

CURRICULUM VITAE
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Profile

Graduated in Computer Science in 1987. Since then have worked as a software engineer, for 5 years with a leading UK based systems/software house and then on a free-lance basis. Experience of software design, coding and support both in the UK and on clients' sites in the USA, Italy, Belgium, Indonesia and Australia. Well developed communication skills due to high exposure to clients, both on site and on the telephone.

Recent experience summary:

Cross platform mobile development using Flutter (<https://flutter.dev>)
iOS Development (Swift, Objective C)
Swift server development (Vapor 3)
Android Development (Java)

Other experience summary:

C, JSON, XML, RESTful API's, C++, OpenTV (SDK), Subversion, Git, OpenStreamer, OpenAuthor (Plugins and Runtime), PHP, MySQL, Linux (RedHat, Ubuntu plus LAMP), OpenTV Publisher, SOAP Servers (low-level sockets), COM objects, XML, HTTP, TCP/IP, Windows' Services (Windows' API's), InstallShield
Visual C++ (Windows / NT)
Java (small amount of experience)
MySQL / SQL / ODBC 3.0
ISO9001
ClearCase
RogueWave Libraries

Employment summary:

Free-lance designer / programmer (January 2004 -).
Senior designer OpenTV Australia. (February 2002 - December 2003).
Free-lance designer / programmer (June 1995 - January 2002).
Senior designer Abacus Consulting s.a., n.v. (April 1993 - May 1995).
Free-lance designer / programmer November 1992 to March 1993.
Senior designer Data Logic Ltd (September 1987 to July 1992).

Education

- BSc with upper second class honours in Computer Science. Awarded at the University of Manchester, 1987.

Other qualifications:

Full driving license.

Experience

Flutter / iOS / Android Development (Ongoing)

For the last 14 years, I have been developing iOS applications, and more recently (5 years) using Flutter (a cross-platform UI toolkit) to develop both iOS and Android applications for location tracked secure apps.

A sample of my personal Flutter apps currently on the App Store:

<https://apps.apple.com/gb/app/easy-security-camera/id6763247666>

<https://apps.apple.com/us/app/noise-recorder/id6743792950>

<https://apps.apple.com/us/app/ineed-aid/id455240372>

<http://itunes.apple.com/us/app/tube-info/id382806527?mt=8>

<https://apps.apple.com/ec/app/mix-radio-uk/id1071723836>

And the same apps on the Play Store:

https://play.google.com/store/apps/details?id=uk.co.andytomg.security_camera_app&hl=en_GB

https://play.google.com/store/apps/details?id=uk.co.andytomg.noiserecorder&hl=en_GB

<https://play.google.com/store/apps/details?id=uk.co.andytomg.ineedhelp>

<https://play.google.com/store/apps/details?id=uk.co.andytomg.tubestatus&hl=en>

https://play.google.com/store/apps/details?id=uk.co.andytomg.KickRadio&hl=en_GB

Example Flutter website:

<https://www.andytomg.co.uk/>

Personal projects (ongoing)

Creating mobile apps, website, MacOS (plus Windows and Linux apps) app using the latest AI models, including DeepSeek, allowing the user to switch the model used, and having full context support (using Flutter and Dart).

Creating mobile apps with backend servers and accompanying websites and mobile apps for some personal projects for web, MacOS, Android and iOS (using Flutter, Dart and Vapor – server-side Swift).

Charity App (with British Telecom) (November 2022 – January 2023) *remote work*

Developed an iOS and Android app (using Flutter) for a charity (who won a British Telecom competition to have their app launched), using ML (Machine Learning - TensorFlow) to help with recognising items to recycle and upscale goods.

Pegem Ltd (new start-up) (August 2021 – January 2022) *remote work*

Developed the backend (MySQL database, Swift on Server – Vapor - stack), plus an Admin mobile app (on iOS and Android), and a WebApp Admin console, all written in Flutter, for this start-up. This app needed the user's location, even when the app was backgrounded/killed.

<NHS partner>, (May 2021 – June 2021) *remote work*

Brought onboard to help convert their existing iOS/Android apps to Flutter. The app includes in-app messaging, notifications and VOIP.

Credit Suisse, (February 2021 – March 2021) remote work

Added functionality to an existing Flutter app: streaming video, memory management, in-app web browsing, handling internet connection loss (offline mode).

Large computer firm (privacy policy / NDA in-place), (October 2020 – December 2020) remote work

Designed and developed a Flutter app allowing their employees to take photos to upload to train their AI image recognition algorithm (used location, camera, RESTful apis, sftp upload).

Personal Projects (January 2019 – September 2020)

Created a server (using Vapor, a server-side Swift framework), plus a Flutter iOS/Android and web app with a MacOS app.

Custodia Technology, London / New York, (July 2018 – November 2018) remote work

Designed and developed an iOS VoIP application from scratch, with fall back to cellular calling if the network signal (WiFi, 4G or 3G) was not strong or stable enough. Full SMS messaging was also supported. Both phone calls and messaging were implemented using Twilio. This app replaced the iOS Phone and Messaging app to allow all calls and SMS to be recorded for compliance (banking environment) purposes.

Horizon Strategic Partners Ltd, Surbiton, England (April 2016 – April 2018) remote work

Designed and implemented an iOS app - **MediEmo** (written in Swift) - that provides real-time medication and mood support, directly from the clinic, for patients undergoing IVF.

This solution is the result of a collaboration between a prominent UK based Fertility Clinic and Cardiff University. The outcome is a service that not only guides the patient through drug management and medication during stimulation (via iOS notifications, implemented using Google Firebase), but also engages with the patient every day in order to monitor mood and coping (via patient feedback in the app, alerting the clinic when patients are struggling).

<https://itunes.apple.com/gb/app/mediemo/id1138717921?mt=8>

Worked on the implementation, maintenance and re-write of an iOS app - **MicroGuide** (written in Swift) - that allows medical organisations (NHS Trusts) to view their own published antimicrobial guidelines. Currently over 100,000 active users. Notifications implemented using Google Firebase.

This app won the EHI 2015 "Excellence in Mobile Healthcare" award. (<http://www.ehealthawards.com/excellence-in-mobile-healthcare>)

<https://itunes.apple.com/gb/app/microguide/id447171786?mt=8>

Worked on the implementation and maintenance of an iOS app - **MyPregnancy@** (written in Swift) - that allows the public to view information about pregnancy and birthing options at St Michael's University Hospital, Bristol.

<https://itunes.apple.com/us/app/mypregnancy/id1038475990?mt=8>

Worked on the implementation and maintenance of an iOS app - **MiExperience** (written in Swift) - that allows the public to leave feedback about their visit to hospital.

<https://itunes.apple.com/us/app/mi-experience/id993198480?ls=1&mt=8>

humanLearning Ltd, St. Albans, England (August 2013 – August 2017) *remote work*

Worked on the design and implementation of a universal app – **vyn** (written in Swift) - vyn captures live insights from sales reps, wherever they are, by getting them to record storyboarded / prompted videos. vyn makes it easy to capture updates from meetings or any client interactions directly into Salesforce.

<https://itunes.apple.com/us/app/vyn/id1120732236?ls=1&mt=8>

Worked on the design, implementation and maintenance of a universal, enterprise app – **WinSight** (written in Objective-C) - involving video and data capture, with review and upload to a backend server. Once uploaded, it allows viewing / playback of the video and the addition of comments and annotations (e.g. inspirational, useful).

The app is a frontend to a self-learning exchange made to simplify inter-team co-operation and communication.

<https://itunes.apple.com/gb/app/winsight/id820928860?mt=8>

it's really about me Ltd, London, England (May 2014 – Jan 2016)

CTO and developer. Defined the tech stack and oversaw all development. Worked on the design and implementation of the mobile apps (iOS and Android, recording user location in foreground and background), and the alpha release of the website (and scale-able, secure backend) for this London-based start-up.

Personal Projects (October 2012 –)

Working on personal iOS apps. See App Store links above.

Farncombe, London, England (August 2012 – September 2012) *remote work*

Provided consultancy, and built on the interactive iPad app for an international sporting competition.

Personal Projects (March 2011 –)

Working on personal projects, including a game development IDE and various iOS apps.

HowNow, London, England (May 2012 – Jun 2012) *remote work*

Created an animated, interactive book for children for the iPad, including quizzes and audio book capabilities.

Farncombe, London, England (December 2011 – Feb 2012) *remote work*

Provided consultancy, and developed a highly interactive prototype iPad app for an international sporting competition, including live video streaming, Twitter feed and Facebook integration.

Chellomedia, London, England (March 2006 – April 2011)

I provided support for existing OpenTV SDK applications and developed new ones (including a mosaic EPG, a games “highscore” registration application and a HTTP-over-sockets library, which is the core of all their IP based applications, and a “remote booking” application allowing users to set programmes to record via the Web).

I developed an iPhone application to work as a remote control over IP.

I also created new Visual C++ applications and provided training to permanent employees new to the OpenTV development system

OpenTV, London, England (September 2005 – March 2006)

I worked both on new applications (including design and team management for a grid-based Electronic Programme Guide) and the “surfer” application for a new set-top box.

All coding was in C using the OpenTV SDK (core 2.0, including the new bitmap “direct-draw” functions).

Zip Television, London, England (December 2004 – July 2005)

I designed and coded a framework for generating Interactive Adverts (iAds) for payout on the Sky

Interactive TV platform. The framework was written in C using the OpenTV SDK. I then used the framework to generate iAds for Orange, Gillette, Honda and Veet products which have all been live on the Sky platform.

chellomedia, London, England (February 2004 – November 2004)

I designed and coded an Electronic Programme Guide (EPG) for use in Eastern Europe on OpenTV Set Top Boxes using C and the OpenTV SDK. This included the programme information delivery system (which used OpenStreamer and a Windows service written in C++).

The EPG is currently live in three countries in four languages.

OpenTV, Sydney, Australia (February 2002 – December 2003)

I was involved in developing working prototypes of the FOXTEL network satellite and cable applications to run on the Set Top Box (using OpenTV SDK – core 1.1 and OpenStreamer), back-end systems (Windows services, SOAP servers and COM objects), a news service, horoscope service and Elle magazine service for interactive TV in the Philippines (currently live) and the first News and Sports services to launch on FOXTEL (Australian equivalent to Sky Interactive). These services received their input data/configuration information in XML format.

All coding was in C, C++ or Visual C++ (MFC).

Sky Interactive (formerly Open Interactive), London, England (September 1999 – November 2001)

Launched in October 1999, Sky Interactive is the worlds largest interactive TV platform. With 8 million visits in 3 months, and 50% of the Sky digital audience visiting each week, over 1.3m registered email addresses, and weekly sales in excess of £2m, it is one of the largest e-commerce platforms in Europe.

I was involved in the design and implementation of OpenAuthor and OpenTV (SDK) applications and the design and implementation of OpenStreamer applications. All applications using C, C++ and Visual C++ on a Windows NT platform and OpenTV on the Set Top Box. Leading a small team (3) of developers.

Also provided support to Sky permanent staff concerning Set Top Box operation, OpenAuthor and the OpenTV runtime, as well as generating tools to aid Sky staff.

Ardea Consulting NV, Leuven, Belgium (September 1998 – August 1999)

Design and implementation of the base objects and GUI for the “ARDEA Interface Expert” (a

Windows 95/98 / NT based Data Warehousing aid) using Visual C++. The GUI code made full use of the MFC classes as well as using the "Objective Toolkit" – (MFC extension classes) - and "Objective Grid" – (a full-featured grid control) – libraries from RogueWave Software (the Stingray toolkit) as well as other ActiveX components.

The interface to the databases was implemented using ODBC 3.0, allowing the tool to be multi-database and multi-platform.

Oracle, Reading, England (October 1997 – August 1998)

Working as part of the Oracle team developing the software to run the new digital television services for British Interactive Broadcasting (BiB, a consortium including BSkyB and Midland Bank), I was responsible for designing, writing, coding and testing the software which forms the core of the runtime system, requesting and managing the data on the Set Top Box (STB) before mapping it to the On Screen Display (OSD - the television screen) layer.

I was also responsible for designing, writing, coding and testing software used to interact with the operator (to be displayed on the screen and receive feedback via the remote control - for example scrolling lists, pictures and buttons) and writing support routines (under UNIX) for generating and encapsulating the data to be sent to the STB.

The code running on the STB was written in C using OpenTV, an integrated software API for the Interactive Television industry. The other code was written using standard UNIX calls.

The project was run under the ISO9001 quality management system.

F.I.C.S. (U.K.), London, England (August 1997 – September 1997)

Provided consultancy for the FICS ABACUS Reporting product including writing programs in C to configure the systems using embedded SQL.

Bank Negara Indonesia (B.N.I.), Jakarta, Indonesia (May 1997 – July 1997)

Role included developing programs in C on AIX to interface with an IBM mainframe, shell-scripting and providing consultancy for the SWIFT Alliance product during the critical part of the bank's migration to this method of sending financial messages.

Other duties included providing training for the permanent staff as well as documentation and procedures.

SWIFT Terminal Services sa (S.T.S.), Brussels, Belgium (June 1995 - April 1997)

Returning to SWIFT on a free-lance basis, I found myself working on later releases of the same project I had originally worked on, designing and coding new functionality in C on UNIX platforms (AIX, SunOS, DEC), performing release management (using the ClearCase tool), system builds and bug-fixing from previous releases.

During the later stages, I found myself called upon to manage one of the releases, ensuring bugs found during integration test were scheduled to be fixed, software developed by third party vendors was delivered on time and the whole system built and released successfully.

Whilst I was there the project applied for, and attained at the first try, the ISO9000 standard

Abacus Consulting s.v., n.a. (March 1993 - May 1995)

Working at Abacus Consulting as a designer / programmer, I was involved in the design and development of a large Windows based application. The development was in C++ (in the Borland environment, though all sources were held under SCCS on a UNIX server) making full use of OOD. The application interacts with a SQL database, the details of which have been "hidden" from the

rest of the application by an interface layer (hiding differences between the different databases and the C APIs), and so just by replacing the database access DLL the application can connect to Gupta, Sybase and Oracle databases.

The GUI has been written using the XVT libraries, making the software portable to OS/2, Unix and the Mac (it is currently available on Windows and OS/2).

Other responsibilities at Abacus included support of the Novell network, managing the build process, providing support for the Abacus Bulletin Board, developing Unix tools (SED scripts) and version control.

I was made responsible for all new development at Abacus (requirements analysis, estimates, design, allocation of work and liaison with the test-team) as well as remaining part of the coding-team.

Bankcard Company (Visa Card, Eurocard), Brussels, Belgium (November 1992 - March 1993)

I was hired by Bankcard Company to design and code various DOS applications. These included a "scheduler" program to execute scripts (interpreted from a language I devised) during certain hours of the day, at variable intervals, a program to decrypt PINs and print the envelopes informing Visa clients of their new card PINs, a program to drive the VISA card embossing machine, various statistic gathering and display programs and a program to interface with a package allowing communication with a BULL mainframe from a PC using X25, over a SMARTlan network and a program to drive their "Digital Equipment Peripheral" (used to generate unique PINs and other secret information for VISA / EuroCards) via the communications ports on a PC.

During my time at Bankcard Company, I worked almost exclusively on my own, analysing the problems described to me, designing and coding the solutions, devising the tests and writing the user documentation.

SWIFT Terminal Services sa (S.T.S.), Brussels, Belgium (December 1990 - July 1992)

I was a member of the project team, working on a new product for use within banks to allow the transfer of funds, from the very early stages. My duties included designing and developing a working prototype of the user interface for the product (developed for Presentation Manager using CASE:PM), involving a high degree of liaison with the client. I was also involved in the capture of the Detailed Requirements for the project, which were documented using the Yourdon methodology (Ward / Mellor), the system administration of the team's Novell network, evaluation of various software products for OS/2, DOS and UNIX (the resulting report was distributed to top management), and evaluation of hardware platforms.

Further duties included being administrator for the Teamwork product on an HP UNIX network, writing tools to extract information from Teamwork M-Specs to generate C source files and a tool to take the information from C source files and return it to Teamwork M-Specs, producing the High Level and Detailed Level design for some areas of the product and providing support for various software packages being used by the development / management team (e.g. Windows 3.0, Word for Windows, DrawPerfect, Excelerator, Teamwork e.t.c.).

The latter stages of my participation on this project have involved the prototyping of the user interface for Motif on HP-UX, using TeleUSE - a User Information Management System.

Olivetti, Ivrea, Italy (May 1990 - November 1990)

I was a member of a Data Logic Team supporting Olivetti's Quality Control group for LAN Manager 2.0. My duties included testing the product using test suites, raising problems and aiding development debug them, writing test programs, maintaining the test network, liaising with the development teams (Data Logic and Microsoft) and writing (and reviewing) documentation.

Marks and Spencers Warehouse Control (April 1989 - April 1990)

I acted as Principal Programmer on this project to aid Marks and Spencers in their warehouse stock control - receiving and dispatching goods from a central warehouse to various shop locations. I was responsible for the majority of the programming, helping to maintain the project environment (IBM PS/2's on a Novell Netware network running DOS) and supervising another programmer. All the code was written in C.

I also worked on the design and implementation of the user interface and on the design of other areas of the system.

IBM OS/2 Extended Edition LAN Server/Requester (November 1987 - April 1989)

In July 1986 Data Logic won a contract from IBM UK Laboratories to work on a product development forming part of IBM's announced strategy for PCs, involving Local Area Network management and the DOS and OS/2 operating systems. These products, PC-LAN version 1.30 and the OS/2 LAN Server/Requester provide a range of administrative and user oriented services to enable the sharing of resources on a Local Area Network. These products are aimed at the lay user and place great emphasis on human factors engineering.

I had various responsibilities on this project which developed one of the industry standard local area networking products for OS/2 and involved a development team of 60 people. These responsibilities included producing the user interface (using EZVU II), creating and maintaining various tools to aid the production of documentation (some written in C under Xenix, others in C under DOS and others using Xenix shell scripts), testing the product, fixing code bugs and carrying out knowledge transfer of the product source code to IBM staff. Another set of tools allowed EZVU II screens to be converted to and from ASCII text files, allowing them to be modified more easily than using the EZVU product itself and also the automatic generation of EZVU II screens from the design documentation. IBM subsequently purchased this software. All of the phases of this project involved a high degree of liaison with the client. The code was written in C under Xenix. A wide range of IBM PCs and PS/2s were used during both the development phase and the testing phase.

The final stages of this project took place at the customer's site in Austin, Texas.

I also spent some of my time in other areas of Data Logic's business including demonstrating Data Logic dealing room equipment at exhibitions, appearing on Data Logic stands at recruitment fairs and talking to undergraduates about joining Data Logic.

References

Available on request.