DAVID HARPER · C#/.NET · DELPHI · JAVA
Senior Software Engineer | Embarcadero MVP | Arctic Code Vault Contributor
Professional recommendations on LinkedIn. Technical articles available on the website.

- Adaptable developer with 25+ years of experience across diverse domains, from fast-paced startups to global enterprises.
- Experienced in modernisation, greenfield and brownfield development, and integrating systems and technologies.
- Able to translate stakeholder requirements into practical solutions, delivering maintainable software that adds value.
- Comfortable working in cross-functional teams and enjoy mentoring junior colleagues while learning from seniors.
- Fully settled in County Durham, UK, following frequent family-related international relocations, seeking a long-term role.

Employment History

2026–2026	UK		GDK Software	Senior Delphi Developer	NHS dental software and code intelligence
2025–2026	UK		Independent R&D	Software Engineer	Software frameworks, tooling and research
2024–2025	UK		Intact Software UK	Delphi Developer	Delphi ERP development and modernisation
2023–2023	UK		EQUE2	Senior Ruby Developer	Construction ERP development
2021–2022	SG	Contract	MoneyHero Group	Staff Software Engineer	Cloud-native fintech platform development
2019–2021	SG	Contract	Singtel	Staff Software Engineer	B2B and digital identity modernisation
2017–2019	SG	Contract	Credit Suisse APAC	Vice President, Technology	Bursa Malaysia trade-settlement integration
2013–2022	AU	Founder	Beyond Velocity Pty	Principal Engineer	Product development and C# consultancy
2012–2013	AU	Contract	Minemax	Senior Engineer	Mining optimisation platform modernisation
2011–2012	SG	Contract	ST Engineering	Assistant Principal Engineer	3D virtual learning platform development
2010–2010	AU	Contract	Racing & Wagering WA	Senior Engineer	Modernisation of a state wagering platform
2009–2010	AU		Bankwest	Senior IT Specialist	Banking web and lead-management systems
2008–2008	AU	Contract	ST Engineering	ToolSmith	Engineering tooling and model integration
2005–2007	SG	Contract	HeuLabs	Solution Architect	Virtual classroom and collaboration systems
2004–2004	SG	Contract	Accenture APAC	Senior ASP.NET Developer	Modernisation of Singapore's IRAS e-tax
2002–2003	AU		HandiSoft	C++Builder Developer	Accounting software development
2001–2001	AU	Contract	Bloodhound Tech.	C++Builder Developer	US healthcare insurance claims system
2000–2001	AU		Algarburns	Delphi Developer	Internet software and services development
1998–1999	AU	Contract	WebSpy Pty Ltd	Delphi Developer	Network monitoring and analysis software

GDK Software UK
Senior Delphi Developer | UK | 2026 – 2026

- Implemented NHS Complex Care Pathways features in Systems for Dentists (SfD), a nationwide dental practice management system comprising two million lines of legacy Delphi. Researched specifications in the NHS Dental Services Portal.
- Built a reverse-engineering pipeline using Delphi for AST extraction, Python/local AI to simplify, classify and document units, types and methods, and C# to enrich the metadata with source code and import it into a SQL Server with full-text search.
- Created a C#/WinForms analysis tool hosted in a Delphi developer workbench using Win32 hosting and a TCP/IP event bus. Supported SQL and C#/LINQ scripting, code/schema navigation, UML and Markdown generation, and VS Code integration.

Independent R&D
Software Engineer | UK | 2025 – 2026

- Developing a C# 15/.NET 11 declarative semantic runtime layer over the DLR, using Roslyn, dynamic dispatch, reflection and runtime composition for knowledge representation, analysis and decision-making, inspired by Thomistic psychology.
- Creating a C# 15 XMPP framework using modern .NET async I/O, Pipelines, Channels, host composition and middleware.
- Developed a project assistant to help cross the legacy void by bringing knowledge, data, and code closer together. Built with Delphi and DevExpress, integrating external applications via Win32 hosting and communicating with C# plugins via TCP/IP. Created a RAD Studio OTA plugin for bidirectional automation, and a database REPL using dynamic dispatch. Modelled data as composable stereotyped nodes with associations; built persistent vertical spaces for tickets and development context.
- Developed a blog with C# 14/.NET 10, Blazor, EF Core, PostgreSQL, Bootstrap and Ubuntu. Published 100+ technical articles.
- Built a FireMonkey application using Delphi 13.1, tested on Android and Linux; received an Embarcadero runner-up award.
- Built a modern Delphi library supporting Clean Architecture and DDD, with dependency injection, application composition, ambient transactions, repositories, specifications, an event bus, scoped resources, dynamic dispatch, XML and collection types.
- Developed and self-hosted a project blog using C# 12/.NET 8, Blazor, Dapper, Bootstrap, Monaco Editor, MySQL and Auth0 on bare-metal Ubuntu 24.04 LTS. Configured No-IP DNS records, Nginx, systemd, UFW, port forwarding, weekly backups, automated ACME/TLS certificate renewal and security hardening with ModSecurity, CrowdSec, Fail2Ban and Rootkit Hunter.
- Built a C# 11/.NET Framework 4.8.1 WinForms IDE for a legacy Rails codebase, using PolySharp, ScintillaNET, CefSharp and DockPanelSuite. Integrated code navigation, real-time logging, ticket-based knowledge capture, and C#/LINQ scripting.

Intact Software UK
Delphi Developer | UK | 2024 – 2025

- Developed and maintained Xline, a legacy 4M-line Delphi ERP, delivering customer-requested features and resolving issues across modules in collaboration with Support. Fixed NopCommerce integration issues in the Indy REST Client and COM SDK.
- Built a Roslyn-based scripting IDE in C#/WinForms, enabling LINQ queries across multiple legacy customer datasets, each containing 850 DBF files, with filtering and grouping via DevExpress grids—replacing days or weeks of bespoke Delphi tooling development with scripts written in 10 minutes. Scripts can also import other scripts from the growing library.
- Created a Delphi RTTI-based abstraction over Sequiter CodeBase, a low-level C++ database engine, enabling modern data access within the legacy ERP. Built a log-searching tool in Delphi 12 DevExpress, and a workflow assistant with FireMonkey.

EQUE2
Senior Ruby Developer | UK | 2023 – 2023

- Maintained and enhanced Construction Manager, an Azure-hosted ERP for the construction industry built with Ruby on Rails and jQuery, backed by approximately 500 tables across two data schemas. Resolved support issues, fixed bugs, refactored code and delivered features, reports, data sanitising Rake tasks, and customer data importers.
- Used Ruby metaprogramming to implement fixtures in Test::Unit and an application testing framework, due to legacy code initialisation issues. Extended the framework for Sage and Xero workflows. Built a tracing framework based upon TracePoint.

MoneyHero Group
Staff Software Engineer | Singapore | 2021 – 2022 (Contract)

- Hired as lead developer on the Core Services team to help maintain momentum following the principal engineer's departure during a company transition to IPO, at a leading Asian personal finance comparison group with approximately 10 million monthly users across six Asian markets, integrating over 1,000 products from 270 institutions.
- Core developer on a next-generation, multi-tenant, cloud-native application framework built using Java, Kotlin, Quarkus and Hibernate, adopted by all brand engineers. Built Kotlin annotation processors using KAPT to generate extensible services, repositories, REST resources, OpenAPI documentation and SQL DDL from annotated entities.
- Built a fluent Hibernate query DSL integrated with a generic CRUD repository framework supporting JWT-based multi-tenant authorisation, pagination, entity metadata, version checking and soft deletion.
- Developed asynchronous event-ingestion and dynamically configurable Kafka-routing microservices using Java, Quarkus and SmallRye Reactive Messaging, including event routers supporting downstream Microsoft Dynamics integration and other subscribers. Collaborated with the React team to enable administrators to modify Kafka routing rules at runtime.
- Developed Ruby integration tests to validate dynamic Kafka routing and concurrent C#/.NET Core (TPL) load-testing tooling, exposing a Kafka-routing defect. Collaborated with DevOps on AWS deployment, Kubernetes and telemetry configuration.
- Helped brand engineering teams migrate existing Spring Boot microservices, APIs and databases to the new Quarkus-based platform. Developed application microservices, conducted technical webinars, mentored engineers and created scripts to bootstrap the development environment. Wrote guides covering setup, service migration, code generation and security.

Singtel
Staff Software Engineer | Singapore | 2019 – 2021 (Contract)

- Backend engineering in one of Asia's largest telecommunications groups, serving 780 million customers across 21 countries. Helped modernise Bizportal, migrating from Java Struts, WebLogic and Oracle towards Spring Boot, React and PostgreSQL using the strangler-fig pattern, extracting and wrapping existing business logic with controllers, services and repositories.
- Developed REST APIs, entities, utility classes and annotation-driven infrastructure using Java 8. Standardised error handling and implemented JWT expiration and renewal mechanisms integrated with CA SiteMinder.
- Subsequently appointed to lead the Digital Identity and OnePass squads for IAM modernisation, engaging with business stakeholders and vendors like ForgeRock and Accenture in a pre-tender evaluation of a new Digital Identity platform.
- Provided cross-team project initiation support, conducted code and architecture reviews, assisted with production incident diagnosis and mentored developers. Performed division-wide interviews, and authored Java/Spring Boot interview guidelines.
- Built a C# Windows Service to extend the React team's Jenkins CI/CD pipeline, automating release detection, Java server process termination via WMI, backups, deployment, server restart and rollback on failure.

Credit Suisse APAC
Vice President, Technology | Singapore | 2017 – 2019 (Contract)

- Rescued a business-critical C# project bringing Bursa Malaysia trade settlement in-house from HSBC, taking sole engineering ownership and reducing an eight-month timeline to ten weeks, saving US$350,000 annually. Worked directly with business stakeholders to recover requirements and delivered architecture, implementation, testing and release.
- Built a JSON-based SWIFT rules engine with a middleware pipeline and document converters, integrating with EWS and SQL Server. Separated settlement rules from document formats, anticipating variations that materialised during UAT and go-live.
- Trained Support, organised Control-M batch jobs and automated file transfers; worked with QA, operations and business stakeholders on production cutover. Documented disaster recovery procedures and participated in DR testing.

Beyond Velocity Pty Ltd
Founder & Principal Engineer | Australia | 2013 – 2022

- Founded and operated a software consultancy and product development company in Perth, Australia. Established company infrastructure, including Ubuntu, mail, web and build servers, SharePoint, Active Directory, workstations and security.
- Delivered client engagements in C#/.NET across Perth and Singapore, and product development primarily in Delphi.
- Engaged by Sateva on their rail logistics project for Rio Tinto using C#, WPF, WCF, DDD, NUnit, Oracle and SQL Server. Built application components and SSRS reports within a rigorous Agile and TDD environment, with a mandated 80% test coverage.
- Led the delivery of an ASP.NET MVC website at BlondGorilla Pty Ltd, integrating with a Java application, for designing and ordering custom-printed sports apparel. Responsible for requirements analysis, project initiation, infrastructure, architecture, design and development. Assisted the CEO in selecting amongst Indian and Chinese offshore teams. Managed a local developer and the frontend team in India, collaborating with a US-based Java team (East Coast) and the client (West Coast).
- Developed the application infrastructure, data and domain layers for MCS, a local Government body in Perth. Upon a change in direction, adapted the solution to leverage SharePoint 2010, implementing content types, lists, workflows and supporting infrastructure. Developed a unit-testing framework integrated with SharePoint.
- Developed WinForms features and MySQL stored procedures for a document management system at Identity Boost Pty Ltd.
- Developed features across Xamarin iOS and Android projects at MQ Spectrum Pte Ltd.
- Continued independent product development in Delphi following relocation to Singapore for in-house tooling, application prototyping, data management and remote learning solutions.
- Built and deployed three Xamarin applications and one Flutter application to the Google Play Store.
- Company deregistered in December 2022.

Minemax
Senior C# Engineer | Australia | 2012 – 2013 (Contract)

- Helped modernise a global tier-1 strategic mine-planning and optimisation platform used in 35 countries, from C++Builder to C#/WPF using Prism and DDD. Built geological data importers, views, services, repositories and infrastructure components.
- Built a C++/CLI interoperability layer exposing legacy C code using IBM CPLEX to C# services.

ST Engineering
Assistant Principal Engineer | Singapore | 2011 – 2012 (Contract)

- Lead backend and database developer for Beacon World, an immersive 3D virtual learning environment with customisable avatars, a virtual economy and curriculum-based activities, developed for Beacon Primary School under Singapore's FutureSchools@Singapore programme and featured in a UNESCO ICT in Education case study.
- Designed and implemented a declarative C++ data-access framework in just over a week, responding to an urgent client-team request. Used macros, templates and ADO/ADOX COM wrappers to provide entity mapping, CRUD, composable data-access operations, parameterised queries and database-provider abstraction for SQL Server and MS Access.
- Built a C# model-driven XML DSL and pluggable code generator, transforming entity/relationship models into an object graph to generate Visual C++ ATL data and service layers, SQL Server DDL and seed data, and update Visual Studio project files.
- Introduced automated testing to the native C++ codebase using C++/CLI and NUnit, building reusable marshalling and assertion helpers and automated database setup/teardown to ensure consistent test state.
- Managed three interns in Agile C# projects and liaised with their professor to deliver agreed outcomes.

Racing and Wagering WA (RWWA)
Senior C# Engineer | Australia | 2010 – 2010 (Contract)

- Contributed AIX C++ modules to a betting engine and built C#/WPF components for the modernisation of a business-critical high-performance statewide wagering platform handling over A$1 billion in annual betting turnover and 205 million bets.
- Wrote a C#/WPF performance-testing tool to replay a previous Melbourne Cup, exceeding the 3,000 TPS SLA using an XMPP supervisor to distribute transactions across multithreaded workers, connecting via WCF and OSB to services on IBM AIX.

Bankwest
Senior IT Specialist | Australia | 2009 – 2010

- Lead developer of an ASP.NET Lead Management System generating approximately 20,000 leads per day. Collaborated with business analysts on functional specifications and produced UML documentation. Provided on-call production support.
- Integrated with mainframe systems using XML and Altova MapForce for object/XML mapping, and with Java systems through SOAP web services and message queues. Demonstrated self-configuring test documents using IronRuby and ERP Templates, moving business-rule-driven test-data scaffolding out of NUnit tests.
- Built a high-performance transactional micro-ORM in C# and a validation framework using PostSharp to centralise rules.
- Contributed to the public-facing banking website using C#, ASP.NET MVC and JavaScript, and assisted with a new FX project. Implemented RSA token renewal integrating with Active Directory via ADAM.

ST Engineering (Ripple Systems)
Senior IT Specialist | Australia | 2008 – 2008 (Contract)

- Contributed to the Singapore Circle Line, a fully automated driverless metro system, as part of the core design team providing architectural direction and technical guidance to the Singapore-based development team.
- Developed C# engineering tools supporting modelling and development workflows, including round-trip synchronisation between Sparx Enterprise Architect's semantic model and SMI.
- Built a C#/WPF class-diagramming tool for SMI and contributed to native C++ development.

HeuLabs
Solution Architect | Singapore | 2005–2007 (Contract)

- Lead developer on HeuCampus, a C#/WinForms virtual classroom platform under Singapore IDA's BackPack.NET initiative, collaborating with Microsoft Singapore and Singapore Management University. Used by hundreds of schools internationally, featured in a UNESCO ICT in Education report, a Microsoft case study, and highlighted by Bill Gates in a business forum.
- Built a high-performance, scalable, observable, multithreaded C#/Mono XMPP application framework, abstracting XMPP protocol handling through request parsing, object mapping, routing, argument resolution, dynamic service invocation and response serialisation. Powered real-time classroom services across Windows, Linux and FreeBSD.
- Developed a streaming XML parser, reducing CPU utilisation from 50% to 2%, and implemented a circular ring buffer supporting lock-free reads and writes to speed up message dispatching.
- Extended Openfire authentication and authorisation for classroom roles; built C# ETL tools for school onboarding. Bridged a Visual C++ IPv6 socket to C# for Japanese school connectivity. Prototyped an XMPP client on an HP iPAQ using .NET CF 2.0.
- Demonstrated HeuCampus live with the CEO at Microsoft's official Visual Studio 2005 launch in Singapore. Introduced Avalon (later WPF) to Microsoft's Singapore Partner Network and provided a live coding demonstration.

Accenture APAC
Senior ASP.NET Developer | Singapore | 2004–2004 (Contract)

- Contributed to the modernisation of the Inland Revenue Authority of Singapore's (IRAS) e-Services platform, an award-winning national e-government initiative, designing and developing C#/.NET application components and middle-tier services for taxpayer and e-filing workflows.
- Integrated with IBM WebSphere ESB, IBM DB2 and Documentum, using high-performance .NET Remoting over binary/TCP with typed DataSets as service contracts.

HandiSoft
C++Builder Developer | Australia | 2002–2003

- Developed C++Builder applications within an accounting management suite used by ~40% of Australian practices.
- Lead developer of a document management application integrated with the accounting suite.
- Evaluated cross-platform development using Kylix on Red Hat Linux and Delphi on Windows; built a log analysis tool in C#.

Bloodhound Technologies
C++Builder Developer | Australia | 2001–2001 (Contract)

- Contributed to a high-performance, multithreaded C++Builder application for US healthcare insurance claims verification, processing approximately 200,000 rules using SQL Server and Oracle.
- Built a Delphi diagnostic and instrumentation tool to collect performance metrics, identify threading issues and bottlenecks, and trace a catastrophic COM memory leak.

Algarburns (FoxGold)
Delphi Developer | Australia | 2000–2001

- Designed and built a Delphi/COM+ client/server ISP billing system; introduced the development team to COM+.
- Developed websites using Delphi WebBroker/ISAPI, classic ASP with C++Builder COM objects, and Perl/CGI with MySQL.
- Built and enhanced internal tools using Visual Basic, VBScript, VBA, MS Access, COM and WMI.

WebSpy Pty Ltd
Delphi Developer | Australia | 1998–1999 (Contract)

- Worked within a small engineering team developing internet monitoring, log analysis and reporting products using Borland Delphi, TCP sockets, HTML, DevExpress and Raise Components.
- Contributed to the WebSpy product suite: Sentinel, a real-time network monitoring system capturing HTTP, FTP, POP3 and SMTP traffic using kernel-level device drivers; Live, providing traffic monitoring, polling and event-triggered alerts; and Analyzer, providing detailed reporting across historical proxy, firewall and mail logs.
- WebSpy Analyzer supported over 250 log formats from 128 hardware and software vendors and was later bundled with Microsoft ISA Server through a partnership with Microsoft.

Technologies Used

- **Languages** · C#, Delphi, Object Pascal, C++Builder, C++/CLI, Visual C++, Java, Kotlin, Ruby, JavaScript, Visual Basic, SQL
- **Desktop/Mobile** · VCL, FireMonkey, FMXLinux, WinForms, WPF, Xamarin, MAUI, Flutter, .NET CF 2, Win32, Crystal Reports
- **Components** · DevExpress, Syncfusion, Infragistics, Telerik, Nevron, Bunifu, TMS, LMD, HTML Component Library, IPWorks
- **Web** · HTML, CSS, jQuery, Bootstrap, ASP.NET MVC, Blazor, Ruby on Rails, WebBroker, ISAPI, ASP/C++Builder, SharePoint
- **Backend** · ASP.NET Core, Spring Boot, Quarkus, MicroProfile, SmallRye, Indy, COM+, WCF, XMPP, SignalR, TCP/IP, Kafka
- **Database** · SQL Server, MySQL, PostgreSQL, Oracle, Firebird, SQLite, MS Access, EF Core, Dapper, Hibernate, FireDAC, ADO
- **Practices** · Systems Analysis, Clean Architecture, OOD, OOP, DDD, SOLID, Design Patterns, TDD, Agile, Scrum, CI/CD
- **Tools** · Jira, Azure DevOps, Jenkins, TFS, Docker, Git, Roslyn, KAPT, SSRS, OpenAPI, NUnit, xUnit, DUnitX, JUnit, Mockito

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Achievements

- **Delphi and C++Builder** · Embarcadero MVP
- **GitHub** · Arctic Code Vault Contributor

Professional Training

- **Strategic Systems (Sponsored by Bankwest)**
  Software Architecture Training Workshop
  Object-Oriented Principles & Patterns Training Workshop
  Requirements Analysis: JAD to Prototype Training Workshop
  Code Inspection Training Workshop
- **Data Dimensions (Sponsored by Bankwest and Algarburns)**
  Microsoft Course 2544: Advanced Web Application Technologies with Microsoft Visual Studio 2005
  Microsoft Course 10175A: SharePoint 2010 Application Development
  Sun Educational Services Course SL-275: Java Programming Language
- **Microsoft Singapore (Sponsored by HeuLabs)**
  Tablet PC Inking API
- **Thoughtworks (Sponsored by BlondGorilla)**
  Agile and Scrum
  Continuous Integration and Delivery

Education

- **Perth TAFE** · Associate Diploma in Information Technology (two subjects short of completion).
- **Carine TAFE** · Certificate in Computer Studies.
- **Ocean Reef High School** · Alliance Française Year 12 Diplôme (1988); Year 10/12 Applied Computing Honour Awards.

Further Resources

- **Personal Blog** · Delphi TnT
- **LinkedIn** · Professional Recommendations
- **GitHub** · Personal Projects