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Founder & Director / Contract Technical Architect / Principal Engineer

Founder & Director of Fostech Systems Ltd, providing hands-on support, technical ownership and modernisation for important software systems. Hands-on contract technical architect and principal engineer with 25+ years' experience building, modernising and operating complex software platforms across ecommerce, finance, healthcare, engineering, 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 in technically complex, commercially constrained or under-documented environments where the immediate need is to understand the system quickly, identify risk, make pragmatic architectural decisions and contribute directly to delivery. 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/RAG document assistants, cloud infrastructure modernisation, offline-first desktop/cloud platforms, secure portals, IoT telemetry systems, Shopify extensions, legacy modernisation and integration-heavy platforms connecting 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.

Fostech Value

- Rapidly understand unfamiliar, complex or under-documented systems.
- Design practical architectures that can be delivered by the team, budget and timescale available.
- Provide technical ownership for business-critical platforms and reduce operational, delivery and key-person risk.
- Work hands-on across architecture, implementation, code review, deployment and support.
- Bridge communication between developers, PMs, founders, clients and technical stakeholders.
- Improve maintainability, deployment reliability and supportability without unnecessary rewrites.

Best-Fit Engagements

- Software support and maintenance for existing bespoke systems.
- Contract Technical Architect or Principal Engineer capacity.
- Platform modernisation lead.
- Fractional CTO support and technical ownership.
- Cloud architecture and DevOps delivery.
- AI/RAG and document intelligence product delivery.
- Integration-heavy .NET, TypeScript, Azure and AWS systems.
- Authentication, tenant isolation, security review remediation, performance investigation and platform reliability work.

Core Technical Strengths

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.
- 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.
- Practical 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.
- Recommendation engines, product classification, semantic retrieval and deterministic 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.

Hands-On 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 where 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.

Selected Contract-Relevant Projects

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. The work turned a key-person-dependent platform into something that could be deployed,

supported and handed over with greater confidence.

Technologies: TypeScript, AWS CDK, App Runner, CloudFront, WAF, RDS MySQL, S3, Secrets Manager, Docker, Bitbucket Pipelines.

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.

Technologies: Angular, .NET, Azure Functions, HotChocolate GraphQL, Python, Azure OpenAI, Azure AI Search, Azure Document Intelligence, Microsoft Graph, Entra ID, SharePoint.

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.

Technologies: FastAPI, React, Remix, PostgreSQL, pgvector, Shopify, Modal, AWS CDK, App Runner, Lambda, SQS, S3, CloudFront, Aurora PostgreSQL, Secrets Manager.

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.

Technologies: Electron, Angular, .NET, Azure, SQL Server, Azure Functions, desktop integration, offline-first synchronisation.

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.

Technologies: .NET 8, React, Azure, SQL Server, Hivebrite, Bicep, Azure DevOps, REST APIs.

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.

Technologies: .NET, Angular, Azure IoT Hub, Event Hubs, Azure Functions, Stream Analytics, Cosmos DB, Data Lake Storage, Auth0, Server-Sent Events.

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 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.

Technologies: ASP.NET Core, React, SQL Server, IdentityServer, Azure Functions, Azure hosting, SMS/email integrations.

Faber Music Ecommerce and Content Platform

Designed and built a serverless AWS ecommerce and content platform using Angular Universal, Apollo GraphQL, Lambda, CloudFront, DynamoDB, S3, Cognito, Stripe and OpenSearch/Elasticsearch.

The architecture unified legacy catalogue, composer, works, performance and product systems into a searchable public commerce experience while avoiding a high-risk upfront migration from ageing backend systems.

Technologies: Angular Universal, Apollo GraphQL, AWS Lambda, CloudFront, DynamoDB, S3, Cognito, Stripe, OpenSearch/Elasticsearch.

Career Background

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.

Current focus includes software support and maintenance, application stabilisation, technical ownership, cloud/DevOps support, security risk reduction, integrations, automation and careful feature delivery for existing operational systems.

Head of Development / Technical Architect / Senior Software Engineer

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

June 2010 - May 2026

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

Worked across 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.
- 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.

Earlier Career

Productive Business Solutions / EasyWebstore, Technical Director / Co-Founder, 2006 - 2009

Co-founded and worked full-time on an early multi-tenant ASP.NET/C#/SQL Server ecommerce SaaS platform. Worked across platform development, customer support, theme customisation, HTML/CSS, SEO, sales, quoting, bookkeeping, operations and commercial decision-making.

DPR Consulting, Software Consultant / Senior Developer / Technical Lead, 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.

LaserRail / Balfour Beatty Rail, Lead Software Engineer / Domain Specialist, 1996 - 2005 and 2009 - 2010

Developed from CAD/database support into lead software engineer and domain specialist. Architected and built major railway engineering products, rewrote legacy DOS software into Windows/.NET applications, led developers and testers, and worked across C#, C, C++, VB6, SQL Server, Oracle, CAD, engineering maths, desktop applications and database-driven systems.

Technology Summary

Primary Strengths

.NET, C#, ASP.NET Core, Azure Functions, TypeScript, JavaScript, React, Angular, SQL Server, PostgreSQL, Azure, AWS, Docker, CI/CD, GraphQL, REST APIs, systems integration, cloud architecture, DevOps, infrastructure-as-code, AI/RAG, 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.

Certification

- Microsoft Certified: Azure Developer Associate, AZ-204.