CakePHP @ NYPHP

"If I can Cake it there, I'll Cake it anywhere."

Why a Framework?

- Technology is a commodity
- Abstract away the commodity
- Focus on the things that are of value

What about others?

- Zend Framework
- PHP on Trax
- CodeIgniter
- Symfony

Zend Framework

- A framework of exclusion - not just PHP 5, but PHP 5.1.4
- Yet Another Class Library - not enough to be called a framework
- The Windows Vista of PHP

The Windows Vista of PHP

What they said then:

- Controller/Dispatcher:

  "[...] the front controller doesn't rely on a sophisticated collection of mod_rewrite rules." [1]

- ActiveRecord:

```
$people = Person::findAll(
  array('nameFirst' => 'Daniel')
);
```

The Windows Vista of PHP

Where they are now:

- Controller/Dispatcher:

  "you will also need the Apache web server, as some of the functionality provided by the news system I present in this article requires the use of mod_rewrite." [2]

- ActiveRecord:

```
$sql = "INSERT
        INTO   comments (name, comment, newsId)
        VALUES ('$name', '$comment', '$newsId')";
return $this->_db->query($sql);
```

Symfony

Reams of configs

+

Getters to the nth degree for the simplest things

```
propel:
  weblog_post:
    _attributes: { phpName: Post }
    id:
    title:       varchar(255)
    excerpt:     longvarchar
    body:        longvarchar
    created_at:
  weblog_comment:
    _attributes: { phpName: Comment }
    id:
    post_id:
    author:      varchar(255)
    email:       varchar(255)
    body:        longvarchar
    created_at:

default:
  http_metas:
    content-type: text/html; charset=utf-8

  metas:
    title:        The best weblog ever
```

```
$this->post = PostPeer::retrieveByPk(
  $this->getRequestParameter('id')
);

$c = new Criteria();
$c->add(
  CommentPeer::POST_ID,
  $this->getRequestParameter('id')
);
$c->addAscendingOrderByColumn(
  CommentPeer::CREATED_AT
);
$this->comments = CommentPeer::doSelect($c);
```

Sound like another language we know of?

Symfony

```
$this->post = PostPeer::retrieveByPk($this->getRequestParameter('id'));

$c = new Criteria();
$c->add(CommentPeer::POST_ID,$this->getRequestParameter('id'));
$c->addAscendingOrderByColumn(CommentPeer::CREATED_AT);
$this->comments = CommentPeer::doSelect($c);
```

vs. “vanilla” PHP:

```
$post = $db->query(“SELECT * From posts where id = {$_GET[‘id’]}”);

$comments = $db->query(
  “SELECT * From comments where post_id = {$_GET[‘id’]} ORDER BY created ASC”
);
```

Why CakePHP?

A Revolutionary Concept:

PHP development...

In PHP!

Why CakePHP?

Playing to the strengths of the language

- Simple, array-based ActiveRecord
- Consistent code across PHP4 and 5:
  Cake brings PHP5 OO constructs to PHP4
- Structure by default
- Maintains the PHP freedom
- Deploy anywhere

Who's on Cake?


TEXTLINKBROKERS.COM
SMARTER LINKS FOR HIGHER RANKINGS
iconxchange
free icons for everyone
schematic
YAHOO!
VOICENATION
snook.ca
US·Web
HUNT & GATHER
Panasonic
Forty Media
a web and branding agency
OgilvyInteractive
worldwide
Frappr
Beta
CakePHP @ NewYorkPHP
AVATAR
FINANCIAL
GROUP LLC

I cannot put into words how much better this is than writing SQL and dealing [with] $_GET.

– Patrick Mineault, Lead Developer, AMFPHP

The ActiveRecord modeling is awesome. I can associate tables anyway I want as well as define runtime associations of tables.

– Jim Plush, Senior PHP/Ajax Developer, Panasonic

Much to my surprise, there was a page greeting me telling me what to do. [...] Who needs documentation when it tells me how to do everything?

– Jonathan Snook, snook.ca

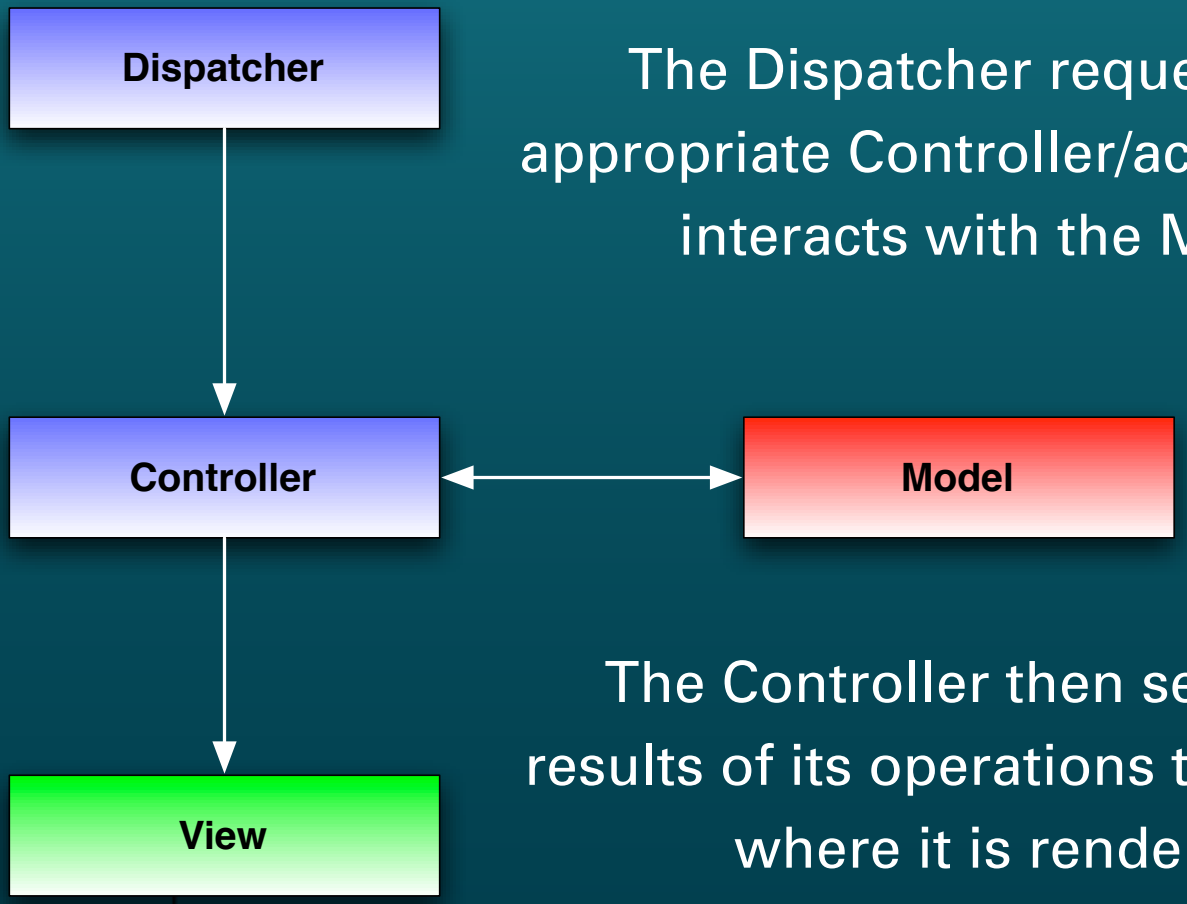
Perl is a giant wasteland.

– John Resig, Creator, jQuery

MVC Quickie

- Primary: separation between Controller and View, to partition business logic and presentation
- Secondary: separation between data (Model) and Controller

MVC Quickie



The Dispatcher requests the appropriate Controller/action, which interacts with the Model

The Controller then sends the results of its operations to the view, where it is rendered

MVC Quickie

A simple example

```
/* models/post.php */
class Post extends AppModel { }

/* controllers/posts_controller.php */
class PostsController extends AppController {

  function index() {
    // Get the data from the Model
    $posts = $this->Post->findAll();

    // Send the data to the view
    $this->set('posts', $posts);
  }
}
```

The M: ActiveRecord

Model Definition

```
/* models/post.php */
class Post extends AppModel {
  var $hasMany = 'Comment';
}

/* models/comment.php */
class Comment extends AppModel {
  var $belongsTo = 'Post';
}
```

The Data

```
Array
(
    [0] => Array
        (
            [Post] => Array
                (
                    [id] => 2
                    [title] => A title once again
                    [body] => And the post body fol
                    [created] => 2006-09-20 11:55:2
                    [modified] => 2006-09-20 11:55:
                )
            [Comment] => Array
                (
                    [0] => Array
                        (
                            [id] => 4
                            [post_id] => 2
                            [body] => Are we there
                            [created] => 2006-09-20
                            [modified] => 2006-09-2
                        )
                )
        )
    [1] => Array
        (
            [Post] => Array
                (
                    [id] => 1
                    [title] => The title
                    [body] => This is the post body
                    [created] => 2006-09-20 11:55:2
                    [modified] => 2006-09-20 11:55:
                )
            [Comment] => Array
                (
```

Scaffolding an App

```
/* models/post.php */
class Post extends AppModel {
  var $hasMany = 'Comment';
}

/* models/comment.php */
class Comment extends AppModel {
  var $belongsTo = 'Post';
}

/* controllers/posts_controller.php */
class PostsController extends AppController {
  var $scaffold;
}

/* controllers/comments_controller.php */
class CommentsController extends AppController {
  var $scaffold;
}
```

...and you're done.

Building an App

Request/Response

1

Apache or IIS

Database

2

Dispatcher

Model

8

3

5

View

7

Controller

6

Redirect

6

requestAction()

Model Associations

- hasMany:

  `Post **hasMany** Comment / Comment **belongsTo** Post`

- belongsTo:

  `Comment **belongsTo** Post / Post **hasMany** Comment`

- hasOne:

  `Invoice **hasOne** Payment / Payment **belongsTo** Invoice`

- hasAndBelongsToMany:

  `Post **hasAndBelongsToMany** Tag /`

  `Tag **hasAndBelongsToMany** Post`

Model Associations

- hasMany:

```
Post.id = Comment.post_id
```

- belongsTo:

```
Comment.post_id = Post.id
```

- hasOne:

```
Payment.invoice_id = Invoice.id
```

- hasAndBelongsToMany:

```
Post.id = posts_tags.post_id &&

Tag.id = posts_tags.tag_id
```

Simple Solutions To Common Problems

Simple Solutions

- Validation

Model:

```
class Post extends AppModel {
  var $validate = array(
    'title' => VALID_NOT_EMPTY,
    'body' => VALID_NOT_EMPTY
  );
}
```

View:

```
echo $html->tagErrorMsg(
  'Post/title',
  'You must include a title!'
);
```

Simple Solutions

- Query Building - Controller::postConditions( )


```
Array
(
    [Product] => Array
        (
            [category_id] => 3
            [name] => V for Vendetta
        )

)
```

- `$this->Product->findAll($this->postConditions());`

SELECT `Product`.`id`, ... FROM `products` AS `Product` WHERE
(`Product`.`category_id` = 3) AND (`Product`.`name` = 'V for Vendetta')

- `$this->postConditions(null, array('name' => 'like'), null, true);`

SELECT `Product`.`id`, ... FROM `products` AS `Product` WHERE
(`Product`.`name` LIKE '%V for Vendetta%')

Simple Solutions

- Pagination

  Controller:

```
var $paginate = array(
   'limit' => 20, 'order' => 'pub_date ASC')
);
function index() {
   $articles = $this->paginate();
}
```

  View:

```
$paginator->prev("<< Previous");
$paginator->next("Next >>");
```

Ajax!

Ajax

- Links

```
$html->link('Add Post', '/posts/add');
```

vs.

```
$ajax->link('Add Post', '/posts/add', array(
  'update' => 'addPostDiv',
  'complete' => 'Effect.SlideDown("addPostDiv")'
));
```

Ajax

- Updating Mutliple DIVs

View:

```
<?php e($ajax->div('Div1'));
    // Updated content goes here
    e(strtotime('now'));
e($ajax->divEnd('Div1'));

$ajax->link('Update Div', '/', array(
  'update' => array('Div1', 'Div2'),
));

?>
```

Ajax

- Auto-completing Fields

  Controller:

```
var $components = array('Autocomplete');
```

  View:

```
<?php echo $ajax->autoComplete('User/name'); ?>
```

...and you're done.

Security

- SQL Injection:

  Magic methods like `findById($id)`

  Building queries semantically allows Cake to escape data automatically, i.e.:

  `findAll(array('Post.id' => $id))` or

  `findAll(array('Post.body' => "LIKE {$text}"))`

Security

- Escaping output:

  Most methods that output HTML escape data by default:

```
$html->link("Next >" ...); :

<a href="...">Next &gt;</a>
```

Security

- The `Sanitize` Object
  - Hardcore HTML escaping
  - Stripping specific tags
  - Replaces invalid and funny-byte characters

Security

- Cross-Site Scripting
  - Output from POST data is always escaped.

Of XML, RSS and APIs

site.com/posts.rss:

- config/routes.php:

```
Router::parseExtensions();
```

- views/posts/rss/index.ctp:

```
echo $rss->items($data, 'transformRSS');
function transformRSS($post) {
    return array(
        'title' => $post->title,
        'link'  => array('action' => 'view', $post->id),
        'guid'  => array('action' => 'view', $post->id),
        'description' => $post->body,
        'author' => $post->User->name,
        'pubDate' => $post->modified
    );
}
```

What's up with that syntax?

- The Set object

```
$post['Post']['title'] &
$post['Comment'][0]['body']
        +
Set::map($post);
        =
$post->title &
$post->Comment[0]->body
```

The Future

- New `Cache` class
  - Support for “cache engines,” including:
    - File
    - APC

      &
    - Memcache

The Future

- New Debugging Methods
  - `Object::trace()` - Trace calls from any object, with various output options
  - New “debugging” view allows you to examine objects, along with current environment data

The Future

- Localization & Internationalization
  - new `String` class to support Unicode in native PHP
  - Already done: support for localized view templates
  - In the works: localized model data

The Future

- Model Behaviors
  - Allow extensions to Model similar to Components being added Controllers
  - Add your own natively-callable methods directly to Model objects, plus wildcard methods like findBy*
  - Callbacks for most Model methods

The Future

- Native Support for new DBs
  - Firebird
  - PDO
    &
  - Oracle