

eZ Components – A technical view

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eZ Conference 2008

About me

- Tobias Schlitt <toby@php.net>
- Qualified IT Specialist
- Studying CS at the TU Dortmund
- PHP since more than 7 years
- Open Source addicted and active
 - eZ Components
 - PEAR (currently inactive)
 - PHP / PHP projects in general

Agenda

- The basics
- Example show
- Q/A
 - Discussion
 - Open part

The basics – Agenda

- Release info
- Target
- Project goals
- Setup
- Licensing / contributing

Release info

- Current stable: 2008.1
 - Hot! Out since Monday!
- Next: 2008.2
 - Around Christmas
 - Many additions to existing packages

Project target

- Migration to PHP 5.X (5.1.1)
- Thoroughly plan to get a top notch API
- Test driven development approach
- Proper docs from the start
- Flexibility and openness for the future

Project goals

- Solid platform for PHP application development
- Not a framework (don't force a structure)
- Clean and simple API
- Excellent docs
- Clean IP
- Open Source friendly

Setup 1/2

- Retrieval
 - PEAR
 - pear channel-discover components.ez.no
 - pear install ezc/eZComponents
 - SVN checkout
 - svn co <http://svn.ez.no/svn/ezcomponents/trunk>
 - svn co <http://svn.ez.no/svn/ezcomponents/scripts>
 - cd trunk && ../scripts/setup-env.sh
 - Download (<http://ez.no/ezcomponents/download>)

Setup 2/2

- Autoloading

```
require_once 'Base/src/base.php';  
function __autoload( $className )  
{  
    ezcBase::autoload( $className );  
}
```

Setup 2/2

- Autoloading

```
require_once 'Base/src/base.php';  
function __autoload( $className )  
{  
    ezcBase::autoload( $className );  
}
```

- Bootstrapping

```
require_once 'Base/src/ezc_bootstrap.php';
```

Licensing / Contributing

- New BSD
 - Open Source
 - Very permissive
 - GPL compatible
- CLA
 - Needs to be signed to contribute
 - Guarantees clean IP rights

Components short overview

- Cache
- Document
- Graph
- Feed
- Search

Cache

- Multiple back-ends
 - File (serialize, var_export())
 - Memory (APC, Memcached)
- Hierarchical caching (2008.1)
 - Combine fast (small) and slow (large) caches
 - Think about CPU caches

Cache example - simple

```
ezcCacheManager::createCache(  
    'content',  
    '/var/cache/content',  
    'ezcCacheStorageFileArray',  
    array(  
        'ttl' => 60*60*24*2,  
    )  
);
```

Cache example - simple

```
ezcCacheManager::createCache(  
    'content',  
    '/var/cache/content',  
    'ezcCacheStorageFileArray',  
    array(  
        'ttl' => 60*60*24*2,  
    )  
);  
  
// Somewhere else  
$cache = ezcCacheManager::getCache( 'content' );
```

Cache example - simple

```
ezcCacheManager::createCache(  
    'content',  
    '/var/cache/content',  
    'ezcCacheStorageFileArray',  
    array(  
        'ttl' => 60*60*24*2,  
    )  
);  
  
// Somewhere else  
$cache = ezcCacheManager::getCache( 'content' );  
  
$id = 'some_unique_id';  
if ( ( $data = $cache->restore( $id, $attributes ) ) === false )  
{  
    $data = generateData();  
    $cache->store( $id, $data );  
}
```


Cache example - hierarchical

```
$stack = new ezcCacheStack( 'stack' );
```

Cache example - hierarchical

```
$stack = new ezcCacheStack( 'stack' );

$stack->pushStorage(           // ezcCacheStorageFileArray
    new ezcCacheStackStorageConfiguration(
        'file', $fileStorage, 1000000, .5
    )
);
```

Cache example - hierarchical

```
$stack = new ezcCacheStack( 'stack' );

$stack->pushStorage(           // ezcCacheStorageFileArray
    new ezcCacheStackStorageConfiguration(
        'file', $fileStorage, 1000000, .5
    )
);

$stack->pushStorage(           // ezcCacheStorageApcPlain
    new ezcCacheStackStorageConfiguration(
        'apc', $apcStorage, 1000, .3
    )
);
```

Cache example - hierarchical

```
$stack = new ezcCacheStack( 'stack' );

$stack->pushStorage(          // ezcCacheStorageFileArray
    new ezcCacheStackStorageConfiguration(
        'file', $fileStorage, 1000000, .5
    )
);

$stack->pushStorage(          // ezcCacheStorageApcPlain
    new ezcCacheStackStorageConfiguration(
        'apc', $apcStorage, 1000, .3
    )
);

$stack->options->replacementStrategy =
    'ezcCacheStackLfuReplacementStrategy';
```

Cache example - hierarchical

```
$stack = new ezcCacheStack( 'stack' );

$stack->pushStorage( // ezcCacheStorageFileArray
    new ezcCacheStackStorageConfiguration(
        'file', $fileStorage, 1000000, .5
    )
);

$stack->pushStorage( // ezcCacheStorageApcPlain
    new ezcCacheStackStorageConfiguration(
        'apc', $apcStorage, 1000, .3
    )
);

$stack->options->replacementStrategy =
    'ezcCacheStackLfuReplacementStrategy';

$stack->store( 'id_1', 'id_1_data' );
$data = $stack->restore( 'id_1' );
```

Document (2008.1)

- Parse different document formats
 - RST
- Output common document format:
 - DocBook
 - Shortcuts optional
- For 2008.2
 - Wiki Markup
 - XHTML

Document example

```
$rstFile = dirname( __FILE__ ) . '/test.rst';  
$htmlFile = dirname( __FILE__ ) . '/test.html';  
  
$document = new ezcDocumentRst();  
$document->loadFile( $rstFile );
```

Document example

```
$rstFile = dirname( __FILE__ ) . '/test.rst';  
$htmlFile = dirname( __FILE__ ) . '/test.html';  
  
$document = new ezcDocumentRst();  
$document->loadFile( $rstFile );  
  
$xhtml = $document->getAsXhtml();  
$xml = $xhtml->save();  
  
file_put_contents( $htmlFile, $xml );
```


Graph

- Creates pretty data visualization
- Multiple chart types
 - Pie, line, bar, radar, odometer
- 2D or 3D rendering
- Multiple drivers
 - SVG, GD, Flash (Ming)
 - Cairo (2008.1)

Graph – Example (GD)

```
$graph = new ezcGraphPieChart();  
$graph->palette = new ezcGraphPaletteEzBlue();  
$graph->title = 'Access statistics';  
$graph->legend = false;
```

Graph – Example (GD)

```
$graph = new ezcGraphPieChart();  
$graph->palette = new ezcGraphPaletteEzBlue();  
$graph->title = 'Access statistics';  
$graph->legend = false;  
  
$graph->driver = new ezcGraphGdDriver();  
$graph->options->font = 'fonts/Vera.ttf';
```

Graph – Example (GD)

```
$graph = new ezcGraphPieChart();  
$graph->palette = new ezcGraphPaletteEzBlue();  
$graph->title = 'Access statistics';  
$graph->legend = false;  
  
$graph->driver = new ezcGraphGdDriver();  
$graph->options->font = 'fonts/Vera.ttf';  
  
$graph->data['Access statistics'] = new  
ezcGraphArrayDataSet( array(  
    'Mozilla' => 19113,  
    'Explorer' => 10917,  
    'Opera' => 1464,  
    'Safari' => 652,  
    'Konqueror' => 474,  
) );
```

Graph – Example (GD)

```
$graph->renderer = new ezcGraphRenderer3d();
```

Graph – Example (GD)

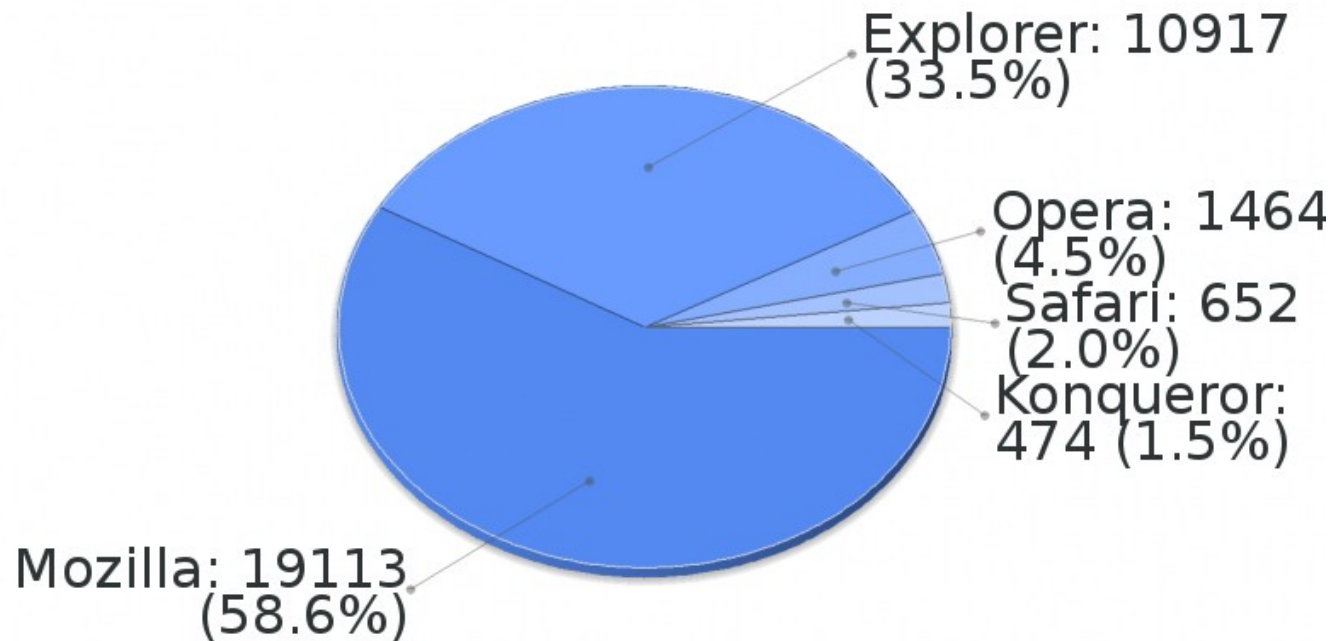
```
$graph->renderer = new ezcGraphRenderer3d();  
  
$graph->renderer->options->pieChartGleam = .3;  
$graph->renderer->options->pieChartGleamColor = '#FFFFFF';  
$graph->renderer->options->pieChartShadowSize = 5;  
$graph->renderer->options->pieChartShadowColor = '#000000';  
  
// ...  
  
$graph->renderer->options->pieChartHeight = 5;  
$graph->renderer->options->pieChartRotation = .8;
```

Graph – Example (GD)

```
$graph->renderer = new ezcGraphRenderer3d();  
  
$graph->renderer->options->pieChartGleam = .3;  
$graph->renderer->options->pieChartGleamColor = '#FFFFFF';  
$graph->renderer->options->pieChartShadowSize = 5;  
$graph->renderer->options->pieChartShadowColor = '#000000';  
  
// ...  
  
$graph->renderer->options->pieChartHeight = 5;  
$graph->renderer->options->pieChartRotation = .8;  
  
$graph->render( 800, 600, 'tutorial_driver_gd.png' );
```

Graph – Example (GD)

Access statistics

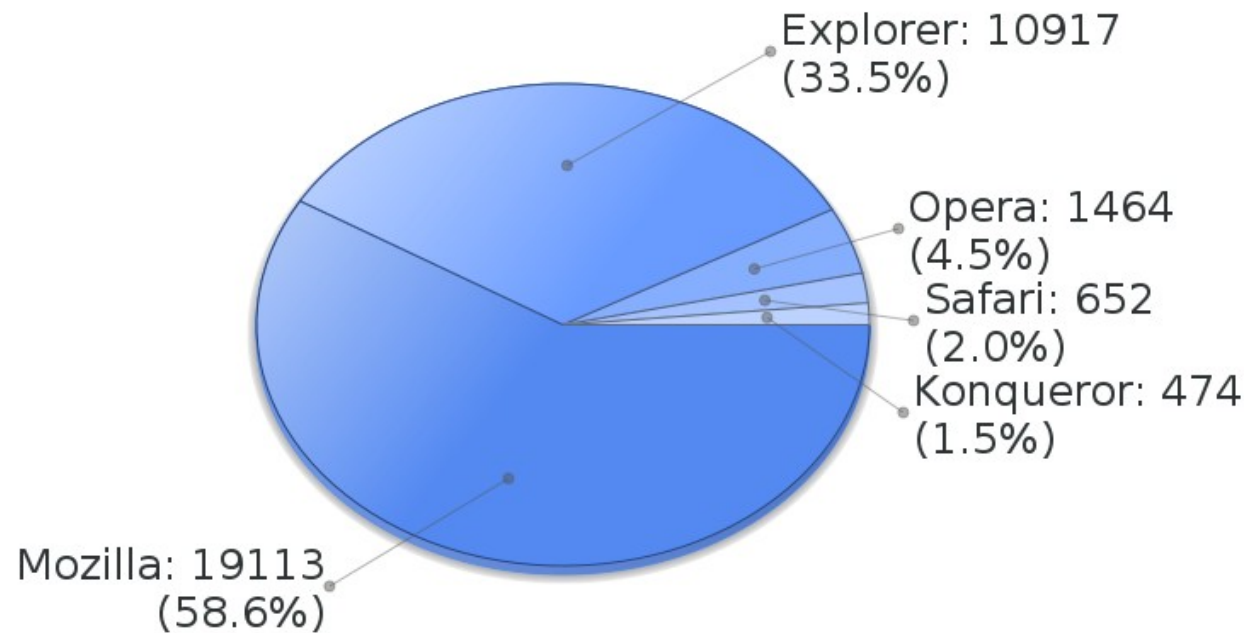


Graph – Example (Cairo)

```
$graph = new ezcGraphPieChart();  
  
// ...  
  
$graph->driver = new ezcGraphCairoDriver();  
  
// ...  
  
$graph->render( 800, 600, 'tutorial_driver_cairo.png' );
```

Graph – Example (Cairo)

Access statistics



Feed (2008.1)

- Parse and create feeds
- Multiple formats
 - RSS 1 / 2
 - Atom
- Module support
 - iTunes
 - CreativeCommons

Feed example - Create

```
$feed = new ezcFeed( 'rss2' );  
  
$feed->title = 'Flight of the RC plane';  
$feed->description = 'A podcast for fans of remote-control ...';
```

Feed example - Create

```
$feed = new ezcFeed( 'rss2' );  
  
$feed->title = 'Flight of the RC plane';  
$feed->description = 'A podcast for fans of remote-control ...';  
  
$author = $feed->add( 'author' );  
$author->name = 'Captain Balu';  
$author->email = 'captain.balu@example.com';
```

Feed example - Create

```
$feed = new ezcFeed( 'rss2' );  
  
$feed->title = 'Flight of the RC plane';  
$feed->description = 'A podcast for fans of remote-control ...';  
  
$author = $feed->add( 'author' );  
$author->name = 'Captain Balu';  
$author->email = 'captain.balu@example.com';  
  
$link = $feed->add( 'link' );  
$link->href = 'http://rcplanes.examples.com/';
```

Feed example – Add iTunes

```
$iTunes = $feed->addModule( 'iTunes' );  
  
$iTunes->keywords = 'RC planes,gadgets,flying';  
$iTunes->explicit = 'yes';  
$iTunes->subtitle = 'Competitions, tutorials and tips...';
```

Feed example – Add iTunes

```
$iTunes = $feed->addModule( 'iTunes' );  
  
$iTunes->keywords = 'RC planes,gadgets,flying';  
$iTunes->explicit = 'yes';  
$iTunes->subtitle = 'Competitions, tutorials and tips...';  
  
$image = $iTunes->add( 'image' );  
$image->link = 'http://rcplanes.example.com/images/plane.jpg';
```


Feed example – Add iTunes

```
$iTunes = $feed->addModule( 'iTunes' );

$iTunes->keywords = 'RC planes,gadgets,flying';
$iTunes->explicit = 'yes';
$iTunes->subtitle = 'Competitions, tutorials and tips...';

$image = $iTunes->add( 'image' );
$image->link = 'http://rcplanes.example.com/images/plane.jpg';

$category = $iTunes->add( 'category' );
$category->text = 'Technology';

$subCategory = $category->add( 'category' );
$subCategory->text = 'Gadgets';
```

Feed example – Add items

```
$item = $feed->add( 'item' );
```

```
$item->title = 'Flying an RC plane indoors';
```

```
$item->description = 'In this episode, ...';
```

```
$item->published = 'Fri, 04 Jan 2008 11:18:34 +0100';
```

Feed example – Add items

```
$item = $feed->add( 'item' );
```

```
$item->title = 'Flying an RC plane indoors';
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$author = $item->add( 'author' );
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Feed example – Add items

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$item = $feed->add( 'item' );
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$item->title = 'Flying an RC plane indoors';
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```

```
$author = $item->add( 'author' );
```

```
$author->name = 'Captain Balu';
```

```
$author->email = 'captain.balu@example.com';
```

```
$link = $item->add( 'link' );
```

```
$link->href = 'http://rcplanes.example.com/articles/...';
```

Feed example – Add items

```
$item = $feed->add( 'item' );
```

```
$item->title = 'Flying an RC plane indoors';  
$item->description = 'In this episode, ...';  
$item->published = 'Fri, 04 Jan 2008 11:18:34 +0100';
```

```
$author = $item->add( 'author' );  
$author->name = 'Captain Balu';  
$author->email = 'captain.balu@example.com';
```

```
$link = $item->add( 'link' );  
$link->href = 'http://rcplanes.example.com/articles/...';
```

```
$enclosure = $item->add( 'enclosure' );  
$enclosure->url = 'http://rcplanes.example.com/media/003.mp3';  
$enclosure->length = 49099054;  
$enclosure->type = 'audio/x-mp3';
```

Feed example – Add iTunes items

```
$iTunes = $item->addModule( 'iTunes' );
```

```
$iTunes->duration = '29:20';
```

```
$iTunes->keywords = 'RC planes,office,flying,enemies';
```

Feed example – Add iTunes items

```
$iTunes = $item->addModule( 'iTunes' );  
  
$iTunes->duration = '29:20';  
$iTunes->keywords = 'RC planes,office,flying,enemies';  
  
// Generate the feed  
  
$xml = $feed->generate( 'rss2' );  
file_put_contents( 'feeds/news.xml', $xml );
```

Search (2008.1)

- Unified access to search backends
- Currently implemented
 - Apache Solr
- Modelled after PersistentObject

Search example

```
$solr = new ezcSearchSolrHandler;  
$session = new ezcSearchSession(  
    $solr, new ezcSearchEmbeddedManager()  
);
```

Search example

```
$solr = new ezcSearchSolrHandler;  
$session = new ezcSearchSession(  
    $solr, new ezcSearchEmbeddedManager()  
);  
$q = $session->createFindQuery( 'ezcSearchSimpleArticle' );
```

Search example

```
$solr = new ezcSearchSolrHandler;
$session = new ezcSearchSession(
    $solr, new ezcSearchEmbeddedManager()
);
$q = $session->createFindQuery( 'ezcSearchSimpleArticle' );
$searchWords = split( ' ', $searchWord );
foreach( $searchWords as $searchWord )
{
    $q->where(
        $q->lOr(
            $q->eq( 'body', $searchWord ),
            $q->eq( 'title', $searchWord )
        )
    );
}
```

Search example

```
$solr = new ezcSearchSolrHandler;
$session = new ezcSearchSession(
    $solr, new ezcSearchEmbeddedManager()
);
$q = $session->createFindQuery( 'ezcSearchSimpleArticle' );
$searchWords = split( ' ', $searchWord );
foreach( $searchWords as $searchWord )
{
    $q->where(
        $q->lOr(
            $q->eq( 'body', $searchWord ),
            $q->eq( 'title', $searchWord )
        )
    );
}
$q->limit( 10 );
$res = $session->find( $q );
```

Misc additions in 2008.1

- WorkflowSignalSlotTiein
- PersistentObject
 - Advanced datatype support
 - Multiple relations to the same object
- TemplateTranslationTiein

Outlook to 2008.2

- Document
 - More input / output formats
- PersistentObject
 - Pre-fetching of related objects
 - Identity mapping
- Webdav
 - Authentication + Locking (?)
- Development mode



Open Part

- Questions and answers
 - Critiques?
 - Ideas?
 - Contributions?
-
- If time left: Anything you would like to see?

The end

- Thanks for listening!
- I hope you enjoyed the talk
- Enjoy the rest of the conference

- Slides will be online
 - Watch: <http://blog.schlitt.info>
- Further questions: Tobias Schlitt <ts@ez.no>