Develop PHP mobile apps with Zend Framework

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About me

- Enrico Zimuel (@ezimuel)
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  - Assembly 80x86, C/C++, Java, Perl, PHP
- PHP Engineer and Software Architect at Zend Technologies since 2008
- Zend Framework Core Team from 2011
- Research Programmer at the Informatics Institute of the University of Amsterdam
- International speaker and author of books about computer programming

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Mobile web applications
Mobile web application

- It is a web application optimized for mobile devices
- Main differences with a standard web app:
  - Different size of the screen
  - Different interaction
  - Different usability
- Reuse the standard technologies of the web (i.e. HTML, Javascript, PHP, etc)
- More effort to HTML5 to offer a similar interface to the UI of native apps
# Mobile web vs. Native App

<table>
<thead>
<tr>
<th></th>
<th>Mobile web</th>
<th>Native App</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Device access</strong></td>
<td>limited</td>
<td>complete</td>
</tr>
<tr>
<td><strong>Development costs</strong></td>
<td>low</td>
<td>medium/high</td>
</tr>
<tr>
<td><strong>Open technologies</strong></td>
<td>yes</td>
<td>sometimes</td>
</tr>
<tr>
<td><strong>Revenue</strong></td>
<td>100%</td>
<td>depends</td>
</tr>
<tr>
<td><strong>Approval</strong></td>
<td>none</td>
<td>depends</td>
</tr>
<tr>
<td><strong>Time to market</strong></td>
<td>instant</td>
<td>1-2 weeks</td>
</tr>
<tr>
<td><strong>Coding</strong></td>
<td>HTML + anything (i.e. PHP)</td>
<td>depends</td>
</tr>
</tbody>
</table>
“People never cared about the Web vs. apps and devices . . . They want free stuff, entertainment, and services when they want them, and on the device they have in front of them”

Source: Pew Internet Project (March, 2012)
Mobile web with ZF
Zend Framework

- Framework for PHP applications
- Open source license, new BSD like
- Versions
  - 1.11.11 (PHP 5.2)
  - 2.0.0.beta3 (PHP 5.3)
- Official web site: http://framework.zend.com
- © Zend Technologies Ltd.
ZF for mobile web

- Zend_Http_UserAgent
  - BrowsCap
  - Tera-WURFL
  - DeviceAtlas
- Context Switching
- Zend_Mobile
  - Available from ZF 1.12 (coming soon!)
BrowsCap

- `get_browser()`, internal function of PHP

- Configuration:
  - Download the file `browscap.ini` from: http://browsers.garykeith.com/downloads
  - Edit `php.ini` and add the following line: `browscap=/path/to/browscap.ini`

- Usage:
  - `get_browser ([ string $user_agent [, bool $return_array = false ]] )`
Tera-WURFL

- Tera-WURFL is a PHP library + device database available in MySQL, MSSQL, and MongoDB
- Download: http://dbapi.scientiamobile.com
DeviceAtlas

- Mobile device detection library
- Available for different languages:
  - PHP, Java, .NET, Python, Ruby
- Commercial license
- Download:
  http://deviceatlas.com/resourcecentre/get+started/enterprise+api
Zend_Http_UserAgent

- Mobile device detection
- Can be used in a ZF application anywhere:
  - Plugin (bootstrap)
  - Controller
  - View
Zend_Http_UserAgent (2)

- Plugin (bootstrap)
  - $bootstrap = Zend_Controller_Front::getInstance()->getParam('bootstrap');
  - $userAgent = $bootstrap->getResource('useragent');

- Controller
  - $bootstrap = $this->getInvokeArg('bootstrap');
  - $userAgent = $bootstrap->getResource('useragent');

- View
  - $userAgent = $this->userAgent();
Some methods of UserAgent

- getDevice()
- getBrowserType()
- getAllFeatures()
- hasFlashSupport()
- hasPdfSupport()
- hasPhoneNumber()
- httpsSupport()
- getMaxImageHeight()
- getMaxImageWidth()
- ...
Context switching

- ContextSwitching is an action helper that manages different output based on the request context.
- For instance, a web service needs to manage different outputs: JSON and XML.
- Define custom contents:
  - Add suffix to the view
  - Change the HTTP header
  - Define callbacks
Example (Context switch + UserAgent)

class Application_Plugin_Mobile extends Zend_Controller_Plugin_Abstract {
    public function dispatchLoopStartup(
        Zend_Controller_Request_Abstract $request)
    {
        $contextSwitch = Zend_Controller_Action_HelperBroker::getStaticHelper('ContextSwitch');
        $contextSwitch->clearContexts()
            ->setContext('iphone', array(
                'suffix' => 'iphone',
                'headers' => array(
                    'Content-Type' => 'text/html;Charset=UTF-8'),
            ))
            ->setContext('html', array(
                'suffix' => 'html',
                'headers' => array(
                    'Content-Type' => 'text/html;Charset=UTF-8'),
            ))
            ->setAutoDisableLayout(false)
            ->setDefaultcontext('html')
            ->initContext();
Example (2)

```php
$bootstrap = Zend_Controller_Front::getInstance()->getParam('bootstrap');
$userAgent = $bootstrap->getResource('useragent');
switch($userAgent->getDevice()->getFeature('device'))
{
    case 'iphone':
        $request->setParam('format','iphone');
        break;
    default:
        $request->setParam('format','html');
}
```
Example (3)

class IndexController extends Zend_Controller_Action
{

    public function init()
    {
        $this->_helper->contextSwitch()
            ->addActionContext('index', 'iphone')
            ->initContext();
    }

    ...
}

View

index.phtml
index.iphone.phtml
Zend_Mobile

- Zend_Mobile_Push
  - Zend_Mobile_Push provides the ability for sending push notifications to the vendor specific notification servers
    - APNS (iTouch/iPad/iPhone)
    - C2DM (Google Android)
    - MPNS (Windows Phone)
Example: APNS

1. The app registers for push notifications
2. The app receives the device token
3. The app sends the token to your server
4. When something interesting happens, your server sends a push notification to the APNS server
5. APNS sends the push notification to your app

Your App
- App ID
- Provisioning Profile
- Device Token

APNS Server

Your Server
- SSL Certificate
- Private Key

iOS

The OS asks APNS for a device token

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Example

$message = \new\ Zend\ Mobile\ Push\ Message\ Apns();
$message->setAlert('Zend Mobile Push Example');
$message->setBadge(1);
$message->setSound('default');
$message->setId(time());
$message->setToken('ABCDEF0123456789');

$apns = \new\ Zend\ Mobile\ Push\ Apns();
$apns->setCertificate('/path/to/provisioning-certificate.pem');
// if you have a passphrase on your certificate:
// $apns->setCertificatePassphrase('foobar');
...
try {
    $apns->connect(Zend_Mobile_Push_Apns::SERVER_SANDBOX_URI);
} catch (Zend_Mobile_Push_Exception_ServerUnavailable $e) {
    // you can either attempt to reconnect here or try again later
    exit(1);
} catch (Zend_Mobile_Push_Exception $e) {
    echo 'APNS Connection Error:' . $e->getMessage();
    exit(1);
}

try {
    $apns->send($message);
} catch (Zend_Mobile_Push_Exception_InvalidToken $e) {
    echo $e->getMessage();
} catch (Zend_Mobile_Push_Exception $e) {
    echo $e->getMessage();
}

$apns->close();
References

- K. Schroeder, *Mobile development using Zend Framework and Zend Studio*
- Zend Framework Context Switch, ZF Reference Guide
- Zend Framework UserAgent, ZF Reference Guide
- Apple Push Notification Service (APNS)
- Android Cloud to Device Messaging Framework (C2DM)
- Push Notifications Overview for Windows Phone
Questions?
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Conference Themes

**PHP in 2012 - The latest PHP technologies and tools**
Learn how to leverage the latest mobile, HTML 5, testing and PHP best practices

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Learn how to build faster, more modular and more expandable applications

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- Sessions focused on how to best develop and deploy PHP
- Sessions designed for all knowledge levels
- Intensive tutorials for accelerated learning
- PHP Certification crash courses and testing
- Exhibit hall showcasing the latest products
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