

# PHIL PEARL WEB DESIGNER-PROGRAMMER-WRITER

Cell phone: 425-241-2286

Web site: [www.philpearl.us](http://www.philpearl.us)

Email: [philpearl@mail.com](mailto:philpearl@mail.com)

## SUMMARY

I've designed and developed software for various platforms, including PC server-based IVR ( Interactive Voice Response ), and desktop applications, and in 2000 my focus shifted exclusively to the Web. I design and code sites with HTML, CSS, and Javascript, with an interactive and Single Page Application ( SPA ) development model that's very responsive to user input, and my personal web site is a small ( 69 Kb ) example of that at [www.philpearl.us](http://www.philpearl.us). It preloads 7 web pages within the main site page.

When AJAX became a truly cross-browser standard, I adopted it to make asynchronous background updates to sites. Cross-browser compatibility is achieved with the mainstream browsers - MS Edge and IE ( including legacy versions ), Chrome, Firefox, Tor, Safari, and Opera - by hand coding AJAX-driven SPA pages using nested <div> 'grid' designs, with a single code base for all the browsers. And I've written server-independent pages hosted on both Unix / Linux and Windows servers.

I build interactive and adaptable sites that are highly responsive to user input. They are hand-coded with no need for bloated third-party libraries like Angular, Backbone, or Bootstrap that are mostly eye-candy anyway. The SPA pages that I code are fast-loading and compact - typically under 100 Kb for all the HTML, CSS, and Javascript. For example, [www.philpearl.us/Adaptable/index.html](http://www.philpearl.us/Adaptable/index.html) is an 8Kb site that includes all the HTML, CSS, and Javascript needed to adapt automatically to display on devices of any screen size. Compare that to the same functionality in Bootstrap's library [demo](#) page that needs 344 Kb of [support files](#), or the 419 Kb of included files required in the 3 Kb Backbone example page, including 3 other libraries. When I use 3<sup>rd</sup> party libraries they are for coding specific site features, such as graphics, or HTML <table> elements that scroll vertically with fixed headers.

And I use a cross-browser subset of Javascript to build SPA UIs / UXs, avoiding the 'bad' parts of the language described by Douglas Crockford in his book, 'Javascript:The Good Parts'. For example, an [IBM study](#) found that Javascript 'Closures' cause memory leaks. I manually cross-browser test my work on all the mainstream browsers as I code using Test Driven Development ( TDD ), as well as using tools such as browsers' "Developer" debuggers, and the "Fiddler" application to debug web pages.

While I focus on "Agile" front-end Interactive web site design and coding, I do light graphics such as when I sketch layouts, capture screen shot, or crop and resize images, and I write some server-side code. But I prefer collaborating with visual designers on site graphics and issues like text contrast, and server-side coders on, for example SQL database queries. I parse returned SQL data sets in CSV, HTML, XML, or JSON format, for display in HTML tables, or to plot charts with libraries like 'GraphX'. If I code server-side I use PHP but AJAX can make REST calls to sites written with any language or Content Management System. And I've worked on front-end code in C# / .aspx server-side pages as well as PHP, and when working on legacy sites I familiarize myself with site-specific code, and library functions used.

I've written How-To guides for the web such as the [Accessibility](#) example I wrote for Microsoft which I tested on various screen readers ( e.g. JAWS, NVDA, Window Eyes ), White Papers, replies to RFIs, and a book published by [Amazon](#), 'A Practical Guide to Developing Web 2.0 Rich Internet Applications'. I developed a compact Javascript API library to accompany the book, with independent stand-alone components for easy integration, with no large 'core' files. I designed and coded the 102 Kb SPA site at [www.web2ria.com](http://www.web2ria.com) that has working examples of the code in the book, including web pages that access and display databases such as [MS SQL Server and MySQL](#). The site displays over 50 HTML pages. After a contract with Microsoft Research where I recommended using the ECDHE key exchange protocol, I added a new chapter on Cyber Security to my book and also updated the web site - click the "Cyber Security" tab at [web2ria.com](http://web2ria.com) to see examples and then select the "ECDH" item.

Also, I've written articles for 'CodeProject' at [Generic-DataBase-Browser](#) ( over 15,000 views ), [Cyber-Security](#) ( over 5,000 views in the 1<sup>st</sup> week ), and [Code-Library-Obsessive-Compulsive-Disorder-CLOCD](#) ( over 5,000 views ). My portfolio of pages and sites that I've designed and coded is at [www.philpearl.us](http://www.philpearl.us) ( click the thumbnail images to see larger screen shots, information, and links ).

## SKILLS & EXPERIENCE

| Skill               | Experience Years | Proficiency Scale 1-10 | Last Used | Project Number - Details are shown on the pages following |
|---------------------|------------------|------------------------|-----------|---|
| HTML and CSS        | 16               | 9.0                    | 2018      | 1,2,3,4,5,6,7,8,9,10                                      |
| Javascript          | 16               | 9.0                    | 2018      | 1,2,3,4,5,6,7,8,9,10                                      |
| AJAX                | 9                | 9.5                    | 2017      | 1,3,4,6,8   |
| PHP                 | 14               | 8.0                    | 2016      | 1,2,4,6,10  |
| SQL/Databases       | 10               | 7.5                    | 2016      | 1,2,4,6,10  |
| Design, Interaction | 16               | 8.5                    | 2018      | 1,2,3,4,5,6,7,8,9,10,11                                   |
| Hand Coding         | 16               | 9.5                    | 2018      | 1,2,4,5,6,7,8,9,10,11                                     |
| X-browser compat.   | 8                | 9.5                    | 2018      | 1,2,3,4,5,6,8   |
| Test & Debug        | 16               | 9.5                    | 2018      | 1,2,3,4,5,6,7,8,9,10,11                                   |
| IVR                 | 12               | 9.0                    | 2000      | 10,11   |
| Technical Writing   | 31               | 9.0                    | 2018      | 1,3,4,6, Oilfield Survey Manual                           |
| Project Mgmt.       | 31               | 8.5                    | 2018      | 1,4,5,8,9,11,Oilfield                                     |
| Cyber Security      | 3                | 8.0                    | 2018      | 1   |

## EMPLOYMENT HISTORY

### 1. Author of Book on Web 2.0 RIA Site

2012 – present

#### Development, various Microsoft, and others

I wrote the book 'A Practical Guide to Developing Web 2.0 Rich Internet Applications', and designed and coded its accompanying modular web site with examples at [www.web2ria.com](http://www.web2ria.com), and I added a new chapter on Cyber Security in the 2<sup>nd</sup> edition in 2015. [Amazon](http://Amazon) publishes the book, and the accompanying web site has fully functional examples of the book's topics, including SQL database queries. I also built the code library that's discussed in the book.

I worked on the Microsoft Research Natural Language Translator site in 2015, which had 0.5 – 1.0 million hits per day, and I advised on Elliptical Curve cryptography for security ( see [article](#) ). I designed and coded a prototype site for a medical supplies company, as well as designing and coding the 'rgDance' web site in 2016. On Microsoft's Accessibility site, I designed and coded the web page and I tested it with 4 different screen readers, including JAWS and NVDA.

In 2018 I worked at Microsoft's Cloud + Enterprise Group on documenting Microsoft's compliance with the European Union ( EU ) General Data Protection Regulations ( GDPR ), with the emphasis on APIs.

### 2. Wells Fargo Bank

2011 – 2012 & 2017

Migrated the legacy 200 – 300 page 'WorkTracker', Linux-based web site, acquired in the takeover of Wachovia, to Windows server, and switched from MySQL to MS SQL Server database ( ETL ). Coded, tested, debugged / fixed bugs, and added new web pages and features as needed.

*Technologies used: HTML, CSS, Javascript, PHP, MS SQL Server, MySQL, Hand Coding*

- Worked from Seattle area with Wells Fargo in San Francisco on employee time tracking
- Converted entire site from being hosted on Linux, to Windows hosting
- Designed and set up new MS SQL Server database and wrote PHP access code
- Did the user experience design and coding for new pages to track employee hours worked
- Wireframed, prototyped, coded, tested, and debugged new code, and tested and debugged legacy code

### **3. Microsoft – MSR, IE Testing, & Assistive Technology Groups**

**2008 - 2011**

*Technologies used: HTML, CSS, Javascript, MS Visual Studio*

- Worked on multiple projects with the Microsoft Research ( MSR ) natural language translation group, including an experimental interface for the embedded translation widget on 3<sup>rd</sup> party web sites, and finished the HTML, CSS, and Javascript work on a new version of the Translation Widget Adoption Portal site, a week before its release. Also tested pages.
- Tested Internet Explorer ( IE ) v.9 release code and modified test code for the U.S. MS IE Test group. Documented procedures for use by Chinese testers ( in English ). Contract was for a few months to fill-in until the regular engineer returned from a long trip
- Worked-up user experience designs, wireframes, and prototypes, and coded new Single Page Application / SPA web page with a functional example of assistive / accessible technology including a pop-up on the page, for the MS Assistive Technology group. Used semantic HTML instead of WAI-ARIA for WCAG / Section 508 compliance, so that it worked in legacy browsers, and tested with JAWS, Window Eyes, and NVDA screen readers

### **4. MediRec**

**2010**

*Technologies used: SQL Server, T-SQL, PHP, HTML, CSS, Javascript, AJAX, hand coding*

- Designed and coded 2 sites for the MediRec Personal Health Record ( PHR ) project, one a database-backed prototype, and the other a functional mockup at [www.medirec.org](http://www.medirec.org), based on the American Health Information Management Association ( AHIMA ) PHR paper forms. The mockup employed all 40 of the AHIMA PHR sections in a Single Page Application - SPA
- Used MS SQL Server and TSQL for the database-backed site and PHP for database access

### **5. LJGArt**

**2009**

*Technologies used: HTML, CSS, Javascript, hand coding*

- Designed and hand coded the [www.ljgart.com](http://www.ljgart.com) web site to display an artist's work
- Implemented an image-fader to show individual images of sculptures
- Wireframed, prototyped, tested, debugged, set up, and maintained site at ISP host

### **6. Web2AJAX, DISYS, Paciderm**

**2007 – 2008**

*Technologies used: HTML, CSS, Javascript, PHP, hand coding*

- Designed and hand coded web sites ( e.g. Paciderm and web2AJAX sites ), and sections of other sites, and tested and debugged sites as needed, including database-backed sites

### **7. Intermountain**

#### **Health Care ( IHC )**

**2007**

*Technologies used: HTML, CSS, Javascript, hand coding*

- Hand-coded and debugged the legacy internal IHC diabetes Insulin dosage web site
- Consulted with LDS hospital medical staff in Salt Lake City on site features, added new features and pages as needed, and found and fixed an Insulin dosage calculation error

### **8. Pharmax**

**2006 – 2007**

*Technologies used: HTML, CSS, Javascript, PHP, hand coding*

- Worked with site owner to determine User Experience ( UX ) design and features, through wireframing and prototyping
- Designed and hand coded Pharmax injection molding plastic vial SPA e-commerce web site

### **9. ATQ Systems**

**2004 – 2006**

*Technologies used: HTML, CSS, Javascript, Systronics AJ-100 Hardware, Java, hand coding*

- Designed and hand coded embedded controllers, and supervisory web site
- Worked with business principal to determine features and design

## 10. Berger / Modis / iNetz / ISV

1998 – 2004

*Technologies used: HTML, CSS, Javascript, PHP, IVR, hand coding*

- Worked on the Bureau of Land Management ( BLM ) PHP web site at iNetz, and moved the site from iNetz Linux servers to BLM's Windows servers on project completion
- Worked on a Times Mirror company IVR merger project of 4 companies into 1
- At Berger I researched, selected, and troubleshot the vendor for an IVR integration project at a 1,000 person call center for PC maker NEC-Packard Bell
- I wrote the 'DataBrowser' database access web site / application to query MS SQL Server and Access, MySQL, Oracle, and DB2 databases, and ASCII plain text files, and wrote a patient rehabilitation program for the LDS Hospital in Salt Lake City

## 11. Interface

1986 - 1998

*Technologies used: PC Server-Based IVR with Natural Microsystems Hardware & Software*

- Programmed, built, and supported multiple Interactive Voice Response servers for a successful nationwide FBI undercover telemarketing sting, 'Operation Disconnect'
- Designed and built IVR servers and coded voice application generator, for hospital information delivery systems used all over the U.S. to provide information to the public
- Designed, programmed, built, and installed IVR emergency notification system for the Salt Lake International Airport, and trained personnel and supported the system

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## LOOKING FOR

I'm seeking a web architecture, design, or coding position using modern Web 2.0-style design methods to produce highly interactive SPA ( Single Page Application ), RIA ( Rich Internet Application ) sites that are fast-responding, and automatically adapt to different screen sizes and formats, using front-end HTML, CSS, Javascript and its AJAX subset, and PHP if I code server-side. And / or a technical writing position using Microsoft Word to create documents that can then be saved / converted to other formats as needed, e.g. pdf. Or a position creating online web content.

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## EDUCATION & NOTES

I was educated in the U.K. to 'A' level, won a scholarship at the [Royal Military College of Science](#), and interned at the [Admiralty Experimental Establishment](#) where I worked on nuclear submarine propulsion systems. I learned to program in the U.K. at [Litton Industries](#), and took [Stanford](#) and [Harvard](#) Computer Science courses in the U.S. But a Google study quoted in the [New York Times](#) showed no correlation between education and job performance, except for new college graduates without real-world experience, or between test or brainteaser results and job performance.

And I have practical, on-the-job experience that includes managing, installing, designing, developing, coding, debugging, and documenting web pages and sites for organizations large and small. This includes projects for Microsoft and Wells Fargo bank, where I've done remote contracts for both of these companies, as well as working remotely for various other organizations and Government departments, such as the Bureau of Land Management and the FBI, and I've worked across time-zones. I also have experience teaching technical training courses and developing course content.

I've maintained sites at 3<sup>rd</sup> party web hosts / ISPs, and migrated sites between different operating systems and databases. To display large web-based data sets returned from database SQL queries, I use HTML <table> elements with scrollable data rows and fixed headers, see [www.web2ria.com](http://www.web2ria.com) -> 'Widgets' tab -> 'Table Funcs' submenu item ( select a database from the drop-down ), and graphs, see [www.web2ria.com](http://www.web2ria.com) -> 'Widgets' tab -> 'Charts' submenu item ( select a column to graph ).

Click the 'Tech Writing' tab on my personal site at [www.philpearl.us](http://www.philpearl.us) for URLs to Technical Writing samples, and for code examples see the site accompanying my Web 2.0 book at [www.web2ria.com](http://www.web2ria.com). Click the browser 'View Source' menu item to see code there, as well as on my personal web site.

## COMPANIES WORKED FOR

|   |               |
|---|---------------|
| AUTHORED NOVEL "CYBER INSECURITY"                         | { 2018        |
| MICROSOFT GDPR COMPLIANCE DOCUMENTATION                   | { 2018        |
| AUTHORED NOVEL "KILLING TIME"                             | { 2017        |
| WELLS FARGO BANK – WORKTRACKER APP.                       | { 2017        |
| RGDANCE.CO.UK   | { 2016        |
| NEW SECURITY CHAPTER FOR WEB 2.0 BOOK PUBLISHED BY AMAZON | { 2015 - 2016 |
| MICROSOFT RESEARCH – NATURAL LANGUAGE TRANSLATOR          | { 2015        |
| WROTE BOOK ON WEB 2.0 DEVELOPMENT PUBLISHED BY AMAZON     | { 2013 - 2014 |
| WELLS FARGO - WORKTRACKER APP.                            | { 2011 - 2012 |
| MICROSOFT ASSISTIVE TECHNOLOGY GROUP                      | { 2011        |
| MICROSOFT IE TEST GROUP                                   | { 2010        |
| MEDIREC.ORG - PERSONAL HEALTH RECORD WEB SITE             | { 2009 - 2010 |
| LJGART.COM  | { 2009        |
| MICROSOFT RESEARCH – NATURAL LANGUAGE TRANSLATOR          | { 2008 - 2009 |
| PACIDERM  | {             |
| DISYS   | { 2007 - 2008 |
| WEB2AJAX  | {             |
| INTERMOUNTAIN HEALTH CARE – DIABETES DOSAGE APP.          | { 2007        |
| PHARMAX   | { 2006 - 2007 |
| ATQSYSTEMS  | { 2002 - 2006 |
| ISV   | {             |
| I.NETZ / MAIN BUREAU OF LAND MANAGEMENT WEB SITE          | { 1998 - 2002 |
| MODIS   | {             |
| BERGER  | {             |
| INTERFACE / FBI / VARIOUS OTHER                           | { 1990s       |
| INTERFACE   | {             |
| BARTEL SOFTWARE   | {             |
| NORTON CHRISTIANSEN                                       | { 1980s       |
| AMF SCIENTIFIC DRILLING CONTROLS                          | {             |
| AMF SCIENTIFIC DRILLING CONTROLS                          | {             |
| SPERRY SUN  | { 1970s       |
| LITTON INDUSTRIES   | {             |