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# The anatomy of a WordPress theme

Post author

[Joost de Valk](#)

Tags

[WordPress Themes »](#)

10 January, 2011 – [112 Comments](#)

With all the WordPress theme frameworks that arose over the past few years, you'd almost forget what a normal WordPress theme looks like. Almost, because Yoast has got your back and we're about to remind you! Check out our anatomy of a WordPress theme infographic:

9K+

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# Anatomy Of A

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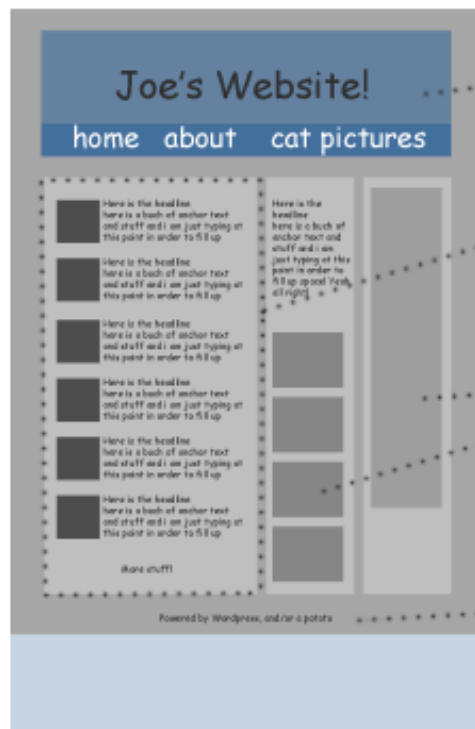
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### header.php
Global file that displays headers and navigation. Also contains HTML head code.

### The Loop
The display of contents of the main area of your site are controlled by individual template files using what's called "the loop."

### sidebar.php
Sidebar display is controlled in this file. Multiple sidebars can be set up in functions.php, and contents of sidebar widgets are set up from the WordPress wp-admin panel.

### footer.php
Contains instructions for global footer and closes HTML tags.

WordPress themes are made up of a folder of template files, each of which controls a specific piece of your theme. Parts of your site that remain static no matter what page you're on are controlled by header, sidebar, and footer files. You can hack these files so they detect what page you are on and serve different content accordingly, such as displaying different navigation on posts than on pages; however, it is most common for these sections to look the same throughout the site.

## home

### index.php
The index file controls what the home page looks like. By default it contains a loop that queries and then displays the most recent blog posts, with a link at the bottom to view previous posts.

Alternately, you can specify in wp-admin>settings>read to have the home page be a page you created yourself in WordPress. In that case, you specify a different page/URL for the regular blog posts to appear on, and that page is generated by index.php

## posts

### single.php

The display of individual posts is controlled by a little file called single.php. It contains a loop that queries just one post and displays it.

You can specify if you want sidebars (and which you want), if you want it to look different than other pages on the site.

## pages

### page.php

Page.php controls what WordPress pages look like. You can choose to eliminate sidebars or other elements, or add other unique elements for pages alone.

WordPress also allows you to create different page templates for different types of pages. To create a page template simply copy page.php, rename it to whatever you want, then add this code to the top:

```
<?php
/*
Template Name: YourNameHere
*/
?>
```
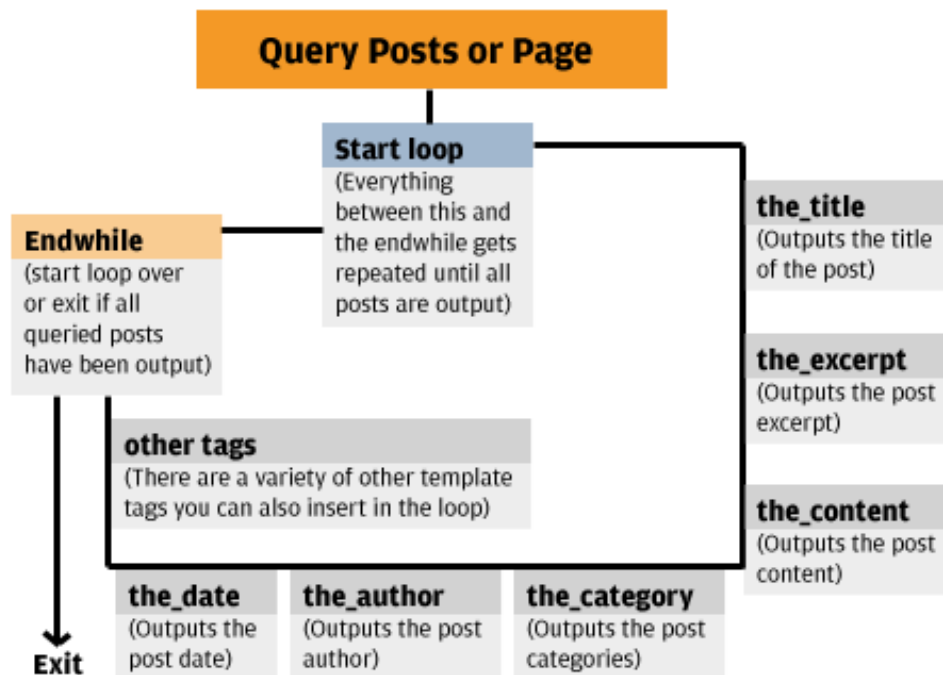
## archives

### archive.php, category.php, tag.php

You can control the look and feel of different archives using template files also. If there is no archive file, the archives will look like index.php; however, you can create an archive.php to override that. If you create a file called category.php, it will override archives.php for categories only. If you create a tag.php, you can override it for tag archives only.

## The Loop

The Loop is perhaps the most powerful part of your WordPress theme. It starts with a query (which determines which posts or pages to grab), and ends with a php "endwhile" statement. Everything in between is up to you. You can specify the output of titles, post content, metadata, custom fields, and commenting all within the loop, and each element is output for each post or page until the query is done. You can set up multiple loops and queries on a single page; for example: on a single.php you could have the loop showing the entire content of a single post, with a loop outputting just titles and thumbnails for related posts below it.

**Query Posts or Page**

**Start loop**
(Everything between this and the endwhile gets repeated until all posts are output)

**Endwhile**
(start loop over or exit if all queried posts have been output)

**the_title**
(Outputs the title of the post)

**the_excerpt**
(Outputs the post excerpt)

**other tags**
(There are a variety of other template tags you can also insert in the loop)

**the_content**
(Outputs the post content)

**the_date**
(Outputs the post date)

**the_author**
(Outputs the post author)

**the_category**
(Outputs the post categories)

**Exit**

# Behind The Scenes

In order for a WordPress theme to work, it needs a few essential background files. These files can be modified to your needs, and can quite powerfully affect the custom look and functionality of your site.

## comments.php

This controls the output of comments, which can be included in the loop if you desire comments on your theme. Comments.php can be overridden by plugins such as Disqus, which then take over comment functionality for your site.

## functions.php

Functions.php allows you to put your own custom php code in order to modify core elements of your theme. It is often used to specify multiple sidebars, change the number of characters in the excerpt, or add custom admin panel options from wp-admin.

## style.css

This is the main CSS stylesheet for your theme. It also contains text at the top which tells WordPress what your theme name is, who the author is, and what the URL of your site is.

# The Extras

Beyond the core functionality of Wordpress, extras like plugins, custom fields, and widgets allow you to further customize your site.
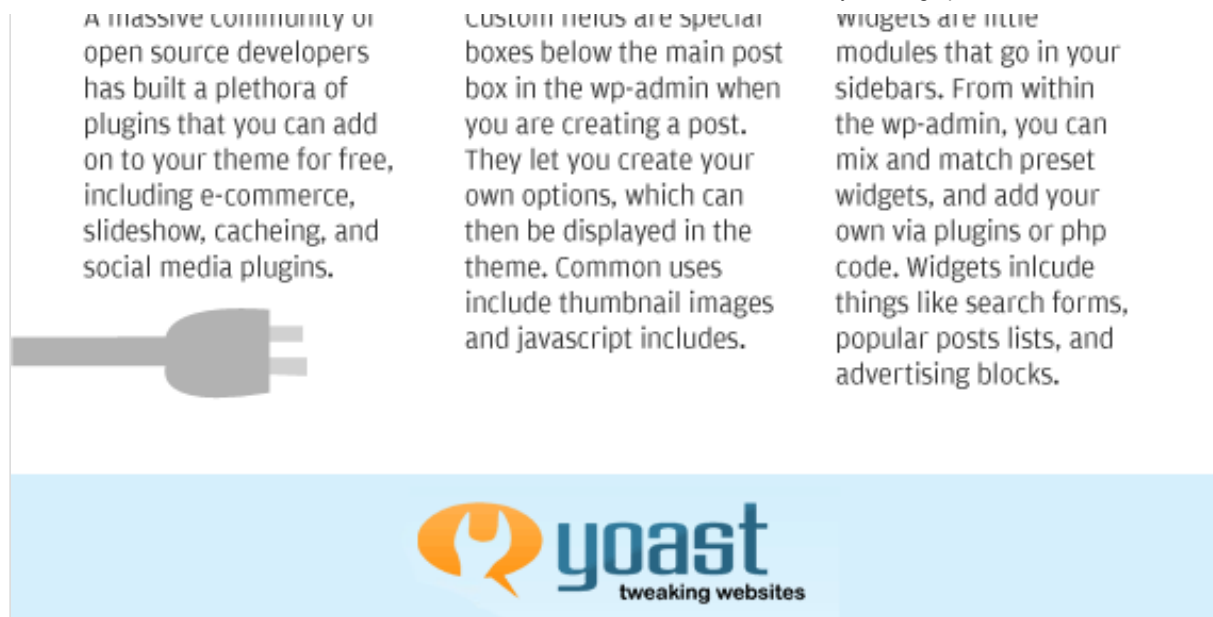
## Plugins

A massive community of

## Custom Fields

Custom fields are special

## Widgets

Widgets are little

A massive community of
open source developers
has built a plethora of
plugins that you can add
on to your theme for free,
including e-commerce,
slideshow, cacheing, and
social media plugins.

Custom fields are special
boxes below the main post
box in the wp-admin when
you are creating a post.
They let you create your
own options, which can
then be displayed in the
theme. Common uses
include thumbnail images
and javascript includes.

Widgets are little
modules that go in your
sidebars. From within
the wp-admin, you can
mix and match preset
widgets, and add your
own via plugins or php
code. Widgets inlcude
things like search forms,
popular posts lists, and
advertising blocks.

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For reference, here is the copy in the infographic:

# Anatomy of a WordPress theme

## The cheatsheet for how your blog works

WordPress themes are made up of a folder of template files, each of which controls a
specific piece of your theme. Parts of your site that remain static no matter what page
you're on are controlled by header, sidebar and footer files. You can hack these files
so they detect what page you are on and serve different content accordingly, such as
display different navigation on posts than on pages; however it is most common for
these sections to look the same throughout the site.

- **header.php**

Global file that displays headers and navigation. Also contains HTML code.

- **The Loop**

The display of contents of the main area of your site are controlled by individual
WordPress theme template files using what's called "the loop".

- **sidebar.php**

Sidebar display is controlled in this file. Multiple sidebars can be set up in

functions.php, and contents of sidebar widgets are set up from the WordPress wp‑admin panel.

- **footer.php**

Contains instructions for global footer and closes HTML tags.

Fully optimize your WordPress website yourself? Our WordPress eBook gives loads of practical tips on technical aspects, copywriting, site structure and much more! ! »

## index.php – home

The index file controls what the homepage of your WordPress theme looks like. By default it is a loop that queries and then displays the most recent blog posts, with a link in the bottom to view previous posts.

Alternately, you can specify in wp‑admin -> settings -> reading to have the home page be a page you created yourself in WordPress. In that case, you specify a different page/URL for the regular blog posts to appear on, and that page is generated by index.php.

## single.php – individual posts

The display of individual posts in your WordPress theme is controlled by a little file called single.php. It contains a loop that queries just one post and displays it.

You can specify if you want sidebars (and which you want), if you want it to look different than the other pages on the site.

## page.php – individual pages

Page.php controls what pages look like. You can choose to eliminate sidebars or other elements, add other unique elements for pages alone.

WordPress also allows you to create different page templates within your WordPress theme for different types of pages. To create a page template, simply copy page.php, rename it to whatever you want, then add this code to the top:

```php
<?php
/*
Template Name: YourPageNameHere
*/
?>
```

## archive.php, category.php, tag.php – archives

You can control the look and feel of different archives using template files also. If there is no archive file, the archives will look like index.php; however you can create an archive.php to override that. If you create a file called category.php, it will override archive.php for categories only. If you create a tag.php, you can override it for tag archives only.

# The Loop

The loop is perhaps the most powerful part of your WordPress theme. It starts with a query (which determines which posts or pages to grab), and ends with a PHP "endwhile" statement. Everything in between is up to you. You can specify the output of titles, post content, metadata, custom fields and commenting all within the loop and each element is output for each post or page until the query is done. You can set up multiple loops and queries on a single page; for example: on a single.php you could have the loop showing the entire content of a single post, with a loop outputting just titles and thumbnails for related posts below it.

- Query post or page
- Start Loop
- the_title (outputs the title of the post)
- the_excerpt (outputs the post excerpt)
- the_content (outputs the full post content)
- the_category (outputs the post categories)
- the_author (outputs the post author)
- the_date (outputs the post date)
- other tags (there is a variety of other tags you can use in the loop)
- endwhile;
- Exit the loop

# Background files of a WordPress theme

In order for a WordPress theme to work, it needs a few essential background files. These files can be modified to your needs and can quite powerfully affect the custom look and functionality of your site.

## comments.php

This controls the output of comments, which can be included in the loop if you desire comments on your theme. Comments.php can be overriden by plugins such as Disqus, which then take over comment functionality on your blog.

## functions.php

Functions.php allows you to put your own custom PHP code in order to modify core elements of your theme. It is often used to specify multiple sidebars, change the number of characters in the excerpt or add custom admin panel options for wp-admin.

## style.css

This is the main CSS stylesheet for your theme. It also contains text at the top which tells WordPress what the name of your WordPress theme is, who the author is and what the URL of your site is.

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Joost de Valk is the founder and CEO of Yoast. He's a WordPress / Web developer, SEO & and an Open Source fanatic. He's also (and more importantly) the father of three sons called Tycho, Ravi and Borre, a daughter called Wende and the husband of the lovely Marieke, who also works at Yoast. Read all about Joost »

View his other posts or find him on 🐦 in

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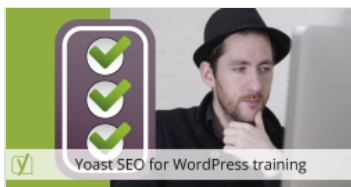
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## 112 Responses

By Andor on 10 January, 2011

Cool und useful scheme about the basic concept from a WordPress theme.

Thanks.

By Joseph on 10 January, 2011

Now i've got it Really useful and practical illustrations. Thanks

By Krystian on 10 January, 2011

Great illustrations. Simple and full of content.

Thanks.

By Ondrej on 10 January, 2011

Magnificent! You should get a medal from Automattic. I can't begin to tell how many hours I wasted trying to Google out what's shown so simply a beautifully here!

By Tami on 10 January, 2011

Will print it out and keep it. Gives the information in an easy to understand manner. Thanks.

By Nathan on 10 January, 2011

Comics Sans for the illustrations? REALLY?!
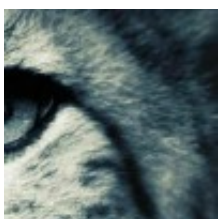
By Gert Ooms on 10 January, 2011

Very usefull …
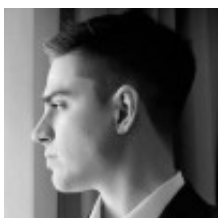
By Nick Plekhanov on 10 January, 2011

This is really useful. Thanks a lot man.

By Douwe Schaaf on 10 January, 2011

This is awesome! Very helpful to explain WP templates to others!

By John Housholder on 10 January, 2011

Great tool to show the framework. And, I agree with the comic sans

comment, LOL!

---

By joe ekine on 10 January, 2011

Good start for users who want to convert from drupal to wordpress. (:

By Koko on 13 January, 2011

Yep nice basic infos – tbh i hate drupal, had to use it a couple of times anyways ~~

---

By Landon Zirkelbach on 10 January, 2011

Very helpful! Starting my first WordPress site in a week or 2. So this helps greatly.

---

By Fulmega on 11 January, 2011

Fantastic article, I posted on my blog. If there is any problem with that, let me know and delete it.

Greetings

---

By Ken Jansen on 11 January, 2011

Thank you. This is really a nice resource for the non-programmer. I tweeted it. Very helpful. :)

By [Karen Bennett](#) on 11 January, 2011

Great info. Any chance of getting a PDF of this infographic? Reading the text in a png made my eyes hurt.

By Gerry Hoch on 11 January, 2011

This is a great asset to anyone starting out in building sites with WP.
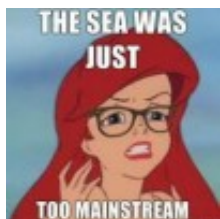
Thanks!
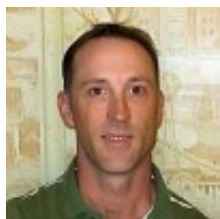
By [Tommy Linsley](#) on 11 January, 2011

Yes, I have to agree with Ondrej for an Automattic medal.

Yoast is to be commended for such an eloquent presentation of wordpress anatomy.
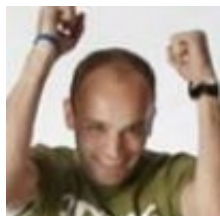
By [Bjorn van der Neut](#) on 11 January, 2011

Really nice and easy to understand! Only a little strange that its an image... not really seo friendly ;-)

By Vlad on 11 January, 2011

Always wanted to see what it was like. Wish I'd seen this a week ago when I was trying to augment the theme myself – had to learn it the hard way.

By [Martin Duggan](#) on 11 January, 2011

fantastic post – thank you very much for this resource. I'm a graphic designer trying to appreciate the mechanics of the WordPress system, so I can design for it better. I will keep this as a cool reference.

---

By Trevor Turk on 11 January, 2011

FWIW – I made "the simplest possible WordPress theme" in an effort to understand what the bare minimum WordPress theme requires (to get into their theme directory).

You can see it here: http://wordpress.org/extend/themes/simplest

---

By Shane Jones on 11 January, 2011

Brilliant work here Yoast. Am definately saving this page for reference.!

---

By Adam Leyton on 11 January, 2011

This is a fantastic resource. Thank you very much!

As someone else has mentioned, a PDF would be really useful.

---

By Rick Ong on 11 January, 2011

Very helpful Joost, wish we had this when I was learning WordPress Themes

---
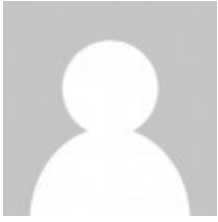
By [Dennis van den Broek](#) on 11 January, 2011

Wat een goede infographic. Goed om met geavanceerde gebruikers te bekijken wat wel en niet kan, of wat wel en niet handig is. Complimenten!

---

By [Graham](#) on 11 January, 2011

Awesome and handy WordPress infographic.

It would be really cool if there was a printable version :)

---

By [Fredrik](#) on 11 January, 2011

Great stuff! I will most certainly use it when explaining WordPress to clients. Many Thx!

---

By [Aaron](#) on 11 January, 2011

Well done. I've worked with WordPress for years and this graphic is the best yet I've seen to help beginners "see" what WordPress is all about. Much appreciated.

---

By [Jeff](#) on 11 January, 2011

Clear outline on WordPress structure, thanks!!! PRINTABLE VERSION PLEASE!

---

By [Stefano](#) on 11 January, 2011

Very well done!

Can I translate it in italian and post it on WordPressMania.it? Obviously I'll keep all credits and link to you.

Stefano

---

By PR i Marketing Agencija on 11 January, 2011

Nice Infographic :)

---

By Rev. Voodoo on 11 January, 2011

I'm using your SEO plugin, so I get your updates on my dash…. and I liek to stop in every now and then to see what's up. That is a very nicely laid out little tidbut you have there. Very easy to look at and follow!

---

By uxyogi on 11 January, 2011

Nice!!

It helped me a lot :)

Thanks.

---

By Theo on 11 January, 2011

This is really useful stuff, thanks!

---

By [Geoff](#) on 11 January, 2011

great diagram but how cool would it be to make each header clickable with

as a link to a sample of the code which is also annotated as clearly!

---

By [DinoThemes](#) on 11 January, 2011

Very well put together. This could be used as a visual tool to teach/learn
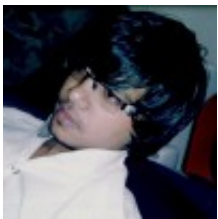
how to create WordPress themes. Kudos++

---

By [Craig Bak](#) on 11 January, 2011

Thanks man, yiu have made it very easy to describe the workings for those

who need to explain it to others!

Very useful Joost!

Thanks again

---

By [Ankit Saini](#) on 11 January, 2011

Never Know the secret of wordpress theme Like this way..

Thanks

---

By [Rob McCance](#) on 12 January, 2011

VERY nice. WP is a little mysterious to old school developers. This is great.

---

By [Jack ng](#) on 12 January, 2011

Wowo thank you for the great share:)

By [Arun Pal Singh](#) on 12 January, 2011

Thanks for making it clear. Though ever the years, I have gained knowledge about working of WordPress but it is always great to see it explained in images and words.

A very nice article

By [Natalya Murphy](#) on 12 January, 2011

This is a wonderful reference. I've thought many times about sitting down and trying to figure out how all the pieces fit together, but you've done the work for me now. Thank you! I'm sure I'll be referring back to this page often.

By [Peter L Masters](#) on 12 January, 2011

I'm using this and Yoast is very good! I've said enough.

By [SenseiMattKlein](#) on 12 January, 2011

Sometimes it's easy to forget what is sitting under our websites, that we place such a high importance on. It is easy to take it for granted. But it sure

helps to know where to find things if there is a problem. This post is extremely helpful in that regard. Thanks Joost.

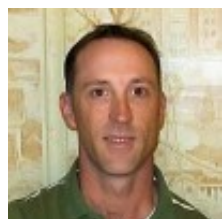By Sparrow on 12 January, 2011

Thanks, very helpful overview

By CodeZ on 12 January, 2011

hello from germany and big thx 4 this great illustration. i like it :-)

By Steve on 12 January, 2011

Very Helpful article, just sent it to a few other WP coders I know...Thanks

By Tommy Linsley on 12 January, 2011

Some commenters ask for a printable version. Just do screengrab. For example can use firefox extension Fireshot.

By Doug on 12 January, 2011

This is BEAUTIFUL! Can I use this image on my website to explain to my clients how WordPress works if I leave a link back to the author and Yoast?

By [Ricardo](#) on 12 January, 2011

Thank you. Excellent post :)

By [Jibun](#) on 13 January, 2011

Hey nice and brief informations for newbie in WordPress designing like me. Thanks.

However there is perhaps a little bug with your images title attribute. When hovering on images it shows 'Anatomy of WordPress theme Yoast'. Maybe that tag wasn't parse?

By [Yatin Mulay](#) on 13 January, 2011

I had to comment due to those AWESOME images. Great illustrative post Joost !

Do you plan to develop something similar to Thesis OpenHook plugin which could apply universally to all wp themes out there?

I think many people would be willing to even buy such premium plugin that'd make hacking wordpress themes simpler.
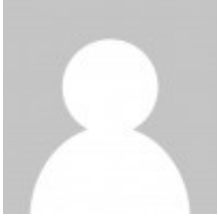
By [Steve Thoeny](#) on 13 January, 2011

I found this so helpful and well done. Outstanding! Thanks.
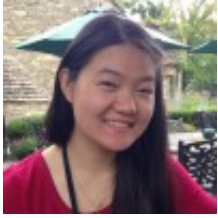
By Lily Sun on 13 January, 2011

Comic Sans really?!?

---

By Look on 13 January, 2011

A picture worth a 1000 words. Maybe even more. Thank you so much for this!

---

By Wang Jinyu on 13 January, 2011

Very informative reference, bookmarked it at first impression.

---

By Lam Nguyen on 13 January, 2011

This is very informative and useful, but the font using is a little hard to read. Anyway, thanks for this work.

---

By Ray Hiltz on 13 January, 2011

Very helpful. I've been working exclusively within themes. So peeling it back to the basics is very helpful.

---

By Diana on 13 January, 2011

Thank for this information. I will bookmark this page to refer back to often, I'm sure.

Thanks for all your tips.

---

By Jeff Lambert on 13 January, 2011

Joost,

This is great and nice that creditloan.com passed it along.

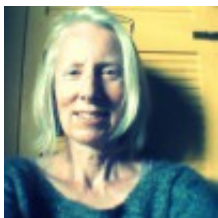Any problem with my sharing this on my site with a reference back?

Cheers

---

By Marc Saxe on 13 January, 2011

Great graphic Joost. Nobody's done it better:

http://www.youtube.com/watch?v=SaV-6qerkqI

---

By Pam Wright on 14 January, 2011

Lovely and clear description – this is really useful, thanks!

---

By Robert Dreher on 14 January, 2011

Dank je. Duidelijk en praktisch.

By [Ronald Smith](#) on 14 January, 2011

Excellent anatomy. Great tool for helping to explain wordpress to my clients. Thanks very much for producing this.

By [Pushpendra Pal](#) on 15 January, 2011

Very informative post.

Tells every thing(Basics) about a wordpress theme design.

Going to try my own WP Theme .. Thanks

By [Allen Resha](#) on 15 January, 2011

I am an avid blogger and use Word Press. This was a very excellent post on the break down of what makes a Word Press theme. As I get more into customization and tweaking on themes, posts like this help me to understand the break down of the theme piece by piece. It was written in a way that even the novice user can understand! Two Thumbs Up!

By [Jared](#) on 17 January, 2011

Thanks for the explanation. I never really understood the whole "loop" thing until now. I really enjoy your posts!

By Damion J. on 18 January, 2011
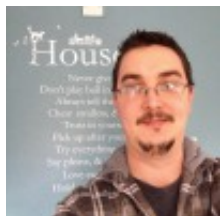
Finally! Great for visual learners. Thank you!

By [Denise](#) on 18 January, 2011

Love it! First useful info-graphic I've seen that smoothly outlines the process.

---

By [Javi Moreno](#) on 20 January, 2011

It has been a long time since I have seen the structure of WordPress explained so well. It is great for any beginner. Thanks.

---

By Tom Ireland on 21 January, 2011

Like this infographic very much. Nice and simple. Would be useful for future posts and newbies if you did a summarised breakdown of each bit and some examples? Thanks.

---

By [Eric Strate](#) on 22 January, 2011

Great layout, that is very informative. I wish we could get an anatomy of how to make a landing page that sells ;)

---

By [Lucian](#) on 23 January, 2011

Probably the best infographic for this year.

---

By [Nick Burman](#) on 27 January, 2011

Brilliant. I love infographics, being a graphic designer and thinking

graphically! Thanks for this.

---

By [Konstantin](#) on 28 January, 2011

I think you're missing the navigation menu and the thumbnails, and custom post types, that might have been a little bit more valuable, since the template hierarchy is already in the Codex. Great graphic btw :)

---

By [Jacob Carvidge](#) on 31 January, 2011

Excellent infographic. It's posts like this that keep me a subscriber to this blog, Joost.

---

By [Rosemary](#) on 31 January, 2011

Hi

Thank you so much for your clear and detailed description above. I had been struggling for ages to understand exactly what each page represented – apart from the obvious of course.

I also wanted to say thanks for your Google Analytics plugin, I just watched your screencast, which was very easy to follow and I am looking forward to implementing it (the plugin) on my sites. I have also downloaded the SEO plugin which I hope can help clear my information overload on this topic.

---

By [Raj Sharma] on 31 January, 2011

We have just redesigned our website and also a Blog/Article template; wherein we are planning to install wordpress for its functionality, I have been looking for an article which would help us find a way to get wordpress on our template, thanks for your contribution on this topic; if possible kindly send us any useful link on this topic. thanks

By [Sborez] on 3 February, 2011

Hello, can i get that jpg file in psd, or pdf to translate into czech language? It is very helpfull for me and i think that it will be for my friends in CZ too. Thanks a lot for your answer. I will post that on my blog and i will introduce you as author.

By Mick Gordon on 4 February, 2011

I am just starting to explore creating my own theme and this was a great resource.
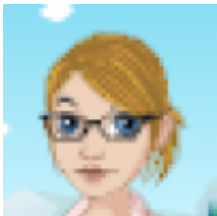
By [Elaine] on 8 February, 2011

You should sell this as a poster. I know I am going to print out a copy for my wall!

By [Greg Magnus] on 9 February, 2011

Excellent job with the WordPress illustration and the overview of the processes. Thx for taking the time to do it so well.

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Magento SEO                    Out of the box, Magento SEO is reasonably »

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Usability &
Conversion

WordPress

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Website review

Conversion reviews

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