Interchange – The Open Source Online Shop Platform

Stefan Hornburg

YAPC 2008, Copenhagen

History & Motivation

- 1995: first release of MiniVend
- 1998: software evaluation for materialboerse.de
- 2000: Akopia acquired MiniVend
- 2000: Merged with Tallyman into Interchange
- 2001: RedHat acquired Akopia
- 2002: RedHat dropped support for Interchange
- 2002: foundation of ICDEVGROUP
- 2007: booth on Linuxtag in Berlin

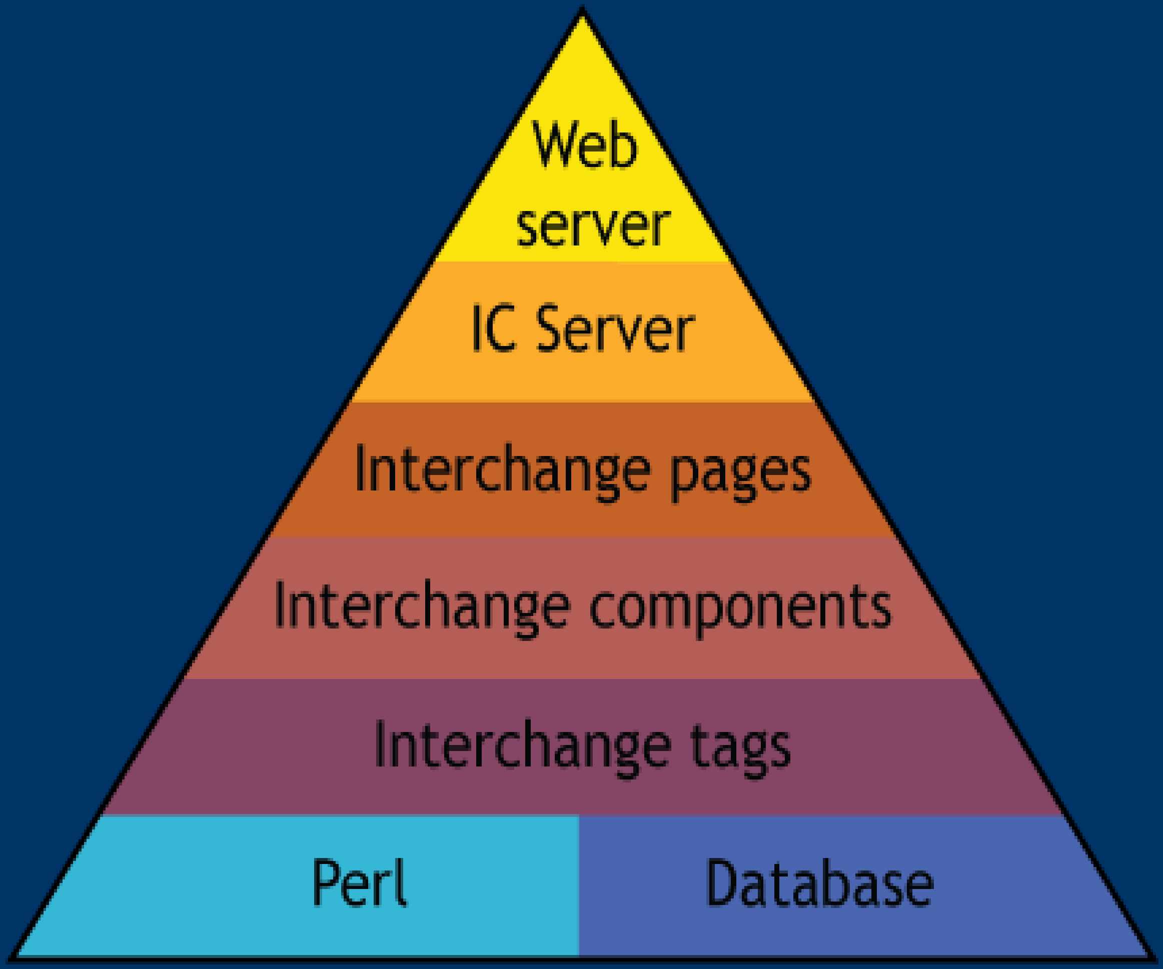
Interchange

- Architecture
- Perl: how, where and why?
- Development

Architecture

- Standalone Server
  - Global Configuration (interchange.cfg)
- Shops (Catalogs)
  - Local Configuration (catalog.cfg)
- Databases
  - DBI (MySQL, PostgreSQL, SQLite, ...)
- Content
  - Pages, Templates, Components

Architecture: Pyramid



Archictecture: Standalone Server

- Pros and Cons
  - Security
  - Performance
    - Threaded Perl
  - Decoupling
    - Stability pattern, Recursive Proxy, Separate Machine
  - Installation
- Run Modes
  - PreFork
  - PreFork/SingleFork
  - On Demand

Architecture: Content

- HTML with ITL
  - Variables
    - @@MV_PAGE@@
  - Localization
    - [L]Conference[/L]
  - UserTags
    - [total-cost]
- Embedded Perl
  - Safe compartment
  - UserTags
    - $Tag->total_cost()

Embedded Perl

Sorting Cart by Article Number

```
[calc]
@$Items = sort {$a->{code} cmp $b->{code}}
 @$Items;
[/calc]
```

Perl Inside UserTag Arguments

```
[assign salestax=`($Tag->subtotal({noformat=>1})
   + $Tag->shipping({noformat=>1}))
   * $Variable->{MWST_SATZ} / 100`]
```

Perl: Why, where and how?

- Perl - why not Java or PHP?
- Perl - where?
- Perl - how?

Perl: Why?

- Lack of alternatives in 1995
- DBI
- CPAN
  - Business::UPS
  - Business::OnlinePayment

Perl: Where?

- Server
- UserTags
- ActionMaps
- Filters
- Checks
- Modules

UserTags: [order] Example

Put one T-Shirt into cart:

```
[order item=”IC2008”]
```

Put two T-Shirts into the cart:

```
[order item=”IC2008” quantity=”2”]
```

Put orange T-Shirt into the cart

```
[order code=”IC2008” color=”orange”]
[order code=”IC2008”
 form=”mv_order_color=orange”]
```

UserTags: [custom-order]

```
UserTag custom-order Order code quantity
UserTag custom-order AddAttr
UserTag custom-order Routine <<EOR
sub {
    my ($code, $quantity, $opt) = @_;

    for (qw/color size/) {
        $opt->{form}
            .= “mv_order_$_=$opt->{_}\n”;
    }

    return $Tag->order($code, $quantity,
 $opt);
}
EOR
```

ActionMap: download

```
ActionMap download <<EOM
sub {
     my ($name, $id) = split('/', shift);

     unless ($Session->{logged_in}) {
        $CGI->{mv_nextpage} = 'index';
        return 1;
     }

     $id =~ s/\.xls$//;

     $Tag->perl({tables => 'uploads'});

     if (($ref = $Db{uploads}->row_hash($id))
        && $ref->{company_idf} == $Scratch->{"company::idf"}) {
        $Tag->deliver({file => $ref->{file}});
        return;
     } else {
        $CGI->{mv_nextpage} = 'intern/upload';
        return 1;
     }
}
EOM
```

Modules

Load modules with require:

```
Require Module Vend::Payment::BusinessPayment
Require Module Vend::Swish /usr/lib/swish-e/perl
```

Vend::Picture

```
package Vend::Picture;

use IO::Scalar;
use Image::Magick;

use vars qw($CGI);
```

Vend::Picture::magick

```
sub magick {
    my ($name, $opts) = @_;
    my (@args, $image, $msg);

    # first read in image
    if ($opts->{cgi}) {
       tie *IMG, 'IO::Scalar', \$CGI::file{$name};
       @args = (file => \*IMG);
    } else {
       @args = (filename => $name);
    }

    $image = new Image::Magick;

    if ($msg = $image->Read(@args)) {
       ::logError("failed to read picture: $msg");
       return;
    }

    return $image;
}
```

Vend::Picture::resize

```
sub resize {
     my ($name, $width, $height, $opts) = @_;
     my ($image, $msg, $size, $outfile);

     $image = magick($name, $opts);
```

```
$outfile = $opts->{outfile} || $name;

# if we want both width and height to fit, we have to crop a bit
if ($width && $height) {

    # Get the size and resize according to it
    my ($orig_width, $orig_height) = (0,0); #$image->[0]->Ping();
    $size = "${width}x$height";
    my $crop = $size;

    $orig_width = $image->[0]->Get('width');
    $orig_height = $image->[0]->Get('height');

    if ($orig_width < $orig_height){ # if landscape
        $size = "${width}x";
    }
    else {
        $size = "x$height";
    }

    $msg = $image->[0]->Thumbnail(geometry => $size);

    $msg = $image->[0]->Set( Gravity => 'Center');

    $msg = $image->[0]->Crop("$crop+0+0");


    return Vend::Picture::write($image, $outfile);
}
```

Vend::Picture: Thumbnail Resize

```
elsif ($width || $height) {
    # shrink it by width or height
    if ($width) {
        $size = "${width}x";
    }
    else{
        $size = "x$height";
    }

    $msg = $image->[0]->Thumbnail(geometry => $size);

    if ($msg) {
        ::logError("Vend::Picture::resize: $msg");
        return;
    }

    return Vend::Picture::write($image, $outfile);
}
```

Vend::Picture: [image-resize]

```
use Vend::Config;
use Vend::File;

Vend::Config::parse_tag('UserTag',
    'image_resize Order name width height');

Vend::Config::parse_tag('UserTag',
    'image_resize AddAttr');

Vend::Config::parse_tag('UserTag',
    'image_resize MapRoutine Vend::Picture::resize');


[image_resize original 200 30]
```

Interchange API's

- Payment
- Shipping
- Options
- Database

Development

- Roadmap
  - UTF8
  - WellWell Template
  - Gettext
- Community
  - Organization
  - Contributions

Roadmap

- Store Template (WellWell)
- Full UTF-8 support
- Gettext support

UTF-8 Support

- Interchange 5.6.0
- Regexes in Embedded Perl

ICDEVGROUP

- http://www.icdevgroup.org/
- Developers from all around the globe
  - Croatia, Germany, Great Britain, Greece, Netherlands, New Zealand, Slovenia, USA

Community

- Mailinglist
- IRC
- Bug Tracker (RT)
- LinuxTag 2009