

The History and Evoultion of PHP and Web Development

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Chapter 1

Intro

1.1 Preamble

I will be exploring the evolution of web development and PHP from its humble beginnings as some C based cgi script though till today.

I will also explore some other languages that have been prevalent in the evolution, expansion and dominance of the web in our everyday life.

I'm searching the web and asking people gathering information about the evolution of web development but more so the evolution of PHP.

1.2 About the Author

I've developing and writing web applications since 2008 mostly in PHP but I've work with Perl, Ruby and sadly that evil thing we call .NET

My intrigue for web development and programming come from me asking myself the question 'How does the web work? How can I make something cool? How does facebook work?'.

So I started the way many people do which is static HTML. . . Which is cool for a week, then your like 'There has to be an easier way?'. Easier way === PHP, PHP 4 to be exact. Lets just say I don't miss those days.

Nowadays I'm an advise opensource developer and contributor, mostly to PHP projects. Although I'm knowledgable in many different languages such Perl, Ruby, Python, Javascript, C++, Lua. . . The list goes on.

But for the purposes of this document I will be focusing mainly on PHP but will hit on some Perl (because it's awesome), Ruby, maybe some Python and some Javascript, node.js.

Chapter 2

The Web - Early Days

From the days of the Gopher protocol and text based browsing to graphical interface and HTML/HyperText. The early 1980's and though to the mid 1990's the progression from terminal based text browsers to Netscape Navigator & Internet Explorer (evil).

The World Wide Web (good old www) invented & developed by Sir Tim Berners-Lee in 1989 at CERN and also created the worlds first website, info.cern.ch[1, 2]. But as most of us know the web is nothing without a protocol to deliver the content, no worries the Sir Tim Berners-Lee also create the tools that really made the web such as the HTTP protocol (HyperText Transfer Protocol), HTML (HyperText Markup Language), the first web browser called World Wide Web and don't forget about the first HTTP server[3].

For more info about the world first website: <http://info.cern.ch/>.

If your like me your probably wondering how did we go from the worlds first website to the websites of today...

2.1 The Birth of CGI (Common Gateway Interface)

The birth of CGI finally gave us away of run a program/script on a web server and then render the output of these scripts and send it back to the client. The language of choice back when CGI was released in 1993[4] was Perl.

2.2 Perl on the web

Perl is a widely used general purpose scripting language. Initial developed by Larry Wall in 1987 for scripting on Unix systems.

Perl 5 become popular in the late 1990's as a CGI scripting language. Perl 5 was released in late 1997, one thing that made Perl even popular for web development was the creation of CGI.pm.

CGI.pm is a Perl module that provides an api for creating CGI (Common Gateway Interface) web applications.

Even today Perl 5 is still used in web development whether via CGI.pm for with the use of Perl Web Frameworks such as Dancer.

2.2.1 Example Perl CGI Script

```
1 use CGI ':standard';
3 print header,
    start_html('A Simple CGI Page'),
5    h1('A Simple CGI Page'),
    start_form,
7    'Name: ',
    textfield('name'), br,
9    'Age: ',
    textfield('age'), p,
11   submit('Submit!'),
    end_form, p,
13   hr;

15 print 'Your name is ', param('name'), br if param 'name';
    print 'You are ', param('age'), ' years old.' if param 'age';
17 print end_html;
```


2.3 Early PHP

How did PHP become what it is today? From the initial release of PHP Tools in 1994 to the release of PHP 4 in 1999.

2.3.1 PHP 1

PHP was created in 1994 by Rasmus Lerdorf and was original a set of C CGI (Common Gateway Interface) binaries these were known as "Personal Home Page Tools" or "PHP Tools".

In 1995 Rasmus release the source for PHP Tools so it could be freely used and developed by others.

The source code for PHP Tools (PHP 1) is here: <http://museum.php.net/php1/php-108.tar.gz>.

2.3.2 PHP 2

Shortly after the source for PHP Tools was released and was then renamed FI (Forms Interpreter) in September 1995, this implementation has some of the functionality that is in PHP today. This implementation introduced a Perl like syntax, automatic parsing of form variables and the ability to embed HTML.

In October 1995 it a complete rewrite was released by Rasmus and the PHP name was re-instated this time PHP stood for "Personal Home Page Construction Kit", which was considered an advanced scripting language. This release brought a C like syntax, which made it more accessible to developer that were familiar with C or Perl. Also at this time a Windows NT implement become a possiblity.

And as most new languages do it had another complete makeover in April 1996, this release was known as PHP/FI (Personal Home Page / Forms Interepther) this release was the first time PHP become a programming language in it's own right. This release include some new features in the way of built-in support for databases (DBM, mSQL, Postgres95), cookies, user defined function and more. In June that year PHP/FI which is otherwise known as PHP 2 these days.

This version of PHP had a short life but it continued to grow in popularity in the newly evoulving world of web developement. A survey done by Netcraft in May 1998 reported the nearly 60,000 domains had header information that indicated the web server hosting the domain had PHP installed and running. PHP at the time had some minor contributors but is still mainly developed by Rasmus.

Here is an example of PHP/FI

```

1 <!--include /text/header.html-->
3 <!--getenv HTTP_USER_AGENT-->
  <!--ifsubstr $exec_result Mozilla-->
5   Hey, you are using Netscape!<p>
  <!--endif-->
7
  <!--sql database select * from table where user='$username'-->
9 <!--ifless $numentries 1-->
  Sorry, that record does not exist<p>
11 <!--endif exit-->
  Welcome <!--$user-->!<p>
13   You have <!--$index:0--> credits left in your account.<p>
15 <!--include /text/footer.html-->

```

The source code for PHP/FI 2.0 (PHP 2) is here: <http://museum.php.net/php3/php-3.0.tar.gz>.

2.3.3 PHP 3

The first version of PHP that provided similar functionality to what we are use to today was PHP 3.

PHP 3 was collaborated development effort by Andi Gutmans, Zeev Suraski and Rasmus Lerdorf, they compelety rewrote the parser in 1997. The rewrite formed an indepent programming langauge, the rewrite also come with a new name PHP standing for Hypertext Preprocessor.

PHP 3 introduced mature interfaces for multiple databses, protocols and API's. Another feature that was introduced was the ability to extend the language easily by writing modules. Also inorduced was object oriented programming suport and a more well defined language syxtax ans structure.

June 1998, PHP/FI 2.0 (PHP 2) was deprecated in favour of PHP 3. At this time PHP 3 had many developers around the world collborating on the project. After months of public testing and the official release of PHP 3 it was prensent on 70,000+ domains all around the world. PHP 3 also brought support of non-POSIX compliant systems such as Windows 95, 98 and NT, and also Mac. At the height of PHP 3's popularity it was estimated that 10% of web servers on the Internet were running PHP 3.

The source code for PHP 3.0 is here: <http://museum.php.net/php3/php-3.0.tar.gz>.

Chapter 3

Modern PHP

Chapter 4

The rise of server side languages in the web

From 1993 with the release of the Common Gateway Interface (CGI) to the early 2000's many new programming languages most scripting languages were born such as PHP, Python, Ruby and also new versions of those Languages. Here is a list of release years[4]:

- 1993 - Common Gateway Interface
- 1994 - Perl 5 (still going strong after 19 years) & Python 1.0
- 1995 - PHP 2 (Known at the time as Personal Home Page), Ruby
- 1996 - ASP 1.0, Python 1.4 * 1998 - PHP 3, Java Servlet 2.1
- 1999 - Java Servlet 2.2 * 2000 - PHP 4, ASP 3.0, Python 2.0
- 2001 - Java Servlet 2.3, Python 2.2 * 2002 - ASP.Net 1.0 (Evil)
- 2003 - ASP.Net 1.1 (Still Evil), Java Servlet 2.4, Python 2.3
- 2004 - PHP 5, Ruby on Rails 0.5.0, Python 2.4
- 2005 - ASP.Net 2, Java Servlet 2.5, Python 2.5, Ruby on Rail 1.0.0
- 2006 - Ruby on Rails 1.1.0
- 2007 - ASP.Net 3.5, Ruby on Rails 1.2.0

As you can see in the time line above the whole web exploded on to the scene in a big way in 1993.

Bibliography

- [1] Wikipedia - History of the Internet
- [2] Cern
- [3] Wikipedia - History of the World Wide Web
- [4] Royal Pingdom - A history of the Dynamic Web
- [5] Wikipedia - Perl CGI.pm
- [6] Wikipedia - Perl
- [7] PHP: History of PHP