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**Specialities** Business Analysis, **Software Architecture**, OOA + OOP, **Delphi**, **Unity C#**, C++

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Strengths:

My main innate strengths are:

* **Imagination** - helps with everything; creativity, understanding problems, finding solutions…
* **Critical thinking** - tempers imagination. The two complement each other nicely.

From 20+ years of commercial experience:

* I have learnt to thoroughly understand the essences of complex requirements, thereby properly understanding and meeting clients’ actual needs.
* With that understanding, I am better able to design simpler solutions using proper OO. Simpler solutions lead to simpler architecture, simpler code, easier testing and cheaper maintenance.

My main languages are **C#** and **Delphi**, but have since 2023 also coded in C++.

My preferred development environments are **Visual Studio** (often with **Unity**), and **Delphi**.

Recently, I have been working mainly in **Unity** (and a bit in Unreal) and have developed for **VR** (Quest 2, Vive 3) and HoloLens 2. I am improving my skills in VR development with the help of AI. Before that, I worked on a wide variety of commercial and industrial software for Android and PC.

Although I usually work on all stages of development, I specialise in good, clean OO architecture.

I always advocate for a **clean separation** between UI, business logic and databases, and I have worked on them all.

Work ethic:

I prefer to work in a team so that we can bounce ideas off each other…

But, I do deep work, so constant interruptions for meetings, etc. can be counterproductive.

As a quality-conscious person, my code is well structured, modular, tidy and well commented.

I strongly avoid shortcuts because they usually cost more than they’re worth, even in the short term.

I am creative, enjoy making things work better and tend to come up with novel and inventive solutions, but I don’t go overboard.

I aim to live and work by the philosophy of being respectful and responsible, live and let live.

Who I am:

I like new ideas (scientific, social, cultural, etc.) and escapism (fantasy/sci-fi worlds). I sometimes teach traditional martial arts, play board/RPG games and computer games, brew mead and kombucha, build Lego, am a big Star Wars fan, and lately I’ve been studying professional acting.

And when people have some coding conundrum, I can’t resist finding a solution.

History:

Born in Sweden, I started programming when 12. I moved to Australia where I got a **B.Sc.** at **UWA** in Computer Science and Information Technology before working in software development for about 20 years in **Australia, Sweden and Taiwan**.

A few years ago, I studied **games development** at **TAFE** (which is mostly art: 2-D, 3-D, animation, compositing, etc.). Developing games was so much more fun than I anticipated.

I really want to work creatively, and using game technology in general, whether that be for engineering, education or entertainment.

## Using game engines…

Immersive Technologies (Perth, Australia) 2023-04 – 2024-07

I was Senior Software Developer at Immersive Technologies, which makes training simulators for mining vehicles. I was hired for my general experience, especially in analysis and OOP, and I learned and used C++.

Environment: C++, C#

Viewport (Perth, Australia) 2022-07 – 2023-03

Quite a variety in a short time.

For HoloLens 2, I put together a new favourite marketing tool for the Royal Flying Doctors Service in which users can pull parts off an ambulance aeroplane, manipulate and inspect them.

I put together another HoloLens 2 product for Rio Tinto that displays pieces of ore and related products that hover in the air. When picked up, they show the relations as threads and display information. It is multi-user, so objects can be thrown or handed from one user to another.

I modified a safety and PPE training app for Vive 3 to be much more user friendly.

Also, I added functionality to an Unreal marketing application using Blueprint. I’ve set up Meta Quest 2’s to use Showtime VR for a portable network, which was less straightforward than expected. And I’ve modified and debugged various other applications, including an Android AR app, all of them using Unity.

And other jobs I can’t remember.

Environment: Unity, C#, Unreal, Blueprints

Core Maze (Perth, Australia) 2022-03 – Present

I invented a pair of algorithms for generating 2-D mazes. I have written a paper on them. I have published a **Unity Asset Store** library called **Core Maze**, which is the most powerful maze library I’ve seen. [(Click to see.)](https://assetstore.unity.com/packages/tools/utilities/core-maze-225869)

I can give you a copy if you want to assess my coding standards.

Environment: **Unity 2021**

Spree AB (Stockholm, remote) 2021-10 – 2021-11

I was contracted to develop a museum exhibit to be displayed in and about a town in northern Sweden.

Many years ago I worked at this company, which at the time was called Marotz AB. (See further on.)

Environment: **Unity 2020.3**

Nonlinear Solutions (Perth, Australia) 2021-05 – 2021-05

I was contracted to develop a proof-of-concept engineering tool to be displayed at an engineering expo for visualising and interacting with engineering equipment. It handles multiple sources of input, and automatically works out camera angles. It is modular such that new models can easily be added and the UI dynamically reflects that.

Environment: **Unity 2020.3**

## Everything else… (*mostly* ordered by latest start date, returned to some workplaces, some overlap)

I don’t remember all the projects I worked on. Those mentioned are notable projects or main tasks.

BatSoft (Perth, Australia) 2004-08 – Present

BatSoft is my own business name (sole-trader). I have been working on and off on a couple of projects:

* **Core Maze** is a **Unity Asset Store** project that generates 2-D mazes based on my own algorithm. Also, writing a paper to **publish my algorithm**.
* **BatSoft Library** is my personal Delphi library, now available on **GetIt**. It contains routines and libraries that I’ve found extremely useful in just about every Delphi project I’ve worked on over the years.
* **TreeNotes** was a very handy organisation tool. TreeNotes began as a MIDlet. When J2ME was not supported enough, I rewrote it in C# for WinMo 6, but then Microsoft discontinued WinMo.
* **Morp****h P****roto****col**. This is was an offshoot of TreeNotes as I needed a powerful but light application-level protocol that did not require web services being hosted on mobile phones. My marketing skills are somewhat lacking, but Morph became more powerful than I anticipated. There is a working proof of concept written in C#. I believe it could be ideal for IoT, but I don’t know how to get it out there.

Environment: **Unity 2017-2021**, Delphi XE5-10.4 using FireMonkey, unit testing, Subversion, GIT, Java (J2ME), Borland JBuilder, Eclipse, C# Visual Studio 2005/2010 (WinMo, Windows, Mono for Android)

Touchtech (Bunbury, remote) 2021-11 – 2022-05

Ported to Android a sat-nav software for use in *very* remote areas. (Meaning; no internet for Google Maps.)

Environment: Delphi 11

CompAdvantage (Perth, Australia) 2020-12 – 2021-04

Contracted to document the software architecture of a complex engineering calculation application called SeleXpress.

Environment: Delphi 10.4

Telstra Health (Perth, Australia) 2018-07 – 2019-11

I was hired to guide the modernisation of a rather successful patient management application (Communicare) that is over 20 years old and has grown into a Delphi and C# hybrid.

Environment: Delphi 2007, Visual Studio 2017

RMT (Perth, Australia) 2011-09 – 2014-10

I was back at RMT, this time adding modules to CADE and doing refactoring of the core codebase. Wrote a multi-process report conversion tool for upgrading reports, and applied upgrades to their reporting tool.

Environment: Delphi XE2-XE7 using VCL, Oracle, Subversion

Configurable Software Solutions (Perth, Australia) 2009-08 – 2016-01

* Mostly I have been maintaining the CPR application (Configurable Product Reporting).

CPR is a configurable data driven database application.

* Designed and developed HeartBeat to replace CPR. HeartBeat is an *extremely* configurable data driven database application.

Environment: Delphi 7/2009/2010 using VCL, Delphi XE5-10.1 using FireMonkey, Microsoft SQL Server, Subversion

Meercat (Perth, Australia) 2007-06 – 2008-06?

I was upgrading and maintaining existing products but also writing new ones to replace the old.

I remember one of them being a data extractor that generated files in 12 seconds instead of the 20+ minutes that the old one took.

Environment: Delphi 7, Oracle, XML

Fortescue Metals Group (Perth, Australia) 2007-11 – 2008-04

As the business analyst (not an IT job) working on FMG’s identity management (the flow and control of “person information” throughout the organisation), I researched the current state and, based on that, designed an identity management solution including procedures, provisioning rules, selecting an appropriate software solution for data migration, and so on. I finished off with writing the requirements and functional specification of a provisioning software solution that was going to be implemented by a 3rd party as part of the complete identity management solution.

Environment: MS Office, Visio,

RMT (Perth, Australia) 2006-12 – 2007-10

* Redesigned and rewrote parts of RMT’s report designer to make it (very much) more efficient and to extend its functionality and make it more user-friendly. (Minutes to 1-2 seconds.)
* Wrote a conversion tool for upgrading the reports. With the DBA we made it able to run in multiple instances cooperating in parallel to hasten conversion.
* Also made a new, lean report service to replace the old one, thereby ending a cycle of bugginess.

Environment: Delphi 5, Delphi 7, Oracle, Toad, Turtle, MS Office, Visio

Motorola (Perth, Australia) 2005-10 – 2006-04

On a distributed video encryption application for ISP’s, which was mostly written by the time I joined, I was assigned to be the test lead and release builder. Motorola Perth was in the process of acquiring a CMMi 5 qualification, and so had a very high standard of software development.

Environment: Java (J2SE), Eclipse, Unix (incl. scripting), ClearCase, Ant, Lumbermill, MS Office

XempleX (Perth, Australia) 2004-10 – 2005-10

Using the XempleX application, users design dataflow diagrams and then execute them. This tool makes it easy, and visual, for users to design data flows and do data crunching.

* My task was to enable the XempleX application to consume any Web Service. So, carefully adhering to W3C standards I built a modular library that implements WSDL, SOAP and to some extent XML Schema. Using this library, we made plug-in components and Wizards that enable users to select and use any web service they choose.
* I also wrote new Delphi variant types to enable the XempleX application to handle complex data.

Environment: Delphi 6, Delphi 2005, SOAP, WSDL, XML Schema, XML, MS Word.

Karjeni (Perth, Australia) 2004-08 – 2004-10

* I built an application which burns backups onto CD and sends a user entered summary to a central web service. The summary details, and thus the GUI for entering these details, are customisable from the web server.
* I built importer and exporter plug-ins with GUIs to use read/write tables in binary file formats.
* Blast Refinery is an application for examining mining blasts. I added forms for synchronised viewing of a diagram and high-speed video.

Environment: Delphi 5, Delphi 7, SQL Server.

RealTime Computing (Perth, Australia) 2004-07 – 2004-07

Continued on the decision system and the string generator projects developed in 2003.

Environment: Delphi 7, XML, SQL Server, MS Word, MS Visio.

eBsuccess (Hsinchu, Taiwan) 2003-09 – 2003-12

(Perth, Australia) 2004-01 – 2004-06

eBLoadtest is an application suite for load-testing web-servers. The suite consists of four applications. As senior architect I designed and implemented the core and built the application that runs it, plus an HTTP adaptor (plug-in module). The core is designed to be extendable so that new adaptors can easily be added. It makes heavy use of threads and collects measurements taken from these threads in an efficient way. The HTTP adaptor meant I had to implement parts of the HTTP protocol, cookie handling, HTML and other web related technologies.

Environment: Java (J2SE, Swing), JBuilder 9, HTTP, HTML, XML, MS Word, MS Visio.

RealTime Computing (Perth, Australia) 2002-11 – 2003-08

* Designed and implemented an editor and an evaluator\* for a decision system (ie. flowcharts). Highly modifiable using suites of plug-in packages.
* Designed and implemented an editor and an evaluator\* for a string generator (primarily XML). Highly modifiable using plug-in packages.
* Built a SOAP service to which I plugged in a ready-made quoting engine.
* Split an application developed using RAD into more manageable modules.

\* Whereas editors are used to create and edit documents that describe processes, evaluators execute these documents. By using plug-in packages and information files, I was able to make the applications truly modifiable, even during runtime. Since the evaluators in these projects were built into services, the ability to update during runtime may prove vital.

Environment: Delphi 7, XML, SQL Server, MS Word, MS Visio.

Marotz AB (New name: Spree AB) (Stockholm, Sweden) 1999-07 – 2002-05

I was a consultant at Marotz AB (now Synaptic AB) from 1999-07 to 2002-05 during which I worked both on in-house projects and as a consultant for Marotz AB at customer sites.

Marotz AB (Stockholm, Sweden) 2001-10 – 2002-04

* Built a course planning and booking system for the Marotz intranet using WebSnap.
* Built a web application intended as a public database of Swedish web services.
* Built a web service that does unit conversion.
* Composed a source library of Marotz code making both a VCL and a CLX version of it.
* Extended the source library with a Delphi code generation expert.
* Held workshops on WebSnap and OOP tips and tricks

Environment: Delphi 6, Interbase.

Marotz AB (Stockholm, Sweden) 2001-04 – 2002-05

On and off, I have been writing a detailed instruction book on Object Orientated Programming for Delphi ranging from the basics of OOP through to advanced tips and tricks.

Environment: Delphi 5 & 6, MS Word.

Fritidsresor (Marotz AB) (Stockholm, Sweden) 2001-09 – 2001-10

Modified a database and a set of smaller applications used for keeping statistics of travel habits.

Environment: Delphi 5, Interbase.

Iquity Systems (Marotz AB) (Stockholm, Sweden) 2001-05 – 2001-08

Marotz has helped build a suite of products for free call telephone advertising. I did maintenance work on these applications including GUI design, adding FTP functionality, debugging and enhancing. I also made two applications for testing server applications and proof read documentation.

Environment: Delphi 5.

Upplysnings Centralen (Marotz AB) (Stockholm, Sweden) 2000-12 – 2001-04

Made a tool for automating data conversion in the 2To1 project. The tool being developed converts an old database to COM objects and then saves the COM objects to an arbitrary database. I also worked on the application that is built upon the COM objects. The work on this project included implementing business rules, debugging, optimizing build process, exporting reports to MS Word, MS Excel, Bonanza and graphs.

Environment: Delphi 5, COM, SQL, MS Office.

EDS (Marotz AB) (Stockholm, Sweden) 2000-08 – 2000-11

Marotz was involved in a gradual upgrade of a multi-user database application for keeping track of Bostadsrättsföreningar that are members of Riksbyggen. I developed dynamic database access components with an event multiplexer component, forms and settings classes with a dynamic interface that made it very easy to add new properties using RTTI and documentation.

Environment: Delphi 5, SQL Server, ADO.

Geni Data (Marotz AB) (Stockholm, Sweden) 2000-08 – 2000-08

Marotz developed the customer documentation for Geni Data’s Point of Sale System. I assisted in translating Swedish documents to English.

Environment: MS Office.

Auto Diagnos (Marotz AB) (Stockholm, Sweden) 2000-06 – 2000-06

Auto Diagnos developed an instrument for diagnosing errors in car engines. Marotz has been involved in developing separate DLL and interface specifications, making it possible for the customer to connect the system with their own applications. I made a design analysis for a DLL interface used for a hardware device and produced two design specifications.

Environment: MS Office, Delphi 5.

Marotz AB (Stockholm, Sweden) 2000-06 – 2002-05

Between client projects I worked on a database application (KnowledgeBase) for holding code, examples, references, documentation, projects, etc. I also made components, controls, classes and other general code for the Marotz library to be used in KnowledgeBase.

Environment: Delphi 5, Interbase, Windows 98, TCP/IP.

McDonalds (Marotz AB) (Stockholm, Sweden) 1999-10 – 2000-08

I assisted in development of a scheduling and human resource application for the Swedish McDonald’s restaurants. I wrote technical documentation and made utilities and database handling more object oriented. I also developed database integrity and data validation modules.

Environment: Delphi 5, Interbase, Windows 98, LAN.

Marotz AB (Stockholm, Sweden) 1999-07 – 1999-10

Worked on design and development of a multi tier time reporting system. I built and maintained the client application for this system.

Environment: Delphi 4-5, Interbase, Windows NT, Windows 95 & 98, LAN, Internet, TCP/IP.

Bunnings, Execom, Romteck… (Perth, Australia) 1996-09 – 1999-05

Software development and Delphi advisor.