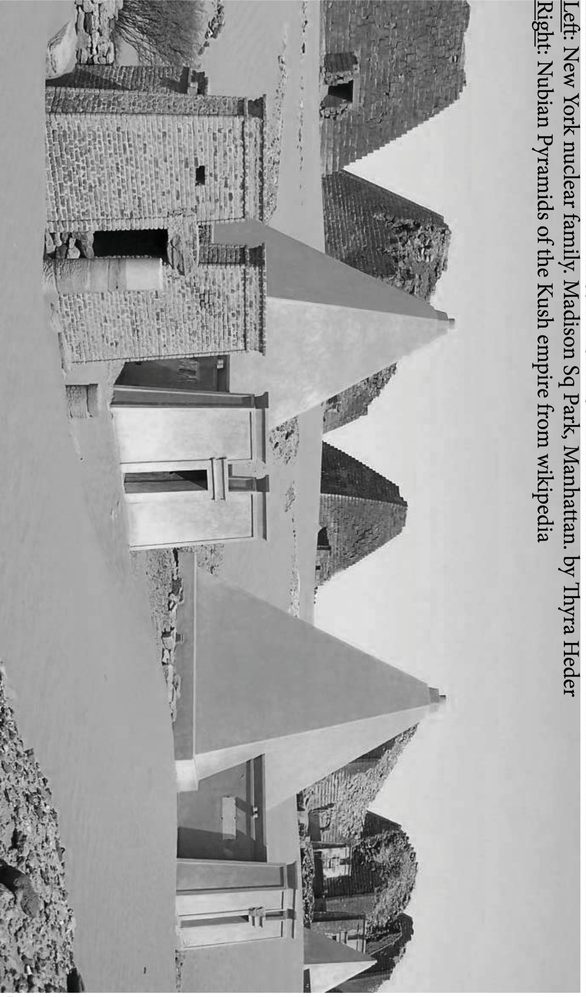
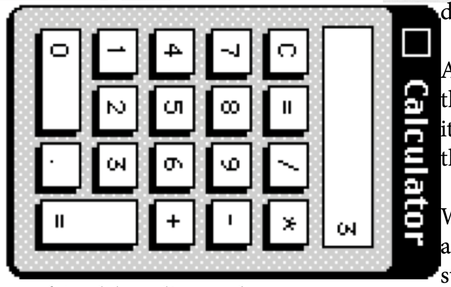


Left: New York nuclear family. Madison Sq Park, Manhattan. by Thyra Heder
Right: Nubian Pyramids of the Kush empire from wikipedia



Calculator Construction Set, by Andy Hertzfeldt on folklore.org

Chris Espinosa was one of Apple's earliest and youngest employees, who started work for the company at the ripe age of 14. He left Apple in 1978 to go to college at UC Berkeley, but he continued to do freelance work during the school year, like writing the Apple II Reference Manual, the replacement for the legendary "Red Book".

In the summer of 1981, Steve Jobs convinced Chris to drop out of school to come work on the Mac team full time, arguing that he could go back to school anytime, but there'd only be one chance to help shape the Macintosh. Chris dropped out of school to become the manager of documentation for the Macintosh, starting in August 1981.

We needed technical documentation right away, since we planned to seed third party developer in only a few months. Since the most important part of the Macintosh software was the Quickdraw graphics package, Chris decided to start with documenting Quickdraw.

Chris wanted to write a demo program using Quickdraw, in order to better understand it. He got excited about the idea of what we called "desk ornaments", which at that point were not implemented yet. He decided to work on a Quickdraw program to draw the calculator.

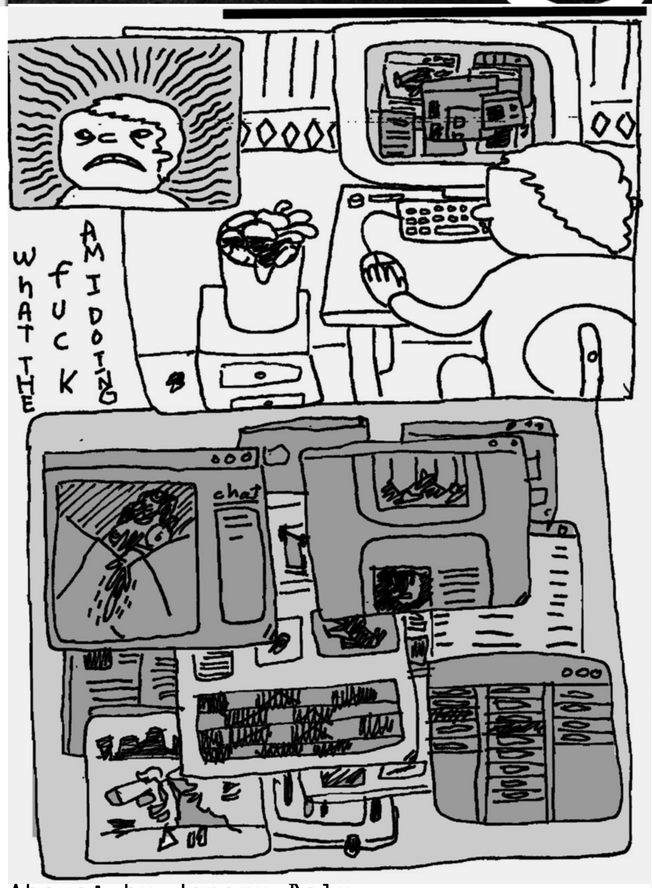
After playing around for a while, he came up with a calculator that he thought looked pretty good. But the acid test was showing it to Steve Jobs, in his role as our esthetic compass, to see what he thought.

We all gathered around as Chris showed the calculator to Steve and then held his breath, waiting for Steve's reaction. "Well, it's a start", Steve said, "but basically, it stinks. The background color is too dark, some lines are the wrong thickness, and the buttons are too big." Chris told Steve he'll keep changing it, until Steve thought he got it right.

So, for a couple of days, Chris would incorporate Steve's suggestions from the previous day, but Steve would continue to find new faults each time he was shown it. Finally, Chris got a flash of inspiration.

The next afternoon, instead of a new iteration of the calculator, Chris unveiled his new approach, which he called "the Steve Jobs Roll Your Own Calculator Construction Set". Every decision regarding graphical attributes of the calculator were parameterized by pull-down menus. You could select line thicknesses, button sizes, background patterns, etc.

Steve took a look at the new program, and immediately started fiddling with the parameters. After trying out alternatives for ten minutes or so, he settled on something that he liked. When I implemented the calculator UI (Donn Denman did the math semantics) for real a few months later, I used Steve's design, and it remained the standard calculator on the Macintosh for many years, all the way up through OS 9.



Above: by Jeremy Daly

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