Folklore.org: The Macintosh Spirit

The original Macintosh was designed by a small team that worked long hours with a passionate, almost messianic fervor, inculcated by our leader, Steve Jobs, and the excitement that we felt during its creation shines through in the finished product. The attitudes, values and personalities of the designers are reflected in the thousands of subtle choices that they make in the course of their design, coalescing into a spirit or feeling imparted to its users.

We were excited because we thought we had a chance to do something extraordinary. Most technology development is incremental, but every once in a while there's an opportunity to make a quantum leap to a whole new level. A few years earlier, the Apple II and other pioneering systems made computing affordable to individuals, but they were still much too hard for most people to use. We felt that the Mac's graphical user interface had the potential to make computing enjoyable to non-technical users for the very first time, potentially improving the lives of millions of users.

As soon as he seized the reins from Jef Raskin in January 1981, Steve Jobs galvanized the Macintosh team with an extreme sense of urgency. One of his first acts as head of the project was to bet John Couch, the executive in charge of the Lisa Division, $5000 that the Macintosh would beat the Lisa to market, despite the fact that Lisa had more than a two year head start, and we had barely begun. The Mac team always had incredibly optimistic schedules, because Steve would never be satisfied with more realistic estimates (see Reality Distortion Field), as if he could make it happen faster through sheer force of will.

But the desire to ship quickly was counterbalanced by a demanding, comprehensive perfectionism. Most commercial projects are driven by commercial values, where the goal is to maximize profits by outperforming your competition. In contrast, the Macintosh was driven more by artistic values, oblivious to competition, where the goal was to be transcendently brilliant and insanely great. We wanted the Macintosh to be a technical and artistic tour-de-force that pushed the state of the art in every conceivable dimension. No detail was too small to matter (see PC Board Esthetics), and good enough wasn't good enough - if Steve could perceive it, it had to be great.

Steve encouraged the Mac designers to think of ourselves as artists. In the spring of 1982, he took the entire Mac team on a field trip to a Louis Comfort Tiffany exhibition in San Francisco, because Tiffany was an artist who was able to mass produce his work, as we aspired to do. Steve even had us individually sign the interior of the Macintosh case, like artists signing their work (see Signing Party), encouraging each one of us to feel personally responsible for the quality of the product.

Other groups at Apple had an elaborate formal product development process, mandating lengthy product requirement documents and engineering specifications before implementation commenced. In contrast, the Mac team favored a more creative, flexible, incremental approach of successively refining prototypes. Burrell Smith developed a unique hardware design style based on programmable array logic chips (PAL chips), which enabled him to make changes much faster than traditional techniques allowed, almost with the fluidity of software. Instead of arguing about new software ideas, we actually tried them out by writing quick prototypes, keeping the ideas that worked best and discarding the others (see Busy Being Born). We always had something running that represented our best thinking at the time.

You might think that impossible schedules and uncompromising perfectionism would lead to an oppressive work environment, but most of the time, the ambiance of the Mac team was spontaneous, enthusiastic and irreverent. Jef Raskin had a playful management style, encouraging a workplace teeming with toys and semi-organized games (see Good Earth), which carried over to the Jobs era. Most of the early team members were around the same age, in our mid-twenties, and we enjoyed each other's company. We increasingly hung out together as the project demanded ever greater chunks of our time, abandoning the distinction between work and play. Despite the incessant pressure, we loved what we were doing.

Given Steve's autocratic tendencies, the Mac team was surprisingly egalitarian. Unlike other parts of Apple, which were becoming more conservative and bureaucratic as the company grew, the early Mac team was organized more like a start-up company. We eschewed formal structure and hierarchy, in favor of a flat meritocracy with minimal managerial oversight, like the band of revolutionaries we aspired to be. Steve Jobs would sometimes issue an unreasonable edict or veto something that everyone else wanted, but at least he would relent when he saw he was wrong (see Quick, Hide In This Closet!). At our third retreat in January 1983, Steve reinforced our rebel spirit, which was waning as the team grew larger, by telling us "it's better to be a pirate than join the navy" (see Pirate Flag).

Enthusiasm is contagious, and a product that is fun to create is much more likely to be fun to use. The urgency, ambition, passion for excellence, artistic pride and irreverent humor of the original Macintosh team infused the product and energized a generation of developers and customers with the Macintosh spirit, which continues to inspire more than twenty years later.

Bill Atkinson had the foresight to document the creation of the Lisa User Interface by keeping a polaroid camera near his computer, taking a

snapshot of each significant milestone (see [Busy Being Born](#)). Although we didn't systematically save pictures of key Mac milestones, I've managed to cobble together a few seminal Macintosh screenshots to present here in a similar fashion.

You can click on an image to see a larger version of it, and use the back button to return to the story.
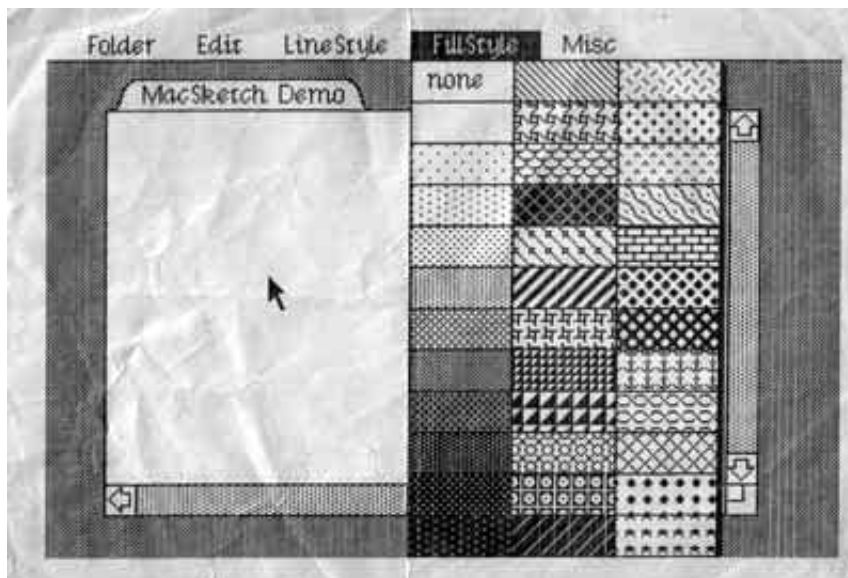
Bud Tribble had a tendency to work late at night. I usually came to work at Texaco Towers around 10:30AM, so if Bud was there when I arrived, it usually meant that he had spent all night there. One morning, in the middle of May 1981, when I arrived at my usual time, Bud was anxious to show me something before I could even take off my backpack.

I knew that Bud had been working on the initial porting of QuickDraw to the Macintosh, but I thought that he was at least a week away from getting it running. At this point, we had some cursor routines going, and a way to download and execute Pascal programs that were compiled on a Lisa, attached to the Mac by a serial cable. But we didn't have a memory

manager yet, or an event manager or file system, so Bud had to build scaffolding in various places to overcome these limitations. He had compiled a bitmap drawing program that Bill wrote in Pascal for Lisa, then linked it with LisaGraf and other library routines, and started to debug it, fixing each problem as it manifested.

Bud had made a huge amount of progress the previous evening, and the demo was substantially running now. It was incredibly exciting to see Mac-like software running on the Mac for the very first time. The demo featured working pull-down menus, complete with a nicer style of drop shadow than the Lisa was using, and an elaborate, graphical pattern menu, which is illustrated in the screenshot above.

Xerox aficionados will note the use of Cream 12 as our first system font, which was the default font used by SmallTalk, that Bill had converted to the Lisagraf font format. The window title bar was a folder tab, because we were still confused about the difference between folders and documents. The demo already had scroll bars and a grow box that is pretty similar to what we ended up shipping with, although you couldn't interact with them yet. In fact, the only part of the program that actually did something was the "Quit" command.

In April, I had written some screen printing code, that dumped whatever was on the display out the serial port to a dot matrix printer. Since the Mac screen was rather small, I added a feature to print it at double size, so it mostly filled a page. I used that to print the display of Bud's demo, with the impressive graphical pattern menu pulled down, on the very day that Bud got it working, and that's what is reproduced above.
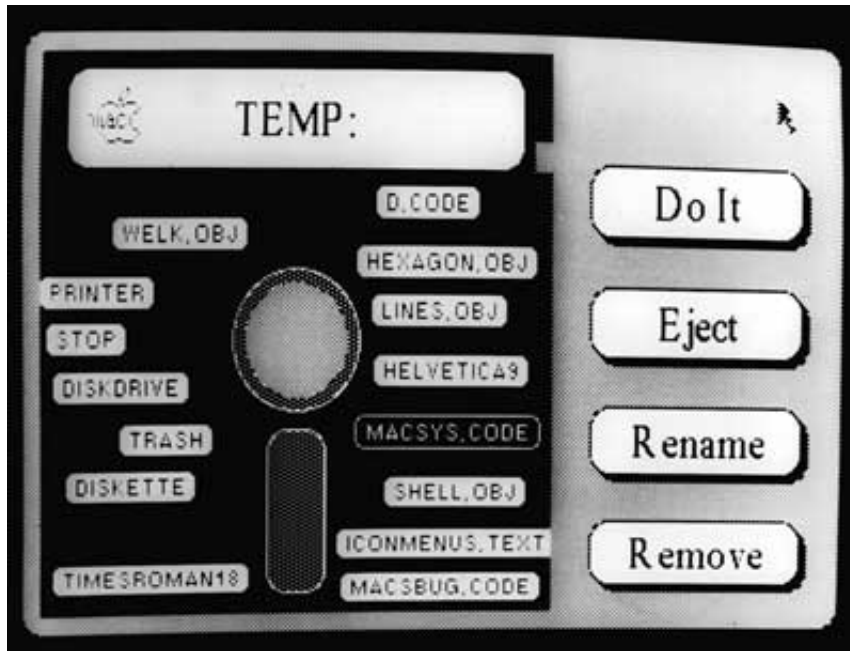
Bruce Horn joined the Mac team in late 1981 (see [Joining The Mac Group](#)), with the charter to write a graphical shell that we were calling the "Finder", since it helped the user find applications and documents to launch. We were influenced by ideas from the Architecture Machine group at MIT (a predecessor to the better known Media Lab) as portrayed in a program called "DataLand" that allowed users to manipulate graphical objects in spacial arrangements. Bruce was excited about spacial data management and his first assignment was to write a prototype to explore how it could work on the Mac.

Bruce came up with the idea of representing files as small tabs superimposed on an image of a floppy disk. He wrote a prototype that he called "the micro-finder", which is pictured above. I started helping him implement various parts of it, and pretty soon it was actually useful. You could drag the file tabs to position them, and click on the large buttons on the right to launch programs or rename and delete files. We used the micro-finder through most of 1982 for demoing the Mac until the real Finder started becoming usable around the end of the year.

After the micro-finder, Bruce also worked on another prototype that included folders in a two-pane view (Bruce thinks he can eventually dig up a picture of it; if he does I'll include it here). Meanwhile, Bill Atkinson was crafting an icon-based file manager prototype for Lisa (see Rosing's Rascals), and eventually we decided to follow that direction for the Macintosh.
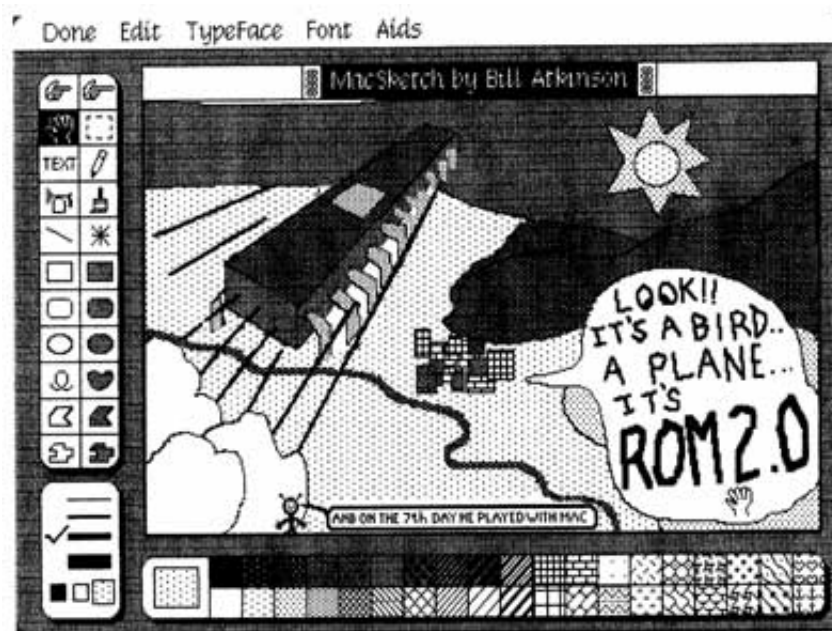
Here is a very early version of MacPaint, probably from March 1983, after Bill had been working on it for around one month. The first thing to notice is that it wasn't called "MacPaint" yet - it still bore its original name, "MacSketch", inherited from its predecessor, LisaSketch.

This early version uses icons designed by Bill himself, before Susan Kare got a chance to tweak them. And some of the most important MacPaint tools like the paint bucket and the lasso are still months away from being implemented.

MacPaint contained a menu of miscellaneous tools, like Fat Bits, originally

called the "Aids" menu, as you can see above. But in the summer of 1983, with public awareness of the AIDS epidemic beginning to swell, Bill rechristened it the "Goodies" menu.

It's interesting to note the window highlighting decorations, which are quite different than what we ended up with. We must have tried dozens of different ways to highlight windows before arriving at the horizontal lines in August 1983.

The featured MacPaint document was drawn late one night by Steve Capps, to celebrate one of our ROM releases; he also saved and scanned the document for inclusion here.
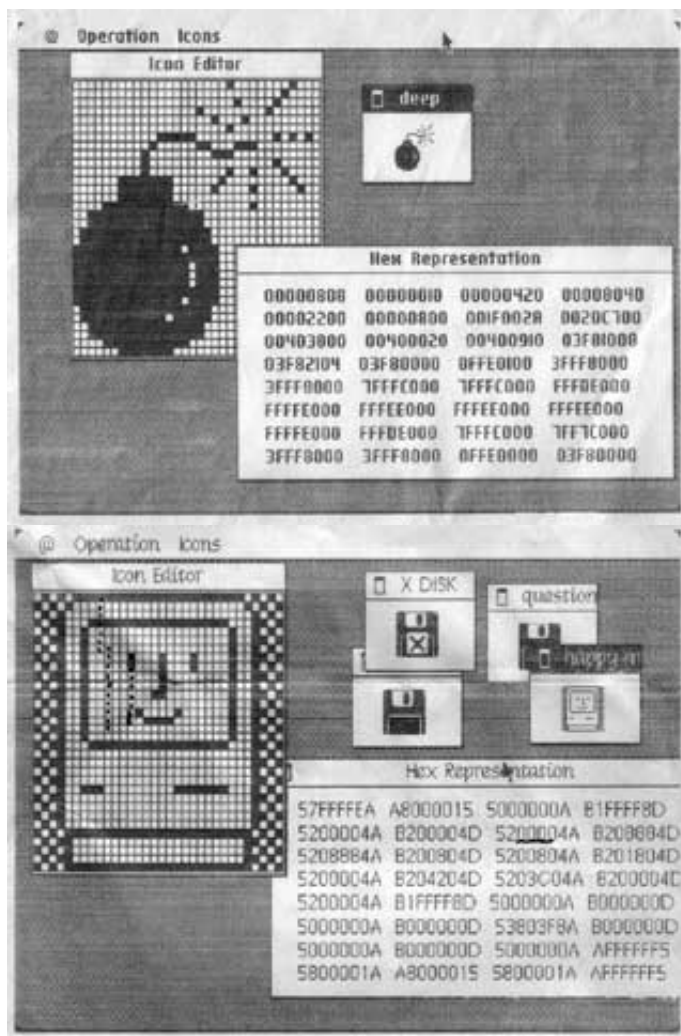
In early 1983, I wrote an icon editor based on Bill Atkinson's "Fat Bits" pixel editing techniques that Susan Kare used to craft most of the early Mac icons. The icon editor displayed both a large and actual size representation of the icon, and allowed editing multiple icons at once. I needed a way to incorporate the icons into the ROM, so I added a feature called the "Hex Window", that displayed the representation of the current icon in hexadecimal, which is what I needed to add the icons to the Mac ROM source code. The screen
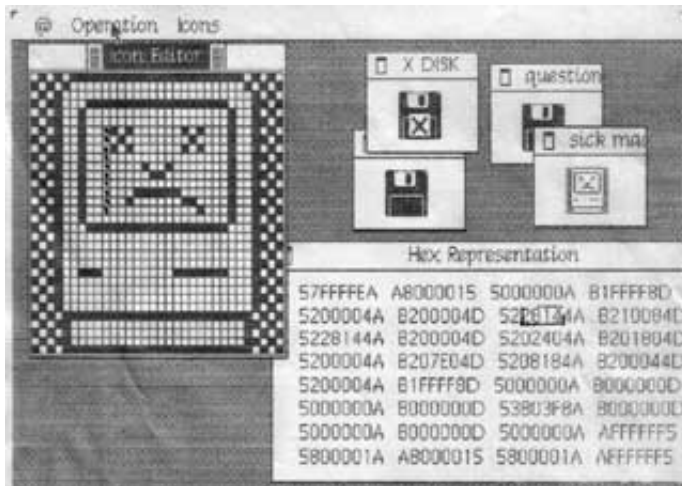
dumps on the left are the actual ones used to enter some famous Mac icons into ROM, like the bomb and the happy Mac.

Note that the name on the window containing the bomb icon is "Deep". That's the first word of the original name of the code that displayed the dreaded bomb icon on the screen. Originally the code had an obscene name, with the API calls prefixed with "DS". Jerome came up with various euphemisms for it, like the "Deep Sauce" manager evolving into the "Dire Straights" manager, eventually settling on the more prosaic "System Error" manager.