

Susan Kare: Design Icon

by Eric S. Hintz, PhD

Historian, Lemelson Center for the Study of Invention and Innovation
National Museum of American History, Smithsonian Institution

hintze@si.edu

SHOT SIGCIS – Works in Progress Session

Albuquerque, NM

October 11, 2015

DEAR COLLEAGUES: Thanks for reading this work-in-progress! I'm a SIGCIS rookie and relatively new to the history of computing. Thus, in terms of feedback, I'd appreciate a) some sense of whether this proposed article would have any traction within the scholarly/SIGCIS community and b) some help situating the story within the relevant secondary literature and historiography. Finally, given the largely non-archival sources I had to work with, I wrote this up more like a magazine feature (vs. scholarly article) so I'd also appreciate c) any suggestions for appropriate journals and publication venues. P.S. This article is ripe for lots of colorful images. Thanks! ESH

Graphic designer Susan Kare has been called the “the Betsy Ross of the personal computer,” the “Queen of Look and Feel,” the “Matisse of computer icons,” and the “mother of the Mac trash can.”¹ Indeed, Kare is best known for designing most of the distinctive icons, typefaces, and other graphic elements that gave the Apple Macintosh its characteristic—and widely emulated—look and feel. Since her work on the Mac during the early 1980s, Kare has spent the last three decades designing user interface elements for many of the leading software and Internet firms, from Microsoft and Oracle to Facebook and Paypal. Kare’s work is omnipresent in the digital realm; if you have clicked on an icon to save a file, switched the fonts in a document from Geneva to Monaco, or tapped your smart phone screen to launch a mobile app, then you have benefited from her designs.

Kare is well-known and highly regarded among computer industry insiders and the graphic design community, yet largely unknown to the millions of users who encounter her graphic art every

¹ For “Betsy Ross,” see Laurence Zuckerman, “The Designer Who Made the Mac Smile,” *New York Times*, 26 August 1996; for “Queen,” see Owen Edwards, “Legends: Susan Kare,” *Forbes ASAP*, 23 February 1998; for “Matisse,” see Michelle Quinn, “Art That Clicks: Icon Designer Strives for Simplicity,” *San Francisco Chronicle*, 25 January 1995; for “Mother,” see Ron Wolf, “The Mother of the Mac Trash Can,” *San Jose Mercury News*, 28 May 1990.

day.² Over the years, Kare's design work has been described episodically in various Steve Jobs biographies, Apple corporate histories, and a handful of newspaper and magazine features.³ More recently Kare's iconography has been featured in exhibitions and collecting initiatives at the Smithsonian's National Museum of American History, New York's Museum of Modern Art, and the New Mexico Museum of Natural History and Science in Albuquerque.⁴ However, *historians of computing* have yet to fully document Kare's career, her seminal contributions to the evolution of the graphical user interface (GUI) design, and her impact on the user experience.⁵

Thus, this article presents a professional biography of Susan Kare and documents her continuing influence on user interface design. Drawing on contemporary press coverage and a variety of interviews, the article explores Susan Kare's pioneering work on the Apple Macintosh and situates it in the context of earlier GUI design efforts by Douglas Engelbart (Stanford Research Institute), Alan Kay and Adele Goldberg (Xerox PARC), and Kare's predecessors at Apple. It also traces the evolution of Kare's post-Apple career over the last 30 years as the adoption of graphical user interfaces expanded dramatically

² For descriptions of Kare's work in the design literature, see Steve Caplin, *Icon Design: Graphic Icons in Computer Interface Design* (New York: Watson-Guption Publications, 2001); Rayan Abdullah and Roger Hübner, *Pictograms, Icons & Signs: A Guide to Information Graphics* (London: Thames & Hudson, 2006); and Bryony Gomez-Palacio and Armin Vit, *Women of Design: Influence and Inspiration from the Original Trailblazers to the New Groundbreakers* (Cincinnati, Ohio: HOW Books, 2008).

³ For example, Kare appears on only 7 pages of Walter Isaacson's 656-page biography, *Steve Jobs* (New York: Simon & Schuster, 2011) and zzz pages of Michael S. Malone's 608-page *Infinite Loop: How the World's Most Insanely Great Computer Company Went Insane* (New York: Doubleday Business, 1999). Kare receives more attention in two books that focus specifically on the development of the Macintosh, Steven Levy, *Insanely Great: The Life and Times of Macintosh, the Computer that Changed Everything* (New York: Viking Penguin, 1994) and Andy Hertzfeld's memoir, *Revolution in the Valley: The Insanely Great Story of How the Mac Was Made* (Sebastopol, CA: O'Reilly Media, 2005). Newspaper and magazine features on Kare are cited throughout this article.

⁴ Kare is featured in *Places of Invention*, National Museum of American History, Smithsonian Institution, Washington, DC, open 1 July 2015, and the exhibition companion book, Arthur Molella and Anna Karvellas, eds., *Places of Invention* (Washington, DC: Smithsonian Institution Scholarly Press, 2015), 33-38; *This Is for Everyone: Design Experiments for the Common Good*, Museum of Modern Art, New York, NY, open 14 February 2015 through 31 January 2016, see <https://www.moma.org/visit/calendar/exhibitions/1555>, viewed 11 September 2015; and *Startup: Albuquerque and the Personal Computer Revolution*, New Mexico Museum of Natural History & Science, Albuquerque, NM, open 18 November 2006, see <http://startup.nmnaturalhistory.org/>, viewed 11 September 2015.

⁵ For example, Kare does not appear in two standard surveys of the field: Paul Ceruzzi, *A History of Modern Computing*, 2nd ed. (Cambridge, MA: MIT Press, 2003), and Martin Campbell-Kelly, William Aspray, Nathan Ensmenger, and Jeffrey R. Yost, *Computer: A History of the Information Machine*, 3rd ed. (Boulder, CO: Westview Press, 2014).

with the growth of personal computing, the Internet, and mobile applications. Finally, the article sheds light on Kare's design process at Apple and with other clients by exploring her academic training, artistic influences, and philosophy of design.

From the Main Line to Silicon Valley

Susan Kare was born in Ithaca, New York in 1954 and grew up in Narbeth, Pennsylvania, one of a string of tony suburbs west of Philadelphia along the Pennsylvania Railroad's "Main Line." Kare's father, Morley Richard Kare, was a sensory physiologist, and taught at Cornell University and North Carolina State University before settling at the University of Pennsylvania, where he founded the Monell Chemical Senses Center.⁶ The younger Kare has described herself as the "type of kid who always loved art;" she immersed herself in drawings, paintings, and crafts and began to imagine a future career as a fine artist. After graduating from Harriton High School in nearby Rosemont, Kare studied English and fine arts at Mount Holyoke College and spent her summers at home interning with graphic designer Harry Loucks at Philadelphia's Franklin Institute. Kare wrote her undergraduate honors thesis on sculpture, graduated *summa cum laude* from Mount Holyoke in 1975, and elected to pursue further graduate studies at New York University. After writing her doctoral dissertation on "the use of caricature in selected sculptures of Honoré Daumier and Claes Oldenburg," she graduated from NYU with an M.A. and Ph.D. in fine arts in 1978. Kare's goal was "to be either a fine artist or a teacher."⁷

⁶ Brian James Kirk, "Susan Kare, Regional Rail and the original Macintosh fonts," Technical.ly Philly, 14 January 2011, <http://technical.ly/philly/2011/01/14/susan-kare-regional-rail-and-the-original-macintosh-fonts/>, accessed 11 September 2015; Alex Soojung-Kim Pang, "Interview with Susan Kare," conducted 8 September 2000, Making the Macintosh project, Stanford University, <http://web.stanford.edu/dept/SUL/library/mac/primary/interviews/kare/trans.html>, accessed 11 September 2015.

⁷ Kare quotations are from Zachary Crockett, "The Woman Behind Apple's First Icons," Priceonomics, 3 April 2014, <http://priceonomics.com/the-woman-behind-apples-first-icons/>, accessed 11 September 2015. On Harriton High School and Franklin Institute, see Kirk, "Susan Kare, Regional Rail." On Mount Holyoke and NYU, see Janet Tobin, "Designer Susan Kare '75 Gives Pixels Personality," *Mount Holyoke College Vista* 6, no 1 (Summer 2001), available online at <https://www.mtholyoke.edu/offices/comm/vista/0106/kare.shtml>, accessed 11 September 2015. Kare's undergraduate honors paper is Susan D. Kare, "Working in sculpture," (Dept. of Art, Mount Holyoke College, 1975);

Instead, Kare moved to the west coast in 1979 to work as an assistant curator at the Fine Arts Museums of San Francisco, which oversees the de Young Museum in Golden Gate Park and the Legion of Honor in Lincoln Park. After a few years, however, Kare sensed that she was not meant to be a curator. “I’d go talk to artists in their studios for exhibitions,” she recalled, “but I really wanted to be working in *my* studio.” Kare quit the museum, moved down the Peninsula to Palo Alto, set up a studio in her garage, and began working as a sculptor.⁸

In 1982, Kare was working on a commission—“welding a life-size razorback hog” for an Arkansas museum—when she received a phone call from her old Harriton High School classmate, Andy Hertzfeld. Hertzfeld worked at Apple Computer in Cupertino; after serving as a programmer for the wildly successful Apple II, he had been recruited by founder Steve Jobs to serve as the lead software architect for Apple’s latest product, the Macintosh personal computer. Hertzfeld needed some images and typefaces for the new Macintosh; would Kare be interested in interviewing for a graphic design job?⁹

Kare recalled:

By remaining friendly with Andy after high school, I knew he obviously was really interested in computers. He showed me a very rudimentary Macintosh, and mentioned that he needed some graphics for it. He knew I was interested in art and graphics, and that if I got some graph paper I could make small images out of the squares, which he could then transfer onto the computer screen. That sounded to me like a great project.¹⁰

There was only one problem: Kare had never worked in computer graphics before and she admittedly “didn't know the first thing about designing a typeface.” Undaunted, Kare went to the Palo Alto Library and checked out a number of books on typography. “I even brought them to my interview to prove I knew something about type, if anyone asked!” she remembered. “I went into it totally green.” Kare aced the interview, and in January 1983 she started a fixed-length, part-time job at Apple designing fonts and

her doctoral dissertation is Susan D. Kare, “A study of the use of caricature in selected sculptures of Honoré Daumier and Claes Oldenburg,” (PhD diss., New York University, 1978).

⁸ Steve Silberman, “Signposts in New Space,” introduction to Susan D. Kare, *Icons: Selected Works from 1983-2011* (San Francisco: Susan Kare / Kareprints.com, 2011): 1-5, quotation p. 2.

⁹ Quotation from Pang, “Interview with Susan Kare;” also, see Hertzfeld, *Revolution in the Valley*, xvii – xxiv, 16-20.

¹⁰ Pang, “Interview with Susan Kare.”

icons for the Macintosh; her business card read “Macintosh Artist.”¹¹ Kare’s work on the Macintosh would mark a key advance in user interface design, which built upon two decades of prior research and experimentation with “graphical user interfaces” or GUIs.

GUI Development before the Macintosh

“*Point, click.*” As *Wired* magazine’s Steve Silberman has suggested, the “gestures and metaphors of icon-driven computing feel so natural and effortless to us now, it seems strange to recall navigating in the digital world any other way.” However, as Silberman reminds us, prior to the debut of the Apple Macintosh in 1984, “most of our interactions with computers looked more like this: C: > run Autoexec.bat.” How did we get from blinking cursors and arcane text commands to the so-called WIMP interface—windows, icons, a mouse, and pull-down menus—made famous by the Macintosh?¹²

The earliest advances in computer graphics and user interface design occurred during the 1960s, and emerged primarily from two research programs funded by the Department of Defense’s Advanced Research Projects Agency (ARPA). In 1965, the University of Utah established a “center for excellence in graphical research” under a \$5 million contract with ARPA’s Information Processing Techniques Office. The department was headed by professors David Evans and Ivan Sutherland. In January 1963, Sutherland had completed his PhD in Electrical Engineering at MIT; his thesis, entitled *Sketchpad: A Man-Machine Graphical Communication System*, was among the earliest examples of interactive computer graphics, the first program to utilize a graphical user interface, and the first-ever example of object-oriented software. Many of Utah’s computer science faculty and graduate students—including

¹¹ Quotations from John Brownlee, “What Every Young Designer Should Know, From Legendary Apple Designer Susan Kare,” *Fast Company*, February 2015, available online at <http://www.fastcodesign.com/3038976/what-every-young-designer-should-know-from-legendary-apple-designer-susan-kare>, accessed 11 September 2015; Hertzfeld, *Revolution in the Valley*, xxiii; Pang, “Interview with Susan Kare;” Crockett, “The Woman Behind Apple’s First Icons.”

¹² Silberman, “Signposts in New Space;” on the WIMP interface, see Tekla Perry and John Voelcker, “Of Mice and Menus: Designing the User-Friendly Interface,” *IEEE Spectrum* (September 1989): 46-51.

Sutherland, Alan Kay (Xerox), John Warnock (Adobe), Jim Clark (Xerox, Silicon Graphics), and Ed Catmull (Pixar)—would go on to work in Silicon Valley and develop many of the key innovations in graphical user interfaces, computer graphics, and computer-generated animation.¹³

A second important ARPA-funded program was Douglas Engelbart's Augmentation Research Center (ARC) at the Stanford Research Institute (SRI), a contract R&D firm near the university campus in the heart of Silicon Valley. At SRI, Engelbart and his colleagues experimented with various improvements in "human computer interaction." Engelbart had served as a Navy radar technician during World War II and thus was exposed to reading and manipulating symbols on a screen. At SRI, Engelbart used ARPA grants to extend this idea by inventing new input/output modes to replace punched cards and text-based command-line instructions. In December 1968, Engelbart and his colleagues famously showcased SRI's on-Line System (NLS) at the Fall Joint Computer Conference in San Francisco. In what has been hailed as "The Mother of All Demos," Engelbart demonstrated an early version of the graphical user interface, in which he used a hand-held pointing and selection tool called a "mouse" to manipulate a combination of graphics, text, and video in multiple on-screen "windows."¹⁴

Engelbart's mouse and GUI concepts had been developed in a research setting, but were soon adopted and improved by commercial firms, first at Xerox, then later at Apple. Xerox, an east coast copier company, established its Palo Alto Research Center (PARC) in 1970 to develop a new suite of computer and information technologies to supply "the office of the future." Xerox set about hiring top talent, including Bill English, Charles Irby, Jeff Rulifson, Bill Duval, and Bill Paxton from Engelbart's Augmentation Research Center. Xerox also hired ARPA administrator Robert Taylor, who had funded

¹³ Jacob Gaboury, "Image Objects: Computer Graphics at the University of Utah, 1965-1979" (PhD diss., New York University, 2014).

¹⁴ Douglas C. Engelbart and William K. English, "A Research Center for Augmenting Human Intellect," *Proceedings of the 1968 Fall Joint Computer Conference* 33 (1968): 395-410; Douglas Engelbart, "The Augmented Knowledge Workshop," in *A History of Personal Workstations*, ed. Adele Goldberg (New York: ACM Press, 1988): 187-232; Thierry Bardini, *Bootstrapping: Douglas Engelbart, Coevolution, and the Origins of Personal Computing* (Stanford: Stanford University Press, 2000).

both Evans and Sutherland at Utah and Engelbart at SRI. Finally, Xerox recruited Alan Kay, a newly-minted PhD (1969) from Utah's ARPA-funded computer-science program. In December 1972, Kay told *Rolling Stone* reporter (and former SRI associate) Stewart Brand, that his PARC colleagues were “really a frightening group, by far the best I know of as far as talent and creativity. The people here all have track records and are used to dealing lightning with both hands.”¹⁵

Soon after joining PARC, Kay proposed the “Dynabook,” a portable computer small enough to fit on one's laptop with a graphical user interface intuitive enough to be “A Personal Computer for Children of All Ages.” Kay tried to build the Dynabook at Xerox PARC, but fell short of his vision given the limitations of contemporary processor power and components. Instead, in 1973, Kay and his colleagues built an “interim Dynabook”—an experimental computer called the Xerox Alto.¹⁶ The Xerox Alto incorporated nearly every major feature of today's personal computers that we now take for granted. The desktop-sized Alto was not as small as the Dynabook Kay had imagined, but it was a true “personal computer” with one individual user, versus multiple users sharing time on terminals connected to a closet-sized mainframe. Drawing on the earlier work of the SRI alumni, the Alto also incorporated a point-and-click “mouse” to complement the QWERTY keyboard for input. Kay and his PARC colleague Adele Goldberg also developed major improvements in the Alto's GUI. In lieu of command line instructions, its bit-mapped display featured overlapping “windows,” pull-down menus, and symbolic icons—like a trash can for deleting files—that allowed for more intuitive execution of various functions. The Alto also featured powerful desktop publishing tools, such as multiple typefaces, cut-copy-paste

¹⁵ On Xerox PARC, see Michael Hiltzik, *Dealers of Lightning: Xerox PARC and the Dawn of the Computer Age* (New York: Harper Business, 1999); on Kay in particular, see Chapter 6: “Not Your Normal Person,” 80-96. On the migration of SRI personnel to PARC, see Bardini, *Bootstrapping*, 148-150 and Engelbart, “The Augmented Knowledge Workshop,” 206. For Kay's quotation, see Stewart Brand, “Spacewar: Fanatic Life and Symbolic Death Among the Computer Bums,” *Rolling Stone*, 7 December 1972, 50-58.

¹⁶ On the Dynabook, see Alan C. Kay, “A Personal Computer for Children of All Ages,” *Proceedings of the ACM National Conference*, Boston, August 1972, available online at <http://www.mprove.de/diplom/gui/Kay72a.pdf>, accessed 24 September 2015.

editing, and what-you-see-is what-you-get (WYSIWYG) editing and printing.¹⁷ Incredibly, Xerox never commercialized the experimental Alto. While some critics have suggested that Xerox “fumbled the future,” there is no doubting PARC’s crucial influence on the development of personal computing, especially the graphical user interface.¹⁸

Meanwhile, hobbyists Steve Jobs and Steve Wozniak had founded Apple Computer in 1976, after introducing their Apple I circuit board at the fabled Homebrew Computer Club. The Apple II, introduced in 1977, became a big seller, and as the firm’s annual sales surpassed \$70 million in 1979, Apple prepared to take the company public.¹⁹ In 1979, Xerox executives approached Apple and asked to make a \$1 million pre-IPO investment in the company, hoping for big returns once the firm went public. Jobs agreed on the condition that Xerox “open its kimono”—he wanted a tour of the PARC skunk works. Over the objections of Goldberg and several other PARC engineers, Jobs and a few Apple lieutenants were given demonstrations of the Xerox Alto, and its successor the Xerox Star, on two different visits in December 1979. Years later, Jobs reminisced about those tours and called the Alto’s graphical user interface “the best thing I'd ever seen in my life...[Within] ten minutes it was obvious to me that all computers would work like this someday.”²⁰

¹⁷ The Alto also featured PARC’s “Ethernet” hardware and packet-switching protocol, which enabled local area networks (LANs) for inter-office e-mail, file sharing, and network connections to PARC-developed laser printers. On the Alto’s capabilities, see Alan Kay and Adele Goldberg, “Personal Dynamic Media,” *IEEE Computer* 10, no. 3 (March 1977): 31-41. For helpful summaries, see Hiltzik, *Dealers of Lightning*, xix-xxv; Paul Ceruzzi, *A History of Modern Computing*, 2nd ed. (Cambridge, Mass.: MIT Press, 2003), 257-263, and William Aspray and Martin Campbell-Kelly, *Computer: A History of the Information Machine* (New York, Basic Books, 1996), 267-269.

¹⁸ For the pessimistic view of PARC, see Douglas K. Smith and Robert C. Alexander, *Fumbling the Future: How Xerox Invented, Then Ignored, the First Personal Computer* (New York: William Morrow and Company, Inc., 1988). For a more sanguine view of PARC, see Malcom Gladwell, “Creation Myth: Xerox PARC, Apple, and the Truth about Innovation,” *The New Yorker*, 16 May 2011, 44-52. Xerox eventually developed several strategies for managing and securing profits from the approximately 35 spin-off firms that independently commercialized PARC’s technologies. See Henry Chesbrough, “Graceful Exits and Missed Opportunities: Xerox’s Management of its Technology Spin-Off Organizations,” *Business History Review* 76 (Winter 2002): 803-837.

¹⁹ Malone, *Infinite Loop*; sales figures from Everett Rogers and Judith K. Larsen, *Silicon Valley Fever: Growth of High-Technology Culture* (New York: Basic Books, 1984), 18

²⁰ Steve Jobs, interviewed for the PBS documentary *Triumph of the Nerds* (1996); for a partial transcript, see <https://www.pbs.org/nerds/part3.html>, accessed 17 September 2015.

Did Jobs “steal” Xerox’s GUI for the Apple Macintosh? In short, no, he did not. It would be convenient to draw a straight line from Jobs’s Xerox PARC visit to the Apple Macintosh, but the details of the Mac’s lineage are far more complex.²¹ First, Apple had already been experimenting with the GUI for its next model, the Apple Lisa. The Lisa, eventually introduced in 1983, featured a mouse and GUI, but retailed for the shockingly high price of \$12,000, ten times the price of an Apple II. Plus, the Apple Macintosh project, originally led by Jef Raskin, was already underway in 1979 by the time Jobs toured PARC. Raskin, a former computer science professor (UC San Diego) and former PARC researcher, had experimented with graphical user interfaces, and had been lobbying Apple executives to build a low-cost, easy-to-use computer for the masses that would retail for under \$1500. Raskin had already assembled a talented and cohesive team of developers—including Bill Atkinson, Joanna Hoffman, Brian Howard, Burrell Smith, and Bud Tribble—and work was well underway by January 1981, when Jobs forced out Raskin and took control of the Macintosh project.²² Thus, one might easily characterize Xerox as naïve and Jobs as a pirate, but it is more accurate to suggest that Jobs’s PARC demonstration validated and kick-started ideas about the GUI already brewing at Apple.

Thus, by the time Susan Kare arrived at Apple in January 1983 as a part-time graphics designer, her teammates had already been at work on the Macintosh since 1979. She and her teammates, in turn, were trying to build a cheaper, consumer version of a GUI-based personal computer that drew on earlier developments—such as Sutherland’s Sketchpad, Engelbart’s NLS, Kay’s Xerox Alto, and Apple’s own Lisa—that had been under development since the mid-1960s. Thus, Kare was not the *first* icon or typeface designer, but after the Macintosh’s commercial success and cultural impact, she would become the most influential.

²¹ On the mythology of the Xerox PARC visit, see Malone, *Infinite Loop*, 232-239; also Hiltzik, *Dealers of Lightning*, Chapter 23: “Steve Jobs Gets His Show and Tell,” 329-345.

²² See Jef Raskin, “The Book of Macintosh” and several of his Apple inter-office memos from the period 1979-1981 at Alex Soojung-Kim Pang, “Making the Macintosh: Technology and Culture in Silicon Valley,” <http://web.stanford.edu/dept/SUL/library/mac/primary/docs/index.html>, accessed 17 September 2015). Also, see Hertzfeld, *Revolution in The Valley*, “The Father of the Macintosh,” pp. 272-274.

Designing a GUI “for the rest of us”

When she joined Apple in January 1983, Hertzfeld tasked Kare with designing various icons and typefaces for the Mac’s operating system and applications such as MacPaint. Like the Xerox Alto and Apple Lisa, the Macintosh featured a bit-mapped display in which each point of light, or pixel, on the screen was individually controlled by a single "bit" of data. Creating graphics was simply a matter of deciding which bits to turn on and off. Though Kare had little experience in computing she drew inspiration from her deep knowledge of art history. "There are ways people have expressed themselves in the past that are analogous," she said.²³ "I still joke that there's nothing new under the sun, and bitmap graphics are like mosaics and needlepoint and other pseudo-digital art forms, all of which I had practiced before going to Apple. I didn't have any computer experience, but I had experience in graphic design."²⁴

Hertzfeld had not yet coded an application to design the icons on-screen, so he told Kare “to go to the stationery store and get the smallest graph paper I could find and color in the squares to make images.”²⁵ As instructed, Kare went to the University Art supply store in Palo Alto, picked up a \$2.50 sketchbook, and began experimenting with forms and ideas. In this sketchbook, which was recently acquired by New York’s Museum of Modern Art, we can discern something of Kare’s design process. Kare began with an idea, metaphor, or command instruction she was trying to represent pictorially; for example, her individual sketchbook pages have titles like “boot,” “jump,” “debug,” “auto indent,” and “danger.” Kare would then use a ruler or straightedge to block out a 32 x 32 square of graph paper; then, using a pencil and eraser or black and pink pens, she filled in (or left blank) those 1024 miniature squares to create images. Eventually Hertzfeld coded an icon editor that allowed Kare to design icons directly on the black and white screen of a prototype Mac. Using a mouse, she toggled the bits on and

²³ Wolf, “The mother of the Mac trashcan.”

²⁴ Pang, “Interview with Susan Kare.”

²⁵ Zuckerman, “The Designer Who Made the Mac Smile.”

off, and the icon editor generated the hexadecimal code underlying the grid.²⁶ Using these simple drafting tools, Kare began to “master a peculiar sort of minimal pointillism” as she turned “tiny dots on and off to craft instantly understandable visual metaphors for computer commands.”²⁷

When Apple rolled out the Macintosh in 1984, its advertising firm Chiat/Day called it “the computer for the rest of us,” and in many ways, Kare was designing for someone like herself. As Steve Silberman has written, “The genius of Steve Jobs and the Macintosh team was recognizing a huge untapped market for home computing among artists, musicians, writers, and other creative folk who might never have cared enough to master the arcane complexities of a command-line interface.” Thus, the challenge of designing such a personal computer benefited from input from the creative types, like Kare, who might someday be convinced to buy a Mac.²⁸ Kare agrees that “I was a typical customer that they were trying to attract, someone for whom the graphical side of it would have been attractive.”²⁹

Kare tweaked and streamlined certain icons that already existed, like the arrow cursor, the trash can, MacPaint’s “lasso” selection tool, and the “document” icon with the page corner turned up. She also created dozens of icons from scratch following requests from Andy Hertzfeld and Bill Atkinson in the software group. Kare remembers that she “took a very common sense approach. People would ask for something, and I would do what I thought would work. I do remember always trying—and I still do to this day—to provide a rich selection of choices, and see what works.” She also engaged in “informal user testing,” showing her multiple emerging designs to “a lot of people and just asking them what they thought.” Eventually, the group would reach consensus, with Steve Jobs having the final word. For

²⁶ Steve Silberman, “The Sketchbook of Susan Kare, the Artist Who Gave Computing a Human Face,” PLOS Blogs, 22 November 2011, <http://blogs.plos.org/neurotribes/2011/11/22/the-sketchbook-of-susan-kare-the-artist-who-gave-computing-a-human-face/>, accessed 17 September 2015. Kare’s sketchbook was acquired and featured in the MoMA exhibition, *This is for Everyone: Design Experiments For The Common Good* - see John Brownlee, “MoMA Recognizes Susan Kare, The Designer of The Macintosh’s Original Icons,” *Fast Company*, 6 March 2015, online at <http://www.fastcodesign.com/3043312/moma-recognizes-susan-kare-the-designer-of-the-macintoshs-original-icons>, accessed 22 September 2015. On the icon editor, see Pang, “Interview with Susan Kare.”

²⁷ Owen Edwards, “Legends: Susan Kare,” *Forbes ASAP*, 23 February 1998.

²⁸ On Chiat/Day’s tagline, see Frank Rose, *West of Eden: The End of Innocence at Apple Computer* (New York: Penguin Books, 1989), 207; Silberman, “Signposts in New Space,” 1.

²⁹ Pang, “Interview with Susan Kare.”

example, when “choosing an icon for the fill function in MacPaint, I tried paint rollers and other concepts, but I guess the pouring paint can made the most sense to people.”³⁰

Designing new icons was a challenge because, as Kare discovered, “user interface design isn’t about design in the traditional sense. It’s solving the little puzzle of making an image fit a metaphor.”³¹ Because she was designing icons for someone like herself, Kare was “motivated by respect for, and empathy with, users of software.” Her task was “to transform small grids of black and white pixels into a family of symbols that would assist people in operating the computer.” The design process involved “the search for the strongest metaphors, and the craft of depicting them.”³² When it came to choosing metaphors, nouns—like a document, paintbrush, or pencil—were relatively easy, but verbs—like “undo” and “execute”—were a challenge.³³ Kare believed that “good icons should function somewhat like traffic signs—simple symbols with few extraneous details, which makes them more universal.”³⁴ For Kare, it was less important that each icon be instantly recognizable, but critical that they be easy to remember: “I would say an icon is successful if you could tell someone what it is once and they don’t forget it,” she said.³⁵ For example, Kare thinks “it’s great that there’s no compulsion to ‘modernize’ the stop sign every few years.”³⁶

Kare’s iconography was inspired by art history and a variety of international cultures. “I am a big believer that there is a rich history of symbols from which you can draw even for concepts and icons, whether from fine art or folk art, or advertising or bottle caps. So I had my shelf of books from college, and some that I picked up that were kind of random.” For example, when Kare first moved west after

³⁰ Pang, “Interview with Susan Kare.”

³¹ Craig Bromberg, “Susan Kare,” *I.D. Magazine*, January-February 1997.

³² Susan Kare, “Design Biography,” http://www.kare.com/design_bio.html, accessed 22 September 2015.

³³ On metaphors, see Zuckerman, “The Designer Who Made the Mac Smile” and Michelle Quinn, “Art That Clicks: Icon Designer strives for simplicity,” *San Francisco Chronicle*, 25 January 1995.

³⁴ Andy Orin, “I’m Susan Kare, Graphic Designer, and This Is How I Work,” LifeHacker, http://lifehacker.com/im-susan-kare-graphic-designer-and-this-is-how-i-work-1646211826?inset_alt=off&utm_expid=66866090-55.VeucWPObSOiOW4XRx2RJDA.1, accessed 22 September 2015

³⁵ Zuckerman, “The Designer Who Made the Mac Smile.”

³⁶ Armin Vit, “Pixel Perfect,” *How Magazine*, February 2004, 76-81, quotation p. 81.

graduate school, she lived near the Buddhist Temple of San Francisco and studied at its Japanese school; when stuck on a particular design, she would often consult a book entitled *Kanji Pictograms*. Another favorite source was Henry Dreyfus's *Symbol Sourcebook*; she especially loved its list of the glyphs that Depression-era hobos would chalk on walls and fences to signal a sympathetic household.³⁷ The symbol on every Apple command key—a looped square that resembles a castle seen from above—came about when Steve Jobs worried that the Mac's designers were overusing the Apple symbol. Hertzfeld and the Mac design team felt it was important for the user to be able to invoke every menu command directly from the keyboard, so they added a special "Apple key;" when pressed in combination with another key, it selected the corresponding menu command. Thus, every menu item displayed a little Apple logo and key combination, but Jobs believed "there were too many Apples on the screen!" Kare was asked to design an alternative. After "pouring through books of symbols," Kare settled on the familiar looped square, which since the 1950s had been used on Scandinavian roadside markers to indicate interesting sightseeing destinations.³⁸

Kare's designs were intuitive and easily understandable, but they also had a playful, whimsical quality; think of the smiling "Happy Mac" that greeted users at startup or the ticking bomb that represented a system error. These friendly designs helped new users overcome what *Rolling Stone's* Steven Levy called the "FUD principle: the Fear, Uncertainty and Doubt" that had previously kept many potential new users from taking the leap and purchasing a personal computer.³⁹ Instead, Kare's work gave the Mac a "visual lexicon that was universally inviting and intuitive" and "set the standard for how computers could appeal to a broad group of nontechnical people."⁴⁰ According to *Wired's* Steve

³⁷ Pang, "Interview with Susan Kare" and Silberman, "Signposts in New Space," 3

³⁸ Pang, "Interview with Kare," and Hertzfeld, *Revolution in the Valley*, 152.

³⁹ Steven Levy, "The Birth of the Mac," *Rolling Stone*, 1 March 1984, available online at <http://www.rollingstone.com/music/news/the-birth-of-the-mac-rolling-stones-1984-feature-on-steve-jobs-and-his-whiz-kids-20111006?print=true>, accessed 22 September 2015.

⁴⁰ Silberman, "Signposts in New Space," 3 and Zuckerman, "The Designer Who Made the Mac Smile."

Silberman, “there is an ineffably disarming and safe quality about Kare’s icon. Like their self-effacing creator, they radiate good vibes.”⁴¹

Beyond the icons, Kare helped refine other aspects of the Mac’s look and feel. For example, she added pinstripes to the title bars of windows and grey tints to their scroll bars to help offset the interface from the data. With Hertzfeld, she also designed the 15 number puzzle and Notepad in the Mac’s desk accessories, as well as various elements of the Mac control panel, like the nifty tortoise and rabbit that represented the range of user settings for the mouse’s click-rate.⁴² Kare also created a family of new proportional fonts for the Macintosh.

At the time, most digital typefaces were monospaced like a typewriter’s, meaning that narrow and broad characters alike (e.g. both I’s and M’s) used the same amount of on-screen space. Jobs had studied calligraphy at Reed College with the Trappist monk Robert Palladino and was determined to offer something more sophisticated and that looked better in print, especially since the Mac was to be sold with the Apple Imagewriter printer.⁴³ Typeface design had even more rigorous constraints than the icons; “each letter had to fit in a space of just 9 x 7 dots, so they looked jaggedy,” Kare remembered. Kare started with the bold system font, originally called Elefont. “I looked at the screen and the system fonts they were using, and decided that it might look cleaner if the lines were only ever horizontal, vertical, or at 45 degree angles.” That system typeface, later renamed Chicago, provided the textual look for two of Apple’s biggest products—the Macintosh and the iPod—for over 20 years.⁴⁴

Kare would produce several other font sets for the Macintosh. In a nod to their old neighborhood, she and Hertzfeld named them after the commuter train stops on Philadelphia’s Main

⁴¹ Silberman, “Signposts in New Space,” 3

⁴² Paul Atkinson, “Graphical User Interface (GUI), USA,” in *Iconic Designs: 50 Stories About 50 Things*, ed. Grace Lees-Maffei (London: Bloomsbury Visual Arts, 2014): 89-91, p. 91; Hertzfeld, *Revolution in the Valley*, 56-59 and 186-187; Pang, “Interview with Susan Kare.”

⁴³ Walter Isaacson, *Steve Jobs* (New York: Simon & Schuster, 2011), 40-41, 130; Crockett, “The Woman Behind Apple’s First Icons.”

⁴⁴ Brownlee, “What Every Young Designer Should Know.”

Line, such as Overbrook, Merion, Ardmore, Rosemont, and Paoli. Jobs liked the naming convention, but suggested that the fonts be renamed for “world class cities.” That is how Chicago, New York, Geneva, London, Toronto, and Venice got their names. Kare also experimented with more avant-garde fonts, such as Ransom (later San Francisco), whose letters and numbers looked like the newspaper cutouts from a kidnapper’s note, and Cairo, which appropriately looked like a set of modern hieroglyphics. Like proto-emojis, the Cairo font set was composed of several miniature images—including a palm tree, a handgun, a crescent moon, an envelope, and a skateboard—and was intended to allow users to easily embed miniature images within their text.⁴⁵

The Mac development team also put Kare to work demonstrating the capabilities of Bill Atkinson’s MacPaint application. Kare had begun designing icons on graph paper, then moved to Hertzfeld’s icon editor, but eventually started using MacPaint since it had enhanced functionality, like the ability to see the image enlarged and actual size at the same time. Kare not only designed several icons for MacPaint itself, including the slip-knotted lasso, the paintbrush, and the paint can (fill) tool, but also became something of a MacPaint virtuoso, and one of the pioneers of digital artwork. Andy Hertzfeld remembered one memorable portrait:

One day, I came over to her cubicle to see what she was working on, and I was surprised to see her laboring over a tiny icon portrait of Steve Jobs. Icons were only 32x32 black or white pixels—1024 dots in total—and I didn't think it was possible to do a very good portrait in that tiny a space, but somehow Susan had succeeded in crafting an instantly recognizable likeness with a mischievous grin that captured a lot of Steve's personality. Everyone she showed it to liked it, even Steve himself. It became a Mac team status symbol to be iconified by Susan. She did a few more portraits, for various members of the team who desired to be immortalized in a thousand dots.⁴⁶

Kare also produced several exquisite MacPaint drawings for the Macintosh’s glossy user manuals and promotional advertisements, such as a Japanese woman combing her hair, a pair of tennis shoes, and

⁴⁵ Susan Kare, “World Class Cities,” in Andy Hertzfeld, *Revolution in the Valley: The Insanely Great Story of How the Mac Was Made* (Sebastopol, CA: O’Reilly Media, 2005), 165; Kirk, “Susan Kare, Regional Rail, and the original Macintosh fonts;” Crockett, “The Woman Behind Apple’s First Icons.”

⁴⁶ Hertzfeld, *Revolution in the Valley*, 147-148.

gourmet baby food. Apple also enlisted Kare and the other Macintosh team members to aid in their product rollout campaign. Kare sat for magazine photo shoots, spoke about the Mac in Chiat/Day's television commercials, and demonstrated the Mac on TV talk shows.⁴⁷

The Macintosh was released with great fanfare in January 1984, accompanied by a 60-second Super Bowl television ad inspired by George Orwell's dystopian novel, *1984*. The Mac's rollout also received tremendous press coverage, much of which highlighted the Mac's graphical user interface, typefaces, and overall usability. For example, without naming her, Steven Levy nevertheless paid tribute to Kare's work in his *Rolling Stone* feature:

If you have had any prior experience with personal computers, what you might expect to see is some sort of opaque code, called a "prompt," consisting of phosphorescent green or white letters on a murky background. What you see with Macintosh is the Finder. On a pleasant, light background (you can later change the background to any of a number of patterns, if you like), little pictures called "icons" appear, representing choices available to you. A word-processing program might be represented by a pen, while the program that lets you draw pictures might have a paintbrush icon. A file would represent stored documents – book reports, letters, legal briefs and so forth. To see a particular file, you'd move the mouse, which would, in turn, move the cursor to the file you wanted. You'd tap a button on the mouse twice, and the contents of the file would appear on the screen: dark on light, just like a piece of paper....

...The clarity follows through. On the Macintosh, moving the mouse to certain points on the screen opens lists of options known as "pull-down menus." One menu, for instance, gives a list of type fonts. In less than a second, you can change all the characters in a file from standard typewriter print to gothic Old English. Or you can change the size of the type from eight to sixteen points. For the first time in history, typography will become a mass art. And you are not limited to type.... Though Macintosh displays only black-and-white video, its "bit mapped" display...allows for gorgeously intricate pictures. Aided by all sorts of "whizzy" (a favorite adjective of the Mac team) features, even a graphic klutz can create fine drawings.

Even software industry veterans had fallen hard. Levy quoted Lotus's Mitch Kapor with this assessment:

"The IBM PC is a machine you can respect. The Macintosh is a machine you can love."⁴⁸

⁴⁷ Pang, "Interview with Susan Kare;" "Susan Kare Macintosh Commercial," produced by Chiat/Day, Fall 1983, <https://www.youtube.com/watch?v=AY1-UYnaBm8>, accessed 22 September 2015. Kare appears on Season 1, Episode 18 (March 29, 1984) of *The Computer Chronicles*, a talk show that aired on public television station KCSM in San Mateo, CA. See <https://www.youtube.com/watch?v=D7nlVrNGApw>, accessed 22 September 2015.

⁴⁸ Levy, "The Birth of the Mac."

After Apple

Incredibly, Kare’s seminal user interface work on the Macintosh had occurred over the course of only one intense year; she had started at Apple in January 1983, and the Mac had shipped in January 1984. Kare stayed on at Apple for two more years, working as the Creative Director for Apple’s Creative Services team. By 1985, a growing feud between Jobs and Apple president John Sculley ended in an acrimonious divorce, with Jobs forced out of the company he had co-founded. Jobs immediately founded NeXT, Inc. to build high-powered “workstations” for business and higher education markets.⁴⁹ Jobs lured several former Apple employees to NeXT, including Kare, who came aboard as Creative Director in 1986. NeXT needed a brand identity, so for \$100,000 Kare hired one of her heroes, Paul Rand, to design the logo. Rand (1914-1996) was an American art director and graphic designer, best known for his corporate logo designs for firms like IBM, UPS, Westinghouse, and ABC. Kare recalled that it was a “fantastic opportunity” to work with Rand, “to be able to meet and work with someone who had been a hero to me, and introduce him to Steve. And I think Steve and I both learned a lot from him.”⁵⁰ For example, Kare learned from Rand that “design is not an exact science, so there’s never only one ‘correct’ solution to a design problem,” an affirmation of her approach of creating multiple preliminary designs for a given icon.⁵¹

Kare learned something else during that period: “I realized, by working in Creative Services at Apple and NeXT, that what I really wanted to do was to be back doing bitmaps.”⁵² After two years working mostly with print at NeXT (1986-1988), Kare founded her own design firm, Susan Kare LLP. Kare had established a sterling reputation in Silicon Valley, and she quickly realized that “I didn’t have to sit

⁴⁹ See Isaacson, *Steve Jobs*, 202-222, and Brent Schlender and Rick Tetzeli, *Becoming Steve Jobs: The Evolution of a Reckless Upstart into a Visionary Leader* (New York: Crown Business, 2015), which focuses on Jobs’s career after leaving Apple in 1985.

⁵⁰ Pang, “Interview with Susan Kare.”

⁵¹ Orin, “I’m Susan Kare, Graphic Designer.”

⁵² Pang, “Interview with Susan Kare.”

around waiting for the phone to ring."⁵³ "When I started," she recalled, "I made a list of all the people I might send announcements to, but the first couple of jobs came through word of mouth and it's been steady ever since."⁵⁴

Kare's first clients included some old friends and some of Apple's biggest rivals. For example, in 1989-90 Microsoft hired Kare to provide a "thorough face lift" for Windows 3.0. Working with Microsoft Paint on an IBM PC, she developed several improved icons, including those for Notepad and Control Panel, which remained largely unchanged until the introduction of Windows XP in 2001. Kare also took advantage of Windows' expanded 16-bit, color palette to design the playing cards for its digital Solitaire game.⁵⁵ Other assignments came from the large network of Apple alumni who had moved on to new ventures. For example, in the early 1990s, Andy Hertzfeld and Bill Atkinson, co-founders of startup General Magic, hired Kare to design some 600 fonts and screen images for their Magic Carpet software, used to power a hand-held digital computer.⁵⁶ Finally, in a last-ditch effort to compete with the Macintosh and Windows operating systems, IBM hired Kare to revamp its OS/2 operating system. "Even though we were a technology leader, people really didn't think of OS/2 as something fun to use," said Jeff Howard, OS/2's worldwide brand manager in 1996. "One of the main reasons we went to Susan was not only because she has an unmatched reputation but because she has that sense of fun which we wanted."⁵⁷

Kare's business continued to thrive, as the emergence of the commercial Internet in the mid-1990s helped bring in new dot.com and traditional software clients. That growth has continued over the last 15 years as smart phones and tablets have driven the need for GUI design in the app economy.

⁵³ Wolf, "The Mother of the Mac trash can"

⁵⁴ Craig Bromberg, "Susan Kare," *I.D. Magazine*, January-February 1997.

⁵⁵ Quotation from Wolf, "The Mother of the Mac trash can;" Crockett, "The Woman Behind Apple's First Icons;" Diana Budds, "Indulge in '90s Nostalgia With These Susan Kare Playing Cards," *Fast Company*, 16 June 2015, <http://www.fastcodesign.com/3047409/indulge-in-90s-nostalgia-with-these-susan-kare-playing-cards>, accessed 24 September 2015.

⁵⁶ Regarding Apple alumni clients, see Wolf, "The Mother of the Mac trash can;" on General Magic, see Quinn, "Art That Clicks."

⁵⁷ Zuckerman, "The Designer Who Made the Mac Smile."

Table 1: A Partial Listing of Susan Kare's clients⁵⁸

A&E Television	Electronic Arts	Hyperion	Motorola	Sleep Science
Apple	Eleven	IBM	Mus. of Modern Art	Sony Pictures
AT&T	Facebook	Intel	Nokia	Swatch
Autodesk	Fidelity Investments	Intuit	Oracle	Target
BBDO	Fossil	JLabs	Paypal	Thomson Reuters
Chairlift	Galileo Intl.	Joost	Peoplesoft	Tomkat Foundation
Cisco	Getty Images	Liquid Audio	S. Fran. Water & Power	Truveo
Daily Booth	Glam Media	Logitech	Sequoia Capital	Weatherbug
Danger Research	Goodmail	Loopt	Siebel Systems	Wireless Generation
Digital Chocolate	Handspring	Microsoft	Shockwave	Xerox

For example, in 2006 Facebook hired Kare to design digital, 64 x 64 pixel “virtual gifts.” For \$1, Facebook users could send their friends Kare-designed birthday cakes, roses, kisses, and disco balls. Kare designed hundreds of these virtual gifts between 2007 and 2010, when Facebook transitioned to third-party apps.⁵⁹ Over the years, Kare has worked with dozens of top-tier companies (Table 1), but has occasionally rejected potential clients because she refuses to hire people to share the work load. “I do every job myself,” she said “because I think of it as an art.”⁶⁰

Indeed, beyond her top-dollar design fees (which she won't reveal), Kare in recent years has ventured into selling more traditional visual art inspired by her pixel art. In 2010, Kare launched [kareprints.com](http://www.kareprints.com) to sell limited edition, signed and numbered prints featuring some of her best-known and favorite icons, from all eras of her career. One of the biggest sellers is the Macintosh “Dogcow,” an 8-bit spotted dog (that kind of looked like a cow) from the Cairo font set that was also featured in preferences for selecting portrait or landscape orientation.⁶¹ Kare has also self-published a retrospective entitled *Icons: Selected Work from 1983-2011*, featuring her commentary on 80 of her

⁵⁸ Susan Kare, “About: Clients,” <http://www.kare.com/about/clients.html>, accessed 23 September 2015.

⁵⁹ Silberman, “Signposts in New Space,” 4; Crockett, “The Woman Behind Apple's First Icons.”

⁶⁰ Wolf, “The Mother of the Mac Trash Can.”

⁶¹ On her coyness regarding clients' scope and fees, see Wolf, “The Mother of the Mac Trash Can.” On her print business, see “About: Susan Kare Prints,” <http://www.kareprints.com/about/>, accessed 24 September 2015; on the DogCow, see “Spotted Dog on Lavender,” <http://www.kareprints.com/dog-cow/>, accessed 24 September 2015 and Crockett, “The Woman Behind Apple's First Icons.”

favorite icons from the Macintosh, Windows 3.0, Facebook, and other projects.⁶² Kare has also begun selling recreations of the infamous Macintosh “Pirate Flag,” a traditional skull-and-crossbones design on a black background, with a rainbow Apple logo in place of the skull’s left eye. Kare and Steve Capps, a Macintosh programmer, had assembled the original flag after a 1983 team retreat in which Jobs had inspired the team with slogans like “Real Artists Ship” and “It’s better to be a pirate than join the navy.” Kare began offering the flags in 2014 after a commission from a current Apple employee who hoped to re-capture the same renegade spirit from 30 years ago.⁶³ And in 2015, Kare worked with Areaware to produce a 25th anniversary deck of playing cards featuring the 16-bit designs from her Windows 3.0 digital Solitaire game. Since Solitaire does not use jokers, Kare never designed them for the computer game; her new, retro-style jokers now complete the deck.⁶⁴ Kare’s explorations in others artistic mediums have not diminished the high demand for her digital design services. In July 2015, Pinterest announced that Kare would be joining the social bookmarking site as the product design lead. After years of running her own business, the new gig will be Kare’s first full-time, salaried job in thirty years.⁶⁵

Work Style, Philosophy, and Legacy

Overall, Kare’s work style and design approach have not changed much over the years. Kare works from her home studio in the upscale Presidio Heights neighborhood of San Francisco. The space

⁶² Susan D. Kare, *Icons: Selected Works from 1983-2011* (San Francisco: Susan Kare / Kareprints.com, 2011).

⁶³ See Hertzfeld, *Revolution in the Valley*, 166-167 and John Brownlee, “Apple’s ‘Pirates of Silicon Valley’ Flag Gets Rehoisted,” *Fast Company*, 21 November 2014, <http://www.fastcodesign.com/3038827/apples-pirates-of-silicon-valley-flag-gets-rehoisted>, accessed 24 September 2015. Kare sells 3’ x 5’ flags for \$1900 and 4’ x 6’ flags for \$2500; see “Hand-Painted Pirate Flag,” <http://www.kareprints.com/hand-painted-pirate-flag/>, accessed 24 September 2015.

⁶⁴ Budds, “Indulge in ‘90s Nostalgia With These Susan Kare Playing Cards.” Areaware sells the decks for \$14, see “Solitaire Cards, Designed by Susan Kare,” <http://www.areaware.com/products/solitaire-cards>, accessed 23 September 2015.

⁶⁵ John Brownlee, “Pinterest Hires Mac Design Legend Susan Kare,” *Fast Company*, 31 July 2015, <http://www.fastcodesign.com/3049313/design-moves/pinterest-hires-mac-design-legend-susan-kare>, accessed 24 September 2015; John Brownlee, “Q&A: Susan Kare On Why Pinterest Feels Like Apple In The ‘80s,” *Fast Company*, 19 August 2015, <http://www.fastcodesign.com/3050038/design-moves/qa-susan-kare-on-why-pinterest-feels-like-apple-in-the-80s>, accessed 24 September 2015.

contains an eclectic mix of artistic inspiration—framed artwork by her three sons, a San Francisco street sign, a cow skull, a red woven blanket—complemented by art books “and tons of stationery and art supplies in tall cabinets.” As noted, Kare prefers to work alone, and often late into the night “when everything’s quiet and there are no interruptions.” When she’s not performing digital design, she loves to sketch in “cool bound notebooks” from Maido, a stationary store in Japantown, and always keeps a No. 2 pencil and pencil sharpener handy. Another important tool is her iPhone; when Kare goes “metaphor shopping” she snaps photos of street signs, sheriff’s badges, and other symbols for inspiration.⁶⁶ However, Kare says “I spend most of my work life in [Adobe] Photoshop and Illustrator,” since “anything bound for the screen I design on the screen.” Just like her old graph paper sketchbook, she begins by setting up “a template with rows of pale gray boxes with the specified dimensions.”⁶⁷ And therein lies the continuity; for Kare, user interface design is still about solving a problem within a defined set of constraints. “People say graphic design is so different now, because you have so many more pixels and colors to work with,” but she insists that “the goal of developing images that are meaningful and memorable remains the same.”⁶⁸

Does Kare have any advice for aspiring user interface designers? First, she would encourage novices to learn their craft: “Good design is good design. Learn all you can about color and design and typography.” Furthermore, Kare would advise anyone creating icons “to think about economy of expression, and to aim for images that are simple and memorable.” When working with clients, Kare is “like a broken record on the following: Keep things simple, use common sense, have empathy and

⁶⁶ Orin, “I’m Susan Kare, Graphic Designer, and This Is How I Work;” on metaphor shopping, see Zuckerman, “The Designer Who Made the Mac Smile.”

⁶⁷ Orin, “I’m Susan Kare, Graphic Designer, and This Is How I Work;” Vit, “Pixel Perfect.”

⁶⁸ Brownlee, “What Every Young Designer Should Know;” Orin, “I’m Susan Kare, Graphic Designer, and This Is How I Work.”

respect for the user. It's important to get user feedback and take it seriously. Under-sell and over-deliver."⁶⁹

Kare has received a multitude of professional accolades for her life's work, especially within the design community. In 1997, *I.D. Magazine* named Kare one of its original "I.D. Forty," its annual list of the most influential designers. In 2001, she received the prestigious Chrysler Design Award, bestowed upon those who, through design, have "significantly influenced modern American culture."⁷⁰ Kare does not let these honorifics go to her head: "I still spend my days turning dots on and off," she says with characteristic humility.⁷¹ But Kare's influence is significant. She brought "an artist's sensibility to a world that had been the exclusive domain of engineers and programmers," and in the process, she says, "I hoped to help counter the stereotypical image of computers as cold and intimidating."⁷² With thirty years (and counting) of simple, elegant, and whimsical designs, Kare has made personal computing more appealing for millions of new users. Kare is satisfied too: "I feel much happier that people are looking at my icons every day than having my sculptures in five living rooms across the country."⁷³

⁶⁹ Vit, "Pixel Perfect."

⁷⁰ Vit, "Pixel Perfect."

⁷¹ Edwards, "Legends: Susan Kare," *Forbes ASAP*, 23 February 1998.

⁷² "John J. Anderson Distinguished Achievement Award: Susan Kare," *MacUser*, March 1993, 93; Kare, "Design Biography."

⁷³ Quinn, "Art That Clicks."