

Why can't we all live in Greenwich?

Working with and around timezones

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Best Practical

- RT
- SVK
- Jifty
- Hiveminder
- Prophet
- Shipwright

Such a simple feature

Add a new task

Finish talk for tuesday

Tags

Create

Set Date due to 2008-06-17

[more...](#)

Thanks

- Arthur David Olson
- Rolsky
- People of Indiana

Arthur David Olson

- Olson file
- Quantification of insanity

Insanity

From Paul Eggert (2001-05-30):

Howse writes that Alaska switched from the Julian to the Gregorian calendar, and from east-of-GMT to west-of-GMT days, when the US bought it from Russia. This was on 1867-10-18, a Friday; the previous day was 1867-10-06 Julian, also a Friday. Include only the time zone part of this transition, ignoring the switch from Julian to Gregorian, since we can't represent the Julian calendar.

Insanity (DST)

From Larry M. Smith (2006-04-26) re Wisconsin:
<http://www.legis.state.wi.us/statutes/Stat0175.pdf> ...
is currently enforced at the 01:00 time of change. Because
the local "bar time" in the state corresponds to 02:00, a
number of citations are issued for the "sale of class 'B'
alcohol after prohibited hours" within the deviated hour of
this change every year....

Insanity Quantified

```
Rule Chicago 1955 1966 - Oct lastSun 2:00 0 S
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/Chicago -5:50:36 - LMT 1883 Nov 18 12:09:24
-6:00 US C%sT 1920
-6:00 Chicago C%sT 1936 Mar 1 2:00
-5:00 - EST 1936 Nov 15 2:00
-6:00 Chicago C%sT 1942
-6:00 US C%sT 1946
-6:00 Chicago C%sT 1967
-6:00 US C%sT
```

Insanity Mapped

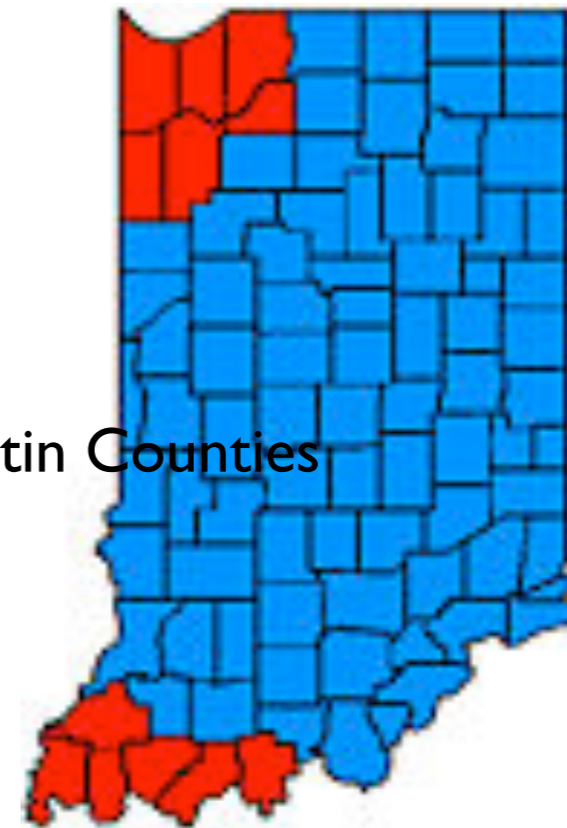
- indiana

US +384038-0873143 America/Indiana/Vincennes
Eastern Time - Indiana - Daviess, Dubois, Knox & Martin Counties

US +415100-0873900 America/Chicago
Central Time

US +375711-0864541 America/Indiana/Tell_City
Central Time - Indiana - Perry County

US +382931-0871643 America/Indiana/Petersburg
Central Time - Indiana - Pike County



other countries

- half hour (India, Afghanistan, Venezuela etc)
- quarter hour (Nepal, Australia)
- many hours (China)

Map of insanity



Dave Rolsky

- DateTime
- DateTime::TimeZone

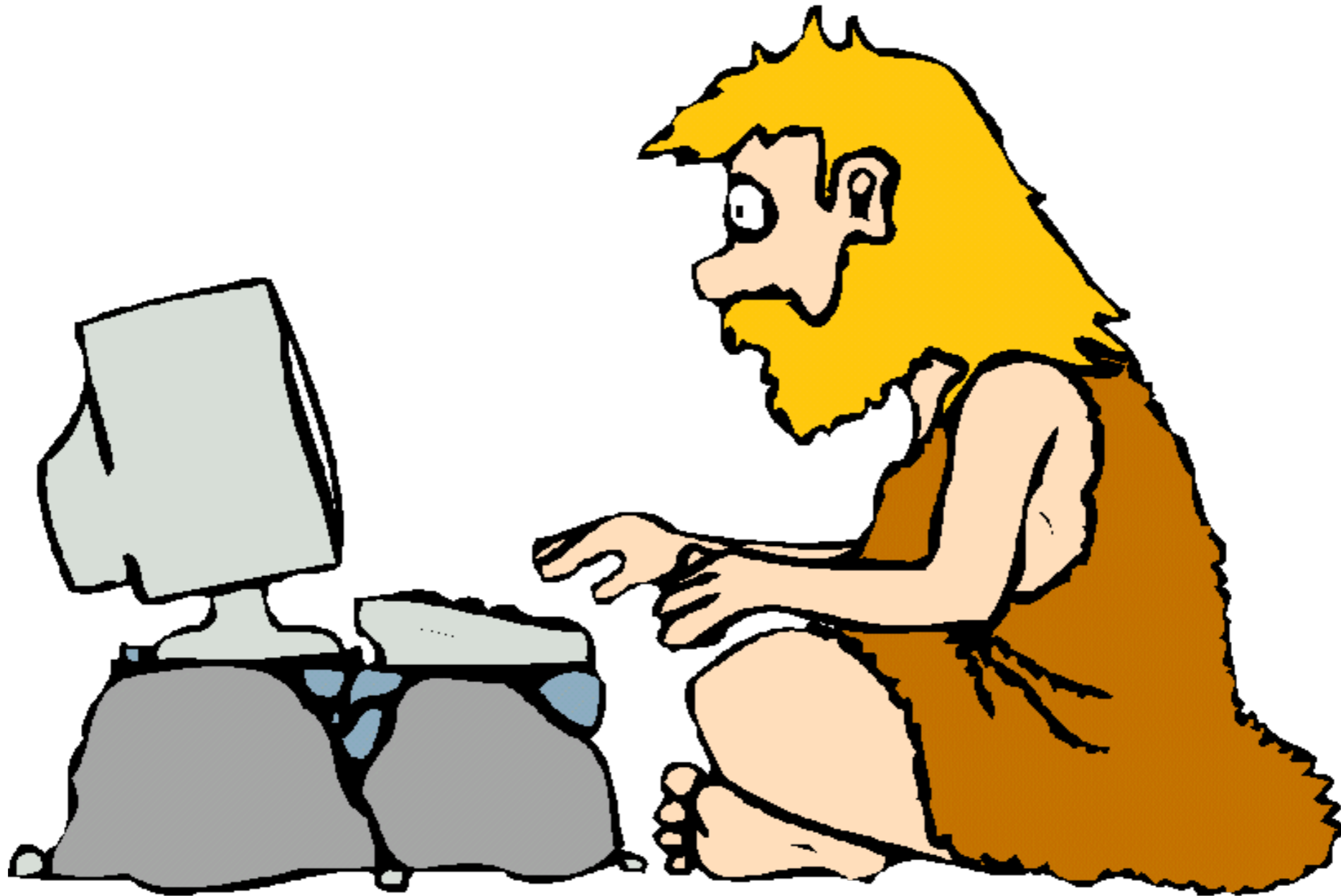
Sanity

```
my $dt = DateTime->now;  
# 2008-05-14 15:19:43
```

```
$dt->set_time_zone('Asia/Taipei');  
# 2008-05-14 23:19:43
```

```
$dt->set_time_zone('America/Caracas');  
# 2008-05-14 10:49:43
```

In the beginning



In the beginning



In the beginning

Add a new task

Finish talk for tuesday

Tags

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Set Date due to 2008-06-17

[more...](#)

database

\d tasks

...

due

| date

database

summary | due

Finish talk for tuesday | 2008-06-17

database

```
jiftyclean=# select modified_at, type  
              from task_transactions  
              where task_id = 11;
```

modified_at		type
2008-06-15 19:55:16		create

database

History

You created the task at 2008-06-15 15:55:16

filter

column due => type is 'date',
render as 'Date',
filters are 'Jifty::DBI::Filter::Date',
label is 'Date due';

filter

=head1 DESCRIPTION

This filter allow you to work with DateTime objects that represent "Dates", store everything in the database in GMT and not hurt yourself badly when you pull them out and put them in repeatedly.

=head2 decode

If we're loading something from a column that doesn't specify times, then it's loaded into a floating timezone.

filter

```
package Jifty::DateTime;
sub new {
    if ($self->hour || $self->minute || $self->second) {
        if (!$args{time_zone} and
            my $tz = $self->current_user_has_timezone) {
            # XXX: we do this because of the floating timezone
            $self->set_time_zone("UTC");
            $self->set_time_zone( $tz );
        }
    } else { # No time, just use the floating time zone
        $self->set_time_zone("floating");
    }
}
```

floating tz

```
use DateTime;
my $dt = DateTime->new(year => '2008',
                       month => '06',
                       day   => '17',
                       time_zone => 'floating');
# 2008-06-17T00:00:00
$dt->set_time_zone('UTC');
# 2008-06-17T00:00:00
$dt->set_time_zone('America/Chicago');
# 2008-06-16T19:00:00
```

floating tz again

```
use DateTime;
my $dt = DateTime->new(year => '2008',
                       month => '06', day => '17',
                       hour => '10', minute => '15',
                       time_zone => 'floating');
# 2008-06-17T10:15:00
$dt->set_time_zone('America/Chicago');
# 2008-06-17T10:15:00
```

floating tz again

```
use DateTime;
```

```
my $dt = DateTime->new(year => '2008',  
                        month => '06', day => '17',  
                        hour => '10', minute => '15',  
                        time_zone => 'floating');
```

```
# 2008-06-17T10:15:00
```

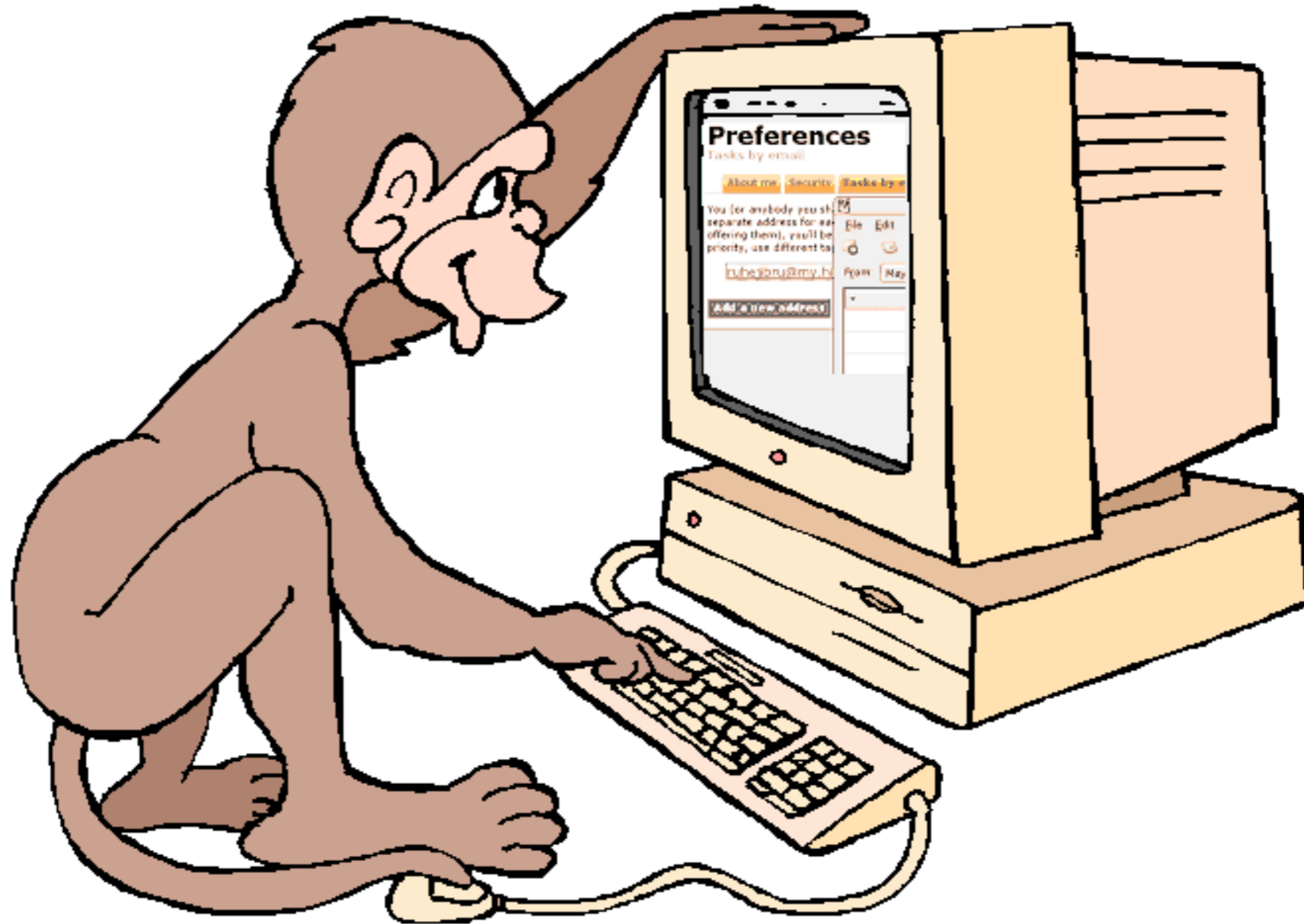
```
$dt->set_time_zone('UTC');
```

```
# 2008-06-17T10:15:00
```

```
$dt->set_time_zone('America/Chicago');
```

```
# 2008-06-17T05:15:00
```

User Preferences



User Preferences

To Do ▾ Groups ▾ Tools ▾ Help ▾

Hiveminder Pro

Hiya, **Kevin** ([Logout](#)).

Tags ?

foo all
(untagged)

Braindump ?

Example: Buy milk!
[shopping food] [due:
tomorrow]

[Create](#)

Invite a friend

Preference

[About you](#) [Security](#)

On this page, you can change your preferences, and other preferences.

If you want to create tasks by email, click on the [Tasks by email](#) link.

If you want to create and update tasks by email, click on the [Tasks by email](#) link.

Print messages ? click c

Email Address

Name

Tasks per page

Time zone

Email reminders

- 0400 America/Indiana/Vevay
- 0400 America/Indiana/Vincennes
- 0400 America/Indiana/Winamac
- 0400 America/Iqaluit
- 0400 America/Kentucky/Louisville
- 0400 America/Kentucky/Monticello
- 0400 America/La_Paz
- 0400 America/Manaus
- 0400 America/Martinique
- 0400 America/Montreal
- 0400 America/Montserrat
- 0400 America/Nassau
- 0400 America/New_York
- 0400 America/Nipigon**
- 0400 America/Pangnirtung
- 0400 America/Port_of_Spain
- 0400 America/Porto_Velho
- 0400 America/Puerto_Rico
- 0400 America/Santiago
- 0400 America/Santo_Domingo
- 0400 America/New_York

User Preferences

```
for my $tz ( DateTime::TimeZone->all_names ) {  
    my $now = DateTime->now( time_zone => $tz );  
    my $offset = $now->strftime("%z");
```

```
# seperate 0100 and -0100
```

```
# sort
```

```
# print
```

And now the hard part

- turning manure into dates
 - `Date::Manip`
 - `DateTime::Format::Natural`
 - `Date::Extract`
- giving up on magic
 - `Date::Fail`

magic parsing

- in a week
 - monday or sunday
- next month
 - current day of the month or the first?
- Next Tuesday
 - on a Tuesday

more magic parsing fail

- 'check on 1994' -> 1994-01-01
 - D::F -> 1993-11-30T05:00:00
- '01' -> D::M -> 2001-01-01
- 'turn in homework' -> today

Time Zone Name Fail

- `Date::Fail` accepts CST not America/Chicago
 - CST - China Standard Time
 - CST - Central Standard Time in Australia
 - What about CST vs CDT?

Offset from doom

- Turn America/Chicago into -0500

```
Date::Fail::parse($datestring,  
                  $self->get_tz_offset);
```

shitshitshitshitshit
shitdaylightsavings
shitshitshitshitsh



Oh right, DST

- I said I would get to DST eventually
- -0500 is only true until you stop being on daylight saving time

Oh right DST

```
$now = HM::DateTime->now;
$datestring = 'November 11th';
$date = Date::Fail::parse($datestring,
                          $self->get_tz_offset); # -0500
# 2008-11-10 23:00:00
if ($now->is_dst && !$date->is_dst) {
    return Date::Fail::parse($datestring,
                              $self->get_tz_offset($date));
    # -0600
}
```

Offset that works

```
my $offset = $self->get_tz_offset; # -0500
my $dt_now = BTDT::DateTime->now();
my $now = sprintf '%s-%s', $dt_now->ymd, $dt_now->hms; # 2008-06-16-10:55:00

Date::Manip::Date_Init("TZ=$offset", "ConvTZ=$offset", "ForceDate=$now");

my $datestr = Date::Manip::ParseDate($c) or return;
my ($y, $m, $d) = $datestr =~ /^(\d\d\d\d)(\d\d)(\d\d)/ or return;
```

Reports across DST

```
my $dt = DateTime->new( year => 2008,  
                        month => 3,  
                        day   => 10,  
                        hour   => 2,  
                        minute => 12,  
                        time_zone => 'America/Chicago' );  
my $yesterday = $dt->clone->subtract(days => 1);  
  
# Invalid local time for date in time zone:America/Chicago
```

no more Date::Fail

- gave up on Date::Fail
- explicit [due wednesday]
 - Date::Manip
 - Date::Extract
 - DateTime::Format::Natural
- implicit 'check on ticket 2034'
 - Date::Extract

Date::Extract

- Shawn (Sartak)
- Simple, no surprises
 - doesn't know what a julian date is
- Built on top of `DateTime::Format::Natural`

Date::Extract

today; tomorrow; yesterday

last Friday; next Monday; previous Sat

Monday; Mon

November 13th, 1986; Nov 13, 1986

November 13th; Nov 13

13 Nov; 13th November

1986/11/13; 1986-11-13

11-13-86; 11/13/1986

Date::Extract

- Oh, and it returns DateTime objects

FIN