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## **CONTACT INFORMATION**

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## **SKILLS MATRIX**

**Overview:** Almost thirty years' experience as a professional software developer, architecting solutions and writing code for large corporations such as Microsoft, (Microsoft's Advanced Technology Group in Redmond,) Demand Media, Oracle Corporation, Bank of America and Barclays Bank as well leading development teams while remaining hands-on with web development for numerous start-ups and dot-coms.

**Team Management:** CTO at a pre-funding start-up (2011 to 2012.) Management of off-shore development teams in 2009 and 2010 for eVenues. Director of Engineering at Hillclimb Media and Demand Media (2005 to 2009) responsible for recruiting and running multiple development teams and support staff, office and production environments and defining the SDLC, processes and standards in the lead up to their IPO. Lead Engineer and project manager for InterMune, recruiting and managing a team of developers from 2001 to 2004. Chief Engineer at Achieva.com in 2000 and 2001, dealing with both in-house staff and an off-shore development team. Achieva had a successful exit strategy. Resource and project management using both Microsoft Project and a wide variety of more agile management tools. Currently Technical Advisor at Accelerate Kitsap, and for non-profit technology start-ups such as Community Sourced Capital.

**Mobile Development:** Development of mobile apps using the cross-platform (Android, iOS, etc.) PhoneGap / Apache Cordova framework and SQLite, coupled with responsive web designs (phones and tablets) using jQuery Mobile, jQuery, JavaScript, HTML5, CSS3 and AJAX.

**Web Development:** Platform agnostic. Predominantly C# and ASP.NET with MVC4 and Forms projects, Entity Framework and LINQ against Microsoft SQL Server databases on the Microsoft stack and PHP5 (including MVC) and MySQL on the LAMP stack. Earlier work on the Microsoft stack includes VB.NET and classic ASP. API development using AJAX, SOAP, RESTful services .NET web services, XML and JSON. Application hardening, (PCI compliance, SQL injection, cross-site scripting and request forgery) on both IIS and Apache. Development and optimization of highly scalable solutions, including using AWS cloud services.

Front end work includes designing clean HTML5 and XHTML responsive and fixed designs using frameworks such as Zurb Foundation and Twitter Bootstrap, utilizing CSS, JavaScript, jQuery and jQuery UI, and ensuring cross-browser compatibility on IE6 through IE10, Firefox and Webkit browsers such as Apple Safari, Google Chrome and Google's stock Android browser. Strong User Experience (UX) and advanced SEO skills with proven results. Google Analytics, uptime and performance monitoring.

**Windows Development:** Windows applications, executables and DLL development since 1994 using C# currently, and earlier, VB.NET and VB3 to VB6 using Telerik, Infragistics and Sheridan components, VBScript and VBA (Access, Excel, MapPoint, Outlook, Word,) COM, DCOM, COM+, MTS, OLE, DDE, Crystal Reports (all versions to v9 and Crystal Web Reports,) traditional client/server, 3-tier, n-tier, MVP and MVC patterns.

**Other Development:** Team City Continuous Integration, Red Gate SQL Source Control, Subversion (SVN), Team Foundation Server (TFS), Visual Source Safe (VSS) and Intersolv PVCS code repositories, version control and release management systems. Various bug tracking systems such as TFS, BugZilla, CustomerQ and Issue Manager. Past work with Rational Rose UML object modeling and Assembler (68000 series.)

**Database Technologies:** Microsoft SQL Server 2012, 2008, 2005, v7 and v6.5, MSDE, DTS, SSIS, T-SQL, MySQL v5 and v4, Android SQLite, ANSI SQL, Oracle v8 and v7, Informix v7, , Microsoft Access, stored procedures, triggers, query optimization, schema design, ERWin, MySQL Workbench, Entity Framework, LINQ, ADO.NET, ADO, RDO2, RDO, RDS, OLE-DB, ODBCDirect, DAO, Jet, VBSQL, OMA, flat files, Excel feeds, RDBMS and hierarchical databases with shape trees. XML, XSD, XSLT, JSON. Additional work with legacy DBMS such as Archive, dBase, Clipper, FoxPro, DataEase and Btrieve.

**Servers & O/S:** Microsoft Windows 2008 Server, Windows 2003 Server, Windows 2000 Server, Windows NT Server, Windows 7, Windows Vista, Windows XP, all previous versions of Windows, Microsoft Exchange. Limited Linux exposure (Ubuntu / Debian). Past experience with Citrix WinFrame/WinCenter, MS-DOS (all versions,) UNIX (OSF Motif, NeXTSTep, HP-UX System V, SunOS,) Novell, Banyan Vines, AS/400, Sequent, ICL and Wang.

**Network Management:** Data center management, web farm management including security hardening and performance optimization, monitoring and troubleshooting, network design, firewalls, load balancers (Big IP etc.) domain and DNS management, mail servers, security and network administration including Active Directory/LDAP configuration, VOIP telephone systems (TalkSwitch.)

**Industries & Markets:** Dot-coms and Start-ups, Internet, Media, Banking and Credit Card Systems, Biotechnology and Pharmaceutical, Education, Human Resources, Insurance, International Finance, Internet Hosting, Investment, Localization, Non-Profit, Payroll, Professional (Legal), Public Utilities, Publishing, Retail (including POS. and stock control), SaaS Platforms, Shipping, Travel and Leisure.

## **HISTORY**

### **Partial Client and Site List (Alphabetical)**

*Achieva.com (now KapTest.com), Bank of America, Barclays Bank / Barclays de Zoette Wedd, Bespoke Systems Software, Cordless Computer Company, Demand Media, Dixon Group PLC, devWorthy, Dresdner RCM Global Investors, eBid Systems, El Paso Natural Gas, Electronic Computer Services, eVenues.com, Fastrac Systems National Insurance Group, GardenGuides.com, GolfLink.com, Griffin Technical Enterprises, IMI Bank / San Paolo IMI, InterMune Pharmaceuticals, InterMune, Jamba Juice, Jetstream Servers, Life-Button, Linklaters & Paines, London Borough of Havering, Microsoft Corporation, Microsoft Game Studios, Mobile Broadcasting Company, Oracle Corporation, Positive Futures Network, Providian Bancorp / First Deposit National Bank, Reel.com, Run.com, RunThePlanet.com, Shaklee Corporation, Sonics Inc., Tercica, Trails.com, Travels.com, YES! Magazine, Web Paper.*

### **March 2011 to Date**

Self-employed, with continuous work on a full-time basis, operating a software development consultancy dealing exclusively with Bainbridge Island based businesses and non-profits, with multiple clients on both Microsoft and LAMP stacks. Client examples:

- 1) A SaaS (Software as a Service) provider who's ASP.NET web applications are utilized by NATO, governmental agencies, and a number of large international corporations. Work includes maintaining, improving and customizing the existing C# forms-based flagship application, which is now over ten years old, with many hundreds of files, quite a few of which are over ten thousand lines of code each, plus developing a new replacement flagship application using C#, ASP.NET v4.5, MVC4, Entity Framework (EF), LINQ, HTML5, Zurb Foundation, JavaScript, jQuery, AJAX and Amazon Web Services (AWS) with a responsive web design. Both applications run in a Windows 2008 Server/MS SQL Server environment.
- 2) A new online store for YES! Magazine, <https://store.yesmagazine.org>, designed and developed from scratch including graphic design, web coding, content and db work. The online store project was somewhat different to typical store projects as, although there was a database that the store used for redirects and site administration, the customer did not want to maintain lists of products, prices or accounts in the store, or deal with feeds. Consequently the store made use of custom WSDLs, SOAP and XML slaps going against an existing centralized system for this kind of information, so an off-the-shelf shopping cart was not practical as a starting point. However, there were some benefits in going with a non-standard solution, including easier adaption for the client's unusual needs, such as allowing an order to have dozens of shipping addresses, or ordering and paying for subscriptions, which effectively set up accounts, for lists of friends. Hours after initially deploying the new store, customers who had not seen the old one wrote in to say how easy to use and helpful the new store was. Web analytics also showed immediate and significant improvements in load times, page views/visit, bounce rates and quantities per order. The store was developed using XHTML and PHP5, with JavaScript, jQuery, AJAX and a MySQL back end.
- 3) A new web site for a national franchise who were interested in improved search engine results pages (SERPs) placement vs. their competition. Within a month of launching, the new site achieved top ranking in Google for the key phrases the franchise was interested in, an SEO ranking which they still maintain. The site was developed using ASP and Microsoft SQL Server.

*Skills:* Cross-browser compatibility, standards-compliant HTML5 and XHTML, CSS, JavaScript, jQuery, AJAX, SOAP, XML, security hardening, SQL injection, XSS, PCI compliance, SEO, UI/UX design, ecommerce systems, Authorize.Net and Cyber Source payment gateways, Think Subscription services, Subversion, (SVN,) including Red Gate SQL source control, bug tracking systems, agile project management systems, (Rally, Scrumwise, etc..) SMTP, MIME, mail servers, DNS, stress testing, Windows 2008 server, IIS, ASP, C#, ASP.NET 4.5, 4.0 and 2.0, MVC4, LINQ, Entity Framework, MS SQL Server 2012, 2008 and 2005, T-SQL, ERWin, Plone, Zen Cart, Apache, PHP5, MySQL5, MySQL Workbench and Linux.

### **July 2012 to Date**

*Start-Up:* TimeApps.com

*Skills:* ‘Phone and tablet mobile app development, Android v2.3 to v4.2, Apache Cordova / PhoneGap v2, SQLite, very heavy JavaScript, AJAX, jQuery, jQuery Mobile, HTML5, CSS3, RESTful API development, PHP5, MySQL5, responsive web design, subscription platforms, and payment gateways (Braintree Payments and Zooz.)

Designed and developed Timesheet Recorder, a mobile app suite to record or log time spent on tasks or projects for clients, along with an inbuilt client invoicing tool, tax reporting features, charting and other capabilities. This project has been undertaken as an evening and weekend “spare time” project, both for pleasure and to generate additional passive income through online sales and subscriptions. Please feel free to request an in-person quick demo during an interview if you’d like more details.

### **May 2011 to July 2012**

*Start-Up:* devWorthy

CTO and co-founder of devWorthy, in conjunction with two business partners. Designed and prototyped a fully operational, scalable C2B web platform. Developed pitch decks and supporting documentation and presented at investor meetings. Unfortunately devWorthy did not receive sufficient funding offers to continue, but this opportunity was a highly educational business experience.

### **August 2010 to January 2011**

*Client:* WebPaper LLC

*Skills:* PHP5, Zend MVC Framework, Amazon Web Services, (S3 and EC2,) MySQL, MySQL Workbench, standards-compliant XHTML and CSS, Subversion, (SVN,) JavaScript with heavy jQuery, (not just scripting and AJAX but a full JavaScript application,) cross-browser compatibility, including iPhone, iPad and Android mobile devices.

Worked on the development of a new technology to take documents, (MS Word, PDF, etc..) and display them on the web using HTML and JavaScript, without the browser needing to have an underlying application or plug-in installed. This involved developing a full jQuery and jQuery UI JavaScript application that was platform independent, and could display the document in either a reflow view, like an EPUB, or in a fixed position view, like a .pdf viewer, with images and fonts remaining in-place. The application was also designed to be skinnable for customization, with a number of example skins being developed for demonstration purposes. Additionally designed a database schema to store collections of documents for display and worked on a web application for the submission and maintenance of documents in online libraries.

### **November 2009 to August 2010**

*Employer:* eVenues LLC

*Site:* eVenues.com.

*Skills:* Visual Studio.NET (VS.NET) 2005 and 2008, C#, ASP.NET, Microsoft SQL Server 2005 and 2008, T-SQL stored procedures, VBS, IIS, IIRF, .Net Framework v3.5, LINQ, XHTML, CSS, JavaScript, Windows 2003 Server R2, custom services, firewalls, Subversion, (SVN,) Authorize.Net payment gateway.

Directly managed and supervised off-shore development teams in Moldavia and Bulgaria while acting as a technical advisor to the executive team on production support issues, environmental infrastructure, development processes and SEO. Additionally provided hands-on design and coding for new site features and assisted with debugging, code maintenance, testing and production support, including server maintenance and data center issues.

**August 2009 to October 2009**

*Employer:* N/A – voluntary web work.

*Example Site:* DonnaMooreBooks.com.

After leaving Demand Media, due to their Seattle office closure and developer relocation to their California HQ, Neil spent August on vacation in India then returned to undertake some small web projects gratis before signing up with eVenues. A good example of such a site is DonnaMooreBooks.com, taken from inception (no previous site) to completion in only one week, including all of the content editing, custom coding, graphic editing and layout.

**November 2005 to July 2009**

*Employer:* Demand Media, Inc. (Originally Trails, Inc. until Trails merged with Demand Media in 2006.)

*Job Title:* Director of Engineering.

*Sites:* Trails.com, GolfLink.com, GardenGuides.com, Travels.com, AllGetaways, Run.com, RunThePlanet.com.

*Skills:* Visual Studio.NET 2005, VB.NET, ASP.NET, classic ASP, IIS, HTML, XHTML, CSS, JavaScript, jQuery, REST, JSON, AJAX, VBScript, VBS, ERWin, MS SQL Server 2005 and 2000, T-SQL stored procedures, DTS, SSIS, MySQL, XML, MSXML, XSD, XSLT, ADSI, Windows 2003 R2 and Windows 2000 server, PHP5, Linux, custom services, firewalls, Google Minis, Google Appliances, Google Maps API, Subversion, Team Foundation Server (TFS,) Visual Source Safe (VSS,) MS Project, TalkSwitch VOIP phone systems, SEO, Google Analytics, web farms, load balancers (Big-IP etc.,) Akamai CDNs, Flash Media Server, application hardening (XSS and SQL injection,) test tools, bug tracking tools, site monitoring tools, payment gateways (Authorize.Net and PayPal.)

Responsible for recruiting and managing several development teams and support staff that developed (or redeveloped) all of the above-listed sites from scratch during Neil's tenure at Demand Media, making heavy use of database feeds from third party vendors tied to geospatial software (GIS.) In addition to supervising staff, Neil was responsible for the Seattle datacenter, production deployments, 24x7x365 production support and Seattle office support and undertook most of the systems design work, database work and a large portion of the coding of both front-end (ASP etc. including SEO) and mid-tier DLLs and executables.

Various projects were also designed and implemented by Neil that were not tied to any one specific web site but instead provided libraries and tools that were used with multiple web sites to facilitate rapid development of the next site. For example, a fully automated user management system that worked with multiple payment gateways for subscriptions and automated the registration of new users on a site, the sending of reminder emails, their renewal, cancellation and so on, with a custom template for each site.

**January 2005 to November 2005**

*Client:* Microsoft Corporation.

*Team:* Advanced Technology Group – Web Systems.

*Projects:* Design and development of various support tools and web sites for Microsoft Game Studios' Xbox division.

*Skills:* Visual Studio.NET, VB.NET, ASP, ASP.Net, IIS, HTML, JavaScript, VBScript, VBS, ERWin, MS SQL Server 2000 including T-SQL stored procedures, XML, AD, ADSI, OLE-DB, COM+, CDONTS, CDOSYS, SMTP, POP3, FTP, Windows 2003 Server, Windows 2000 Server, office automation, localization.

Contracted with the Advanced Technology Group – Web Systems team in Redmond to develop and support various multilingual (English and Japanese) web sites and back end tools facilitating the ordering of hardware, asset, account, game studio and contact management, title management and title certification processes. Work entailed maintenance of existing systems and the design and development of new tools and web sites.

Example project #1: Was responsible for the design and development of Microsoft's Xbox 360 Branding Guidelines web site, a multilingual site for internal and external authorized users only containing approximately 60 pages of text, images, animations and downloadable .zip file content. Security was a primary concern since the site contains highly confidential data and marketing materials on the upcoming Xbox 360 release. Design included a security model for various roles (which could be combined) that limited the physical areas of access within the site via file-level security with only the appropriate menu options displayed as well as a tool to import large lists of users and automatically create their accounts and notify them. The site also featured a database driven download store where all possible downloads from various site pages visible to a user could be viewed and selected on a single page with a collapsible tree design. A user could tick a node on the tree to select all of the files in that area and sub-areas or tick individual files

then proceed to a checkout where a custom .zip file would be created containing a combination of all of the desired downloads. In the post-mortem after the site first went live, it was commented that features were completed ahead of schedule, the site went live ahead of schedule with all of the desired features and the test team stated that the code was “exceptionally tight. We simply couldn’t find any bugs.”

Example project #2: Third party games developed for the Xbox and Xbox 360 consoles have to be approved by Microsoft before they can be released by the various studios and publishers developing them. To facilitate this, Microsoft maintains a living document of hundreds of technical certification requirements that they make available to developers and they then test proposed releases against these requirements and only those games that pass can be released. The requirements were previously published on a monthly basis in a .pdf format on a web site, which was not conducive to searching. For example, a developer might want to view just those requirements pertaining to networking and these could be in various parts of the document. A web-based solution for this problem was designed, coded and implemented as follows: A completely database-driven Technical Certification Requirements (TCR) web-site was created where users could browse by individual TCR releases and drill down through various sections or navigate to related areas such as terminology databases. Users can see history of an individual TCR and how it has changed release to release and can also perform complex searches to obtain just the TCRs of interest. Results can be viewed on the site or downloaded from the site to MS Word, MS Excel, a delimited format or a single stand-alone HTML file or even copied to the clipboard. A loader and release management tool was developed for the content editors so that they could provide XML files for new releases and automate the loading of the database. The solution relied heavily on detailed style sheets and was often commented on as being the slickest looking site in the group. It was held up as an example of a good, maintenance free site as there were no support or maintenance issues in the six months following the initial release.

#### **July 2004 to December 2004**

*Client:* Jetstream Servers.

*Market:* A hosting business (ISP) specializing in high speed hosting of web, game and voice servers on the Internet.

*Projects:* Greenfield development including web site, server farms, monitoring software and back-end utilities.

*Skills:* Visual Basic (development of COM+ DLL components for IIS and UDP-based .exe applications), Active Server Pages, IIS, HTML, JavaScript, VBScript, MS SQL Server 2000 including DTS and T-SQL stored procedures, OLE-DB, COM+, CDONTS, CDOYS, SMTP, POP3, FTP, UDP, Windows 2000 Server, Windows 2003 Server, DNS, firewalls, Quake engine technology, peering exchange technology.

As an investor in this venture, took a few months out to develop the business infrastructure including organizing the most suitable co-location facilities, negotiating contracts, building the physical servers, installing operating systems and configuring and balancing/optimizing components such as mail servers, web servers, game servers, voice servers and database servers as well as developing an automated online order processing system and web site framework. Primarily Jetstream rents virtual game servers to individuals and groups on a subscription basis. As a result, a number of back-end utilities needed to be developed from scratch that interacted with various game and voice servers via UDP in order to monitor bandwidth usage and performance and to ensure that each virtual server would restart automatically after being shut down. Additionally, anti-hacker/exploit programs were developed to interact with Quake engine game servers in the form of some popular shareware that has already become essential fare for certain game types. A number of small game modifications developed by Jetstream have also been released to the public.

After the infrastructure was in place, by developing the business model so that front-line support is provided by willing volunteers, Jetstream became self-sustaining in just a few short months with little or no interaction required beyond spare-time promotional activities.

#### **April 2004 to May 2004**

*Client:* Tercica, Inc.

*Market:* A biotechnology company that researches and retails life-saving pharmaceutical products.

*Projects:* Greenfield development including web site, server farms, monitoring software and back-end utilities.

*Skills:* Visual Basic for Applications (VBA), Microsoft Excel, Microsoft Access, Btrieve.

Undertook a small Excel-based project to automate reporting of budget forecasts vs. actual expenditure with drill-downs on a departmental or project basis, using pivot tables et cetera, the data being pulled from an accounting application using a Btrieve db.

**December 2001 to April 2004**

*Client:* InterMune, Inc.

*Market:* A publicly traded biotechnology company that researches and retails life-saving pharmaceutical products.

*Projects:* Sales-force automation and administration tools, contact management system and management reporting.

*Skills:* Visual Basic (both VB.Net and VB6), VBA (controlling and integrating MS. Excel, Word, Outlook and MapPoint from VB applications), CDONTS and SMTP, MTS/COM+ including developing Remote Data Services (RDO) DLLs for distributed database access over the Internet using Remote Data Services (RDS), ActiveX Data Objects (ADO and ADO.Net), OLE-DB, Visio Architect for .Net, MS Project, MS Office, ERWin, MS SQL Server 2000 including DTS and T-SQL stored procedures, Microsoft Database Engine (MSDE), Oracle 8, MS Access, SourceSafe, Windows 2000.

Was initially brought in to rescue InterMune's Sales Tracker project in a dual role as Lead Engineer and Project Manager. Sales Tracker was to be a desktop application on sales representative's laptops and PDAs that would allow the representatives to lookup, edit and maintain specialized contact and meeting information relating to sales leads while in the field. Specialized information would include details such as histories of prescriptions written by physicians that were supplied by independent party feeds. As employees in the field would likely not have Internet access, each mobile PC user would need their own portable database that could provide two-way synchronization of pertinent data with a central repository, allowing for representatives to share information and updates with each other and management to provide new leads.

The project had previously been attempted over a year earlier by a consultancy but the sales managers did not adopt the application as they felt that it didn't meet their needs adequately. Prior to my arrival, the second version of the application, developed by a different consultancy this time, was also seen to be inadequate both in terms of user interface and functionality and the relationship between the MIS staff and sales department was strained. Unfortunately the second application was centered around a Microsoft Access database on each laptop with another central Microsoft Access database as the central store that would be hit by hundreds of users. (Ms. Access .mdb files are not suitable for a robust server or capable of handling the predicted volume.) Synchronization consisted of just the built-in Ms. Access synchronization feature that would copy all data everywhere, a security concern for the client. In addition, there was no intelligence built-in to the synchronization process that would automatically work out which data is newer or more relevant. No attempt had been made to deal with multi-user issues and the application was very buggy and unusable. The code itself was unstructured and not easily open to revision.

Within a few weeks of my arrival, a new design for the project was completed, including a working prototype of the UI for demonstrating screen navigation. The design incorporated MS SQL Server as the central database with MSDE (a license free version of SQL Server for client PCs) as the distributed database. Synchronization was a completely custom feature using RDS so as to allow Internet access outside of the corporate firewall, through a web server via HTTPS. (The first retail-ready version of .Net had not been released at the time else the design would perhaps have envisaged using Web Services as a better alternative to RDS.) Only data relevant to each representative's sales territory was shared downstream, with territories being based upon collections of ZIP codes.) The UI was designed to be familiar for the users with a look similar to Microsoft Outlook's interface.

InterMune's management were very happy with the new design so I brought in and managed a small team of contract developers and the first full-featured release of the new design hit production a few months later. The new application was renamed as InterMune InfoLink and, over the course of a year, many additional features were added as usage of the product throughout the company increased. The application now includes advanced search and selection features, tight integration and control of other desktop applications including the ability to upload selected contacts to Microsoft Outlook, directly embed formatted data in Microsoft Excel or in Microsoft Word and directly bring up contact addresses in Microsoft MapPoint maps.

In addition to the main InfoLink application and the back-end synchronization engine and data population tools (using .Net), automated management reports were developed along with a tree-like graphical administrative tool for managing sales representatives, territories, regions, groups and zip codes. (Also using VB.Net.)

Other numerous side projects at InterMune include on-line timesheet management, FDA reporting on trial drug case studies against an Oracle database, creation of bug tracking systems, web sites and a development, QA and production environments and consulting on totally automating distribution and installation of anti-viral and spy-ware software on employees remote laptops.

**June 2000 to October 2001**

*Client:* Achieva.com.

*Market:* Dot-com specializing in providing web-based learning courses for states and school districts.

*Projects:* Back-end course administration, access-control, web reporting and marketing systems, corporate web site.

*Skills:* Visual Basic, Active Server Pages (ASP), Active Directory, ADSI, LDAP, CDONTS, CDOEX (MS Exchange), MAPI, SMTP, XML, HTML, VBScript, JavaScript, MTS/COM+, IIS, ActiveX Data Objects (ADO), OLE-DB, UltraSuite, MS Project, MS Office, ERWin, MS SQL Server including DTS and T-SQL stored procedures, SourceSafe, InterDev, Windows 2000/NT. Some Flash and MS Analysis Services / OLAP.

As the Chief Engineer at Achieva.com, my first role in this “green field” company was that of a technical advisor, designer, business analyst, project manager, QA manager, DBA and occasional coder. Initially Achieva had no technical resources in-house at all and were having to outsource the development of their courses as they had pre-sold (at the time) non-existent products to their clients. Rather than hard-coding courses, Achieva’s goal was to produce a database-driven courseware engine with content entry and web-design components. Over time, a large department of in-house developers was established and the work was transitioned away from the external service providers. I managed a number of development teams under exceptionally difficult deadlines where, apart from managing resources, I was additionally responsible for the design of the components being generated as well as the trickier parts of the coding. Following the release of the second version of Achieva’s course-engine on 19<sup>th</sup>. October, 2001 (on schedule) and as the sole contractor in what was now a fairly large and productive department, I could successfully hand off my duties and my contract at Achieva came to an end.

A large portion of the work revolved around back end systems that managed licensing (including number of seats and date limitations,) login authentication, access to the courses and course reporting for faculty. To this end I designed and developed a GUI account management tool to maintain the relationships between world regions, sales regions, states, districts, sub-districts, schools, classes, faculty, students and courses, et cetera. I also designed and coded data access DLLs that provided the necessary interaction between either an .exe front-end or an ASP COM+ front end and the back end storage in SQL Server and MS Active Directory Server, creating MS Windows 2000 user accounts, groups and group members as appropriate along with accompanying MS Exchange email accounts. Similar components that I designed and coded included bulk access key token, user id and password generation libraries to run under COM+/MTS.

Other development projects included design and coding of complete reporting systems for faculty and design and development of an email engine (.exe) for sending customized emails in batches of many thousands of recipients at a time. The bulk email engine used a library of custom tags in HTML template letters and a comprehensive database-driven mailing list management system (SQL Server). Emails sent to individuals that were successfully received were noted in Achieva’s Marketing database and links were customized for each email sent so that one could track a recipient’s use of Achieva’s websites (ASP) and provide appropriate special offers.

At the end of 2002, Achieva.com was successfully acquired by Kaplan, Inc., who were keen to obtain access to the web course engine and associated tools.

**November 2000**

*Client:* Sonics Inc.

*Market:* Manufacturer of Systems-On-a-Chip (SOC) design software.

*Project:* Consulting on corporate web site.

*Skills:* JavaScript and HTML on Mac and PC (Netscape and IE).

Provided ad-hoc troubleshooting and consulting on problematic code (developed by third parties) that was delaying the launch of Sonics new web site.

**April 1999 to June 2000**

*Client:* Reel.com.

*Market:* Dot-com movie portal specializing in articles, reviews, previews, movie searches and DVD & VHS sales.

*Projects:* [1] MID/PID content and movie entry tool, [2] web-based financial reports and email engine, [3] XML feeds.

*Skills:* Visual Basic, Active Server Pages (ASP), CDONTS, MAPI, SMTP, XML, HTML, VBScript, JavaScript, MTS and COM+, IIS, ActiveX Data Objects (ADO), OLE-DB, VSpell, ERWin, MS SQL Server including DTS and T-SQL stored procedures, Web Crystal Reports, SourceSafe, InterDev, Encryption, Windows 2000 Server/NT.

During my tenure with this client, Reel.com was one of the top ten largest web sites in existence and ranked along with other household names such as eBay and Amazon.com. All code had to be highly scalable, robust and virtually bug-free.

[1] Initially brought in to replace an existing development team and rescue a failed project called MID/PID where development was so far delayed that all work had ceased. Both user's expectations and business requirements were not met with the original code and there was, consequently, a lot of anxiety and frustration on the part of the users and management. As an example of the poor coding practices inherited, existing code was not in any way designed to be multi-user when there would be at least twenty to thirty simultaneous users entering data with the final product. Working very closely with the users, management and QA on a daily basis, I designed and coded new GUI features and rewrote almost all of the mid-tier DLL as well as adding approximately three times as much functionality as was originally present. One of the key causes of the original problem was requirements changes driven by different departments' priorities after coding of some sections was completed with design changes going first one way then another after being coded then back again. By documenting this very carefully and enforcing management buy-in with ROI and revision of deadlines for each change, we were able to significantly cut-down on these issues. The project was completed ahead of schedule for deployment alongside the rest of the revamped site and I was able to deliver a stable product which many users and managers commented on, stating that it exceeded their expectations. MID/PID is a content and product entry tool that allows users to enter in details of movies into Reel's movie database such as description, cast, crew, reviews, language and ratings. It also allows corresponding entries for products such as prices, special offers, suppliers, DVDs, VHS tapes, audio recordings, posters, books and other associated movie paraphernalia to be entered in Reel's product database and to be tied to the corresponding movie database entry.

[2] Following successful deployment of MID/PID, I designed and developed twenty-eight different types of report for management that collated information and trends from various database servers such as sales and income figures by movie or category on a daily basis. Apart from making these reports visible on Reel's Intranet on demand, I designed and developed an email engine to mail self-contained copies of these reports to various mailing lists every day in order to keep investors and internal management apprised with the latest business statistics.

[3] Designed and developed code to import XML feeds such as movie review databases from third parties.

**December 1997 to April 1999**

*Client:* Providian Bancorp.

*Market:* Banking and Credit Card Systems.

*Projects:* [1] SmartScreens II, [2] ATP, [3] Conversion of numerous other applications from 16 bit to VB5-32 bit.

*Skills:* Visual Basic, Rational Rose UML, Informix SQL Server including stored procedures and triggers, MS Access, Rumba, EHLAPPI, Y2K, Sheridan Calendar/Data/Designer Widgets, MS VB Code Profiler, Crescent Conversion Tools, PVCS Version Control, Active Server Pages (ASP), HTML, VBScript, JavaScript, IIS, Interdev, Windows NT, ODBC API calls, RDO2, ODBCDirect, DAO, COM/DCOM, OLE, Win32 APIs, etc.

[1] Returned to Providian under contract, after being asked by the bank to help them with a new project, SmartScreens II. (Previously had contracted at Providian from July 1995 until June 1996). SmartScreens II involved a complete redesign and rewrite from scratch of an existing application, SmartScreens I. SmartScreens I was written in VB3 and used DAO to extract information from Informix and MS Access tables. Additionally, screen scraping against a third party's [Total Systems] mainframe system is performed using Rumba API calls. The rewrite of SmartScreens II involved a team of approximately seven developers using VB5 with ODBCDirect. Database and Rumba connections are no longer directly maintained by the front end but pass through separate executables (also written in VB). Other changes include new features and functionality for the users with a completely new GUI, Year 2000 (Y2K) fixes, speed enhancements and all of the adjustments necessary in order for the application to run on a Windows NT platform. At completion, SmartScreens was used by over 1,400 customer service representatives (CSRs) to field inbound calls from the bank's credit card customers. CSRs can use SmartScreens to examine past and current transactions or credit history, authorize purchases,



increase credit, telemarket products, change addresses, order additional cards or report lost or stolen cards along with many other similar features.

[2] After finishing work on SmartScreens II, spent several months consulting on Providian's ATP project as it was behind schedule and additional manpower was needed. This included coding the central set of classes used to provide the framework for the rest of the project. The design of this system is unusual in that, apart from the usual separation of business classes from the data/transport classes necessary for optional future implementation of DCOM, the class structures for each business object were very hierarchical with events such as transactioning cascading up and down trees of classes. Various changes to the initial design were required in order for this "rippling" effect to work properly. (For example, multiple transactions are queued so a two stage commit to enable safe rollback is required but the original design did not cater for this.) Some of the applets that were created during the course of this project have since been designated as core components for future Providian projects.

[3] The last few months involved simple maintenance, converting most of Providian's remaining 16 bit VB applications into 32 bit equivalents. Typically this would primarily involve remapping existing API calls such as GetWindowWord into GetWindowLong and changing the associated variable types. Some applications posed problems where there was no equivalent ActiveX/OCX component to replace existing components and these parts of the applications had to be rewritten from scratch. (For example, Apex TrueGrid does not exist in a 32-bit version and the closest equivalents have different events and methods.) Examples of other fixes include changing applications with over 60 different unique API declarations in each, changing ODBC updates to map to the system registry and XORing bits to circumvent VB5's and VB6's [infamous] 256 color palette bugs and memory leak.

### **March 1998 to December 1998**

*Client:* Dresdner RCM Global Investors.

*Market:* Investment Portfolio Management (Institutional Investors).

*Skills:* Visual Basic, VBA, MS Access, RDO2, DAO, Windows NT, Y2K Management, MS Office, conversion and enhancement of legacy systems from earlier versions of MS Access & DataEase.

Dresdner had a number of small applications (with five concurrent users typically) in their corporate headquarters for their library staff that required integration and enhancement. Generally, these systems tracked company year-end reports (including automatic letter generation), subscriptions, location of publications, routing slips and archived materials. Worked under contract during the evenings and weekends to integrate all of these library related applications into a single system with an Access front end. The code is entirely written in VBA and data objects are not bound to the GUI. The back end is a separate database that is also an MS Access .mdb file, but this could easily be changed in the future if desired since the system was designed for migration to SQL Server. The client chose to work with Access as a front end as it was felt that their in-house staff were more familiar with supporting this medium. The code was also written in such a way as to make it as easy as possible to migrate to a compiled VB environment.

After successfully completing Dresdner's Library Project, designed and developed a small Y2K inventory, tracking and prioritization system for Dresdner's Year 2000 Office. The primary tool for this was Visual Basic and the system was designed in such a way that it can be easily customized by the users to their specific future needs, should these differ from Dresdner's present requirements. Again, this work was performed primarily off-site, with weekly on-site meetings.

### **October 1997 to November 1997**

*Client:* Bank of America.

*Market:* Banking (Year 2000 Tracking).

*Skills:* Visual Basic, MS SQL Server, MS Access, RDO2, ERWin, Windows NT, Crystal Reports.

Retained under contract to design a replacement system for Bank of America's Y2K Vendor Management system using SQL Server and VB. The original system was a "user grown" MS Access database with twenty to thirty users that contained forty two different screens, sixty nine different reports and several hundred queries. Unfortunately the ownership of the existing system and the project for it's replacement changed hands (a different department took over) and the replacement project was scrapped while still in the initial design phase. Following this, was retained to convert the Access system with minor modifications to run on an SQL Server back end in order to enable web based querying. Minor modifications included adding cross-references for scanned/imaged documents such as contracts.

**June 1997 to September 1997**

*Client:* Jamba Juice.

*Market:* Retail (drinks and snacks).

*Skills:* Visual Basic, MS SQL Server including stored procedures, triggers and BCP, MS Access, ERWin, Encryption, Windows NT and Windows 95.

Worked under contract at Jamba Juice's HQ in San Francisco. Jamba Juice was a relatively new corporation that had rapidly grown to approximately sixty retail outlets in California. There were few existing systems in place. Main responsibility was to design and develop a constantly running engine that would take POS. information from the retail outlets and upload it to central MS SQL Server databases via BCP and server-side stored procedures, all called from within VB. The engine was in three parts. The first was a highly configurable GUI where the users could specify various polls with reoccurring dates and times, plus which types of files and which retail outlets to include in each poll. The second part was the actual background engine (GUI-less and unattended) that monitored the list of polls and fired up a copy of the third part, each time a poll is run. The third part (one instance per actively running poll, also GUI-less and unattended) uploaded the flat files into MS SQL Server databases using BCP and then called various stored procedures to clean the data and move it on to a data warehouse. Configuration, execution and logging information was stored in a poll database and accessed via RDO2. Additionally an encryption and decryption module was built (from scratch) so that the application could store user ids and passwords in order to log on to various databases without user intervention.

**June 1997 to July 1997**

*Client:* Mobile Broadcasting Company.

*Market:* Shrink Wrapped (Internet Multimedia Utility).

*Skills:* Visual Basic, RoseGUI, Windows NT & Windows 95, multimedia VB extensions.

Designed and developed, under contract, a graphical representation of an automobile's CD and radio player, complete with animated dials and LED displays, that can play various multimedia files (.wav, etc.) from a predefined library that could be downloaded over the Internet. The library could be broken down into headings such as News or Sport. Within each heading were sections such as International News or US News. Each section would contain a collection of sound bytes. The interface allowed navigation horizontally or vertically throughout each of these levels with automatic play for the next track and the ability to cycle within each section or play through all the sections in turn. This application was developed specifically as a prototype in order for MBC to acquire financing.

**January 1997 to June 1997**

*Client:* Fastrac Systems (National Insurance Group).

*Market:* Insurance Tracking.

*Skills:* Visual Basic, Informix SQL Server, Netscape Enterprise Server, HTML, MS Access, ERWin, CustomerQ and WebQ under Windows NT (including WinCenter & WinFrame), Windows 95, Windows v3.1 and OSF Motif as well as UNIX scripting (HP-UX).

Initially brought in, under contract, in an analytical and architectural role, to complete the design of a system that integrates mortgage insurance tracking, auto lease insurance tracking, flood insurance tracking and forced place insurance tracking into a single system with a GUI front-end capable of running under an OSF Motif environment in addition to various MS Windows environments and via the world-wide-web. A great deal of time was spent researching and evaluating various development environments (including prototyping) as the existing tool inherited for the project was not up to the task. Various proposals and options were presented with alternative tool sets, including, for example, a Passport/ C++/ ESQL-C solution, a Java/CORBA based solution and an NT/ WinCenter (X11 client) approach. In addition to an Informix back-end, C-ISAM structures and other databases in various environments (including AS/400 and Prime) needed to integrate with the system.

**July 1996 to December 1996**

*Client:* Cordless Computer Company.

*Market:* Shipping.

*Skills:* Visual Basic, Oracle SQL Server, Oracle Mobile Agents, MS Access, True DBGrid, Windows NT & 95.

Contracted at Cordless to assist in the design and to develop a work order, call and problem logging system for Cordless' client, one of the largest letter and package shipping companies in the world with many thousands of employees in the U.S. alone. The system is heavily GUI orientated with many innovative features and the back end of the system is a distributed Oracle database at each regional center. Mobile employees in the field with portable laptop computers can also run off of portable MS Access databases failing the ability to connect to an Oracle server. As a consequence of the distributed nature of the data, a three-tiered architecture was developed for the main application with the data layer being handled by a suite of classes that determined exactly what data should be passed where and facilitated the transfer to an Oracle or Access database using OMA (Oracle Mobile Agents) or ODBC respectively. Since the GUI does not handle the data directly and does not know the type of data source (OMA or ODBC), all of the components/controls in the interface, including the True DBGrid sheets, were coded in an unbound mode. The system has proven itself to be very popular with Cordless' client and has been fully released in a live implementation.

**July 1995 to June 1996**

*Client:* Providian Bancorp / First Deposit National Bank.

*Market:* Banking and Credit Card Systems.

*Projects:* [1] Pay-By-Phone, [2] Product Enrolment System (Billing and Reporting modules).

*Skills:* Visual Basic, Informix SQL Server, MS Access, Rumba, Crystal Reports, TrueGrid, SourceSafe, Federal Reserve / Automated Clearing House file structures, Total Systems' file structures.

[1] Undertook a contract to design and code Providian's Pay-By-Phone system. Pay-By-Phone accepts requests from customers over the telephone who wish to make payments against their credit cards or increase their secured credit lines. Transactions can be charged to other banks and financial institutions through the Federal Reserve / Automated Clearing House system. The advantage to the customer is that the transaction is seen to complete on the same day that they make their request by telephone. Pay-By-Phone performs other tasks such as charging the customers annual fees for this service and notifying credit card vendors and other banking systems of transactions, as well as providing very good reporting and audit trails. Pay-By-Phone was in production for over six months by June 1996 and was utilized by more than 230 Customer Service Representatives. It was very popular and was found to be totally bug free and maintenance free. This project was delivered ahead of schedule. Additional tools such as a backup scheduler were developed alongside the main application.

[2] Following successful implementation of Pay-By-Phone, was retained by Providian to design and code their Product Enrolment System's Billing & Reporting modules. The system is one of the main sources of revenue for Providian and is used to telemarket additional services to their customers, such as health or auto breakdown insurance and then to vet the customer and bill him or her with an annual fee for these services. Unlike all of the other modules in the system, the Billing module was designed to be product independent and is capable of simultaneously running over several machines, subdividing the workload accordingly. In the first month of it's implementation, the Billing module processed many thousands of accounts and charged annual membership fees in excess of \$250,000.00.

**September 1995 to November 1995**

*Client:* Oracle Corporation.

*Market:* Human Resources.

*Skills:* Visual Basic for Applications (Excel).

During this period, and with the agreement of Providian, designed and developed (during the evenings and weekends) a small system for in-house use at Oracle Corporation's headquarters.

**January 1995 to June 1995**

*Client:* Shaklee Corporation.  
*Market:* Retail Systems.  
*Project:* International Sponsoring Program (ISP).  
*Skills:* Visual Basic, MS Access, Crystal Reports, TrueGrid, AS/400.

Moved to San Francisco to work on a contract at the headquarters of the Shaklee Corporation. Designed and developed an international bonus payment system using Visual Basic and MS Access. Also trained a junior programmer in Visual Basic so that he could assist with minor parts of the development which I assigned to him. The system extracts bonus requirements from a number of overseas subsidiaries through an AS/400 database, then calculates bonus payments, exchange rates, withholding taxes, exemptions and payee's balances, then issues payments through either an automatic bank draft system or an in-house US cheque cutting system. It also produces approximately twenty different types of management reports and prints statements in the desired language such as English, French or Spanish. This system was also delivered ahead of schedule.

**July 1994 to December 1994**

*Client:* El Paso Natural Gas.  
*Market:* Utilities.  
*Skills:* Excel and Visual Basic.

Contracted at El Paso Natural Gas, as a Consultant Analyst and the main technical consultant in a small team in a purely development role on a bespoke financial analysis package, for their Rates department, utilizing primarily Excel and Visual Basic. The main Excel files consisted of many thousands of lines of code and the final product was successfully rolled out ahead of schedule at the end of December.

**April to June 1994**

*Employer:* Barclays de Zoette Wedd.  
*Market:* Banking and Investment Trading.

Accepted a contract as a PC Specialist directly with Barclays de Zoette Wedd, a merchant bank and part of the Barclays Group. Primary function was to provide support to the dealing room floors and financial analyst's servers, networking infrastructure, workstations and PCs. Most of the support work encompassed dealing with networking and application software problems. Additionally called upon to provide in-depth technical assistance to spreadsheet macro developers. Was released from this type of work to concentrate, with sole responsibility, on a tight deadline for the installation and implementation of a networking solution for a subsidiary's office block. The solution encompassed workstation configuration, server and backup systems, packaged application software configuration, PC based database amendments to bring the database in line with the new solution, remote links to Barclays' wide area network, printers and end-user training. The final task undertaken was complete documentation of the entire system before hand-over.

**March 1994**

*Employer:* Dixon Group, PLC.  
*Market:* Retail.

After being laid off along with the majority of the technology department at Linklaters and Paines due to outsourcing, undertook short-term contract work at the Dixon Group's head office for a month dealing with in-house software support issues. Dixon's own electrical goods and computer retail outlets in every town and major shopping center throughout the entire UK and have a substantial computer department based in their London head office.

**November 1987 to January 1994**

*Employer:* Linklaters & Paines (Hackwood Service Company).

*Market:* Law.

Employed by Linklaters & Paines in their MIS Development group. L&P is one of the largest law firms with offices in London (five sites and approximately fifteen hundred staff), Paris, Brussels, Frankfurt, Moscow, Washington, New York, Hong Kong, Tokyo and Singapore. As the firm's only PC Analyst, responsible for all PC related development, software and equipment. The workload consisted of analyzing requirements, designing and coding small applications, purchasing, installing, customizing and installing new equipment and software, training users, liaising and coordination of projects. Prior to joining L&P, the firm had no IBM compatible PCs. Approximately three to four hundred networked PCs were in place by January 1994.

While with L&P, spent seven years specifying, designing, writing and supported numerous small stand-alone systems using various tools, such as Visual Basic. Examples of such systems using other PC based languages include a Cashier's Cheque Production System (FoxPro), a Salaries Office System (dBase), several event logging systems (assembler and Professional Basic 7), a bulletin board system, simple bond issue systems for clients (DataEase, etc.) and several front-end report generators/statistical analysis applications utilizing Excel on PCs interrogating ICL mainframes and data on UNIX servers.

**1986 to 1987**

After completing college, undertook a three month contract to teach children programming skills in the USA. Upon return, accepted a permanent position as a Software Development Consultant with a small local organization, Bespoke Systems Software, who had previously offered some free-lance work between 1983 and 1986. BSS was run by a major London casing broker and importer/exporter. Developed a stock control system and an import/export market statistical analysis package for BSS that was used for calculating prices on over thirty-two thousand different makes, models and grades of product.

**1983 to 1986**

Undertook a number of free-lance offers while still at college. Contracted to design, write and implement various small PC applications for local companies. Also gave advice on hardware and software and trained staff in the use of standard packages such as word-processors, spreadsheets, databases and graphics. Developed client indexing, mail-merge facilities and front-end menuing software for a law firm. Other work was varied and ranged from advising local schools to stock control and customer accounts software development for a small video store chain.

**OTHER**

Member of The International High IQ Society and The HTML Writer's Guild.

Designated as the Technical Member of the National Excel Committee, Microsoft User Group (the only UK user group officially backed by Microsoft) for many years. This opportunity offered exposure to problems associated with MS Excel and other Windows products in various organizations nation-wide as well as giving an opportunity to become involved in the design of the localized versions of products such as MS Excel. The position also afforded the opportunity to undertake PC related book reviews, to privately beta test software for Microsoft and to make several recommendations for MS Excel and other products that have since been incorporated within these products.