Mr. Laurence Fass BEng (1st class Honours with Distinction).

Full life-cycle Software Engineer, Software Consultant, Web Designer and Developer.

Contact details

Birth date	**25.11.1970**	**Mobile**	**(+44) 7512 738 100**
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About Laurence Fass

Since 2007 I have been independently evaluating modern software engineering principles, languages and web design practices from the open source domain and I can create complex multi-user websites, mobile apps and progressive web apps using emerging industry standard tools and best practices. Building on my 1st class Electronics Engineering Degree (with distinction) and a professional career as a C/C++/C# software engineer I offer hands-on practical knowledge of bleeding edge full stack (client and server) web frameworks built on PHP and JavaScript, W3C standards, IP networking, docker container, cloud and virtual machine configuration, micro-service API's, middleware and UI patterns (CSR, SSR, real-time data-push and data-driven APIs), development and process automation, infrastructure-as-code tools, and modern software engineering methodologies.

I gained considerable experience working as a professional software engineer delivering Microsoft solutions to corporate clients, working in diverse teams, managing complex in-house configuration, supporting software development life-cycles: from use-case capture, design and coding, through to unit and integration testing, source control and issue queue management. I have served three terms lecturing Batchelor and Masters Engineering students and three terms teaching computer programming evening classes to HE college students. I have kept pace with the rapid changes in software development and I can evaluate, select, design, build, provision and deploy software to support business operations using a wide variety of tools (see **programming and development** section). I am autonomous and self-motivated and I would welcome any opportunity to teach or mentor others to adopt open source concepts, tools and best practices in both corporate and academic environments.

Software Engineering

I can design, develop and host software built upon **RAD, DRY, SOLID, OOP, AOP, imperative** and **declarative** software design principles and principles in PHP, Javascript, C++ and C#. I have practical experience of full life-cycle agile software engineering, continuous integration and build automation, test driven development, software issue queue management, virtual machine provisioning, modular and component architectures, micro-service design and implementation, web design patterns, modular build management (using any combination of dynamic, static, parallel, asynchronous, imperative, declarative, functional and reactive code), configuring and updating databases, cacheing, authorisation, authentication, component life-cycles, debugging, error handling and reporting.

Based on my experience I am able to (I) evaluate technologies objectively with consideration of existing business practices and requirements prior to use, (ii) avoid commitment to transient or deprecated solutions, (iii) minimize technical debt by understanding ecosystems properly before use, (iv) offer development across polyglot open source platforms, and (v) make component and service discovery an integral part of my design philosophy..

Programming and Development

Skills summary: I can design, build, test, archive, debug and maintain versioned, scaleable, secure websites, servers, middleware, micro-services and web enabled applications using reputable open source standards, platforms, frameworks, package managers, libraries and modules. I have over two decades experience with software and technology and I am committed to using tools designed by Facebook, Microsoft and Google and several significant open source communities and developers.

Languages and platforms: I am competent with the following tools, their design patterns, and their documentation and can start using the immediately on any new project: **docker, ansible, jenkins, git, javascript (webpack, browsersync, angular (universal), typescript, react, vue, next, nuxt, rxjs, redux, npm, yarn, numerous cli, ngrx, ngxs, jquery, express.js, node.js, socket.io, meteor, charting: d3/c3/nvd3, backbone/marionette, underscore/lo-dash), php (drupal, symfony, laravel, silex), C++ (MFC, ATL, STL, and boost libraries), c# and .net, html5 (using haml, twig, underscore, handlebars, jinja2 template engines) and css3 (transpiled from compass, sass, less, or stylus).**

Web standards: I can write software to enable both users and machines to communicate securely over a wide range of remote protocols: **OpenSSL, SSH, Websockets, NFS, HTTP, HTTP2, AJAX, REST, GraphQL, OpenAPI, Json:API, Hydra, RPC and SOAP**.

Data Management and Communications: I can create and process data in YAML, JSON, XML, HTML, HAML or any arbitrary data format to design, code, and configure automated testing of entire projects (unit, component, module, integration, E2E), analyse resource usage, and manually debug remote source code. I can also install and configure both SQL and noSQL databases and optimise for scale and performance and I have practical experience using **mysql, mongo and redis**,

Open source commitment

I am self taught in open source software component based engineering resources from Facebook, Google and Microsoft. I have both an architectural and syntax based understanding of their open source development platforms, frameworks and tools. I am committed to open source software development and ongoing contact with developer communities. I can host secure servers and cloud services on Linux, Windows and Docker and I am familiar with a wide variety of developer tools, utilities and several popular IDE's including vscode and visual studio. I can offer Linux and Docker administration using best practices and though I am not specifically a devops engineer, I have a practical understanding of automated development and continuous integration processes.

Personal notes

I have enduring interests in cryptography; digital assets; investing; accounting; contract and trust law, house renovation and property design. I have been learning music (guitar, piano, bass and singing) since 2007 involving occasional public performances. I am teaching these skills to my to two young children, with whom I enjoy most of my spare time. I am comfortable with both public performance and speaking.

I am physically fit with no current health issues and I enjoy activities which maintain my fitness levels including running, hiking and rambling with my family. I regularly practice chinese kung fu, qigong, yoga, singing, musical instruments, and perform daily meditation.

Jun 2005 to Dec 2006	Senior Software Engineer: iMerge Ltd, Cambridge, England, UK

Technologies: Windows XP Pro / C# / Visual Studio .NET 3 / OODBMS / UML / SVN source control / Design patterns / Iterative, time-boxed Agile/scrum/XP development / Continuous integration with N-Unit automated build testing and Cruise Control.

Technical Activities: Software design and development of the iMerge SoundServer S2000: a high-end audio sound server, incorporating multi-zoned playback, advanced play-list management, metadata network-lookup, and compatibility with third-party audio playback/archive systems. Co-designer of the media management middleware and underlying OODB using "Gang of Four" design patterns involving re-factoring an existing code base into patterns where necessary. XP test driven development, employing N-unit test modules for unit and integration testing and Cruise Control for automated hourly build and integration testing.

Jun 2004 to Dec 2004	Senior Software Engineer: Motorola, Swindon, England, UK

Technologies: Windows 2000 / C# / Visual Studio .NET/ COM / SQLServer / ADO.NET / XML / UML / Time-boxed Agile/XP development

Technical Activities: Software development of Motorola's ASA (Advanced Software Applications) group's IOS Windows Collection software: a data collection and analysis tool for GSM cellular network analysis and optimisation. Extensive data modelling in UML, and C# implementation from pre-defined requirements. Implementation in C# on .NET platform on Windows 2000. Enhancements to existing design and software. Database design using Rational Rose. SQL data access through ADO.NET. Steep initial learning curve and heavy workload with short delivery times.

Business Achievements: Assisted the team through a very difficult period of systems integration. I helped to minimise disparities between development and test teams and redistributed and reassigned test tasks. This was a demanding role as the project was running over time and budget when I joined. I started writing new code but soon played a key role in defining integration and system testing schedules with developers in India, China and Italy. I defined mock test environments with dependency injection to assist reproducibility of results. I advised mid and senior project management on best practices and recommended agile programming techniques for future development. Proposed, designed and mentored development of a cellular network simulator to assist development of overdue software deliverables to greatly reduce test times and increase test scalability. Received special recognition from the client for my motivational, planning, and people management skills.

Feb 2003 to Sep 2003	Senior Software Engineer: Motorola, Swindon, England, UK

Technologies: Windows 2000 / C# / Visual Studio .NET / COM / XML / UML / Rational Rose / Rational Clearcase / Rational Clearquest

Technical Activities: Upgrade of CDMA mobile network analysis software (project: CTPU). Extensive UML analysis/design and C# implementation from pre-defined requirements, to provide newer version of existing software. Implementation in C# on .NET platform on Windows 2000. Technical lead of international integration testing team (Motorola UK, India, Ireland), defining and monitoring network testing across three countries, in accordance with high level quality controlled software processes. Successful delivery of very high quality software. Heavy workload with short delivery times.

Business Achievements: Identified problems in communication between core business personnel, in-house developers, and offshore subcontractors. Provided mediation services. Attended project management meetings with internal management and offshore contractors to assess progress and provide technical assistance for late deliverables.

Jan 2002 to Jan 2003	Senior Software Engineer: Xerox Ltd (Global Knowledge and Language Services), Welwyn Garden City, Herts, England, UK

Technologies: Windows NT / 2000 / C++ / stl / COM / ATL / XML / SAX / UML / HTML / Rational Rose / Visual Studio / Visual Sourcesafe

Technical Activities: Self-managed software development, working from own premises, reporting directly to senior management. Rework of failed offshore software development from requirements stage. Analysis, design and implementation of C++ COM-based data filters including support for XML, HTML, MS Word, SGML, Interleaf, Framemaker, Quark, and Pagemaker formats. Introduced novel ways to reuse developed technologies to provide significant gains on existing asset value.

Business Achievements: I advised a Global Implementation and Integration Manager on defining processes for bridging disparities between business stakeholders, developers and testers. Advised European sub-contract manager on software testing strategies. Defined testing roles for business personnel to improve staff satisfaction. Role involved interaction with wide variety of personnel including translators, middle and senior management. Continuation of previous service - see previous Xerox entry for more details.

Dec 2001 **Duration: 1 week.**	**IT Consulting: Tiberone Technologies Ltd, Richmond, London, England, UK** **Technologies:** Windows NT/C++/stl/COM/ATL/Visual Basic/Visual Studio. **Technical Activities:** Consultancy and troubleshooting bespoke telephony switching software tools. Conversion of COM components from VB into ATL COM (event driven connection points) to increase software performance. Quick problem analysis and solution delivered successfully.
Aug 2000 to **Jul 2001**	**Senior Software Engineer: Xerox Ltd (Global Knowledge and Language Services), Herts, England, UK** **Technologies:** Windows NT/ C++ /stl / COM / ATL / XML / SAX / UML / Rational Rose / Visual Studio **Technical Activities:** Requirements capture, formal analysis, OO UML design and C++/COM implementation of a corporate level human-language translation software suite (project: Globaltrans). Business process analysis and design of large-scale, n-tiered, multi-user, distributed translation system. Intensive client facing role. Large user base. Large development team (30+ personnel). Working under pressure to tight commercial deadlines.
Sep 1999 to **Aug 2000**	**SDLC and Systems Engineer: Graseby Dynamics Ltd, Watford, Herts, England, UK** **Technologies:** Windows NT / C++ / embedded software / RS232 / Labview / MFC / MS Visual studio / UML / Rational Rose/ Iterative Agile/XP development cycle. **Technical Activities:** Sole software and systems engineer for real-time fluidics control software for an air pollution monitoring system. Working in a large multi-disciplinary engineering team (chemical, electrical, mechanical engineers). Organising and advising on systems and software processes to enhance the client's administrative infrastructure, in addition to real-time embedded systems development.
Oct 1998 to **Jul 1999**	**Software Engineer: Avery Berkel, Edgbaston, Birmingham, England, UK (EASAMS placement)** **Technologies:** Windows NT / C++ / COM / ATL / MFC / MS Visual studio / USB embedded development. **Technical Activities:** Commercial EPOS (electronic point of sale) distributed transaction control system for a large retail organisation. System was designed for scalability and performance. Also designed and implemented a bespoke USB 1.0 printer driver (in C++).

Sep 1996 to Aug 1998	Lead Software Engineer: Marconi Communications Ltd, Marconi Way, Chelmsford, Essex, England, UK
	Technologies: Windows NT / C++ / COM / ATL / MFC / MS Visual studio / Borland C++ Builder / RS232
	Technical Activities: Design and implementation of client-server remote user interface for wireless data and voice communications device. Also, software implementation of formal protocol specifications for wireless data communications. Lead a small team of engineers from Turkey and mentored in the use of Windows SDK and MFC.
Apr 1996 to Aug 1996	Software Engineer: EASAMS Software Systems, Elstree Way, Borehamwood, Herts, England, UK
	Technologies: Unix / C++ / UNIX scripting.
	Technical Activities: Pharmaceutical projection system. Scaleable, highly algorithmic, multi-process, high performance system for forecasting usage of pharmaceuticals products. Designed and coded algorithms and distributed performance-critical processes in C++. Small team of senior developers.
Sep 1995 to Mar 1996	Software Engineer: EASAMS Software Systems, Elstree Way, Borehamwood, Herts, England, UK
	Technologies: Windows for Work-groups/C++/Visual Studio/RCS version control.
	Technical Activities: Designed and developed diagnostic/maintenance sub-systems for the In Flight Aircraft Entertainment System (installed on the new Boeing 777's and retrofitted onto 747's). Large development team (circa 25) and very robust software processes. Excellent introduction to software process control.
Sep 1994 to Aug 1995	Graduate Software Engineer: Logica UK PLC – Great Marlborough Street, London, England, UK
	Technologies: Using C++/COBOL/TAL/Unix/VMS
	Technical Activities: COBOL developer/tester on a number financial software projects (3 months) including CHAPS. Also developed software on a Reuter's media switch/router in C++as a port with enhancements from VMS to UNIX (9 months).

Corporate Experience

Sep 1993 to Aug 1994	Lecturer & Project supervisor: Middlesex University – Bounds Green Road, Bounds Green, London, England, UK
	Role: Lecturer/Project supervisor in Electronics/Computing/OO/Digital design. Conducted lectures in a variety of subjects to groups of 30-60 students (mainly undergraduates) in large amphitheatres, classrooms and technical laboratories. Devised and managed a 12-week long project in computer programming for an MsC conversion course, as well as a variety of lectures in C++, OO, digital electronics design, and analogue electronics design.
Oct 2000 to Dec 2001	Part Time Lecturer: Oakland's College, Welwyn Garden City, Herts, UK
	Role: Tutor/lecturer to groups of 16+ students of all ages. Authored and executed courses in OO/C++/ C. Created original course material based on curriculum standards. Courses are now in print and are now in use as the standard course material for subjects taught. Duration: 3 x 12 week semesters

Education History

Higher Education (1990-1993)	Middlesex University, Bounds Green Rd, London N11, England, UK
	1st Class BEng. Hons with Distinction in Electronics Engineering. Awarded Institute of Electrical Engineers Associate membership. Final year distinction for project in Neural Network Image Recognition using standard RAM technology as a neural memory. Elected as Student Representative in the final year acting as intermediary between students and academic staff on a variety of issues.
Further Education (1988-1990)	Southgate College of Further Education, Southgate, London, England, UK
	BTEC National Diploma in General Engineering. A range of course material over two years ranging from mechanical engineering and manufacturing to mathematics, electronics engineering and computer science. Overall merit awarded.
Secondary Education (1982-1987)	Friern Barnet County School, Hemington Avenue, London, England, UK
	9 GCE O levels: Computer Studies (B), Art (B), Mathematics (B), Arithmetic (B), Chemistry(C), Physics(C), English (B), English Literature(C), Geography(C)

Jan 2007 to present	Researching technology trends and evaluating open source software. Also studying contract law, economics, cryptography, and digital economies. Learning art, philosophy, music (and instruments: guitar, bass, piano), digital music production. Self funded through independent property development, financial investment, and small ventures including holistic health business and event promotion.
Jan 2005 to June 2005	Australia. Byron Bay in New South Wales up to Whitsunday Islands for more diving.
Mar 2004 to May 2004	British Columbia, Canada: I am a Canadian citizen.
Jan 2004 to Mar 2004	Oaxaca, Mexico, furthering previous studies in Spanish language, observing and understanding the economics, politics, flora, fauna, and indigenous cultures of Southern Mexico.
Nov 2003 to Jan 2004	Queensland, Australia. Spent several weeks in Queensland acquiring basic and advanced PADI SCUBA diving qualifications on the Great Barrier Reef.
Sep 2003 to Nov 2003	Hong Kong: 12 week advance course extending 10 years practice in Chinese kung fu (Ving Tsun). Full time course. Continued study of Mandarin Chinese.
Jul 2002 to Sep 2002	3 month tour of Peru, Bolivia and Chile – high altitude trekking, mountaineering, canoe based amazon rainforest river trails. I studied Spanish language before and during the trip.
Apr 2001 to May 2001	6 week tour of China: Unguided and unassisted visit. Yangtze river tour through the Three Gorges (San Xia) across the country through a number of provinces from Hong Kong via Guilin and Chongching to Zhengzhou Shaoilin Temple, Hunan. Extensive study of Mandarin Chinese.
Apr 1999 to May 2000	Northern India and Nepal, studying , yoga, meditation, politics and culture. Included a number of high altitude treks into the Himalayas and treks into the Thar desert and other remote regions.
Jan 1998 to Feb 1998	Southern India, studying local religions, yoga, meditation, politics and culture in an attempt to understand what moves and motivates the country.

References available

Complete written professional and personal references available upon request (or by registering your interest at **syntapse.co.uk.**