Paul Stinchcombe
Resume

Personal Information

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Nationality: British

Born: January 18th 1963

Birth Place: Cardiff, Wales.

Marital Status: Married

Children: 3

I started programming at the age of 14 in school, developing in-house systems for the school, and assisting the city council with developing system security measures.

Professionally, at the age of 21 I started programming in a Cardiff based software house (Target Computer Group) devoted to developing financial systems for offshore banks and major finance houses on IBM midrange systems.

As my career progressed I moved to London where I got involved in large-scale point-of-sales systems (Harrods), then real-time systems and telecommunications (William Hill). As my experience grew I was regularly sent overseas to consult on systems and communications for my company (a large UK based bookmaker), and after two years in this role was appointed to the position of R & D manager. The betting industry is cash rich and faces many unusual challenges for IT. This position afforded me great opportunities to expand my knowledge which included my first foray into voice processing.

Still in its infancy, the voice processing field was very technical and involved in-depth knowledge of real-time programming, hardware, and telecommunications signalling protocols.

I moved from here into manufacturing with Vine Products & Whiteways, a subsidiary of Allied Lyons, and my talents were put to use developing systems for hand-held terminals, programmable logic controllers (PLC's), and SNA based communication systems for System/38 and AS/400 machines.

In my mid 20's, I moved back into the telecommunications field and was involved with developing high-end state of the art systems for handling high capacity premium rate telephone calls (ICE Communications). Working hand-in-hand with Newbridge Networks developing Digital (E1) based machines, each capable of handling 180 simultaneous calls, and one of the first GUI programming interfaces.

I was by now already managing a Bristol based operation for an international media communications company, and was later moved to the head office in London and appointed International Systems Consultant, responsible for setting up operational units all over Europe and negotiating telecommunications infrastructures with PTTs in Turkey, South Africa, Portugal, Spain, and Germany.

My next position was back in the betting industry. Ladbroke Racing, the UK's biggest bookmaker brought me in to head the operations of their premium rate telephone subsidiary, ClubCall. This was a senior management position responsible for the software development team, hardware (in excess of 1500 incoming lines terminated on various types of equipment), and management of the production team of 6 permanent sports journalists and 40+ contract reporters. I was also responsible for live commentaries and managed a team of 8 sports commentators and the in-house studio equipment.

Eventually Ladbroke sold off ClubCall and I was offered a position with Milomax Multimedia, a Dutch company based in Malaysia. This was a six month contract with the objective of setting up the country's biggest premium rate telephone service provider, establishing the operation, and training a local workforce in the operation and maintenance of the equipment. Additional training was given to the software team on how this equipment is programmed, and training was also given to the operational staff concerning the day to day running of a premium rate business.

My contact was extended so that I could establish a large general purpose call centre which would handle calls for many different types of business including outgoing telemarketing, incoming customer bank account applications and account inquiries, order processing for TV advertised mail order items, etc.

Next I was employed by PDX Computers, a Malaysian software house to create a voice based share trading system for a local bank, using a real-time feed from the KLSE (Kuala Lumpur Stock Exchange) for the current counter prices, and displaying customer orders on the broker screens at the bank. I went on to develop interactive phone banking systems, PC based Automatic Call Distribution (ACD) systems, and call centre systems.

My next venture was to deliver real-time Call Information to Telekom Malaysia's CENTREX customers. This enabled TM to market CENTREX to hotels and to other industries which relied on being able to pass on call charges to their customers.

Once the recession of 1997 hit Malaysia, I was forced to move back to the UK. I went to work for Rockwell Collins where I was responsible for a team developing ground to air messaging, enabling an airline to converse with the cockpit crew in-flight using an Outlook style ground based system which could send and receive text messages.

In 1999 I returned to Malaysia and formed my own company (Dragonsoft Corporation to develop off the shelf high capacity interactive voice response (IVR) systems, and captured 40% of the Malaysian market within the first year of business.

I later merged this company with Sensory Labs. a web solutions provider, extending both companies markets and enabling me to refocus myself on a new R & D venture in Canada.

I joined MAZLAB in Montreal as a senior consultant. Funded by a wealthy Japanese investor, MAZLAB was focused on developing a new form of artificial intelligence (AI) by fusing neural networks and genetic algorithms through a 3D programming environment. This was the conclusion of several years of discussion and design between me and the Canadian born genius responsible for the conception.

Once the prototype was ready, I came back to Malaysia to head up the global R & D team for Advanced Businesslink, an American software company, developing generic mobile front-end architectures for AS/400 based legacy systems.

Seeing the ways in which businesses were using the internet, and aware of how internet technology was fusing with traditional IT transaction based infrastructures I decided the time had come to shift my focus, and in July 2006 I joined Arachnid, Malaysia's leading interactive agency in online marketing and brand building. As technology director I had the opportunity to explore emerging 'Rich Internet" and service oriented technologies. In 2007 I joined Grey as business head of G2 interactive.

Seeing an emerging market for interactive technology I partnered with some like-minded people to form [Dragonsoft Research](#) in 2008, focusing on new interactive technologies for on-ground activation, in addition to business systems, mobile apps, and large scale call centre's and other CTI projects. In 2015 we created an integrated system deployed in all 30 prisons around Malaysia to manage remotely controlled PABX devices to facilitate prisoners conversations with visitors. In 2017 we built and deployed Malaysia's largest call centre system at HKL (the largest hospital in Malaysia), successfully integrating 5 large PABX systems with over 5,000 extensions, operators, and emergency systems.

In 2018 we joined forces with [WorldQuest International](#), a company specialising in blockchain technologies, creating a custodial wallet application called The Vault, as well as off-chain payment hubs for Ethereum, Bitcoin, and Tether USDT (Omnicore & ERC20). My position as CTO involves systems architecture design and implementation, managing

the in-house datacenter comprising Windows Server and Linux systems. My role also involved meeting with clients and prospective clients on a day-to-day basis to create partner relationships, and deploying applications across south-east asia, china, and the UK.

I joined Wiseyes solutions in September 2019 as group CTIO (Chief Technology Innovations Officer) on a 3 year contract, managing multiple government projects with development teams in different locations. My duties included the design of innovative solutions for various government projects which also included private and public blockchain integration. Wiseyes has a partnership with one of Malaysias's leading banks to provide FPX payment solutions for merchants, and a system for processing payments to merchants via the national QR code (DuitNow QR for Merchants), processing PayNet compliant transactions through the bank.

In July 2022 I joined Manyfold Pte Ltd as CTO. Manyfold is a startup focussed on NFT rental. My responsibilities included management of an outsourced project team (based in Vietnam) to deliver our primary web and mobile applications. Development and deployment of blockchain smart contracts for the rental application, and AMM/Treasury contracts for the tokenomics. I also developed a NFT player application for Android TV as a complimentary product, integrating with the rental applications to provide a managed display environment for NFTs.

In May 2023 I joined Ocunapse Sdn Bhd as their Tech Lead (a temporary measure since Manyfold had run out of their startup funding and were no longer in a position to pay me a salary). Reporting directly to the CTO I lead a small team of developers in creating several full-stack products (Mobile and Web). I was also responsible for the development of several in-house application modules as part of a BIS system.

Programming Languages

- RPG/400, RPG ILE
- CLP/400
- C
- C++ (ATL, STL, MFC, GDI+, OpenGL)
- C# (.NET)
- Swift
- Visual Basic
- VB Script
- Visual Basic .NET
- Java (J2ME, J2SE, J2EE),
- JavaScript & NodeJS
- HTML, WML, XHTML
- ASP, JSP, PHP, ColdFusion
- XML
- Stratergi HSM
- COBOL
- Pascal
- Fortran
- Coral
- BCPL
- Assembler (8086 & Z80)
- LUA
- Go
- Python

Programming Technologies

- MS MFC
- OLE
- ActiveX & Custom Controls
- MS COM
- MS DCOM
- ODBC
- MS MAPI
- Design Patterns
- React/React Native
- NextJS

Database

- Microsoft SQL Server
- MySQL
- Postgres
- Sybase
- Microsoft Access
- Oracle 10g
- IBM DB2

Operating Systems & Hardware Platforms

- IBM AS/400
- Windows 2000 Advanced Server
- Windows NT 4 Server & Workstation
- Windows 95/98/XP/7/8/10
- UNIX (SCO, AIX, HP, LINUX)
- IBM OS/2
- Digital AlphaServer
- Intel Pentium
- HP Unix
- ICL VME/B
- IBM MVS
- Apple iOS, OS X
- Android
- Adueno IOT

Communications

- Sockets
- SNA APPC (LU6.2)
- Microsoft SNA Server
- Microsoft Transaction Server
- Windows Communication Framework
- Serial Protocols (Sync & Async)
- RPC
- NetBIOS & NetBEUI,
- IPX
- TCP/IP.

Period	Company Name	Location	Job Title(s)
1982-1983	Chemical Bank	Cardiff. UK.	Accounts Control Analyst
1983-1985	Target Computer Group	Cardiff. UK.	Trainee Programmer Programmer R & D Analyst/Programmer
1985-1985	Harrods of Knightsbridge	London, UK.	Contract Analyst/Programmer
1985-1989	William Hill Bookmakers	London, UK. Wellington, NZ. KL, Malaysia.	Research & Development Manager
1989-1990	Vine Products & Whiteways	Bristol, UK.	Project Manager
1990-1992	ICE Communications	London, UK.	Group Systems Manager
1993-1993	Poly-Lina (UK)	London, UK.	Contract Systems Programmer
1993-1994	Ladbroke Racing	London, UK.	Software/Production Manager
1994-1995	Audiotel	KL, Malaysia	Consultant
1995-1997	PDX Computers	KL, Malaysia	Software Development Manager
1997-1997	NETCard Corporation	KL, Malaysia	CTI Consultant
1997-1998	Independent Consultant	KL, Malaysia	Independent Consultant
1998-1999	Rockwell Collins Avionics	Reading, UK.	Principal Software Engineer
1999-2000	Dragonsoft Corporation	KL, Malaysia	Technical Director
2000-2001	Sensory Labs	KL, Malaysia	Technical Director
2001-2002	MAZ Laboratory	Montreal, Canada	Senior Consultant
2002-2004	ADVANCED BusinessLink	KL, Malaysia, LA, USA. Sydney, Australia	Country Director, Research & Development Manager
2005-2006	Mahasoft Technology	KL. Malaysia	Consultant - Banking Systems
2006-2007	Arachnid	KL. Malaysia	Technology Director
2007-2008	Grey Worldwide	KL, Malaysia	Business Head (G2DI)
2008-2019	Dragonsoft Research Malaysia	PJ, Malaysia	CEO
2018-2019	WorldQuest International	KL. Malaysia	CTO
2019-2022	Wiseyes Solutions	KL. Malaysia	CTIO
2022-2023	Manyfold Pte Ltd	KL Malaysia	CTO
2023-Present	Ocunapse Sdn Bhd	KL. Malaysia	Tech Lead

2023– 2024 **Ocunapse Sdn Bhd** **Kuala Lumpur, Malaysia.**

Tech Lead

Ocunapse is a software development company focussed on developing web and mobile applications for Property Management and Education Management. In addition my team developed internal BIS modules for HR management, Intra-company job requests, CRM, and project tracking.

My responsibilities include…

1. Software architecture
2. Database design
3. Mentoring and training of the development team.
4. Project management of internal and external projects
5. Development of backend systems (NextJS/Typescript)
6. Development of frontend web & mobile applications (React/React Native/Java/Swift)
7. Development of IoT device integration (NodeJS & Typescript)
8. Provide weekly progress reports to the CTO.

2022 – 2023 **Manyfold Pte Ltd** **Kuala Lumpur, Malaysia.**

CTO

Manyfold is a blockchain startup focussing on NFT rental across multiple chains. As CTO (and the only tech person employed by the company) I reported directly to the CEO.

My responsibilities were varied, and included…

1. Planning, budgeting, and procurement
2. Liaison with external partners
3. Management of external development teams for the web and mobile applications
4. Management of the AWS cloud systems and services
5. Management of the Google play store and Apple App Store deployment targets.
6. Smart contract development
7. Web application for display management (using React)
8. Backend development for the NFT display management system
9. Android TV application development
10. Corporate website development

The work involved travelling to Vietnam to coordinate with the development team, and trips to Singapore for management meetings.

2019 – 2022   **Wiseyes Solutions**   **Kuala Lumpur, Malaysia.**

CTIO

Wiseyes is the software arm of a group of companies, of which I was appointed group CTIO. Within the group there is Global Foreway which handles infrastructure (hardware), and iExplorer Solutions which is the innovation arm responsible for R&D into new technologies, and delivering proof-of-concept industry solutions.

From a market standpoint, the majority of projects come from government agencies and GLCs, and financial institutions. This type of work often requires multi-layer security (hardware and software), and compliance monitoring to meet relevant authorities compliance standards (e.g. BNM, SCC, PayNet, etc.).

Reporting directly to the owner/CEO, my responsibilities include leading the management team in evaluating new leads, planning and resourcing for projects, consultation on system architecture design, as well as managing the individual team managers, ensuring that targets are met within budgeted costs. I also work with the sales team during client acquisitions, preparing PowerPoint presentations, demonstrations, time/cost estimations, and general technical consultation.

- Wiseyes is the developer for Perkeso core systems such as iPerkeso, Assist, and EIS.
- In partnership with AmBank we have developed merchant payment systems for FPX and DuitNow QR. To facilitate small merchants we also offer an eCommerce solution which is fully customisable and integrated with AmBanks' payment systems.
- Rescue is an alert response system developed for PDRM Johor, and combines mobile applications with custom hardware, and an extensive cloud based geo tracking backend.
- Blockchain payment systems for Bitcoin and Ethereum (on-chain/off-chain), distributed data storage, Smart Contracts, and Hyperledger based private blockchains (Fabric & Besu).

I am also hands-on with development in JavaScript (NodeJS), Swift (iOS & OS X), Java (Android & JSP), and C# (Windows).

2018 – 2019   **WorldQuest International**   **Kuala Lumpur, Malaysia.**

CTO

Focussed around blockchain business development and technology, WorldQuest provides consultancy services, systems, and mobile applications for our clients wishing to explore this new opportunity, guiding them with ICO and IEO funding, MLM investor systems, and applications for web and mobile.

Reporting to the group CEO I take overall responsibility for the day-to-day operations of the groups in-house IT department, including management of the development staff, hardware, and communications. The role includes budgeting for internal systems, planning and discovery for internal and external systems, project management. A part of my job is meeting with partners and clients to consult on expansion of their core business by embracing this new and evolving technology

with an eye on enhancing their bottom-line revenue by utilising strategic blockchain environments and DAPPS.

In addition to my group responsibilities I am still CEO of Dragonsoft Research (see below) which operates as a co-dependant company providing non blockchain systems.

2008 – Present   Dragonsoft Research (Malaysia)   Petaling Jaya, Malaysia.
CEO

Dragonsoft Research was created by a group of like minded developers wanting to bring new and experimental technologies to the Asian marketplace. We pioneered optical large-scale multitouch systems for events, and during it's 10 year period of operation we worked of many differing IOT. based technologies, expanding our market.

I have 2 main responsibilities at Dragonsoft Research as follows…

1. CEO
   Responsibilities include the day to day operational management of the company
   Financial management and planning
   Overall responsibility for sales and marketing
   Business strategy planning and implementation

2. Project Management and programming
   Manage and assist the development team, ensuring both deadlines and budgets are adhered to.

   Programming…
   Android - Java, .NET - C#/VB, Unity - C#, ASP.NET,   Java, IOS - Swift, C, C++, NodeJS, AngularJS, and ReactNative.

<u>**Software Systems**</u>

Prison Visitor System - deployed at all 30 prisons nationwide in Malaysia, this system integrated with Toshiba PABX systems using SNMP protocol to provide both local and remote control of the visitor phone system to assist in the management and timing of prison visits.

Hospital Kuala Lumpur - a bespoke call centre system which combined resources from 5 huge PABX systems an a room full of agents to handle incoming and outgoing calls, as well as providing in-house IVR solutions. The system manages the call flow for more that 5,000 internal extensions and 300 digital and analogue telco lines.

MoneyBag - An application for mobile devices to manage crypto-currencies in an easy to use wallet. Deployed on both Android (Google Play Store) and iOS (Apple AppStore) this simple custodial wallet gave users peace of mind engaging in the world of crypto currencies without having to worry about keeping private-keys safe.

<u>**Some of our event systems and clients.**</u>

Hennessy - RFID based social network integrated entertainment to engage attendees with tablet based games, music mixing with fiducial symbol based sound tables, gambling with computer based horse racing, and others.

Maybank - 50th anniversary event launch gambit with a large multitouch table.

Proton - 3 day exhibition at KLCC convention centre where we developed several key systems to register guests, and provided RFID based social network engagement with mobile photo systems, lucky-draw, and a car configurator.

Axiata - Large multitouch display for 3 day event at KLCC convention centre. We created an 8' x 6' multimedia display.

Castrol - We engineered many events for Castrol including:-
1) A huge augmented reality system with which Castrol demonstrated the protective power of their engine oils by wrapping the participant in a protective shell whilst the were being attacked by a dinosaur.
2) A mechanical bull adapted to look like an engine which attempted to throw off participants whilst their partner attempts to slow it down by shaking an iPad.

2007 – 2008	Grey Worldwide.	Kuala Lumpur, Malaysia.

Business Head (G2DI)

Grey is one of the leading advertising agencies worldwide handling many leading brands. I was brought-in on a six month contract to help them in accelerating the evolution and growth of their digital team. I was successful in hiring programmers and computer savvy account managers which lead to securing large digital contracts with AXA Affin, P & G, and Shell in my short stay with the company.

2006 – 2007	Arachnid Sdn Bhd.	Kuala Lumpur, Malaysia.

Technology Director

Arachnid is Malaysia's most awarded interactive agency focused on building an online presence for brands and driving internet users to these sites. With a client list including both local and international brands the focus is on quality of work and speed of delivery. Reporting to the managing director I lead a team of developers of various disciplines, including animation (Flash & Javascript), backend (ASP, PHP, Coldfusion, JSP, & Java).

My responsibilities include the following:-
- Pitch presentations
- System analysis & design
- Database design
- Integration of web & legacy systems

- Infrastructure recommendations
- Search Engine Marketing (SEM)
- Search Engine Optimisation (SEO)
- Software maintenance
- Database integrity and backup
- Hardware & configuration maintenance
- Procurement & upkeep of hosting packages, dedicated servers, & domains.
- Day to day management of all technical staff
- Recruitment
- Recommending & sourcing external technologies required by clients
- Internal technology infrastructure (servers, networking, desktops, & laptops)

The following table details some of the websites I have had direct involvement with:

Client	URL
Mead Johnson Asia	www.meadjohnsonasia.com..my
Kornferry International	www.kornferryasia.com
Novartis Consumer Health	www.keepthefire.com.au
UMW Toyota	www.toyota.com.my
	www.tribetoyota.com.my
Sunway International Resort Hotels	www.sunwayhotels.com
Prudential Assurance	www.prudential.com.my
HSBC Malaysia	www.hsbc.com.my
Petronas	http://www.petronas.com.my
Celcom	www.celcom.com.my

2005–2006   Mahasoft Technology Sdn Bhd.   Kuala Lumpur, Malaysia.

Consultant – Banking Systems.

Mahasoft, a software development subsidiary of Malaysia largest supplier of security documents (cheques, drafts, share certificates, etc.) was formed in 2004 in response to new requirements for cheque processing by Malaysia's central bank (Bank Negara). The objective of the new requirements imposed on Malaysian banks was to implement the use of document scanned images instead of pieces of paper, especially where cheques were concerned. My responsibility was to write C++ based ActiveX drivers for automated cheque processing machines, including high-speed scanning (front & back), reading & writing of MICR encoded strings, and printing of additional data (Amount, Account, etc) on to each individual cheque.

Additionally, I was responsible for developing the business into new strategic directions, These included embedded devices to optimise server processor efficiency by regulating data transfers, and security devices designed to continuously modify data encryption keys and algorithms, My

involvement in this area of the business was from conception, through pitches and presentations, to design and prototype development.

2002–2004 ADVANCED BusinessLink Sdn Bhd.   Kuala Lumpur, Malaysia.
Country Director, Manager of Research & Development.

I managed a team of developers and analysts responsible for the company's future growth in software technology. The company has been developing IBM AS/400 middle-ware products since 1984, and is now migrating much of its technology towards Linux OS and hand-held devices (Pocket PC, etc.). The company has 9 offices worldwide, but the office in KL is the only one totally focused on R & D. They are an MSC status company.
In addition to the R & D, we also developed systems for our customer base worldwide.
Whilst working here I took responsibility for the design, project management, and development of the following projects:

Project	Client	Description
Mobile Sales Management	**Oldcastle Glass.** Los Angeles	This system was designed to synchronize data with a back-end AS/400 and mobile laptop PC's enabling sales staff to have access to relevant sales data on the road, and at customer sites. Synchronization occurred over the Internet using GSM/GPRS or WiFi (802.11B). The PC's had a touch sensitive screen and the user interface was developed in Flash with a Java back-end for database updates and retrieval. The AS/400 back-end was written using Java/400 and RPG ILE.
Mobile Sales Order Processing	**Munchy Biscuits.** Kuala Lumpur, Malaysia	This system was designed to operate on Pocket PC's with a HTML (browser based) user interface. Synchronizing local databases with a back-end AS/400, the system was designed to enable mobile sales staff to process orders from a customer on-site, facilitating printing of the order on the customers' printers, or relayed back to the head office and then faxed to the customer. The Pocket PC back-end was written in Java, and the AS/400 back-end written using Java and RPG ILE.
Mobile Text Messaging	**Optus Telecom.** Sydney, Australia.	Designed to operate on any mobile platform (Laptop, Pocket PC, or Java enabled mobile phones) this system guaranteed delivery of text messages (any length) using SSL encryption over either GSM/GPRS or WiFi. It was designed to provide a reliable and secure replacement for SMS in a corporate environment.

I was also responsible for the companies networking environment which used Linux machines for gateway's, firewall, and authentication of users and remote networks. I was the companies leading expert on Linux and conducted many training seminars in the U.S., Australia, Indonesia, and Malaysia.

2001–2002 MAZ Laboratory Inc.   Montreal, Canada.

Senior Consultant.

MAZLAB was a company involved in the research of new forms of Artificial Intelligence. My responsibilities include architecture design & development of an AI core framework & telecommunications systems linked to a visual programming environment. Development was carried out using C++, STL, and OpenGL, and was designed to be cross-platform.

Projects	Description
Hypnostic	3D fully immersed graphical rendering engine and video stream sequencer for night clubs and promotional events.
Molecular Intelligence Machine (MIM)	Prototype artificial intelligence engine based on a fusion of neural networks and genetic algorithms, with a 3D programming environment.

2000–2001 Sensory Labs Sdn Bhd.   Kuala Lumpur, Malaysia.

Technical Director.

Sensory Labs is active in developing Internet & Intranet solutions for a large portfolio of clients. My responsibilities range from managing the technical division, which includes design, development & graphics production, to day-to-day operational management of the company. I was directly involved with the design, project management, and development of the following projects:

Project	Client	Description
E-Commerce Web Site	**Kimgres Tiles** Kuala Lumpur, Malaysia. http://www.kimgres.com/commerce	Designed, project managed, and managed the development team for this project which utilized an MS SQL Server database to provide a complex product catalog, and selection of items to a shopping basket. From there the user was taken through a check-out process for delivery, and on to a payment gateway.
MS Word Tutorial	**Zennith Data Systems** Kuala Lumpur, Malaysia.	This was written with an animated Flash front-end linking to a back-end written in MS Visual Basic, and was designed to teach MS Word to an intermediate level in Bahasa Melayu. It was approved by Dewan Bahasa Dan Pustaka. The system ran from CD ROM and provided the user with both objective and subjective tests at the end of each module.
Corporate Web Site	**Port of Tanjung Pelepas (PTP)** Johor Bahru, Malaysia. http://www.ptp.com.my	Design and project managed the ongoing development of this site for PTP.

1999–2000 Dragonsoft Corporation Sdn Bhd.   **Kuala Lumpur, Malaysia.**
Technical Director.

I was responsible to the CEO for the product development division. Dragonsoft developed software that integrates computer and telephone switching technologies. My duties included the management of the division, product conception and design, and hands-on programming for Windows NT and Windows 2000 server platforms. I was involved in the development of the following products:

Product	Primary Customers	Description
Switch 2000/NT *IVR, Fax and Call Switching*	Dania Emas Telecommunications, Orbit Network & Communications, EazyInfo Communications.	This product was designed to provide a cost effective solution for telecommunications service providers holing a premium rate license. It enabled the scripted automatic handling of up to 120 simultaneous calls per server (both incoming and outgoing) and provided automatic voice prompting, DTMF recognition, Fax-On-Demand, and Person-To-Person call switching. Additionally, it provided back-end database facilities and access to timeslots on an SCSA industry standard voice bus, enabling calls and resources to be shared across multiple severs. The system supported Analog (POTS) circuits as well as 2mb digital circuits over either ISDN-PRI or E1-R2MFC transports. The system was approved for use by Telecom Malaysia, and Maxis.
Chatterbox *Call Conferencing*	EazyInfo Communications.	This was an add-on sever application connected via an SCSA bus to Switch 2000/NT and enabled up to 32 simultaneous conferences with up to 8 parties in each, monitored and controlled by agents who were able to listen to, interact with, and control all parties in multiple virtual "conference rooms".
Call Accounting	Touch 'N Go	Designed to connect via serial port to a PABX system and tabulate the Call Detect Records (CDR's) into a database. From there, users were able to select different reports to be either viewed on-screen or printed, detailing how incoming calls were routed and handled, and what outgoing call were made by extension, extension groups, etc.

1998–1999   Rockwell Collins (Avionics) Ltd.   **Reading, UK.**

Principal Software Engineer

Leading a team of analysts and programmers involved in designing ground-to-air messaging systems for commercial airlines. This project involved integration with on board systems in numerous aircraft including Boeing 747, 737, Airbus A320, A340, etc. Our initial project was with Scandinavian Air Services (SAS), enabling access to their whole airborne fleet from the desktop of their ground staff.

Project	Client	Description
Hermes	**Scandinavian Airlines (SAS)** Stockholm, Sweden	This "Outlook" style ground-to-air messaging system was a huge project written in C++, and utilized MFC, COM, DCOM, and STL technologies. Messages were routed via Remote Ground Stations (RGS) to the cockpit of aircraft in flight. Messages could originate either from the Airline staff on the ground, or from the DLM module located in the cockpit of any of the fleet's aircraft. I was involved with the design stages, building the COM framework and class templates, and for the system's administration application, both design & development. The project was a major success, and after successful trials was fully implemented by SAS.
DLM900 Emulator	Internal Project	This application emulated the equipment on-board the aircraft which received and transmitted messages through the Hermes system (described above). The requirement was not just to emulate the messaging aspects of the device, but to emulate all functions of this device which included autopilot data-entry, status of aircraft sensors (doors, landing gear, etc.), and some on-board communications.

1997–1998 Independent Consultant.   **Kuala Lumpur, Malaysia.**

Developer

Developed interactive voice messaging and chat-line software for DataCo Sdn Bhd, a provider of audiotex services.

Developed a server-based call-switching product. This provides for extensive switching, routing and application programmability through OLE and ActiveX extensions.

Further developed and enhanced the AS/400 mutual fund telephony systems.

Consultant

Provided technical and management advice to DataCo Sdn Bhd., a small company with plans for rapid growth.

Provided system designs, demonstration software, technical information and sales support services to PDX InfoWorld Sdn Bhd.

1997–1997 NETCard Corporation.   **Kuala Lumpur, Malaysia.**

CTI Consultant

Employed to train, and lead a team of Malaysian programmers in the development of CTI Solutions.

Identify and develop key products and strategies for the emergence of CTI within the Asian market.

Design & Develop CTI Solutions for the corporate market.

Designed, developed and implemented web telephone dialling services for Internet kiosks.

Worked on a joint project with IBM Malaysia to port call centre solutions to the AS/400.

1995–1997   PDX Computers Sdn Bhd.   **Kuala Lumpur, Malaysia.**

Software Development Manager

Employed to train, and lead a team of Malaysian programmers in the development of voice based financial systems.

Set-up and managed a new division of the company which was targeted specifically on the development of leading edge CTI (Computer Telephony Integration) solutions.

Developed System Integration toolkits for use by the companies programming staff.

Advised on, and took an active part in the formation, and overall growth of the software development teams.   Responsible for the design, project management, and development of the following projects:

Project	Client
Interactive Telephony Share Trading	**Southern Bank Berhad** Kuala Lumpur, Malaysia.
Web Based Real-Time Share Price & Trend Analysis	**PDX InfoWorld** Kuala Lumpur, Malaysia
Interactive Telephony Mutual Fund Price Enquiry	**Public Mutual Fund** Kuala Lumpur, Malaysia
Interactive Telephony Banking System	**Bank Pertanian Berhad** Kuala Lumpur, Malaysia
PC Based PABX & Call Centre	**Ericsson (Malaysia)** Kuala Lumpur, Malaysia
Centrex Exchange Call Billing Data provider	**Telekom Malaysia** Kuala Lumpur, Malaysia
Airport Flight Information Display	**KL International Airport** Sepang, Malaysia
Automatic Flight Announcement System	**Bombay International Airport** Bombay, India

1994–1995 Milomax Multimedia.   **Rotterdam, Holland.**

Consultant: Audiotel Sdn Bhd., Kuala Lumpur, Malaysia.

Commissioned and installed all of the Interactive Voice Response (IVR) equipment, and fully integrated a multi-function call center via PABX/Key-phone systems, and automated call routing systems.

Implementation of communications facilities to customers' remote database servers

Employed and trained 6 Malaysian programmers to continue the operation, and to develop new systems.

Acted as the technology adviser to the top level management, and board of directors.

1993–1994   Ladbroke Racing Ltd.   London, U.K.
Software Development and Production Manager (ClubCall Ltd.)

Management of both software development, and audio production departments. Managed 23 CTI/IVR systems, and PABX facilities with over 1500 incoming digital & analog circuits.

- Designed all in-house computer systems.
- Managed a team of 18 sports journalists, and 5 programmers.
- Liaised with all other departments, and company directors.

1993–1993 Poly-Lina (UK) Ltd.   London, U.K.
Contract Systems Programmer (3 Months)

- AS/400 Development for manufacturing systems
- PC development to provide integration of PC and AS/400 data systems

1990–1992 ICE Communications Ltd.   London, U.K.
Business Unit Manager (Matrix Solutions Ltd., Bristol, U.K.)

Senior manager in charge of this wholly owned subsidiary.

- Responsible for 5 staff
- Responsible for systems development and audio production
- Responsible for client liaison and support, contract negotiation, and new business management
- Responsible for research and development

International Group Systems Manager

Leased with several international PTT companies on telephony and signalling standards and techniques to facilitate my companies continued expansion into foreign markets

Designed and supervised the interior of several overseas business units, including telecommunications and electrical infrastructures.

- Responsible for all group development projects internationally
- Responsible for research and development

1989–1990   Vine Products and Whiteways Ltd.
Bristol, U.K.

Project Manager – **Manufacturing Systems Integration**

- Design, develop and implemented IBM AS/400 SNA Distributed Print Server

- Design, develop and implement a goods-in system using hand-held terminals with bar code scanners as the input device. These hand-held devices were downloaded to a PC, and using APPC (SNA LU6.1) working in conjunction with a host program to maintain the inventory database systems, the MRP system was automatically updated.

- Program development and maintenance of MRP II manufacturing system.

- Development and implementation of real-time production monitoring and control systems, using PLC (Programmable Logic Controllers), and PC Systems using specialised I/O hardware.

- User support of PC systems and networking

I was responsible for migrating the whole company from DOS to Windows based computing, and installing a large Token-Ring network with a fibre backbone to support the installed base of PC and AS/400 users.

1985–1989   William Hill Ltd.   **London, U.K.**

Senior Analyst/Programmer
- Maintain existing Fault Tolerant Real-time credit betting systems, and further develop the system as and when required.
- Design and implement IBM System/38 and AS/400 systems for accounting, credit customer management, bad debts, etc.

Systems Support Manager
- Design, implementation and management of Help Desk fault logging system
- Management of Systems Support team
- Work/Man time management
- Network Management (IBM SNA WAN and Token Ring LAN)
- Voice Announcer Development (Marconi *InCall*)
- Voice Network Management
- Teletext Network Management and Facilities Support

International Systems Consultant
- Supervised and participated in the re-design, development, and implementation of real-time betting systems in Wellington, New Zealand.
- Project management of systems implementation of the TAB systems on Perkin Elmer clustered hardware in Kuala Lumpur, Malaysia.
- Assisted the international business development team in the development and support of European international technology alliances.

Research and Development Manager
- Development of Interactive Voice Systems
- Developed Integrated Call Logging and Management Systems
- Development of Multi LAN based Electronic Point of Sale (EPOS) systems for use in over 2,600 retail-betting outlets.
- Development of device drivers for specialised system input devices.
- Development of Integrated Voice/Host database systems for accounting systems.
- Responsible for the Integration of PC systems with the AS/400 and Prime host systems.

1985–1985 Harrods of Knightsbridge Ltd.   **London, U.K.**

Contract Analyst/Programmer (6 Months)

Design, write and implement a client/server based cash collection and administration system. The system integrated multiple LAN environments (IBM LAN Manager) with an IBM System/36 Host.   The system combined client applications (*MicroFocus* COBOL) with LAN and SNA Communications (APPC) to provide a fast throughput integrated environment for over 100 data entry clerks. The back-end was written in RPG/II.

1983–1985 Target Computer Group Ltd.   Cardiff, U.K.

Trainee Programmer
- Learn System/36 systems programming using RPG/II.
- Learn Company Software Techniques and Systems

Programmer
- Handle systems integration between IBM PC and System/36
- Develop Credit Finance System
- Develop Offshore Banking System
- Develop Mortgage Application System
- Develop Stock Control System

R & D Analyst/Programmer
- Create Inter-System communications middle-ware (IBM SNA/APPC)
- Re-engineer IBM System/34 Systems to System/36 native systems

Project	Client
Mortgage Application System	**Chemical Bank** Cardiff, U.K.
Offshore Banking System	Various offshore banks in Jersey and the Isle of Mann.
Stock Control System	**Royal Copenhagen Porcelain** London, U.K.
Credit Finance System	**Greyhound Guarantee** London, U.K.
Accounts System Conversion	Internal Project
Payroll Application Conversion	Internal Project

1982–1983 Chemical Bank Ltd.   Cardiff, U.K.

Accounts Control Analyst

Programming DEC PDP11 systems using Datatrieve to facilitate account reconciliation, and interest accrual reports.

Control of statement production systems.