

Inside Halo's Secret Lab

Geeks, guns and glory: The mad scramble to finish Halo 3, the most anticipated video game of all time

By Mark Binelli

ONE MORNING IN AUGUST, WHEN AN UNFAMILIAR CAR pulls into the parking lot of the video-game developer Bungie Studios, it is quickly greeted by no fewer than three uniformed guards. Bungie is best known for creating Halo, a "first-person shooter" set in the year 2552 that has become one of the most popular video games of all time. It's only a month before the September 25th release of Halo 3, which has been three years in the making, and security is tight at Bungie's headquarters just outside of Seattle.

Inside the anonymous, hangarlike building, only seven of Bungie's 120 employees have access to the all-important server room, which stores the game's top-secret code — on 50,000 gigabytes of hard-drive space. The room can only be unlocked with a biometric hand scanner. "The precautions are as high as if we were printing money," says Bungie spokesman Brian Jarrard. "We're really treating the final version of the game like plates at the mint."

With Bungie competitor Rockstar announcing the delay of the much-anticipated Grand Theft Auto IV until 2008, Halo 3 stands alone as the highest-profile game this holiday season. There are already 1.2 million pre-orders, and Microsoft is predicting the game will do "Harry Potter numbers." "It's our intent to be the biggest entertainment launch of this calendar year," says Jeff Bell, vice president of global marketing in Microsoft's gaming division. Bell includes all forms of entertainment in this calculation, including *Spiderman 3*, which holds the record for the highest-grossing opening weekend of any film, having peaked at just over \$150 million.

Now, with only six days to go before the finished game ships to manufacturing plants, there's a final-stretch sense of frenzy at Bungie HQ, tempered only by a slightly dazed fatigue. Harold Ryan, Bungie's stocky thirty-six-year-old studio manager, paces the floor with a large iced Starbucks coffee. He'd been at the studio until seven in the morning, went home, catnapped, showered and returned.

It's now just after ten. Jaime Griesemer, a sallow, red-haired gameplay designer, wanders by and notes, glumly, "They locked me out of my computer last week." As the deadline approaches, Ryan is often forced to lock employees out of the system, lest they continue to tweak the game; its code is so sensitive that a minor change could have massive, unknown repercussions. At the moment, the main buzz of activity centers around the teams of bug testers, who are still furiously playing (and replaying) the game, searching for the tiniest glitches. This geek dream job is not as fun as it might sound. "You're not just playing Halo all day," says Jarrard. "You're playing *this piece of this mission*. For nine hours."

The Bungie headquarters was designed by one of the studio's virtual "map" architects. (They create the jungles, deserts and space stations where Halo's action takes place.) It utilizes an open floor plan, with the employees spread out across a windowless, vaguely futuristic space. The mood lighting is designed to cut monitor glare, but it creates a bunkerlike atmosphere, reminiscent of Jack Bauer's headquarters on 24. The work force is almost entirely male, with a high proportion sporting

MASTER BLASTER

Halo 3's main character, Master Chief. Wielding rocket launchers, flame-throwers and other enormous guns, he wages battle against an evil alien race called the Covenant.





IN THE ZONE Around 120 people work at Bungie, including programmers, gameplay designers, writers, musicians and at least one guy whose job it is to make water in Halo 3 look super-realistic.

glasses, facial hair and Bungie swag; it looks like a casting call for the next Judd Apatow movie. Halo's lulling New Age soundtrack emanates from the computers of numerous other cubes, punctuated by the occasional burst of artillery fire. One cubicle's entire wall is papered with Bill Gates' face, grinning from a dozen covers of a magazine called *Diversity*, arranged like a Warhol series of Mao paintings. Bungie was acquired by Microsoft in 2000 – for between \$20 million and \$40 million, according to the *Wall Street Journal*. The studio used to be based at the Microsoft campus, but after the completion of Halo 2, in 2004, the company moved to its current space. “The people at Microsoft can't even get into our building now,” Jarrard notes happily.

HALO'S STORY LINE PITS humanity against an invading horde of alien religious zealots known as the Covenant. The original Halo, released two months after the September 11th attacks, sold 5 million

copies and became the marquee game of Microsoft's brand-new Xbox console. Halo 2, released in 2004, was even bigger, thanks to a new multiplayer mode that allowed friends – and strangers – to do battle over the Internet. The game sold 8 million copies, earning \$125 million its first day alone. The newest version, Microsoft hopes, will be the killer app that inspires millions of rabid Halo fans to upgrade their hardware to the Xbox 360 (Halo 3 won't play on the original Xbox).

Making a video game, Bungie staffers say, is a lot like making a blockbuster movie, only harder. Head writer Frank O'Connor, a shaved-headed, thirty-six-year-old Scotsman, personally wrote 60,000 lines of combat dialogue. Engineer Hao Chen, who is thirty-three years old and grew up in China, spent months working on “water-tech” programming – basically, making sure that any water appearing in the game hyper-realistically eddies, flows and creates turbulence around objects. There are graphic artists who focus specifically on design-

ing weapons, others who specialize in armor or vehicles. Head programmer Chris Butcher (29, of Kakanui, New Zealand) develops complicated artificial-intelligence code to ensure that the marauding enemies attacking players do so in ever-increasingly devious ways.

Meanwhile, in one of the testing rooms, eleven guys sit in front of twenty-one computer monitors. Dramatic scenes flash across the flat screens in rapid succession: jeeps flying straight at a gigantic insectlike robot, alien blood spattering on a snowy landscape, spaceships hovering in a purple sky, rifle scopes zooming in and out with furious, phallic intensity. But the testers are nearly immobile, gaming fingers excepted. The players wear headsets, so the room is silent, save for the occasional offhand tester comment.

“Did you see Sam Raimi is remaking *Clash of the Titans*?”

“If I were Kenny Rogers, I'd have plastic surgery too.”

“Why aren't those blowing up?”

BUNGIE WAS FOUNDED in 1991 by Alex Seropian, then a math major at the University of Chicago. Inspired by the first Gulf War, he created Operation: Desert Storm, a game for Macs that sold 2,500 copies. (The final battle involved a giant Saddam Hussein head.) Around this time, Seropian met a fellow student named Jason Jones in an artificial-intelligence class. They became partners, and began writing more Mac games from Seropian's apartment. Bungie's first big hit, *Marathon*, came in 1994. The game, a first-person shooter set on an abandoned spaceship, was modeled after the wildly popular game *Doom*, which was only available for the PC.

Halo, too, was originally developed as a Mac game. But after catching a demo at a MacWorld convention in 1999, Microsoft bought Bungie and the studio reworked the game for the then-new Xbox, which needed a flagship title to help it compete with Sony's popular PlayStation. Halo's plot is fairly typical sci-fi: Earth has been overpopulated, and humans have been forced to colonize distant planets, which has resulted in conflict with the evil, garishly armored Covenant. Players control a faceless, armored cyborg called Master Chief – a cryogenically frozen supersoldier, genetically engineered for battle, and the last hope for humanity – who bears more than a passing resemblance to the beloved *Star Wars* villain Boba Fett.

As the game's story line progresses, players move through various levels of a ring-shaped space station called Halo, all of which is really just an excuse to showcase cool weapons (the S2 AM Sniper Rifle, the M19 SSM Rocket Launcher) and commandeerable jeeps, tanks and flying machines (Scorpions, Banshees and Warthogs), and to slaughter as many alien bad guys as possible. But there are also clever surprises. Halfway through the original Halo, an entirely unfamiliar alien enemy called the Flood makes a shocking appearance, forcing players to suddenly face a radically different foe and alter their combat strategy. (It's as if, several levels into a game of Pac-Man, the dots suddenly began to attack you.) Such advances in gameplay made Halo stand out from other games. “For the original Halo, we came up with this concept of ‘thirty seconds of fun,’” recalls Griesemer.

Gettin' Played

Fall's hottest games: from Mario in space to the best Madden ever



Super Mario Galaxy (Wii)

PREMISE Go planet-hopping with Nintendo's tiny plumber.

WHY IT ROCKS No gravity. As Mario zips around – and upside down – through the universe, your perspective shifts with him.

OUT November 12th

BioShock (X360, PC)

PREMISE Drill-armed robots, mutants and little girls rule a dystopian Atlantis called Rapture. To survive, slaughter them – or join their ranks.

WHY IT ROCKS Sloshing through the flood, you'll find the most thoroughly realized game world since *Half-Life*.

OUT Now

Mass Effect (X360)

PREMISE A race of machines is destroying the galaxy. You must lead an interstellar mod squad against them.

WHY IT ROCKS You can customize your equipment, down to the thickness of your armor. Plus, the fantastic dialogue simulator lets you bully, bribe or “be nice” to your crew.

OUT November 20th

Skate (PS3, X360)

PREMISE Real-life skateboarding pros grind through the fictional town of San Vanelona.

WHY IT ROCKS Your moves are executed with subtle flicks of the analog sticks – just like turning your thumbs into feet!

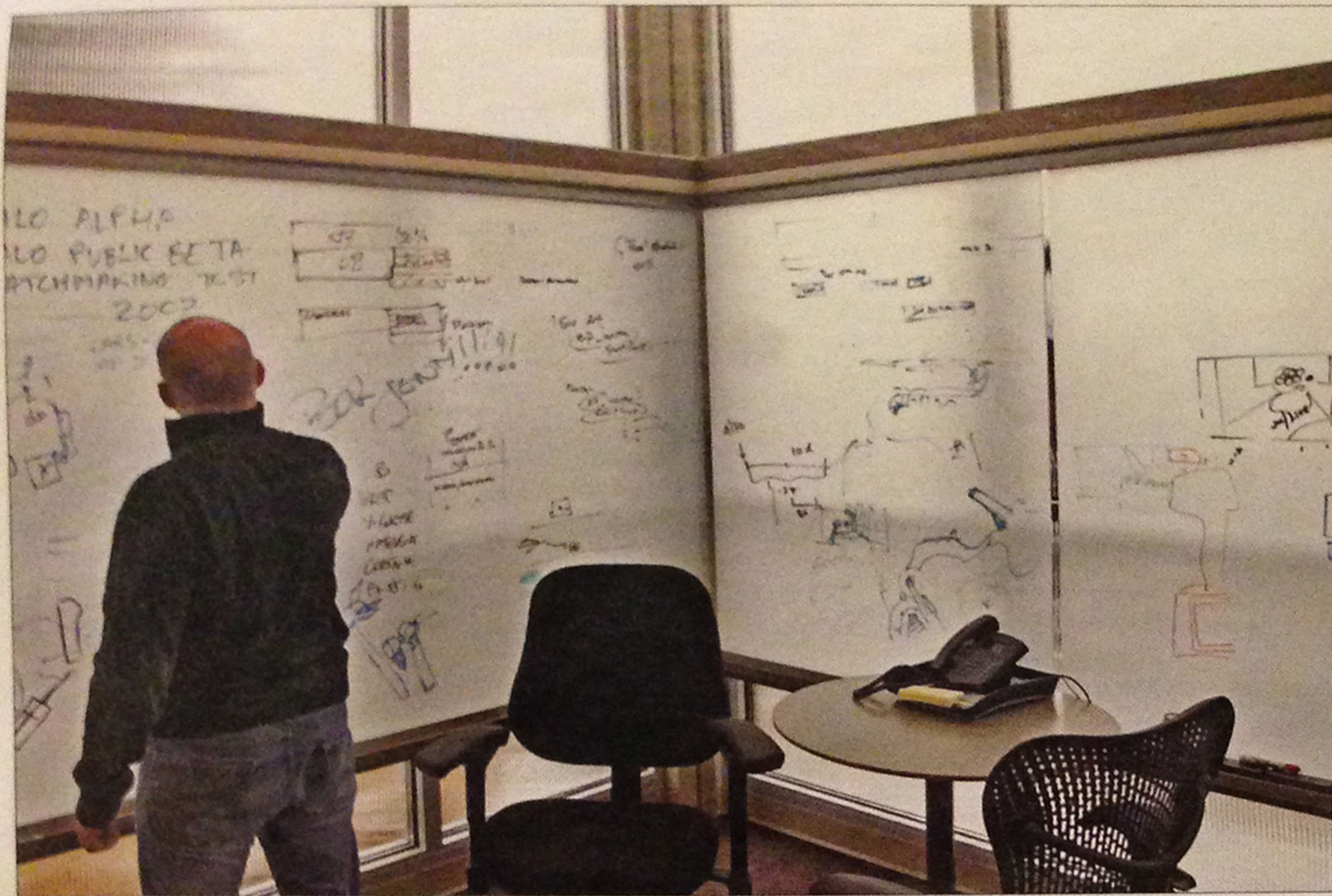
OUT Now

Call of Duty 4 (PS3, X360, PC)

PREMISE The World War II shooter favorite, updated for modern-day warfare.

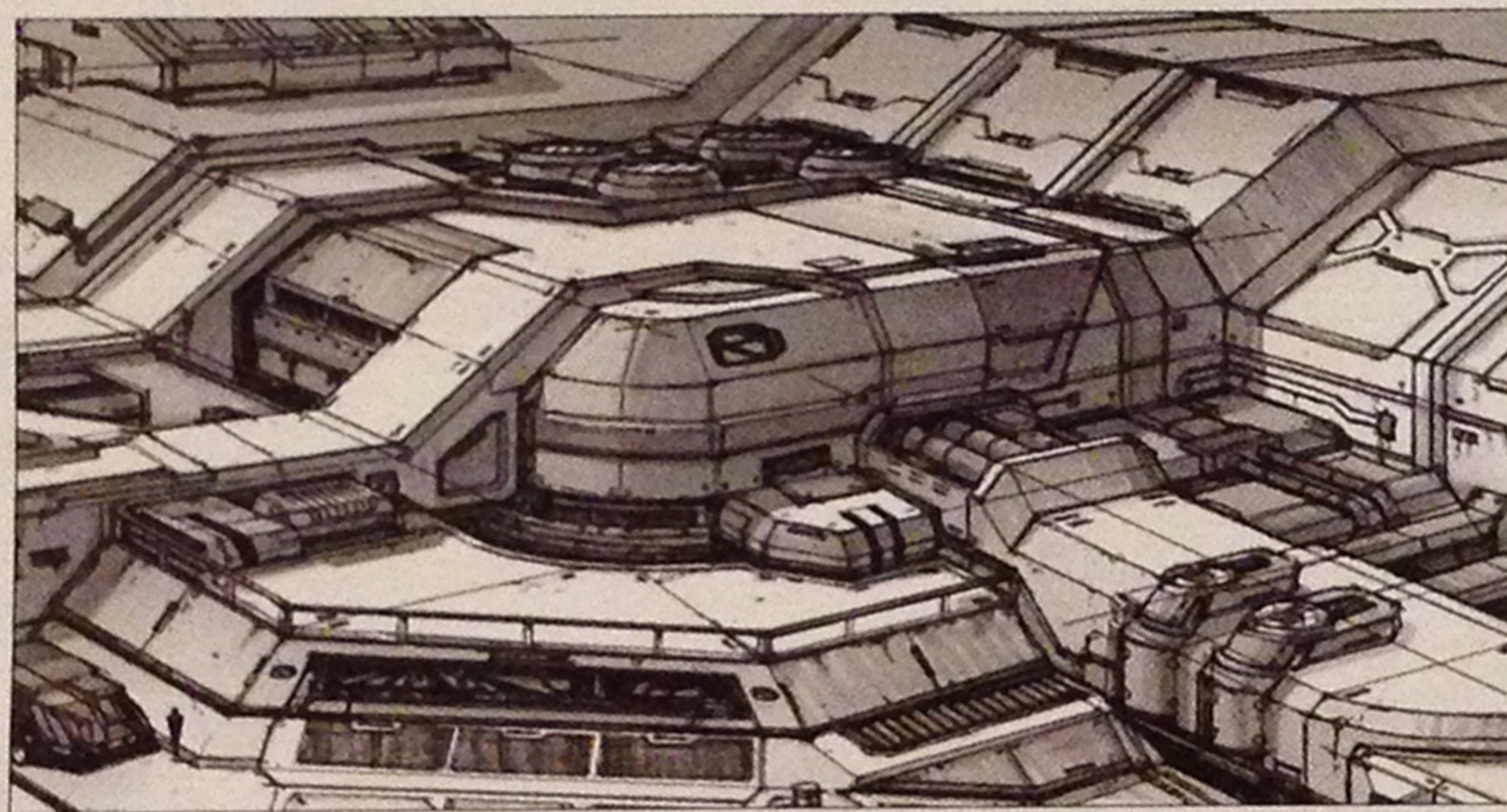
WHY IT ROCKS CoD's riveting war-geek history gets a contemporary makeover with night-vision and infrared laser scopes.

OUT November 5th



THE PROCESS Head writer Frank O'Connor maps out a level (above). A concept drawing of a factory complex featured in a Halo 3 mission. It was created during the game's eight months of preproduction.

"We decided if we could make something fun for thirty seconds, we could just do that over and over, and it would be fun indefinitely. So you see enemies from a distance, shoot at them, have a little bit of a fight, it breaks up, they scatter. And then you keep moving and it starts over again."



of what a player will encounter on each level: weapons, vehicles, terrain, the ease or difficulty of the mission. Griesemer was a philosophy major in college. "It's funny how many ex-philosophy majors you find in game design," he says. "You have to learn to observe yourself in philosophy. Like, 'Oh, this is a bias. I need to analyze my thoughts from another perspective.' It's the same with gaming. You have to be able to play, but also step outside yourself and say, 'Oh, that would have been more fun if that guy hadn't killed me.'"

There are other Bungie products in the works, including a super-secret non-Halo game still in the prototype phase and a new Halo interactive series created by *Lord of the Rings* director Peter Jackson, a fan. "He doesn't even want to call it a game," Jarrard says. And Halo 2 remains one of the most popular games in Major League Gaming (the best player,

Tom "Tsquared" Taylor, takes in \$250,000 a year in sponsorships). "We want to make it a televised sport," says O'Connor, quickly adding, "Let's be honest, it's a game, not a sport, like snooker or poker. But like those games, it takes skill. You could cut to commentators, show replays in slow motion. I doubt it'll be on Monday night on ABC anytime soon. But a football game doesn't have explosions, or trucks flipping over, or tanks blowing spaceships out of the sky."

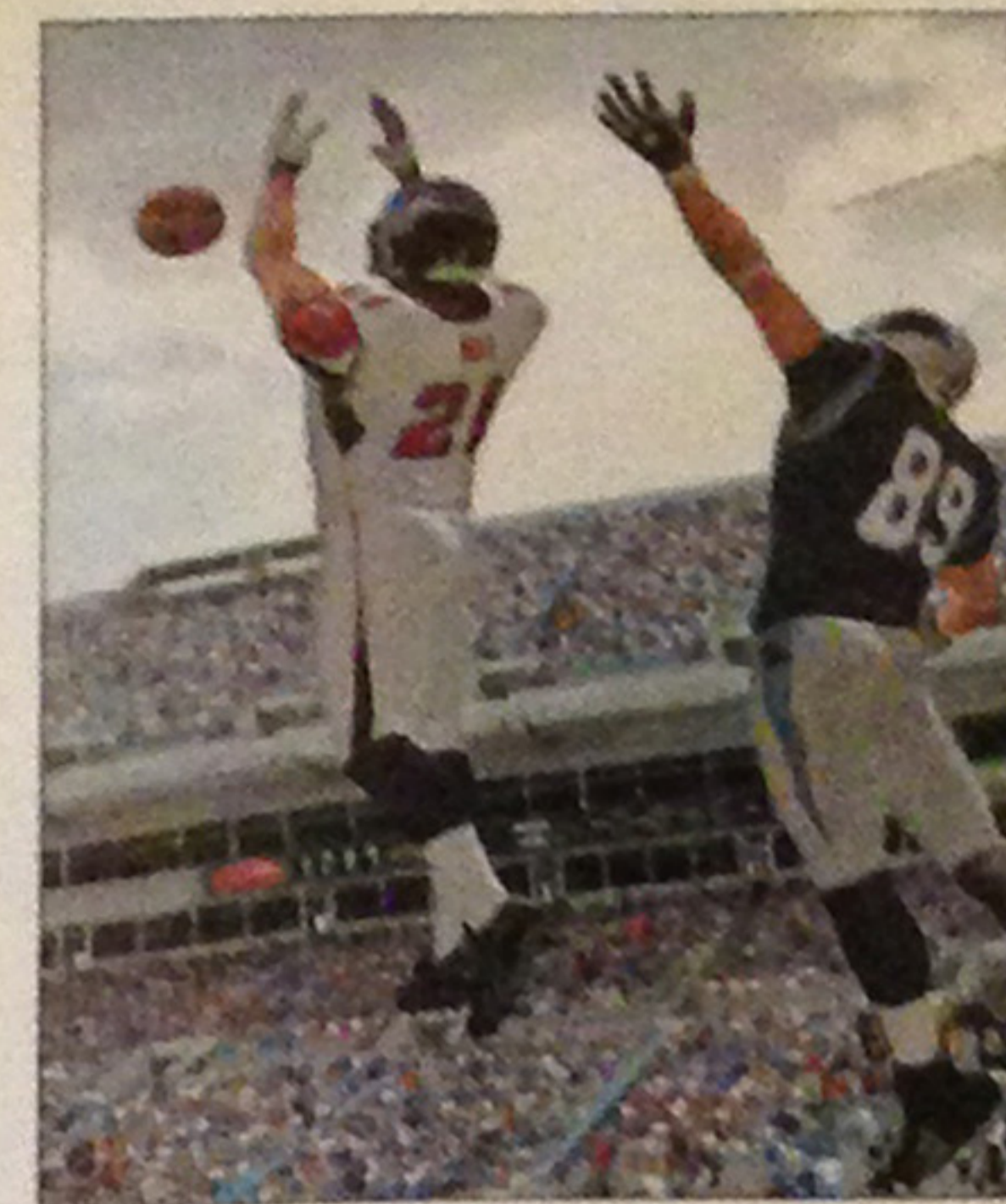
Despite years of focus groups and testing sessions, auditing every conceivable aspect of gameplay, the Bungie team admits that what makes a game work can be impossible to predict. "There's this magic thing that happens a month before we ship," says Griesemer. "It's terrifying when your boss is like — he pounds his fist — 'When is the game going to be fun?!' The designer can always see that it

is going to be fun. But fun is the last thing to come in. It's like, 'You have to take my word for it.'"

LATER THAT EVENING, IN downtown Seattle, 800 or so guys (and a negligible minority of women) form a line at the site of the 1962 World's Fair. The fair's most famous artifact, the Space Needle, designed in the Tomorrowland fashion of the era to resemble a flying saucer, seems to hover above the crowd. But the draw, tonight, is the former "Spacearium," now an IMAX theater, where the group will be treated to a sneak peek at Halo 3.

Leaks about the new game have been as closely guarded as the ending of the final Harry Potter novel, so for hard-core fans, tonight's preview is a very big deal. O'Connor also handles outreach online, and is widely known within the fan community as "Frankie." He announced the IMAX preview just one day earlier on Bungie's Web site. Fans had started to line up outside the theater by ten the following morning, for an event that would not begin for another twelve hours. When the doors finally open, a river of dudes courses into the complex. T-shirts — BEEN THERE, WRECKED THAT, the Statue of Liberty holding a pistol instead of a torch — are pretty much the fashion standard; one fan totes a torn-open, half-empty twelve-pack of Halo 3 Mountain Dew like a briefcase. As they file into the theater, a slight locker-room funk settles over the room, along with a sense of excitement that would precede a rock concert (or, for this crowd, a group appearance by the cast of *Heroes*).

O'Connor soon emerges with a microphone and begins to play a heretofore unseen level of Halo 3, in which Master Chief maneuvers through a series of tunnels to emerge into a beautifully rendered meadow. The crowd roars when Master Chief races around the landscape in a jeep, when his jeep flips over and crashes in spectacular fashion, when he incinerates another player with a flamethrower. (To be fair, it's a pretty easy crowd: They also whoop when O'Connor goes to the game's menu page and changes one of the playing options.) Later, O'Connor asks, "Anyone want to see a Spartan laser kill a Warthog at point-blank?" The answer is unanimous, and extremely loud.



Madden NFL 08 (X360, PS3, Wii, PC)

PREMISE The eighteenth update of the world's best pigskin franchise.

WHY IT ROCKS Marquee players' unique strengths are displayed as icons when you line up, so calling plays is an exact science.

OUT Now

Project Gotham Racing 4 (X360)

PREMISE Race through New York City, Vegas and alleys in Shanghai and St. Petersburg.

WHY IT ROCKS You can choose from more than 100 badass rides, including PGR's first motorcycles.

OUT October 2nd

Crysis (PC)

PREMISE A shooter game that takes aim at an island of alien killers... and North Koreans.

WHY IT ROCKS The tropical setting is vivid, and attack methods are nuanced: Enemies either split or follow you, depending on the subtlety of your approach.

OUT November 16th

Virtua Fighter 5 (X360)

PREMISE PS3's popular martial arts game finally hits Xbox 360 with online play.

WHY IT ROCKS Xbox Live Multiplayer lets you focus on smack-talking other players. Come get some!

OUT October 30th

Metroid Prime 3 (Wii)

PREMISE As intergalactic bounty hunter Samus Aran, you must kill space pirates before they crash your world.

WHY IT ROCKS When Samus morphs into a ball, the dynamic Wii controllers let you leap over obstacles with the flick of a wrist.

OUT NOW DAVID KUSHNER

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