

Free IT Athens' Web Infrastructure

FRITA/CHUGALUG Meeting
2016-02-03
BLFoley

Forensic Systems Administration

- Not a crime; definitely a mystery
- Timeline:

Dec 13

Dec 16

Frita notices the website is weird

Dec 18

Everything breaks and is magically fixed

} Communications with
DreamHost Support

Jan 3

Matt realizes that the timeclock (FOD) is misbehaving

Jan 6

I realize Dec 13 is probably when FOD actually broke
(maybe the website, too)


Sparse Documentation

- Login information for accounts
- Website addresses
- er.... that's about it

DreamHost

- Hosts FRITAs online applications:
 - Website (freeitathens.org)
 - Timeclock (records.freeitathens.org)
 - ...etc...

Prime Suspect



?

Help

Search

HOME

Dashboard

DOMAINS

MAIL

GOODIES

VPS


DEDICATED SERVERS

CLOUD SERVICES

USERS

BILLING & ACCOUNT

SUPPORT

 **Important Information: Rescheduled DreamHost web server performance improvements maintenance!**
(updated 6 days 12 hours ago)

Howdy DreamHoster,

Our technical operations team is constantly working to improve our services. As part of these improvements, we will be performing a scheduled maintenance on your web server. This maintenance will take place this Thursday, the 4th of February, starting at 7AM PDT. The maintenance will take up to 2 hours to complete. In most cases, downtime is usually less than 5 minutes, however there can be up to 30 minutes of downtime (in a worse case scenario). We apologize for any inconvenience this may cause!

Please contact our support team if you have any questions or concerns:

<https://panel.dreamhost.com/index.cgi?tree=support.msg&>

The Happy Shared Maintenance Robots!

Hide this message

Dashboard

Contact Support

Best Guess Timeline

DreamHost does some upgrades, possibly in phases	Dec 13	
	Dec 16	Frita notices the website is weird
DreamHost fixes something about the upgrades	Dec 18	Everything breaks and the site is magically fixed
	Jan 3	Matt realizes that the timeclock (FOD) is misbehaving
	Jan 6	I realize Dec 13 is probably when FOD actually broke

Making Sense Of It All

- DreamHost is probably wonderful web-based
- But, I know the command line
- Here is FRITA's home directory:

```
[20:21:08] [freeitathens@evans ~]$ /bin/ls --color
1422548954671-1.jpg      Help_Local
Admin                   logs
Admin_help              Mail
Archive                 Maildir
arindam_tmp             meetingnotescron.html
bin                     mysql_backups
cron.log                mysql.nolie.freeitathenswp.1.mix.dump.db.sql
Debug                   mysql.nolie.freeitathenswp.6.mix.dump.db.sql
development.freeitathens.org
development_freeitathens_org_fritadb_trac
djangodev.freeitathens.org
Done                    mysql.nolie.wordpressdev_freeitathens.1.mix.dump.db.sql
downloads               Newfiles.tar.bz2
Dreamhost_htaccess_files.tar.gz
drupal.freeitathens.org opt
freeitathens.org        pos.freeitathens.org
freeitathens.org.bak.possibly.hacked railsdev.freeitathens.org
freeitathens.org.off    records.freeitathens.org
freeitathens.org.old.worked.before.DB.upgrade src
Frita_backups           svn
gruplcron.sql           svn.freeitathens.org
Grupl_daily_rpt.pl      timeclock.freeitathens.org
[20:21:08] [freeitathens@evans ~]$
```

Cruft *n.*

1)Anything that is **left over, redundant** and **getting in the way**. It is used particularly for **superseded and unused** technical and electronic hardware and **useless, superfluous or dysfunctional elements in computer software**

<https://en.wikipedia.org/wiki/Cruft>

2)David Millians' favorite cussword.

Cruft Happens

- Normal and understandable
 - Mostly from users who fear deleting something important because they don't know what is important
 - I made some myself...
- Makes figuring out what is important extra special difficult
 - Which directories are active?
 - What do they depend on?

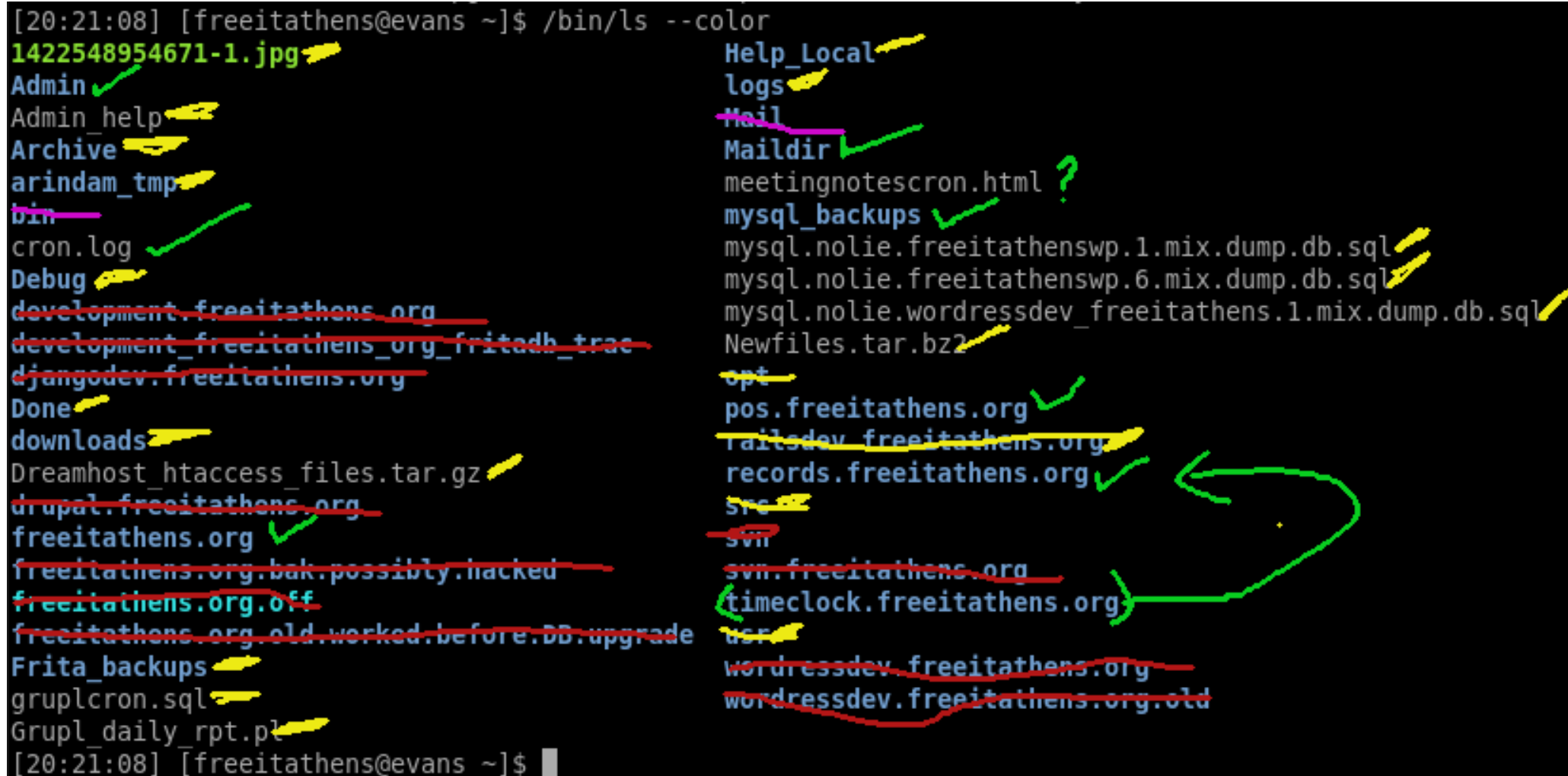
Not So Elementary

```
[20:21:08] [freeitathens@evans ~]$ /bin/ls --color
1422548954671-1.jpg      Help_Local
Admin                    logs
Admin_help              Mail
Archive                 Maildir
arindam_tmp             meetingnotescron.html
bin                     mysql_backups
cron.log                mysql.nolie.freeitathenswp.1.mix.dump.db.sql
Debug                  mysql.nolie.freeitathenswp.6.mix.dump.db.sql
development.freeitathens.org  mysql.nolie.wordpressdev_freeitathens.1.mix.dump.db.sql
development_freeitathens_org_fritadb_trac Newfiles.tar.bz2
djangodev.freeitathens.org  opt
Done                   pos.freeitathens.org
downloads              railsdev.freeitathens.org
Dreamhost_htaccess_files.tar.gz records.freeitathens.org
drupal.freeitathens.org  src
freeitathens.org         svn
freeitathens.org.bak.possibly.hacked  svn.freeitathens.org
freeitathens.org.off     timeclock.freeitathens.org
freeitathens.org.old.worked.before.DB.upgrade  usr
Frita_backups           wordpressdev.freeitathens.org
gruplcron.sql           wordpressdev.freeitathens.org.old
Grupl_daily_rpt.pl
[20:21:08] [freeitathens@evans ~]$
```

Anyone got time on Watson?

Best Guesses

```
[20:21:08] [freeitathens@evans ~]$ /bin/ls --color
1422548954671-1.jpg
Admin ✓
Admin_help
Archive
arindam_tmp
bin
cron.log ✓
Debug
development.freeitathens.org
development.freeitathens.org_fritadb_trac
djangodev.freeitathens.org
Done
downloads
Dreamhost_htaccess_files.tar.gz
drupal.freeitathens.org
freeitathens.org ✓
freeitathens.org.bak.possibly.hacked
freeitathens.org.off
freeitathens.org.old.worked.before.DB.upgrade
Frita_backups
gruplcron.sql
Grupl_daily_rpt.pl
Help_Local
logs
Mail
Maildir ✓
meetingnotescron.html ?
mysql_backups ✓
mysql.nolie.freeitathenswp.1.mix.dump.db.sql
mysql.nolie.freeitathenswp.6.mix.dump.db.sql
mysql.nolie.wordpressdev_freeitathens.1.mix.dump.db.sql ✓
Newfiles.tar.bz2
opt
pos.freeitathens.org ✓
railsdev.freeitathens.org
records.freeitathens.org ✓
src
svn
svn.freeitathens.org
timeclock.freeitathens.org
usr
wordpressdev.freeitathens.org
wordpressdev.freeitathens.org.old
```



Red = dead yellow = not likely to be currently important, but maybe
Magenta = empty or mostly empty green = definitely in use

THE STACK

Solution Stack

- In computing, a solution stack or software stack is a set of software subsystems or components needed to create a complete platform such that no additional software is needed to support applications. Applications are said to "run on" or "run on top of" the resulting platform.
- That is, it's the stuff you need to run the site
- FRITA's sites run “on top of” some sort of stack

Simple Website Stack

http://some-url.something



User-generated static HTML



Software that serves web pages (e.g., Apache)



An operating system (e.g., Linux)

LAMP Stack

http://some-url.something



Static and dynamically generated HTML



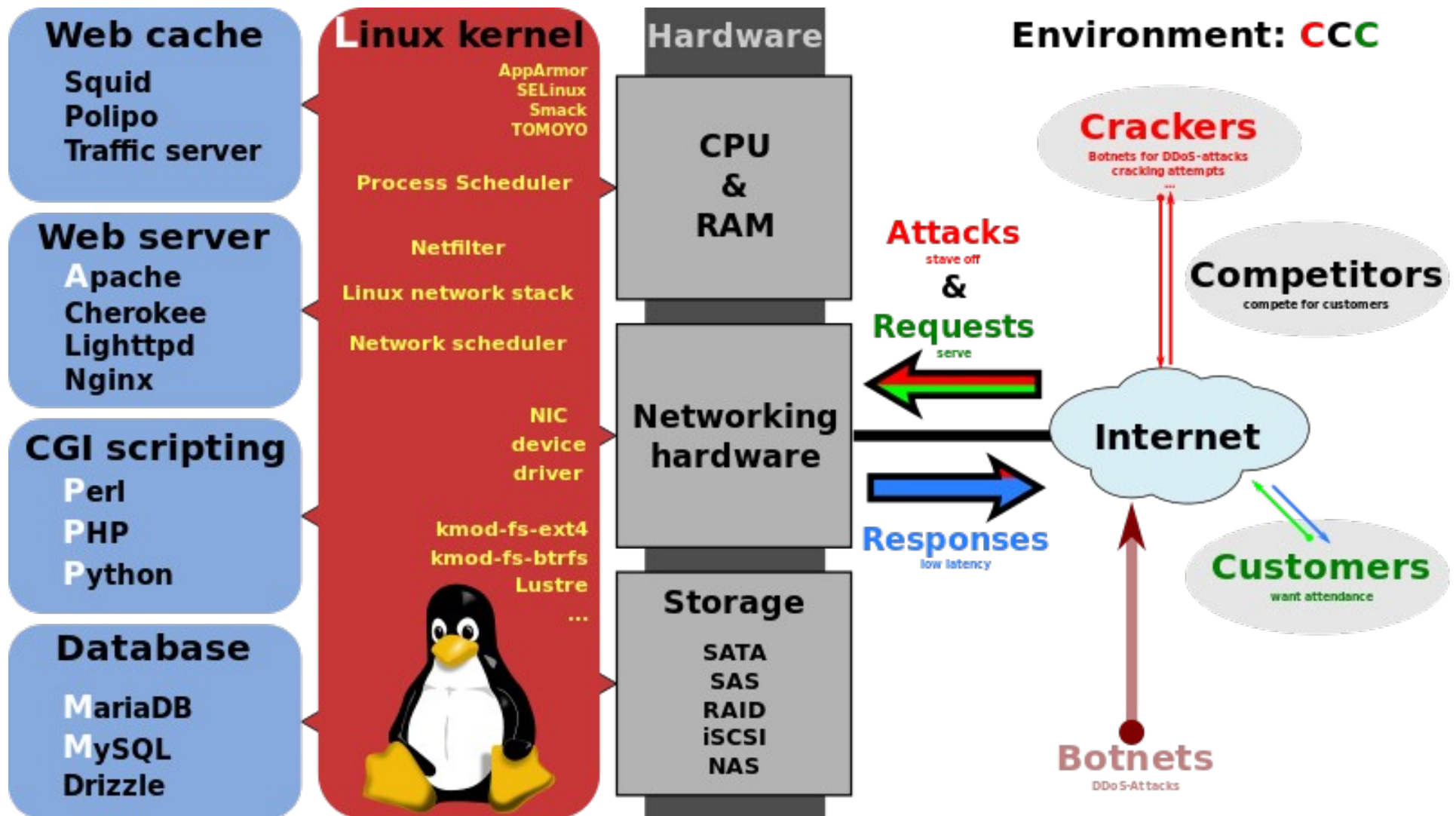
Software that serves web pages (e.g., **A**pache)

Script that generates web content on the fly (**P**HP, **P**erl, **P**ython, etc.)

Database of information to manipulate/store/display (**M**ySQL, **M**ariaDB, etc.)

Operating system: **L**inux

LAMP Stack In Context



Focus here for this talk

[https://en.wikipedia.org/wiki/LAMP_\(software_bundle\)](https://en.wikipedia.org/wiki/LAMP_(software_bundle))

INTRODUCING THE XKCD STACK

EBNF/CSS

BROKEN JAVA APPLET

ARCHIVE.ORG MIRROR

HYPERCARD.JS

QBASIC ON RAILS

[BLOCKED BY ADBLOCKER]

MONGODB/EXCEL

SOME PIECE THAT WORKS SO
NOBODY ASKS ANY QUESTIONS

TRIPLY-NESTED DOCKER

PARAVIRTUAL BOY®

A DEV TYPING REAL FAST

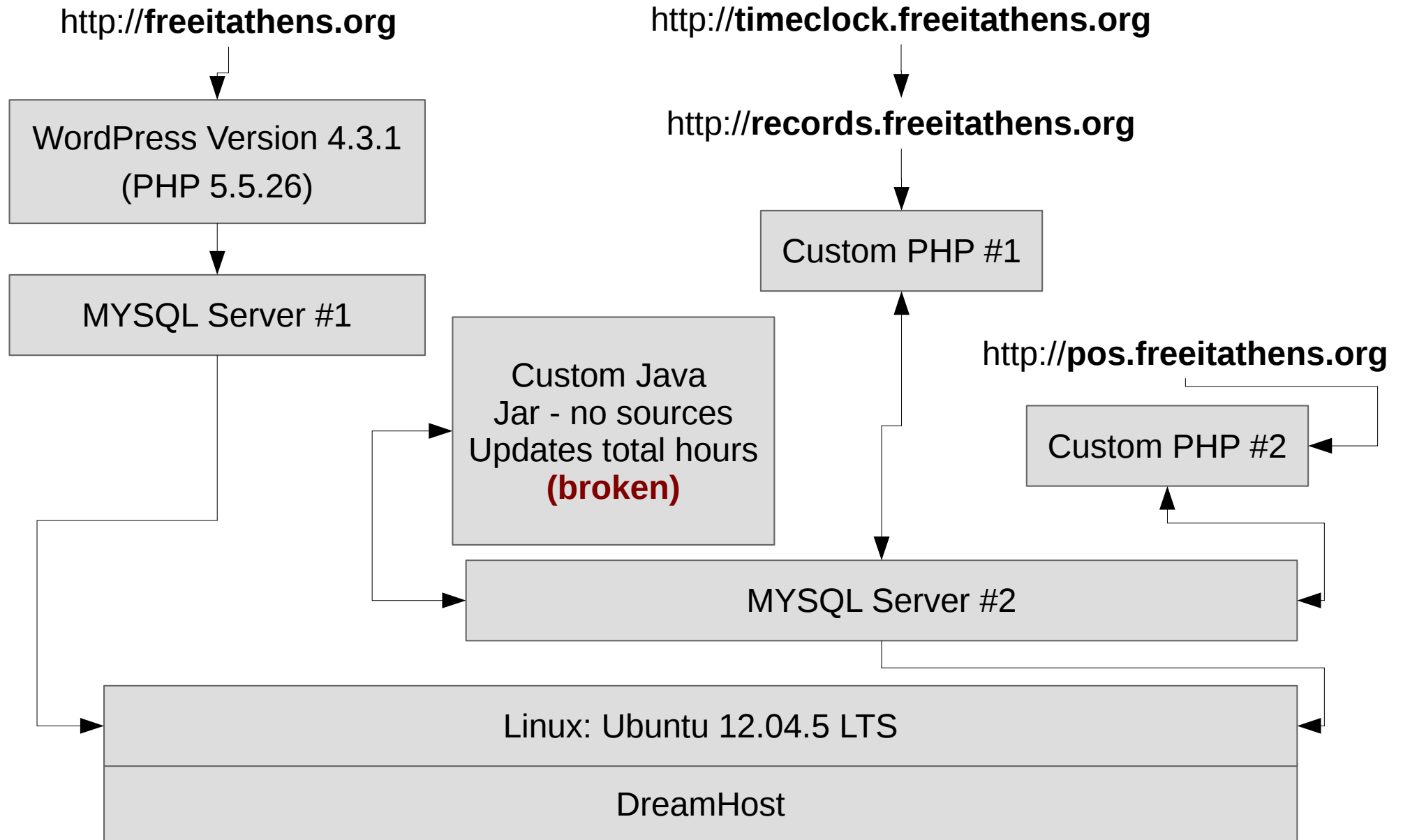
OLDER VERSION
OF OUR SOFTWARE

MYSTERY NETWORKING HORROR

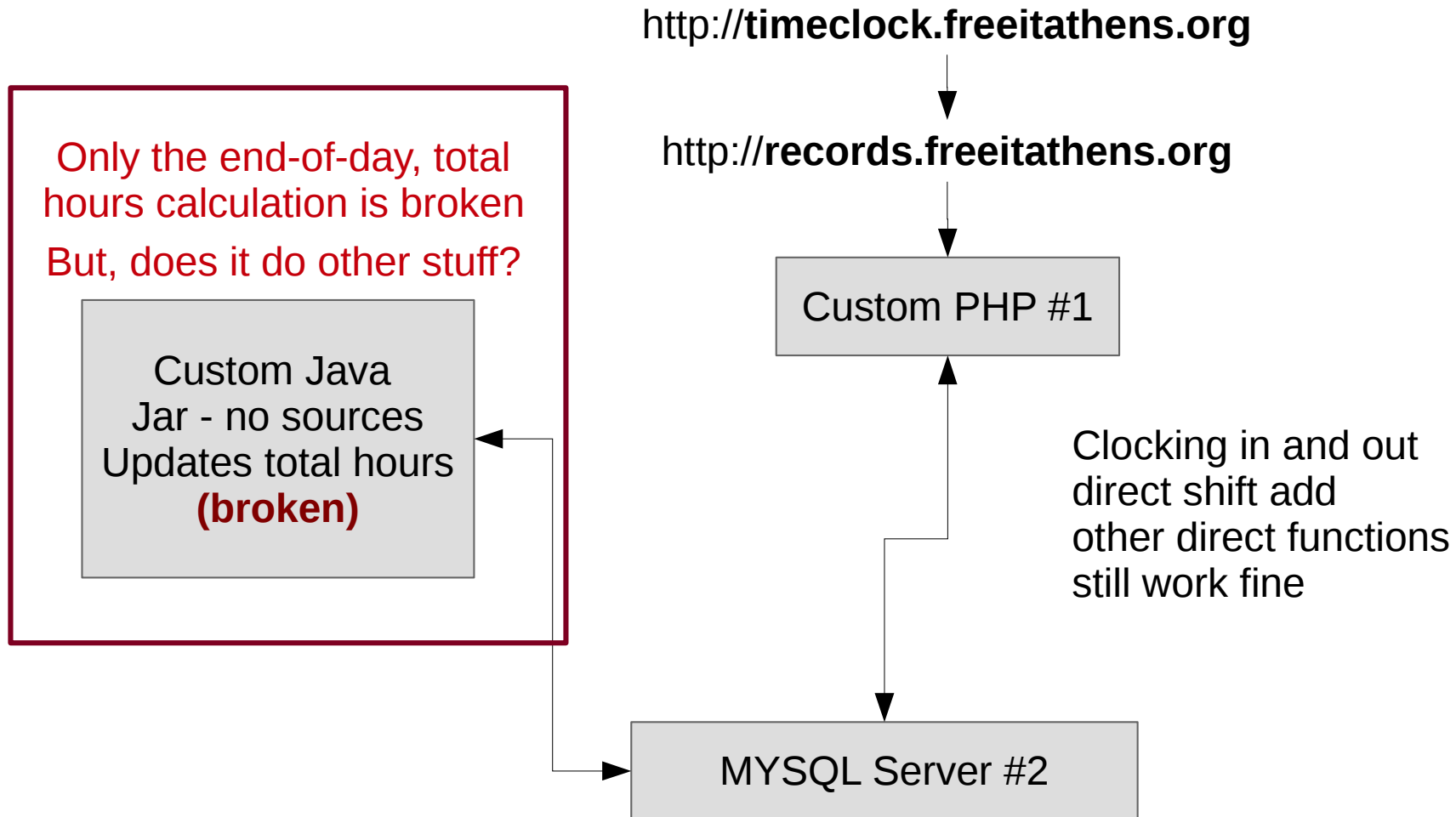
MICROSOFT BOB SERVER®

A GIANT CPU SOMEONE
BUILT IN MINECRAFT

The FRITA Stack



The Time Clock Basically Works



The Records Database

```
$ mysql -h [hostname] --database=[databasename] -u [username] -p
```

```
Enter password:
```

```
...
```

```
mysql> show tables;
```

```
+-----+
```

```
| Tables_in_fritaoperations |
```

```
+-----+
```

```
| ClientVisits |
```

```
...
```

```
| Shifts |
```

```
| Timeclock |
```

```
...
```

```
| Volunteers |
```

```
| account_emailaddress |
```

```
...
```

```
+-----+
```

```
50 rows in set (0.00 sec)
```

```
mysql>
```

The Timeclock Table

```
mysql> show columns from Timeclock;
```

Field	Type	Null	Key	Default	Extra
id	bigint(20) unsigned	NO	PRI	NULL	auto_increment
volunteer_id	int(11) unsigned	NO	MUL	NULL	
time	datetime	NO		NULL	
clockingIn	tinyint(1)	NO		NULL	
activity	varchar(45)	YES		NULL	

```
5 rows in set (0.00 sec)
```

```
mysql>
```

Clock-in and -out is working

```
mysql> Select * from Timeclock;
```

id	volunteer_id	time	clockingIn	activity
5	5	2012-09-10 13:02:55	1	NULL
6	5	2012-09-10 16:17:44	0	Infrastructure and Programming

...

11773	403	2016-01-31 13:07:13	1	NULL
11774	404	2016-01-31 13:07:28	1	NULL
11775	397	2016-01-31 13:09:48	1	NULL
11776	379	2016-01-31 16:22:34	0	Other

0 = clocking out
1 = clocking in

```
11764 rows in set (0.21 sec)
```

```
mysql>
```

Java isn't

```
$ java -jar
/home/freeitathens/records.freeitathens.org/cronjobs/timeclockCron/FRITARecordsCron.
jar
java.sql.SQLException: Unknown or incorrect time zone: 'America/New_York'
    at com.mysql.jdbc.SQLException.createSQLException(SQLException.java:1075)
    at com.mysql.jdbc.MysqlIO.checkErrorPacket(MysqlIO.java:3566)
    at com.mysql.jdbc.MysqlIO.checkErrorPacket(MysqlIO.java:3498)
    at com.mysql.jdbc.MysqlIO.sendCommand(MysqlIO.java:1959)
    at com.mysql.jdbc.MysqlIO.sqlQueryDirect(MysqlIO.java:2113)
    at com.mysql.jdbc.ConnectionImpl.execSQL(ConnectionImpl.java:2568)
    at
com.mysql.jdbc.PreparedStatement.executeInternal(PreparedStatement.java:2113)
    at com.mysql.jdbc.PreparedStatement.execute(PreparedStatement.java:1364)
    at FritaCron.EODTimeclock.main(EODTimeclock.java:115)
```

Not sure if it's worth fixing, and I can't easily tell what exactly it does.

If time: see site live