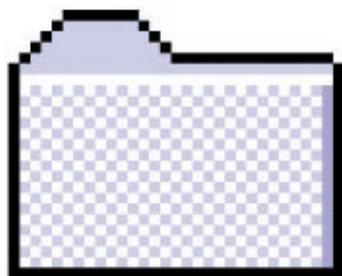# Deeper into the Paradigm

By Nick Shinn
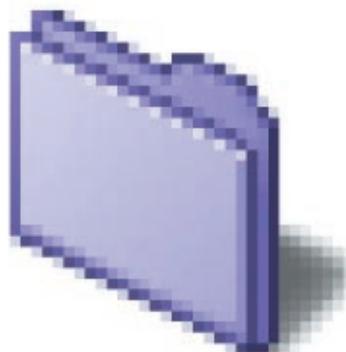Graphic Exchange
May./Jun. 2002

# Deeper
## into the paradigm



*Original*          *Classic*          *Aqua*

## The fluid interface of Apple's OS X
### by Nick Shinn

The screen may be flat, but the illusion of depth grows stronger. With Apple's new operating system, OS X, the evolutionary trend of the user interface becomes clear. Starting as flat, monochromatic symbols, the Mac's icons have become progressively more naturalistic, and the suggestion of depth created by layers of overlapping windows has been enhanced, first by the *Classic* bas-relief shading on the window frames, and now, with *Aqua*, the OS X interface, by the addition of feathered drop shadows cast by the windows.

The buttons on the window bars don't look like mechanical push-buttons any longer, that metaphor is dead. Now the buttons are translucent drops of colored liquid. The *Classic* ribbing on the window bars, which suggested that a tactile tug was involved in dragging them around, has survived in OS X as a "non-functional" striation that covers all menu bars, in a variety of delicate off-white tones.

Even the new system type is softer and subtler—it's Bigelow and Holmes' *Lucida Grande* (also used at apple.com) with the elegant proportions of *Optima*—note the variety of width in the caps, and the ascenders rising above cap height.

There are many explanations for the trending richness of the appearance, starting with "because we can". If you've got the processor power, you render. Perhaps there is, as some critics have suggested, a deeper meaning to the prevalence of veiled, transparent images in popular graphics. And perhaps it is also really cool.

Artists and designers like to play. When the whole world was psychoanalyzing

Jackson Pollock and his drip paintings, fellow abstract expressionist Robert Motherwell commented, "Plastic automatism [i.e. drip painting]…is…very little a question of the unconscious. It is much more a plastic weapon with which to invent new forms."

The most obvious new form of OS X is the Dock. It's the old Apple Menu, but with its contents permanently on display, so you can drag-and-drop and open items with one action, rather than two. As the Dock was being developed, it was designed so that as more items are put in, the smaller the icons become. That posed a problem of recognition, especially with *Aqua*'s more detailed, less iconic icons. Hence the invention of the mouseover "magnifier"—more of a mobile spherical distortion filter, actually—that also causes the object's name to appear above it.

So here's the situation, here's the paradigm shift in all its glory: Before—a system of simple, graphic icons, objectively managed—you look, analyze, and act; After—a system of "photo quality" icons that appear fuzzy, and work better as the user becomes involved.

It's somewhat absurd to describe this as immersive—all you're really doing is sitting in front of a computer jiggling a mouse—but nonetheless, the world negotiated by interface navigation is becoming increasingly fluid. On the Internet, Java and Flash have enabled many new "on-mouseover" actions, most notably magnetic effects, and the culture evolves as users take to some and remain baffled by others.

In OS X, the most fluid feature is the Genie zoom, which morphs the visual contents of a window from full size to Dock icon size (or vice versa); wisely, the user has been given the option of turning off this potentially annoying effect.

There's a cross-pollination between the navigational conventions of website design and those of OS design. On the Net, the grey-buttoned pop-up menu originated as a piece of Javascript that mimicked Apple's pull-down menus, and this device has evolved, with Flash, so that many sites "feel" like an operating system—in effect

# Watercolor rendering

**Gone is the mechanical push-button metaphor, replaced by translucent drops of moisture. Gone is the industrial ribbing of bas-relief instrument panels, morphed into delicate linear shading, with windows floating above softly vignetted drop shadows.**



# Seeping through the system

**Historically, operating systems have been augmented by applications, plug-ins and peripherals. Over time, functions seep down toward the core. With OS X, for instance, font kerning and MIDI are now handled at the Media level (see below). This means that not only do they happen faster and more smoothly, but developers don't have to build these into their apps. That will save a lot of grunt work, freeing them up to move beyond. Metatools like Cocoa and AppleScript, which don't require users to know code, open up the task of software development to a fresh social group.**

## OS X levels

| INTERFACE | | | |
|---|---|---|---|
| **Aqua:** The new-look interface works slightly differently and has more potential, but some mental adjustment will be required by the Classic user. | | **Applescript:** Customizes the workplace, using the full interface. | |

| PROGRAMMING LANGUAGES *for third-party applications* | | | |
|---|---|---|---|
| **Cocoa:** Applications created with Cocoa are native to OS X. | **Java II:** Sun's cross-platform language. | **Carbon:** Older apps tuned up for OS X, e.g. Photoshop 7. | **Classic:** Older apps, e.g. Quark, run in OS 9 mode. |

| MEDIA *processing of 2D, 3D, sound and time* | | | |
|---|---|---|---|
| **Quartz:** Apple's proprietary graphics engine handles compositing, fonts, color, draws Genie. | **OpenGL:** 3D processing is done by super-fast graphics card. | **QuickTime:** Apple's little file format is emerging as a huge platform for new media. | **Audio:** Plenty of power for new recording studio and multimedia applications. |

| BASE | | | |
|---|---|---|---|
| **Darwin:** The core of OS X is a brand new, open source, UNIX base. | | | |

# What a mess. So?



Traditionally, the conscious human subject was conceived of as a rational agent and reader of meanings. To aid the viewer's sense of logic, modernist designers systematized the graphic reduction of symbol sets, removing irrelevancies, paring each icon down to the core of its significance. In contrast, the fussy "photo quality" rendering of the Quartz icons (above, in the Dock) is counter-productive to easy recognition.

The new icons are intuitive and expressive, says Apple. OK, they're cute and colorful, and that may be expressive, but never mind intuition, you'd have to be psychic to figure out what most of them mean without a caption.

But none of this criticism is relevant, because the Dock operates in and drives a completely different paradigm.

You don't read its meaning, you use it.

You remember the position of things, and you move the mouse over an icon to magnify it and pop up its name.

It's interactive and immersive.

You are the User, and it's all about your experience.

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the user can quickly inspect the submenus for all the buttons on a navbar, just by passing the cursor over it, easily forming a mental picture of the site contents (e.g. at *www.thirstype.com*)—definitely a step up from having to download a separate page for each button click, or being presented with the visual metaphor of a huge pile of file folders.

In the other direction, OS X has picked up some Internet tricks. For instance, text that changes color "onmouseover" to indicate a link, and the new *View As* option of *Columns.* This is rather like a sideways *View as List*, but packs a lot more items into the user's field of vision, without scrolling; its structure is that of nested frames, an HTML device.

*Aqua*, the OS X interface, centers on the User Experience. It's a philosophy promoted by the influential scientist, educator and author Donald Norman, who guided product development at Apple in the mid-nineties. He believes that "it is ever more important to develop a humane technology, one that takes into account the needs and capabilities of people." Interaction is the key for Norman; in the learning process, it's not enough to either passively receive knowledge, or to develop skill sets through training—what works best is to learn by problem solving. This idea of the preeminence of experience is also expressed by Erik Davis, author of *Techgnosis: Myth, Magic and Mysticism in the Age of Information* (*www.techgnosis.com*). At the 2002 Subtle Technologies conference in Toronto, he suggested that "the most contemporary material of cultural production is nothing less than the human experience itself…it is vital that we shift away from the overly semiotic and structuralist accounts of subjectivity popular in the late twentieth century." Like many, Davis is looking for the next big thing after Post-modernism.

By his criteria, there are a couple of bits of fluff bundled with OS X that must surely rank as artistic masterpieces. They are demos created by Nvidia to showcase the power of its graphics cards to do 3D rendering in real-time (the time is most real in a dual gig G4 with a GeForce4 card).

*Tree* is surrounded by fireflies. The player/user/viewer has sliders that vary, for instance, size of leaves, number of fireflies, time of day, etc., and can fly the POV between the branches with mouse movements.

*Bubble* floats in the middle of a courtyard, reflecting the scene around on its mirrored surface. Mouse movements change the user's position relative to the bubble, and one may prod it, causing its surface to distort, shimmer, and wobble.

There's a beauty and a completeness to these pieces. They are nice places to be, and in each case the interaction is restrict-
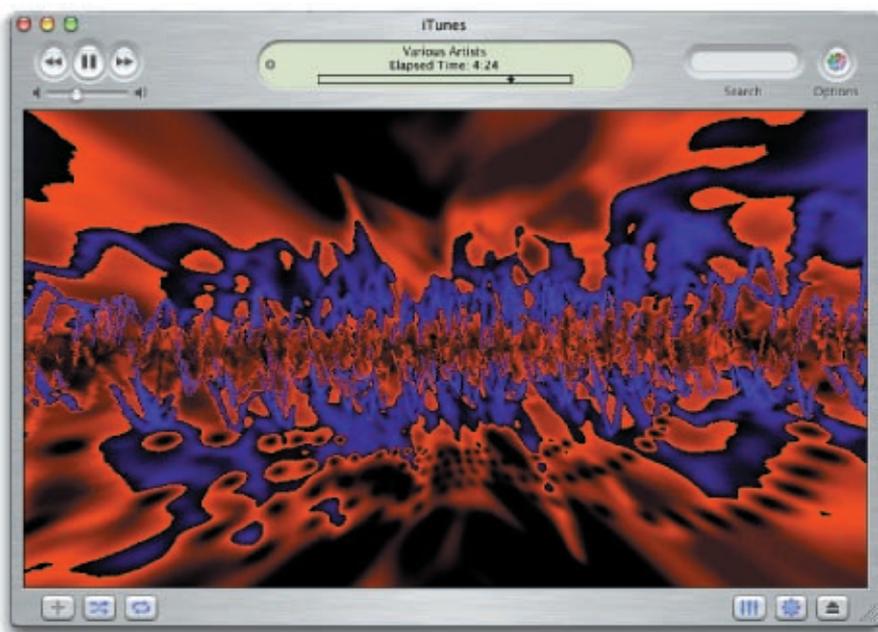


**Beyond the infinite, dude. Bringing drug-free synesthesia to the masses, the mind-blowing iTunes Visualizer (included with OS X) is a marvel of algorithmics, demonstrating that the true art of new media exists in the space between media. All Apple's "i-" apps have a single window, with brushed aluminum appearance.**

ed, but not boring.

Generally speaking, games don't have the smack of Art, no matter how artfully rendered. Nonetheless, there are many where you can stop and smell the roses, so to speak; the great *Myst* was one of these, and God-games (e.g. the utopian *Sim City*) offer plenty of opportunity for aesthetic digression. But there is something very fine about these demos, perhaps their sense of completeness, or the opportunity they provide for contemplation.

These environments were created specifically to heighten the user's awareness of the dimensionality of their virtual space—so there is also an element of self-reference.

Putting two and two together—Donald Norman's humane technology and the emergence of virtual space, it's hard not to think of the Renaissance. In that era Humanist artists "conquered reality", as Ernst Gombrich phrased it in *The Story of Art* (1950), with perspective and oil paint.

Their goal was to create a sense of three-dimensional space on a flat surface, and they began, in the 14th century, to incorporate intuitive perspective grids into their paintings, an effect that was later systematized by mathematic theory.

Jan van Eyck developed and perfected oil painting, his technique building up layers of translucent and opaque pigment which enabled the capture of the subtle, spatially-realizing effects of light. Combining perspective, diffuse lighting and painstaking detail, he created a compelling image of reality in works like *Giovanni Arnolfini and His Bride* (1434).

Hugo Damisch has argued, in *The Origin of Perspective* (1987), that rather than being an approximation to "normal" perception of space, Renaissance humanist artists presented a symbolic form, a way of discoursing about space which conditioned perception rather than merely described it.

That's what Apple does—conditions perception. In fact, the company did such a good job establishing the reality of its original interface that it acquired the aura

# Fabricating reality





**Remove the plot from the sci-fi movie; remove the play from the online game; remove the pitch from the car ad— and what's left?**

A conception of digitally rendered space that the culture is getting to know, constructing its reality as we go along.

*Bubble* is an interactive artwork made by Nvidia to show how its graphics cards handle complex rendering in real time. Like Jan van Eyck's *Giovanni Arnolfini and His Bride* of 1434, it uses light, perspective and convex reflection to meticulously create a sense of space.

How "real" is either?

Eyck's work is no snapshot—it is a composite made from separate studies (dogs don't pose), and the symbolic marriage mirror never existed.

Is the courtyard in *Bubble* a rendering of a "real" courtyard...?

THE NATIONAL GALLERY, LONDON

of a discovery, rather than an invention, contributing to the loss of its copyright infringement case against Microsoft.

So here we go again, following eclectic boomers Jobs and Norman into the Age of *Aqua*.

With Apple, which is such a driving force in digital culture, good design is nothing if not beautiful, and the deftly handled formal qualities of *Aqua*—fluidity, transparency, color, depth, texture, cus-

tomizability—continue to advance a digital aesthetic centered on stroking the faculties of the user in ever new ways.

Think different, said the ads, and with OS X there is no option. 🌐

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