



## Programming to the Twitter API (ReTweeter)

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# Agenda

- ◆ Twitter
- ◆ The Twitter API
- ◆ ReTweeter
- ◆ Lessons Learned
- ◆ Q & A

twitter

What are you doing?

140

update



# Twitter

- ◆ **Lightweight micro-blogging platform**
  - **Short (<140) text messages to followers**
  - **River of updates from those you follow (friends)**
- ◆ **Some conventions:**
  - **d username = direct message**
  - **@username = reply**
    - **Unlike DMs, replies are public**
    - **User determines whether to see replies from folks not followed**
  - **#tag = hashtag (twemes.com, hashtags.org)**
- ◆ **Multiple modes of access**
  - **Mobile (SMS or Mobile Web)**
  - **Web Browser**
  - **Other Client (Using API)**



# The Twitter API

- ◆ **Most access to Twitter is via the API**
  - **10x more than the Web interface)**  
(<http://readwritetalk.com/2007/09/05/biz-stone-co-founder-twitter/>)
  - **Desktop clients like twhirl, twitterrific**
  - **Mobile clients TinyTwitter, PocketTweets, iTweet**
- ◆ **Well documented in Google Group**  
(<http://groups.google.com/group/twitter-development-talk/web/api-documentation>)
- ◆ **Provides access to core data simply**
  - **XML, JSON data formats**
  - **RSS, ATOM syndication formats**
- ◆ **Basic http authentication where needed**
- ◆ **Rate limited**
  - **On reads (gets):**
  - **Unlimited writes (posts)**



# The Twitter API: Basic Methods

## ◆ Status Methods:

- public\_timeline
- friends\_timeline
- user\_timeline
- show
- update
- replies
- destroy

## ◆ Account Methods:

- verify\_credentials
- end\_session
- archive
- update\_location
- update\_delivery\_device

## ◆ User Methods:

- friends
- followers
- featured
- show

## ◆ Direct Message Methods:

- direct\_messages
- sent
- new
- destroy

## ◆ Friendship Methods:

- create
- destroy
- exists



# The Twitter API: Continued

## ◆ Favorite Methods:

- favorites
- create
- destroy

## ◆ Help Methods:

- test
- downtime\_schedule

## ◆ Notification Methods:

- follow
- leave

## ◆ Block Methods

- create
- destroy



# ReTweeter

- ◆ Use the Twitter API to fake “group” functions
- ◆ Create a new “group” account
- ◆ Follow back folks who follow that account
- ◆ When those users tweet with a hashtag, repost that tweet so that all followers see it, prefaced with the username of the original poster
- ◆ Could have sent direct messages instead
- ◆ Hashtag could be the name of the account but doesn't have to be



# ReTweeter Basic Flow of Code

- ◆ **Whole thing runs on a cron job**

- Rate limiting – 70 requests in 60 minutes
- Unlimited posting

- ◆ **Get friends\_timeline.xml**

Returns the 20 most recent statuses posted in the last 24 hours from the authenticating user and that user's friends.

```
curl -u email:password  
http://twitter.com/statuses/friends\_timeline.xml
```

- ◆ **Loop through posts in friends\_timeline**

- Remove the group account itself (avoid loop!!)
- Find all tweets in timeline beginning with hashtag
- Put in database, with datestamp and id

- ◆ **Pull all “un-retweeted” tweets from database**

- ◆ **Post those tweets, updating “retweeted” status as they post**







# ReTweeter Code

- ◆ Time allowing, we'll look at the code
- ◆ Otherwise you can get it later:  
<http://www.openparenthesis.org/code/twitter-api>
- ◆ Open Source, GPLv3 license
- ◆ Uses:
  - PHP 5 (SimpleXMLElement rocks)
  - MySQL DB
  - cron or equivalent (scheduled command line invocation)
  - cURL



# Lessons Learned

- ◆ **Don't Test on the Live Account**
  - Bad developer spams his followers
  - If they use SMS, this can have an actual financial cost in addition to annoyance
  - Thankfully people are forgiving, generally
- ◆ **Use a desktop client like Twhirl**
  - Multiple client support
  - Talk amongst yourselves
- ◆ **Twitter will go down**
  - Not if, but when
  - Handle errors gracefully
- ◆ **Twitter can enable "auto-follow-back" for you**
  - Sometimes following people fails for undetermined reasons
  - Since the group account can't follow them back they can't post!



## Q & A

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<http://twitter.com/jeckman>

<http://johneckman.com/> (lifestream, profile links)

<http://www.openparenthesis.org/> (open source, web development, social applications)

<http://www.goatless.org/> (travel, veganism, music)

<http://www.optaros.com/user/jeckman> (enterprise focus, how changes in the online industry affect Optaros clients and prospects)