What I did on my Holiday

Oliver Gorwits, miltonkeynes.pm

The day job

- I'm a network engineer

- Routers, Switches, Cisco, etc

- I'm a Perl jockey, too

I am geek.

- A fortnight off in May/June

- Decide to learn some New Tech

- Poke the allotment a bit

What's 'new' ?

- I don't do:
  - XML
  - Javascript
  - Perl OO crack (Moose)

XML + Images

Netdisco

- Maps your network

- Web UI with tables of data

- Uses SNMP, cron

Netdisco Demo

Frontpanel patch

- Draws pretty pictures of hardware

- Compiled from vendor's images and SNMP

- Problems:

    - "Database" of switches is a Perl file

    - Limited language to represent all devices

XML to the Rescue

- XML database of switches

    - Updated by non-Perl people

- Flexible schema

    - New designs and configurations

XML 101

```
<date type="ISO8601">
   <year>2002</year>
   <month>06</month>
   <day>01</day>
</date>
```

RELAX-NG Compact

```
element date {
    attribute type { text }?,
    element year { text },
    element month { text },
    element day { text }
}
```
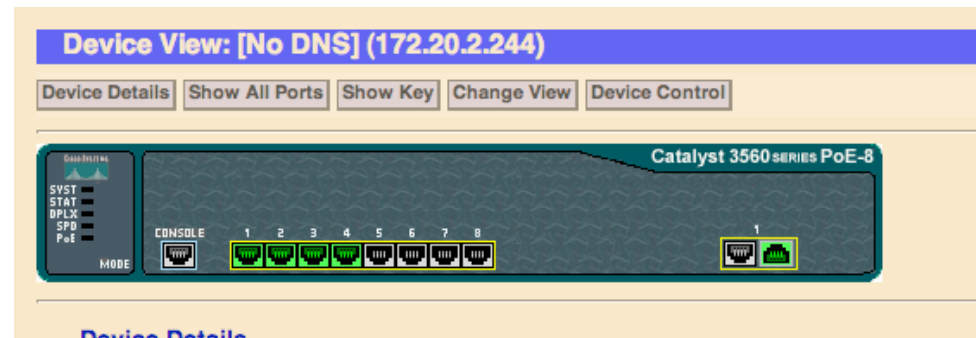
Workflow

1. XML describing device parts

2. XML combining them to describe a device

3. XSLT selects and converts to Perl

   - `XML::LibXML` and `XML::LibXSLT`

4. `Imager` reads Perl and draws image

Device XML

```
<chassis type="cevChassis.596" image="c3560_8_1.gif">

    <portGroup type="cevPortNIC100"
               x="113" y="57"
               xStep="19" yStep="0"
               width="8" height="1"
               countDirection="across"/>

    <port type="cevPortBaseTEther" x="397" y="55"/>

    <container type="cevContainerSFP" x="418" y="55"/>

</chassis>
```

Output (2)

Javascript

Toolbox

- `Catalyst`
  - "The Elegant MVC Web Application Framework"

- `DBIx::Class`
  - "Extensible and flexible object-relational mapper."

- `CatalystX::ListFramework`
  - "Foundations for displaying and editing lists in a Catalyst application"

The Concept

- "Simple" relational database

- Web UI for:

  - Create, Retrieve, Update, Delete

- All auto-generated

- All AJAX

DBIx::Class Reflection

- Reflection means to view metadata

- In the context of a database:

  - What tables are available?

  - What columns do they have?

  - Data types, constrains, relations...

AJAX

- Asynchronous Javascript and XML

- Browsers make web requests without reloading the page (e.g. Gmail)

- Javascript calls the `XMLHttpRequest` API

ExtJS

- "A cross-browser JavaScript library for building rich internet applications"

- Object oriented Javascript

  - Quite Perlish, which surprised me

- Tables, forms, AJAX, etc

ListFramework

- Pete and Andy's work from Dragonstaff

    - ExtJS v1

    - `DBIx::Class`

    - No reflection

    - Little AJAX (no bad thing!)

Aims

- Almost fully zero-conf

  - Reflection on-the-fly

- ExtJS 2.1

  - Single page load, no HTML, fully AJAX

CatalystX::ListFramework::Builder

```
package MyApp;

use base 'CatalystX::ListFramework::Builder';

__PACKAGE__->build_listframework('/path/to/myapp/config.yml');
# config.yml has the database connection parameters

1;
```

ListFramework Demo

Perl OO crack

REPL

- Read, Eval, Print, Loop

- A "programming shell"

  - Common and mature in Ruby, Python

- `mst` wrote `Devel::REPL` using `Moose`

  - Super-useful for testing, hacking, etc!

Devel::REPL Demo

Sick Idea

- London.pm Tech Meet

  - `VirtualSue`'s Cisco talk

  - Question about Perl in the "Cisco shell"

- ... IOS + Perl, can it be done?

  - (or faked, at least)

Moose

- Post-modern Object System for Perl 5

- Really easy to hook in, around methods

- Great showcase for OO

  - Embracing, extending...

The Cut and Shut

- Use `Net::Appliance::Session`

  - Like `Expect.pm` on speed, talks to Cisco

- A Plugin for `Devel::REPL`

- User at the `Devel::REPL` shell

  - Commands go either to Cisco, or Perl

`Devel::REPL::Plugin::NAS` Demo

Any holiday left?

The End