

A Short History Since High School

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University of Waterloo

After graduating from Erindale Secondary School, I attended the University of Waterloo for Electrical Engineering. It was a co-op program so it actually took four years and eight months. While a lot of the early years are lock-step coursework, in the latter years I was focusing on electronics and control, with a final project on motion-feedback loudspeakers to achieve a flattened frequency response. All this was before personal computers, so we were using a lot of W words like widget, wits, watfiv and wylbur on big mainframes and little PDP-11 systems. While there, I bought a vandalized Harley, fixed it up and drove it around... when it would start. I did learn a lot while I was at Waterloo, but mostly how to stay on the leading edge of a grading bell curve.

Noob

My first job was with a company called Moore & Gentry Engineering in Rexdale, which had the advantage that I could live at home. While there, I was working on varied projects such as maintenance of steel galvanizing lines, refurbishing the telescopes at the top of the CN Tower and making bed-of-nails electronic test harnesses. One of the most interesting projects was making a battery replacement that fit in the space a battery was supposed to fit, using a flexible PC board that rolled up into a cylinder. Due to poor management, the company struggled financially and I started searching for a new job.

I chanced on an opening with Transyt, a company in downtown Toronto that was working on the Metro Toronto Traffic system. I moved downtown to Gerrard Street to avoid the commute. The project involved embedded processors at intersections talking to Perkin Elmer mini computers at the north end of the city and I was tasked with final software revisions and electronic noise reduction. As that project wound up, I worked on a prototype banking system in Pascal on one of the early precursors to the PC revolution, where you had to load the bootstrap program using the front panel keys.

University of Toronto

I went back to graduate school at the University of Toronto, in the Biomedical Engineering program. There I met my wife Jacqueline, but otherwise wasted my time because there are few opportunities in that field in Canada. I did learn a fair amount of math as a teaching assistant - you really only learn something when you have to teach somebody else - and a lot about medical image processing. My thesis project was related to reconstructing three dimensional cell structure from electron micrographs taken at various angles. When I finished up at U of T, the PC revolution was in full swing.

Middle Years

I then landed a job with a startup company called Electro-Mechanical Systems Technology (EMST) in Oakville. The company was developing PC controlled welding robots to refurbish railway car couplers. It fostered a penchant for arcs and sparks because the robot used a MIG welder - which I had slyly powered from the lighting circuits of the warehouse next to us. I got to work on my first PC there, an IBM AT with a whopping 10MB hard drive and secondary high resolution (720x348) Hercules graphics card. I learned AutoCAD inside and out and was a founding member of the Toronto Region AutoCAD Exchange (TRACE) user group. I mention this because it is the beginning of my association with Autodesk and when EMST foundered, I had acquired the skill set for my own company.

Nexsys

Nexsys was my company which was an AutoCAD third party developer but it did all sorts of other stuff; like AutoCAD customization, digitizing, database development, porting FORTRAN, AutoLisp training, Novell network installation and support, PC repair, and pretty much anything that came along. Jackie and I did this for about nine years servicing the mining, architectural, civil and manufacturing sectors. We had many products which we sold internationally, but we never hit the big lucre - this was before the internet. For a couple of terms I taught an electronics course at Sheridan College - again learning by teaching - but stopped that when I calculated the dollar return on time invested. Our daughters, Samantha and Alexandra, were born and we moved to Ayr during this time. In the later years, our specialty was scanning and digitizing software and services. We had a pretty good product, called Rasterworks, which among other things, would allow heads up digitizing in AutoCAD with large format scanned images and would vectorize linework automatically.

With Jackie minding the kids and one of those cyclical downturns, eventually I was back down to one employee - me - and I stopped fighting the quixotic lone programmer fight and sold the company to our biggest customer, an AutoCAD reseller in Ottawa called Tern Solutions. I worked for them for a while, but the partners had a disagreement and the company ceased active operations, so I had to look for another job.

Vision*

I got a job with Vision*, which was the division of Systemhouse that did Geospatial Information Systems. I worked on client-server systems with Sun and HP servers and PC clients. Most of my work used Java and Oracle and they had a habit of sending developers into the field, so besides the U.S., I got to go to Japan and Australia. The first time I installed Oracle was a bit traumatic. It was in front of a Japanese client, on a Japanese UNIX system. They would read and translate and I would tell them what it meant and what to do. It was all good in the end. Eventually, Systemhouse was purchased by MCI Communications Corporation, MCI was bought by EDS, then EDS was bought by Worldcom and when Worldcom went bankrupt it sold the GIS division to Autodesk. So, sitting at the same desk, in the space of about a year, I worked for five companies - try explaining that to Revenue Canada who always want to deduct the maximum CPP (Canada Pension Plan) and Unemployment Insurance amounts as part of your

first paycheck.

Autodesk

Autodesk was pretty good to me for fourteen years. I managed to survive four reductions in force and switched from engineering to consulting, to product design and back to global services.

In the engineering group I worked on a lot of projects that never saw the light of day, but I did work on some FDO providers that are now open sourced - so yes, you can blame me for the SHP and ArcSDE providers. The work I did with Autodesk Consulting was very interesting, but I struggled mightily and felt ineffective when pre-inventing features & enhancements and working around defects because of the annual product release cycle.

I really liked the Topobase product (although I'm obviously biased I think it was the best GIS platform in the world) so I applied for a job in Switzerland to work with the Topobase team. It didn't work out entirely as planned, because the guy I came to work for was laid off just months after I arrived. At the time it looked like software development was being relocated overseas, so I jumped out of development and reinvented myself as a product designer. The design rules system in the Utility Design product has some of my work.

I moved back to global services, first as a data management consultant and then in the service offerings group. Very few actually retire from Autodesk - I didn't survive the fifth reduction in force.

9code

We're currently back in software and consulting, having started 9code GmbH in 2014. The company focuses on big data for electric distribution companies. It combines a very long history of software development with even more ancient roots in electrical engineering. The software stack is Scala programs running in Apache Spark to convert huge CIM files of raw electrical network data and Cassandra databases of meter reading time series into useful engineering information. With renewables and storage transforming the network, it's a rewarding business to be in.