

See [part 1](#) (Anthony DeBarros:

<http://jacobfenton.s3.amazonaws.com/freewarepart1.pdf> )

## Free software, part deux

- <http://jacobfenton.s3.amazonaws.com/freeware.pdf>
- Anthony talked about a lot of free programs that can be used for common tasks. I'm gonna look at GIS stuff, both from a desktop and server perspective. I'm also going to talk (briefly!) about the software that makes web sites possible.

# Virtualization software

<http://www.virtualbox.org/>

- Virtual box is free!
- Operating systems may not be...



# Flash is free

- For windows, there's [flashdevelop](#)



- [Flex SDK](#) is free. Compile at command line.  
Use ant sorta as a 'makefile'

```
$ mxmhc
```

# Freeware statistics



[The R project for statistical computing](#). Does everything from covariance to neural networks. Many contributed packages. Used by 'real' researchers, so some material is quite complex. Also does graphics.



# Freeware Desktop GIS Software

- [QGIS](#)
  - Very handy
  - Similar to ArcView
  - Not ideal for print output
  - Can talk to postgres/postgis



Also see:

- [SAGA](#) (simple)
- [GRASS](#) (complex, hard to use?)
- [MapWindow](#) (?)

# Freeware's strength: dorky stuff

- A lot of the stuff we've talked to about so far are freeware programs that have elaborate user interfaces. That's the style of software that we've come to expect from Mac / Windows machines. It's really useful for many tasks.
- But the 'open source' movement is strongest among programmers, and software that 'does' stuff without a visual interface—usually a very specific task—is what they use. It's sort of amazing how little you have to pay to manage and run your own web servers. We're gonna skim through stuff you might use...

# Free spatially-enabled DBs

- Spatially enabled databases allow users to run 'spatial' queries, i.e. select all nursery schools within 1000 yards of a uranium dump, or, summarize the output of benzene factories per congressional district.
- [Postgres](#) with [PostGIS](#). Preferred. Best index.
- [Sqlite](#) with [Spatialite](#)
- MySQL (sorta)



# Sample freeware GIS setup

- QGIS + Postgres/PostGIS
- Django (branch formerly known as Geodjango)
- Ogr2ogr (format converter; sometimes handy)

Django + Postgres/Postgis works on a server, so you can write 'spatial' apps: i.e. let users find interactive parcels maps of their neighborhood.

All of this stuff runs on some free C libraries: GDAL, PROJ, etc.

# Why are you talking about servers?

- Lots of newsapps folks have found its much easier to run your own cloud servers than use managed stuff. It's not so hard really, there's just a lot of pieces of software it's helpful to know. Renting servers is generally not free (but you could run a news box for about \$12 a month if you wanted).

# Free web server software

- [Apache](#). Most common. Best documented.
- [Nginx](#). Lightweight. Handy for serving media files on a memory-limited server acting as a reverse proxy.
- [Lighttpd](#). Similar.
- Many more. But going off the beaten path might mean a lot more time looking for documentation...

# Server-side caching

- [Memcached](#). Really well integrated with django. Fast.
- [Varnish](#). Reverse-proxy cache; it's functionally 'upstream'. Amazing, but requires attention to http headers on the backend.
- Others...

# Super simple, free, (geo)django setup

- Read the django docs...
- On a 512Mb (and a 256Mb) server if you really want, you can run: Nginx (as reverse proxy), Apache + ModWSGI, django, psycopg2, memcached, postgresql/postgis. If you're really set on mysql it would be:
- Manage stuff with fabric.

# Getting free software, beyond the usual suspects

- Look at stuff from newspaper peeps on [GitHub](#). (git is free. Actually so's subversion.)
- Svn hosting at google on googlecode
- Sometimes MAC stuff is trickier; for spatial stuff see packages/installers maintained by Kyngsbury at [KyngChaos](#)
- Stuff posted to NICAR. If you hear about something, ask about it.