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Founder & Director / Staff Software Engineer / Hands-on Technical Leader / Technical Architect

Founder & Director of Fostech Systems Ltd, providing hands-on support, technical ownership and modernisation for important software systems. Hands-on technical leader with 25+ years' experience building, modernising and operating complex software platforms across agency, engineering, ecommerce, finance, healthcare, IoT, cloud, AI and product environments. Deepest technical roots are in .NET/C#, with strong TypeScript/web experience and broad practical capability across Azure, AWS, Docker, CI/CD, infrastructure-as-code, systems integration and DevOps.

I am strongest where software delivery is technically complex, commercially constrained and operationally important. Much of my recent work has involved taking ownership in ambiguous or underdeveloped environments: understanding the domain, identifying risk, shaping the technical approach, providing practical technical ownership, supporting developers and contributing directly to implementation where needed. Fostech builds on that experience with a focus on practical software continuity: understanding what exists, reducing risk, improving maintainability and helping clients decide what to support, improve, integrate, modernise or replace.

Recent work includes AI-enabled products, RAG document assistants, offline-first desktop/cloud platforms, secure portals, IoT telemetry systems, Shopify extensions, cloud infrastructure modernisation, legacy modernisation and integration-heavy platforms that connect third-party SaaS, CRMs, CMSs, reporting systems, cloud services and bespoke applications. Many of these systems involved security-sensitive concerns including OIDC/OAuth2 authentication, tenant isolation, role-based access control, document permissions, secrets management, cloud security controls and remediation of security review or penetration-test findings.

Core Strengths

Technical Leadership

- Hands-on leadership of small development teams, including mentoring, recruitment, delivery support and technical direction.
- Practical architecture ownership across code, infrastructure, security, deployment, support and commercial constraints.
- Technical standards, code review, delivery process improvement and developer support.
- Project shaping, estimation, technical risk review and support for PMs and clients before and during delivery.
- Ability to translate between developers, clients, founders, project managers and commercial stakeholders.

Architecture and Delivery

- Complex platform design, modernisation and integration.
- Secure portals, tenant isolation, permission-sensitive workflows and document authorisation models.
- API design, GraphQL, REST, asynchronous processing, event-driven workflows and background worker patterns.
- Legacy system integration, incremental migration and pragmatic modernisation without unnecessary big-bang rewrites.
- Domain modelling across engineering, healthcare, ecommerce, insurance, agritech, IoT, membership platforms and operational systems.

Cloud, DevOps and Platform Engineering

- Azure and AWS application architecture, hosting, deployment and operational support.
- Docker, CI/CD, GitHub Actions, Azure DevOps, Bitbucket Pipelines and TeamCity.
- Infrastructure-as-code using AWS CDK, Bicep, SAM and CloudFormation.
- Monitoring, deployment automation, environment management, support procedures, migration runbooks and disaster recovery planning.
- Commercial ownership of hosting, support models, operational reliability and maintainability.

Identity, Security and Reliability

- OIDC/OAuth2 authentication and identity integration using Microsoft Entra ID, Auth0, Keycloak, IdentityServer, JWT bearer authentication and PKCE-based frontend login flows.
- Role-based access control, tenant isolation, permission-sensitive workflows, secure portals and document authorisation models.
- Practical security work including secrets management, WAF/CDN controls, HTTPS/TLS configuration, security headers and cloud platform hardening where appropriate.
- Experience working with security review and penetration-test outputs, translating findings into pragmatic fixes across application code, authentication flows, headers, infrastructure and deployment practices.
- Performance and scalability work including bottleneck investigation, cloud hosting decisions, background processing, deployment architecture and support for load-testing or scalability review where required.

AI, Data and Integration

- RAG assistants, document ingestion pipelines, vector search, Azure OpenAI, Azure AI Search and multimodal AI workflows.
- AI-enabled product delivery beyond chatbots, including recommendation engines, product classification and retrieval/ranking pipelines.
- Systems integration across SharePoint, Microsoft Graph, Shopify, Hivebrite, HubSpot, Stripe, CRM/CMS platforms, reporting tools and external APIs.
- Data import/export, reporting, search indexing, telemetry processing, operational dashboards and Power BI embedding.
- AI-assisted engineering workflows, documentation and codebase exploration while maintaining engineering standards.

Software Engineering

- .NET, C#, ASP.NET Core, Azure Functions, Entity Framework and SQL Server.
- TypeScript, JavaScript, React, Angular, Node.js and modern frontend application architecture.
- Python, FastAPI, Node.js and the ability to work effectively across unfamiliar stacks when required.
- PostgreSQL, SQL Server, Cosmos DB, DynamoDB, pgvector, OpenSearch/Elasticsearch and relational/domain data modelling.
- Testing, code review, maintainability, incremental refactoring and long-lived software ownership.

Professional Experience

Founder & Director

Fostech Systems Ltd (<https://fostech.co.uk/>)

May 2026 - Present

Founded Fostech Systems Ltd to support organisations that depend on important bespoke software systems, integrations, cloud services, portals, websites, databases, deployment processes and third-party platforms.

The focus is practical continuity: understanding existing systems, reducing technical and operational risk, improving maintainability, supporting cloud/DevOps, clarifying ownership and helping clients make sensible decisions about what to support, improve, integrate, modernise or replace.

Current Focus

- Software support and maintenance for existing bespoke systems.
- Application stabilisation and technical ownership where systems are operationally important, unsupported,

- under-documented or dependent on key individuals.
- Cloud, hosting and DevOps support across environments, deployments, monitoring, backups, CI/CD and hosting cost review.
- Security updates and risk reduction across authentication, permissions, secrets, dependencies, hosting configuration, deployment processes, backups and monitoring.
- Integrations and automation across bespoke applications, CRMs, CMSs, ecommerce platforms, reporting tools, Microsoft 365, cloud services and third-party APIs.
- Product development and feature delivery where new capability needs to be added carefully to existing operational systems.

Head of Development / Technical Architect / Senior Software Engineer

Techdept (<https://thetechdept.com/>)

June 2010 - May 2026

Hands-on Head of Development for a bespoke software development and technology strategy agency delivering product development, plug-in technical teams, fractional CTO support, scalability audits, AI-enabled products, systems integration and continuity work.

Joined to lead a small development team and gradually took wider ownership of architecture, delivery practices, cloud infrastructure, DevOps, technical standards, hosting, support models, developer mentoring and client-facing technical leadership. Remained hands-on throughout, contributing directly to architecture, implementation, code review, deployment and operational support.

Techdept's work covered hundreds of projects for start-ups, scale-ups, charities, cultural institutions and established organisations including Microsoft, John Lewis, BBC Children in Need, NBC Universal, Activision Blizzard, WWF, BAE Systems, Chatsworth, Plexal, Faber Music, Cinven, Aunir, Huvepharma and Universal Pictures.

Responsibilities and Impact

- Led and mentored a development team of up to seven developers while remaining hands-on across architecture and delivery.
- Modernised internal development practices from legacy/manual deployment patterns to versioned packages, automated CI/CD and cloud-hosted infrastructure.
- Helped transition the agency from ASP.NET MVC/internal CMS work into API-driven applications, SPAs, cloud platforms, integrations, infrastructure-as-code, AI-enabled products and platform modernisation work.
- Introduced and evolved CI/CD and DevOps practices using TeamCity, Azure DevOps, Azure Pipelines, GitHub Actions, Bitbucket Pipelines, Docker, AWS CDK and Bicep.
- Took practical ownership of hosting, monitoring, support, cloud migration, security, deployment reliability and operational processes.
- Supported project discovery, estimation, technical direction, delivery risk review, job costing, hosting charges and support agreements.
- Helped PMs and clients understand trade-offs between scope, risk, budget, maintainability and delivery speed.
- Supported recruitment, onboarding, contractors, developer growth and long-term team retention.

Selected Recent Projects

Huvepharma Global Intranet and AI Document Assistant

Architected and delivered a global pharmaceutical intranet and AI document assistant spanning Angular, .NET Azure Functions, HotChocolate GraphQL, Python Azure Functions, Azure OpenAI, Azure AI Search, Azure Document Intelligence, Microsoft Graph and Entra ID. The platform exposed a headless SharePoint document portal, preserved native Microsoft 365 permissions, ingested and chunked pharmaceutical PDFs, indexed content for hybrid vector/full-text retrieval and provided a grounded RAG assistant with SharePoint-gated access.

Aunir / IngotStat Offline-First NIR Sample Management Platform

Architected and built a hybrid desktop/cloud platform for food and agricultural analysis. The solution combined an Electron/Angular operator app for unreliable-connectivity environments with a central .NET/Angular Azure SaaS platform for synchronisation, reporting, alerting, prediction workflows and administration. Work included folder watching, local persistence, scanner format parsing, LIMS import/export, asynchronous prediction callbacks, group-based multi-tenancy, reporting, tolerance

evaluation and Azure deployment automation.

Persi AI-Powered Shopify Fashion Recommendation Platform

Delivered a production AI commerce platform embedded into Shopify storefronts using FastAPI, React, Remix, PostgreSQL/pgvector, queue-backed workers, Modal GPU services and AWS CDK. The system ingested Shopify catalogues, classified garment imagery with multimodal AI, generated recommendations using semantic retrieval and deterministic ranking, preserved checkout attribution and deployed via CDK-managed AWS infrastructure including App Runner, Lambda, SQS, S3, CloudFront, Aurora PostgreSQL and Secrets Manager.

Zing Cover / Athena Insurance Platform Technical Ownership

Provided fractional CTO and hands-on platform leadership for a business-critical insurance platform during a technical leadership transition. Introduced Dockerised application delivery, TypeScript AWS CDK infrastructure, Bitbucket CI/CD, App Runner hosting, CloudFront, WAF, RDS MySQL, S3, Secrets Manager, migration tooling, DR controls, support documentation and handover material. The focus was reducing operational risk and creating a maintainable operating model rather than simply adding features.

Flutterlab / Butterfly Air IoT Monitoring Platform

Architected an Azure IoT air-quality monitoring platform using .NET, Angular, IoT Hub, Event Hubs, Azure Functions, Stream Analytics, Cosmos DB, Data Lake Storage, Auth0, Server-Sent Events, alerting and tenant-scoped exports. The system processed continuous telemetry, streamed live dashboard updates, materialised retention-aware chart data, integrated external Breathe London readings and automated data export workflows.

Boardwave Hivebrite Integration and Embedded Member Platform

Architected and extended a Hivebrite-integrated member platform using .NET 8, React, Azure, SQL Server and embedded iframe applications. Designed a split system-of-record model with Hivebrite owning users and a custom Boardwave database owning enriched company/application data. Implemented resilient synchronisation, rate-limit-aware API calls, temporal tables, admin tooling, registration workflows, role-based permissions, generated clients and Bicep/Azure DevOps deployment.

Quantum Health Solutions Vaccination Management Platform

Architected and delivered a multi-tenant vaccination management platform for NHS Trusts, extending an MVP into an Azure-hosted operational system supporting flu and COVID vaccination campaigns. The platform included ASP.NET Core, React, SQL Server, IdentityServer, tenant-aware authorisation, staff imports, clinic scheduling, self-registration, reminders, SMS/email notifications, Azure Functions automation, dashboards, reporting, audit/event logging and year-end operational migration processes.

Other Notable Work

- Delivered secure investor portals, document access systems, Power BI embedded reporting, CRMs, CMS platforms, ecommerce systems, auction sites, healthcare systems, charity platforms, business process automation, middleware and internal operational tools.
- Helped deliver high-profile experiential projects including a John Lewis Oxford Street Christmas installation using photogrammetry and Kinect movement, a Wembley Stadium drone-racing marketing experience streaming live camera feeds to tablets, and an Expo 2020 Dubai timeline installation using radar-touch interaction.
- Ran remote and in-person consultancy sessions for early-stage startups through Plexal Product Builder, advising founders and helping them make incomplete ideas concrete enough to test, explain and improve.

Technologies Used

.NET, C#, ASP.NET Core, Azure Functions, TypeScript, React, Angular, Node.js, Python, FastAPI, SQL Server, PostgreSQL, pgvector, Cosmos DB, DynamoDB, Azure, AWS, Docker, AWS CDK, Bicep, Azure DevOps, GitHub Actions, Bitbucket Pipelines, GraphQL, REST, HotChocolate, OIDC, OAuth2, Entra ID, Auth0, Keycloak, IdentityServer, Azure OpenAI, Azure AI Search, Azure Document Intelligence, IoT Hub, Stream Analytics, Power BI, Shopify, SharePoint, Microsoft Graph, OpenSearch/Elasticsearch.

Technical Director / Company Secretary / Co-Founder

Productive Business Solutions / EasyWebstore

2006 - 2009

Co-founded and worked full-time on EasyWebstore, an early multi-tenant SaaS ecommerce platform that allowed

sellers to create online stores, choose themes, upload product catalogues and customise templates. Worked across platform development, customer support, theme customisation, HTML/CSS, SEO, sales, quoting, bookkeeping, operations and commercial decision-making.

Key Experience

- Worked on a hosted ASP.NET/C#/SQL Server ecommerce SaaS product before mainstream SaaS ecommerce platforms became dominant.
- Built and customised customer-facing ecommerce themes using HTML, CSS and JavaScript.
- Balanced technical improvement against sales, support, customer needs and cash-flow realities.

Software Consultant / Senior Developer / Technical Lead

DPR Consulting

2005 - 2006

Worked in London for a financial software development agency building mortgage application software for sub-prime lending. Led development on parts of a multi-tier ASP.NET application within a larger development team and more formal delivery environment.

Key Experience

- Gained exposure to larger-team web development, structured delivery and financial software practices.
- Worked with ASP.NET, internal ORM/framework tooling, SQL Server and N-tier architecture.
- Developed experience with continuous integration, DevOps practices, unit testing, test-driven development and more formal software delivery processes.

Lead Software Engineer / Domain Specialist

LaserRail / Balfour Beatty Rail

1996 - 2005 and 2009 - 2010

Joined LaserRail as one of the earliest employees and grew with the company as it expanded from a tiny specialist rail technology business to an organisation of more than 50 people. Developed from CAD/database support into lead software engineer and domain specialist, working across railway engineering software, CAD, surveying, laser measurement, track design, rail stress analysis, vehicle dynamics, gauging, clearance calculations, databases and technical graphics.

Key Achievements

- Solely architected and developed major railway engineering products including StressRoute, DesignRoute and HyperRoute.
- Led developers and testers in a specialist engineering software environment.
- Rewrote legacy DOS-based software into more maintainable Windows/.NET applications.
- Worked across C#, C, C++, VB6, SQL Server, Oracle, CAD, engineering maths, desktop applications and database-driven systems.
- Introduced unit testing and continuous integration into an existing engineering software team.
- Delivered complex 3D mathematical and rail engineering functionality that combined software, geometry, data and operational constraints.

Certification and Education

- Microsoft Certified: Azure Developer Associate, AZ-204.
- GNVQ Advanced Computing: Distinction.
- BTEC National Certificate in Computer Studies: Distinction.
- Continuous self-directed technical learning across .NET, cloud platforms, DevOps, infrastructure-as-code and AI-enabled software delivery.

Technology Summary

Primary Strengths

.NET, C#, TypeScript, JavaScript, React, Angular, SQL Server, PostgreSQL, Azure, AWS, Docker, CI/CD, GraphQL, REST APIs, systems integration, cloud architecture, DevOps, infrastructure-as-code, identity integration, tenant isolation, secure portals.

Frequently Used Platforms and Tools

Azure App Service, Azure Functions, Azure Static Web Apps, Azure SQL, Cosmos DB, Azure Blob Storage, Azure OpenAI, Azure AI Search, Azure Document Intelligence, IoT Hub, Event Hubs, Stream Analytics, Azure DevOps, GitHub Actions, AWS CDK, App Runner, Lambda, S3, CloudFront, RDS/Aurora, SQS, Secrets Manager, Bicep, SAM, CloudFormation, Bitbucket Pipelines, TeamCity.

Broader Experience

Python, FastAPI, Node.js, Electron, Shopify, Remix, SharePoint, Microsoft Graph, Hivebrite, HubSpot, Stripe, Auth0, Keycloak, Entra ID, Power BI, OpenSearch/Elasticsearch, DynamoDB, pgvector, NATS, Azure Data Factory, Application Insights, OpenTelemetry, CAD, engineering maths and desktop software.

Role Fit

Most suitable permanent or long-term roles include:

- Founder/operator-led software continuity, stabilisation and modernisation work through Fostech Systems Ltd.
- Staff Software Engineer or Principal Engineer responsibilities.
- Technical Director, practical CTO or hands-on Technical Architect responsibilities.
- Platform modernisation, systems integration or technical ownership leadership.
- Hands-on engineering or technical leadership work that needs broad judgement, implementation depth and the ability to wear several hats.

I am not looking to be defined narrowly as a single-stack developer, although .NET remains my deepest historical platform. The best fit is an environment that values broad technical judgement, secure and maintainable delivery, modernisation, cloud/platform awareness, team leadership, commercial pragmatism and the ability to turn messy real-world systems into something more useful and reliable.

Outside Work

Outside of work, I spend much of my time with my three children. When time allows, I enjoy cycling, gaming and 3D printing, and I like to relax by walking and reading.