

Resume/ Curriculum Vitae

Mr. Laurence Fass BEng (1st class Honours with Distinction), Director of Syntapse Limited.

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

Contact details

Birth date	25.11.1970	Mobile	(+44) 7512 738 100
Residence	Bristol, England, UK	Websites	syntapse.co.uk, maplio.co.uk, app.maplio.co.uk
Address	Available on request	Email	laurencefass@syntapse.co.uk

About Laurence Fass

I offer full-stack web development with practical experience creating and hosting Typescript & React applications with flexible SPA, SSR, SSG (and hybrid) content delivery and highly scalable state and route management. I have a 1st class BEng Electronics Engineering Degree and a decade of experience working as a corporate C/C++/C# software engineer. I have a detailed practical knowledge of CRA, Next.js, Razzle, Vite and Remix frameworks, and extensive knowledge of Angular, Vue, JQuery, Backbone and Marionette.. I can also host and create secure Drupal websites to serve as admin panel and headless back-end for any React client and make it's data accessible via its JSON:API and GraphQL interfaces.

I have extensive commercial experience of the full agile development life-cycle including: continuous integration and build automation; test driven development; software issue queue and change management; virtual machine provisioning; module and component based software architectures; micro-service design and implementation; web design patterns; software build and package management; database configuration, data management and migration; data cacheing schemes; user authorisation and authentication; UI form design, validation and data submission management; object and component life-cycle subscriptions; software debugging, error and exception handling, testing, and issue reporting and resolution.

Since 2007 I have been engaged in self-funded, self-motivated, full-time up-skilling from C, C++ and C# to remote Typescript development with Visual Studio Code (managing remote execution, Docker containers, SQL databases, and more), Linux server management, VirtualBox virtual machines; Nginx web server; Docker containers; DNS management; CMS with complex multi-role permissions management; modern software engineering principles and design patterns, software life-cycle methodologies, build processes and git based version control.

I can create and consume authenticated web-enabled server API's to support complex, concurrent, multi-user UI experiences with React, Flux (i.e. Redux and reducer based) patterns and Typescript pulling data from REST API's, JSON:API's and GraphQL API's and deliver and mutate content using CSR, SSR, and SSG Typescript server frameworks. I can also provide automated test coverage on client and server using Jest, Testing Library and the Mock Service Worker utilities. I learned professional software engineering working across different industry sectors in diverse corporate teams, supporting the full SDLC processes from use-case capture, design, coding, through to unit and integration and E2E testing, contributing to software version control and issue queue management. I consider Typescript my primary and preferred language but I can also program to an intermediate level in PHP, C, C++ and C#. I enjoy mentoring others and sharing my knowledge and I have served three terms lecturing engineering and computing subjects to Bachelor and Master's university students and three terms teaching computer programming to Higher Education evening class students.

Programming and Development Skills

Skills summary: I can create and maintain full-stack, reactive, web-enabled applications across the full Software development life-cycle using open source standards, platforms, frameworks, package managers, libraries and modules. I can administer servers utilising a wide variety of standard processes and tools with custom Linux scripting or proven Infrastructure-as-Code management tools, with Ansible as my preferred choice.

Languages and platforms: Virtualbox, Linux, Docker, Ansible, Jenkins, Git, Javascript (including webpack, browsersync, angular (universal), Typescript, React, Vue, Next, Nuxt, RXJS, Redux, ReduxToolkit, npm, yarn, numerous cli, ngrx, ngx, jquery, express.js, node.js, socket.io, meteor, D3/C3 charting, backbone/marionette, underscore/lodash), 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 any css3 transpiler (sass, less, or stylus).

Remote communication web standards: OpenSSL, SSH, Websockets, NFS, HTTP, HTTP2, AJAX, REST, GraphQL, OpenAPI, JSON:API, Hydra, RPC and SOAP.

Data Storage and Management: 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 a practical understanding of mysql, mongo and redis,

Latest Activities

I started learning React, Redux and Typescript in 2017 and since 2019 I have been specialising my development practice around Redux-Toolkit best practices. In March 2020 I began creating my own novel application to encapsulate my interests and understanding of web based software technology: a public DNS routed, prototype real-time location tracking engine (app.maplio.co.uk) using React, Javascript, Express, Leaflet and Socket.io which I integrated with a companion Drupal website (maplio.co.uk) for it's data storage, content management, and third party integrations. I also self-host a reverse-proxied NGINX-docker-pm2-node.js environment exposing a variety of services and content on a private VPS machine on which I am serve a curated library of Javascript and Typescript applications demonstrating various aspects of CSR, SSR and SSG using (primarily) Webpack, React, Redux and Typescript.

Personal notes

I consider software development to be my vocation and my passion, and related activities for over a decade have been neither financially nor commercially motivated as I have endeavoured to discover the best technical solutions free from commercial constraints and deadlines. I have spent several years completely immersed in open-source software technology, engaging with a large international communities of developers to discover and solve technical problems without any direct corporate support. Aside from software development I also have enduring interests in digital blockchain cryptography, digital currencies, general investing, accounting, contract and trust law. To diversify my skills and train both sides of my brain I have also been learning music (theory, guitar, piano, bass guitar and vocals) since 2007 which has involved some amateur public performance and I consider myself a confident performer and public speaker. Music offers my family and friends engagement and enjoyment and I am now passing on my music skills to my two young children with whom I spend most of my spare time.

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++).

Corporate Experience

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

Middlesex University, Bounds Green Rd, London N11, England, UK

(1990-1993)

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

Southgate College of Further Education, Southgate, London, England, UK

(1988-1990)

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

Friern Barnet County School, Hemington Avenue, London, England, UK

(1982-1987)

9 GCE O levels: Computer Studies (B), Art (B), Mathematics (B), Arithmetic (B), Chemistry(C), Physics(C), English (B), English Literature(C), Geography(C)

Additional info and international travel

Jan 2019 to present	Since 2019 after several years of comparison and evaluation of front-end frameworks I have been dedicated to working exclusively with React, Redux and Typescript, and Typescript server technologies. I have all but ceased using and testing any other front end frameworks in favour of the exclusively learning the React ecosystem. The only other platform I use on a regular basis is site-building on the Symfony-PHP-based Drupal CMS to create websites though I do not wish to further develop my skills in server coding in Symfony or PHP beyond twig template customization, module evaluation and intergration, and CSS theme styling.
Jan 2007 to Dec 2018	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 and I spent 2 months exploring the mountains and coastline of British Columbia.
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 Shaolin 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.