

Mark Roberts

Object-Oriented Software Engineering Certified Professional Visual Basic .NET Programming Certified Professional

Personal Details

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Personal Description

I am a software engineer with almost 25 years experience of working with Microsoft development technologies and database tools. I have a strong emphasis on developing with the .NET Framework, and have been doing so since the first betas were made public. This includes web and Windows front-ends, C#-based middleware, and SQL Server and no-SQL back-ends. I have worked on a wide variety of systems such as e-commerce, contact management, customer profiling, fraud detection, and media servers.

I pride myself on having excellent low-level design skills as a result of a keen interest in software patterns, refactoring, and test-first development practices.

I have typically chosen to work in small teams as I believe this allows developers to form strong professional relationships, whilst allowing individuals to have a greater influence on their working environment. In particular I enjoy coaching junior developers in these teams, and the areas I have expertise in.

I am an adherent to the principles of the Agile Manifesto and advocate for these in the development process - as key principles to work by, rather than just as bywords. Historically, I have found these principles allow me to develop and deliver higher quality software faster and more reliably than other project management techniques.

Key Skills

- .NET development (C#, Visual Basic .NET)
- JavaScript development (jQuery, jQueryUI, Bootstrap, TypeScript, Angular)
- Apex development
- Markdown editing (supported by Mermaid and PlantUML for diagramming)
- Unit testing (NUnit, MbUnit, MSTest, Jasmine)
- Mocking (Rhino Mocks, Moq, Nsubstitute, FakeItEasy)
- Dependency injection (Ninject, native .NET)
- ORM tooling (NHibernate, Entity Framework)
- Relational database development (SQL Server, Microsoft Access, Oracle, PostgreSQL)
- NoSQL database development (Azure Cosmos DB, MongoDB)
- Build and release pipeline authoring (NAnt, MSBuild, Azure DevOps)
- Continuous integration (Team City, Cruise Control .NET, Azure DevOps)
- Continuous delivery (Octopus, Azure DevOps)
- Web server administration (IIS)
- Version control (Subversion, TFVC, Git including GitHub, Azure DevOps, GitKraken)
- System architecture (N-tier, service-oriented, microservice)

Career

Software Developer Gearset, Cambridge

01/2023– 08/2023

Gearset is a software company based in Cambridge who specialise in building a web-based solution that provides continuous integration and delivery services for the very widely used Salesforce platform.

During my short tenure at Gearset I worked on the Internal Platforms team. This team was responsible for using our own internal Gearset tenant. This would typically involve working with Apex - a Salesforce-specific C#-like "curly bracket" language. The Internal Platforms team were also responsible for building other pieces of software used internally, and sometimes exposed to the outside world.

Notable achievements in this role are:

- Automating extraction of leads from clients registering for online workshops to generate appropriate entities and relationships (e.g. campaigns, leads, contacts etc) within our Salesforce instance
- Automating parts of the job application process to make recruitment faster for the HR team
- Coaching junior developers with effective unit testing practices and patterns

Software Developer

06/2018 – 12/2022

TIDE Services Ltd (formerly Anglian Water Services Ltd), Huntingdon

TIDE Services have a number of brands and commercial activities that centre on markets such as property conveyancing and web-based information systems for utility providers.

For my employment at TIDE Services I am typically assigned to a small, multi-functional delivery team responsible for the Geodesys e-commerce platform for conveyancing searches and reports. The team use a Kanban-based project management process, and take a continuous delivery deployment strategy.

In this role I was involved in the entire product life cycle, from inception and definition to delivery and maintenance. Key duties included:

- Ongoing improvements to project management process and software development process
- Working with stakeholders to determine requirements and prioritise workload
- Working with technical team members to design solutions
- Development, deployment, and maintenance of all components of the Geodesys e-commerce platform, including customer-facing websites, internal tools, and business to business integrations
- Providing guidance on appropriate tools and technologies with which to build our software

Notable achievements in this role are:

- Improvement of our development process through the introduction of the Technical Understanding Meeting (TUM) before
- Improvement of our development process through the introduction of peer review for technical solutions
- Championing the introduction of automated testing for web-based elements of our platform using a combination of SpecFlow and Selenium
- Driving the move from a monolithic architecture for the Geodesys website to a microservices based architecture, and using the domain driven design approach
- Designing and implementing build and release pipelines for several of our software components, most notably new microservices
- Assisting in the ongoing move from an ASP.NET MVC front-end for customer-facing websites to and Angular and Typescript-based solution
- Assisting in the ongoing move from SQL Server-based back ends to the use of No SQL databases
- Assisting in the ongoing move from on-premise hardware to cloud using elements of the Microsoft Azure services

Systems Developer
IISG Limited - Guildford, Surrey (home-based)

06/2012 – 02/2018

IISG Limited provides a variety of insurance services, acting as both an insurance broker and aggregator, and specialising in goods vehicle insurance.

I chose to join IISG as it presented the opportunity to work with an individual I have a strong professional and personal relationship with. It also offered the chance to expand my skill set, providing the opportunity to undertake website development in a commercial environment.

In this role I was involved in the entire product life cycle, from inception to delivery. Key duties included:

- Working with project stakeholders to gather requirements, develop system specifications, and build detailed project delivery plans
- Development, deployment, and maintenance of in-house tools, customer-facing websites, and integrations with business partners and other third party service providers
- Continuous improvement of all aspects of the development process

Notable achievements in this role are:

- Introducing a formalised software versioning, release, and maintenance policy
- Introducing the principle of dependency injection based on Ninject to ease testing
- Introducing a continuous integration server based on Team City and utilising MSBuild
- Introducing an automated deployment system utilising the Team City server and Octopus
- Introducing an automated database migration and rollback system
- Breaking up a monolithic system into a service-oriented architecture based on NServiceBus, improving performance, ease of deployment, reliability, and maintenance burden
- Developing a fraud detection system that allows IISG to receive preferential contracts from partner companies
- Rebuilding existing Web Forms-based websites with the latest MVC technologies
- Implementing MVC-based websites to capture sales leads for products outside of the core specialisations of the business
- Implementing MVC-based websites allowing customers to upload legally-required documents, rather than having to supply paper copies via postal services

Software Engineer
Featurespace - Cambridge, Cambridgeshire

01/2011 – 06/2012

Featurespace use machine learning techniques to provide fraud detection and customer behaviour profiling solutions in a variety of market sectors.

I joined Featurespace shortly after the collapse of Imerge. I was attracted to Featurespace as it had a small, but growing development team using the latest .NET technologies who were keen to improve their Scrum process.

In this role I was involved in all areas of development. In particular I was responsible for restructuring the current architecture into a core platform and customer-specific extensions.

Notable achievements in this role were:

- Extracting customer-specific code into a MEF-based plug-in system, thus leaving a "core" platform
- Making the core platform database-agnostic, rather than being coupled to Oracle
- Breaking the Team City build system up to build the core platform and customer-specific extensions independently
- Providing support to GUI developers separating the ASP.NET front-end into core platform and customer-specific areas
- Developing a new WCF-based B2B marketing solution for an existing customer that required integration with external databases and web-services
- Mentoring new developers in unit testing, mocking, and test-driven development techniques
- Acting as the development team's Subversion and version control expert

Software Engineer
Imerge Ltd - Bar Hill, Cambridgeshire

08/2006 – 06/2010

Imerge are recognised as one of the world's premier manufacturers and developers of music and film oriented luxury entertainment servers.

I moved to Imerge as it presented an opportunity to work in a small, highly skilled team who were keen to embrace Agile principles.

In this role I was developing software to run on Imerge's high-end networked media servers and players.

Key duties in the role were:

- Developing the XiVA2 server software written predominantly in C#, but with some C++
- Developing the second generation user interface built in Flash 9 and written in ActionScript 3.0
- Mentoring other user interface developers in software design and coding principles
- Developing Windows tools in C# for both in-house and customer use
- Contributing to process improvement and development infrastructure

Notable achievements in this role were:

- Developing a tool in C# that allowed foreign distributors to translate the second generation XiVA2 user interface into their native language and integrate the translations into formal XiVA2 releases
- Developing a tool in C# to improve developer productivity when working on extremely large Visual Studio .NET solutions
- Adding an XML-based protocol to the XiVA2 software for communication with control devices
- Developing NAnt build scripts that cut build times from over two hours to around twenty minutes
- Setting up a Cruise Control .NET-based continuous integration server utilising NAnt
- Championing agile development practices such as continuous integration, test-driven development and pair programming

Lead Developer / Database Administrator
Kidney Research UK - Huntingdon, Cambridgeshire

09/2000 – 08/2006

Kidney Research UK is the leading national charity supporting research into kidney-related illnesses, as well as raising awareness and providing support to patients.

Having excelled in my previous role at Kidney Research UK the charity chose to build a small development team around me. The team's primary remit was increasing the flexibility of the existing CRM databases, and reducing the need for technical skills to administer them.

Key duties in this role were:

- Migrating the back-end of the legacy CRM systems from Microsoft Access to SQL Server
- Migrating the front-end of the legacy CRM systems from Microsoft Access to Windows applications written in Visual Basic .NET and / or C#
- Observing the software development industry and ensuring best practices were adopted
- Mentoring junior developers in the principles of software design and good coding practices

Notable achievements in this role were:

- Developing a Visual Basic 6 application integrated with telephony hardware to improve productivity of telephone canvassers and data entry clerks
- Pioneering the adoption of test-driven development with Rhino Mocks, NUnit and NCover
- Promoting the principles of refactoring and design patterns to improve code structure
- Building a continuous integration build server based on Cruise Control .NET and utilising NAnt
- Building a Subversion server (based on Apache) to replace the existing Visual SourceSafe server

Marketing Database Systems Controller
Kidney Research UK - Huntingdon, Cambridgeshire

04/1999 – 09/2000

In this role I was responsible for maintaining and developing Kidney Research UK's CRM databases, data-mining them on behalf of fundraising staff, and providing networking and technical support across all departments of the charity.

Training

Learning Tree International Certifications

- Object-Oriented Software Engineering Certified Professional
- Visual Basic .NET Programming Certified Professional

Learning Tree International Courses Passed

- Introduction to Software Engineering
- Object-Oriented Analysis And Design Using UML
- Object, Component and Service-Oriented Architectures
- Applying Object-Oriented Design Patterns: Hands-On
- Hands-On Visual Basic .NET: Building OO Applications
- Enterprise Web Development with ASP .NET: Hands-On
- Developing GUI & Smart Client Applications with .NET: Hands-On
- Developing SQL Queries for Microsoft SQL Server: Hands-On
- Microsoft SQL Server Transact-SQL Programming: Hands-On

St John Ambulance

- Emergency First Aid at Work

Education

A Levels, Ramsey Abbey School

2 As, 1 B

GCSEs, Ramsey Abbey School

5 As, 2 Bs, 2 Cs

Hobbies

I am a keen cyclist, and am currently an active member of Vision Cycling – a racing team with a mission statement to “make cycling a functional household sport, so people and their environment may benefit from the well-being cycling provides”, and with a presence in both real life and the world of e-sports via the Zwift platform.

Prior to joining Vision Cycling I was an active member of St Ives Cycling Club. I acted as a nominated club officer in the role of “Club Run Captain”. This involved coordinating the club’s social group rides, deciding on and navigating routes, maintaining organisation and discipline on the road, and providing advice and guidance to less experienced riders. I served on the club’s committee and as such was involved in all aspects of the running of the club. Additionally, I acted as the moderator for the club’s web-based forums, and as a marshal at events the club organised.

Prior to becoming involved in cycling I was a keen runner, specialising at the half marathon distance, and undertaking the Great North Run in support of Kidney Research UK on several occasions. I often competed in “Chariots of Fire” (a Cambridge-based charity relay race) and organised and captained teams for both Featurespace and Imerge.

Away from endurance sports I continue to enjoy computer games as an interest that has lasted from my youth. I particularly enjoy turn-based strategy games, such as the Civilization and X-COM series – essentially those that prioritise short-term tactical, and long-term strategic thinking over quick reactions!