

Template-Based DOCX, DOC & PDF Generation with Zend Framework.

Who are we?

- Björn Meyer
Project Manager ([Blog](#), [XING](#))
- Jonathan Maron
Senior Web Developer ([Blog](#), [XING](#), [Twitter](#))
- Based at corporate HQ in Bremen.

Where are we from?

- Manufacturer of word processing components.
- For server and desktop applications.
- > 20 years experience in word processing.
- Market leader.
- Offices and support in Bremen, USA & Taiwan.
- Customers worldwide.

Creating PDFs with PHP

- HTML-to-PDF approach:
 - domPDF.
 - HtmlToPdf.
 - HTML_ToPDF.
 - etc.
- Programmatic approach:
 - Zend_Pdf.
 - PDFlib.
 - FPDF.
 - Cpdf.
 - etc.

The HTML-to-PDF approach

- Limited by formatting of HTML.
 - e.g. No decimal tab in HTML.
- Graphic designer cannot create templates.
- PDF is a page-orientated format; HTML is a flow document format.
 - 1-to-1 mapping of HTML to PDF is impossible.
- Time-consuming to get final layout correct.

The programmatic approach

- Large amounts of PHP code required.
- No concept of a merge field.
- (Almost) impossible to insert text at a previously unknown position - e.g. in long paragraphs.
- Necessity to specify x, y co-ordinates.
- Template changes break generated document.
- A programmer must create templates.
(Graphical designers are better at this kind of work!)
- Time-consuming to get final layout correct.

Ralf Eggert quote (original)

„Es kann schon bei einer Vorlage, die nur aus einer DIN-A4-Seite besteht, aber 20 bis 30 Felder hat, die es zu befüllen gilt, ein paar Stunden dauern, bis man alle Texte einigermaßen gut platziert hat. Der Begriff *Pixelshubser* bekommt da eine ganz neue Bedeutung.“

PHP Magazin (December 2008 - January 2009), [Ralf Eggert](#).

Ralf Eggert quote (translation)

“It can take several hours until you get the positioning of text just right in an A4 document with one page, but with 20 to 30 text fields. The term *pixel-pimping* takes on a completely new meaning.”

PHP Magazin (December 2008 - January 2009), [Ralf Eggert](#).

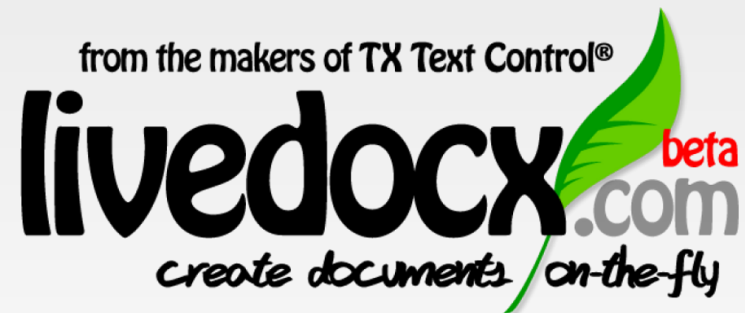
There must be an easier way.

The template approach.

Cross-Platform.

(Runs on all platforms PHP supports.
i.e. Linux, Mac, Windows etc.)

LiveDocx & phpLiveDocx.



LiveDocx / phpLiveDocx

- LiveDocx is a SOAP-based document generation service.
- phpLiveDocx (New BSD license):
 - PHP 5 implementation of LiveDocx.
 - Easy-to-use PHP API to rich SOAP service.
 - Native component of the Zend Framework. Currently in *Standard Incubator*.
 - PHP 5 *SoapClient* and *NuSOAP* also supported.

Public / Hosted / In-House

- LiveDocx SOAP service is free* for all to use.
 - For an account, go to www.LiveDocx.com
- Premium hosted and dedicated services are in the pipeline.
- Enterprises may license LiveDocx and install in-house.

* as in beer.

Mail merge: The basic idea

- A template that contains merge fields is created in a WYSIWYG word processor.
- Merge fields are populated.
- The resulting document is written to disk, printed or sent via e-mail.

Template vs. document

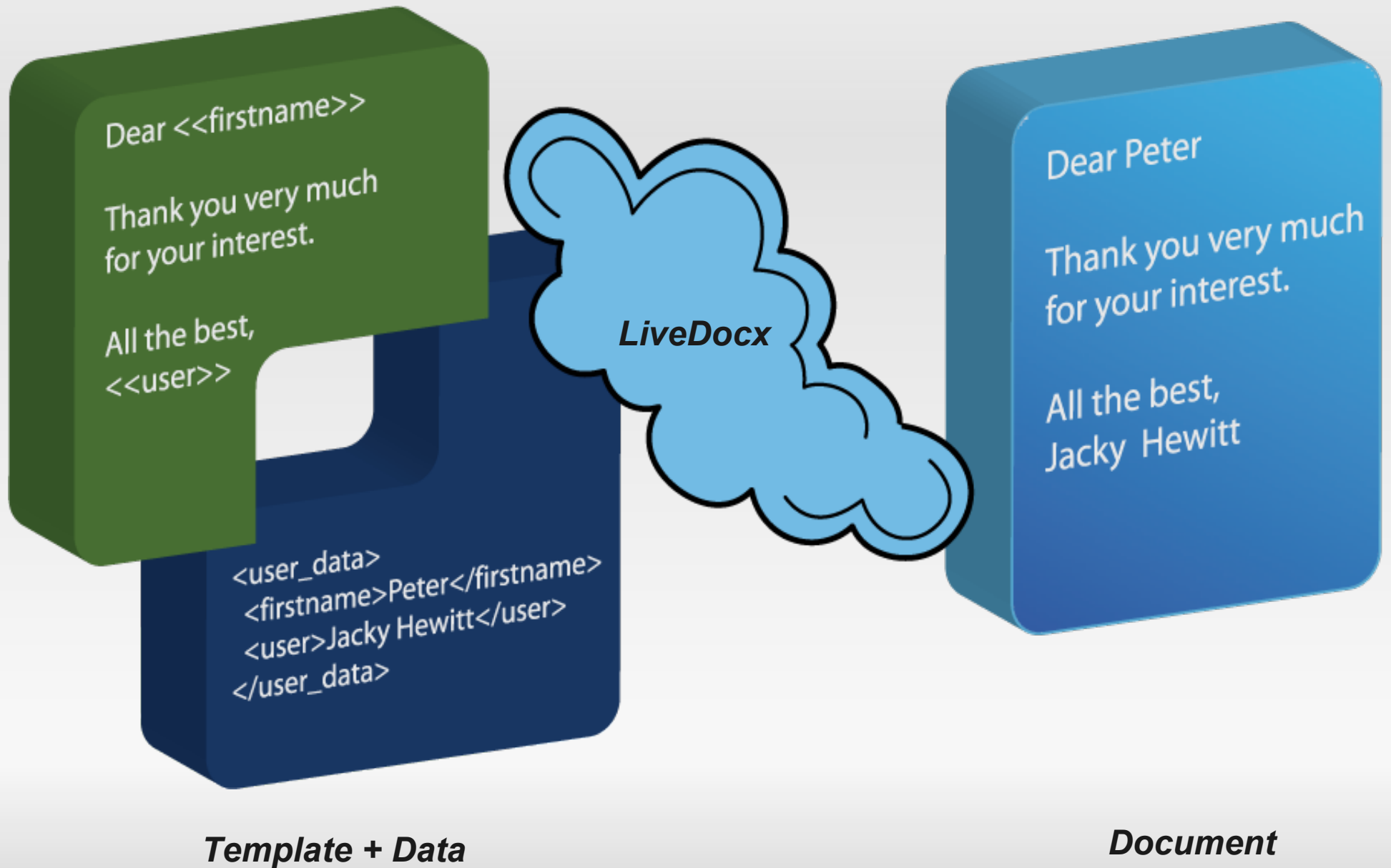
- **Template**

- The term **template** is used to refer to the input file, containing formatting and text fields.

- **Document**

- The term **document** is used to refer to the generated output file that contains the template file, populated with data - i.e. the **finished document**.

Document generation process (1)



Document generation process (2)

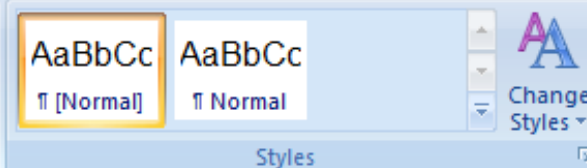
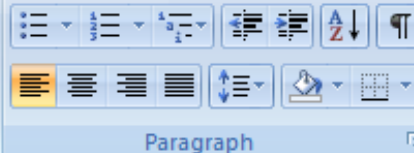
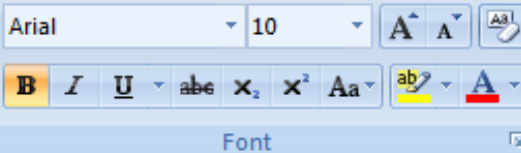
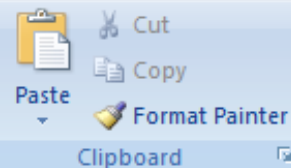
Template + Data = Document.

Three steps to document creation

- Step 1: Create a template.
- Step 2: Assign data to template with PHP.
- Step 3: Generate and retrieve document.

Step 1: Creating a template (1)

- Start up Microsoft Word (or Open Office, TX Template Designer).
- Create a new document.
- Open up the *Field* dialog box.
- Insert a *MergeField*.



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Step 1: Creating a template (2)

The image shows a 'Field' dialog box with three main sections: 'Please choose a field', 'Field properties', and 'Field options'. In the 'Please choose a field' section, the 'Categories' dropdown is set to '(All)' and the 'Field names' list has 'MergeField' selected. The 'Field properties' section shows 'Field name:' as 'company' and 'Format:' as '(none)'. The 'Field options' section has several checkboxes: 'Text to be inserted before:' is checked with 'Company:' in the adjacent text box; 'Text to be inserted after:' is unchecked; 'Mapped field' is unchecked; 'Vertical formatting' is unchecked; and 'Preserve formatting during updates' is checked. At the bottom, there are buttons for 'Field Codes', 'OK', and 'Cancel'. The 'Field Codes' button is highlighted with a dashed border.

Field

Please choose a field

Categories:
(All)

Field names:
Fill-in
GoToButton
GreetingLine
Hyperlink
If
IncludePicture
IncludeText
Index
Info
Keywords
LastSavedBy
Link
ListNum
MacroButton
MergeField
MergeRec
MergeSeq
Next

Description:
Insert a mail merge field

Field properties

Field name:
company

Format:
(none)
Uppercase
Lowercase
First capital
Title case

Field options

Text to be inserted before: Company:

Text to be inserted after:

Mapped field

Vertical formatting

Preserve formatting during updates

Field Codes

OK

Cancel

Steps 2 & 3: Assign data & create doc

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Template in Microsoft Word 2007.

```
1 $phpLiveDocx = new Tis_Service_LiveDocx_MailMerge('username', 'password');
2
3 $phpLiveDocx->setLocalTemplate('template.docx');
4
5 $phpLiveDocx->assign('software', 'Magic Graphical Compression Suite v1.9');
6 $phpLiveDocx->assign('licensee', 'Henry Döner-Meyer');
7 $phpLiveDocx->assign('company', 'Co-Operation');
8
9 $phpLiveDocx->createDocument();
10
11 $document = $phpLiveDocx->retrieveDocument('pdf');
12
13 file_put_contents('document.pdf', $document);
14
15 unset($phpLiveDocx);
```

PHP to assign data and create document.



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9. Trial version limitation

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- Install the trial version on a production server.
- Distribute or sell an application with the trial version.
- Delete the additional trial text that is added to the created documents.

10. Duration of agreement

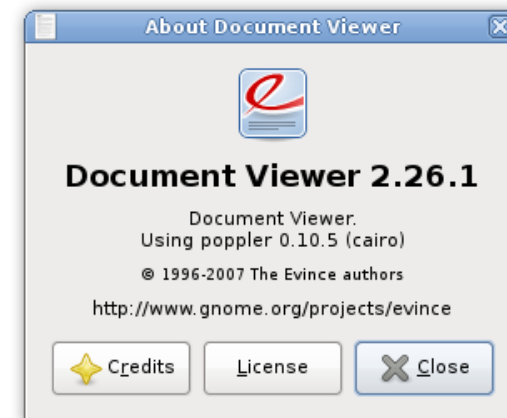
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Signatures

Henry Döner-Meyer

Co-Operation

Printed and signed on September 10, 2009 at 7:17:48 AM CEST in Hamburg, Germany.



Supported template formats

- DOCX - Office Open XML format.
- DOC - Microsoft Word DOC format.
- RTF - Rich text format file.
- TXD - TX Text Control format.

Supported document formats

- DOCX - Office Open XML format.
- DOC - Microsoft Word DOC format.
- HTML - XHTML 1.0 transitional format.
- RTF - Rich text format file.
- PDF - Acrobat portable document format.
- TXD - TX Text Control format.
- TXT - ANSI plain text.

Create document as image files (1)

- Documents can also be saved to image formats:
 - BMP - Bitmap image file format.
 - GIF - Graphics interchange format.
 - JPG - Joint photographic experts group format.
 - PNG - Portable network graphics format.
 - TIFF - Tagged image file format.
 - WMF - Windows meta file format.

Create document as image files (2)

```
1 $date = new Zend_Date();
2
3 $date->setLocale('en_US');
4
5 $phpLiveDocx = new Tis_Service_LiveDocx_MailMerge('username', 'password');
6
7 $phpLiveDocx->setLocalTemplate('template.docx');
8
9 $phpLiveDocx->assign('software', 'Magic Graphical Compression Suite v1.9');
10 $phpLiveDocx->assign('licensee', 'Daï Lemaitre');
11 $phpLiveDocx->assign('company', 'Megasoft Co-operation');
12 $phpLiveDocx->assign('date', $date->get(Zend_Date::DATE_LONG));
13 $phpLiveDocx->assign('time', $date->get(Zend_Date::TIME_LONG));
14 $phpLiveDocx->assign('city', 'Lyon');
15 $phpLiveDocx->assign('country', 'France');
16
17 $phpLiveDocx->createDocument();
18
19 // Get all bitmaps
20 $bitmaps = $phpLiveDocx->getAllBitmaps(100, 'png'); // zoomFactor, format
21
22 // Get just bitmaps in specified range
23 // $bitmaps = $phpLiveDocx->getBitmaps(2, 2, 100, 'png'); // fromPage, toPage, zoomFactor, format
24
25 foreach ($bitmaps as $pageNumber => $bitmapData) {
26     $filename = sprintf('documentPage%d.png', $pageNumber);
27     file_put_contents($filename, $bitmapData);
28 }
29
30 unset($phpLiveDocx);
```

Local vs. remote templates

- Local templates (on client machine).
 - Template is transferred with every request.
 - Suitable for small templates.
 - Useful, if template is constantly changing.
- Remote templates (on LiveDocx server).
 - Template is uploaded once and stored in account.
 - Referenced with every request.
 - Suitable for large templates.
 - Speeds up document creation process.

Using local & remote templates

```
1 // Using a local template
2
3 $phpLiveDocx = new Tis_Service_LiveDocx_MailMerge('username', 'password');
4
5 $phpLiveDocx->setLocalTemplate('./template.docx');
6
7 // assign data and create document
8
9 unset($phpLiveDocx);
```

***Specify template
in every request.***

```
1 // Using a remote template (1)
2
3 $phpLiveDocx = new Tis_Service_LiveDocx_MailMerge('username', 'password');
4
5 $phpLiveDocx->uploadTemplate('template.docx');
6
7 unset($phpLiveDocx);
```

***Upload template
once.***

```
1 // Using a remote template (2)
2
3 $phpLiveDocx = new Tis_Service_LiveDocx_MailMerge('username', 'password');
4
5 $phpLiveDocx->setRemoteTemplate('template.docx');
6
7 // assign data and create document
8
9 unset($phpLiveDocx);
```

***Reference
template in all
subsequent
requests.***

Live coding – 4 sample apps

Download these sample applications at:

<http://www.phplivedocx.org/downloads/>

- *phpunconf2009-field-values*
- *phpunconf2009-block-field-values*
- *phpunconf2009-bitmaps*
- *phpunconf2009-information*

Questions? Your opinion?



Get involved! Try it out yourself!

- phpLiveDocx Web Site
<http://www.phplivedocx.org>
- Brief introduction to phpLiveDocx
<http://www.phplivedocx.org/articles/brief-introduction-to-phplivedocx/>
- Getting started with phpLiveDocx
<http://www.phplivedocx.org/articles/getting-started-with-phplivedocx/>
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