Developing Social Media Applications

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A Visualization Of The World’s Facebook Relationships

Social Media in 2012

Social Media is about Relationships

Source: http://www.socialnomics.net
500+ million users
200+ million users use apps on Facebook every month
250+ million users use Facebook on external sites every month
Big Opportunity
A Data API for the Social Web
Facebook Platform

- Websites
- Mobile
- Apps on Facebook

Social Plugins

Graph API
User, App, Page, Credits, Places, Ads

Dialogs

Standards
HTTP, HTML5, JSON, OAuth, Open Graph
User takes an action in your app

App **POSTs** the action to Facebook

**POST**
https://graph.facebook.com/me/recipebox:cook?
  recipe=http://example.com/cookies.php&
  access_token=...

Facebook **GETs** your object's metadata

**GET**
http://example.com/cookies.php
Facebook’s OpenGraph

http://developers.facebook.com/docs/opengraph/

http://graph.facebook.com
Objects and Connections
Real-time Updates

Users

Properties
Name
Picture
Locale
About
Bio
Hometown
Location
Website
Work
Link
...etc

Connections
Feed
Friends
Likes
Activities
Interests
Music
Books
Checkins
Permissions

Pages

Properties
Name
Picture
Category

Connections
Feed
Tagged
Permissions

Default, Basic
User data

ID
Name
Friends
Picture
Gender
Username
Locale
Permissions

Without Permissions, if you query the API for anything more than the basic user data, you’ll get:

```json
{
  data: [
  ]
}
```
Permissions

Ask for the permissions you NEED - but not more

~60 Permissions

user_likes	friends_likes
user_birthday	friends_birthday
user_events	friends_events
user_photos	friends_photos
user_checkins	friends_checkins
email
... 
publish_stream
publish_checkins
create_event
manage_pages
offline_access
...

Full list at http://developers.facebook.com/docs/authentication/permissions
Server Side Auth Flow

User's Browser

GET Your app's frontpage
Redirect

GET OAuth Dialog
302 Redirect

GET Your app's callback URL

GET /oauth/authorize
Access Token

GET /me?access_token=...
API Response

Render user data in page

Your App

Facebook
Server Side Auth Flow

GET https://www.facebook.com/dialogs/oauth?
client_id=YOUR_APP_ID&
redirect_url=http://yourapp.com/callback&
display=page|popup

display=popup

display=page
Client Side Auth Flow

User's Browser
User clicks a call-to-action to login

Your App
GET Your app’s frontpage

User's Browser
GET OAuth Dialog
302 Redirect including Access Token in URL fragment

Your App
GET /me?access_token
API Response, render user data in page

User’s Browser
GET /ajax_api.php?
access_token=...
Render user data in page

Your App
GET /me?access_token=...
API Response

Facebook
Client Side Auth Flow

GET https://www.facebook.com/dialogs/oauth?
  client_id=YOUR_APP_ID&
  redirect_url=http://yourapp.com/callback&
  display=page|popup&
  response_type=token&

Response is a 302 redirect to:

http://yourapp.com/callback#access_token=166942940015970%7C2.sa0&expires_in=64090
Demo: The Outbreak App

Looking for a cool way to update your Facebook status?
Do you want your Facebook friends to know how do you feel?
Use OUTBREAK and help us predict the level of sickness in social networks…

Click [http://outbreak.ucsd.edu](http://outbreak.ucsd.edu) and get started

This is a scientific study carried on by the division of infectious diseases at UCSD.
More information can be found at [http://www.facebook.com/outbreak.ucsd](http://www.facebook.com/outbreak.ucsd)
Technology

Facebook
OpenGraph

Apache Tomcat
Web Server

PostgreSQL
Database
SDKs and APIs

Java 6

Rest FB
Graph API

Google Web Toolkit (GWT)

Eclipse IDE

Google Maps, Geolocation API, jdbc, kxml, openStreetMap
Demo

- Facebook App
- GWT Client/Server
- Facebook Graph API
- GeoLocation
- Reverse GeoLocation
- Database
Tap & Play Facebook App?