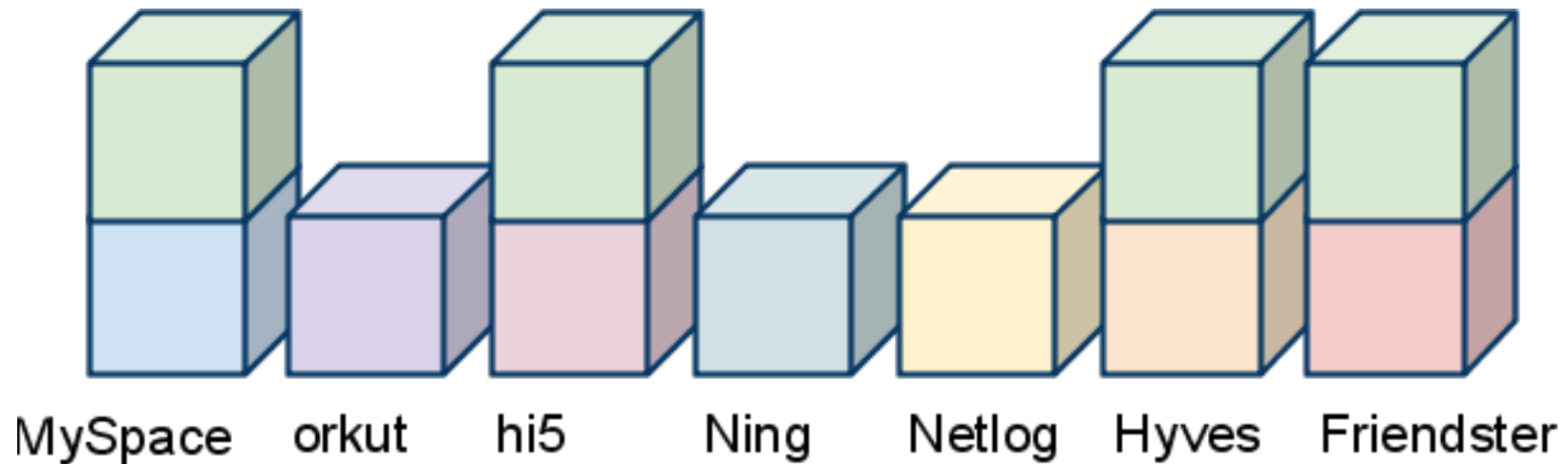
Every Site Has Its Platform(s)

- These interactions are driven by APIs
- These APIs are the platforms for your site
- Users can come from any integration point
 - You must be fundamentally cross platform
 - More than mobile
 - More than desktop



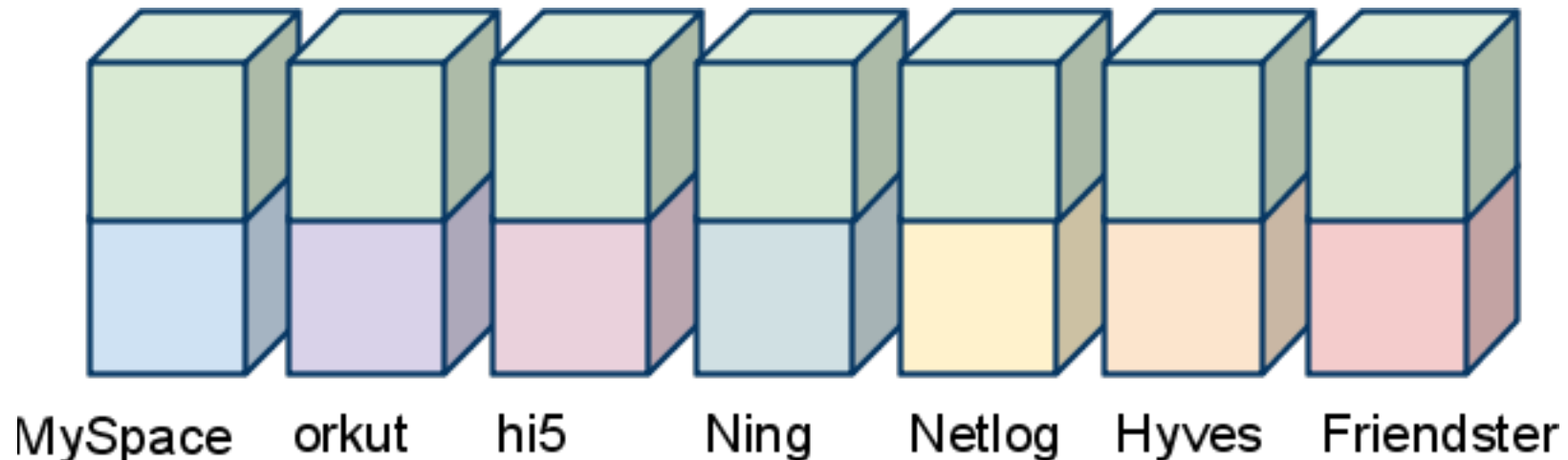
The Web Is Like A Series Of Platforms

- OpenSocial created a standard for writing social apps
 - Access users from several social networks
 - Adoption is fast!



Too Many Platforms?

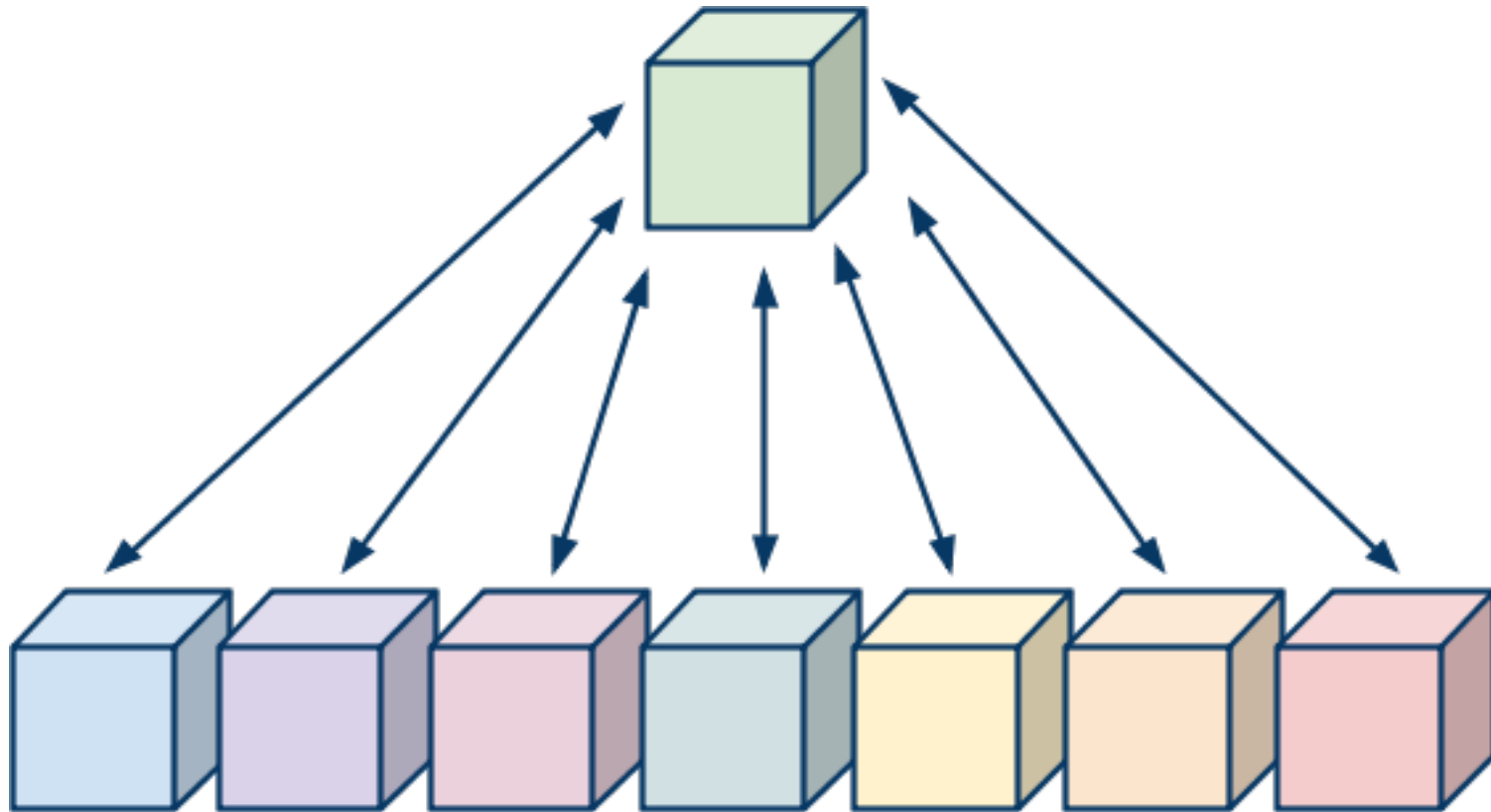
- Fixed costs can be prohibitive:
 - Deployment
 - Cross platform coding
 - Per - platform support
- Traditional cross-platform models stop working



- Don't think "which containers do I run on"!

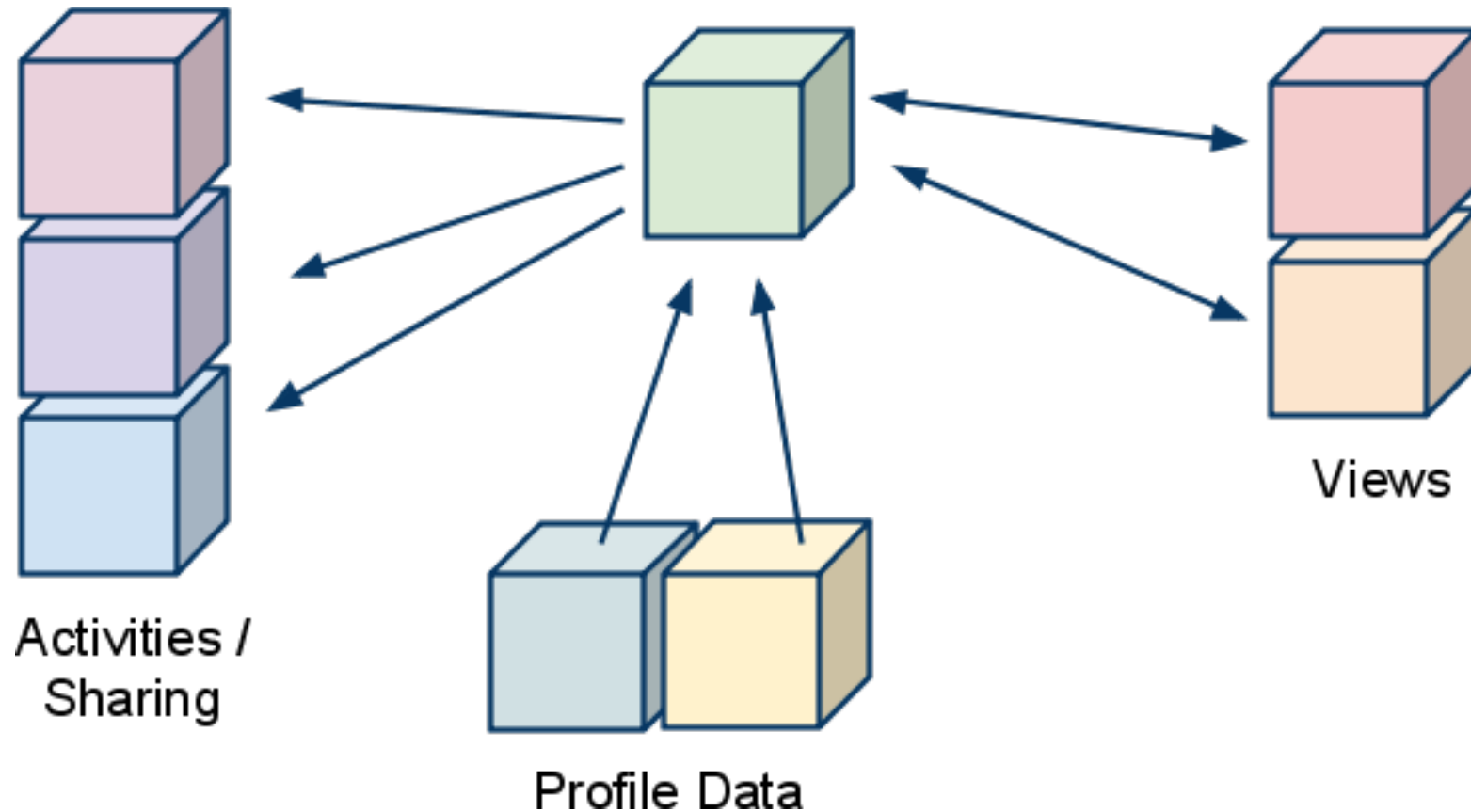
The New Model For Social

- Better to think, "who do I talk to"?...



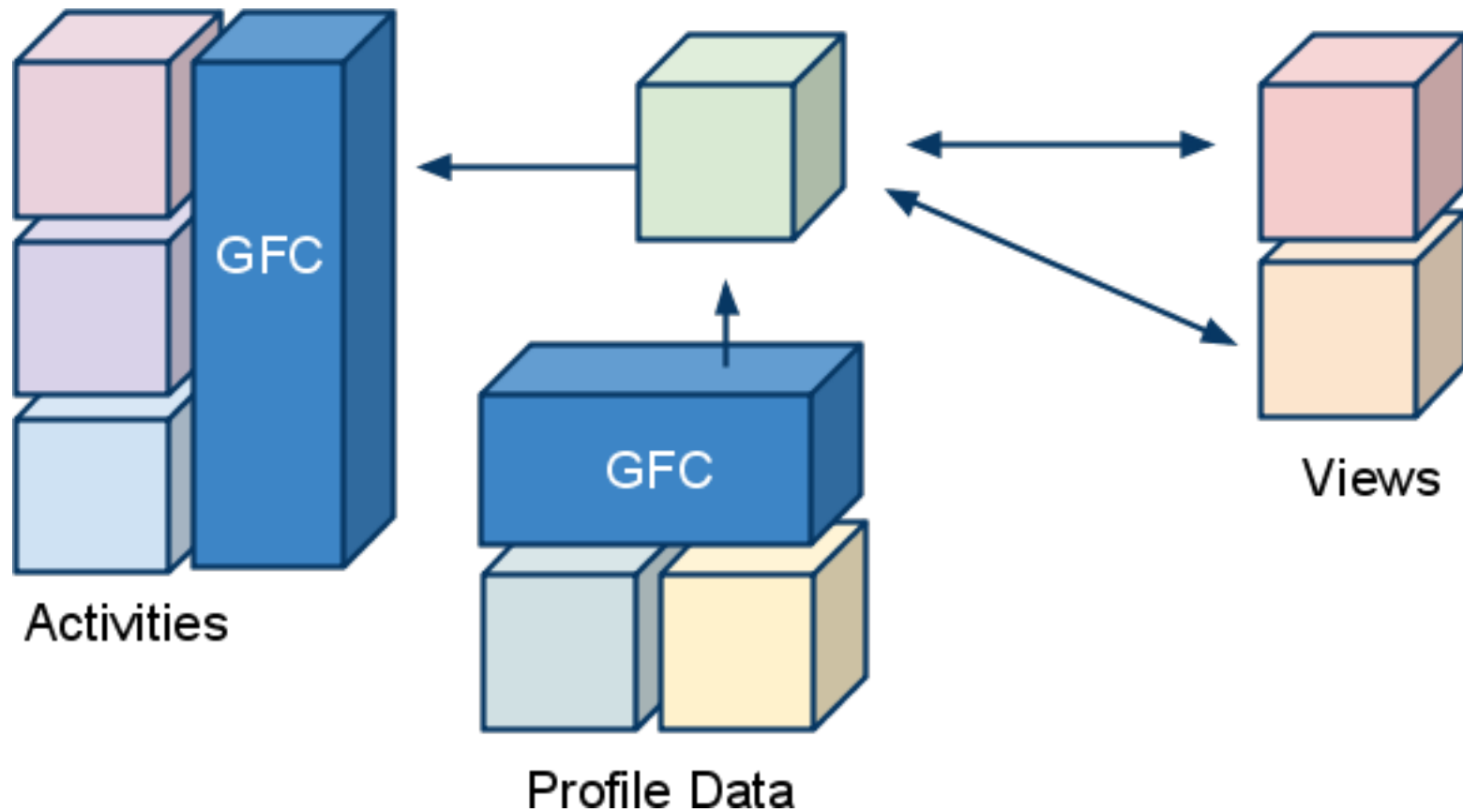
Defining Types Of API Interactions

- ... and how do I talk to them?



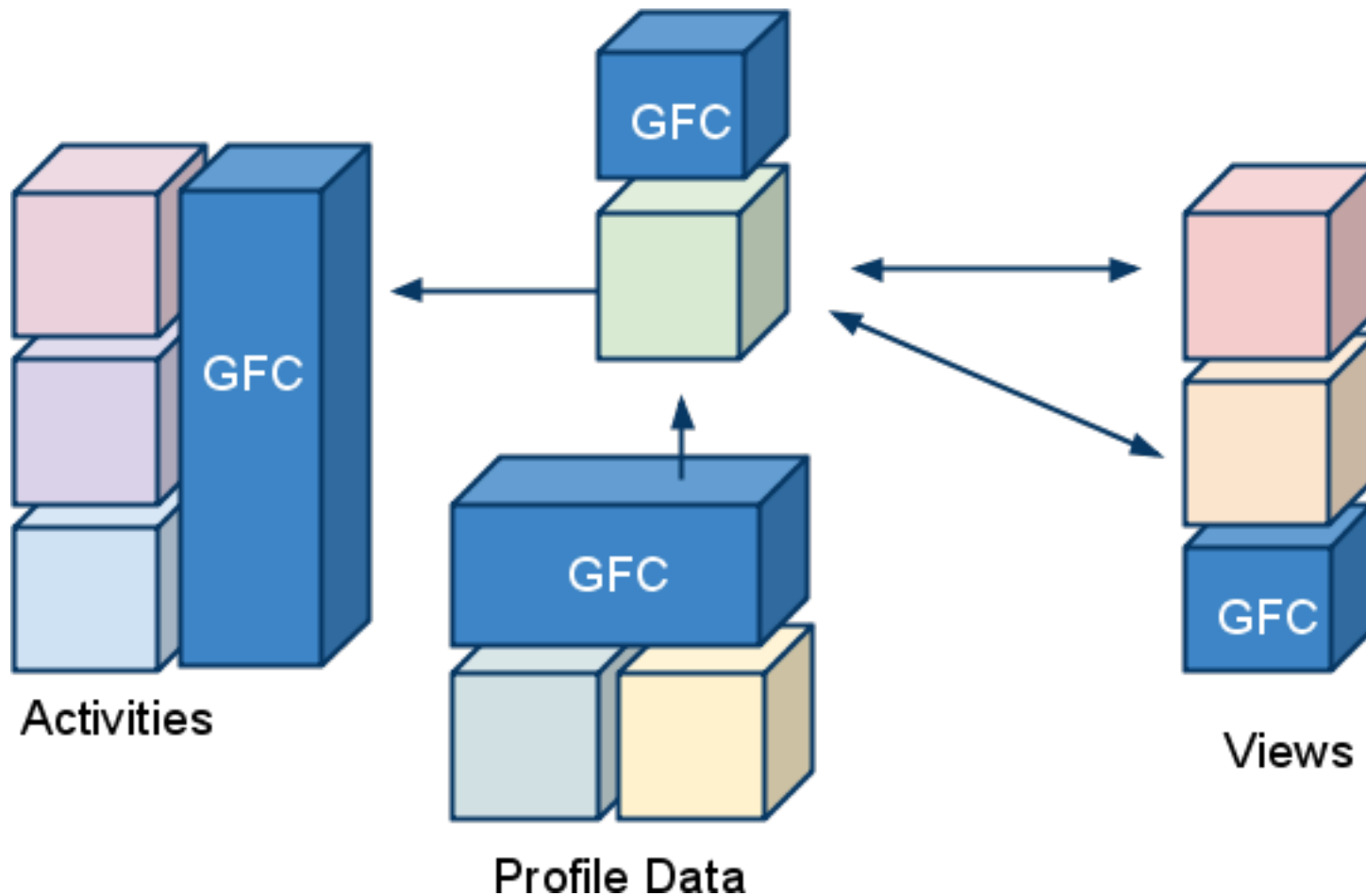
GFC Simplifies Your Development

- GFC lets you talk to one set of APIs to do common tasks...



GFC Adds Value To Existing Infrastructure

- ...and gives you some nice bonuses.



Why On My Server?

ORGANISATION EUROPÉENNE POUR LA RECHERCHE
CERN EUROPEAN ORGANIZATION FOR NUCLEAR

1211 GENÈVE 23 (SUISSE)

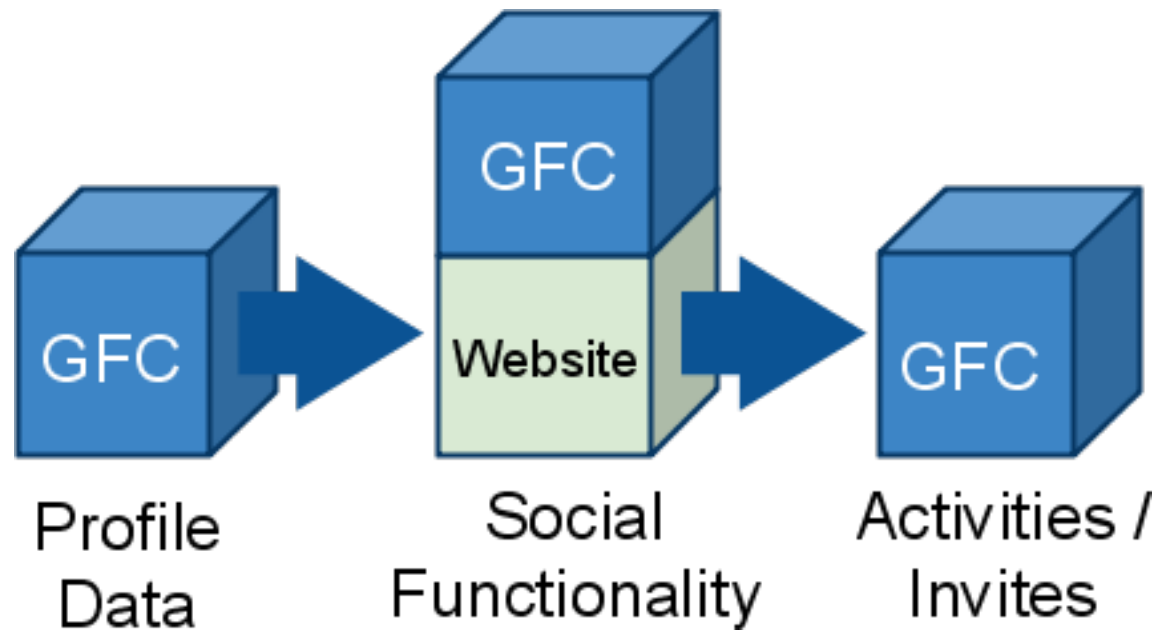
This machine is a server
DO NOT POWER
... DOWN!!

A Deeply Integrated Website:

- Allows Google Friend Connect users to log in for the first time as if they were already registered on the site
- Uses social signals to highlight appropriate content
- Uses content to make new social connections
- Encourages users to share their experiences with the rest of the web

What Does GFC Give My Website?

- GFC is a wrapper between dozens of sites and your own.
- Integrations can be categorized in three ways:



A Simplified Model

- **IN**

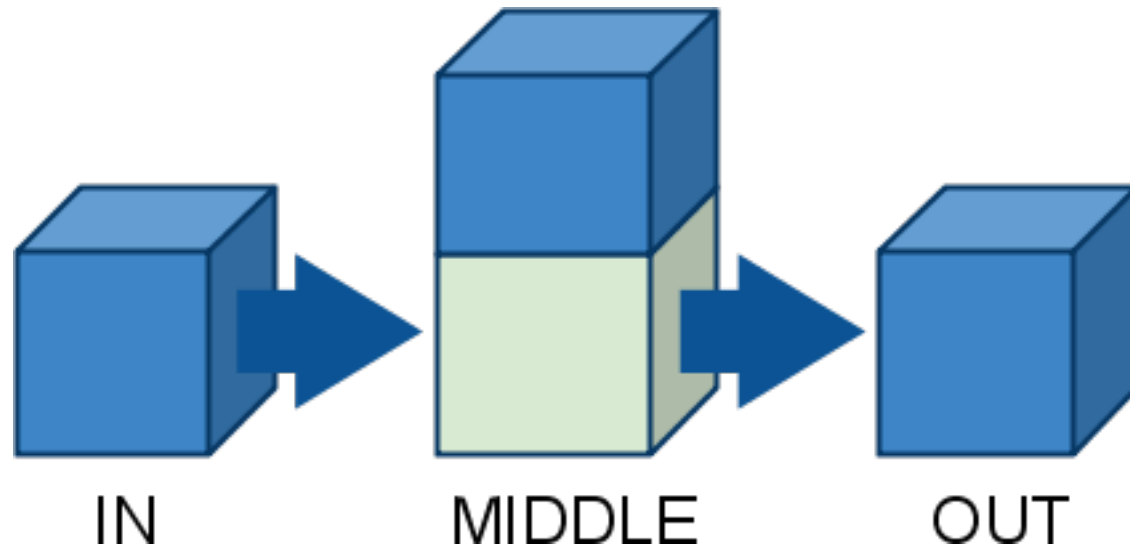
- who can access your site without registering?

- **MIDDLE**

- what can a user do with their friends?

- **OUT**

- where can users share their actions with the web?



The INs

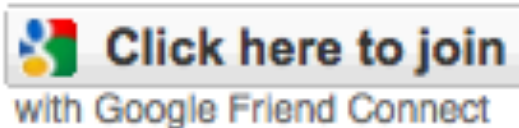


Identity Matters

- **Goal: Allow a Google Friend Connect user to log into your site as if they were a registered user.**
- Steps:
 - Signing In
 - Obtaining Data
 - Storing Data

Signing In

- To allow users to sign in, simply render a button:



- With a simple bit of JavaScript:

```
google.friendconnect.renderSignInButton({  
  'id': 'target-id',  
  'text' : 'Click here to join ',  
  'style': 'standard' });
```


Demo: Creating a sign-in UI for a site with an existing registration system

Public REST Requests

- Much of a site's data is public
- Fetch site info:

```
http://www.google.com/friendconnect/api  
/people/@owner/@self?format=xml&id=<site id>
```

- Fetch site members: @owner/@friends
- Fetch a person's public profile: <user id>/@self
- Play with it! <http://bit.ly/chowdownkurrik>

Acting As A Website

- Sites are issued a **Consumer Key** and **Consumer Secret**
- Using these, your site may authorize **itself** to GFC with **two-legged OAuth**
- Sites may:
 - Read + write App Data for any of their users
 - Request activities to be posted for any of their users
- Good for background processing!



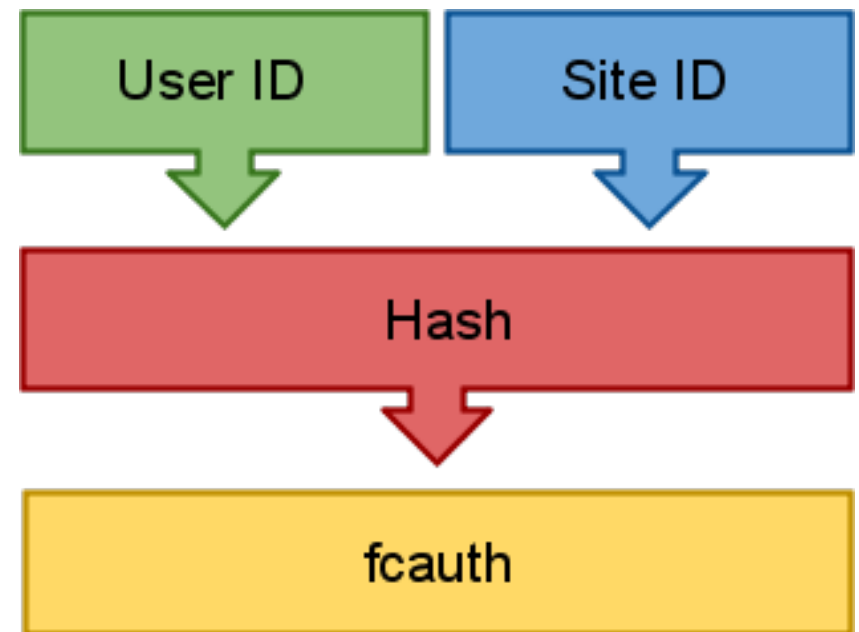
"Finding Yourself"

- Fetching the current user when you don't know their ID:
`/api/people/@me/@self`
- Can't just type that into a browser and expect data back!
 - Still need a user context
 - Expressed through **fcauth** tokens

- Logged in users send cookies named:

`fcauth09788020278569175613`

- The number is your site ID
- The value is the token



Acting As A User

- Now urls which require a context:

```
/api/people/@me/@self
```

- Get on by appending the `fcauth` value:

```
/api/people/@me/@self?fcauth=XXXXXXXXXXXX
```

- Your site can:
 - Read and write App Data for the current user
 - Request activities to be posted for the current user*
- Does not need OAuth!
- Supported by most OpenSocial Client Libraries <http://bit.ly/opensocialclientlibraries>

Demo: Obtaining the fcauth token and making social requests

Gotta Put That Data Somewhere!

- What kind of data will your site deal with?
- How can you structure your data store to handle this data?



Locally Registered Users

- Lives in your data store
- Site-specific profile fields
 - "What's my favorite airplane"
- Probably no friend data



Google Friend Connect Users

- Lives in the cloud
- Uses a common set of profile fields:
 - Thumbnail URL
 - Profile URL
 - "About Me"
 - Custom URLs
- Brings their friends with them



"Offline" Google Friend Connect Users

- GFC users live in the cloud
- Profiles, images, URLs can all change between sessions
- The only static data is the **user ID**



Data Representations

- Your data model must cope with multiple user providers
- Simple way:
 - Add a column to your existing users table:

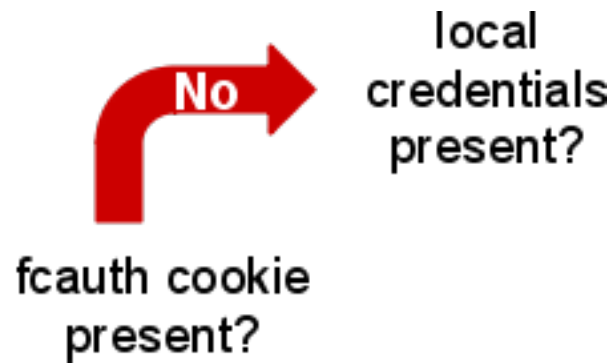
| ID | GFC ID | User Name | Favorite Airplane | ... |
|-----|-------------|-------------|-------------------|-----|
| 1 | 15243 | arne | Cessna 152 | ... |
| 2 | 90832 | <i>Null</i> | Piper Warrior | ... |
| 3 | <i>Null</i> | chris | Cessna 172 | ... |
| ... | ... | ... | ... | ... |

Demo: Storing site data keyed to a GFC user. Building "My Favorite Airplane".

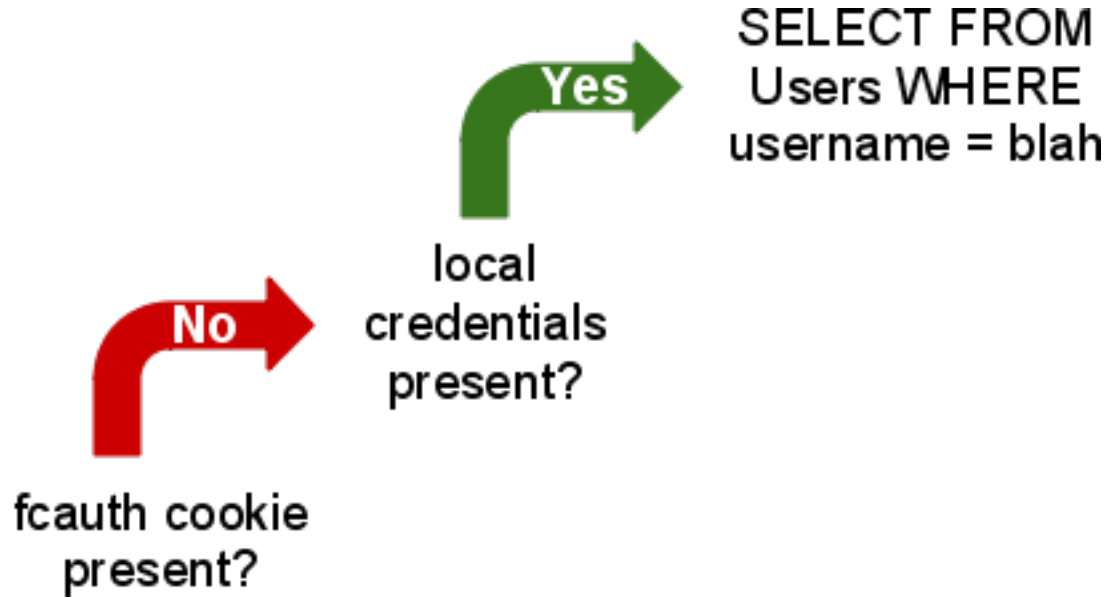
Who Is Logging In?

fcauth cookie
present?

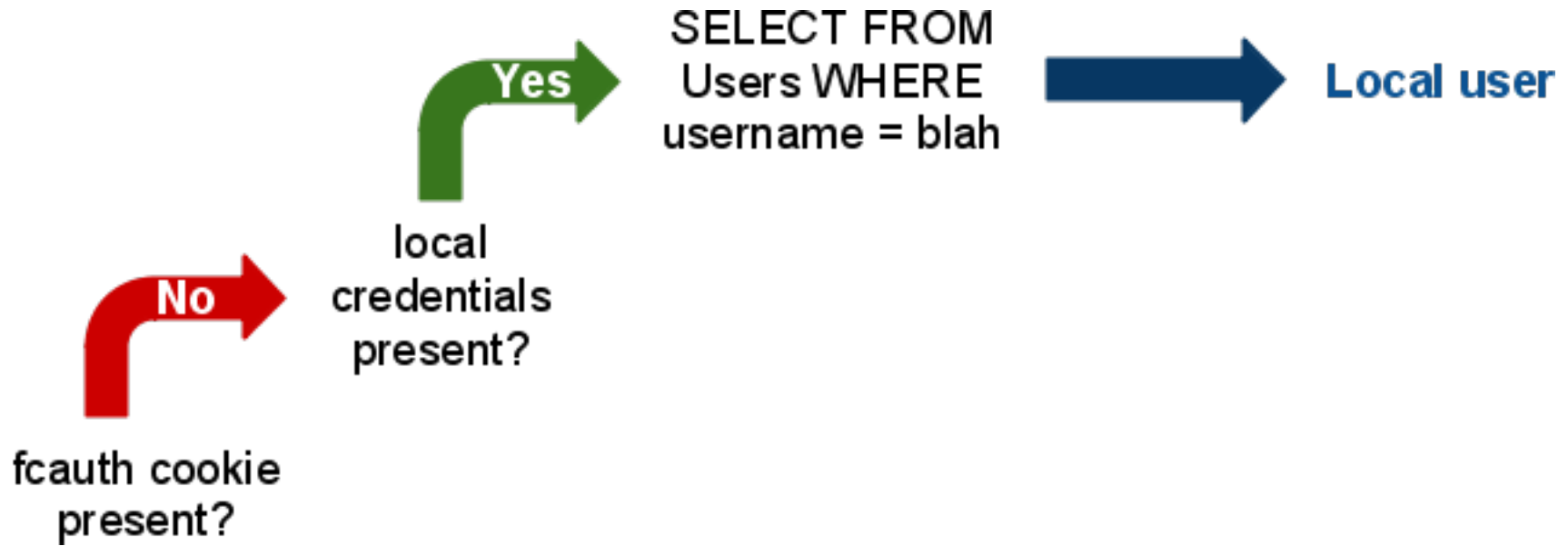
Who Is Logging In?



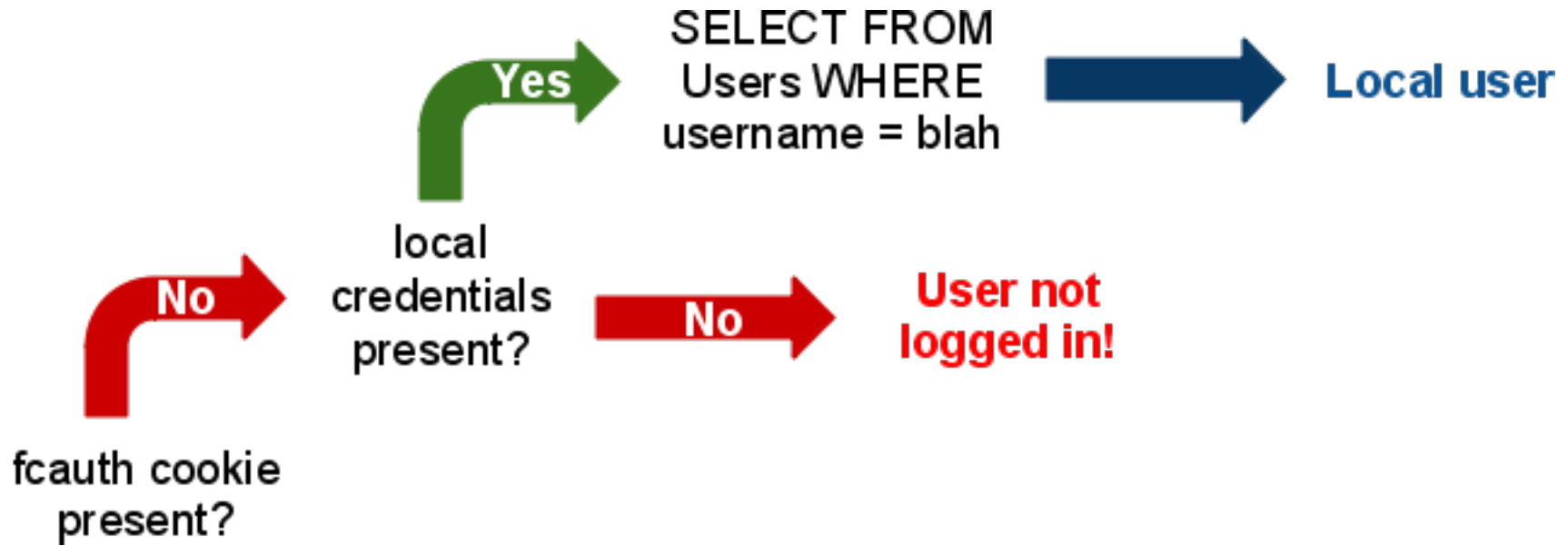
Who Is Logging In?



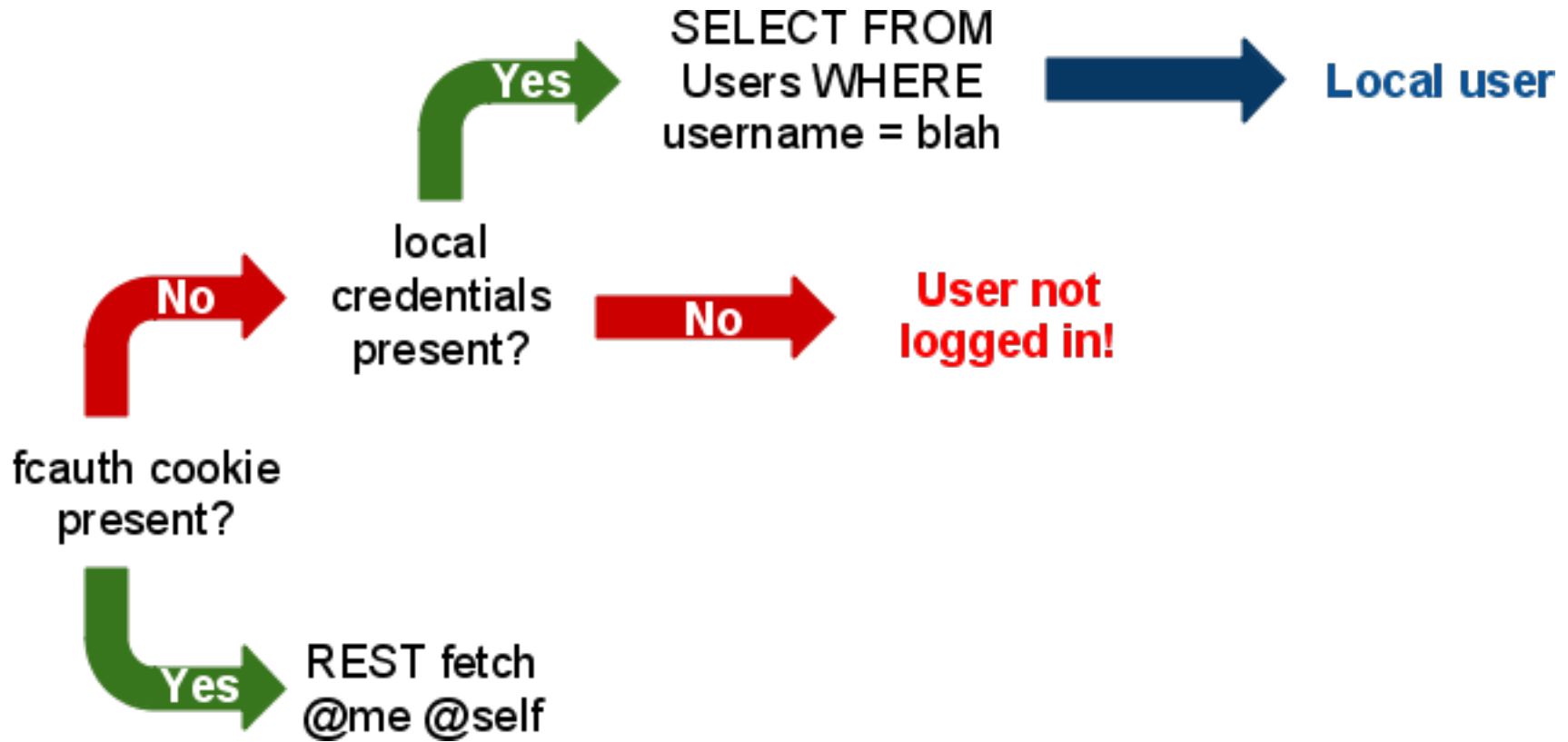
Who Is Logging In?



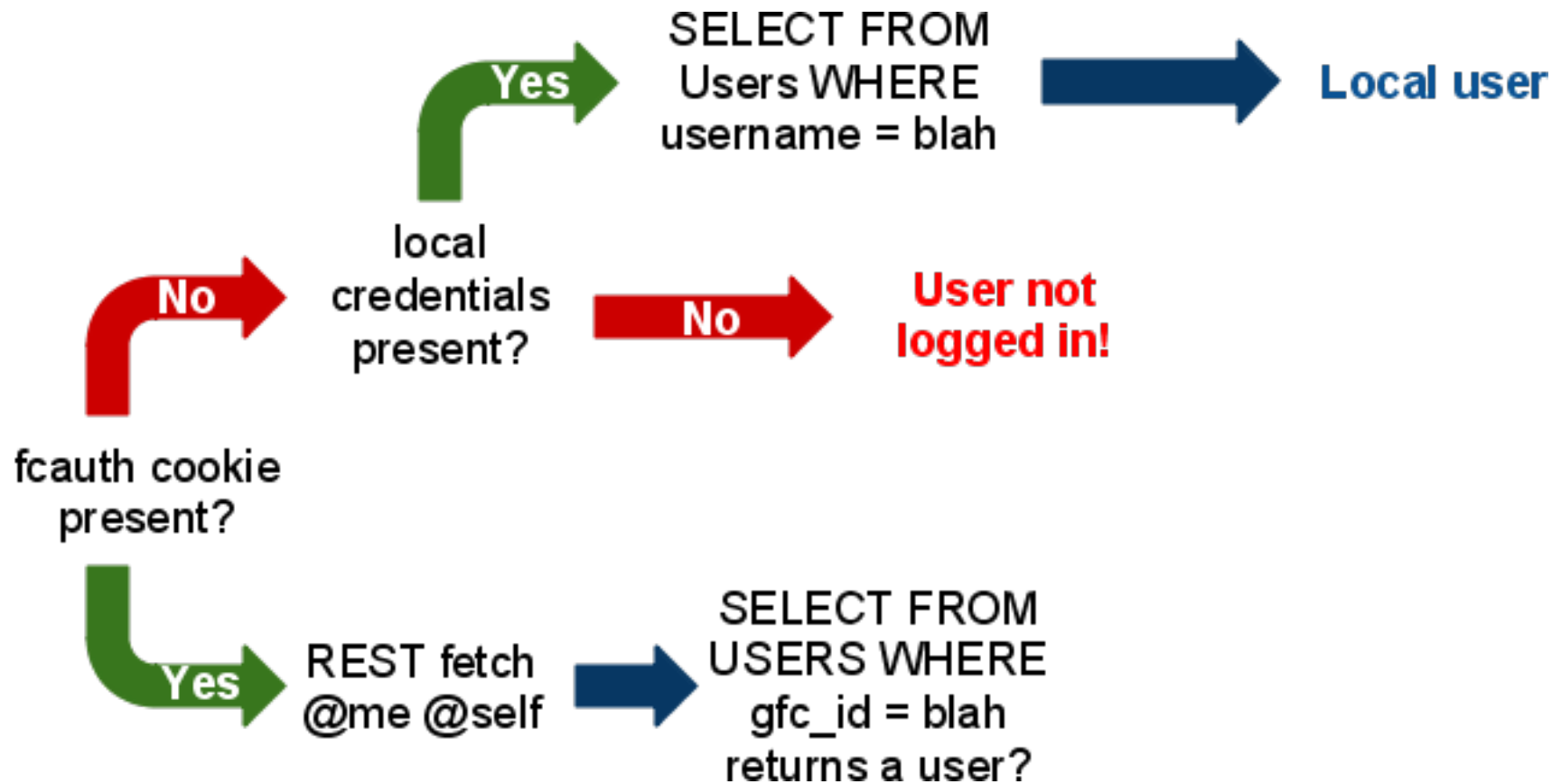
Who Is Logging In?



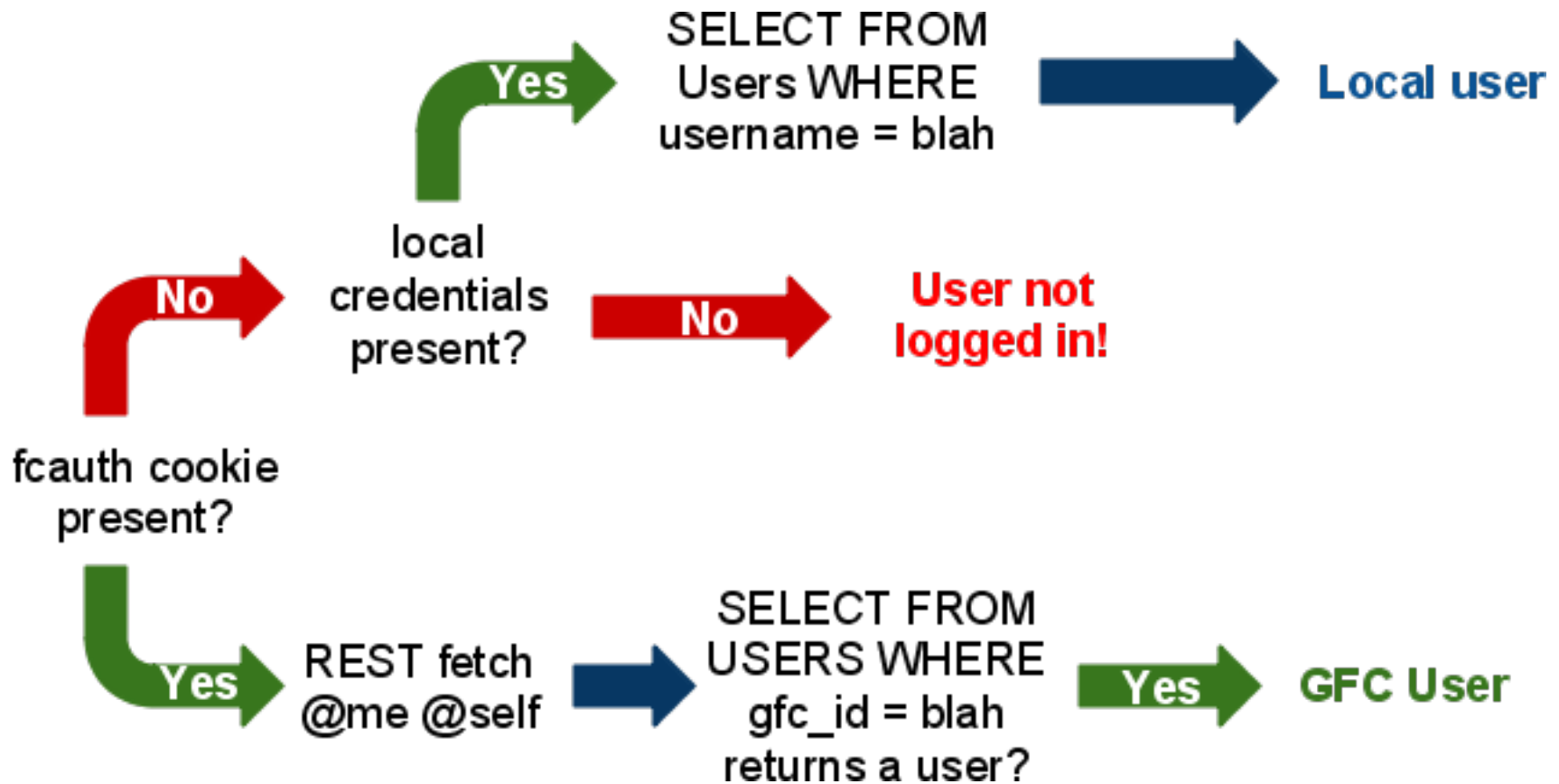
Who Is Logging In?



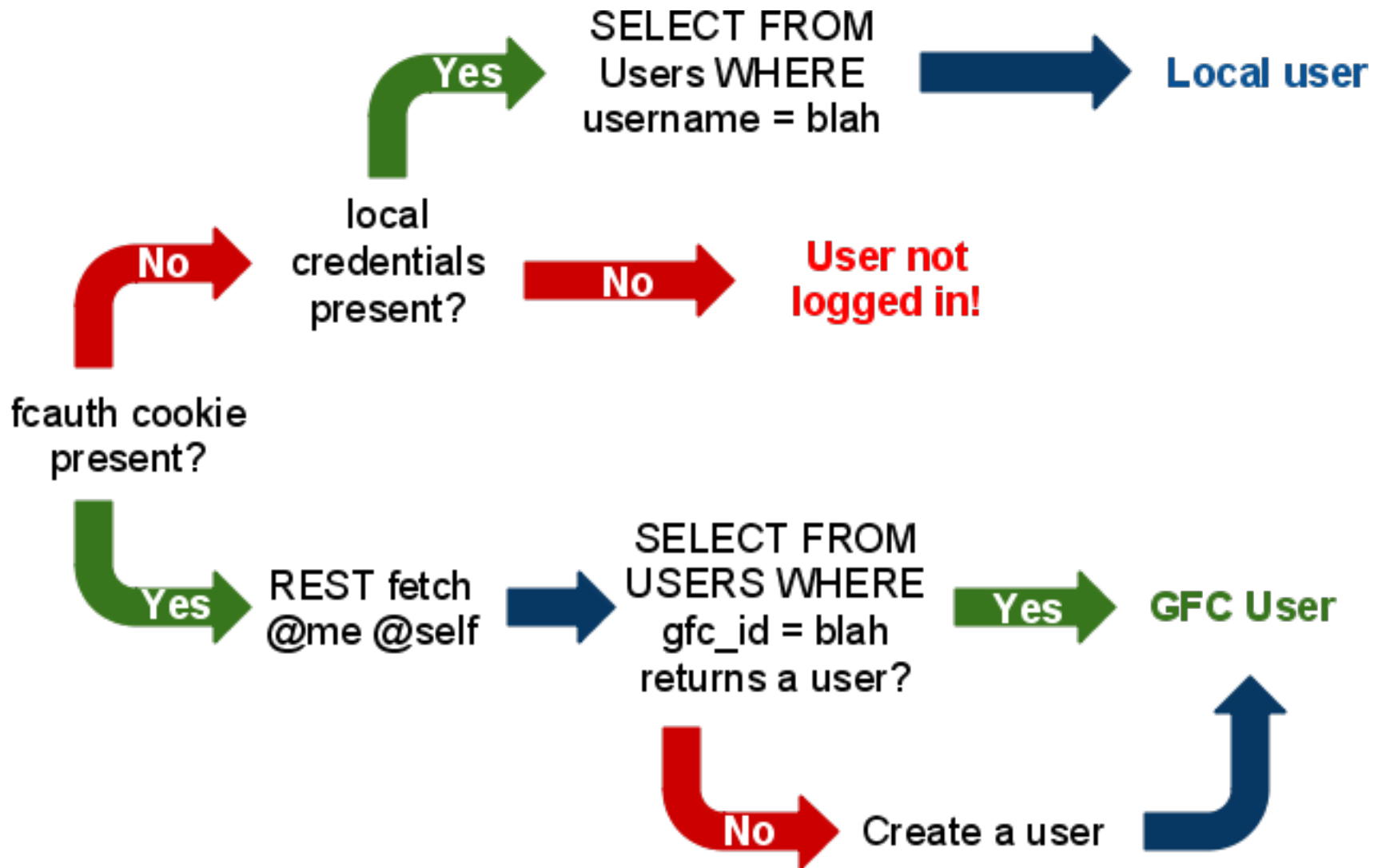
Who Is Logging In?



Who Is Logging In?



Who Is Logging In?



The INs Summary

- **Goal: Allow a Google Friend Connect user to log into your site as if they were a registered user.**
- Approach
 - Let users log in with JavaScript
 - Fetch social data with REST calls
 - Adapt your data store for social user data
 - Create an authorization flow
 - Cache for performance

The MIDDLE

Being More Social

- **Goal: Use social signals to highlight content**
- **Goal: Use content to make new social connections**
- Steps:
 - Add social chrome to your site
 - Restructure your views to take advantage of the extra data


Social Chrome: Per-Site Profiles

Arne Roomann... | [Settings](#) | [Invite](#) | [Sign out](#)

Earth Hour: Vote Earth

[Return home](#)

[Home](#)

 **Arne Roomann-Kurrik**

About me
What can I say? I love Ghostbusters 2.

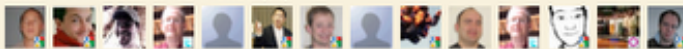
Links

- [blog.opensocial.org](#)
- [Blogger \(Blogspot\) - fchostdemo](#)
- [Picasa Web Albums - gtalk.kurrik](#)
- [Google Reader](#)
- [YouTube - apikurrik](#)

Sites I've joined [More >](#)

- [API Sample](#)
- [BILL BOARD for the PEOPLE](#)
- [chabotc.com](#)
- [Chris' Gym](#)
- [Epeus Epigone](#)

Arne Roomann-Kurrik's friends (14)



Activities

- Arne Roomann-Kurrik joined [Vote Earth](#) - on [Vote Earth](#) 5/22/09
- Arne Roomann-Kurrik joined [Guitar Site Demo](#) - on [Guitar Site Demo](#) 5/21/09


[Home](#)

Arne Roomann... | [Settings](#) | [Invite](#) | [Sign out](#)

Virgin Global Row

[Return home](#)

[Home](#)

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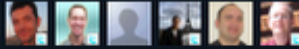
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- [Epeus Epigone](#)

Arne Roomann-Kurrik's friends (6)



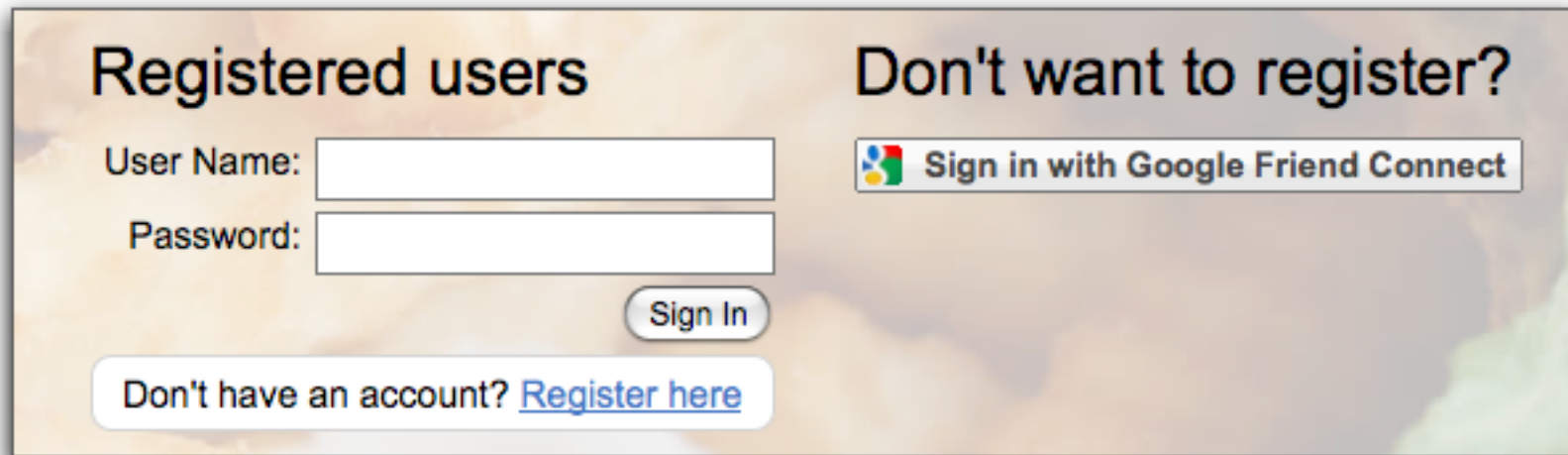
Activities

- Arne Roomann-Kurrik joined [Virgin Global Row](#) - on [Virgin Global Row](#) 5/22/09
- Arne Roomann-Kurrik joined [Guitar Site Demo](#) - on [Guitar Site Demo](#) 5/21/09

[Home](#)

Social Chrome: Integrated UI

- "Click to login" as a first class citizen



The image shows a user interface for logging in or registering. It is divided into two main sections: "Registered users" and "Don't want to register?".

Registered users

User Name:

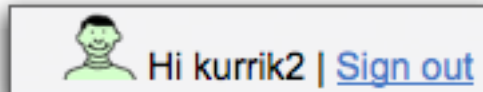
Password:

Don't have an account? [Register here](#)

Don't want to register?


Social Chrome: Smart UI

Registered user:



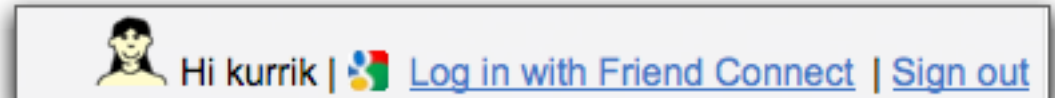
Invite your friends out to dinner

Did you know that you can interact with your friends on this site? By logging in with a [Google Friend Connect](#) account, you'll be able to see where your friends want to eat, and invite them to the places you want to try. After all, dinner is better when it's social!

 [View your friends on this site](#)
with Google Friend Connect


Make new friends on the [members](#) page!

Registered user with GFC account:



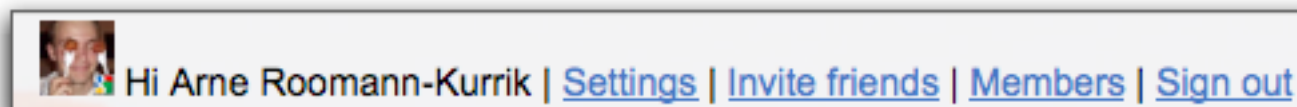
Logged out of Friend Connect!

It looks like your account is linked with a Google Friend Connect account, but you are not signed in. Your friends list will be unavailable until you log back in to Friend Connect!

 [Log back in to Friend Connect](#)

Make new friends on the [members](#) page!

GFC user:



Social Makes Everything Better


- Structuring your site to encourage social behaviors
- Provide incentives for logging in
 - "Share this with your friends"
 - "See what your friends are doing"
- Provide data views that are useful for everyone


Simple Social Views - Registered Users


- Show data from all users
- Choose engaging views:
 - "Top scores"
 - "Highest rated reviewers"
 - "Recent updates"





Recent favorites


 **Steph's** favorite plane is the [Cessna 152](#) !


 **Lane's** favorite plane is the [Cirrus SR-22](#) !

 **Alice's** favorite plane is the [Piper Warrior](#) !

 **Dan H's** favorite plane is the [Piper Warrior](#) !

 **Barry's** favorite plane is the [Cessna 152](#) !

 **Ryan's** favorite plane is the [Piper Warrior](#) !



 **Patrick's** favorite plane is the [Cessna 172](#) !

Simple Social Views - GFC Users



- Expose information in the context of friendships
 - "What are my friends' favorite airplanes?"
 - "Are my friends playing any games?"
 - "How do I rank compared to my friends?"



Your Friends



Lane Steph and Dan like the [Cirrus SR-22](#) !

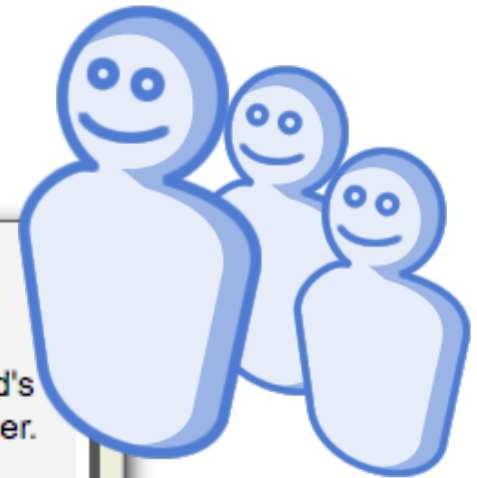


Ryan and Patrick like the [Piper Warrior](#) !

Demo: Simple social views. Building "What are my friends' favorite airplanes?"

Intermediate Social Views - GFC Users

- Contextual data is valuable!
- Social signals help users navigate your content:
 - "Some of your friends liked this guitar"
 - "Your friend gave this restaurant a poor review"
 - "Two of your friends read this article"
 - "A friend of yours solved this puzzle"



Airplane Model: [Cessna 172](#)
Airplane Manufacturer: Cessna
Catalog id: abc1
Description: With 4 seats the Cessna 172 is the world's most popular general aviation aircraft as well as trainer.

This is **Lane's Steph's and Dan's** favorite plane!

Airplane Model: [Cirrus SR-22](#)
Airplane Manufacturer: Cirrus

Advanced Social Views - GFC Users

- Give users a reason to come back to your site!
- Help users establish relationships:

were to improve useful load through a gross weight increase to 1670 lbs (757 kg), decrease internal and external noise levels and run better on the then newly introduced 100LL fuel

Manufacturer: Cessna

Catalog ID: abc1

People who are Plane Crazy for the Cessna 152



This is **Barry's, Alice's, Patrick's, Ryan's, and Claire's** favorite plane!

Discussion



Barry said:

I got to fly one of these the other day. What a great time!

Barry is crazy for this plane! [Add Barry as a friend!](#)



You said:

Barry, how was the handling? I heard this plane was sluggish!



Barry said:

Not at all! Flies great :)

Barry is crazy for this plane! [Add Barry as a friend!](#)



Demo: Advanced social views. Building "Users who also favorited this airplane."

The MIDDLE - Summary

- **Goal: Use social signals to direct users to appropriate content**
- **Goal: Use content as a context to make new social connections between users**
- Approach:
 - Promoted social users to first class citizens
 - Changed data views:
 - Displayed activities of site users and friends
 - Embedded friend data into content
 - Encouraged social interaction around content

The OUTs

EXIT ONLY
DO NOT ENTER

Learn To Share

- **Goal: Let users share their experiences on your site with the rest of the web.**
- **Steps:**
 - Invites
 - Activity Streams

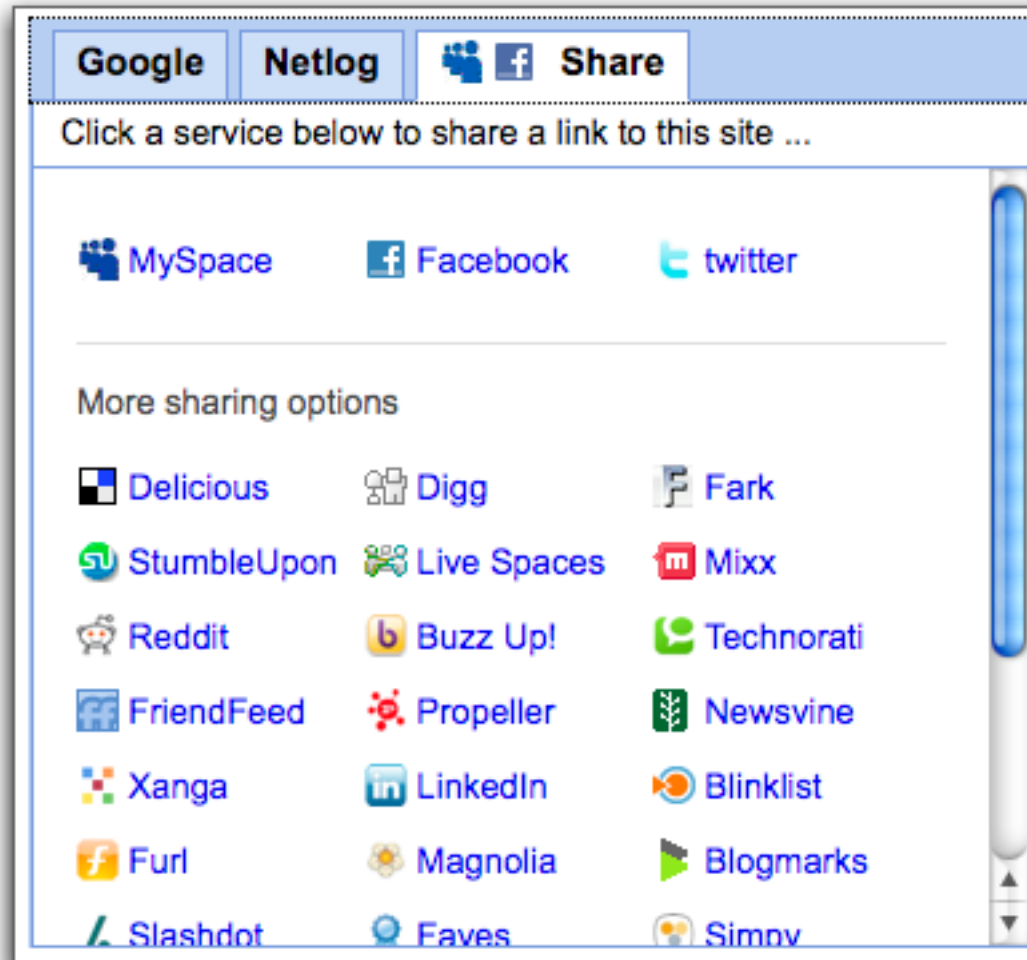
Invites

- Built-in functionality, just put a button on your page
- Invite friends from linked accounts or email



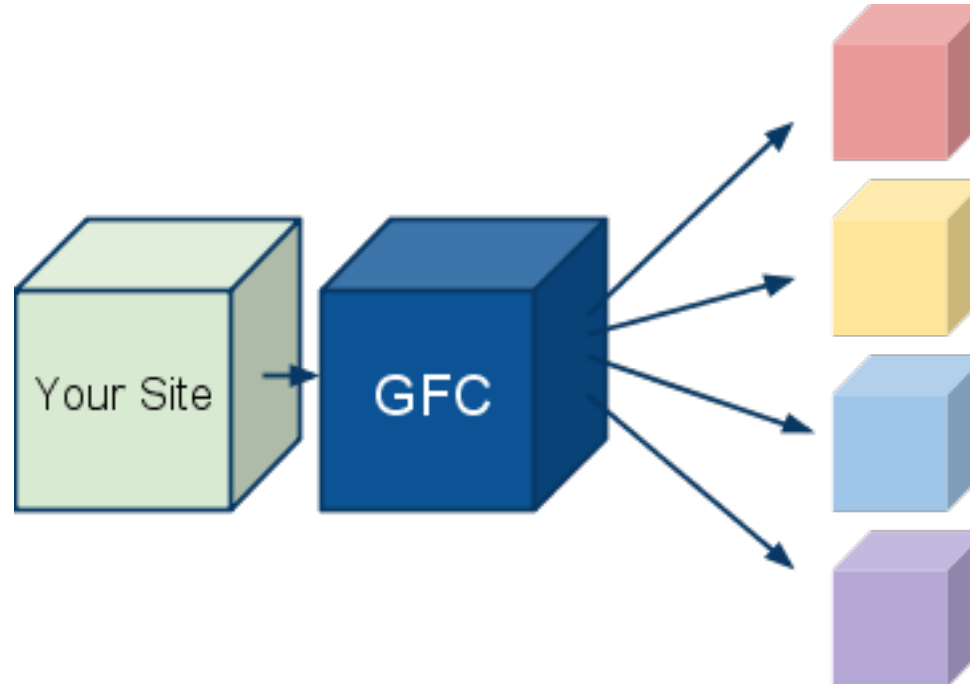
Sharing

- Get users to share your site with some of the most popular social websites



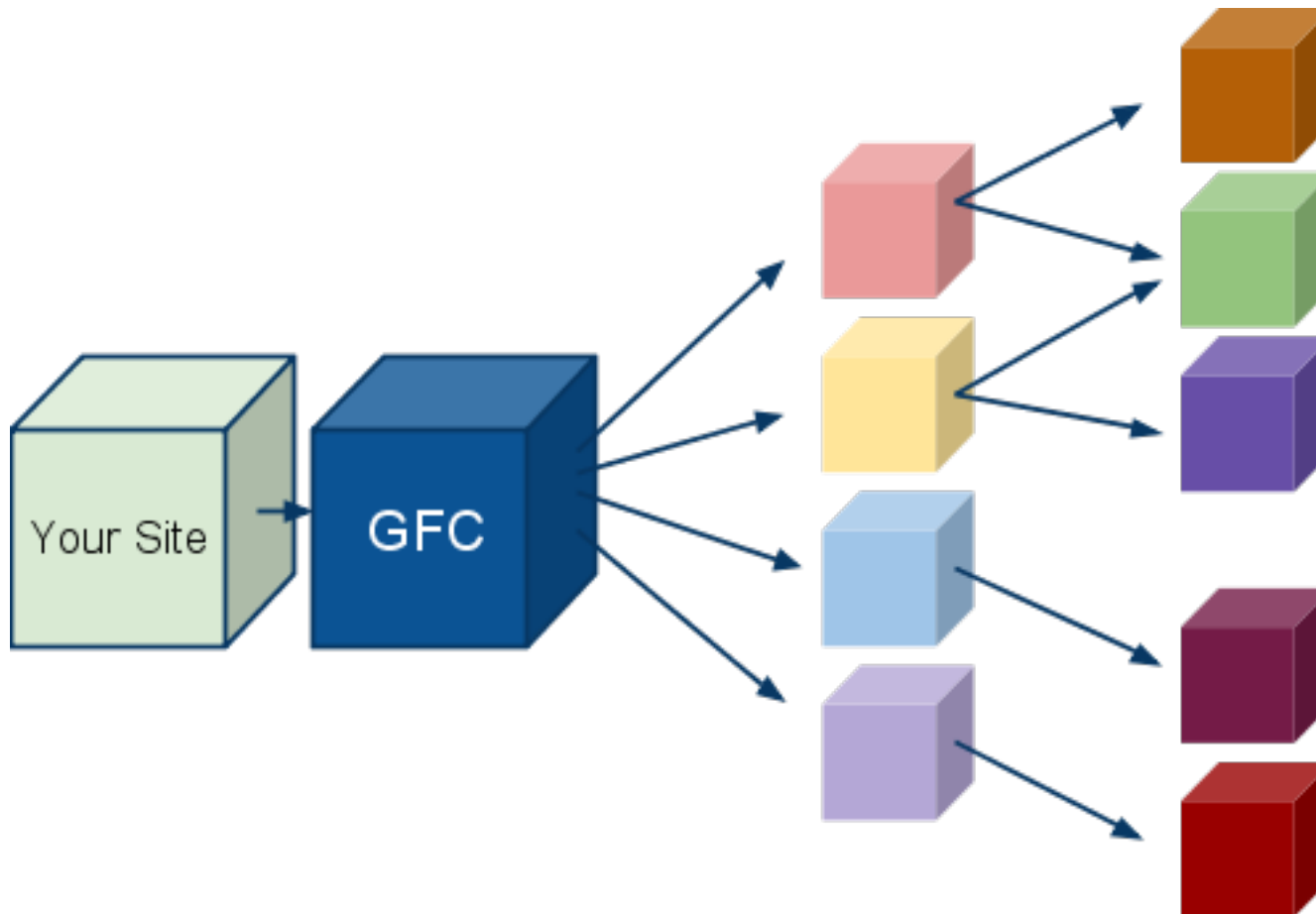
Activity Streams

- Destinations where your activities can go
- Different for each user
- Depends on user permissions



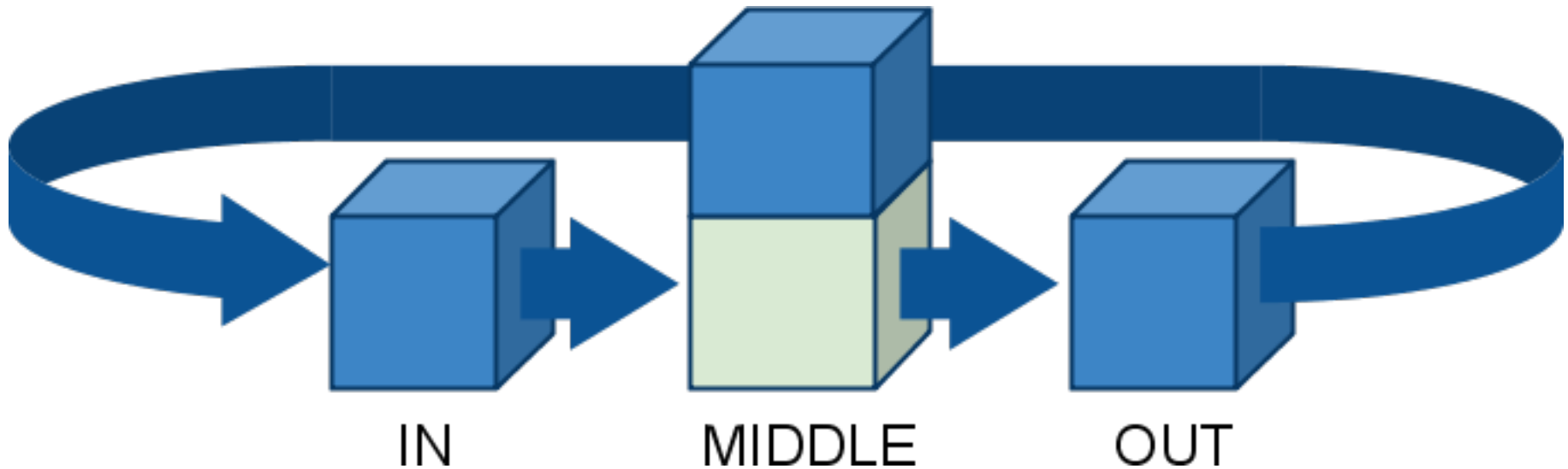
Activity Streams

- The social web has an inherent sharing nature
- One activity post may wind up in many places!



Activity Streams

- Activities mean greater exposure
- Exposure drives users to your site



Clever CURLing Related Title Here

- Posting activities also done via REST:

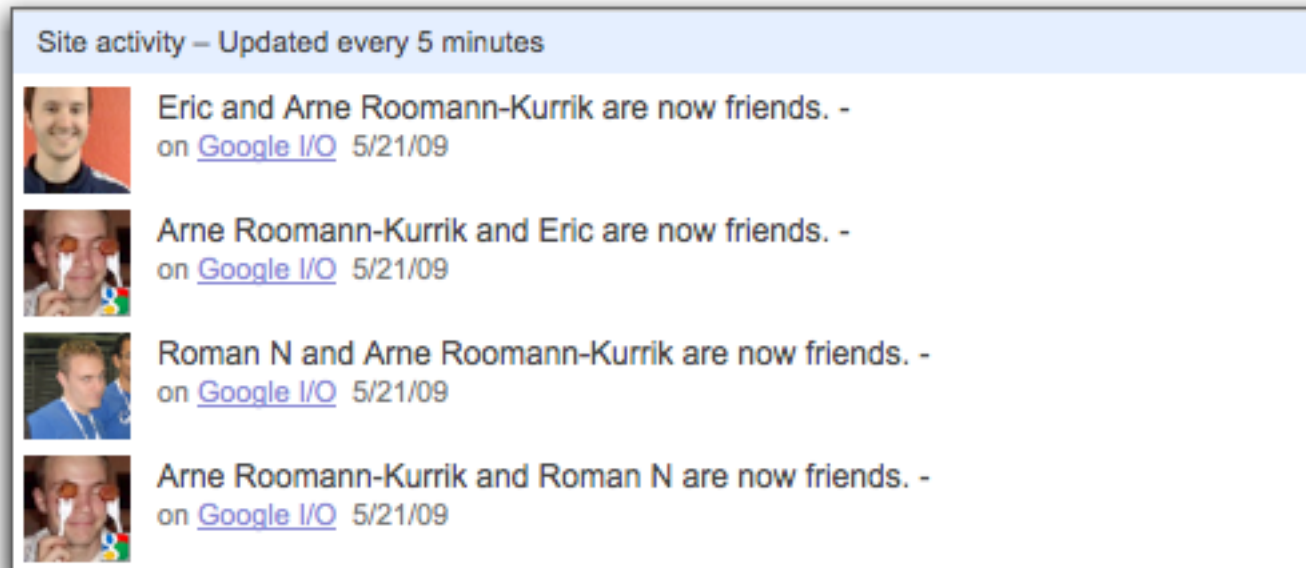
```
url = "http://www.google.com/friendconnect/api  
      /activities/@me/@self?fcauth=<fcauth>"
```

- Posting from the command line:

```
data="{\"title\": \"a title\", \"body\": \"test\"}"  
curl -X POST $url \  
      -H "Content-Type: application/json" \  
      -d "$data"
```

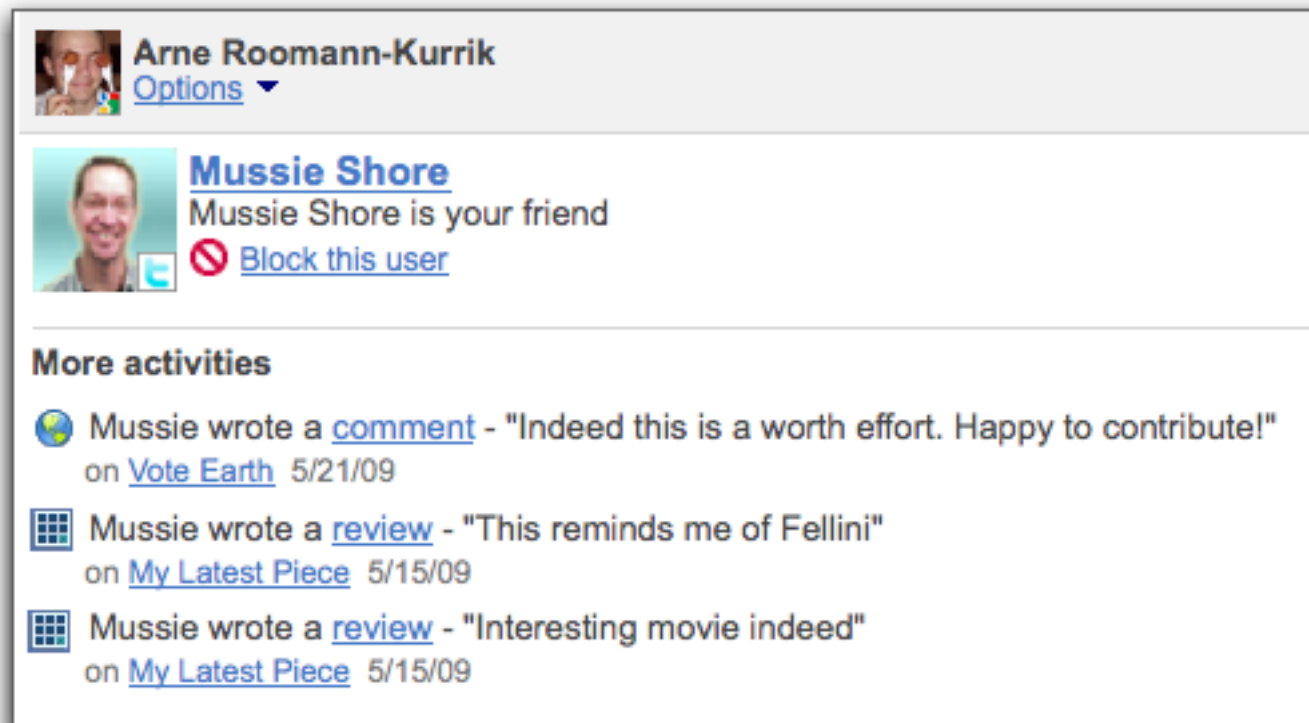
Sharing With Your Site Members

- Activity updates on your site are available in your site's activity stream feed:




Sharing With The World

- Activity updates are viewable across **every GFC site** by looking at a user's profile






The screenshot shows a user profile for Arne Roomann-Kurrik. Below the profile name, there is a section for a friend, Mussie Shore, with a 'Block this user' option. Underneath, a section titled 'More activities' lists three recent updates: a comment on 'Vote Earth' (5/21/09), a review on 'My Latest Piece' (5/15/09), and another review on 'My Latest Piece' (5/15/09).

Arne Roomann-Kurrik
[Options](#) ▼

Mussie Shore
Mussie Shore is your friend
 [Block this user](#)

More activities

-  Mussie wrote a [comment](#) - "Indeed this is a worth effort. Happy to contribute!"
on [Vote Earth](#) 5/21/09
-  Mussie wrote a [review](#) - "This reminds me of Fellini"
on [My Latest Piece](#) 5/15/09
-  Mussie wrote a [review](#) - "Interesting movie indeed"
on [My Latest Piece](#) 5/15/09

Demo: Writing activities server-side.

Learn To Share

- **Goal: Let users share their experiences on your site with the rest of the web.**
- Approach:
 - Added invite chrome to let users share content
 - Used activity streams to maximize site exposure

In Conclusion...



Goals

- **Allow a Google Friend Connect user to log into your site as if they were a registered user.**
 - JavaScript sign in, social data via REST
 - Data model, cache
- **Use social signals to highlight content**
- **Use content to make new social connections**
 - Social Chrome
 - Social Views
- **Let users share their experiences on your site with the rest of the web.**
 - Invites
 - Activities

Q & A

Post your [questions](#) for this talk on Google Moderator:
<http://code.google.com/events/io/questions>

Direct link:

<http://bit.ly/beyondcutpaste-questions>

Google™

