Last.fm API

Music Hack Day • Stockholm 30 January 2010

What's Last.fm?

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We do lots of things:



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Charts, recommendations, catalogue, personalised radio, metadata, artists similarity, tags, images, events, groups, venues, friends, journals, shoutboxes



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"The social music revolution"



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"The social music revolution"

The definitive online home for your music taste



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We've offered APIs since 2003

Artist Radiohead Biography 196,858,060 plays (2,374,120 listeners) Pictures Listening now: Wrinkle5K, Aktonis 47,680 shouts Videos + Add to my Library Albums Get Ringtones Tracks Abingdon, Oxfordshire, United Kingdom (1986 present) Events Radiohead are an English alternative rock band from News Abingdon, Oxfordshire. The band is composed of Thom Yorke (lead vocals, rhythm guitar, piano, beats), Jonny Charts Greenwood (lead guitar, keyboard, other instruments), Similar Artists Ed O'Brien (guitar, backing vocals), Colin Greenwood (bass guitar) and Phil Selway (drums, percussion). Tags Radiohead released their first single, "Creep," in 1992. Read more... L Edit Listeners Tagged as: Journal alternative, rock, alternative rock, indie, electronic Groups Similar Artists







Share







Play Radiohead Radio



Blur

See more



See all 246 pictures 🔾



Radiohead @...

Radiohead - Big...

Videos



daydrea

You an Army?..

News



muclear power no thanks 9 Nov 2009 | from www.radiohe

under pressure from the CBI and assumption that we can carry on we do now into the future and to their own isolated political fuzzy



mappy f***in halloweed 31 Oct 2009 | from www.radioh



Steve Mason in the Studio 19 Oct 2009 | from www.radioh



Century of piano 18 Oct 2009 | from www.radioh

Top Albums



In Rainbows Radiohead

Greenwood



OK Computer Radiohead









Best of 2009 | Week 3 »

@ English | Paint it Black | Help

Music search

Profile

lost.fm

Library

Charts

Events

Friends

Neighbours

Groups

Journal

Tags



flaneur

Matt, 30, Male, United Kingdom

Edit »

70097 plays since 16 Nov 2004

262 Loved Tracks | 1,253 Posts | 1 Playlist | 1,286 shouts

| Audrey Mecklenburg | ■ ♥ |
|-------------------------------------|-------------|
| | 0 💌 |
| Leaves Crackle Underfoot (a fall | See more |
| Audrey - Mecklenburg | 04:45 |
| Bat for Lashes - Horse And I | 03:04 |
| Broken Social Scene - Anthems for a | 04:35 |
| Broken Social Scene - Lover's Spit | 06:06 |
| The Constantines - Soon Enough | 04:00 |
| Cuff the Duke - Claire | 04:06 |
| ⊙ |) |

Recently Listened Tracks



Junior Boys - Hazel

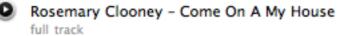




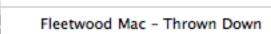


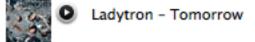
| The xx - Crystalised | 48 minutes ago |
|----------------------|----------------|
|----------------------|----------------|













☆ Settings | |

45 minutes ago

54 minutes ago

59 minutes ago

1 hour ago

1 hour ago

1 hour ago









Lefouauflingue yesterday evening



parkhead yesterday evening



pichenettes 48 minutes ago



Akralabra yesterday evening



GingerFear yesterday evening

About Me

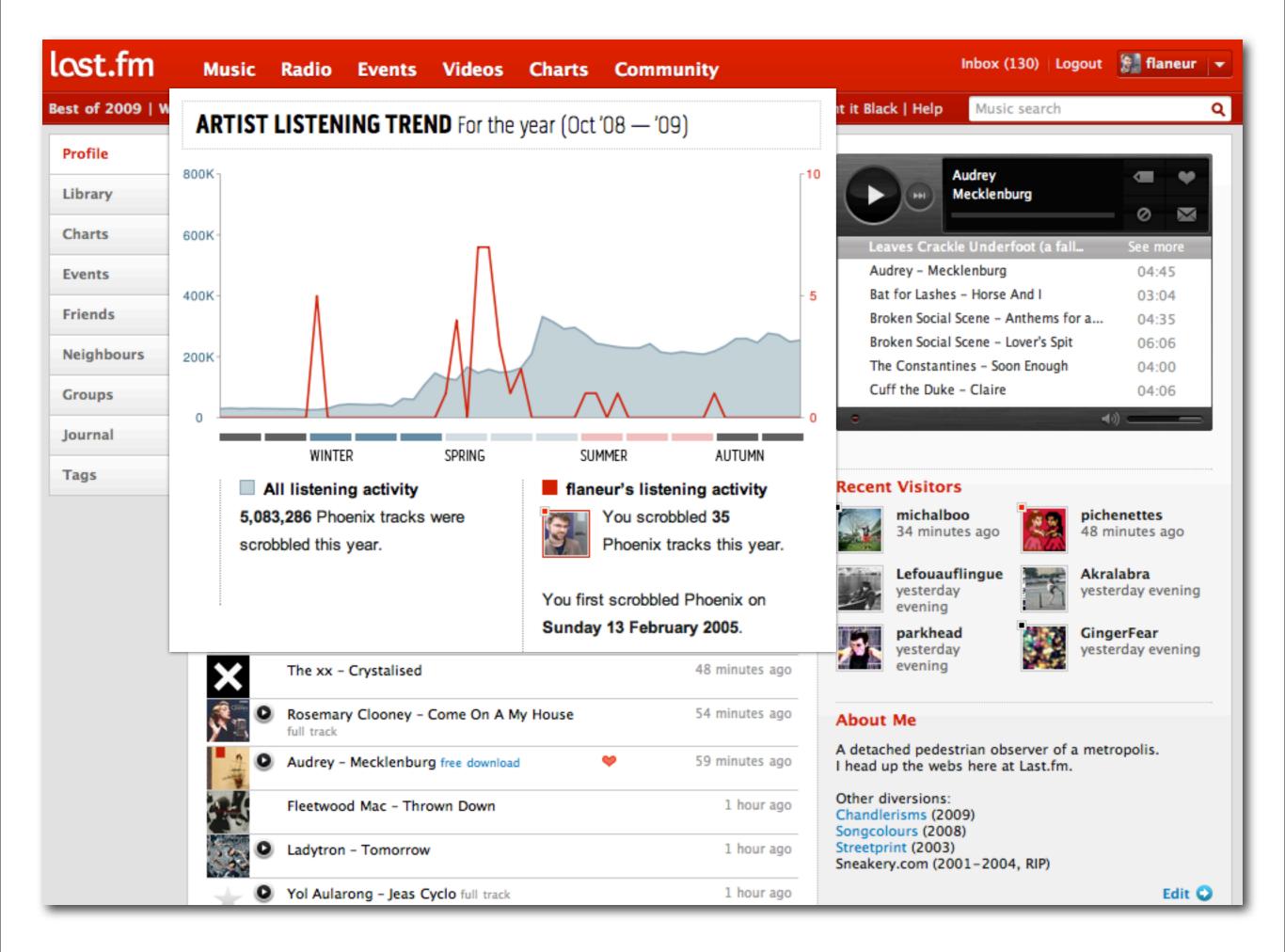
A detached pedestrian observer of a metropolis. I head up the webs here at Last.fm.

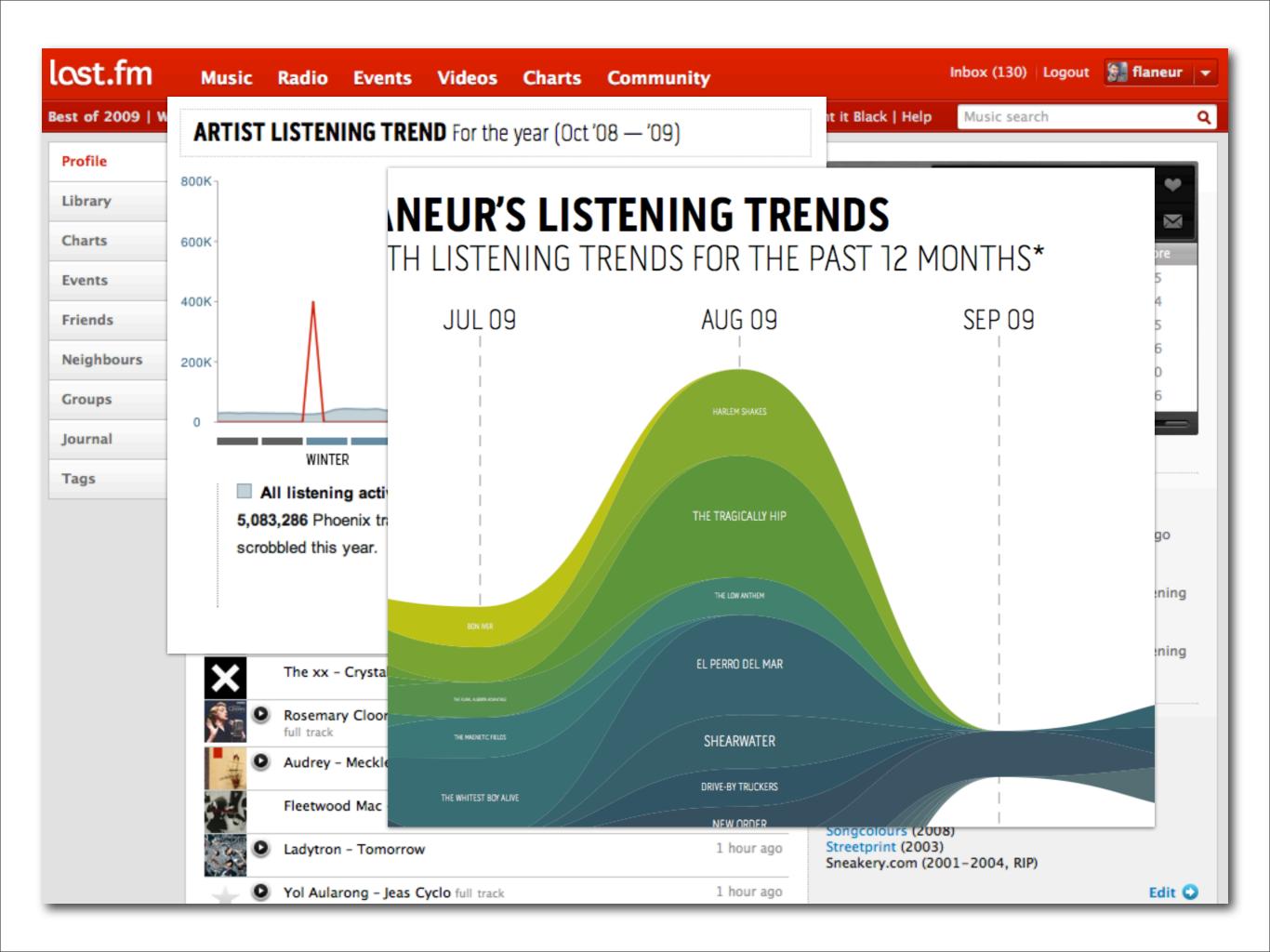
Other diversions: Chandlerisms (2009)

Songcolours (2008) Streetprint (2003)

Sneakery.com (2001-2004, RIP)







Scrobbling



Scrobbling

(Not scribbling, scobbing, snowballing or scrabbling. These are the risks of made-up words.)



Scrobbling

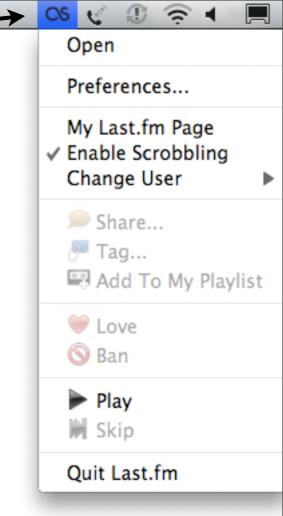
(Not scribbling, scobbing, snowballing or scrabbling. These are the risks of made-up words.)

scrobble: skrob · bul ('skrbbəll)
[verb] To automatically add the tracks you play to your Last.fm profile with a piece of software called a Scrobbler

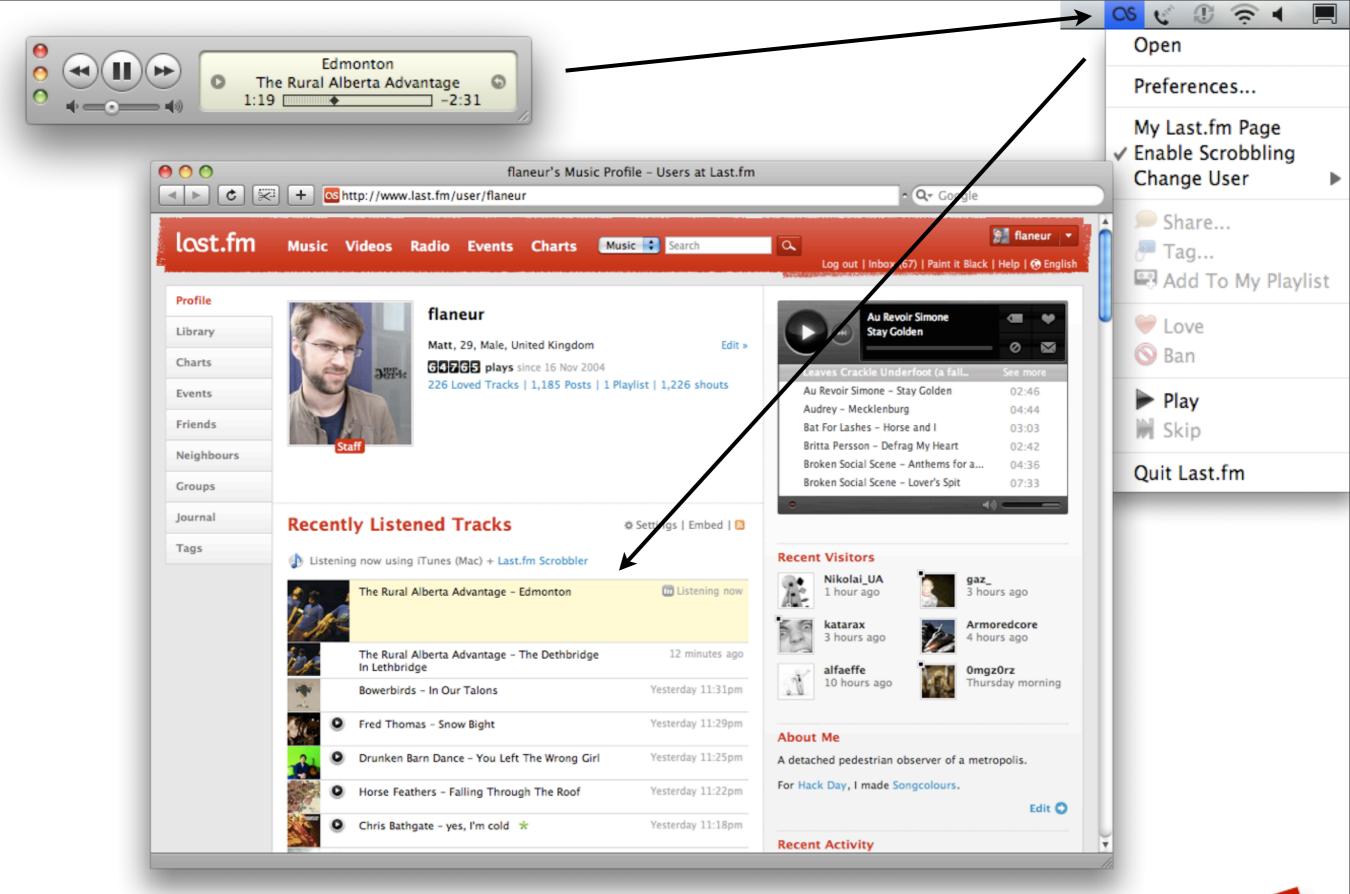














571 scrobbles in the last second

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34,260 scrobbles in the last minute

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2,055,600 scrobbles in the last hour

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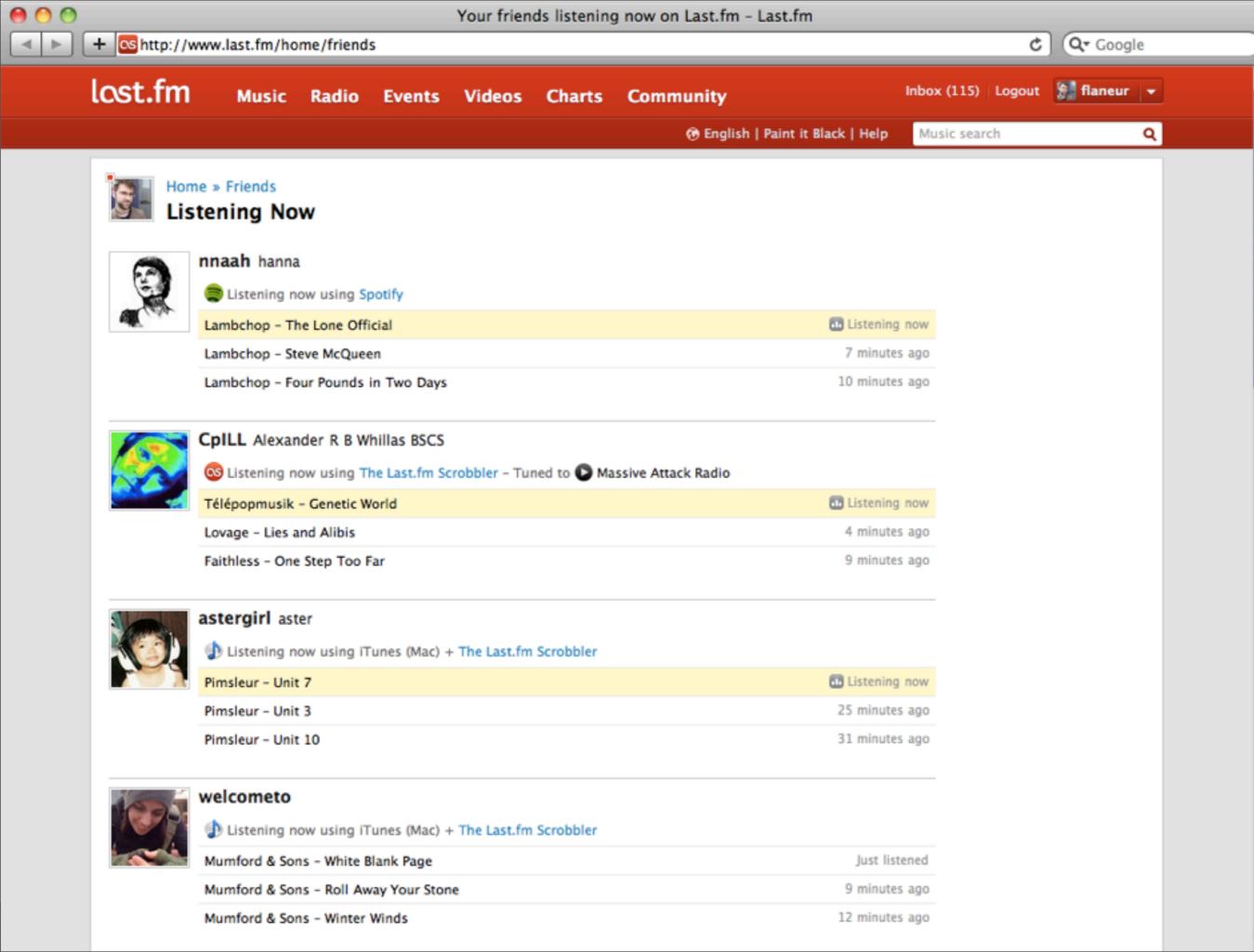
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2,055,600 scrobbles in the last hour

24,667,200 scrobbles in the last 12 hours

49,334,400 scrobbles in the last day

That's over 38,085,313,884 tracks scrobbled since 2003. About 297,089 years of music in total.



API 2.0

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A REST-style HTTP API, that you (might) know and love (modelled on Flickr)

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Clients available in PHP, Ruby, Python, C++



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Unrestricted non-commercial use

Complete documentation can be found at http://last.fm/api

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Each method has a page that details is required and optional parameters

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It covers everything here in greater depth, and is generally much more useful than me blathering up here

What does it offer?

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One hundred or so methods to access information about:

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Authenticated access to private data

Export a user's full listening history

artist.addTags, artist.getEvents, artist.getImages, artist.getInfo, artist.getPastEvents, artist.getPodcast, artist.getShouts, artist.getSimilar, artist.getTags, artist.getTopAlbums, artist.getTopFans, artist.getTopTags, artist.getTopTracks, artist.removeTag, artist.search, artist.share, artist.shout, auth.getMobileSession, auth.getSession, auth.getToken, event.attend, event.getAttendees, event.getInfo, event.getShouts, event.share, event.shout, geo.getEvents, geo.getMetroArtistChart, geo.getMetroTrackChart, geo.getMetroUniqueArtistChart, geo.getMetroUniqueTrackChart, geo.getMetroWeeklyChartlist, geo.getTopArtists, geo.getTopTracks, group.getMembers, group.getWeeklyAlbumChart, group.getWeeklyArtistChart, group.getWeeklyChartList, group.getWeeklyTrackChart, library.addAlbum, library.addArtist, library.addTrack, library.getAlbums, library.getArtists, library.getTracks, playlist.addTrack, playlist.create, playlist.fetch, radio.getPlaylist, radio.tune, tag.getSimilar, tag.getTopAlbums, tag.getTopArtists, tag.getTopTags, tag.getTopTracks, tag.getWeeklyArtistChart, tag.getWeeklyChartList, tag.search, tasteometer.compare, track.addTags, track.ban, track.getInfo, track.getSimilar, track.getTags, track.getTopFans, track.getTopTags, track.love, track.removeTag, track.search, track.share, user.getEvents, user.getFriends, user.getInfo, user.getLovedTracks, user.getNeighbours, user.getPastEvents, user.getPlaylists, user.getRecentStations, user.getRecentTracks, user.getRecommendedArtists, user.getRecommendedEvents, user.getShouts, user.getTopAlbums, user.getTopArtists, user.getTopTags, user.getTopTracks, user.getWeeklyAlbumChart, user.getWeeklyArtistChart, user.getWeeklyChartList, user.getWeeklyTrackChart,

Or in an organised fashion...

Album

Album.addTags Album.getInfo Album.getTags Album.removeTag Album.search

Artist

Artist.addTags Artist.getEvents Artist.getImages Artist.getInfo Artist.getPastEvents Artist.getPodcast Artist.getShouts Artist.getSimilar Artist.getTags Artist.getTopAlbums Artist.getTopFans Artist.getTopTags Artist.getTopTracks Artist.removeTag Artist.search Artist.share Artist.shout

Auth

Auth.getMobileSession Auth.getSession Auth.getToken

Event

Event.attend

Group

Group.getMembers Group.getWeeklyAlbumChart Group.getWeeklyArtistChart Group.getWeeklyChartList Group.getWeeklyTrackChart

Library

Library.addAlbum Library.addArtist Library.addTrack Library.getAlbums Library.getArtists Library.getTracks

Playlist

Playlist.addTrack Playlist.create Playlist.fetch

Radio

Radio.getPlaylist Radio.tune

Tag

Tag.getSimilar Tag.getTopAlbums Tag.getTopArtists Tag.getTopTags Tag.getTopTracks Tag.getWeeklyArtistChart Tag.getWeeklyChartList

Tag.search

Track

Track.addTags Track.ban Track.getInfo Track.getSimilar Track.getTags Track.getTopFans Track.getTopTags Track.love Track.removeTag Track.search Track.share

User

User.getEvents User.getFriends User.getInfo User.getLovedTracks User.getNeighbours User.getPastEvents User.getPlaylists User.getRecentStations User.getRecentTracks User.getRecommendedArtists User.getRecommendedEvents User.getShouts User.getTopAlbums User.getTopArtists User.getTopTags User.getTopTracks User.getWeeklyAlbumChart User.getWeeklyArtistChart User.getWeeklyChartList User.getWeeklyTrackChart

User.shout

1,000s of 3rd party developers every day

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Checkout http://build.last.fm for examples, from forum sigs to complex apps

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Microsoft built our Xbox 360 app using only our public API

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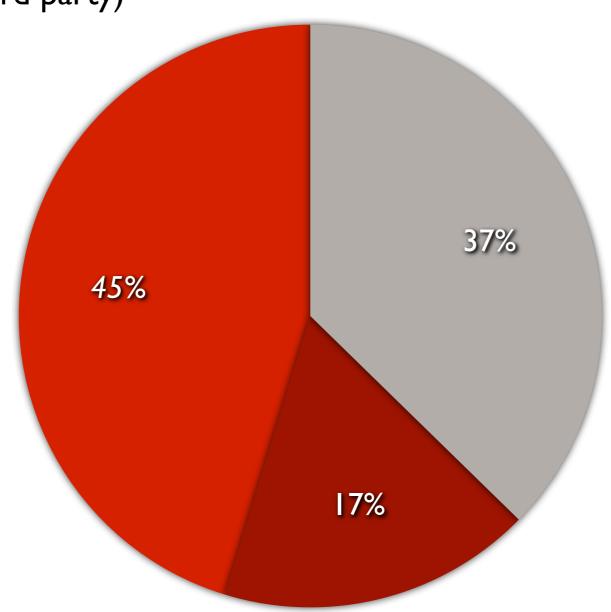
Microsoft built our Xbox 360 app using only our public API

Squeezebox, Sonos and other hardware devices

Current Last.fm traffic

(December 2009)

- Web requests to www.last.fm
- API requests (official Last.fm apps)
- API requests (3rd party)



Hype Machine, Spotify, Songbird, Winamp, iTunes and 100s more

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People have found ways to scrobble Youtube, and even their vinyl collection

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Question: as a developer what would make scrobbling easier / more appealing to you?



You'll need...



You'll need...

An API Key (a 32 char unique identifier)



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A way to call the API (use a supported client, or plain old wget, up to you)



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A way to call the API (use a supported client, or plain old wget, up to you)

A way to parse the response (this is where clients can come in handy)



To get one you'll need a Last.fm account, so if you don't have one you'll need to join (fast, free)

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Set it up at http://last.fm/api/account

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Only one API Key per account

Anatomy of an API call

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```
http://ws.audioscrobbler.com/2.o/?
method=user.getinfo&api_key=XXX&
user=underpangs
```

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http://ws.audioscrobbler.com/2.o/?
method=user.getinfo&api_key=XXX&
user=underpangs
```

Root URL + Method + API Key + method specific parameters (check the method documentation)

Anatomy of a response

```
<lfm status="ok">
    <user>
      <id>1021212</id>
      <name>underpangs</name>
      <realname>David Singleton</realname>
      <url>http://www.last.fm/user/underpangs</url>
      <image>http://userserve-ak.last.fm/serve/126/13884831.jpg/
  image>
      <country>UK</country>
      <age>25</age>
      <qender>m
      <subscriber>1</subscriber>
      <playcount>45519</playcount>
      <playlists>12</playlists>
      <bootstrap>0</pootstrap>
      <registered unixtime="1073173934">2004-01-03 23:52</registered>
    </user>
</1fm>
```

Every response is wrapped in a root < lfm > node

By default all services output XML are also available as JSON

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To switch, add format=json to your call

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Some services offer even more output formats, check the method docs

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In particular, some can output RSS, XSPF, iCal and JSONP

JSON Output

```
"user": {
    "id": "1021212",
    "name": "underpangs",
    "realname": "David Singleton",

[SNIP!]

"registered": {
    "#text": "2004-01-03 23:52",
    "unixtime": "1073173934"
    }
}
```

Note that for elements with both a text child and attributes, that the text is expressed as the #text attribute

Paginated methods

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Some methods can return a lot of results, we limit them and let you page through

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These services will generally accept a limit (amount per page) and page offset. The root node will also give you the total number of results and pages

Errors

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The root Ifm node has a status of "failed" and will contain an error code and message

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The possible errors for a method are listed on it's documentation page

Invalid format - This service doesn't exist in that format

Invalid format - This service doesn't exist in that format

Invalid parameters - Your request is missing a required parameter

Invalid format - This service doesn't exist in that format

Invalid parameters - Your request is missing a required parameter

Invalid API key

Invalid format - This service doesn't exist in that format

Invalid parameters - Your request is missing a required parameter

Invalid API key

Invalid method signature supplied

artist.getImages

artist.getImages

album.getTags

artist.getImages

album.getTags

track.search

artist.getImages

album.getTags

track.search

user.getTopArtists

artist.getImages

album.getTags

track.search

user.getTopArtists

geo.getEvents

Public - Does what it says on the tin

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Private - Requires authentication (we'll get to that shortly)

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"Enhanced" - Public, but with extra information if you supply a user, artist.getInfo is a good example of this

Send an identifiable user-agent

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Don't hammer the API (check the TOS)

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Respect HTTP caching headers

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Respect HTTP caching headers

UTF-8 encoding assumed

Some methods access private data and require explicit permission from a user

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To do this we use an oAuth model, where a user will grant permission to an application, in the form of a session key

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Slightly different ways to get a session key for web, mobile and desktop

lost.fm

Radio

lost.fm

Radio

Radio is an authenticated call, you'll need a user session key



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API-based radio is only available to subscribers



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Full documentation for using this is available at http://last.fm/api/radio



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However, here's a quick introduction...

Tuning

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POST call, to API root, method=radio.tune

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The station is in the form of a Last.fm URL, eg; lastfm://artist/cher/similarartists

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Once tuned, you request a playlist of 5 tracks at a time, with radio.getPlaylist which returns an XSPF

```
<playlist version="1" xmlns="http://xspf.org/ns/0/">
    <title>+Cher+Similar+Artists</title>
    <creator>Last.fm</creator>
    <date>2007-11-26T17:34:38</date>
    <link rel="http://www.last.fm/expiry">3600</link>
    <trackList>
        <track>
            <location>http://play.last.fm/ ... .mp3</location>
            <title>Two People (Live)</title>
            <identifier>8212510</identifier>
            <album>Tina Live In Europe</album>
            <creator>Tina Turner
            <duration>265000</duration>
            <image>http:// ... .jpg</image>
            <extension application="http://www.last.fm">
                <artistpage>...</artistpage>
                <albumpage>...</albumpage>
                <trackpage>...</trackpage>
            </extension>
        </track>
   </trackList>
</playlist>
```

A few ideas:

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Bootstrapping a user's music taste on your service

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Catalogue search, artists, albums, tracks

The API is simple and flexible, so it's really up to you and your imagination

We'll be around all weekend to answer API questions

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If we don't have what you need, we might be able to add it for you

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Free 1-year subscription to anyone who demos an app tomorrow that uses the Last.fm API



Questions?

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Matt
<u>matt@last.fm</u>
@flaneur

Questions?



Matt
<u>matt@last.fm</u>
@flaneur



Michael michaelc@last.fm @eartle

Questions?



Matt
matt@last.fm
@flaneur



Michael <u>michaelc@last.fm</u> @eartle



Jonty <u>jonty@last.fm</u> @jonty