

What is the History of TrueType? (C) 1997 -

By: David K. Every

A long long time ago, in a Valley not so far away, there lived a company. This company was Apple. Apple had just completed the world's easiest to use computer. The computer had many things that no small computers had had before -- one of these was built-in Networking. Why networking? Well sharing information in groups was important, but some peripherals were also very expensive. One of the most expensive of these was something else Apple was the first to release, a PostScript Laser Printer.

A PostScript Laser Printer was going to cost \$6000 a pop. Ouch! Sharing this device would create the "Mac-Office" (ever wonder where Microsoft got the name for Microsoft Office?). Sharing this printer would share the costs over 8 or 10 people. This made it much more cost-effective. The laser printer was still going to be a hard sale, but it was also going to be a success -- because it could do so much for users. The Mac and a laser printer actually started the whole concept of Desktop Publishing. It revolutionized the way many people dealt with the printed (or unprinted) page. But I am getting ahead of myself.

Adobe

Apple could easily have created their own scripting and printing technology for the laser printer and in fact this path was explored with a project (later) code-named QuickScript. QuickScript was a zombie project that kept coming back from the dead. Apple had already done QuickDraw, and QuickScript was just a way to extend this for printers. But a group of people that had broken away from Xerox were also trying to create a universal printing language called [PostScript](#). This company called themselves Adobe, because of the founders lived near "Adobe Creek". Apple saw that their work was good, and decided to become one of the early investors in the company and its technology.

Adobe was going to market this new language for many devices and make it a universal printing standard, and that was much broader a goal than Apple's QuickScript. Since Apple used standards whenever possible, they signed on with Adobe and PostScript.

The idea was a success, and PostScript not only ballooned, it literally exploded in growth. By 5 years or so later it was **THE** standard way to communicate to high-end pre-press devices. But the little company that was Adobe had grown -- as had their egos. Adobe was now getting **very** arrogant. Where their original goals were to expand printing and be very open, their development and ideas were now becoming more closed and keeping their standards more proprietary. This is how it is for a lot of software companies -- when they are small, they want to share, be open and grow. Once they become large (or the largest), they no longer want to share because competition does not mean growth, it can only mean shrinkage (of marketshare) -- they want it all for themselves.

When Adobe created PostScript they built two font technologies for it: Type-1 and Type-3 fonts. The Type-3 font standard was public and anybody could use it. Type-1 fonts were better and were reserved only for Adobe and their extortees. Type-1 used a technique called "hinting" to make the font look much clearer at smaller sizes. Adobe was using their new found muscle to crush the smaller guys, and basically was trying muscle out the competition. It was not very nice of them.

TrueType (the early years)

Apple tried to deal with the smaller company with the larger ego, and compared to Apple's ego, that says a lot. But Adobe would not play ball and so QuickScript was revived again. Apple decided that if Adobe was not going to play nice any more, then Apple was going to have to create their own printer script and their own font technology.

So Apple created TrueType (the font foundation of what was later to become [QuickDrawGX](#)), and it was much better than Adobe's font technologies. Instead of being a stream of cryptic codes (PostScript and its font technology), TT had well-organized tables with easy look-ups. Instead of having cryptic and proprietary hinting, TT had plug-in hinting and open structures. TT also had much more capability to expand -- with greater character support and nice printing features like Glyphs, Ligatures, other writing systems and more. It was prepared to be an open standard. TT fonts had the capability to be "resolution independent" so users could set the font to any size, and have the font rendered cleanly, quickly and without being blocky. Basically Apple beat Adobe at their own game.

Now you can't have a standard if no one else is using it. In strolls Microsoft. MS was working on their own cheap and hacky (what else is new) version of resolution independent fonts, and they were not doing very well. Apple was already releasing TrueType, and MS desperately needed to play catch-up again. They decided to license TrueType from Apple, and as part of the agreement they were to give Apple a PostScript Clone renderer (rasterizer) that MS called TrueImage (or some such). It later turned out that Microsoft's rasterizer was so bad that it was unusable for either Apple or Microsoft, and it died a quick and painful death. But that didn't matter because Microsoft had gotten TrueType.

Microsoft does not believe in using standards very often. They believe in making all their stuff a little different, and to change things constantly so that people have to keep coming back to Microsoft. TrueType was no different. It was completed, it was working (on the Mac), and it was standard. So MS changed it a bit. This way the fonts would be a little different on Macs and PC's, and MS's versions would be a little quirky. Microsoft also convinced the bleating masses of PC users that MS had something to do with TrueType other than licensing it from Apple. MS convinced many that they had created a technology when in fact they had really just bought it. Of course, this was better than their usual method, which was simply to steal.

The egomaniacal Adobe was instantly humbled. They saw that Apple had created a font technology that was better than theirs (and MS was using it). Apple was being Open and was going to kick Adobe's butt, and suddenly Adobe got a conscience and realized the errors of their evil, closed, proprietary, extorting, Microsoft-like ways. They "opened-up" Type-1 fonts and made them an available format -- the fees for Type-1 and Postscript dropped (substantially). Adobe became the new nice Adobe, because Apple had the upper hand and they had no choice. Many people don't even remember the Evil Adobe that existed for a few years there -- and no one thanks Apple for forcing open-standards. But such is the life of Apple.

QuickDrawGX

Apple is full of techno-weenies and computer artists. They are not content to rest on their laurels and leave great-enough alone. They had partially finished QuickScript for the 4th time, and had TrueType fonts working -- but they wanted to create the next killer imaging system. It had to be way cool, and full of neat technologies. It was going to be object-based. This time they got enough funding, got far enough along, and finished QuickDrawGX, and the even better GX-Font technology.

QuickDraw GX rocked the graphics imaging world as far as its capabilities were concerned. It didn't just beat the competition, it blew it out of the water. However, there were mistakes as well:

- GX used a different type of buffering that was more efficient if every App was using GX (and was updated), but Apple couldn't get everyone to update. So using half-GX and half traditional QuickDraw caused space inefficiency (i.e. it was a memory pig). GX itself was not **the** problem -- it was GX with traditional QuickDraw that was a problem. But it gave GX a bad name.
- Apple also decided to start charging for their operating system and upgrades (to tap into that revenue stream that MS was making bazillions of dollars off of); before this time Apple was giving away the OS and upgrades for free. And to that end GX started out as a sold component. That alone meant that it was not ubiquitous, and so there wasn't enough installed base to justify application development costs.
- Apple also pigheadedly would not license this imaging technology to the PC side. So any application writers would have to have two separate versions of their programs -- the Mac versions, and others.
- But the biggest nail in the GX coffin was Adobe. Adobe owned Illustrator and Photoshop and had bought Aldus (and PageMaker). They had the power of the Software, and also controlled the supply of many fonts. They refused to support GX because it was better than PostScript and PostScript revenue streams might diminish. So screw their users, screw functionality, this was about big bucks. Adobe effectively blocked GX by refusing to support it.

Apple is getting smarter, and GX has been revamped a bit. It is a separate DLL now, and works cross platform. GX is going to get one more shot at life (if Apple wants). If they can include GX as part of QuickTime and with QuickDraw3D, then it stands a much better chance of success. It would certainly be better for users than other imaging systems, but we'll have to wait and see on this one. Apple has not been really fast about doing anything with GX. Also GX enables some capabilities for distribution of graphics across the internet that are just unparalleled. It has some awesome capabilities (graphics are small and versatile and resolution independent). But GX has also fallen out of favor in Apple -- many of the bigger boys at Apple today are from NeXT and they can't seem to get over their biases. The jury is still out, and we'll really see what is going to happen in the next few months.

OpenType

Microsoft and Adobe have now released a new unified font technology of their own called "[OpenType](#)". What is it? Why it is a cheap copy of Apple's TrueType based GX Fonts, with some proprietary stuff thrown in. Odds are it's a marketing ploy and a way for Adobe and Microsoft to deliver an inferior copy of something Apple started developing 10 years ago. Worse than ripping off Apple's font and imaging technology, Microsoft and Adobe did it in such a way as to guarantee that it is incompatible with QuickDrawGX. This is more about power and control than delivery of good technology or helping users. We will have to wait and see where this goes, but for now OpenType is a poor copy of something that the Mac has already had for many years.

To add insult to injury OpenType is called "open", yet it has far more closed systems with regard to rendering and font design than GX-Fonts. So OpenType is not "open", as compared to GX-Fonts. OpenType is more a way for Microsoft and Adobe to respond to GX, and to control more, close down individuality, creativity and the versatility of fonts. GX-Fonts are still far superior in multi-language environments as well - more "open" internationally. But it's about image, not functionality. Adobe and Microsoft now get to market OpenType, pretend that it is something that they created (when they really ripped it off). They also get to rake in the profits and close down the competition while convincing many that they did something good when they in fact harmed the industry with a closed-standard that they call "OpenType".