COMPUTER GAMING WORLD

THE #1 PC GAME MAGAZINE

The NEXT BIG THING

5 GAMES THAT WILL CHANGE GAMING FOREVER!!!

BUNGIE'S HALO

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TRIBES 2

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SAM I AM The surface-to-air missile is spectacular looking (and handy too). The smoke trails actually dissipate in the wind.

HALO's indoor environments are spectacular enough. Colored lighting pours in through stained glass windows; computer displays reflect off polished floors. The building's curved surfaces and seamless textures eradicate any semblance of the Lego-style architecture we've grown accustomed to in 90-degree-heavy 3D games. And then you step outside...
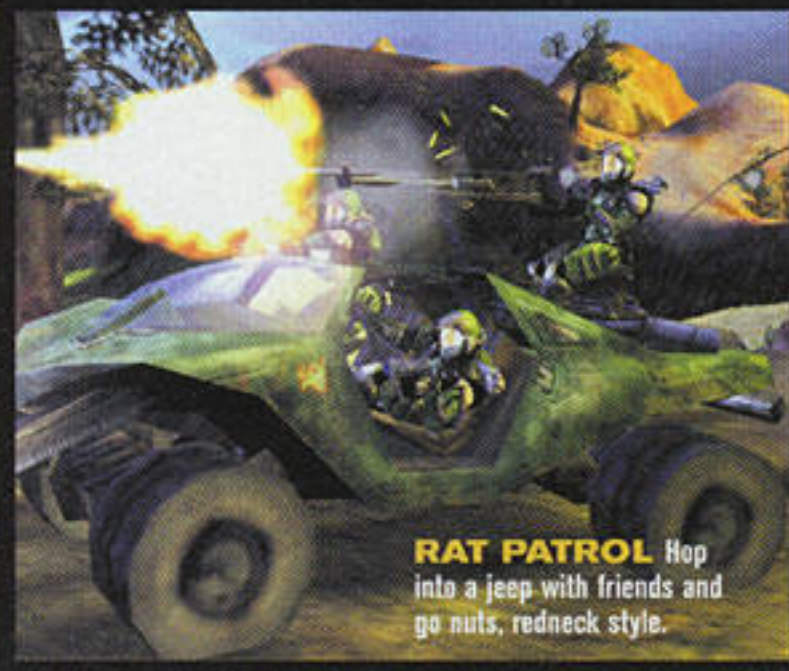

RAT PATROL Hop into a jeep with friends and go nuts, redneck style.

...where smooth, rolling green hills dominate the landscape, interspersed with cliff-walled canyons in the nadirs of watersheds. Trees sway in the breeze. A waterfall plunges into a sparkling river. You can't make out a straight line anywhere, and the lush scenery seems to go on for miles.

HALO challenges the current conception of how beautiful a computer game can be. It could, in fact, redefine your conception of computer games. Why? Because this third-person-perspective action game features the finest 3D-game engine, character animation, and physics modeling we've ever seen. Such technology in the hands of a company long known for making fewer games at higher-than-normal quality levels is practically unfair.

WANT A JOINT?

Not satisfied with simply stunning terrain, Jason Jones – creator of MARATHON and MYTH and the visionary and lead programmer for HALO – also aims to revolutionize the art of character animation and physics modeling. Even at this early state in the game's development, his effort shines. Not only do vehicles and characters reflect light and cast dynamic shadows, they actually appear iridescent. Even more impressive is the life-like way in which the models move.

In almost every game you've played before, the character animations are pre-canned – they're animated before you ever play the game. What you see when you walk forward or jump is actually a series of slightly different models, rapidly painted one after another, much like a three-dimensional flip book. Not so in HALO; Jones found a way to implement inverse kinematics, a technique for modeling human motion, in real time. Game models actually have a skeleton inside them with properties governing the movement of each joint. If your character is riding in a jeep and the driver hits the brakes, the inertia jolts his skeleton forward in the seat, moving the character right along with it. At the same time, his

HALO

The **Closest** Thing to the **Real Thing**

by Jesse Hiatt

POSTCARD MATERIAL Don't get so distracted looking at the groovy scenery that you get yourself smoked.

ATTACK! There will probably be a lot of good reasons to use combined arms.

arm could be reacting naturally to the recoil of his pistol, and his head could be turning to track an enemy. This kind of dynamic, fluid movement and attention to detail is unheralded on many levels. The effects are mind-blowing.

And then there are the vehicles themselves. Driving around in the game's jeep could practically qualify as a game in itself, due to the extremely-detailed physics model (think GRAND PRIX LEGENDS off-road). The vehicles' tires kick up pebbles and dust that change color depending on the terrain you're driving over. Bungie also displayed an iridescent flying vehicle and hover tank that were equally impressive.

As one final demonstration of the engine's power, Jones zoomed the map way out so that the marine appeared as just a speck in the distance. Then he smoothly zoomed in, close enough that I could read an indicator on the side of the soldier's rifle that showed how much ammo remained.

The standard soldier's weapons are a pistol with a built-in laser for painting targets, an assault rifle with an attached grenade launcher, and a machete for desperate situations. We also saw a cool zooming sniper rifle, a rocket launcher that leaves realistic smoke trails behind it that dissipate into the wind, a surface-to-air missile, a spear gun, and a funky-looking defoliator weapon. The aliens pretty much have an equivalent weapon for each purpose, but they shoot blue energy beams instead of familiar, earthly ordinance.

RING AROUND THE WORLD

Bungie's game design process is three-fold. First they fin-

ish their engine, then they play the hell out of the multiplayer game, and finally they move on to the single-player experience. Since the game recently began moving into phase two, much of the game's story has yet to be realized. But to be perfectly honest, the HALO engine is so amazing that Bungie could let us just run around the map banging two rocks together, and that would still entertain us for a while.

The setup for the game goes something like this. A space-faring transport vessel carrying about 1,800 humans, 800 of them marines, crash lands on a huge ring-world that orbits a distant star. A theoretically feasible science-fiction construct, a ring-world is a thin ring of planetary mass thousands of miles across, with an inner surface coated with desirable life-supporting essences like an atmosphere, dirt, trees, and water. Because of the ring-world's unique halo orbit at the Lagrange Point between a gas giant and one of its moons, this freakish world actually spins in place, with the resultant inertia creating an effect similar to gravity (remember the space station in *2001*?).

An impressive artifact of tremendous significance, the ring appears to have been mysteriously abandoned by the time your ship crash lands on the surface. But much like a leftover slice of pizza at the *CGW* offices, this kind of phenomenon fails to go unnoticed for long.

An alien race called the Covenant soon pops up. Technologically superior to humans, these humanoids show up in great numbers to pilfer what they can from the ring. As you might guess, a full-scale war erupts between the humans and the Covenant.

Since the humans are ill-equipped to face the Covenant head on, their only hope is to use guerrilla tactics. Given this fact, at times you'll be able to use all of the aliens' weapons and vehicles against them. The other big problem you'll face in the early parts of the game is that all your mates and gear got spread out all over the ringworld in the chaos preceding the crash.

IN YER FACE OR FAR AWAY Character models scale from 200–2000 polygons depending on how far away they are from the viewer. Note menacing mini-gun.

FLYING CONTRAPTION This is the Covenant's neat-o purple flying unit. Luckily you will be able to commandeer any vehicle (by force of course).

FROM NAPKIN TO HAPPENIN' There are a lot of steps and changing of hands between the artist's concept and the final, textured 3D model.

STEVE JOBS LOVES HALO

HALO makes quite an impression the first time around, but it isn't exactly a surprise that something so revolutionary would come from Bungie. After all, these guys are known for being different. They do their own publishing; they have always supported the Mac platform (HALO is no exception — Steve Jobs unveiled the game in his keynote speech at the recent MacWorld Expo); and they tend to make fewer and more innovative games than the rest of the pack.

Although only in the nascent stages of development, it is readily apparent that HALO is a very big deal. With a solid record of setting high standards for their games, it is unlikely that Bungie will screw this one up. Which is why, of the five games we've selected, we feel HALO has the surest shot at changing gaming. It just looks too damn good. *CGW*

Genre: Action
Release Date: Q4 2000
Publisher: Bungie
Developer: Bungie

BUNGIE'S GAMEOGRAPHY

MINOTAUR: THE LABYRINTHS OF CRETE

PATHWAYS INTO DARKNESS

MARATHON

MARATHON 2: DURANDAL

MARATHON: INFINITI

MYTH: THE FALLEN LORDS

MYTH 2

JASON JONES

"There is a common saying among programmers, 'Don't try and reinvent the wheel.' Well, we try and reinvent the wheel because hey, the guy who invented the wheel was really psyched. We typically throw away all our code when we start a new project. I am much more likely to start from scratch. If you don't understand what you're doing at the most basic level, you'll never be able to innovate.

"Ever since QUAKE came out, similar first-person shooters were all over the place. You could hardly tell them apart. You won't be able to mistake HALO for anything else. The reason that we do this is because just like users get bored of recycled ideas, we get bored the same way. We didn't want to do another first-person shooter or another real-time strategy game. We're also not really big on analyzing the market or saying game x is really cool. We do what we think is cool because we love it."