Michael Riddle

Software Engineer & Founder of Evolution Computing

"I want to render full photorealistic, picture-perfect scenes...in 1/30th of a second."(1) Such a statement does not sound unreasonable, after all we are living in an age of photo-real computer graphics, 4k ultra-smooth video games and 90 fps virtual reality rendered imagery. The thing is, this is a statement from a man who goes by the name of Michael Riddle; a very talented software engineer whose work has had an incredible yet often unnoticed impact in today's society. However, the most interesting thing about this statement is that it was made not during the early 2000s, not during the 1990s or the 1980s, but during the late 1970s. During this time, Riddle, a young and budding software engineer, would lay down the building blocks for the software architecture behind the world famous AutoCAD software package. AutoCAD has enabled incredible advancements in modern design and architecture - from blueprints of buildings and bridges, to designs for computer chips and jewellery.

Riddle developed his very first CAD (Computer Aided Design) program in the 1970s on a 16-bit processor with 64k of addressable space, most of which was taken up by the computer's operating system. He didn't like it. He started again. A true innovator at heart, Riddle continued development from the ground up and after 2 years he would release his first CAD program 'Interact' for the Marinchip 9900 in 1979. I consider him a true genius - he not only engineered an incredible piece of software ahead of his time, but he even wrote his own high-level language compiler when available ones at the time didn't suit his needs. He was literally inventing the tools he needed as he went along - something I consider very admirable. Later in his life, Michael Riddle would go on to write "7 generations of CAD programs, each time refining the architecture of the program" (2) from the ground up. This constant determination to renew and improve his code and system's design is a major reason for his success as a software programmer.

All was to change for Michael in the early 1980s, when he was introduced to a man called John Walker, by the guy who had built his computer. Walker was also an experienced programmer, with a strong track record of projects behind him. He is notably known for developing one of the first computer viruses 'ANIMAL' and founding the hardware integration manufacturing company Marinchip. Riddle was offered $8,000 US Dollars at the time for the source code of 'Interact', yet he turned down the offer and demanded $15,000. His entrepreneurial spirit won the battle when Walker eventually relented and paid up the full 15 grand (which comes to roughly

€35,000 in today's money) as well as promising Riddle 10% of the sales from products derived from his code. This was a wise move, as Riddle later made millions back in profit, many multiples of the original sum he was paid. An interesting stipulation of the deal was that Riddle would maintain the rights to continue developing similar (and even rival) CAD applications. John Walker setup the company Autodesk in 1982 and renamed the product from 'Interact' to 'AutoCAD'.

I find Riddle inspiring due to his ability to think ahead of his time. I was fascinated after stumbling across one of his blog posts from 2009 on his website. Under the heading "Why does good software take so long to build?" he writes "To this day, this ability is what I most value about the internet – I can actively involve our clients in the design of the tools we are making."(3) Here we can see his admiration of the agile approach to developing software, an approach I'm highly convinced he used during his early programming days. He describes the process back then as much slower - "Originally, sending floppy disks around the world resulted in a two or three week feedback loop."(3) In 1985, his own company 'Evolution Computing' introduced one of the first CAD programs for DOS which cost under $500. This was revolutionary at the time - such software was highly specialised and only available at a high price range. On their website his company state that the program "set new standards in ease of use and ease of learning in a field not then known for these attributes"(4). Now that is what I call innovation. In 1987, his company produced the "world's first microcomputer CAD program written entirely in assembly language"(4) titled FastCAD, for the DOS operating system. Riddle claimed it was "inspired by my first Apple Macintosh" and that it featured "pull-down menus, icons, and dialog boxes, years before the introduction of the first version of Microsoft Windows"(2).

I find it fascinating - Riddle could have become complacent, accepted the large paycheque and then sat back and taken up a comfortable software engineering job at any one of the next big upcoming companies at the time. However he continued to persist and push the boundaries of computing and design in CAD applications. Riddle was nominated as a finalist for the 1992 Design News "Engineer of the Year"(2) award. In 1999, Engineering News-Record listed him in their list of "Top 125 people in the construction industry in the last 125 years"(2) which is ironic, considering his excellence was technically in his software engineering abilities. His work went far beyond the engineering of CAD applications - he even fought for the ability of different CAD programs to work alongside one another. He claims that he "spent several years working with the Open Design Alliance to further CAD interoperability". All with the purpose of further developing industry tools for the good of their users. An interesting fact about Riddle is that before the days of

'Interact' he had developed an electronic guitar tuner which became wildly successful. He sold the rights to its design for $10,000 and it soon became a major product with millions of sales all over the world. It's a reminder that a software engineer's creativity is never limited to her or his keyboard.

Michael Riddle's work truly left an impact and surviving legacy on this world. He proved himself to be a true innovator and an inspirational software engineer, whom I admire greatly.

References:

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