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Lab Rat: Let's play with Microsoft
on 04 April 2001, 22:00

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by Niall McKay

Realism has always been the Holy Grail for both animators and game developers. Games often live or die on their creator's ability to program personality into their characters; just look at how Tomb Raider's Lara Croft has become a superstar. But currently, game development companies have to pay programmers buckets of cash to achieve those personal touches.

Microsoft (Nasdaq: MSFT), long known for its desktop software, is showing a more playful side these days, with Xbox, the game platform that wowed game enthusiasts and technologists alike, and new software tools that will provide consumers with the ability to create their own games and animations.

But the Redmond giant isn't stopping there. It wants to make the game experience even more personal, which is why the graphics group at Microsoft Research is working on Face Mapping, software that lets computer users scan their heads in 3D using a $100 webcam. The tools include Expression, a technology that creates facial animation; Verbs, which can make an animated character walk, run, jump, or jive; and Adverbs, which gives characters emotional expression.

Of course, the ability to animate with emotional expression or scan a cranium is not new. Any Hollywood director with a large wad of cash, some expensive scanning equipment, and half a dozen highly paid animators can achieve such wonders.

What's new here? Microsoft is making the creation of realistic animation easy and cost-effective. Simply put, Microsoft is doing what Microsoft does best: bringing complex computer programming tasks to the less-technical user. What's more, if successful, such tools may do for animation and games what the digital camera has done for desktop video by making the creation of animation as easy and as popular as editing a home video.

HEAD SHOT To make the economics of game development more tangible, let's take a look at head scanning. To do this now, a developer needs a very complex piece of equipment that uses lasers to gauge the shape of the head and cameras to read the hair color and skin tone. When all of those data are captured, the computations are done on a large computer so that the texture and shape can be mapped onto a computer-simulated replica.

With Microsoft's Face Mapping, all the game user or developer does is have someone sit in front of a cheap webcam and have the camera record their facial image, which is then used to assemble a model of the face, utilizing 50 predefined parameters. It's not that much different from the way a police artist builds the face of a suspect with an IdentiKit package. Face Mapping simply matches the subject's chin to one of its predefined chins, then the nose, ears, and so on. The finished product, it has to be said, is about as pretty as a police sketch and makes most subjects actually look like they have a criminal record.

Why bother, then? Well, it appears that gamers have a desire to see themselves and their friends take part in the game they are playing. Other applications could include using a 3D representation of one's self during online meetings or instant messaging conversations, according to Microsoft Research graphics group team leader Michael Cohen.

Mr. Cohen's team is also developing animation software that provides novice game users with simple point-and-click tools for creating a realistic image.

WALK THIS WAY But the quest for realism doesn't end at the neck. Game developers want to give their characters more personality; for example, a happy walk or a wounded walk. That isn't so easy. Typically, animators get an actor and put him in a sensor-embedded suit. The sensors' data are fed into the computer; the animator then must map the motion to the animated character.

That's where Microsoft's Verbs and Adverbs come in handy. The actor's motion still has to be recorded, but with the tool, the mapping is automatically generated, thus dispensing with the need to have highly paid animators hand-code the animation.

Some game observers even believe it's possible that not too long from now, actors' motions could be sold by companies like Viewpoint (a firm that provides an A to Z of 3D objects) as prerecorded data objects. At that stage, enthusiastic amateurs will be able to build their own animations without ... well, having to animate. Once they have added the motion from Verbs, they can add the emotional expression of that motion from Adverbs.

No doubt game developers will be the first to take advantage of such tools, but it may not be long before enthusiastic amateurs follow suit and use them to create their own games and animations. So why is it that Microsoft, a company that, after

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The buzz surrounding healthcare IT provider, Cerner

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Able Planet's new headset offers up solid aural vibes.

Gmail BETA, See You Lata
Google's gmail loses its "BETA" label.

Bada Bing, Bada Boom?
Microsoft's Bing.com gets some traction in online search, according to the numbers in from ComScore.

Calpers to Pump up PE Stake
The nation's largest pension fund is mulling a 40 percent increase in its private equity investments.

Peripheral Madness
The living room is a jungle of plastic and wires – I say enough already.

Wii Storage Ups Strong Bad Sales
One company is feeling the love because of Nintendo's Wii storage solution: Telltale's Strong Bad.

Amazon Sells Xbox Live Games
No more leftover points–buy XBLA games off Amazon.

GDC 09 Keynote: What About Wii?
Satoru Itawa's keynote touched on both systems, but it seems like the Wii got the short end of the stick.

Steam Vaporizes DRM and Piracy
Steam's added anti-piracy measure does away with DRM.

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