Lucas Cullen

# Contact Information

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# Introduction

My name is Lucas Cullen, I am a .Net developer with a mathematical background, with a strong understanding of design patterns and cryptographic algorithms. I am to use techniques from discrete maths to write provable code. In my spare time, I attend a lot of the .Net, Azure, Agile and ALM meetups in Brisbane.

Recently I have been freelancing and working on my own open source projects.

# WORK EXPERIENCE

## Department of Justice

August 2019 - October 2019 (3 month contract)

DoJ was looking to implement a “Court Calendar” to allocate Judges to Matters on Queensland circuits.

* Develop RESTful APIs in .net core using Azure Functions
* Azure SQL
* Angular front end
* Office 365 Authentication

## TravelbyBit

February 2019 - August 2019 (6 month contract)

TravelbyBit is a Brisbane based startup, promoting crypto currency adoption.

* Develop RESTful APIs in NodeJs / Express
* Frontend development using handlebars templating
* Unit testing in Mocha
* Hosting on AWS and Heruko

## ConsenSys

August 2017 - September 2018

ConsenSys is a remote first, distributed venture production studio using the Ethereum blockchain. I was hired as one of the first APAC employees after winning the hackathon in New York in 2017, to role out capabilities in the region.

* PegaSys spoke: Re-write of the Ethereum client in Java. Contributed to JP Morgans Quorum product in Go and Haskell.
* Virtue Poker spoke: Distributed poker application using smart contracts written in Solidity, React-Redux and Electrum.
* Solutions spoke: Delivered a banking solution for the Philippines Union Bank and other regional banks called Project i2i, using Solidity, TypeScript and hosted on Microsoft Azure using their HSM key signing.

## Avanade - Accenture

March 2015 - August 2017

Created in April 2000 by two industry giants – Accenture and Microsoft – Avanade had one goal: deliver innovative services and solutions to enterprises world wide using the Microsoft platform. My role as a consultant was to help deliver on enterprise solutions:

* Team lead for one of the deliver teams on the Australian Tax Office new tax portal. The build was .Net, TypeScript and KnockOut JS running on Microsoft Azure.
* Lead developer on project Ubin in Singapore with the Singapore Monetary Authority and JP Morgan on the distributed ledger project using Solidity and Quorom on Microsoft Azure
* Was invited to speak at “Tech Time” in Seattle, US on blockchain technologies on Microsoft Azure.

## Site Core / MS Dynamics - RSL Queensland (Contract)

August 2014 - Feb 2015

The Returned and Services League Australia (RSL) is a support organization for men and women who have served or are serving in the Defence Force.

I was engaged to help the RSL with their lotteries website, built in Site Core CMS, ASP.Net MVC and using MS Dynamics CRM as a backend.

## SharePoint Developer -Zetta 1 / Department of Education (Contract)

August 2013 to July 2014

I decided to begin contracting at DETE via a consultant Zetta 1 for a 12 month SharePoint project. The project ran well and was delivered in 4 sprints. I worked closely with the Stakeholders and BA’s.

## Team Leader BizTalk Salesforce Integration – Bank of Queensland, Brisbane

January 2011 to August 2013

I was offered a position as a .Net SharePoint developer and help Bank of Queensland with their software engineering processes, story card writing, source control management, work item customization and branching strategies. I became the de facto TFS administrator and merge master.

I was promoted to the Team Leader for a BizTalk – Salesforce integration piece to lead a team and be scrum master of 10 developers and contractors. The project was a vital part of Bank of Queensland’s ongoing technology strategy to implement an Enterprise Service Bus and to decouple the banks systems.

As scrum master, I was responsible for designing the software development life cycle and sprint planning, and ensured working software was delivered at every sprint. I was acting manager for the team during periods of change.

## Analyst Developer -TSA Software, Brisbane

December 2008 to January 2011

This medium sized software house has been looking to expand their products by offering Web Applications to their customers. Most of these products are reporting applications, leveraging off the core products database and Cube.

My duties involved writing enterprise Asp.net applications for clients such as Crown Casino, University of Tasmania and QUT. I was heavily involved in the design, construction, unit testing, integration testing and the deployment.

The technologies used include,

* ASP.Net Web Form Applications
* MVP & MVC Web Applications
* AJAX
* Silverlight & WPF
* Windows Services
* Integrating with SQL Server OLAP Cubes
* SSRS Reports
* Some VB6 bug fixing (on older applications)
* SVN, Mercurial, Hudson, TFS

Although the company has a quite large customer based, there is a lack of procedures and planning. I took it on board to try and correct some of these issues by introducing the following

* Introduce design patterns such as MVC & MVP, along with other GOF patterns.
* “Common” .Net Libraries
* Coding standards documents
* SharePoint for project collaboration
* Informal code reviews
* Minute taking at meetings
* Database driven Unit Testing (Visual Studio 2008 Team System and CUnit)
* Database driven Web Testing (Visual Studio 2008 Team System)
* Team foundation server 2010.

## Contract Developer –Orcon Steel, Brisbane

December 2008

This was a short (6 week) contract position, to develop an in house, ASP.Net c# order management system. The project used Code Smith to create the Business entities, Domain objects and CRUD database methods.

I ended this contract on early on good terms to take a full time position.

## Analyst Developer - Concep Global, London, UK

April 2007 to Sept 2008

My role was a client facing analyst developer role to develop bespoke solutions for clients. The solutions typically evolved writing windows services that integrated third party CRM systems with an ASP email marketing solution called “Campaigner”. ASP.net front end web applications control panels where created for clients to modify database settings.

The CRM systems I developed on are listed below.

* Microsoft Dynamics
* Microsoft Share Point
* Sales Force
* Lexus Nexis InterAction (51, 55, 56)

Other ASP.net projects where built to add value to the core Campaigner product. They involved writing a presentation layer over Campaigner’s xml api layer to add value to the product.

Technologies used during this role include

* OO Agile / TDD development in .net framework 2.0 and 3.5
* XML RPC and SOAP
* SQL Server 2005 & 2000 Databases

## Applications Developer & Database Admin – Photobox.co.uk London, UK

Oct 2003 to April 2007

My duties include creating and supporting mission critical bespoke applications in vb6, vb.net and C#.net to control order flow of a large online retailer that operates in a 24/7 environment. The environment was split into 4 areas.

1. The client facing website was responsible for the customer experience, photo / gallery management and the ecommerce.

2. The production server application, responsible for order collection off the website via XML, order generation and order production. Such as image manipulation using the dot net framework and third party image libraries and creating PDF “documents”

3. The CRM GUI for production and support staff to manage the order work flow.

4. In house asp and asp.net instrumental websites, responsible for application settings, server monitoring and reporting.

In the 3 years of my employment, the company has grown 800%, and this growth has created stresses on the application and the underlying database. It was my responsibility to up scale and redesign these applications to vb.net while maintaining the original application.

I began by encapsulating functions from the one “giant” vb6 executable that had grown organically into smaller dot net assemblies.

By breaking up the one vb6 executable into smaller encapsulated assemblies split the application into smaller more manageable applications, we were able to isolate and improve areas of the application with minimal disruption to the live production environment.

I was also responsible for performance & reliability of the large and volatile live database, averaging 2 million order item rows per month, and used by over 100 production and support staff.

To minimise database load I introduced message queuing, “queue” style tables to reduce table scans on the main customer order table. “Active” rows where decomposed into smaller tables and purged after use. Windows message queuing has been introduced as well, to pass serialized objects between dot net applications. Again, this could allow client and server applications to communicate without adding load to the database. Other performance techniques where implemented such as

* Reviewing existing stored procedures
* Evaluating wait times
* Creating better indexes, reviewing existing indexes and defragging indexes
* Physical database locations
* Horizontal table partitioning
* Adding join constraints
* Minimizing round trips

My position included specifying new applications and procedures, and supplying external API’s via web services and web applications to third party suppliers. I was responsible for evaluating new or different technologies

A few compact frame work applications have been develop to remotely monitor critical systems in the production environment.

* Lead programmer and architect on live production system environment and database.
* Database performance.
* SQL server 2000 and 2005 administration, backup and replication across 3 physical environments. Creating and maintaining database objects.
* Implementing and supporting active directory and exchange 2003, 2000
* Supervised contract programmers
* Developed and implemented disaster recovery plan
* Asp and aspx monitoring tools
* Soap / wsdl web services / interfaces to third parties / IIS
* XML Rpc with linux based servers.
* Some DTS, Crystal and other statistics reports
* Visual SourceSafe
* Administration and support of large terabyte image servers
* General network and IT support

## Applications Developer & Systems Admin – VZDV St Albans, UK

April 2002 to September 2003

Van Zyle and De Villiers was a small mechanical engineering firm, where I was responsible for the general IT hardware and software support, as well as develop applications for automating Office, AutoCAD and other third party applications.

I also implemented and maintained a Windows domain and an Exchange 2000 server.

* Programmer for an office management database
* Implementing and supporting active directory and exchange 2000
* Microsoft ISA (proxy and firewall solution)
* VBA coding for Office applications and AutoCAD
* Raid / Tape backups
* Terminal services and VPN setups
* General network and IT support

## IT / Cad Manger – Electrical Design Group, Brisbane

January 1998 to February 2002

In January 1998, I commenced full-time employment with the Brisbane office of Electrical Design Group (EDG).  Electrical Design Group is a small firm of consulting electrical engineers, based in Brisbane and the Gold Coast, with the Brisbane office specialising in lighting design.

* Designed and implemented a custom contacts and document management database
* Developed and implemented disaster recovery plan
* Automating office and AutoCAD applications

## Other Free Lance

* 2008 – Worked with a designer to produce PHD group’s website (asp.net 3.5). [www.phdgroup.co.uk](http://www.phdgroup.co.uk)
* 2007-2008 – Various Winfrom’s, Windows Mobile applications and Web Applications for Contrado Imaging. These applications where to manage staff hours and holidays, print delivery notes and to manage order work flow.
* 2008 – An eCommerce website for purchasing photographers images was built. This site integrated with PayPal Web Payments Pro and PayPal express. [www.clicktoprint.eu](http://www.clicktoprint.eu)
* 2006-2007 – An online ticketing website was built. The web application used very complex SQL to match a various business rules. Payments where provided by PayPal and NoChex. [www.addanevent.com](http://www.addanevent.com)
* 2007 – A database driven member’s website was built as the company’s web site to list upcoming events, player’s profiles and news. www.thewesternclub.com
* 2001 - I was contracted to write a diary style application written in VB6 for Auto Extreme to manage the company’s bookings.

# Education

Currently Studying (4th year) a Bachelor of Mathematics at Queensland University of Technology part time. I also have completed a number of Microsoft certified courses.

* Microsoft Azure 2 Day Instructor Lead
* BizTalk 5 Day Instructor Lead
* SharePoint 2010 5 Day Instructor Lead New Horizons
* Salesforce Admin 5 Day Instructor Lead
* Course 2565: Developing Microsoft .NET Applications for Windows (Visual Basic .NET)
* Course 2939: Programming Microsoft SQL Server 2005
* Course 2940: Building Service and Notifications Using Microsoft SQL Server 2005
* Course 2941: Creating the Data Access Tier Using Microsoft SQL Server 2005
* Collection 2938: Data Availability Features in Microsoft SQL Server 2005
* Collection 2936: Installing and Securing Microsoft SQL Server 2005
* Collection 2937: Administering and Monitoring Microsoft SQL Server 2005

# MS Certifications

I am a Microsoft Certified Professional Developer

* 70-536: Microsoft .NET Framework - Application Development Foundation
* 70-528: Microsoft .NET Framework 2.0 - Web-based Client Development
* 70-547: Designing and Developing Web-Based Applications by Using the Microsoft .NET Framework

# Skills

## Blockchain

* Ethereum / Soldity coding with truffle and Nethereum
* Hyper Ledger
* JP Morgan Quoroum

## Design Patterns and Object Orientated Principals

I have studied design patterns and OO principals for a number of years. I have implemented design patterns and composite patterns in most applications that I have been responsible for. During my Bank of Queensland employment, I mentored my team and introduced them design patterns and helped refactoring code to use correct patterns.

## Source Control 7 years

* Git / GitHub
* Team Foundation Server 2010, 2013, 2015, Visual Studio Online
* SVN &Mercurial
* TFS Sidekicks

## Unit Testing 7 years

* Mostly unit testing with the MS framework
* MOQ, Pex & Moles, TypeMock & RhinoMocks
* xUnit, NUnit, JUnit, Mocha, Chai, Truffle

## Vb.net & C# (1.1, 2.0, 3.5, 4.0, 4.5) 10 years

* Visual Studio 2005, 2008, 2010, 2012, 2013
* OO / Agile TDD (XP & Scrum) development
* ASP.net Webform Applications, MVC & MVP
* Winform applications
* WCF & Windows services
* Windows mobile devices 6.x and Windows Phone 7 & 8 Development
* Office 2007 development
* UML diagrams
* Entity framework and LINQ
* Silverlight MVVM & WPF
* F#
* XML, XPATH, JSON

## T-Sql (MS Sql Server 2000, 2005, 2008) 6 years

* SSRS Report development (Beginner)
* SSIS Packages (Beginner)
* MDX Queries
* FLOWR
* Spatial Datatypes

## Visual Basic 6 years

* Winform applications
* Windows services

## ASP classic 3 years

* Various web sites

## Mobile

* iPhone Objective C / Swift
* WinPhone 7 & 8 MVVM / Silverlight
* Xamarin / Xmarin forms

## Build Servers

* TFS 2010 & 2013
* Visual Studio Online / Azure Dev Ops
* Hudson / Jenkins / Team City