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# Is That Ocarina Music Coming from Your iPhone?

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Software apps turn the Apple iPhone into an ancient musical instrument, not to mention a virtual lighter, firecracker and voice synthesizer  
By Larry Greenemeier

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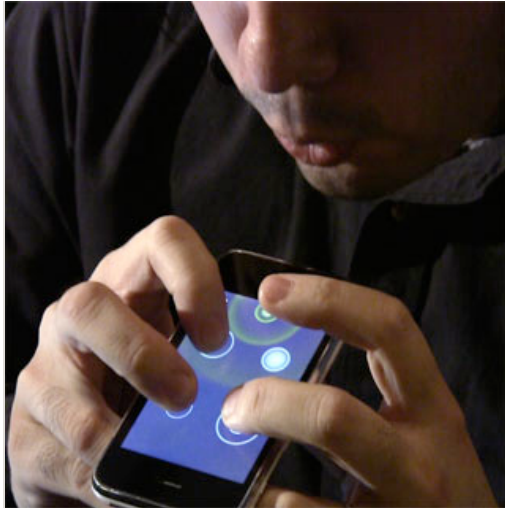
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**FLUTELIKE PHONE:** Smule's Ocarina software lets iPhone users turn their mobile phones into ancient musical instruments.

Image courtesy of Smule

When Apple introduced the [iPhone](#) in June 2007, the company sought to test the limits of mobile [communications](#) and computing in a single, handheld device (handsomely packaged, of course). Software writers soon began taking Apple up on that challenge and, when the company opened its [Apple App Store Web site](#) in July, it gave these programmers an outlet for selling a vast array of new capabilities for the iPhone, including the ability to transform it into a number of different musical instruments.

The most popular of these currently is an obscure flutelike instrument called the ocarina, whose [12,000-year history](#) can be traced back to China as well as the Aztecs, Incas and Mayans in South and Central America. Developed by Menlo Park, Calif., start-up software maker Smule (short for [SonicMule, Inc.](#)), Ocarina software allows iPhone users to make music by blowing into the phone's microphone while simultaneously pressing any of four different keys located on the device's touch screen.

[Ge Wang](#), Smule's chief technology officer and co-founder, has spent the past several years experimenting with computer music and programming languages as well as sound synthesis and analysis. An assistant music professor who teaches about music and computers at Stanford University's [Center for Computer Research in Music and Acoustics](#),

Wang also helped create "laptop orchestras" (ensembles of computer-based musical instruments) at both [Stanford](#) and at [Princeton University](#) in New Jersey. The iPhone brings his expertise in music and computers together on a device he says is more "personal" than a PC or even a laptop.

He, along with Stanford colleagues, began experimenting on mobile phones late last year when they designed software that let the [Nokia N95 phone](#) mimic several different types of musical instruments. But the N95, which uses the [Symbian](#) operating system (as opposed to Apple's Mac OS), does not give its customers access to applications the way Apple does via its App Store Web site, nor does the N95 have a touch screen (it has a slider-style keypad). Smule's N95 software never made it out of the computer lab (in fact, it was never even given a name), but it did lead Wang to the iPhone.

Ocarina detects audio coming into the phone when a person blows into the microphone and makes a flutelike sound in response. iPhone musicians can change the pitch of that sound by playing their fingers on the buttons on the device's touch screen. With practice, the iPhone can play with a variety of tunes, including [Led Zeppelin's "Stairway to Heaven"](#) or the theme song to the video game ["The Legend of Zelda,"](#) as demonstrated in videos on [Smule's Web site](#).

Ocarina is not iPhone's first instrumental application; DigiDrummer and Organist, for example, allow iPhone users to play the drums and organ, respectively. Nor is it the only one that utilizes air to produce sound (the iRecorder app does this, too). But Ocarina, which has been downloaded 500,000 times since its debut last month, is currently the number-one musical instrument on iTunes. At 99 cents a pop, the software has been quite a score for the company.

Smule is planning to release the latest version of Ocarina this week, which will allow the hundreds of thousands of digital musicians it has created to share their recordings via the company's Web site. "Technology can have a polarizing effect and isolate people," Wang says, noting that his goal was to do the opposite and connect iPhoneers worldwide.

Smule has no immediate plans to make its software available for [Google's T-Mobile G1 Smart Phone with Android Software](#) or for Research In Motion's (RIM) BlackBerry Storm. While Google offers mobile software through its Android Market and RIM has its own application center in the works (handheld pioneer Palm yesterday launched its Software Store), [none of these has caught fire like Apple's App Store](#).

Ocarina is not Smule's first application for the iPhone. In September it released its Sonic Lighter software, which allows users to light a faux flame on their iPhones. When the phone is turned, the tip of the flame will bend so that it stays vertical (like a real flame would if you turned a real lighter on its side) and even appear to "burn" the side of the screen (indicated through wisps of smoke that begin to form if the phone is held horizontally too long). The flame is extinguished by blowing into the microphone, a sound-recognition feature that Smule later incorporated into Ocarina.

Smule followed Sonic Lighter in October with Sonic Boom, which produces a "firecracker" on the iPhone's screen

that can be lit using the Sonic Lighter from another iPhone and culminates in a colorful explosion of what looks like a small stick of dynamite. Smule also released Sonic Vox in October, software that allows an iPhone user to change the sound of his or her voice by speaking into the phone's microphone. The Lighter and Boom apps cost 99-cents per download, while Vox costs \$1.99.

Including Ocarina, Smule software has been downloaded more than one million times from the App Store. Wang says he is not worried that Smule's software will be seen as a novelty or dismissed as a passing fad, because each new application they write unlocks some new capability in the iPhone. "Technology itself doesn't change our lives as much as the way we use the technology," he says. "Longer term, our mission is to see what people can do with these phones."

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