

Geoff Keighley



THE FINAL HOURS OF PORTAL 2™



Welcome.

THIRTEEN YEARS AGO I first met Gabe Newell, the founder and managing director of Valve. I was a sophomore in college at the time, and between classes and homework, I wrote about video games for websites and magazines. The games were interesting but the people behind them fascinated me even more.

So one day I asked Gabe if he'd be willing to let me go behind closed doors at Valve and write an in-depth feature story about the making of their first video game, Half-Life. I'll always be indebted to him for saying yes.

I wanted to tell it all: The ups and downs of development, the personal sacrifices

SCROLL FOR MORE TEXT



[1998]

Geoff Keighley with Gabe Newell while reporting The Final Hours of Half-Life.

[2011]

Thirteen years later, The Final Hours of Portal 2 is released on the iPad.

Welcome.

I wanted to tell it all: The ups and downs of development, the personal sacrifices, and the moments of celebration. To my amazement, Gabe gave me unprecedented access and trusted me to share the developers' journey with the world. The resulting story, "The Final Hours of Half-Life," was more personally rewarding than anything else I wrote in college.

So I thought I'd do it again — this time with Portal 2. Over the next 13 chapters, you'll meet the talented creators at Valve and learn about the twist and turns the team went through during development. And since this is on the iPad I've tried to include plenty of photos, videos, and multimedia.

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The story does contain some light spoilers about the plot of Portal 2, such as details about Jonathan Coulton's closing song. I've tried to avoid spoiling anything in explicit detail. But if you're sensitive to spoilers, it's best to read the back-half of the story after you've finished the game.

Please let me know what you think — I can be emailed at g@gameslice.com

Sincerely,



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Longtime video game journalist Geoff Keighley is the host and executive producer of SPIKE TV's GT.TV, the #1 rated videogame show on television. In addition he hosts the roundtable show "The Bonus Round" on GameTrailers.com and helps produce the annual Video Game Awards, seen in over 175 countries. The recipient of TJFR "Top 30 Journalists Under 30" award in 2004, Keighley has written for Entertainment Weekly, TIME, and Business 2.0 and is co-chairman of the Game Critics Awards.

Photo by Jill Greenberg © Jill Greenberg Studio



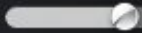
THE FINAL HOURS OF
PORTAL 2

▼▼▼ SCROLL TO READ ABOUT PORTAL 2 ▼▼▼

THE FINAL HOURS OF



0:03



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PORTAL 2

Portal 2 is a new video game from Valve, creators of Half-Life. Available for the PC, Mac, PlayStation 3 and Xbox 360, it's the sequel to the original Portal, which earned over 30 Game of the Year Awards in 2007. In Portal 2 you don't battle zombies or machine gun-wielding marines. Instead, the game environment — the laboratories of a fictional company called Aperture Science — is the enemy. As a test subject named Chell, you use a tool known as the Aperture Science Handheld Portal Device (ASHPD), or "portal gun," to find your way from one end of a puzzle chamber to the exit. Used strategically, the gun can instantly teleport you between two flat surfaces — walls, ceilings, or floors. To win, you have you use your brain, but you'll laugh along the way thanks to your slightly murderous artificial intelligence guide, known as GLaDOS (Genetic Lifeform and Disk Operating System). Visit thinkwithportals.com



VALVE

Located in Bellevue, Washington, Valve is renowned as one of the most innovative and forward-thinking developers in the cutting-edge world of video games. Co-founded in 1996 by former Microsoft executive Gabe Newell, the independently-owned Valve has gone on to create seminal video game franchises including Half-Life, Left 4 Dead, Counter-Strike, Team Fortress, and Portal. It is also behind Steam, the leading digital distribution platform for games on the PC and Mac with over 30 million active members. Visit valvesoftware.com

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INTERACTIVE HIGHLIGHTS



EXPLORE

Step inside the lobby of Valve



LEARN

Find out how the song was created



LISTEN

Hear the music that inspired Portal 2



ANIMATE

Take the Co-op bots for a spin



PLAY

Learn firsthand how portals work



DESTROY

Dismantle Aperture — with one finger!

HOW TO USE THIS APP

Tap on orange type to access interactive features throughout the app. Note that some features require an internet connection.



Swipe with one finger to move between pages.



Swipe with two fingers to skip to the next chapter.



Tap the bottom for navigation. Tap anywhere else to hide it.

1

LET THE GAMES BEGIN!

IT'S FOUR IN THE MORNING and Erik Wolpaw's alarm clock doesn't go off. That's because he doesn't own an alarm. His body just knows it's





Valve founder Gabe Newell wields the Portal Gun.

TIP:
Tap any
photo to
view full
screen

time to get up at the same moment every day, but only after a luxurious eight hours of sleep. The same eight hours he gets every night. These days he's approaching middle age, but even back when he was in high school in Cleveland, Ohio — and nearly flunking out — neither girls nor his membership in a mischievous hacker group known for credit card fraud could shake his inveterate sleep routine. “It was great to be bad-ass until 8 p.m.,” he now admits. “But nothing was as exciting as eight hours of sleep.”

Tiptoeing around the house in darkness, Erik puts on a flannel button-down, says goodbye to his wife Diana, checks that his 11-month-old son Jack is soundly sleeping, and pulls out of the driveway in his Ford Taurus.

It's a normal start to the day. But tonight might be different. Tonight, February 16, 2011, might be the night *Portal 2*, the new video game he co-wrote at Valve in Seattle, will be finished after more than three arduous years of development. The question is, will he be awake when this happens?

SPEND ENOUGH TIME AROUND the video game industry and a pattern emerges that's as regimented as Wolpaw's sleep. Game companies get ossified into a schedule of releasing new sequels like clockwork every 12 or 24



PANORAMA: EXPLORE THE VALVE LOBBY



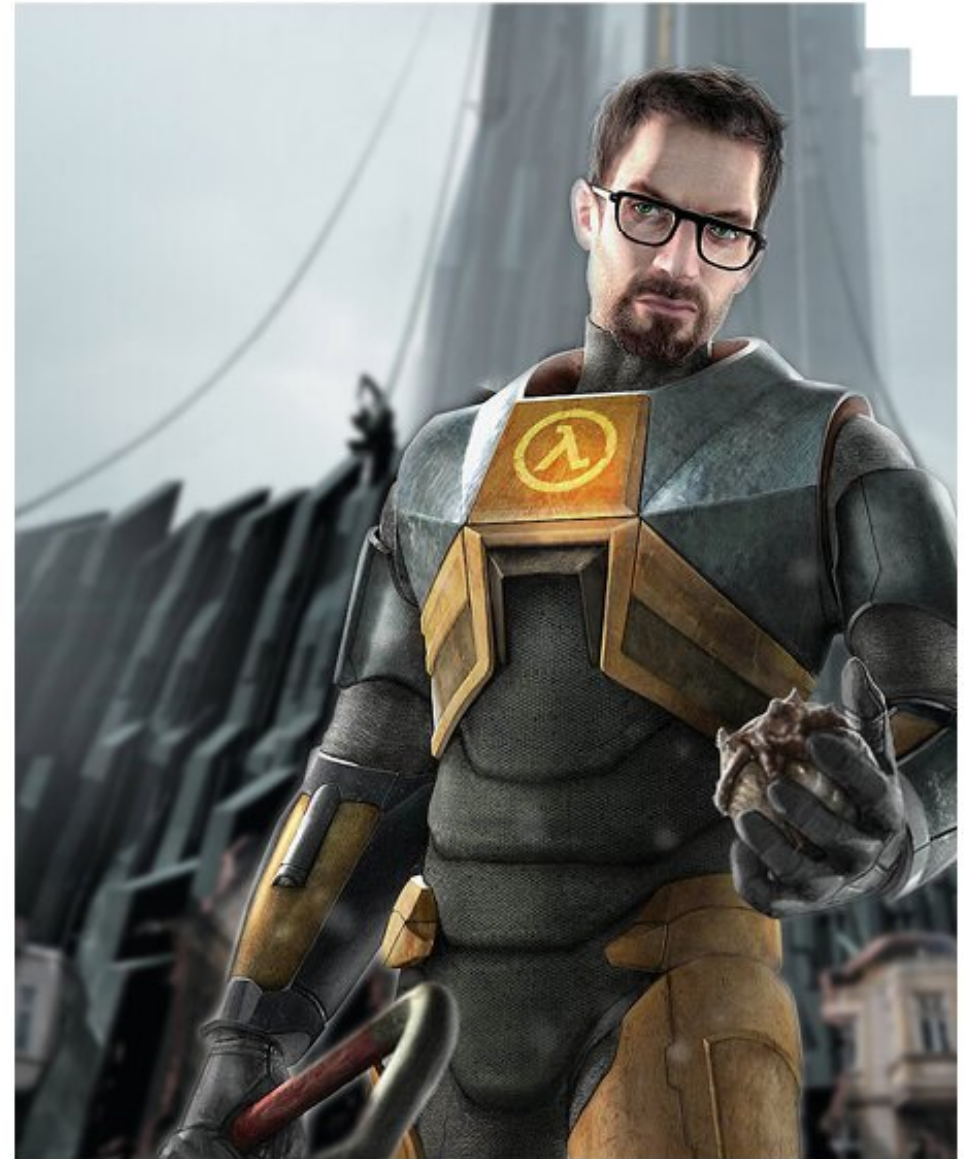
SWIPE IMAGE TO VIEW PANORAMA. TAP HERE FOR FULL-SCREEN VERSION

months. But Valve, an independent studio of over 250 world-class artists that Forbes magazine estimates is worth as much as \$4 billion, thinks different. This omnificent developer, best known for its legendary *Half-Life* series of first-person action games, has spent the last 14 years inspiring gamers and the industry with bold new ideas. At Valve, employee excitement — not an Excel spreadsheet — is the sole metric used to evaluate the company's next move.

“Once you’ve had success, your gut reaction is to stop and just keep doing what you’re doing,” says Valve founder Gabe Newell as he saunters down a long office hallway in his trademark untucked Ralph Lauren polo shirt. “And then there are other people who say, ‘We don’t really have a choice here. We have to continually innovate.’”

Portal, a college project turned Game of the Year winner in 2007, did just that with its brain-bending puzzles, innovative gameplay and witty dialogue. The game was named after your weapon: the Aperture Science Handheld Portal Device (ASHPD), a gun that fires two glowing ovals into walls, ceilings, and floors. The ovals mark the openings to an invisible portal. Step — or fall — into one oval and you come flying out the other, which hopefully gets you closer to the solution, an exit elevator.

Now Valve is only steps away from finishing the



Valve is most famous for the Half-Life series of games starring scientist Gordon Freeman.

sequel, *Portal 2*. Seventeen steps to be exact.

IT'S 11 AM IN THE FISHBOWL CONFERENCE ROOM.

Producer Kutta Srinivasan stands before the entire team and writes a simple fact on the whiteboard, “Bugs: 17.” Everyone is tired. Still, you can’t help but marvel at the creative firepower around the table. These artificers of Aperture Science, the fictional lab where the game takes place, range in age from early 20s to late 40s. Their backgrounds run the gamut. In one corner sits the puppeteer who played the character of Red Fraggle on the 1980s television show *Fraggle Rock*. A few seats away, one of the visual masterminds behind Peter Jackson’s *Lord of the Rings* trilogy. Another young man is only two years out of college and still paying off student loans.

At Valve, it doesn’t matter how old you are or where you come from. Everyone’s on a level playing field with zero hierarchy and no titles. “The creative culture Gabe has created here reminds me of what it felt like to be on a show with Jim,” explains animator Karen Prell, who was just 22 when Jim — Jim Henson, that is — selected her to be the voice and animating force behind Red Fraggle.

On this particular day, however, that culture is worn down. Newell knows this and doesn’t like it one bit.

POLL

WHAT WAS THE FIRST VALVE GAME YOU PLAYED?

- HALF-LIFE
- HALF-LIFE 2
- TEAM FORTRESS 2
- PORTAL
- LEFT 4 DEAD
- LEFT 4 DEAD 2
- COUNTER-STRIKE

[View Results](#)

Vote

INTERNET CONNECTION REQUIRED

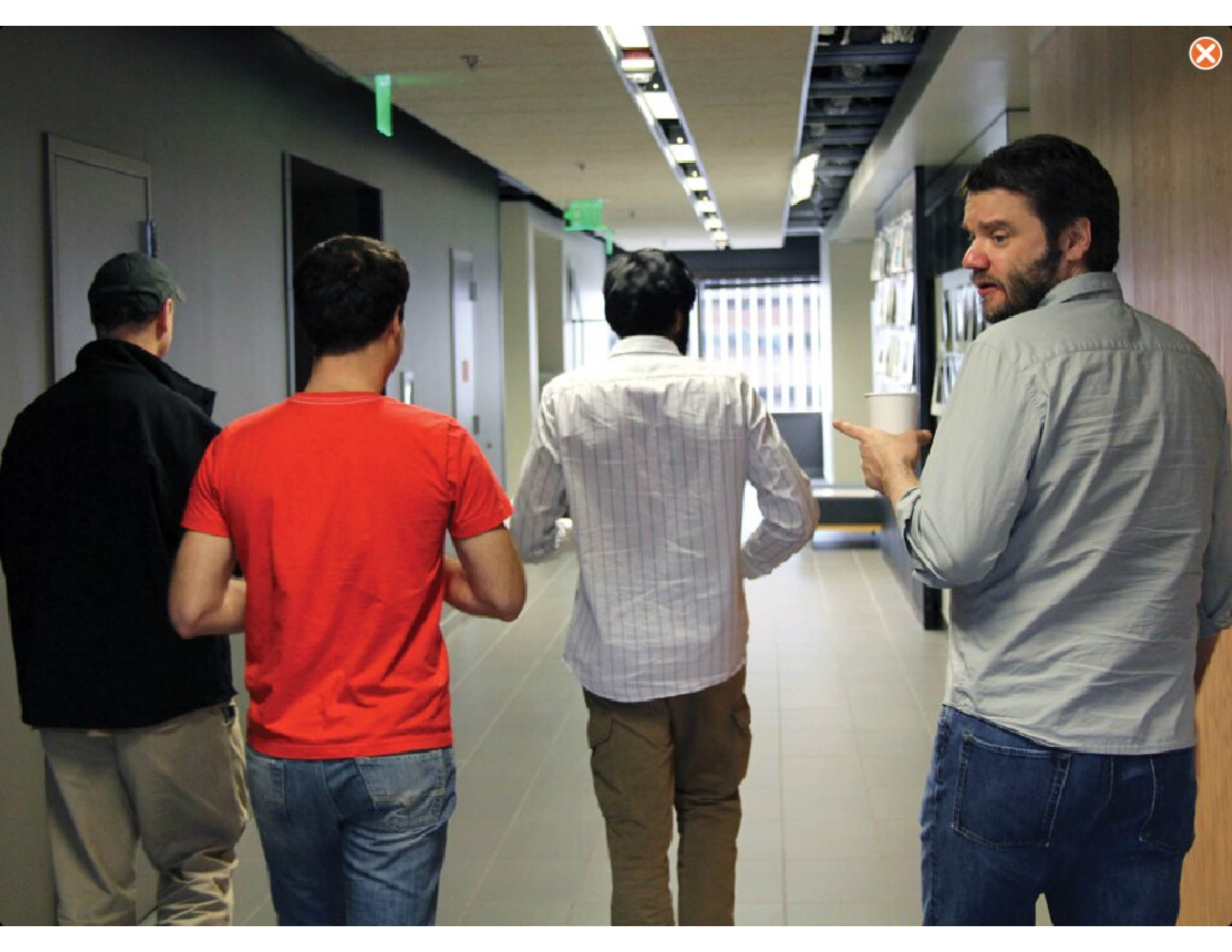


The Fishbowl conference room, home of the daily 11AM Team Meeting. Below, Producer Kutta Srinivasan rallies the team — 17 bugs left in Portal 2.

TIP: Tap any photo to view full screen



FISHBOWL





“THEY UNDERESTIMATED THE AMOUNT OF STRESS, BUT THEY ALSO UNDERESTIMATED THEIR OWN MOJO.”



For a moment, he flashes back to the crappy jobs he had as a kid. The jobs he hated, like that pointless gig working as a towel boy in a German gymnasium when his father was stationed over there with the Air Force. Even though his team is stressed, Newell hopes no one ever thinks of

Valve the way he remembers that gym.

Still, it hasn't been easy to create a worthwhile sequel to one of the most beloved games of the past half-decade. “I think other people had more confidence in the *Portal* team than they did in themselves early on,” Gabe surmises. “They underestimated the amount of stress, but they also underestimated their own mojo.”

Portal 2 is an inspiring game in a shiny, gorgeously illustrated box. It will receive critical acclaim and achieve huge commercial success. Behind the game is the tale of the people who built it, of what it took for them to bring it to life, and of the sacrifices they made along the way. Now, for the first time, Valve reveals what really happened behind closed doors. From the aborted prequel that has never been publicly discussed to the delays and struggles that dog any creative endeavor, these are The Final Hours of *Portal 2*.

SLIDE SHOW

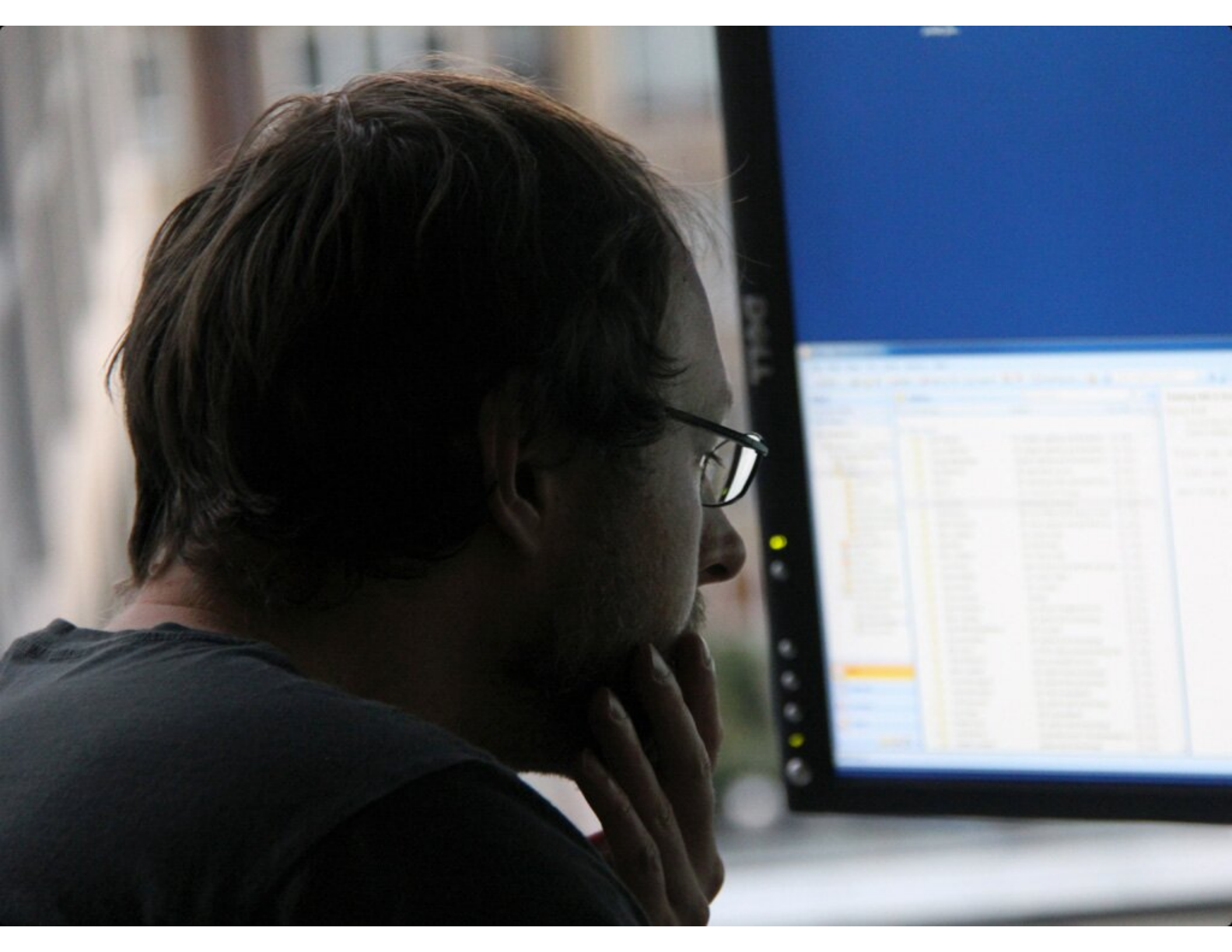


The design cabal; Erik Wolpaw; John Guthrie tries to fix a bug.









2

PRINCE SQUID AND JUDGE DREDD

Chet and Erik in
the early 1980s.
Animated
cartoon by
Eddie Guy





CHRISTMAS EVE, 2004.

Just as it had for the previous 27 nights, the smell of curry wafted through the air of Erik Wolpaw's derelict apartment

at the Pacific Inn in Bellevue, Washington. Wolpaw was alone. He wasn't feeling well. He was anxious. He couldn't sleep. And it didn't help that he missed his wife, who was back at their house in Duluth, Minnesota.

Five weeks before, Erik and his best friend Chet Faliszek, both writers and database engineers from Cleveland, Ohio, had made a pact. Gabe Newell had offered them the opportunity to come and work at Valve. But they weren't sure it was the right thing to do. Chet had just refinanced his house. His wife was in the middle of graduate school. And to top it all off, he'd finally scored season tickets to the Browns. Erik had even bigger issues. He'd just moved back to the Midwest after quitting his job as a writer at Double Fine Productions, a struggling San Francisco game development studio founded by Tim Schafer. The culture there hadn't meshed with his sleep schedule, not to mention his health.

The thought of moving west again to take another game job has seemed about as sane as jumping into a fire pit at Aperture Science. But Valve was special. The guys adored Gabe. So against their better judgment, they accepted the offer and moved into temporary housing.







Chet Faliszek

They didn't tell Gabe about their pact to quit after 30 days if they didn't like it.

Night 27 was Christmas Eve. The night Erik wasn't feeling well. Well, let's be more honest. The night Erik was sick. Really sick. As he lay there on the wooden pallet he called his bed, he knew he had fallen out of his routine, that familiar rhythm that keeps us all afloat. What was he doing at Valve? There was no structure. He didn't really have a job. And though he'd been sick for years, tonight it was much worse. He thought he might be dying. He needed to get the hell out of Seattle. But first he needed to get to a hospital.

Stumbling into the emergency room, he checked himself in. Immediately, the doctor realized Erik was in bad shape. As it turned out, he had lost more than half his blood and would require an immediate transfusion to stabilize his body, battered from his brutal ongoing war with ulcerative colitis. He spent Christmas 2004 in the hospital. As soon as he started to regain his strength, he told Chet he didn't have a choice anymore. He needed to go meet with Gabe and quit Valve.

At most companies, that's where this tale would end. Erik would never have written *Portal*, much less *Portal 2*. But when Erik tried to tender his resignation, Gabe wouldn't have any of it. "Your job," Gabe said, "is to get

better. That is your job description at Valve. So go home to your wife and come back when you are better.”

Walking out of the meeting, Erik turned to Chet and stated the obvious.

“Well, I guess we know where we’re working for the rest of our lives.”

THE LIVES OF CHET FALISZEK AND ERIK WOLPAW

first intersected one day in Cleveland. That’s when Chet, an 18-year-old student at Cleveland State, arrived at the apartment of the rascally 17-year-old Erik, then a senior at Cleveland Heights High School.

Chet was on a mission, as assigned by his leader, a man known only as Mr. Modem. He had come to interview this kid Erik to see if he might be an appropriate new member for their club. The 2300 Club. Named after a cop bar in Cleveland where uniformed officers would routinely buy longneck Rolling Rocks and dance with transvestites, the 2300 Club, according to *Phrack* magazine, was “compared and treated as a miniature mafia by local authorities. This is mainly for crimes including the blowing up of cars.” Its nine-member roster included The Formatter, Eagle Eyes, King Blotto, and Chet under his nom de guerre, Judge Dredd.

As soon as Judge D laid eyes on Erik, he realized the



Chet and Erik walking the halls of Valve.

kid was hurting. His room was bare except for a mattress, a desk, an Atari 400, a bunch of sci-fi books, and a few copies of the Yale alumni magazine, used to smash roaches. Erik had come a long way down from the cozy middle-class life he’d been accustomed to as a little kid. When Erik was 12 years old, his dad, a Yale Law School graduate, was arrested for trust fraud, disbarred, and jailed, leaving the family broke. Erik’s image of his father was forever shattered. Video games became a way to escape.



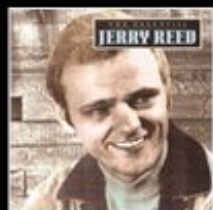
Chet liked games too. As they talked, Erik dug around for a copy of *Antic* magazine. The editors had just paid him \$500 to write *Arena Psychotica*, an Atari game coded in Basic in which a race-car driver desperately tries to escape from a monster. They played that game and others on Erik's TV, the jagged pixels of the Atari 400 brightening the poorly lit apartment. After a few hours,

Chet realized he'd found more than a new recruit for the 2300 Club. He'd found his best friend.

So they moved in together, and Erik became Prince Squid. They both did a lot of the usual bad hacker stuff, and Erik now says he's glad we have laws or he might have done something worse. But between the hacking and the phracking, Chet and Erik started doing

INSIDE PORTAL 2: THE MUSIC

TAP EACH ALBUM TO HEAR THE MUSIC THAT INSPIRED THE TEAM. INTERNET CONNECTION REQUIRED



**EAST BOUND
AND DOWN**
Jerry Reed



**QUEEN OF
DENMARK**
John Grant



**POLAROIDS
AND RED WINE**
Jaguar Love



**MY VIOLENT
HEART**
(Pirate Robot
Midget)
Nine Inch Nails



**BANG BANG
BANG**
Mark Ronson
feat. The
Business
International



**JOANNA
NEWSOM**
Bridges and
Balloons



RATATAT
Bilar



BUY ON
ITUNES



BUY ON
ITUNES



BUY ON
ITUNES



BUY ON
ITUNES



BUY ON
ITUNES



BUY ON
ITUNES



BUY ON
ITUNES

SONG PREVIEWS PROVIDED COURTESY OF ITUNES



Old Man Murray's About Us page features a Gabe Newell photo.

something useful. They made databases on computers. One helped OfficeMax determine if it had overpaid or double-paid vendors. If it had, the treasure hunters at Murray & Sons (Erik and Chet's two-man company) got a small percentage of the money recovered.

Databases helped pay the rent, but what Murray & Sons really wanted to do was make video games. At night, Erik and Chet would sit around the office and talk

about ideas for a massively multiplayer game called *ZombieWorld.com*, a domain name that Chet still owns. If that didn't work out, they had a backup idea, a game where the martial artist Brandon Lee, son of Bruce Lee, would kill himself, and then come back to life in the early 70s to punish his father for being better than him.

Those games never happened, but Murray & Sons did enter gaming in a different way — as critics. OldManMurray.com was launched as an irreverent commentary site about the gaming industry with scathing reviews of obscure and terrible games. Among other things, it achieved the dubious distinction of becoming the number-one result for the search term “tentacle rape.” Wolpaw and Faliszek had found their comedic voice.

Over the years, Old Man Murray gained a cult following among gamers and the industry. Game designer Tim Schafer remembers the writing being as honest as David Sedaris' was personal. The site's “Time to Crate” index lambasted the lack of creativity in games by documenting the number of seconds that would pass before some kind of wooden box appeared in a given game's first level. Valve Software took notice of the index. It made sure to put a crate right at the beginning of *Half-Life 2*.



OLD Man MURRAY



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About

2000-10-03 Staff

PCGAMER September 1999



Gabe Newell
Valve Software

Having revolutionized the single-player 3D shooter with 1998's multi award-winning *Half-Life*, and upped the ante for multiplayer action with the freeware *Team Fortress Classic*, Valve Software has risen from obscurity to the hottest name in first-person gaming in record time — an achievement that has left the competition asking, "How?"

Gabe Newell, Valve's co-founder and head of the *Half-Life* team, says the answer is simpler than you might think. "We have two tenets to our philosophy. The first is pretty basic — get the best people together, give them the tools they need, and create an environment that lets them do their best work. It's pretty cliched, but it actually works," he says. "The second is look at what you have running, think of what the guys at *OldManMurray.com* would say about it if we released it, and then work on it some more."

A former program manager for Microsoft (he helped create Windows 1.0 and was partly responsible for the inclusion of those classic pre-Internet time-wasters *Reversi*, *Mine-sweeper*, and *Solitaire*) Newell, 36, cites fellow Top 25ers Sid Meier and Warren Spector among his influences. "*Ultima Underworld* was the game that convinced me I wanted to work in this business," he says.

Yahoo Life October 99



Anna Kang
Id Software

OLD MAN MURRAY "I may not agree with everything here, but, boy, this site is smart and hilarious. It makes me laugh!"
[oldmanmurray.com]

Your Webmasters





3

DigiPen Class of 2005

A TRIUMPH, HUGE SUCCESS





Jeep Barnett.
Hair growth: 11.5 months

THERE ARE TWO IMPORTANT THINGS you should know about Jeep Barnett. First, he doesn't have a phone number. And second, he doesn't believe in haircuts. Instead he completely shaves off his curly locks once a year. Jeep grew up in the mountainous

deserts of Idaho on a corn farm with chickens, geese, and rabbits — not the kind of kid you'd imagine as destined for the world of video game development. His mother was a school bus driver and an airport TSA screener while his dad developed spices and flavors as a food scientist. You may have tasted his work in the fry batter at Long John Silver's or the seasonings on a Chick-fil-A sandwich.

Jeep had a dream. He loved playing video games and thought nothing sounded better than listing "video game designer" as his profession. So at 15 he downloaded an application and applied to DigiPen, a little-known school in Seattle. Started by Claude Comair, a Lebanese software programmer who's blind in one eye, DigiPen was, at the time, the only place in the world you could go to learn the emerging art of video game design, or Real Time Interactive Simulation. Jeep was accepted, took out a



Garret Rickey student loan, and set course for Seattle. But then, as in any good video game, a seemingly insurmountable obstacle appeared on Jeep's horizon, threatening his completion of the "Get into Video Game School" level. The company for Jeep's student loan unexpectedly went bankrupt. There would be no DigiPen, at least not that year. Crushed, Jeep was right back in Idaho among the chickens, the corn — and the toilets. To make ends meet, his Dad hired him as a janitor at the spice factory, where at the end of each day it was Jeep's job to sweep up the dust. With each whisk of the broom, he became increasingly impatient with his life. He had gone from a dream of programming Mario alongside Shigeru Miyamoto to laboring as a tradesman like Super Mario the plumber.

After two years he decided to tempt his odds again

student loan, and set course for Seattle.

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and apply for another student loan. This one went through. As he left for Seattle for the second time, he remembers thinking, “I know what I’m going to have to fall back to if I don’t make it at DigiPen.” This was his shot at a better life.

The awkward first day of college began. Walking into his first class on the DigiPen campus, Jeep rushed toward a nice computer by the window. With the back of the chair nearly within his grasp, he spotted an unassuming girl with piercing eyes who was interested in the seat as well. Her name was Kim Swift, and she was one of only three girls in the class of 150 students.

The daughter of an Exxon Mobil chemical engineer, Kim spent her youth moving from New Jersey to Hawaii to Houston as her dad transferred among refineries. In her spare time, she connected with her Dad by playing video games. And when she wasn’t playing games, she’d



Dave Kircher kicked them out. The three freshmen teamed up from day one, and others soon joined them: Dave Kircher, a lovable, bald-headed kid from Kent, Washington, and Realm Lovejoy, a quiet artist whose father had been a monk in the mountains of Japan — until the day he met her mother. The team called itself

sew stuffed animals for fun.

Jeep was about to chivalrously offer her the window seat when another student darted past them and claimed it. His name was Garret Rickey. Hailing from a family where all the boys grew up to become dentists, Garret wasn’t much for small talk. He was efficient. The optimal seat just happened to be the one Jeep and Kim were considering. He got there first.

DigiPen wasn’t a cakewalk for Garret, Kim, and Jeep. Then again, they were all self-motivated, often showing up at 8 a.m. for class and staying until 9 at night, when the security guard



PORTAL

Nuclear Monkey Software.

In the summer before its senior year, Nuclear Monkey had to decide on a capstone project. They wanted to get a good grade, but more important, they wanted to land jobs in the game industry. Kircher set up an online message board to trade ideas, and everyone gravitated toward building a puzzle game. Kircher, a graphics programming geek and fan of Dr. Who, thought about TARDIS, the Doctor's phone booth which doubles as a time machine. The inside of the booth opens up into an elaborate control room — an impossibly large space contained inside a smaller space. That got the team thinking: Was there a way to overlap gameplay spaces?

The result was the concept of a portal, the guiding idea behind their senior project, *Narbacular Drop*. In most games you see a space far away and have to walk to it or maybe jump to it. But in *Narbacular Drop*, Princess



No-Knees has a magical power. She can look at any two flat surfaces — walls, floors, ceilings — and create an instant link between them using two portals. This leads to puzzles where a player can only reach the end of a level by figuring out a way to “portal” between two normally disconnected places.

All year the team worked on the game. At night they'd hang out at Jeep's place, cook pork burgers on the George Foreman, and take breaks to watch a strange Korean TV soap called “So This is Love?” They didn't understand the dialogue but felt a connection because the main

Realm Lovejoy character had the *Bubble Bobble* theme as her cell phone ringtone and was secretly training to become a *StarCraft* champion.

By April, the game was in beta and Nuclear Monkey was ready to show it to their professors, not to mention the game development community. DigiPen's annual





Narbacular Drop was a computer game created

by Nuclear Monkey Software in 2005. Tap on the pitch binder above and sell sheet below to learn more.

Narbacular Drop
Vertigo... Sideways... and Upside-down



Narbacular Drop by Nuclear Monkey Software
 Platform: Action/Puzzle
 PC/CD-ROM
 Publication Date: April 22, 2005
 3 Levels
 Price: FREE
 Size: 7" x 7" (10MB)

Available from Digital
 The download link:
<http://www.nuclearmonkeysoftware.com>
<http://www.gizya.de>

"Narbacular Drop delivers unique interactive experiences that in the most delightful of ways reward the player. The player will use the ability to place portals to create solutions in an environment of ever-changing obstacles and rules/puzzles. The numbers reveal only a hint of the true puzzle-solving challenge that awaits in a game that rewards the player's ingenuity. The game is presented with an interface intuitive enough for anyone to play, but it also features a set of colorful characters to interact with."

Challenging to an audience used to solving puzzles, this game is a real treat for the true puzzle solver. It will be highly enjoyed by the ever-rising of 3D space solutions to the common mind-bender. Interesting challenge that rewards every player and the end of the game is only the beginning of doing it with your friends."

"We'd also seriously like to see you doing this over again..."
 -Bridgette

Marketing: E11 Marketing Budget: Independent Game Festival, at The Big Indie Independent Game Competition, etc. etc. etc.

Nuclear Monkey Software is a production of 4 programmers and 4 artists (Gareth Richey, Dave Kitcher, Gareth Richey, Kim Swift, Tim Brown, Paul Gifford, Paul Gifford, Jacq Garnett). This previous game includes One, Two, Three of Cheese and Cheese Party. Previous Game: Narbacular. They develop their games in the English countryside in Berkshire, England (near the river the River Kennet).





INARIBACULAR DROP

CREATED BY:

Kim Swift

Garret Rickey

Dave Kircher

Jeep Barnett

ART BY:

Scott Klintworth

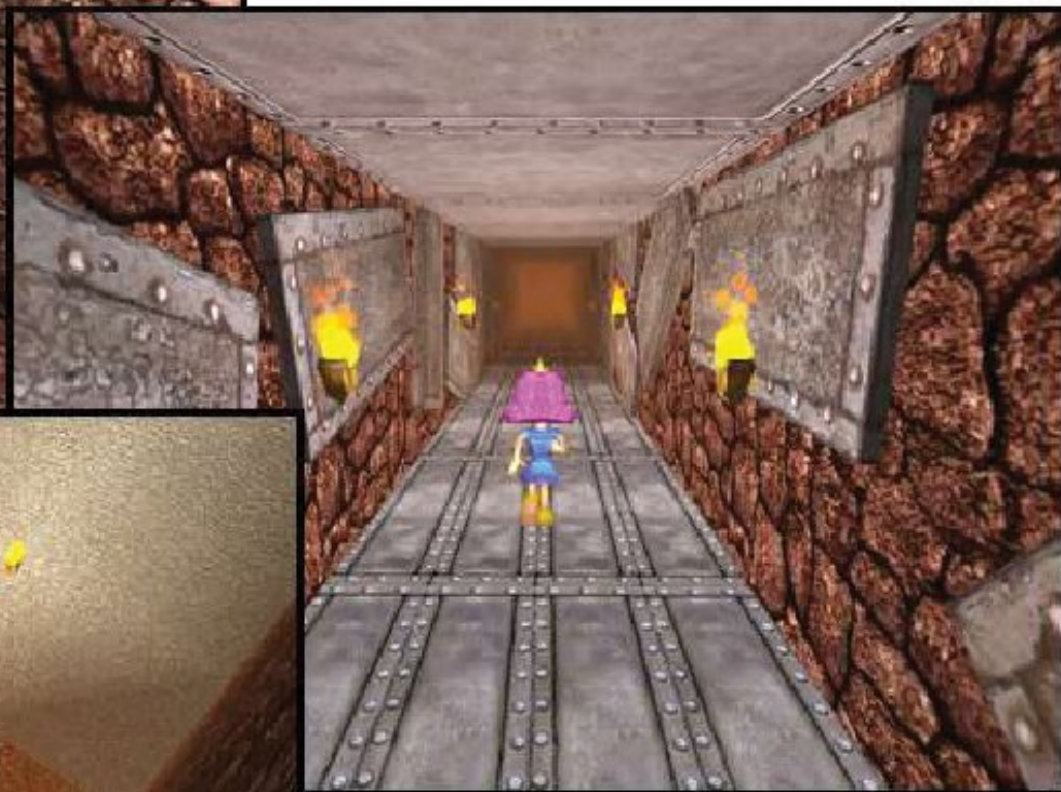
Realm Lovejoy

Paul Graham

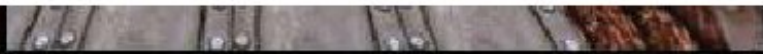
Eric Brown



SCROLL DOWN TO VIEW ENTIRE DOCUMENT



SCROLL DOWN TO VIEW ENTIRE DOCUMENT



NARBACULAR DROP



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[SCROLL DOWN TO VIEW ENTIRE DOCUMENT](#)



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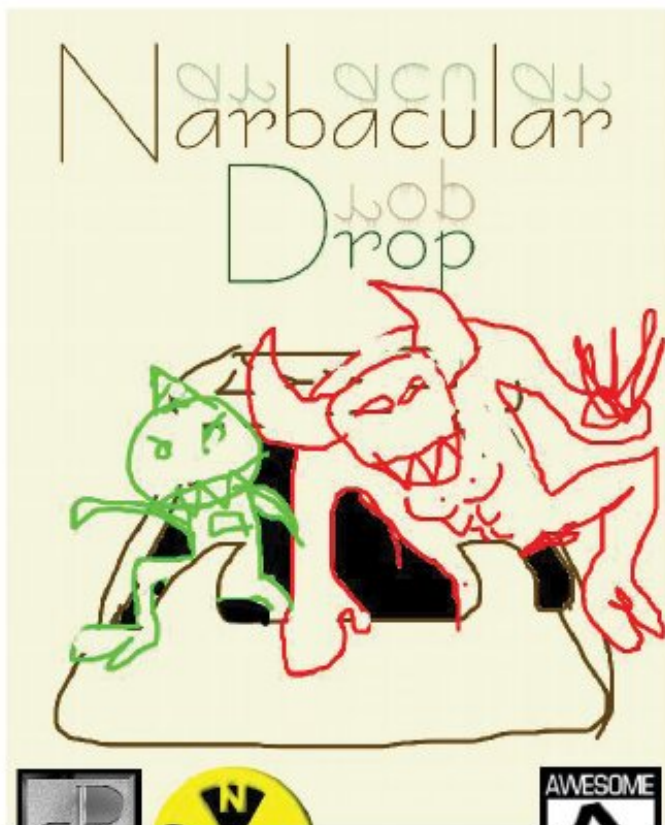


SCROLL DOWN TO VIEW ENTIRE DOCUMENT



Narbacular Drop

Vertigo... Sideways... and Upside-down



Narbacular Drop by Nuclear Monkey

Software

Fantasy Action Puzzler

PC CD-ROM

Publication Date: April 22, 2005

5 Levels

Price: FREE

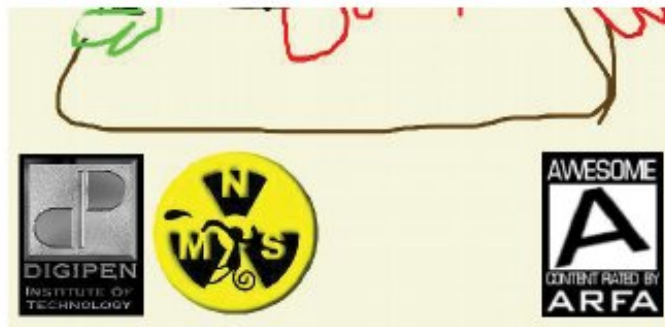
Size: 5" x 7" (~50MB)

Available from DigiPen

To download visit...

<http://www.nuclearmonkeysoftware.com>

SCROLL DOWN TO VIEW ENTIRE DOCUMENT



Available from DigiPen
To download visit...

<http://www.nuclearmonkeysoftware.com>

<http://www.digipen.edu>

Narbacular Drop delivers a unique innovative experience that is the most unforgettable of any recent video games. The player will use the ability to place interlinked portals anywhere in an environment to overcome obstacles and solve puzzles. The seamless visual style and use of these portals is unlike anything ever before seen in a game. At the same time the unusual gameplay is presented with an interface intuitive enough for novice players to grasp. It also features cast of colorful characters to interact with.

Crafted by an enthusiastic team of aspiring developers, this game is a must have for the true gamer in you. You'll be blissfully surprised by the new realm of 3D space unlocked by its sincere simplicity. Interesting challenges lurk around every corner and the end of the game is only the beginning of sharing it with your friends.

“Well that's certainly the most unique thing I've ever played...”
Bobthecow

SCROLL DOWN TO VIEW ENTIRE DOCUMENT



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Bobthecow

Marketing: \$15 Marketing Budget. Independent Games Festival and The Big Bawls Independent Game Competition submission. Publicity stunts.

Nuclear Monkey Software is a student team of 4 programmers and 4 artists (Jeep Barnett, Dave Kircher, Garret Rickey, Kim Swift, Eric Brown, Paul Graham, Scott Klintworth, Realm Lovejoy). Their previous games include Gun-Fu: Disco of Crime and Desert Derby: Sexiness Run Rampant. They develop their games at the DigiPen computer labs in Redmond, Washington (across the street from Nintendo).

[SCROLL DOWN TO VIEW ENTIRE DOCUMENT](#)



April Career Fair is the biggest opportunity of the year for students to connect with would-be employers. One of the guests that year was Robin Walker, a long-time Valve employee who got his start building a successful game based on *Half-Life* called *Team Fortress*. He took a quick look at *Narbacular* at the Career Fair and

didn't seem particularly keen on it.

"Interesting," he told the young 20-somethings. "But it looks too much like *Quake*," referring to id Software's classic first-person shooter, with its relentless visual assault of brown environments. He left his card and said to keep in touch.

INTERACTIVE: HOW A PORTAL WORKS



Here's your chance to think with portals! Pick up the test subject and drop him through the blue portal. Dropping him higher creates more forward momentum as you fly out of the orange portal. This is called "flinging" in Portal parlance. As GLaDOS says, "Speedy thing goes in, speedy thing comes out." Experiment with different drop heights to successfully reach the other platform.

BONUS: See if you can figure out how to perform a "double fling" where you fly through each portal twice to reach the platform!

PICK UP YOUR TEST SUBJECT TO PLAY!



Nuclear Monkey at DigiPen

Despite hours of demonstrations at Career Fair, Nuclear Monkey didn't have any other real bites. A week later, Kim convinced Garret to send Robin an email asking for more feedback.

"Why don't you come show the game at Valve and we can talk about it some more?" Walker replied.

A few days later, the team was riding in the elevator up to Valve's 9th floor offices in Bellevue. They set up their computer in the conference room as employees began to file in, filling out the seats and the couch. Then,

seemingly out of nowhere, Gabe Newell walked into the room. The rank and file on the couch quickly moved to make room for their unexpected visitor. He said hello. They demoed the game. Gabe stopped them halfway through.

"So, would you all like to come work at Valve?"

GABE NEWELL THINKS BIG. After Nuclear Monkey had been in house for a few months, Gabe had an idea. Maybe something interesting would come from getting the portal kids together with

Erik and Chet. "What am I supposed to bring to this meeting?" Chet remembers asking Gabe after being invited to this random get-together with these so-called "portal kids." Gabe said it wasn't about bringing something. It was about listening.

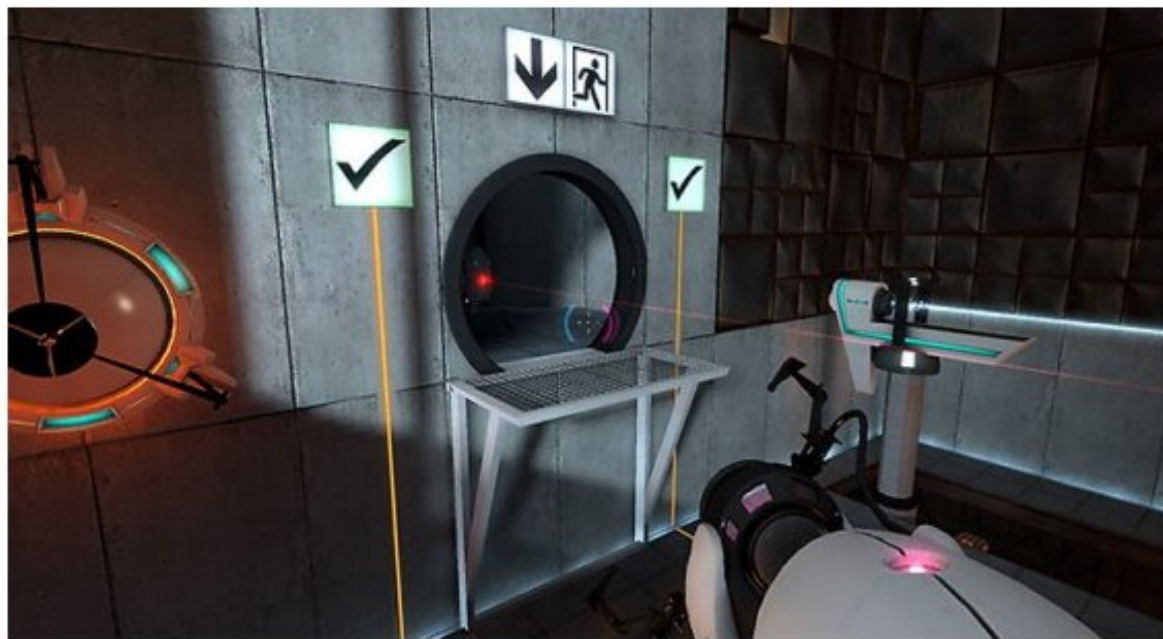
Chet and Erik had done a lot of listening at Valve. Erik was back at work and doing better, especially since his wife and Chet's had both decided to make Seattle their permanent home. Life was improving, but they hadn't exactly been successful at integrating their offbeat humor into Valve's games. But among



Dave, Kim, Realm, Garret, and Jeep, there was an instant connection. The DigiPen team was working to re-create *Narbacular Drop* using Valve's Source game engine and didn't have any highfalutin goals. Story was not their strong suit. Maybe Erik and Chet could help with the narrative? Right then and there, *Portal* was born.

Over time, the group came up with exciting ideas to build around the fun game mechanics. Erik wanted to incorporate a voice that would narrate players through a series of puzzle chambers and help train them how to use portals. He jumped on the Internet and used a text-to-speech program to test the idea out. Maybe the voice could be an artificial intelligence robot, he thought, or better yet, a passive-aggressive female HAL, toying with you between puzzles. GLaDOS — which stands for Genetic Lifeform and Disk Operating System — was born.

At the office, Erik would always carry around a little square pillow. He did this at Double Fine too. He'd sit



SLIDE SHOW

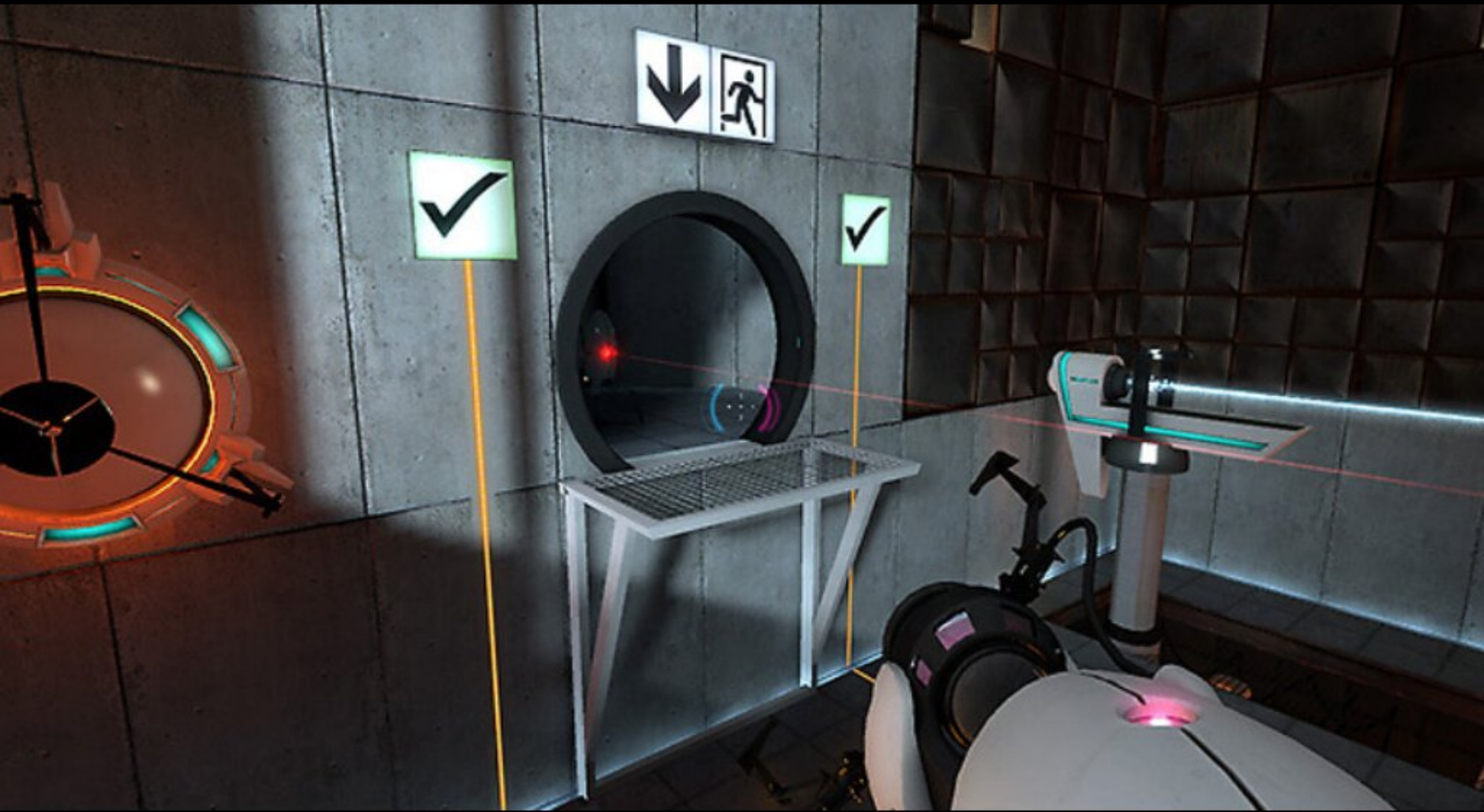


Check out these screen images from the original Portal.

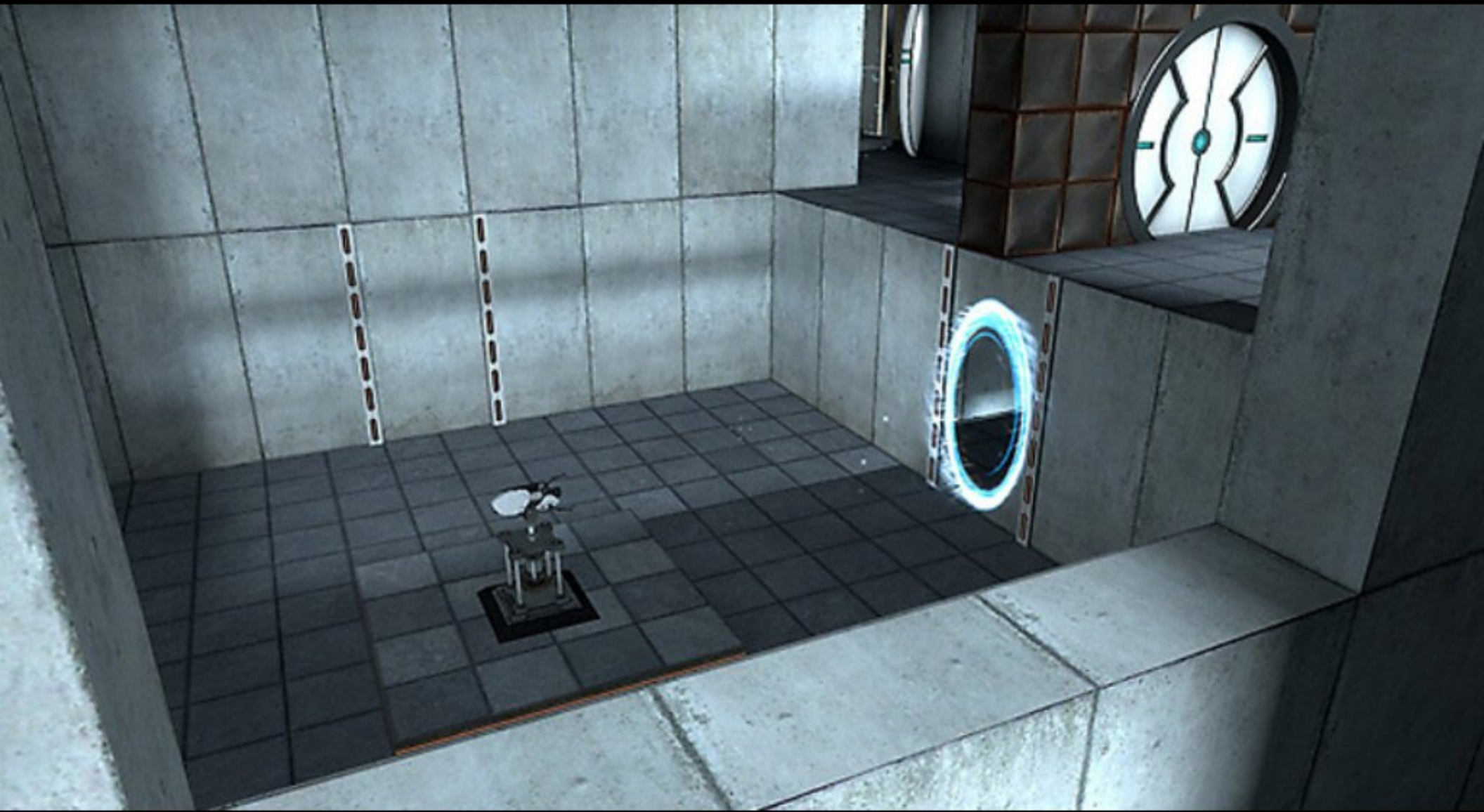


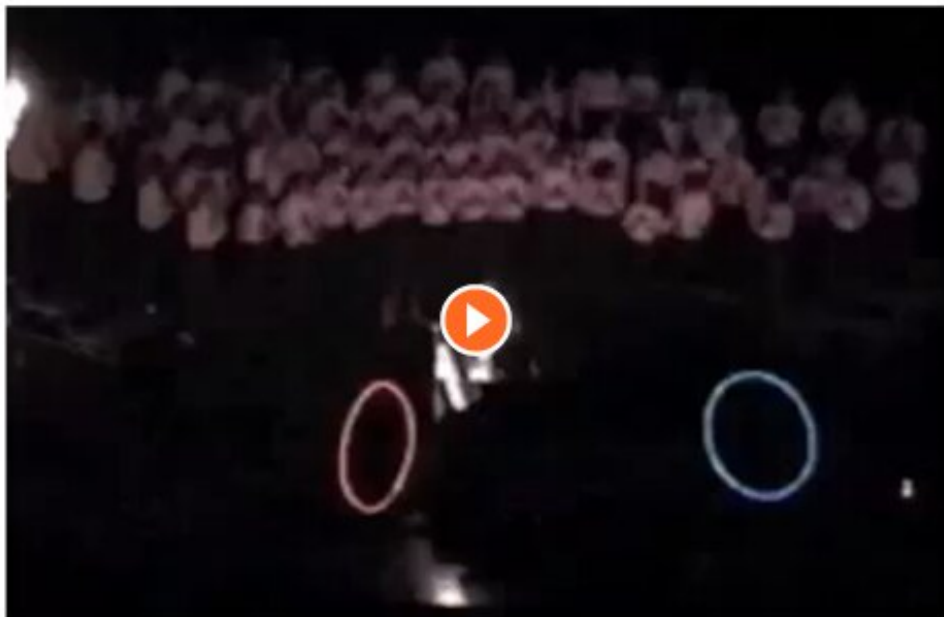
VIDEO: The announcement trailer for Portal 1 from 2006.











Above, the Gifford Children's Choir in Racine, WI, performs "Still Alive" in a YouTube video.

INTERNET REQUIRED



Compare to the real thing: Portal 1 theme song "Still Alive," as written by Jonathan Coulton.

INTERNET REQUIRED

on it, he'd hold it over his stomach, he'd even bring it to meetings and wrap his arms around it. Maybe that's what helped inspire the idea of the Companion Cube, a square box with a heart on it that players would need to care for — and, during a key part of the game, eventually throw into a pit of fire. *Portal* developed as a collection of levels

and objects — boxes, buttons, and white robotic turrets that would fire at a player as soon as she entered their cones of laser vision.

The game took a team of eight about 26 months to develop. Announced in the summer of 2006, it was released as part of *The Orange Box*, a collection of three games. *Half-Life 2: Episode 2* was supposed to be the lead title, but *Portal* emerged as the come-from-behind hit. Its non-violent, puzzle-based mechanics made players think. You felt a little smarter when you solved a puzzle. And the twisted, dysfunctional romance that builds between the player's game avatar and GLaDOS birthed pop culture sayings like, "The cake is a lie."

Portal ended up winning over 30 Game of the Year awards, beating out major 2007 releases like *Call of Duty: Modern Warfare* and *BioShock*. Valve was used to the critical acclaim. What it wasn't prepared for were the cultural reverberations. Fans began dressing as Companion Cubes for Halloween and creating Companion Cube ornaments for their Christmas trees. School choirs began performing "Still Alive," the closing musical number composed by songwriter Jonathan Coulton.

Valve didn't have a hit. It had a phenomenon. Now it had to figure out how the hell to top it.



4

TWO BOTS, ONE WRENCH



Erik Wolpaw and the Elders of Zion presented "Two Bots, One Wrench" to the company.



IMAGINE, FOR A MOMENT, what your job would be like if you could do whatever you wanted to do. Work is a limitless set of possibilities. The only scary decision becomes



whether you can live with the opportunity cost of doing one thing over another.

Valve has the blessing of being in the catbird seat — or the curse. Privately owned by Newell and the employees, there are no outside shareholders or a board of directors to please. The invisible hand of curiosity is what guides the company. That is, until what employees dub the “Gabe Fiat” is invoked to shake things up.

November 2007 was one of those times. Concerned that Valve was spending far too much time making games and not enough time pushing its designs in bold new directions, Newell showed up one morning with a radical idea: What if he effectively shut down Valve’s production pipeline for a few months and turned the company into one big creative playground? There would be no deadlines, no milestones, and little accountability. And most important, the entire process would be a secret to the outside world.

Newell assembled the team in the main conference room and outlined his plan. The “Directed Design Experiments” as he called them would hopefully lead to a creative renaissance. Employees were told to assemble small groups and try whatever they thought was cool or interesting. A spectacular failure would be just as important as the next big thing.

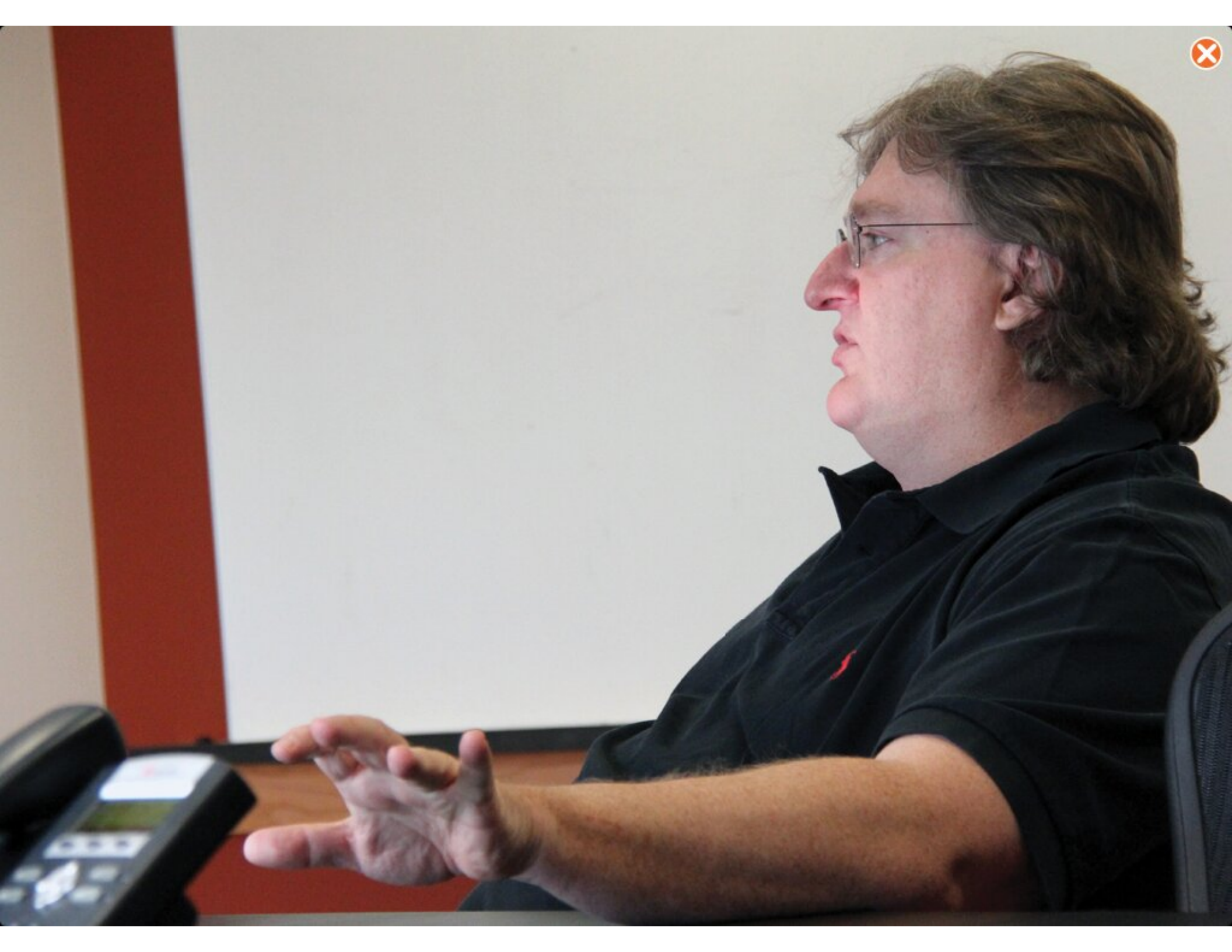


Gabe Newell decided to shut down Valve’s development pipeline for experimentation.

Brainstorming commenced. Days, weeks, and months began to pass. With little news out of Valve headquarters, fans on message boards incessantly speculated about what the almighty Valve was working on. Was it *Half-Life 2: Episode 3*? *Portal 2*? *Counter-Strike 2*?

Not exactly. Two Bots, One Wrench was deep into production.

IT’S MID-AFTERNOON IN FEBRUARY 2008 and the employees of Valve are filing into a local movie theater



in Bellevue, Washington. But they aren't here to see a movie. They're here for an internal science fair of the design experiments. Within these four walls, Valve will showcase more innovation in 60 minutes than most game companies will see in a lifetime.

Team Shirley Temple is one of the first to present. Ken Birdwell, the man credited with the lifelike facial-expression technology for the female character Alyx Vance in *Half-Life 2*, has focused this team on the idea of introducing liquid simulation into the *Half-Life 2* engine. The "blobulator" demo as it's now known isn't just about technology. It has a real impact on gameplay. Birdwell and the team showcase blobs of a mercury-like substance that can procedurally attack the player, run over and drown enemies, and re-assemble like the T-1000 in *Terminator 2*.

Next, longtime Valve employees John Guthrie, Tom Leonard, and Steve Bond demonstrate their idea of modular artificial intelligence. The premise is that Combine soldiers from *Half-Life* have different chips on their uniforms that activate abilities like flying and super-speed. A player shoots an enemy, who's blown to pieces. But there is a twist: Another enemy can then run over, find stray ability chips other soldiers have dropped, and upgrade their abilities on the spot.

After this demonstration, The Elders of Zion take

the stage. Named as such because the group is largely comprised of Jewish employees, Eric Wolpaw and his team flip on the first slide of their experiment. Titled *Two Bots, One Wrench*, the name is a play on the vulgar video "2 Girls, 1 Cup" that swept the Internet in late 2007.

You, as the player, are the wrench-wielding hero. Along for the ride are two AI-driven robots, one rough and gruff (voiced by Valve artist Richard Lord) and the other a proper bot with a proclivity for wearing hats. It's a funny concept, but this design experiment's goal is to push in-game storytelling in a new direction. Here, the two artificial-intelligence characters react in real time to events around them and play off each other's antics.

As the demo video begins to roll, employees see the robots and the hero walking through various *Half-Life* environments, such as a prison. The bumbling bots get stuck in a toilet. They play with each other: the proper bot puts a watermelon on his head and the other knocks it off. The bot sequences are hilarious and inspiring, and demonstrate procedural narrative where in-game dialogue is driven by player action, not a pre-determined script.

Coming off the tremendous success of *Portal*, Kim Swift and her team were inspired to run a more practical experiment and see where portal technology might go in the future. Though no one was saying it, the Swift team



Artist Richard Lord, also the voice of a robot in *Two Bots*

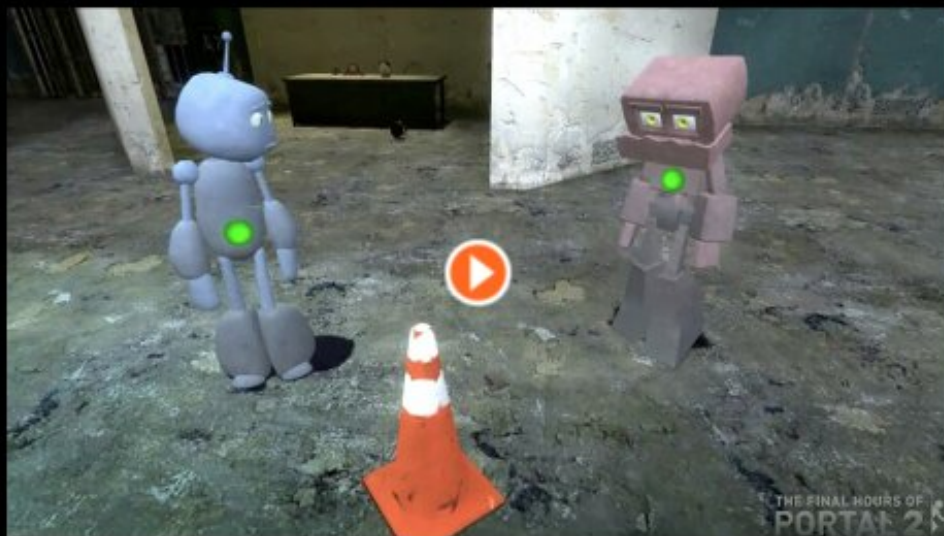
design experiment had *Portal 2* written all over it. The concept was to add a new dimension to portals: Time. Imagine, for instance, playing a *Portal* level where, the first time through, you fire portals to push a box off a ledge. Normally, that box would fall into a pit of lava. But with the addition of time, you could record yourself doing that first action and then, the second time through, you might fling yourself across the lava at the exact right second to catch that box.

Swift and her team thought they had cracked the code of what could potentially become *Portal 2*. Newell was initially optimistic and, going into the event, thought this was the experiment most likely to become a full game. But after the demo, he realized it wasn't going to work. "It totally failed," he remembers. "It just wasn't fun. There was too much state the player had to keep in mind." (Swift, who left Valve in 2009 to lead a new development team at Airtight Games, still thinks the concept could work).

Most of the experiments were inspiring. Some were funny. A few didn't pan out. Then there was one that completely enraptured the audience. Upon seeing it, Newell remembers thinking, "Fuck yeah!" This one experiment had been worth stalling everything else at Valve for over three months.

Named *F-STOP*, this never-before-disclosed project





VIDEOS: Two more clips from the Two Bots, One Wrench design experiment

was headed by a team including producer Joshua Weier. Using the cartoon visual style of *Team Fortress 2*, Weier and his team mocked up a completely new, non-violent, puzzle-based mechanic for a game. It was fun, it was memorable, and most important it was fresh and completely unexpected.

Driving home that night from the theater, Newell kept thinking that *F-STOP* might just be the big, unexpected idea that Valve needed for a sequel to *Portal*.

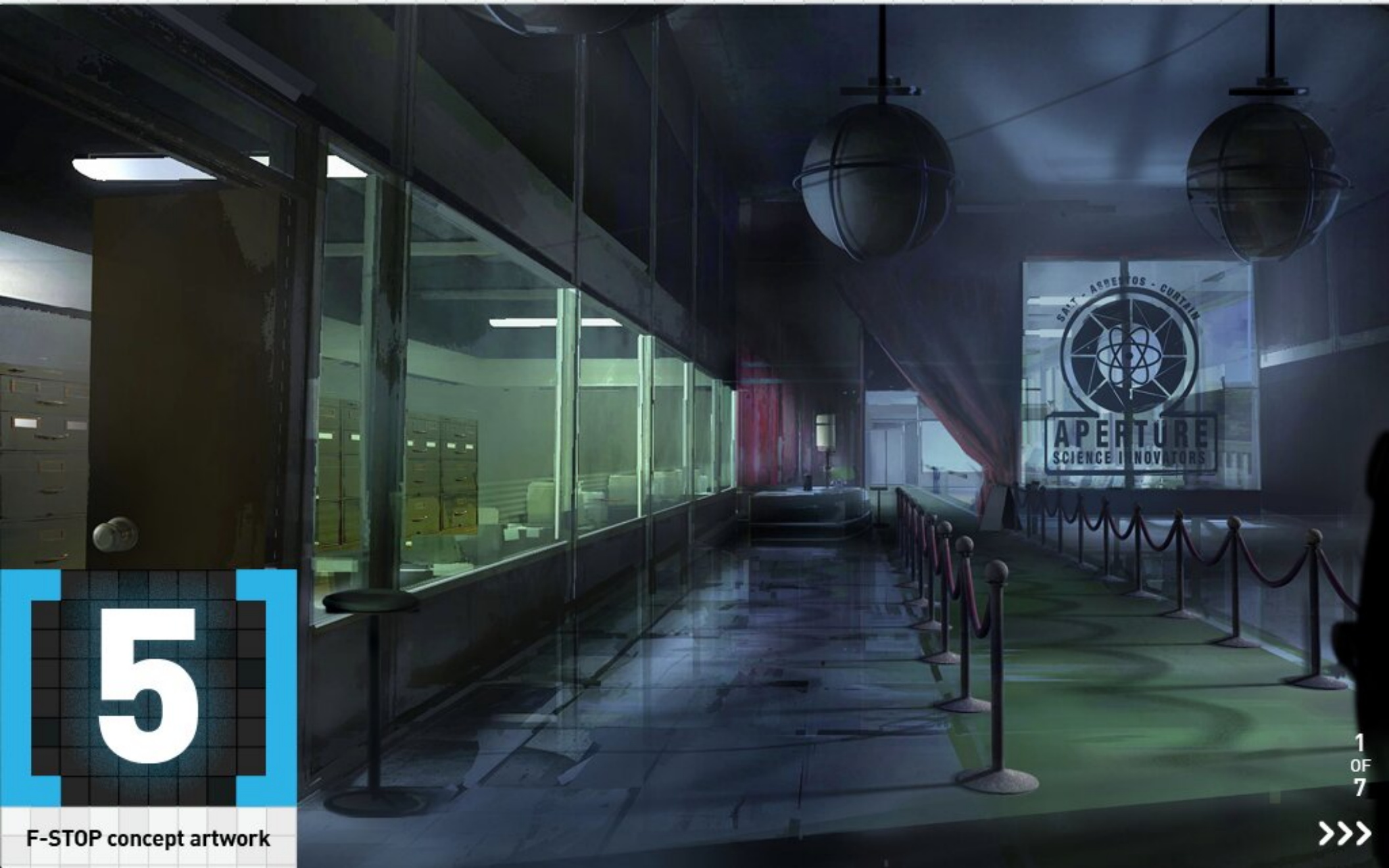
A few days later, Newell summoned Weier and the team to his office to ask them if they'd be willing to look into making *F-STOP* a sequel to *Portal*. Weier, a

boy wonder who got his first industry job at age 16 and joined Valve before he was even legal to drink, was a little shocked. *Portal* was such a sensation, such an outright phenomenon, no one wanted to be responsible for trying to one-up it.

“When Gabe asked us to take on *Portal 2*, there was this huge sense of dread,” Weier admits. “It was sort of like asking us to take lightning and put it in a bottle again.”

As the story sometimes goes, lightning didn't strike twice. *F-STOP* would not ultimately become *Portal 2*. But it would take Valve nearly a year of intense development before it figured that out.

ECCENTRIC DEAD BILLIONAIRE



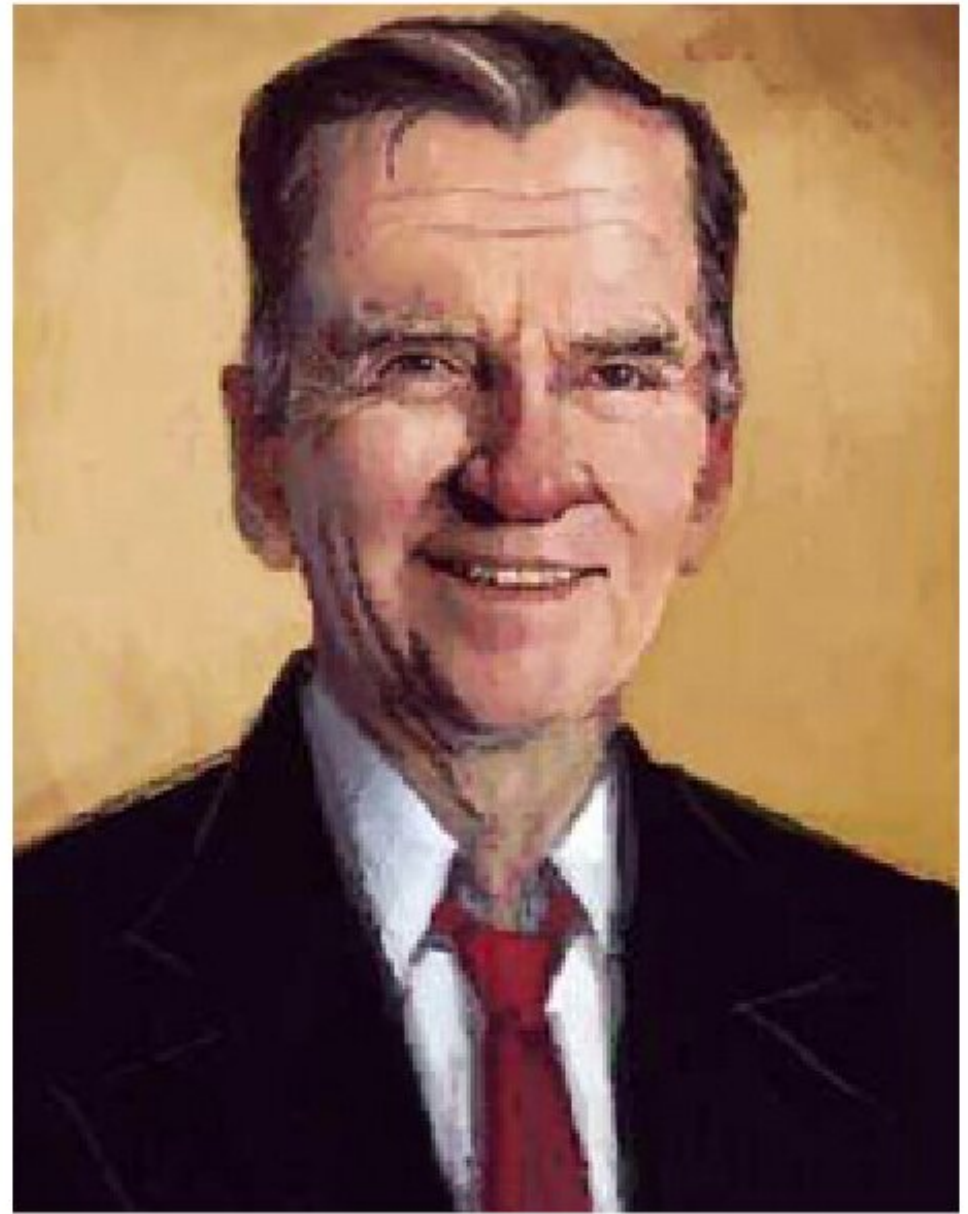
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F-STOP concept artwork

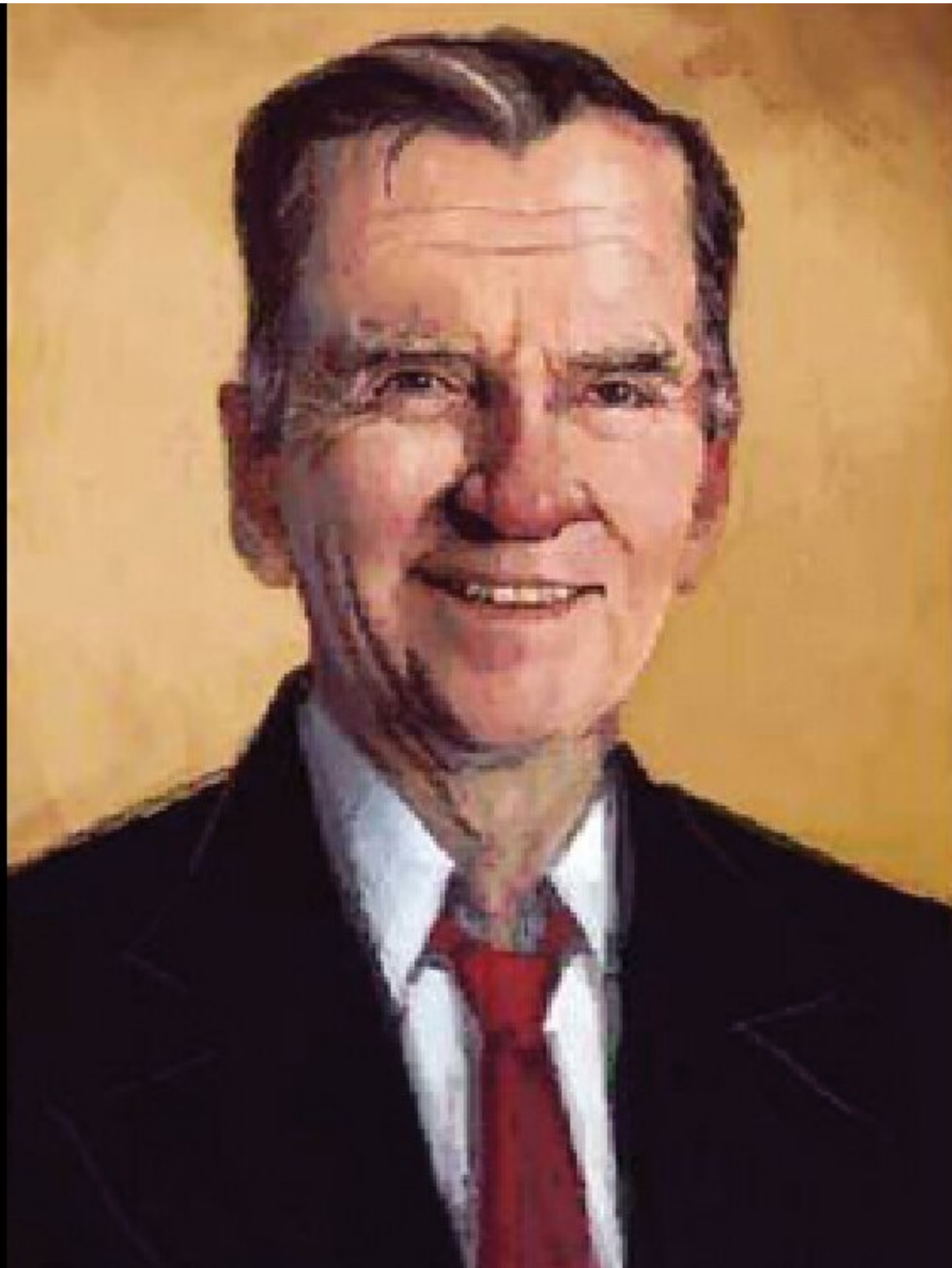
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OF
7



IT WAS ABOUT 11 O'CLOCK IN THE EVENING on Monday, June 9, 2008 when the emails started flying between Valve employees. Except Erik Wolpaw — he was probably asleep. After a rather uneventful day on the *F-STOP* project, the online game blog Kotaku.com posted a headline that sent shockwaves through Valve headquarters: **RUMOR: CASTING CALL**



The leaked concept art for Cave Johnson from June 2008



EXCLUSIVE: CONCEPT ART FROM F-STOP

TAP
PHOTOS



Never-before-seen
artwork of what
Aperture might have
looked like more than
a half-century ago



REVEALS *PORTAL 2* DETAILS?

A tipster had forwarded the blog about a casting call and concept art for a character named Cave Johnson. The breakdown, posted on a private casting site eight hours earlier by an overeager agent, went into extensive detail about Cave, whom *Portal* fans knew as the never-seen founder of Aperture Science, the setting of the first game. Cave is a “self-made billionaire who’s learned to trust his gut and doesn’t sweat the details,” it read. “Goes from sidekick to principal antagonist. Starts to lose his grip on his humanity as the story progresses.” The character was supposed to “speak with a slight Southern/Western

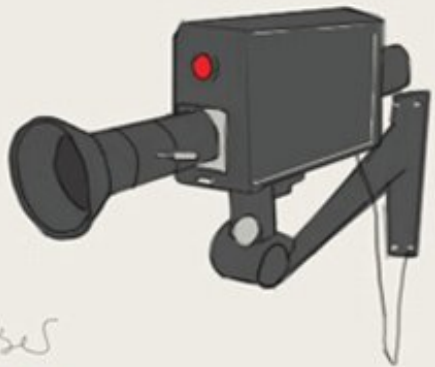
accent (natural, not too broad).”

Valve was understandably livid. *Portal 2* hadn’t been announced, and what’s more, they certainly didn’t want details leaked online about a key character or potential plot twist. The writing team, which included Wolpaw, Faliszek, and a new member, former *National Lampoon* writer Jay Pinkerton, was so frustrated it considered dropping the character from the game right then and there. What held them back were the auditions coming in from well-known character actors. Their early favorite was William Sanderson, known for his roles on two HBO shows, *Deadwood* and *True Blood*.





Training
props



Camera



cleanser



Robot



Fan



Door Frame



Over exposed.





The bar has
mineral water,
no liquor.





pOrtal Elevator





relaxation vault

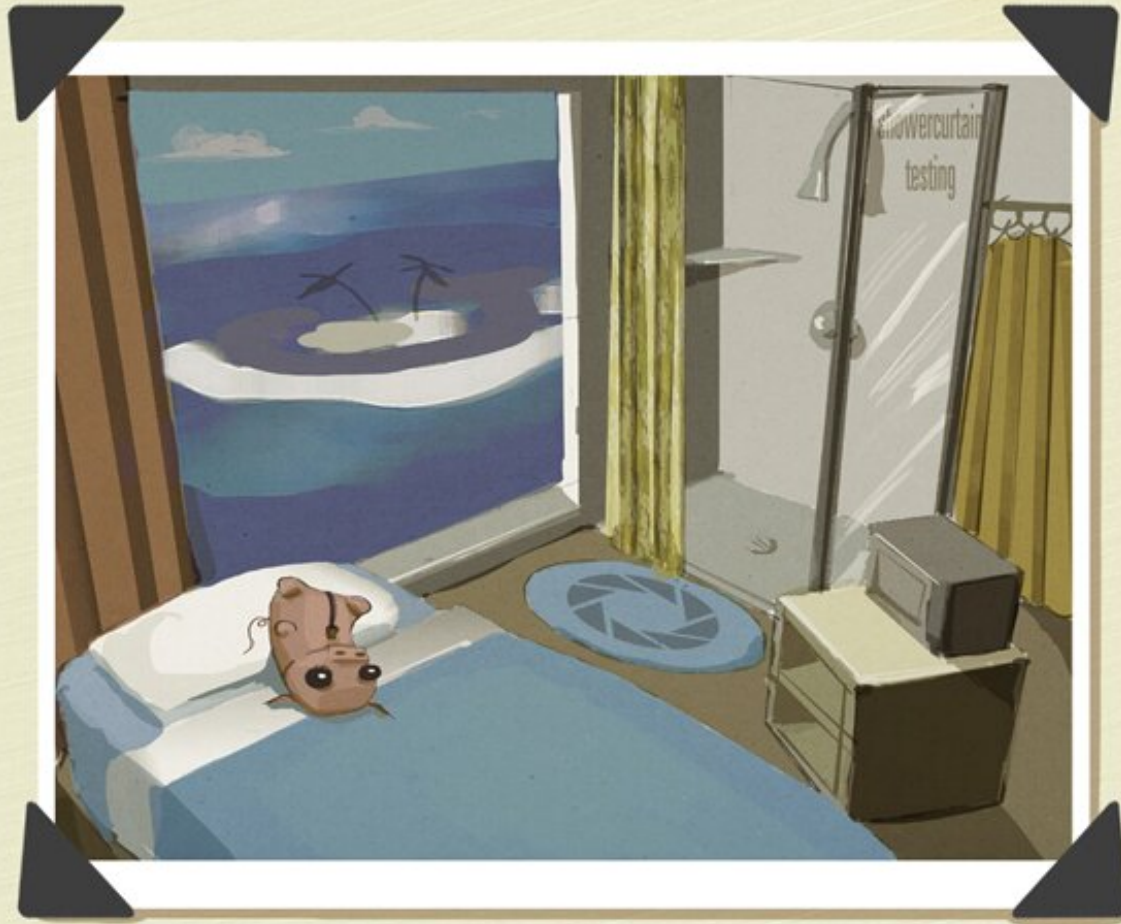


radio





How many
shower curtains?
Can u spot the
pin?





A place where you can relax !



RELAXATION VAULT

THE FINAL HOURS OF
PORTAL 2

Set in the 1950s, the script was a prequel to the events of *Portal*. Cave Johnson, the CEO and founder of Aperture, was set to be the primary villain. Players would assume the role not of Chell, the female protagonist from the first game, but of a new character who starts the game by waking up in a 1950s relaxation chamber. While many of the plot details were still in flux, the team had a general framework. Cave, a rich billionaire, desired to live forever. So he had his engineers at Aperture put his essence in a device, making him into an artificial intelligence. But as the game progressed, Cave would begin to realize how much humanity he had lost. The rest of the story would be the tale of Cave trying to become a robot and leading a robot uprising. The bots and Cave would gain power. Eventually, they would put the player on trial for having committed war crimes against their brothers-in-arms, the robotic turrets, which the player would inevitably have abused in the course of the game.

Oh, there's one other point that's worth mentioning too: There were no portals in *Portal 2*. There was also no GLaDOS. In fact, the only common thread between *Portal* and *Portal 2* was going to be the setting, Aperture Science. And even then, Aperture would look very different in the 1950s by comparison with the early 21st-century look of the first game. As long-time Valve



National Lampoon (and Canadian!) writer Jay Pinkerton joined the writing staff for *Portal 2*.



PANORAMA: EXPLORE THE DESIGN LAB



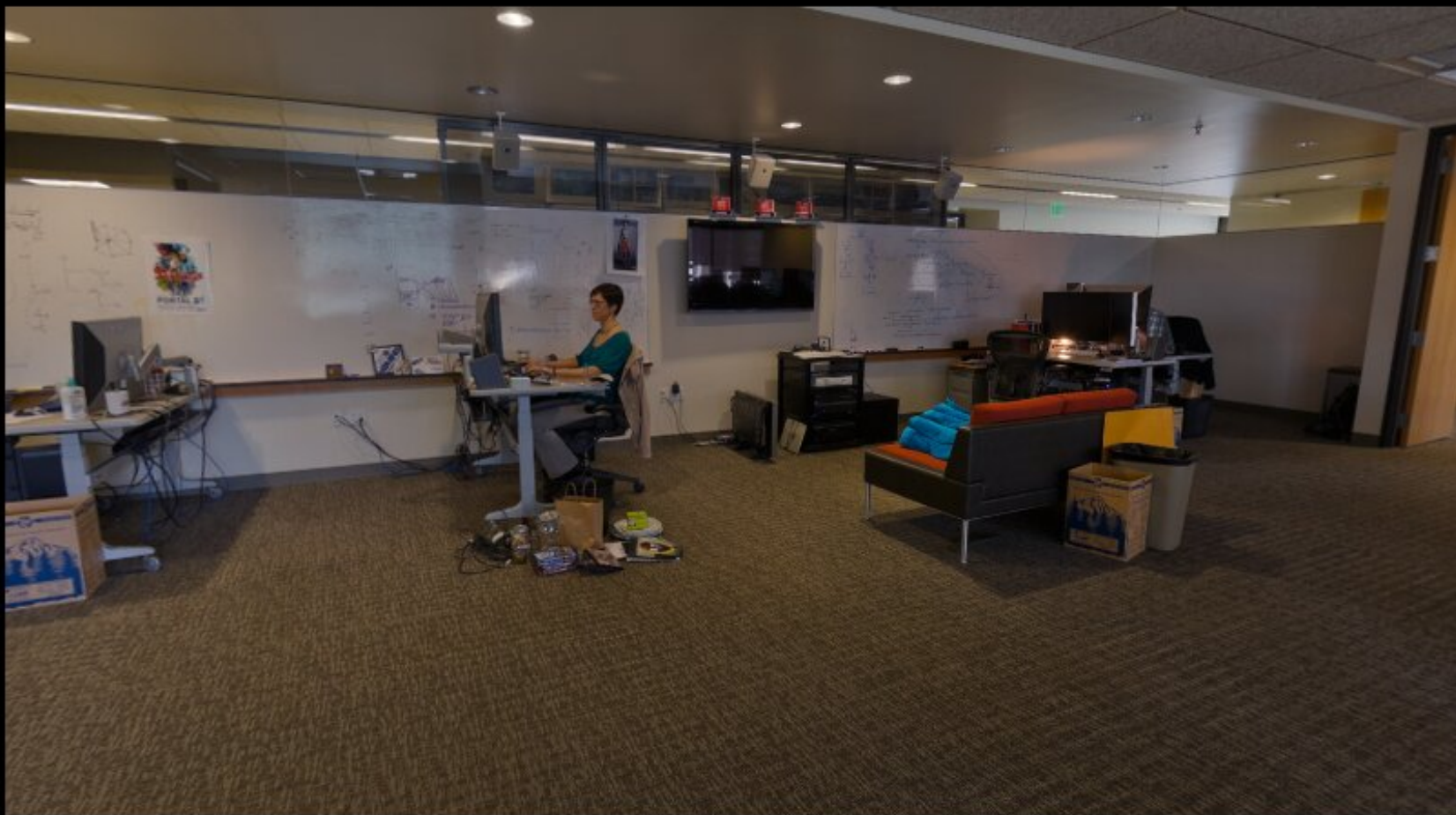
SWIPE IMAGE TO VIEW PANORAMA. TAP HERE FOR FULL-SCREEN VERSION

PANORAMA: EXPLORE THE DESIGN LAB



SWIPE IMAGE TO VIEW PANORAMA. TAP HERE FOR FULL-SCREEN VERSION

PANORAMA: EXPLORE THE DESIGN LAB



SWIPE IMAGE TO VIEW PANORAMA. TAP HERE FOR FULL-SCREEN VERSION

PANORAMA: EXPLORE THE DESIGN LAB



SWIPE IMAGE TO VIEW PANORAMA. TAP HERE FOR FULL-SCREEN VERSION

veteran John Guthrie explains, “We thought that maybe the franchise of *Portal* would be about introducing a completely new puzzle mechanic in each game with the common thread of Aperture Science.”

For more than eight months, the core team pushed forward on this radical new game while the rest of Valve finished up the zombie thriller *Left 4 Dead*. The artists — such as Jeremy Bennett, known for his work with Peter Jackson on *King Kong* and *Lord of the Rings* — began drawing concept art depicting Aperture Science circa 1950. The design group, organized into small three-to-four-person fiefdoms called “cabals,” started generating puzzles with new gameplay elements, including crash test dummies that would populate the test chambers. Wolpaw, Faliszek, and Pinkerton refined the story of Cave Johnson and the robots rising to power.

By the summer, an early version of the game was up and running for friends and family to play at the office. And that’s when things took a turn for the worse. Players would sit down to play, fully expecting to fire portals and get chastised by GLaDOS’ auto-tuned rants. But as they continued to play, it became painfully clear that neither of these elements was going to appear in the sequel. In feedback sessions after gameplay, the message was clear: Had Valve had incinerated its sanity core? The new ideas

POLL



WOULD YOU PLAY A PORTAL WITHOUT PORTALS?

- YES ABSOLUTELY. I TRUST VALVE.
- SOUNDS INTERESTING. BUT I'M NOT SURE.
- NOPE. IT IS CALLED "PORTAL"

[View Results](#)

Vote

INTERNET CONNECTION REQUIRED



The Portal gun was absent from the F-STOP concept.

were fun and exciting, but surely this wasn't *Portal 2*.

The team was sent into a tailspin, questioning each and every decision they'd made over the past year. It was time for everyone to sit down and take stock. As soon as *Left 4 Dead* was finished in October of 2008, Gabe brought the *Portal* team together for a meeting. What had started as one of the most exciting experiments in Valve history had suddenly become deeply divisive even inside the company.

As one employee remembers, Newell looked around the room and slowly acknowledged the obvious. "We are

making *Portal 2* without portals," he said before slamming his head against the desk in defeat. As the old saying goes, the obvious is only obvious in retrospect.

Still, many team members loved the *F-STOP* game mechanic and didn't want to let it go. (Valve has asked that specific details of the *F-STOP* mechanic not be included in this story, as it is likely to be used in a future Valve product). But at the end of the day, Valve is a company driven by its customers and fan feedback.

The vox populi had spoken. *Portal 2* needed portals.

Walking out of the meeting, the team knew it had to correct course. Portals needed to come back, and portal technology was not going to be compatible with the ideas behind *F-STOP*. In addition, the return of GLaDOS would necessitate a move away from the prequel storyline and the Cave Johnson character.

Portal 2 was still alive, but barely. It needed a complete creative reboot. Everyone still wanted to make the game, but no one knew exactly what game they could make that would live up to *Portal* fans' expectations.



6

THE
AHA
MOMENT

Concept artwork







ALL VIDEO GAMES ARE PUZZLES. They just have to be solved in different ways. In a first-person shooter like *Call of Duty*, the puzzle is how to navigate a byzantine environment while avoiding enemies. *Portal* is a puzzle

Portal 2 features more animated test chambers. game with a twist: The environment is the enemy.

There are no soldiers in the way, but you can't just walk from the entrance to the exit. You have to use your portal-creating abilities to successfully navigate each "test chamber." Physics and momentum are your bullets.

F-STOP may have been shelved, but in January 2009, producer Josh Weier was determined not to settle for turning *Portal 2* into a group of harder *Portal 1* puzzles. Players still needed to be surprised with a new set of toys that would change how the game was played.

The design cabals began prototyping ideas. One early proposal involved test chambers that could reconstruct and evolve their architecture mid-puzzle — an idea deemed too challenging from a technical perspective. A more feasible concept was creating an infinite mass object that players could push around the map. Shove it to one side and a test chamber would rotate, change gravity, and throw your brain for a loop. That one didn't make it very far past early development. Nor did John Guthrie's proposal to include a glass football, a ball of antimatter that could never be placed on the ground or else it would explode. Players had to figure out that the only way to progress was to fire two portals into the floor, drop the football in one opening, and have it endlessly oscillate between the two holes.



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Over time, other ideas gained more traction. An early favorite was the light bridge, an infinite beam of blue light that players could walk on and extend beyond a wall via a portal. Fire a portal at the point where the bridge intersects a wall and then use another portal to project it elsewhere. Red laser beams — which could be sent through portals and bent using mirrored cubes — were

also fun to play with, as were Aerial Faith Plates, platforms that vaulted you into the air.

As the game objects matured, the designers then turned to working on building new test chambers. Level design, a process that involves at least three or four team members, starts with an idea that's sketched out on a whiteboard or notepad. From there, the team uses Hammer, Valve's

TIMELINE: FROM DIGIPEN TO PORTAL 2

TAP BUTTONS TO REVEAL KEY DATES IN THE DEVELOPMENT OF PORTAL 2



MAY 2005
Nuclear Monkey
graduates from DigiPen,
joins Valve.



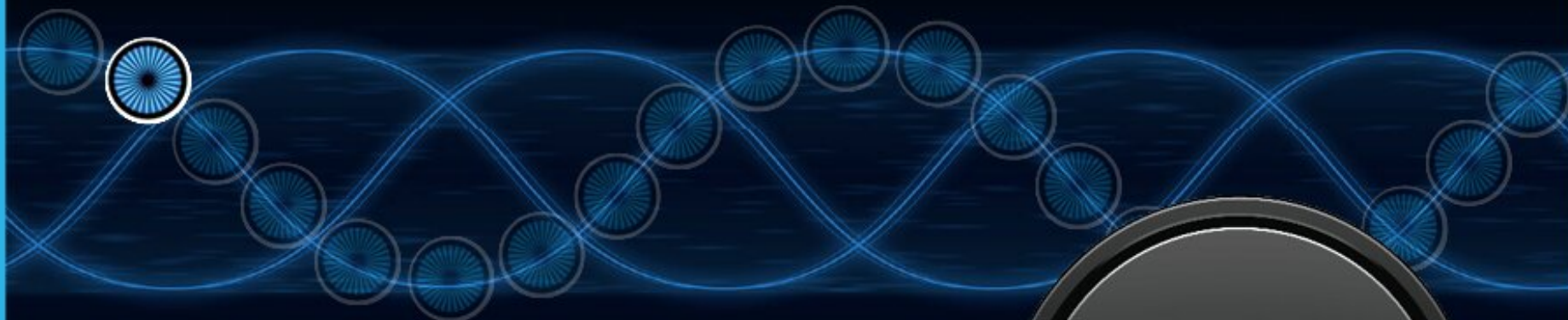
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TAP BUTTONS TO REVEAL KEY DATES IN THE DEVELOPMENT OF PORTAL 2



JULY 2006

Gabe announces
Portal at EA
Summer Showcase.



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TIMELINE: FROM DIGIPEN TO PORTAL 2

TAP BUTTONS TO REVEAL KEY DATES IN THE DEVELOPMENT OF PORTAL 2

OCTOBER 2007

Portal ships as part of The Orange Box.



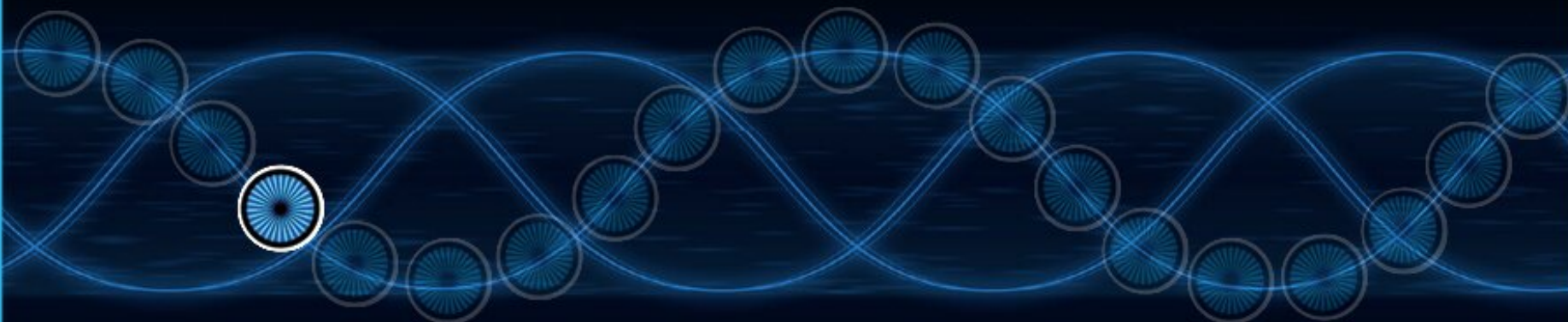
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TIMELINE: FROM DIGIPEN TO PORTAL 2

TAP BUTTONS TO REVEAL KEY DATES IN THE DEVELOPMENT OF PORTAL 2



NOV. 2007 - FEB. 2008

Valve begins secret
Directed Design
Experiments.

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TAP BUTTONS TO REVEAL KEY DATES IN THE DEVELOPMENT OF PORTAL 2

FEB. 2008

Kim Swift drops first hints of a Portal sequel at GDC 2008.

GDC 

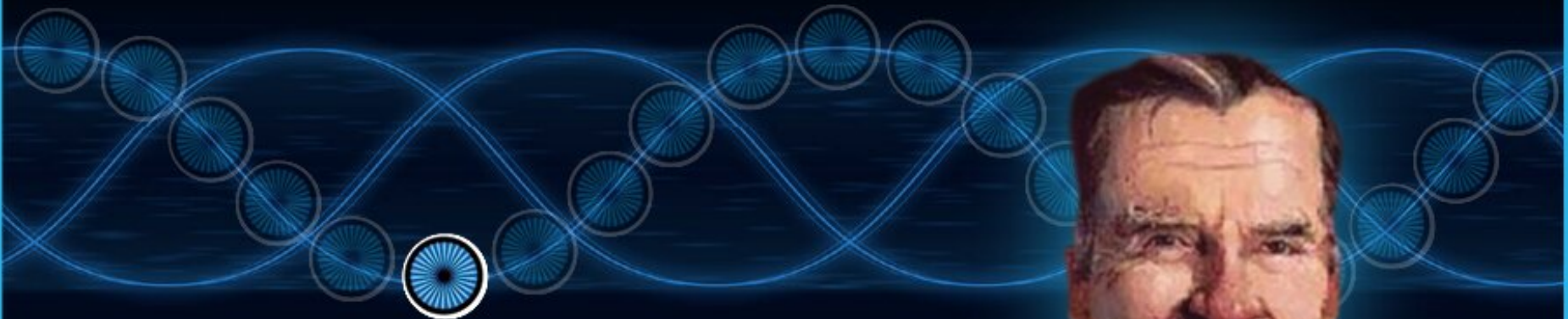
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TAP BUTTONS TO REVEAL KEY DATES IN THE DEVELOPMENT OF PORTAL 2



MARCH - AUG. 2008

F-STOP Development, a prequel with Cave Johnson. A casting leak about the character of Cave on Kotaku.

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TIMELINE: FROM DIGIPEN TO PORTAL 2
TAP BUTTONS TO REVEAL KEY DATES IN THE DEVELOPMENT

JULY - OCT. 2008
Valve focuses on shipping Left 4 Dead 1.

3 OF 6
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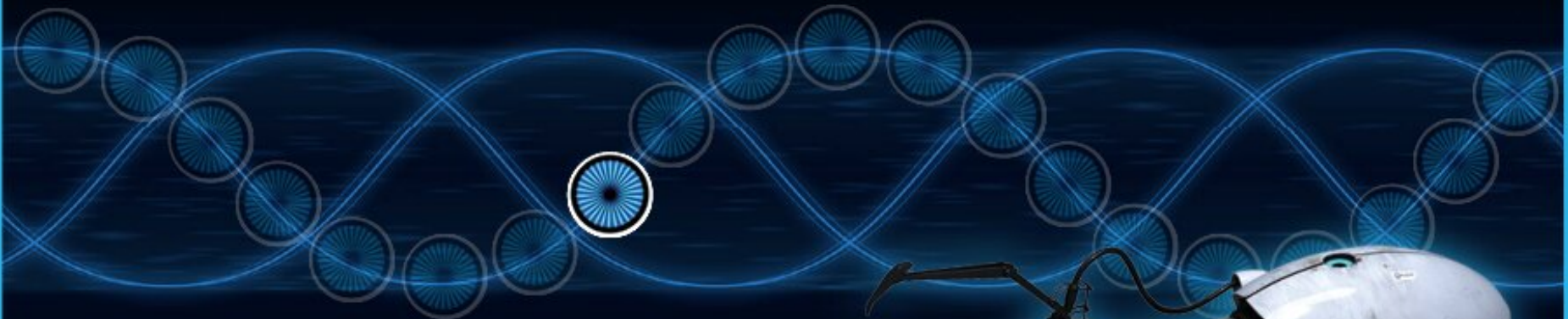
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TAP BUTTONS TO REVEAL KEY DATES IN THE DEVELOPMENT OF PORTAL 2



DEC. 2008

Valve restarts Portal 2 development. Portals and GLaDOS return.



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2009

Valve focuses on a redesigned Portal 2 set far in the future.



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TAP BUTTONS TO REVEAL KEY DATES IN THE DEVELOPMENT OF PORTAL 2

SUMMER 2009
The TAG Team joins Valve from DigiPen and explores the idea of paint in Portal 2.

The graphic features a dark blue background with a light blue sine wave pattern. Several circular buttons with a radial pattern are placed along the wave. One button is highlighted with a white border. The text is in white and orange.

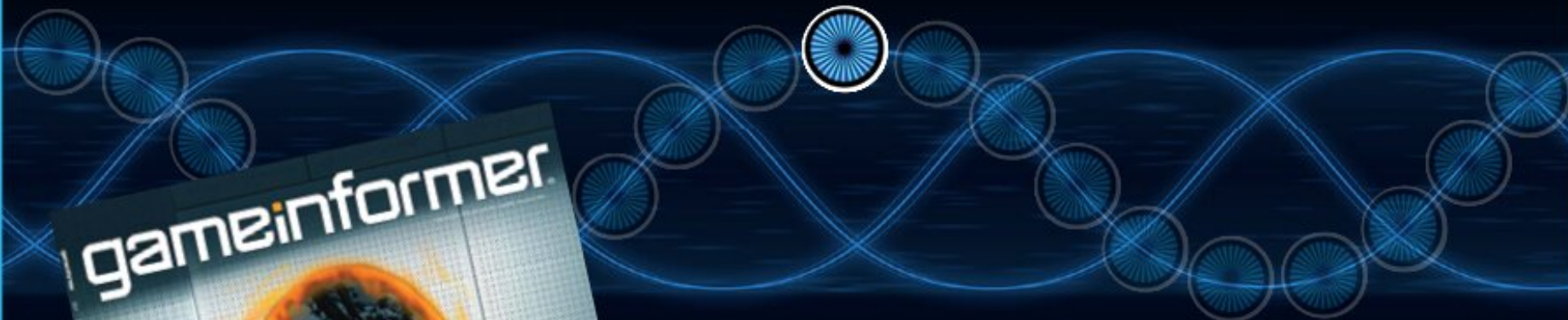
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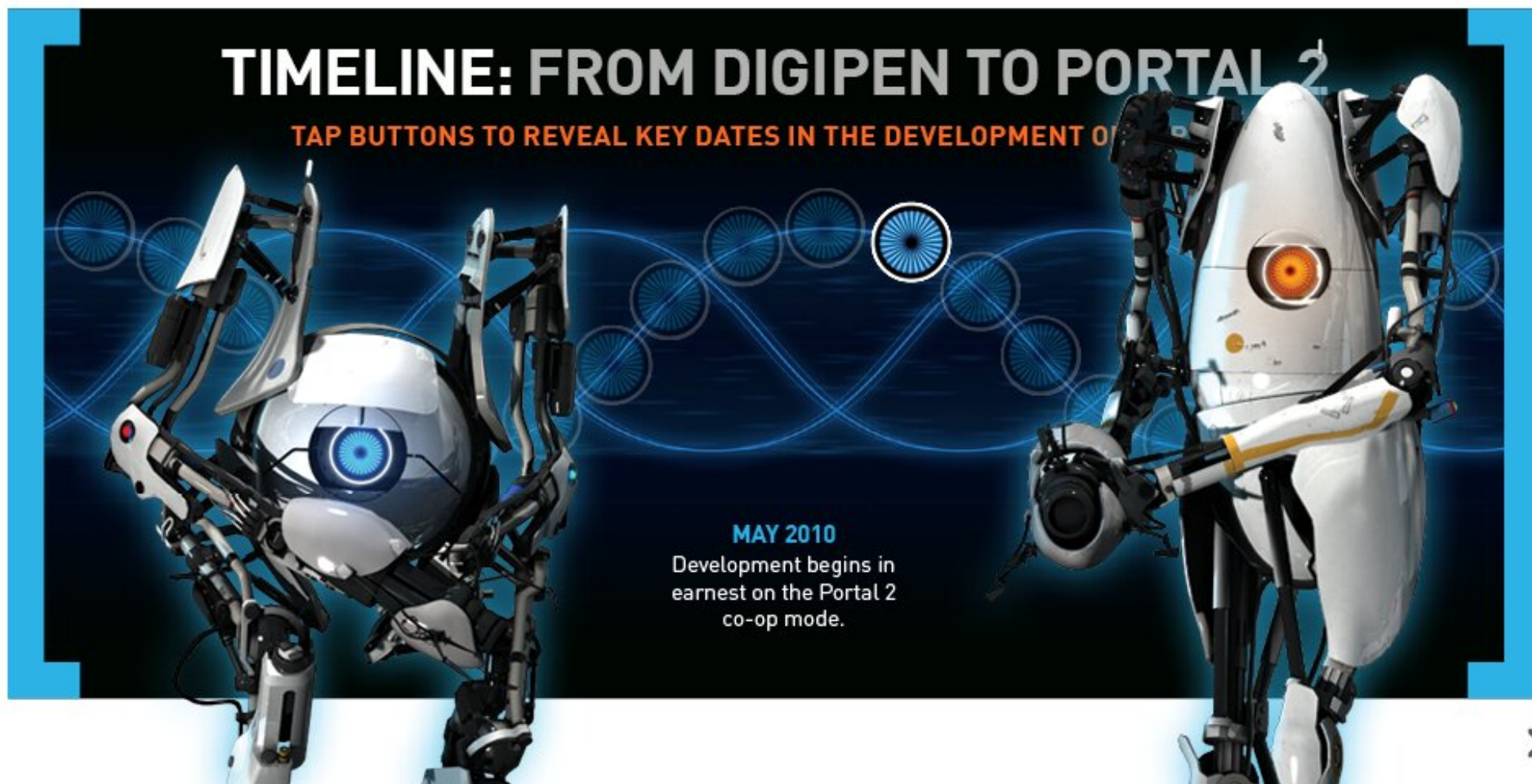
MARCH 2010

Portal 2 is announced in Game Informer magazine.

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JUNE 2010

Portal 2 is unveiled for PS3 and demonstrated at E3 2010.

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AUG. 2010

Co-op campaign revealed along with February 19, 2011 release date.

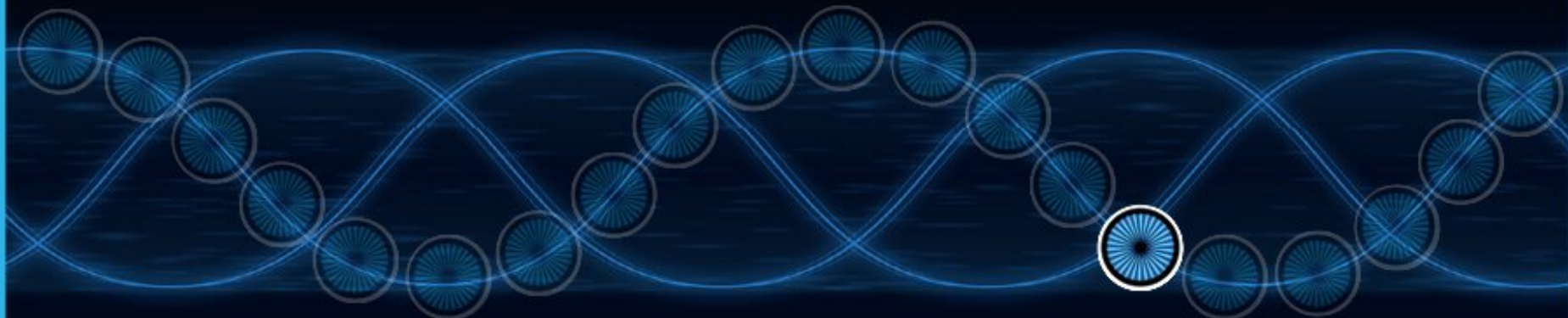
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OCT. 2010

Valve decides Portal 2's story still needs work.



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NOV. 2010

Jonathan Colton begins writing Portal 2 credits song. Meanwhile, Portal 2 is delayed from February to April 19.

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DEC. 2010
Portal 2 is officially "content complete."



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JAN. 2011
Ellen McLain records the Portal 2 song in Seattle.



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FEB. 2011

The Final Hours
of development
at Valve HQ.

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APRIL 19, 2011

Portal 2 is released in North America.



John Guthrie

in-house game editor, to design and redesign a puzzle inside the computer. Finally, the level must be playtested by other employees and Valve fans. These playtest sessions are recorded on video so the designers can scrutinize a player's facial reactions. Are they frustrated? Are they smiling?

There is a fine line between a puzzle that's too easy and one that's so difficult or ambiguous that it becomes frustrating. Valve always wants players to reach what it calls the "aha" moment — that magic euphoria you feel when, after a few moments of uncertainty, you crack a puzzle by using lateral thinking. If Jeep Barnett had a name for it, he might call it the Holy-FUCK-It-Worked! moment, after the YouTube experimental [cooking show](#) he made with his brothers in college.

That feeling of euphoria was not something the writers of *Portal 2* were feeling in the middle of 2009. Nothing had been figured out; there had been no "aha" moment. The writer's room, located on the administrative floor of Valve, is easy to spot. A big "Shakespeareicles — The world's strongest writer!" poster hangs on the wooden door, depicting the Bard with the biceps of a Mr. Olympia.

EVOLUTION OF A LEVEL



Sketched on paper



Designed in Hammer



The final game level





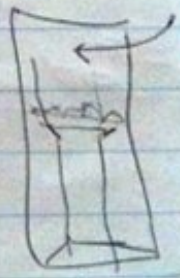
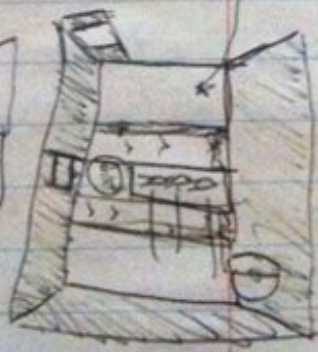
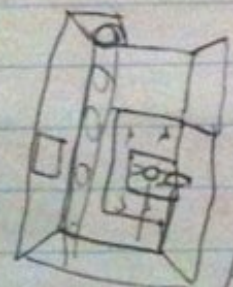
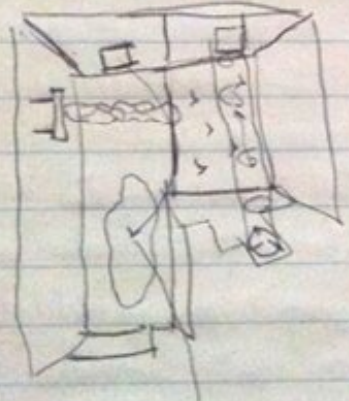
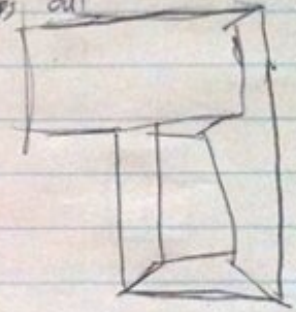
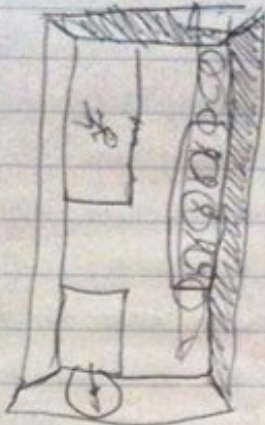
- Remove laser from beam, just dry

- Turrets don't go in the air

- Easy surf to clear portals w/
2nd beam

- Turrets break glass crazy-box
style

- Wall jumps out



??
??
time







Jay Pinkerton, Chet Faliszek and Erik Wolpaw; Shakespearicles guards the door to the writers' room.

Inside, Erik, Chet, and Jay Pinkerton huddled. All the new toys and test chambers being generated by the cabals were great, but what story could support all these new elements? GLaDOS needed to come back, but how would they explain her re-awakening in *Portal 2*? One thing was certain: No one wanted to make *Portal 2* just another battle of wits between Chell and GLaDOS. That worked fine for a short three-hour game like *Portal*, but *Portal 2* was imagined as a full-scale game and, as such, would require a more epic story arc.

New characters needed to be brought into the world. But part of the charm of Aperture Science is the sterility of the world and the intimacy of the player's relationship with GLaDOS. It wouldn't be realistic to populate Aperture with



other human test subjects. The writers felt boxed in. What made *Portal* so special was going to be hard to scale up to a full-blown, three-act story across a ten-hour game.

Trying to untie the Gordian knot of the game's plot development, the writers loaded up *Portal 1*, hoping to inspire ideas about new characters that could naturally fit into the fiction. In the last level of the game, it finally dawned on them. The "personality cores," chatty circular robots you ripped off GLaDOS's mechanized body in the final boss battle, could play a bigger role in *Portal 2*. They could interact with the player like the bots in *Two Bots, One Wrench*. At its most basic level, *Portal 2* could be a battle of wits between various artificial intelligences for control of Aperture. And you, as Chell, would be caught in the crossfire.





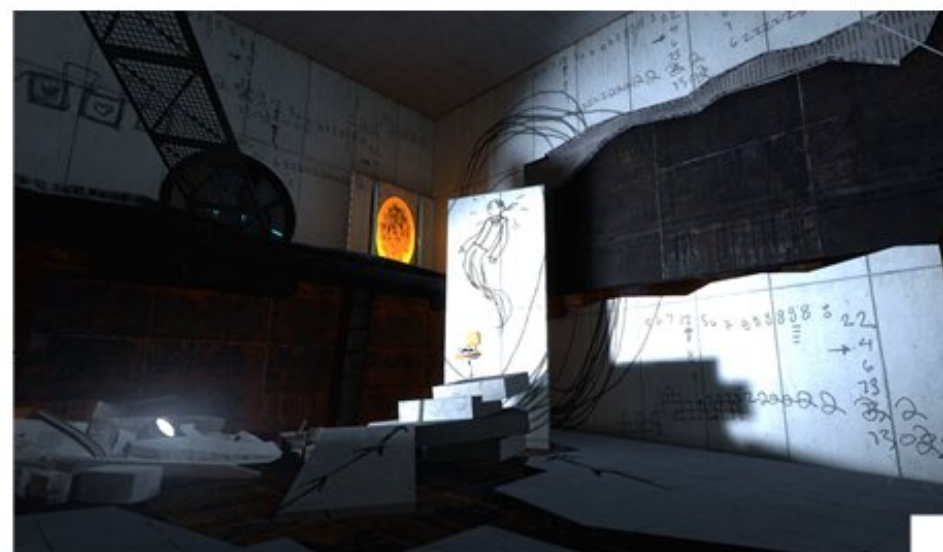
Shakespeare
THE WORLD'S STRONGEST WRITER

EVOLUTION OF CHELL

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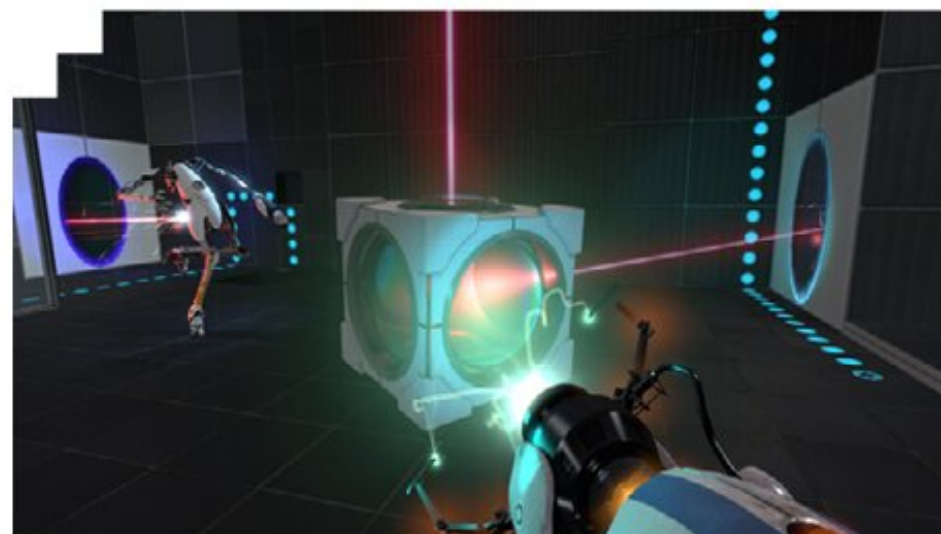


Lasers and mirrored cubes are new toys for Portal 2. Below, a look at an early prototype image for the level where players acquire the portal gun.

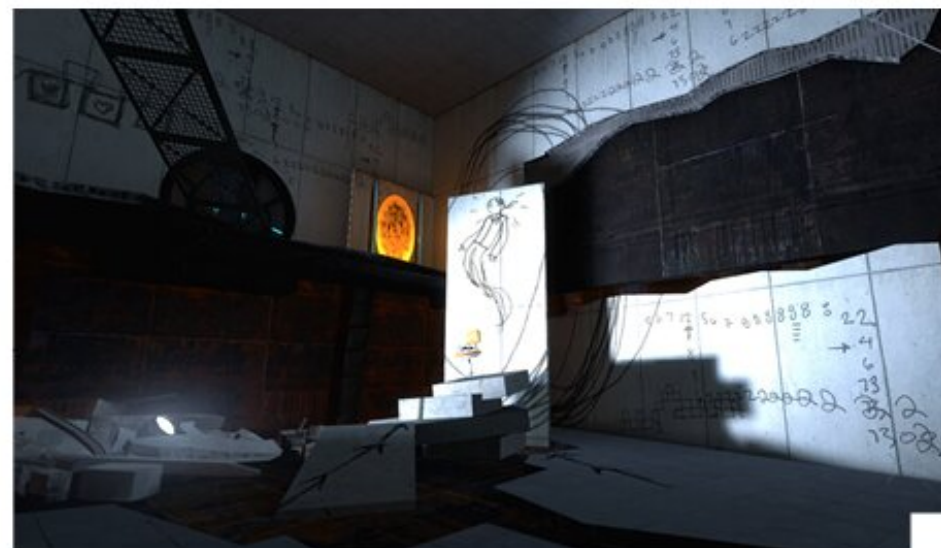


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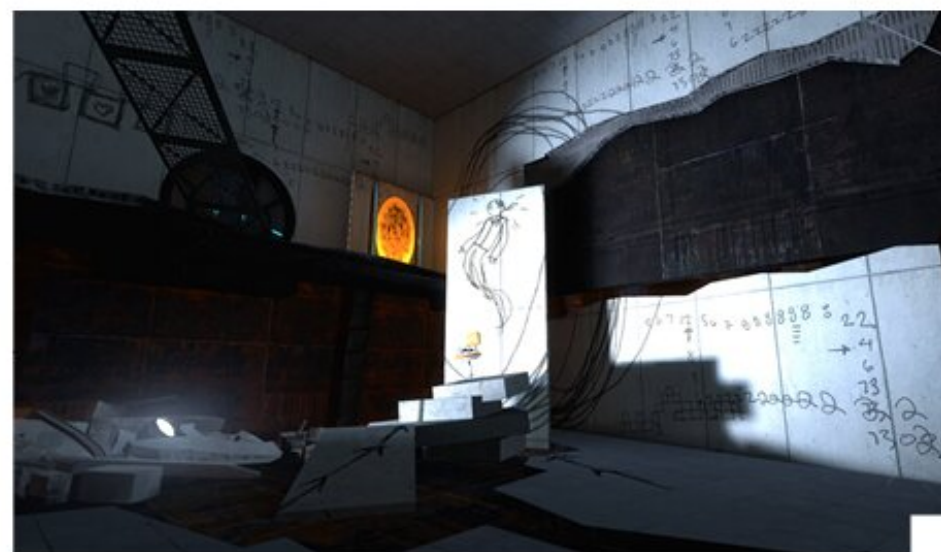


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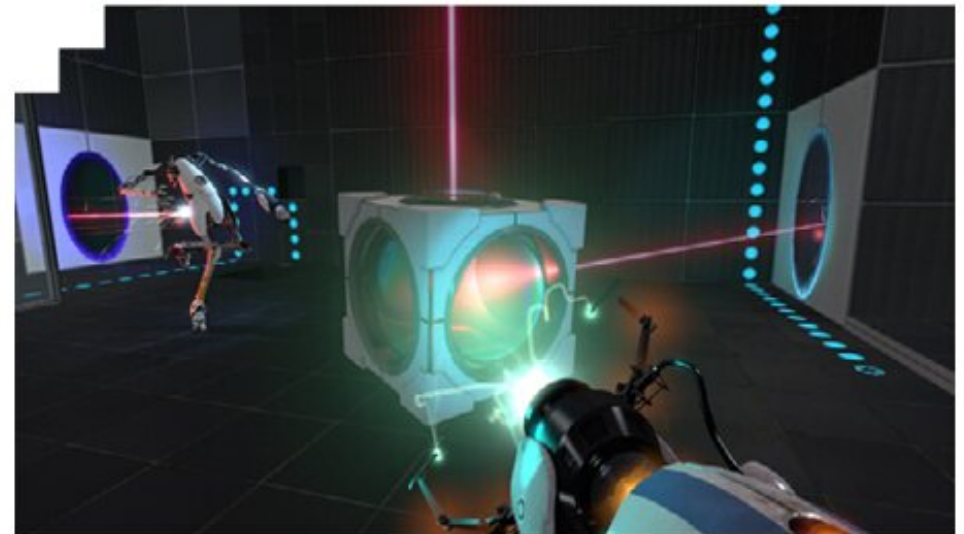


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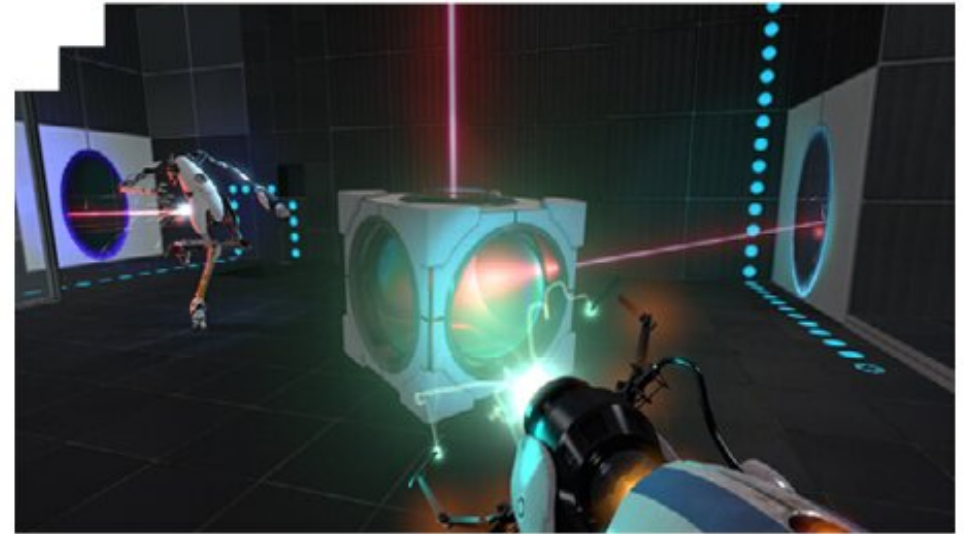


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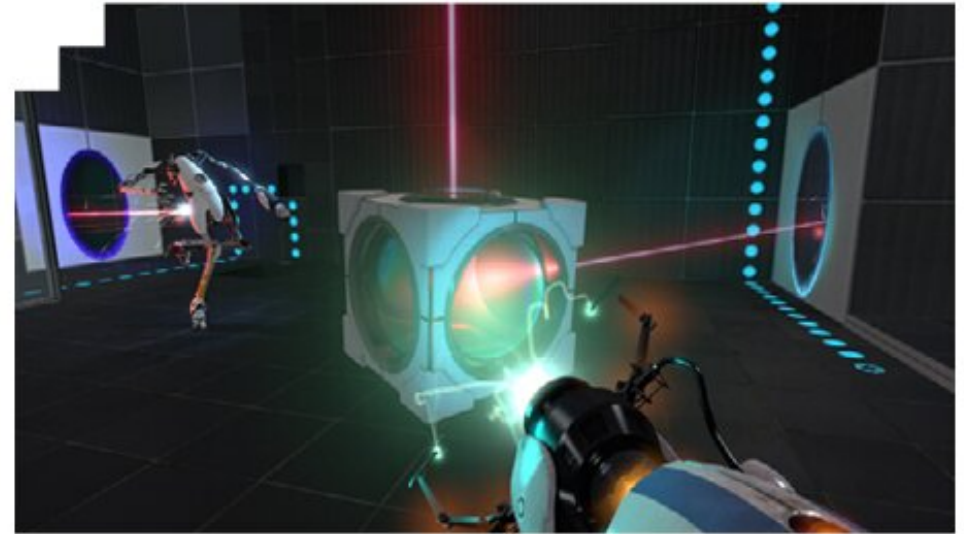
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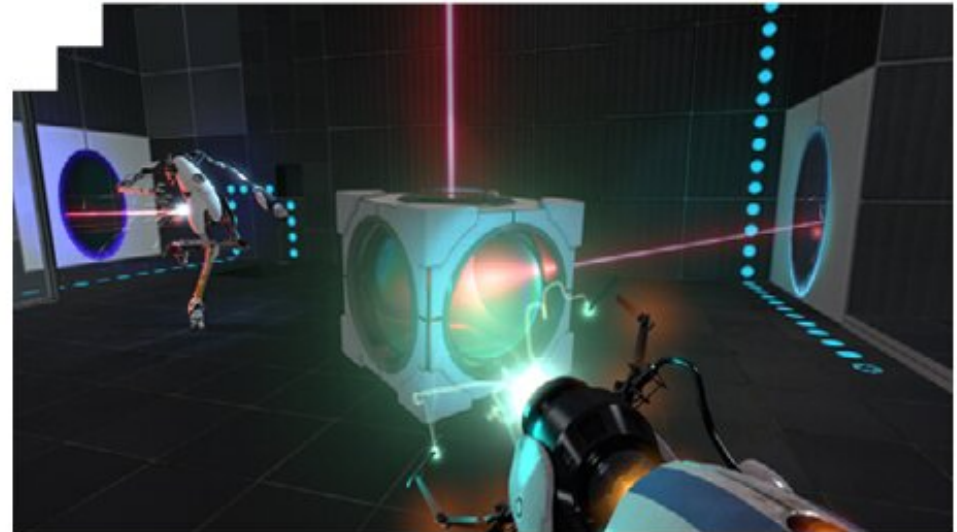


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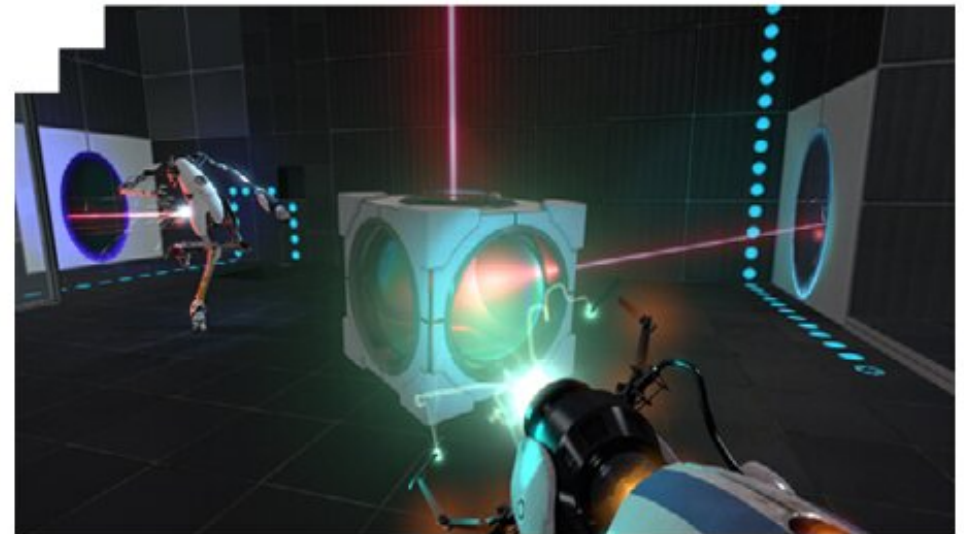


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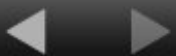
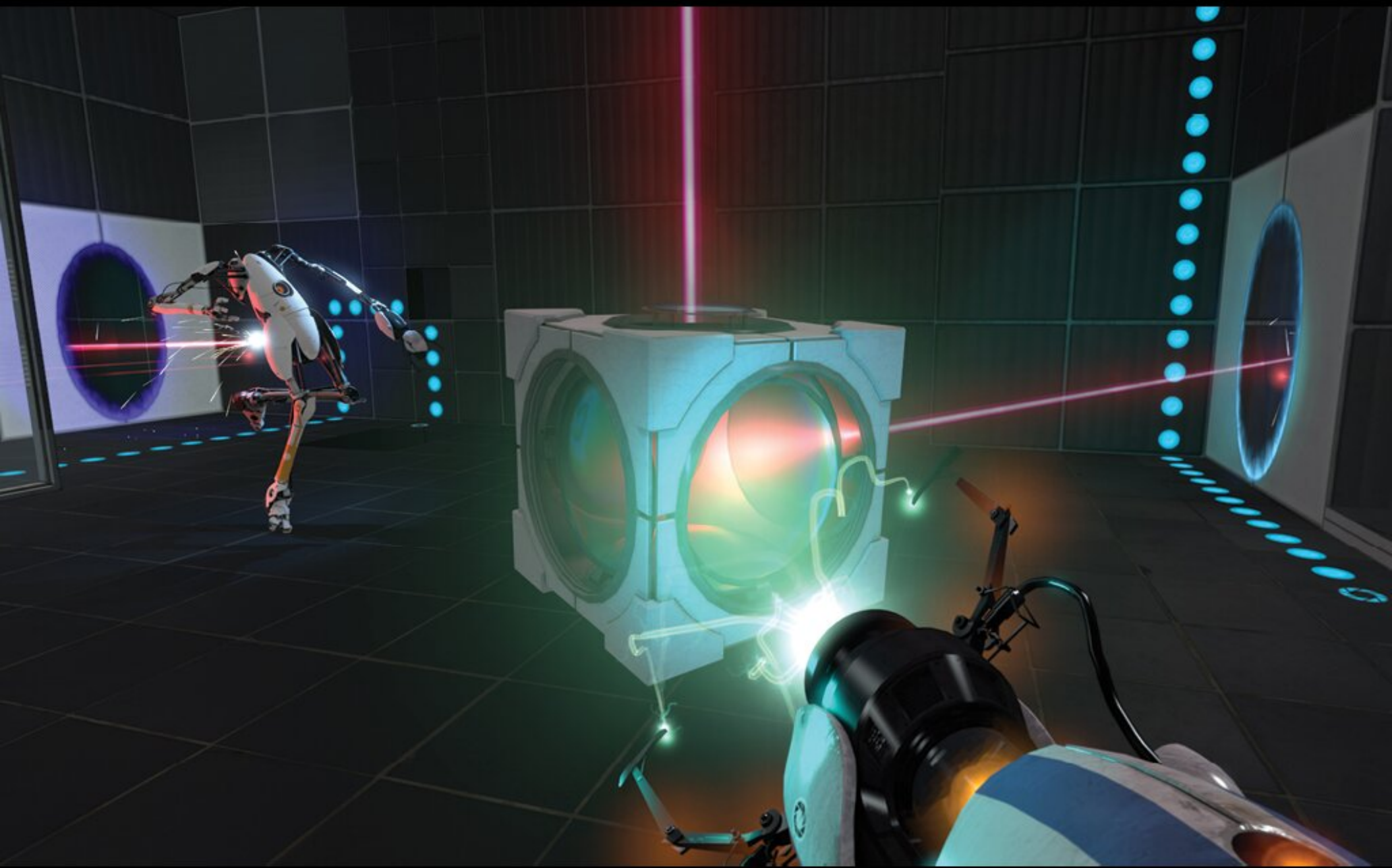
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COVER



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PAGE VIEWER



GAMESLICE



BUY PORTAL 2



THE FINAL HOURS OF
PORTAL 2 

7

JUST ONE PERSON



Karen Prell,
flanked by the
animators at Valve





IT WAS 1979 AND THE PHONE WAS RINGING at the Prell house in Kent, Washington. Karen Prell, then 19 years old, was sitting on

her bed goofing around with the makeshift puppets she kept in a large green garbage bag. “Probably another call that’s not for me,” she likely thought as she continued conversing with Ambrose the Cat, a Grover puppet she had reworked with whiskers and ears. Then her parents called out for her. Someone was on the line. Someone from New York City.

She dropped her hands, pushed the puppet off her fingers, and darted to the phone. The voice on the other end brought good news from the East. Jim Henson had seen the audition tape Karen had made at her local community college. He was impressed and wanted to meet her.

Two weeks later Karen Prell was auditioning in front of her childhood idol. He hired her on the spot.

Today’s kids daydream of one day making video games. But in 1979, when games were still in their infancy, performing alongside Jim Henson on *The Muppet Show* ranked right up there with video games in terms of cachet. The way Prell tells it, the creative culture below the Muppet cameras, where the puppeteers were crammed together, wearing microphones on headbands and stretching their hands high, was just the way you’d imagine it: inspiring, collaborative, and absolutely hilarious. She was only 20 years old at the time, but



Henson made sure she was treated the same as veteran Muppeteers in their 40s. “Jim made sure I had a seat at the table with everyone else,” Karen recalls.

Jim believed in Karen and saw that she had more potential than she realized. As in the song “Just One Person,” a Muppet favorite that Prell and her colleagues performed at [Henson’s memorial service](#), Jim thought that all it takes is one person to believe in you. Soon others will, and before you know it, you’ll believe in yourself, too. In 1982, Jim asked Karen to take a step toward realizing her potential when, at just 22, she was asked to play the role of Red Fraggle on his new show about diversity, *Fraggle Rock*. Prell had to wear black platform boots with foot-high soles so her arms could reach as high as the other six-foot-tall male puppeteers.

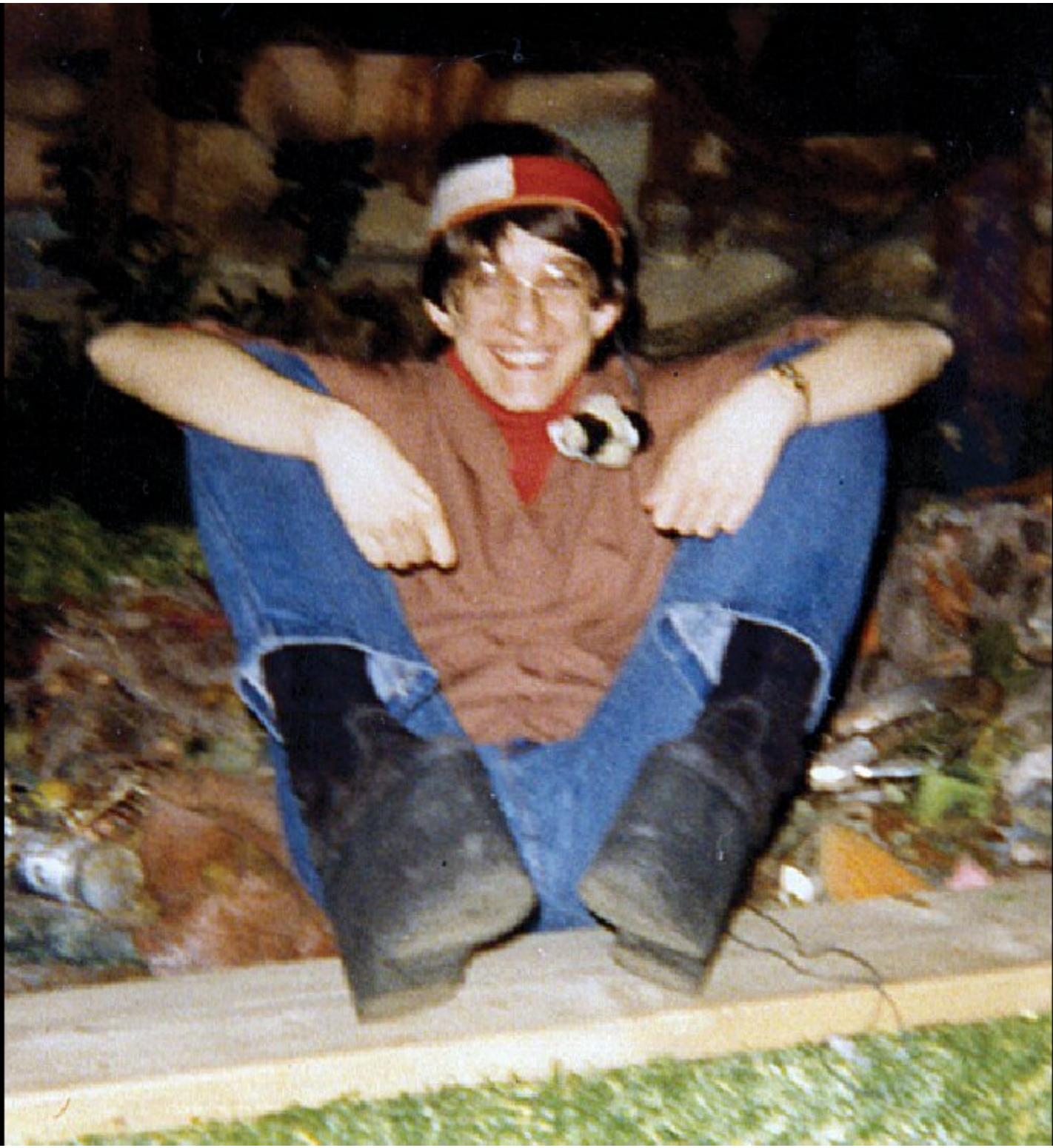
After her life-changing experience on *Fraggle Rock*, Prell spent nearly 20 years yearning for a similar creative spark. She worked in Europe on other puppet projects, spent a few years at Pixar animating on *Geri’s Game* and *Toy Story 2*, and toiled away on a forgotten CG movie called *Ant Bully*. Yet nothing came close to those magic times with the Muppets. Nothing, that is, until she was convinced by a friend to interview at Valve in 2006.

At her interview, Karen was struck by the diversity around the offices — especially the young faces. She felt a

TAP
PHOTOS

Karen Prell wears platform boots on set for Jim Henson. Below, a 1980 self-portrait and Prell on-set.











The Boomer in *Left 4 Dead* was a frequent trouble maker for Prell.

little old, but man, the place was inspiring! It reminded her of how she felt that first day she walked onto the set of a Muppet production. She had never played a video game before, but that didn't deter her. She joined the Valve family as an animator and spent nights playtesting the zombie thriller *Left 4 Dead*. The younger Valve employees got quite a kick out of hearing Karen scream expletives after a Boomer zombie had spit vision-impairing bile on her screen.

THE FIRST PORTAL DIDN'T FEATURE much in the way of animated characters. This was mostly a consequence of the game's limited budget and scope. But for *Portal 2*, Prell, her fellow animators, and the art design team would become crucial to realizing the writers' vision of populating Aperture with unique "personality spheres." First, however, the writers had to figure out the character traits and back stories of those spheres.

That's when an orange goldfish came into the picture. The writers had found an ad on YouTube for the Oregon Coast Aquarium and become obsessed with its star, a fish who sat in his bowl and in a cute little voice kept repeating, "I wanna go. I wanna go to the aquarium." No, there wouldn't be a fish sphere. But maybe one of the spheres could be on a singular mission and that's

all he'd talk about. The team quickly put the aquarium dialogue into the game to test what it would feel like for a sphere to have its own motivation. Everyone around the office started mimicking the fish dialogue. An interoffice meme was born.

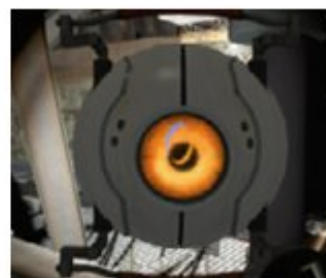
Other potential characters began to take shape. One was a wise old Yoda-like sphere stuck, when the player discovers him, in his own 12-by-14-foot enclosure. He knows every crack on every tile of that room. Then, as in Plato's allegory of the cave, the player helps him see the outside world for the first time and he is absolutely blown away.

Pinkerton proposed the idea of a Quint sphere, named after the character in *Jaws*. He would be an AI hunter and GLaDOS his white whale — the one who got away. You'd also meet a bumbling, frantic, not-so-sure-of-himself British sphere first known by the name Pendleton. Valve animator Richard Lord did such a good job with the voice work on *Two Bots, One Wrench* that the writers asked him to play Pendleton for the early tests.

While the outline of the plot was rough, the writers imagined that these six spheres would interact with you and GLaDOS at different points in time. As in *Two Bots, One Wrench*, players might have two spheres with



VIDEO (Internet required): This Oregon Coast Aquarium ad inspired one of the personality spheres. Can you guess which one?

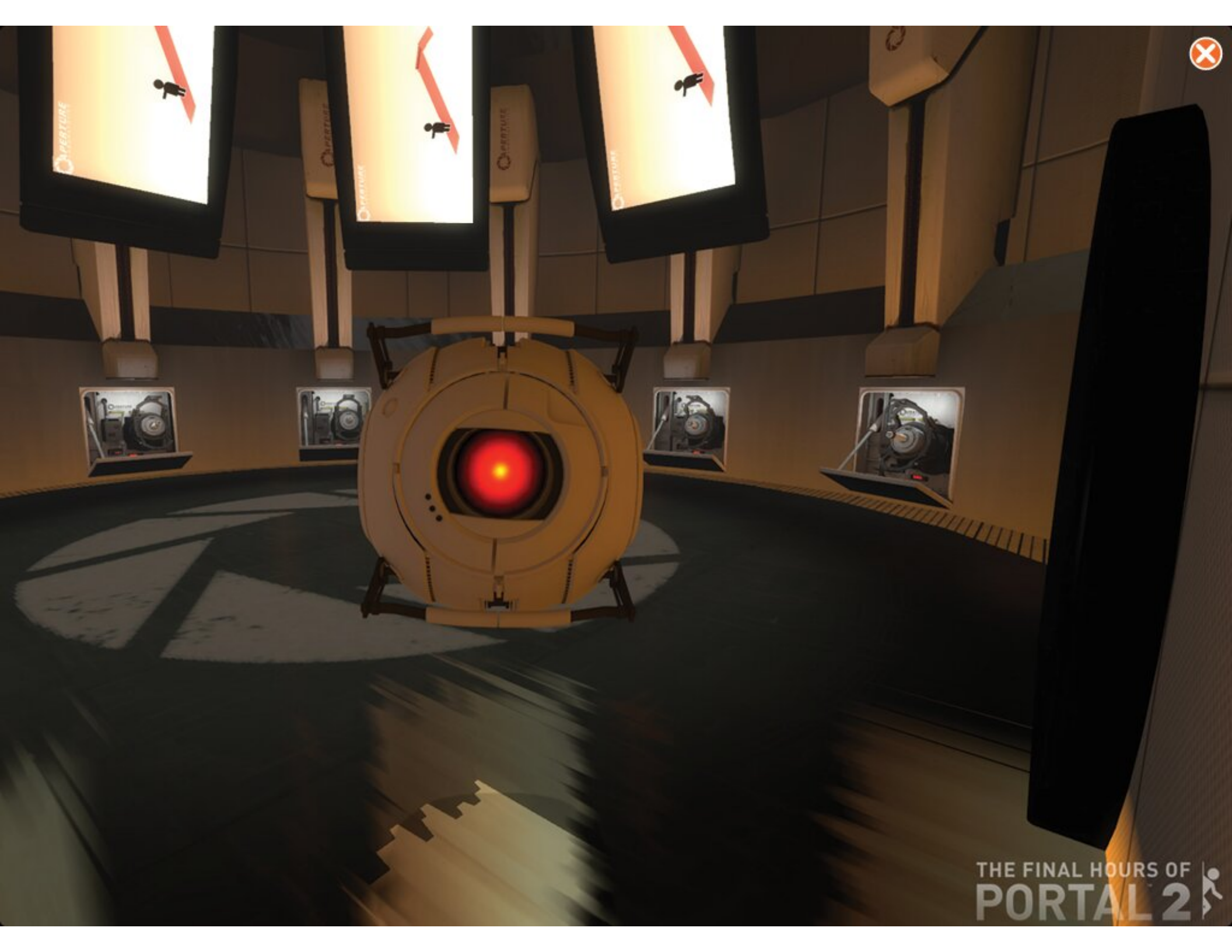


EXCLUSIVE: Two other personality spheres that appeared in an early version of Portal 2.



THE FINAL HOURS OF
PORTAL 2



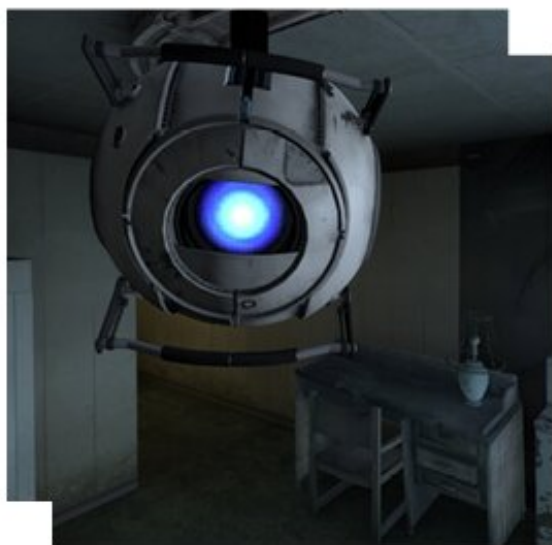


them at the same time — an idea that led to the notion of player choice. Perhaps in a boss battle against GLaDOS, you'd get to pick which two spheres of the six would fight at your side, similar to the way *Mass Effect* lets you pick your squad mates.

Even with the spheres, the writers knew that the main story arc would have to center on Chell's twisted relationship with GLaDOS. Still, the spheres could serve as the perfect foils. The more time you spent with them, the more jealous GLaDOS would get. She'd

try to win you back in twisted ways. In one sequence that didn't make the final game, players would arrive at the start of a new puzzle and see a candlelit roast beef dinner sitting on a table, prepared by GLaDOS. Coming closer, you realize the roast beef is ice-cold, and then hear GLaDOS chastising you for missing dinner because you were too busy cheating on her with a personality sphere.

By the summer of 2009, Valve had made significant progress on the new concept for *Portal 2*. There were



Chell and GLaDOS would be the central story arc again for *Portal 2*. Pendleton was renamed Wheatley and became a signature character.





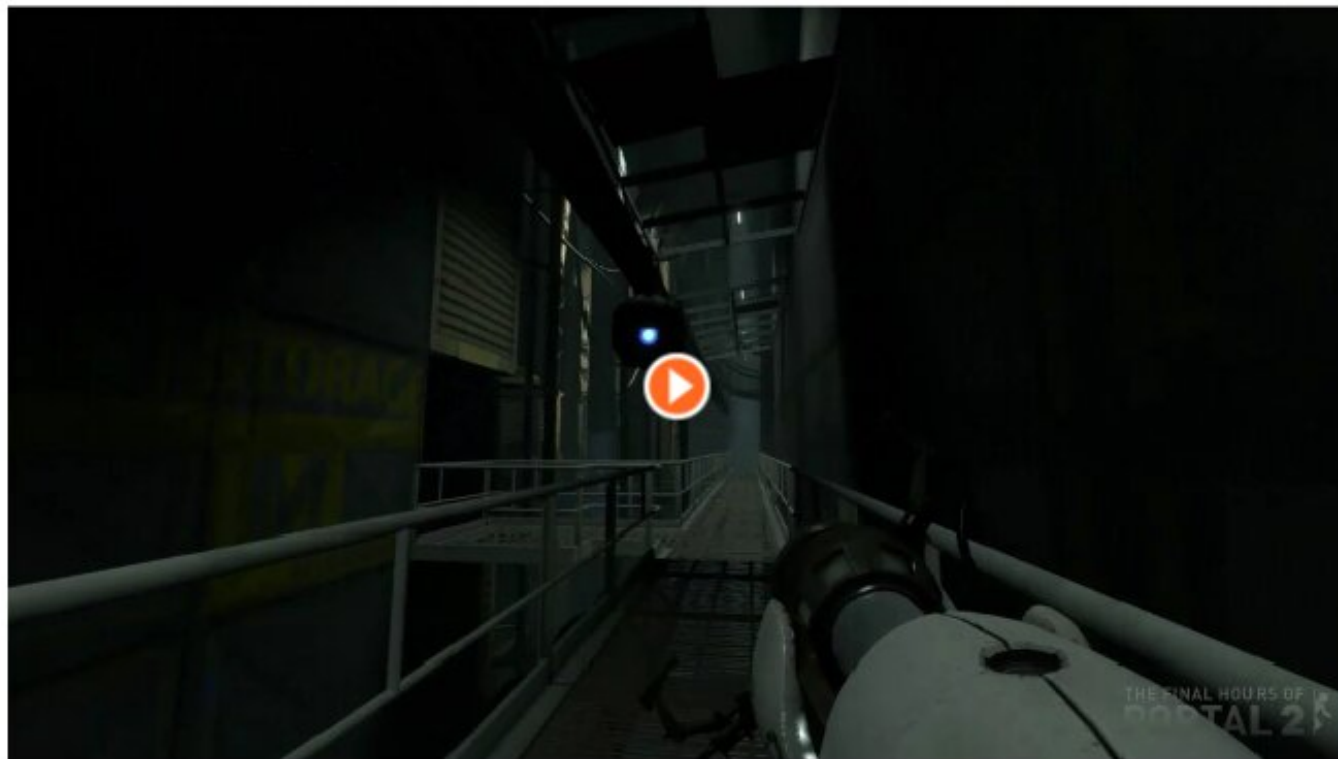


new characters like Pendleton, later renamed Wheatley. New puzzle elements like light bridges and lasers. And GLaDOS was back in a big way.

The elements were there, but were they enough to make *Portal 2* a full-scale game, an epic adventure on par with big-budget titles like *Half-Life* and *Halo*? The team continued to worry. Would a string of 70 or 80 puzzle rooms with some witty dialogue between the spheres and GLaDOS be enough, or would players get bored?

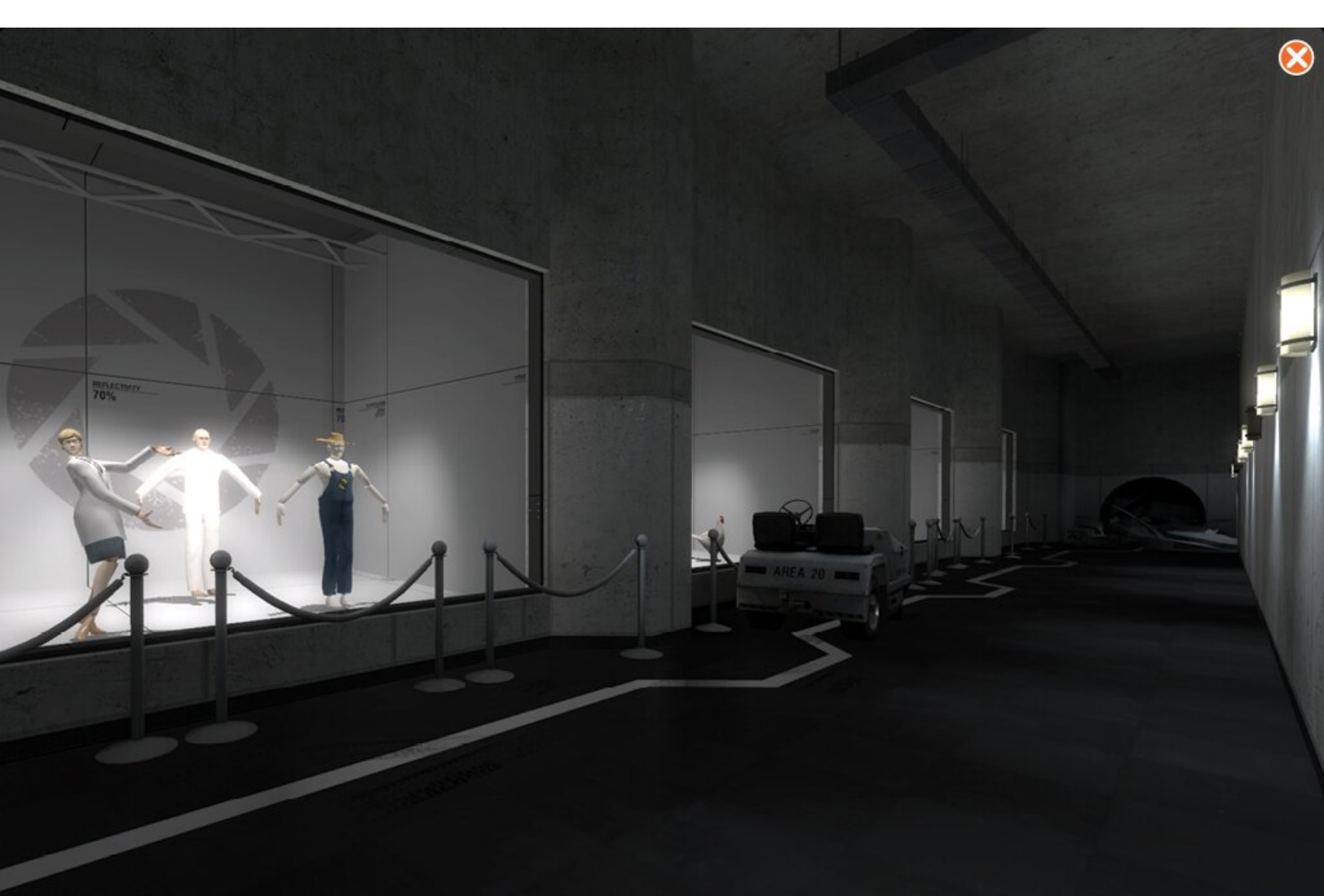
Luckily, a potential solution was waiting right back at DigiPen. It was time for *Portal* to experience the power of paint.

EXCLUSIVE: To add story, Valve briefly worked on the diorama exhibit sequence at Aperture Science, at right. It was ultimately cut.



VIDEO: See Wheatley in action in Portal 2.

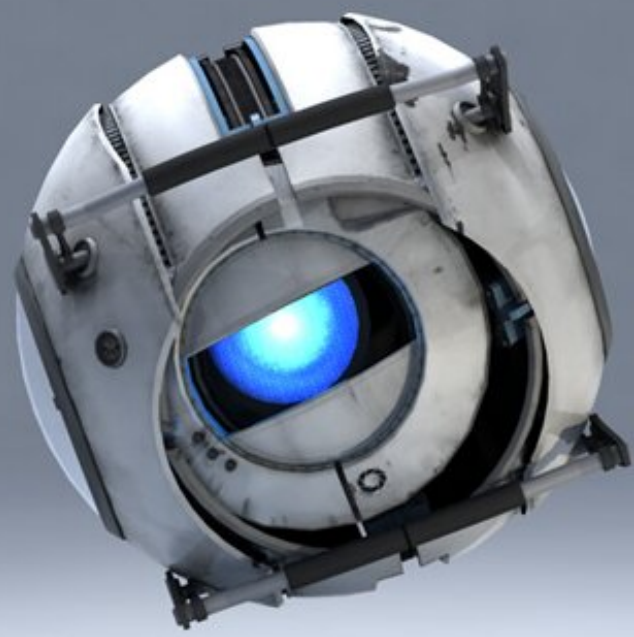






THE FINAL HOURS OF
PORTAL 2 

INTERACTIVE: ANIMATE WHEATLEY

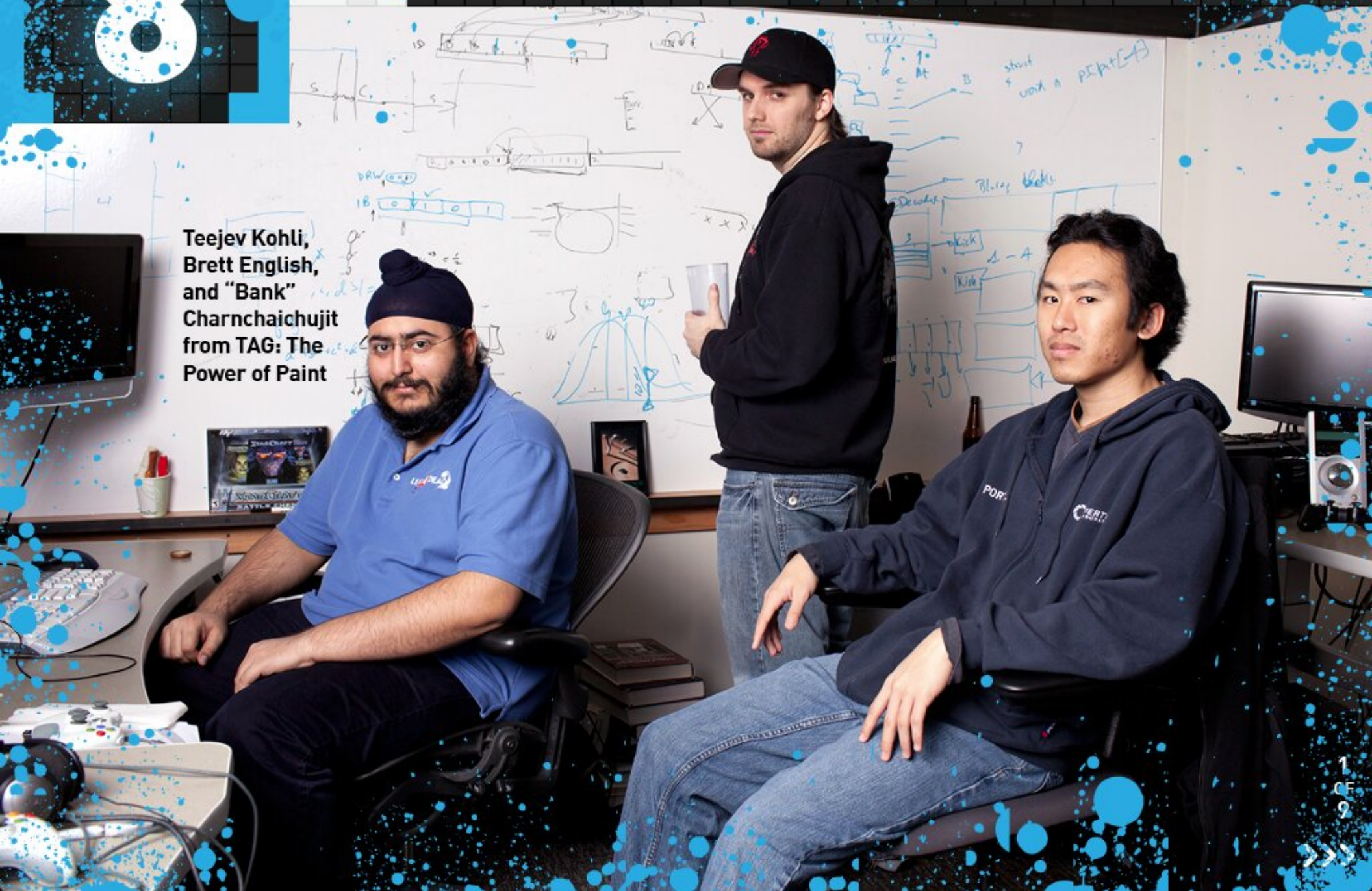


SWIPE LEFT AND RIGHT TO PLAY WITH DIFFERENT SPEEDS AND MOVEMENT PATTERNS

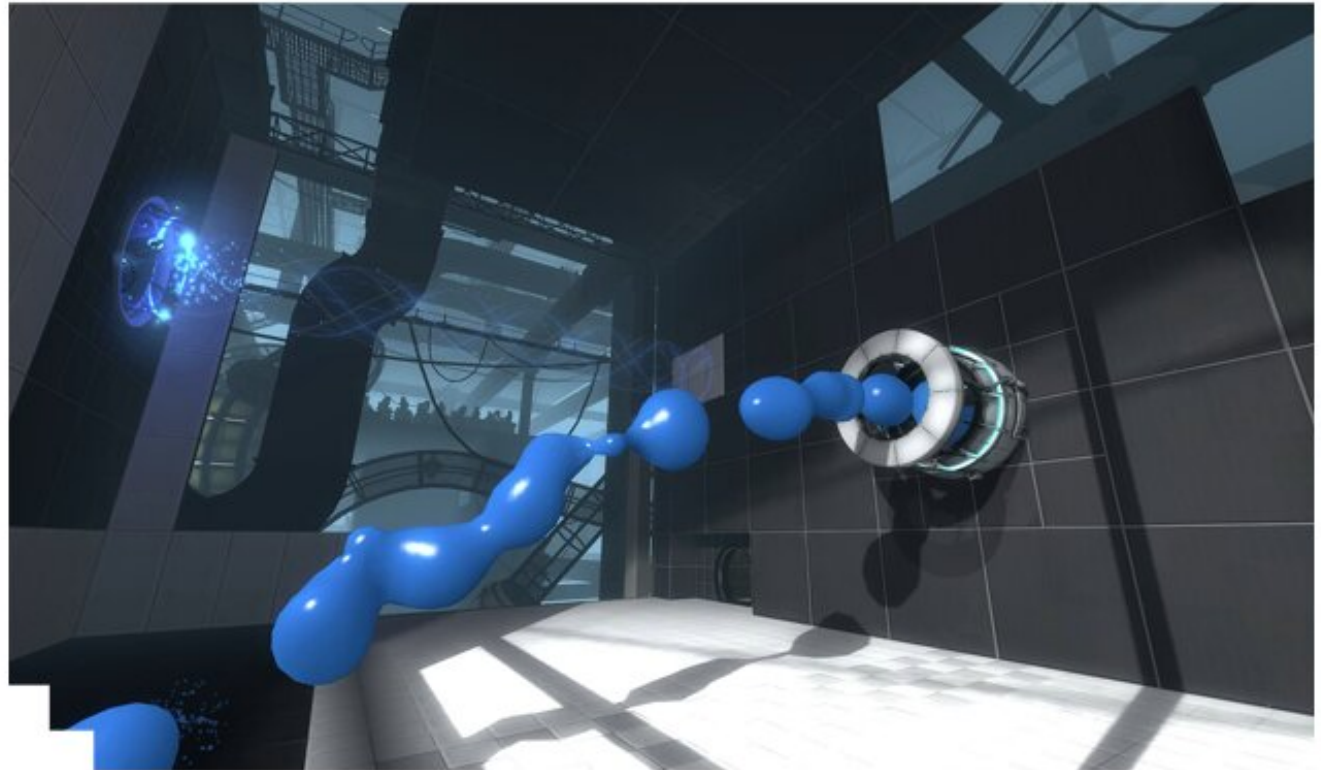
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THE POWER OF PAINT

**Teejev Kohli,
Brett English,
and "Bank"
Charnchaichujit
from TAG: The
Power of Paint**

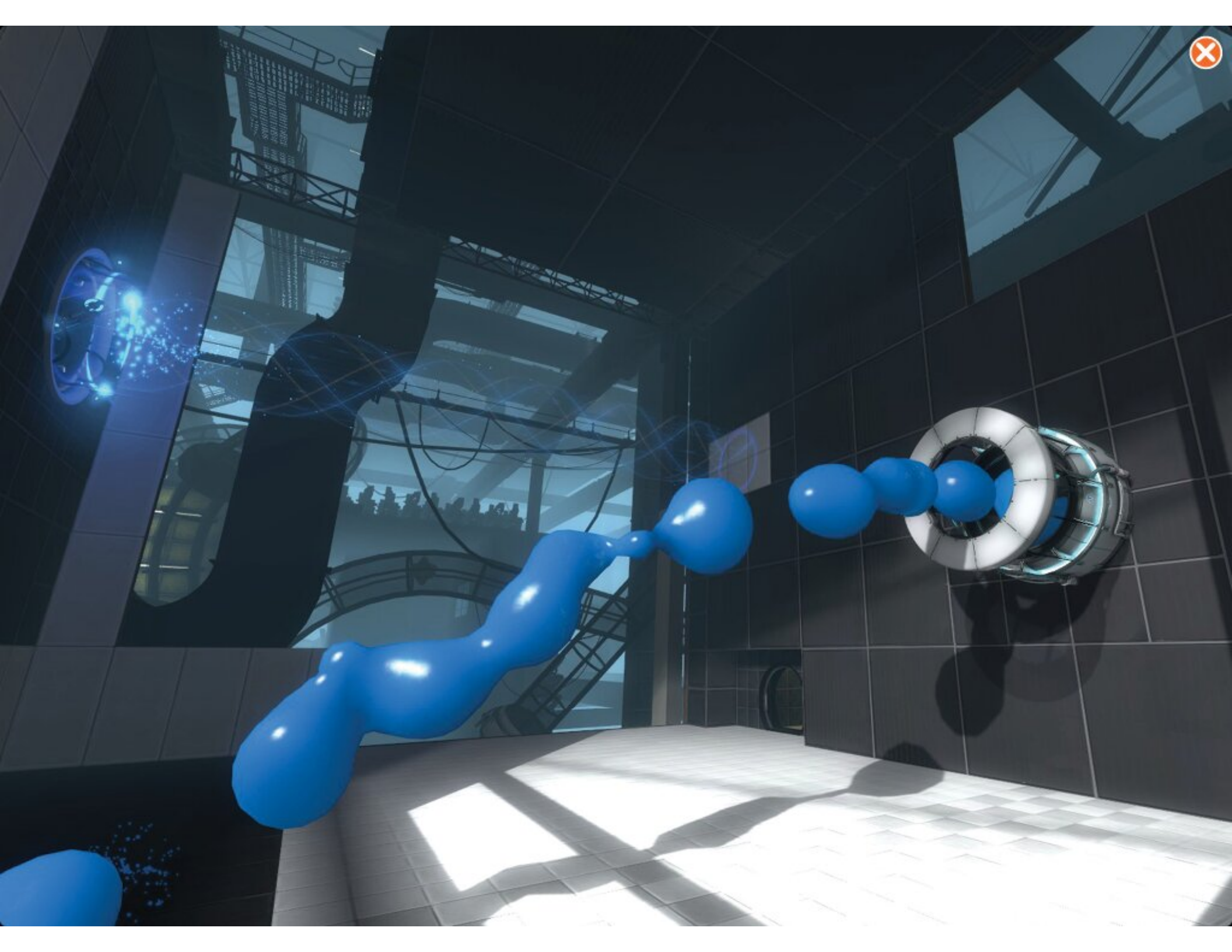


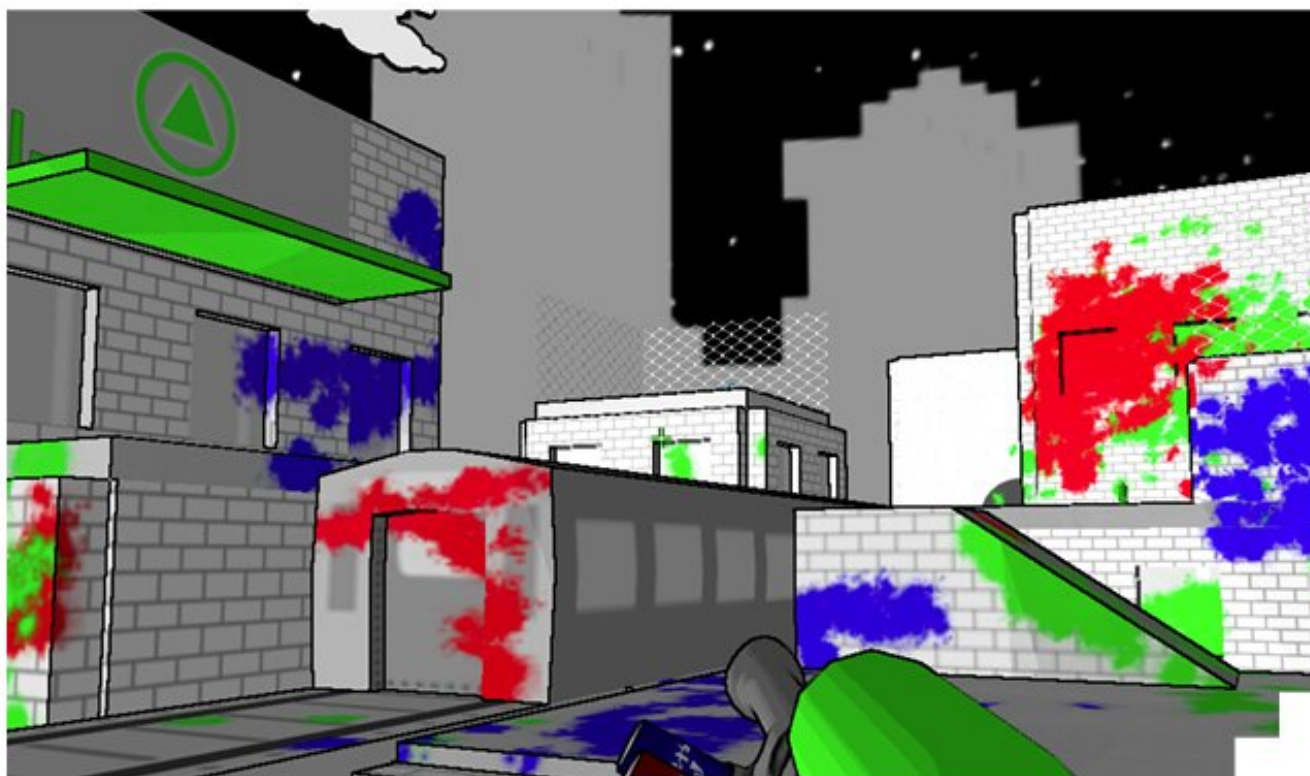
DEEP INSIDE THE MOSCONE CONVENTION CENTER in San Francisco, behind the booths of major companies like Intel and Sony, the Student Showcase pavilion at the Game Developers Conference gives college students a chance to demonstrate their senior projects. Tejeev Kohli



The Blobulator Tech in Portal 2

was one of those students. About to graduate from DigiPen, he and his team had just completed work on *TAG: The Power of Paint*. In this inventive first-person shooter, you spray paint out of a gun to change the properties of a wall or floor. Green paint makes a surface bouncy, for instance; red makes you run faster along that floor. Blue makes you stick to a surface so you can walk up a wall like Fred Astaire in *Royal Wedding*.





TAG: The Power of Paint let players spray surfaces with paint to change properties.

If he was being up front, Tejeev would admit that his team — including Brett English, Ted Rivera, and “Bank” Charnchaichujit — dreamed that they’d get the same opportunity as Nuclear Monkey to work at Valve. But the Career Fair hadn’t gone well. Robin Walker from Valve came by and looked at their game. He didn’t seem all that interested.

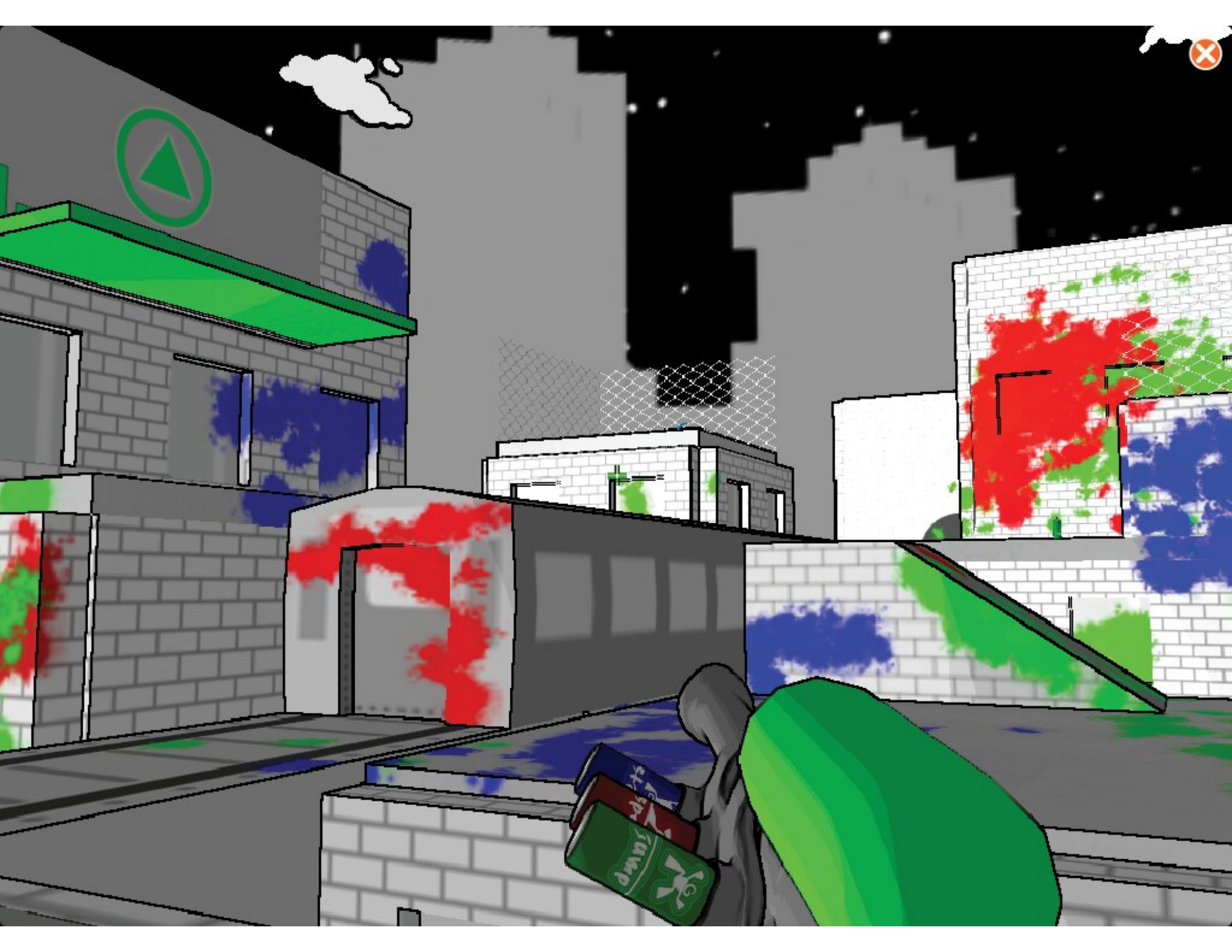
So imagine Tejeev’s surprise when he came back after

lunch one day to his team’s GDC booth to find six Valve employees standing in front of the *TAG* kiosk. The game had been nominated for a number of awards and now, it seemed, Valve was very interested. By the summer of 2009, Teejev and his partners had tossed their caps in the air, graduated from DigiPen, and headed off to their first day of work at Valve.

At most software companies, your first few years are spent learning the ropes. Maybe you serve in the testing department or get a chance to sit in on some big meetings. But Valve doesn’t work

that way. Just as Karen Prell had been asked to jump into performing on *The Muppet Show*, the DigiPen grads were immediately tasked with incorporating their paint technology into Valve’s game engine, Source.

The *Portal* team had been keeping a close eye on *TAG*. They held some initial brainstorming sessions about adding a paint gun to *Portal 2*, but no one thought the *TAG* game mechanic would interact well with portals.



Still, *Portal 2* was in full production, so the TAG team couldn't help but experiment with meshing the two.

The possibility became more real one night when the TAG team discovered the "Blobulator" design experiment on Valve's internal server. A light bulb pinged on. Maybe there was a way to deliver paint not with a gun, but via the blob technology. The portals themselves could become makeshift guns: you would fling paint around a test chamber by placing one portal opening below



Randy Lundeen has been at the company since *Half-Life*.

dripping paint and the other somewhere else in the room. By the end of 2009, the paint mechanic was working inside the *Portal* engine, which added a new acrobatic dimension, with jumps and running, to the gameplay. The sticky paint was removed, however, since players often felt motion-sick after experimenting with it.

AT VALVE, ALL GAMES ARE EVALUATED across four dimensions: the fiction, the gameplay, the aesthetics, and what employees call the "perf," or performance, meaning how well the game runs on computers. Paint enhanced *Portal's* gameplay, but by the end of 2009 Valve insiders were growing increasingly concerned about two of the other pillars. The story seemed unfocused, with too many spheres who all looked the same except for their differently colored eyes. The aesthetics weren't really coming together either. The game needed more than a seemingly endless labyrinth of 80 pristine, white-walled test chambers.

These concerns highlighted a more fundamental problem with the narrative. The team had never really figured out how much time had passed between *Portal 1* and 2. *Portal 1* took place somewhere around the year 2010, between the events of *Half-Life 1* and 2, and was



TAP
PHOTOS

The G-Man from *Half-Life*; Blue portal storms in *Half-Life 2*.



ostensibly set within the larger *Half-Life* game universe. References in the first *Portal* to Black Mesa, the science facility in *Half-Life*, led fans to speculate about links between the two game series. After all, blue “portal storms” feature prominently in the *Half-Life* series as the way the Combine aliens invade earth from another dimension.

The writers were well aware of fan expectations and toyed with some fun possibilities. In one sequence

eventually cut from the game, Wheatley tells the player, “A man in a briefcase was just here looking for you” — a reference to the enigmatic G-Man, an iconic figure in *Half-Life* lore who controls the player’s character, the scientist Gordon Freeman. As it had done in *Half-Life 2*, the team left a few hidden Easter eggs for players to find, but in truth the desire was to separate *Portal* from *Half-Life*, not to provide a surprise bridge to the next *Half-Life* game. “If we did too much teasing, players would just say,





HEALTH 72

‘Give us *Half-Life 3* you bastards!’” explains Wolpaw.

One way to further differentiate *Portal* and *Half-Life* was to set the game far into the future — at least 50,000 years. Areas of Aperture could then be shown in a state of severe disrepair. There could be foliage, broken hydraulics, rubble, and puddles of water. The team met with concept artist Jeremy Bennett and Randy Lundeen, one of Valve’s first employees, to discuss ways to vary the aesthetics in *Portal 2*. The art team started taking areas of the game and adding a “destruction pass” to show the effects of the passage of time.

Yet grimy test chambers wouldn’t solve the bigger issue of how to continue surprising players throughout a ten-hour game. Most big-budget action games are loaded with a variety of levels, but *Portal 2* was really just a nonstop gauntlet of destroyed test chambers. That repetition was an area of deep concern, both artistically and narratively.

Other aspects of the game were surprising the team in a positive way. The first *Portal* was renowned for its musical ending, and in *Portal 2* composer Mike Morasky wanted to up the ante with interactive music that would subtly evolve as players completed a puzzle. Run along orange speed paint and the music speeds up. Successfully jump across a ledge and the music shifts to let you know

you’re doing a good job. “The puzzles are thanking you for playing with them,” is how Morasky puts it. “They love you.”

Playtesters were having fun splattering paint all over the destroyed test chambers and hearing interactive music along the way, but the writers were struggling with how to incorporate paint into the fiction. How would all this goo end up in a futuristic, defunct Aperture circa 52,000 AD? Paint seemed so old-fashioned and obsolete.

Then it dawned on them: What if they somehow resurrected the idea of the *Portal* prequel?

No, time travel wouldn’t be involved. Instead, deep below the surface of Aperture, players would discover long-abandoned prototype test chambers that Cave Johnson had used in the 1950s. Built long before lasers or magical bridges of light were possible, these primitive chambers would be the perfect aesthetic match for the paint technology. The so-called “underground track” of *Portal 2* was born. Cave Johnson would get a new lease on life, although the character was changed from southern gentleman to industrial tycoon, and the actor J.K. Simmons would provide the new voice.

The pieces of the game were starting to fall into place, but the writers still had no idea how to shift the game’s

INTERACTIVE: DESTROY APERTURE



Rub your finger over the image of the test chamber

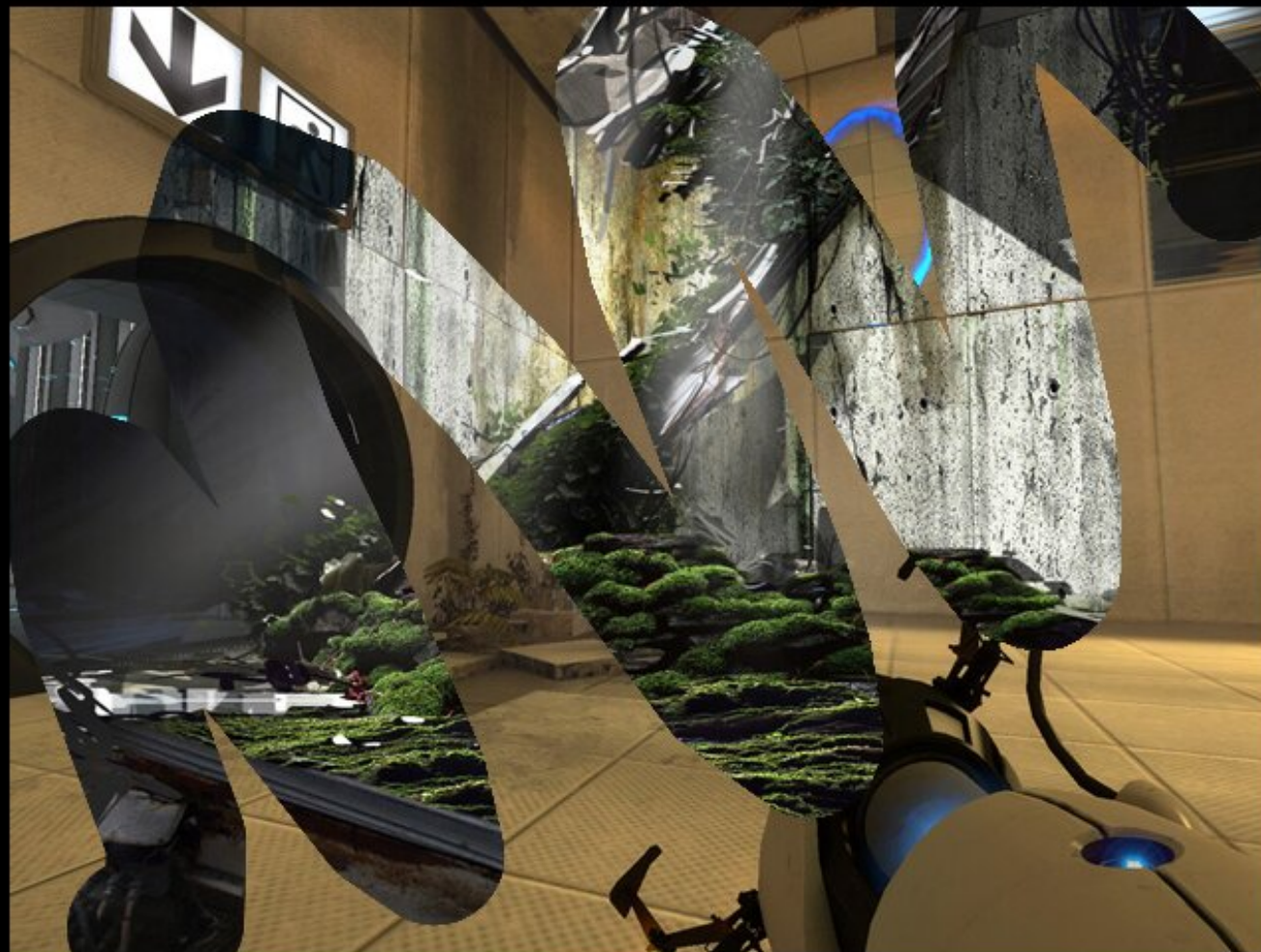
in its pristine state to reveal its destroyed state.



TAP IMAGES ABOVE FOR TWO MORE

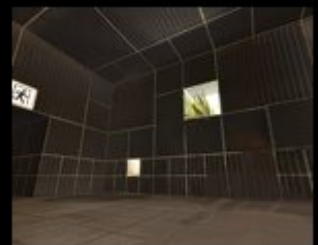


INTERACTIVE: DESTROY APERTURE



Rub your finger over the image of the test chamber

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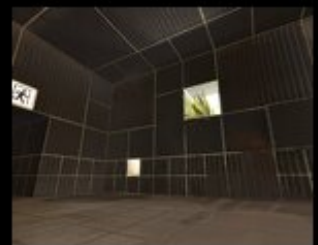


INTERACTIVE: DESTROY APERTURE



Rub your finger over the image of the test chamber

in its pristine state to reveal its destroyed state.



TAP IMAGES ABOVE FOR TWO MORE













Concept art for the Underground area of Portal 2

narrative to the underground section. To accomplish this, GLaDOS would somehow have to be ousted from her perch as the queen of lies at Aperture. After all, it wouldn't make sense for her to let the player out of the testing chambers if she was in control. GLaDOS would have to be removed from power. Better yet, maybe GLaDOS would do the unthinkable by teaming up with the player to get back to Aperture from the underground.

Wolpaw and Pinkerton started to love the idea of

changing how the player relates to GLaDOS. To flesh out the concept, they turned their attention to Wheatley, the first personality sphere players meet in the game and the most developed. In the original script, GLaDOS kills Wheatley early on. But playtesters and the writers liked the character and his frantic staccato voice. What if Wheatley were to become more of a central character, somehow wresting control of Aperture away from GLaDOS? All the other spheres would be deemphasized



1

2

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Concept art for the Underground area of Portal 2

and moved to the end of the game so that the plot could focus around a triangle of emotions between Chell, GLaDOS, and Wheatley.

Even with this basic structure in place, the writers still felt they had a big climb ahead to bring the story to the finish line. Wolpaw sat in his corner of the office,

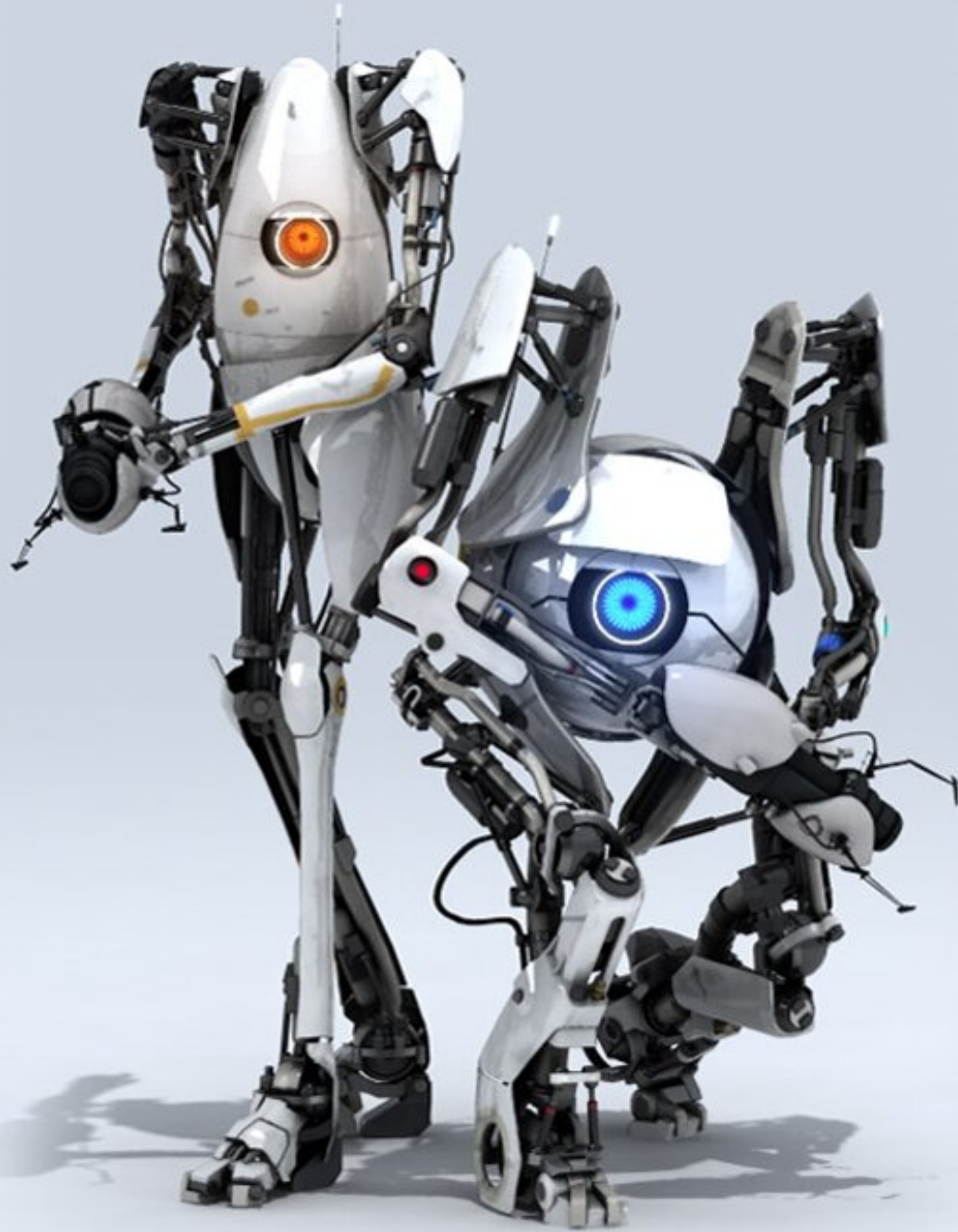
listening over and over again to “East Bound and Down,” the theme song from *Smokey and the Bandit*. One lyric, “We’ve got a long way to go and a short time to get there,” kept swirling in his head. The pressure was starting to mount. Valve was getting ready to let its fans know that *Portal 2* would be its next game.



9

THE ODD COUPLE

Atlas and P-Body



1
OF
6





IN 1959, COPTHORNE MACDONALD WAS HARD AT WORK on his senior project in college. No, he didn't go to DigiPen. Coppie, as his friends called him, was a ham radio

The first Portal 2 images on SSTV

operator and a student in the University of Kentucky's electrical engineering program. His senior project set out to prove that there was a way to use short-wave radio voice equipment to send pictures around the world. Slow Scan TV, or SSTV, was born.

SSTV was a landmark invention. The Soviets used it to transmit the first images of the far side of the moon from Luna 3. Neil Armstrong sent back images to earth from Apollo 11 via SSTV. And on March 1, 2010, Valve decided to use SSTV to tease its fans with the first images from *Portal 2*.

That day, fans who logged on to play the original *Portal*





GLaDOS reawakens at the start of Portal 2.

found that it had been slightly updated. Twenty-six new clock radios had been placed in the game environment, each giving off a series of beeps. Soon fans discovered that these sounds signaled SSTV image transmissions. Numbers and letters on the images, once decoded, led to a computer Bulletin Board System (BBS) in Kirkland, Washington. Upon dialing the BBS with an old 56K modem, users found a logon prompt, “GLaDOS Login:” with a blinking cursor. *Portal 2* was alive, and more than

2.5 million fans followed the unfolding mystery of the radios’ significance on a message board thread.

A few days later, *Portal 2* was officially announced. Valve confirmed that the game would be released in the fall of 2010 for the Xbox 360, PC, and Mac. The first article, in the popular *Game Informer* magazine, arrived a few days later. GLaDOS was back, portals were back, and in a twist, Valve promised not just one but two entirely different game modes: solo play and co-operative play, where you and a friend could adventure through a new story and

a set of levels entirely different from those in the one-player version.

The two-player co-operative play option was something Valve desperately wanted to include in *Portal 2*, especially after the success of *Left 4 Dead*, where up to four players could work together to defeat a horde of zombies. Four potential portals instead of two also led to new gameplay strategies, like turning a light bridge into a trampoline of sorts with blue paint — impossible to do in





Valve artist
Tristan Reidford

the single-player campaign.

The team initially considered having two female avatars star in the co-op campaign, but artist Tristan Reidford came up with two lovable robots that everyone thought fit better with the game's style. Known as Atlas and P-Body, the bots, after many revisions, took shape as modified

versions of the turret and the personality sphere. Inspired by creations like the towel-folding bot from Hitachi and the Little Dog robot from MIT, the bots and their fun-loving antics (high-fiving each other, for example) brought a sense of levity to the co-op campaign.

The bots gave off a Laurel-and-Hardy vibe, but no one was sure how to turn their shtick into a story. With Wolpaw already in the weeds with the single-player story, it was up to Faliszek to tackle the co-operative campaign on his own. At first he wasn't sure what angle to take. For days, he'd sit at his desk and wait for inspiration to come while listening to "Bang Bang Bang" by Mark Ronson & The Business Intl. — over and over and over again, hundreds of times in a row.

Chet knew that GLaDOS had to be in the co-operative



Before two bots, Portal 2 co-op was set to feature Chell and a female partner Mel.

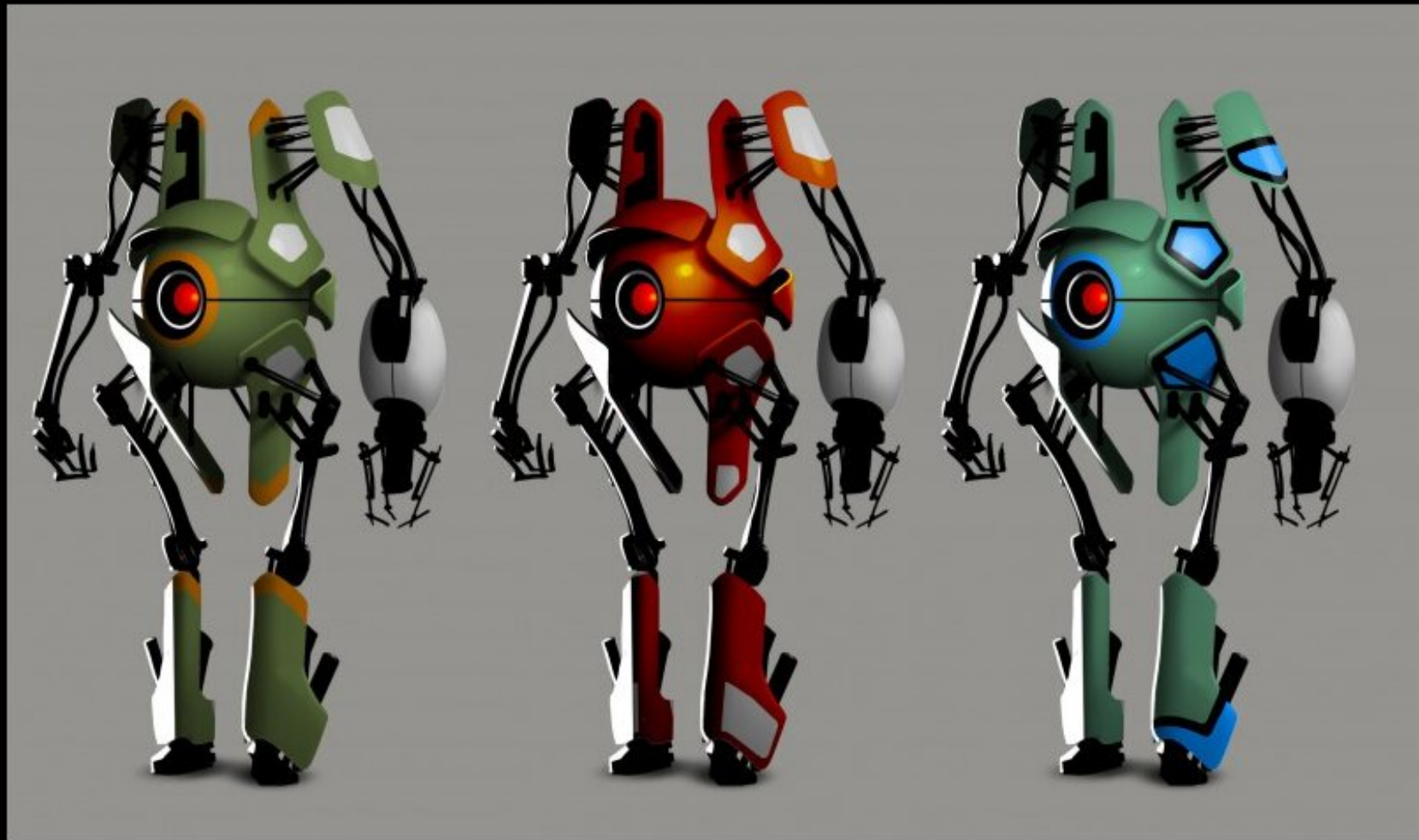
campaign in some form, and that meant there needed to be some kind of tension between her and the bots. But why would she hate two of her own? This wasn't an easy question to answer, but Chet finally found an angle: She was growing to resent the bots becoming more and more human. Taking a page from *Wall-E*, the bots would begin to feel emotions inspired by sentimental artifacts they'd find scattered around Aperture, like a "#1 Dad" mug or a cartoon strip pinned to a wall. GLaDOS would show her displeasure by launching into long diatribes over the Aperture Science loudspeaker against the skinny P-Body and his portly pal Atlas.





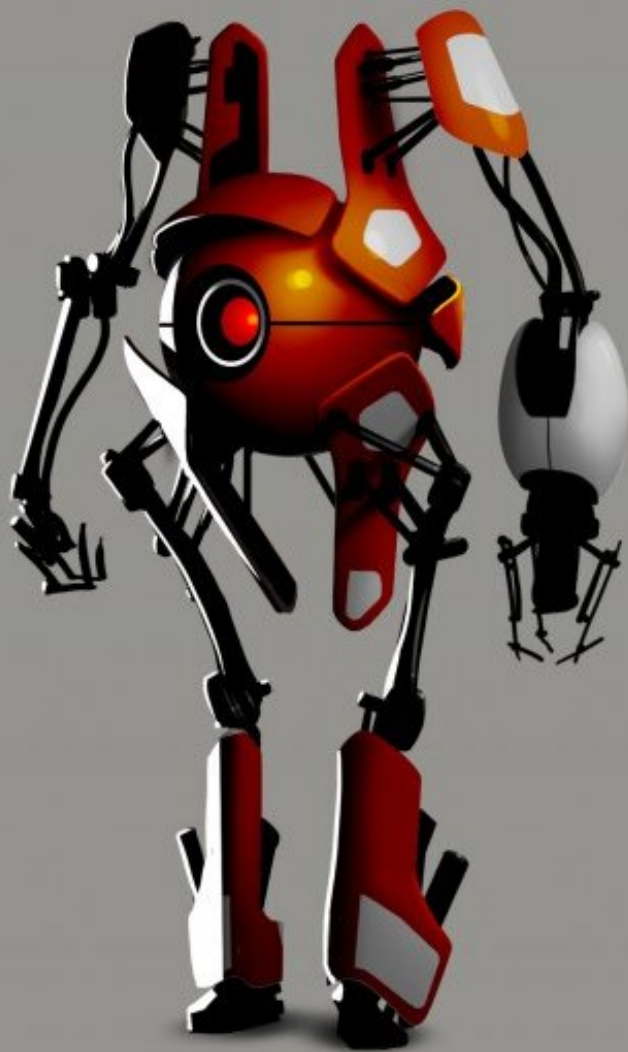
THE FINAL HOURS OF
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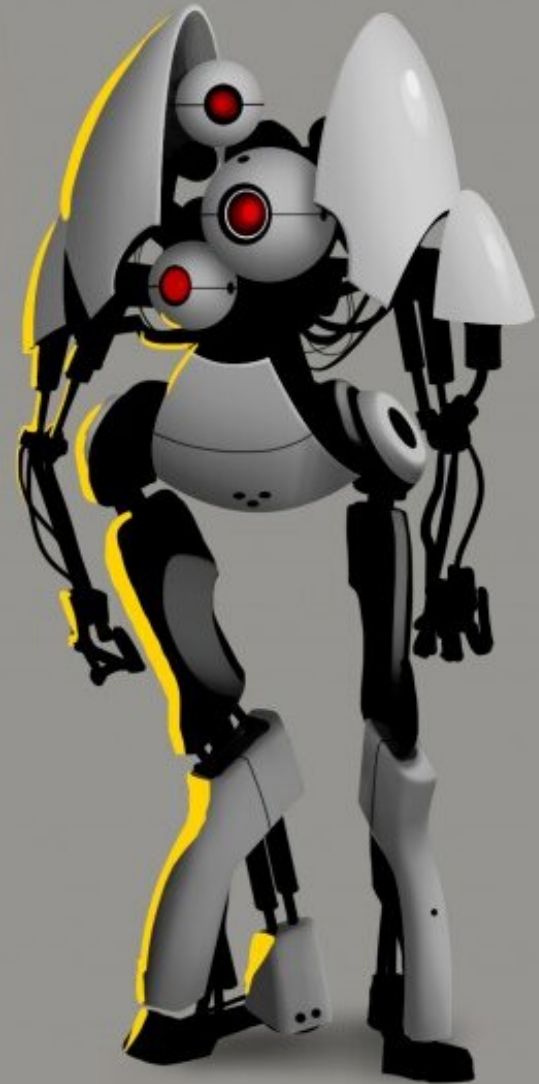
EXCLUSIVE: BOT PROTOTYPES

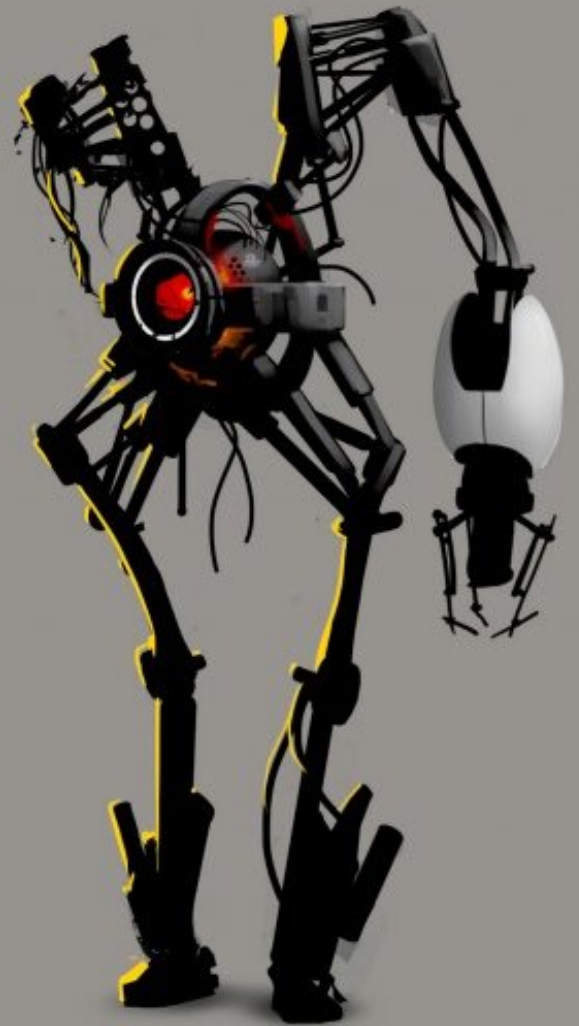
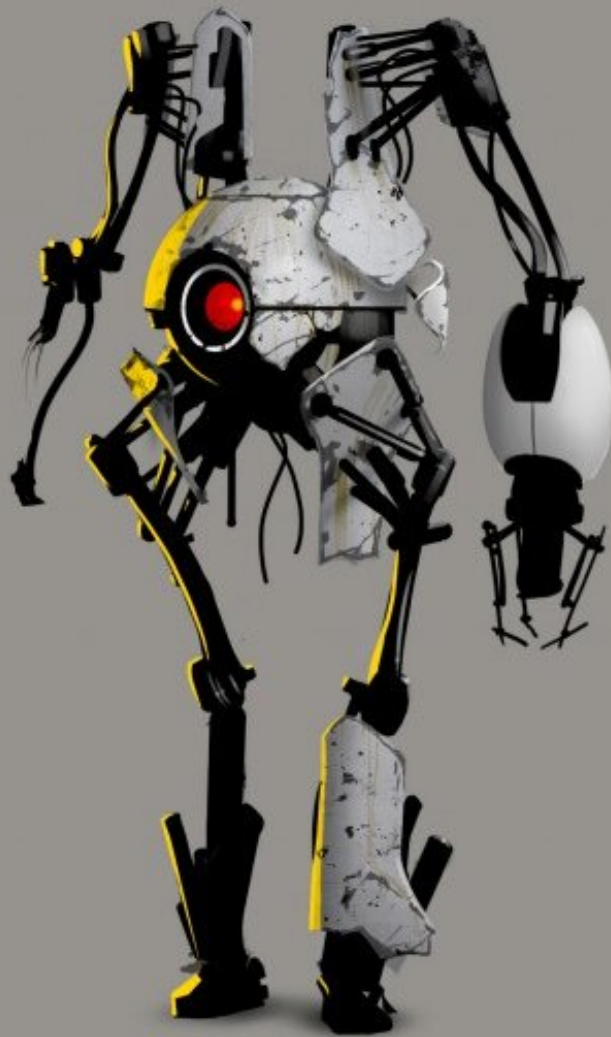
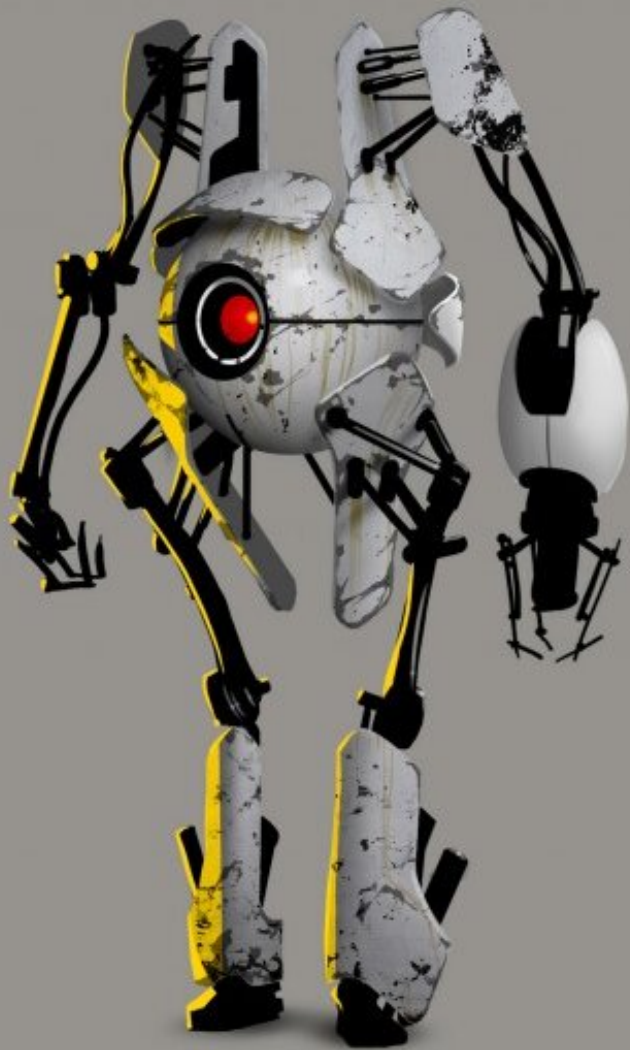


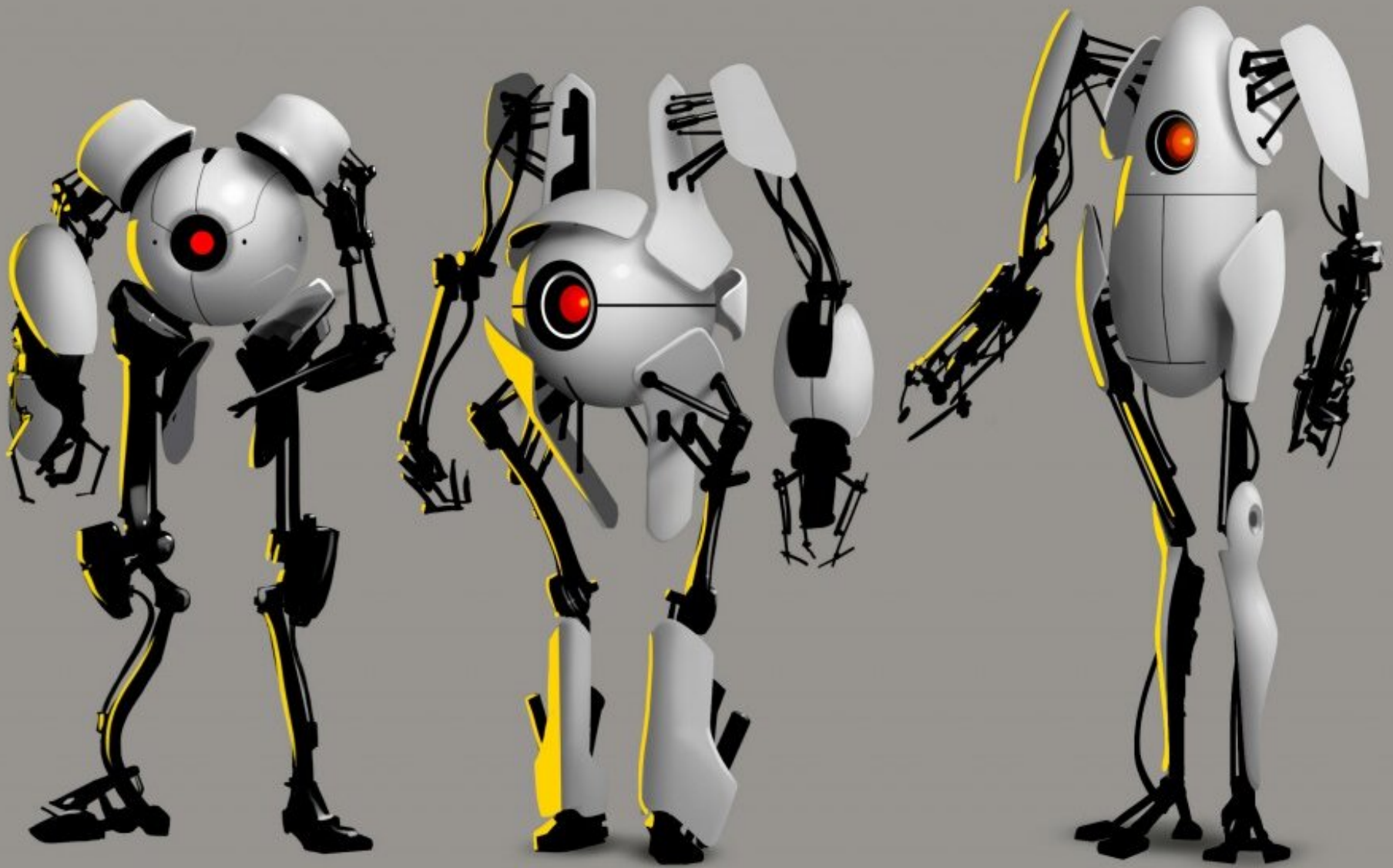
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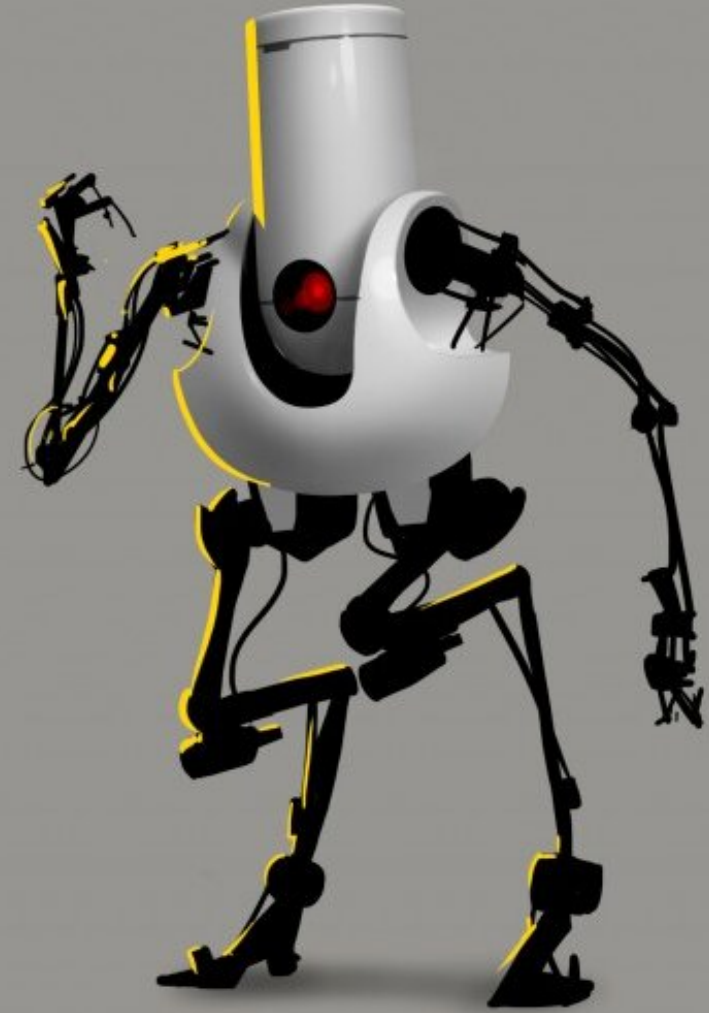
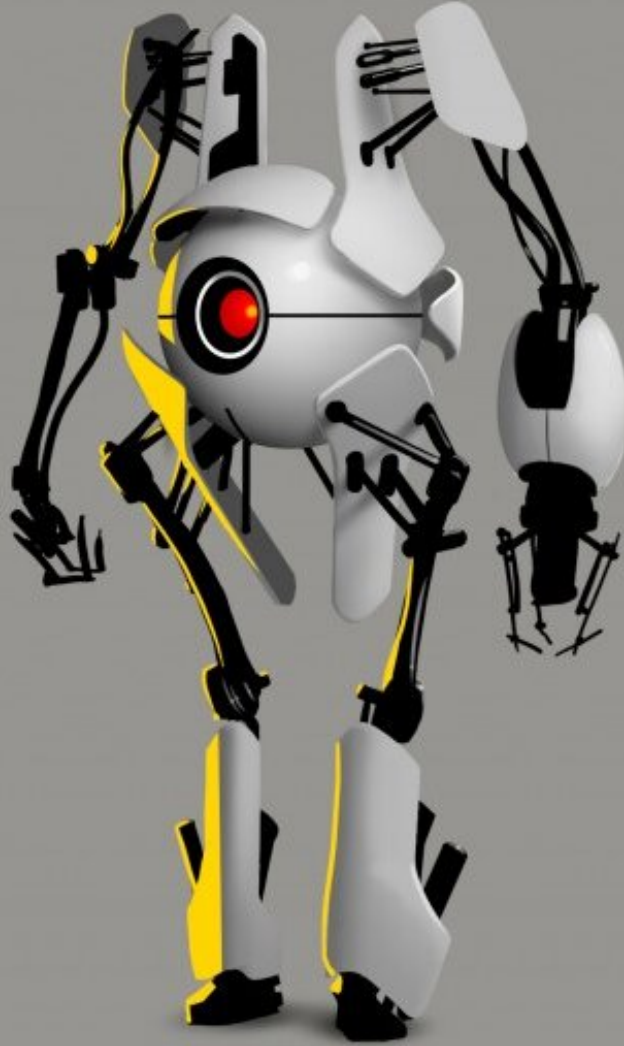
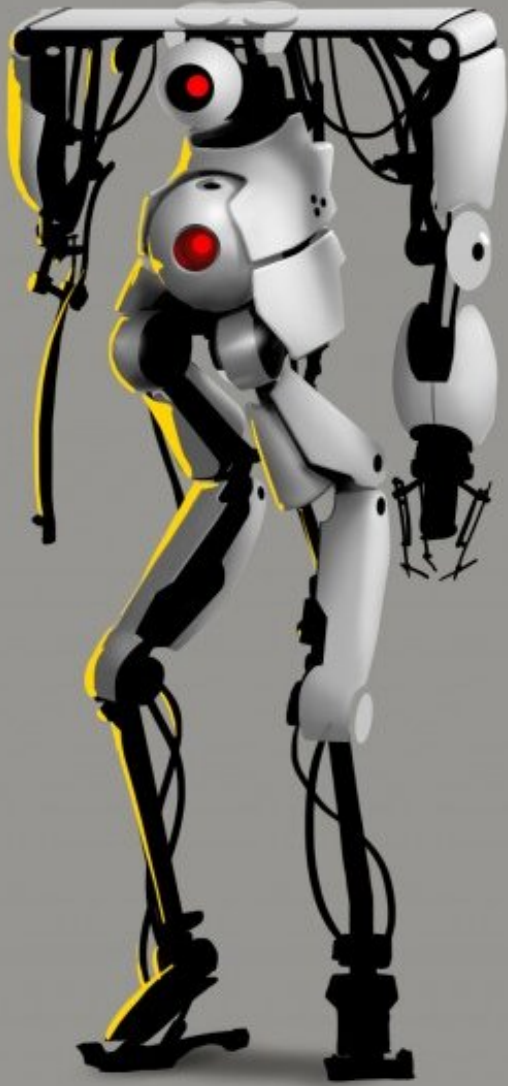


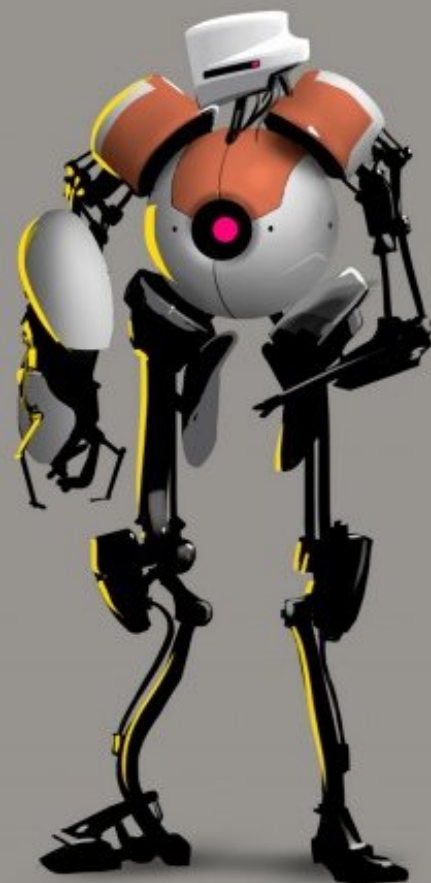


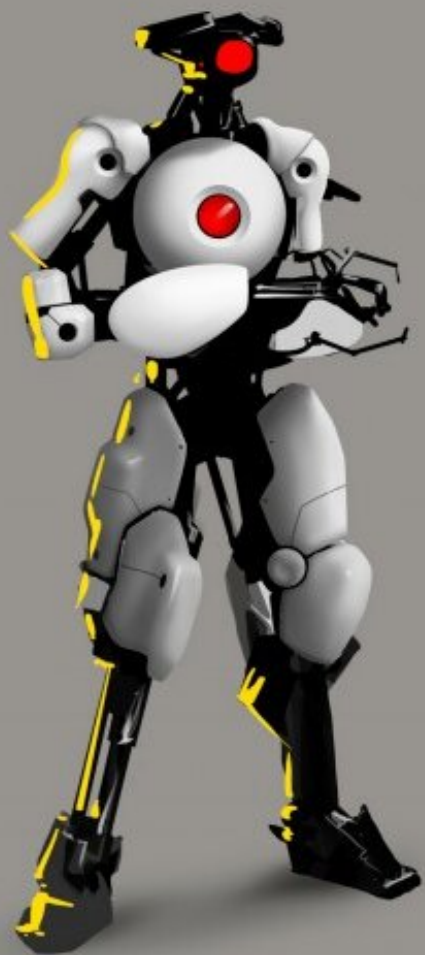


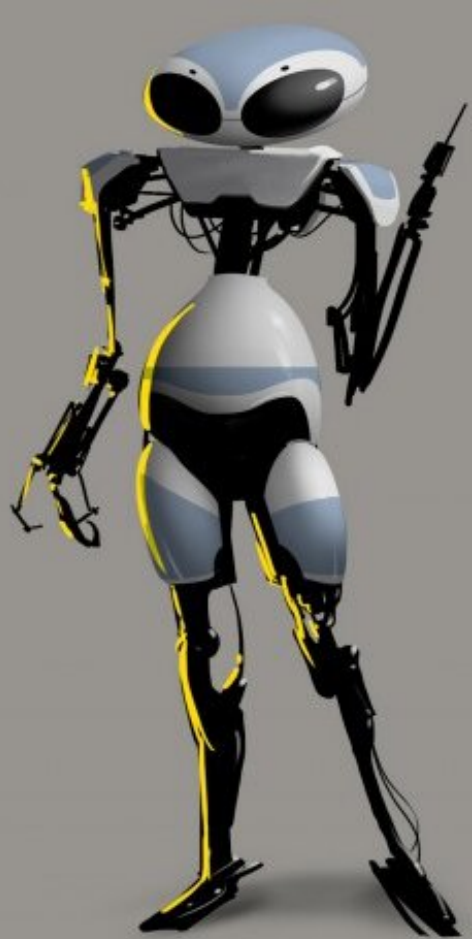


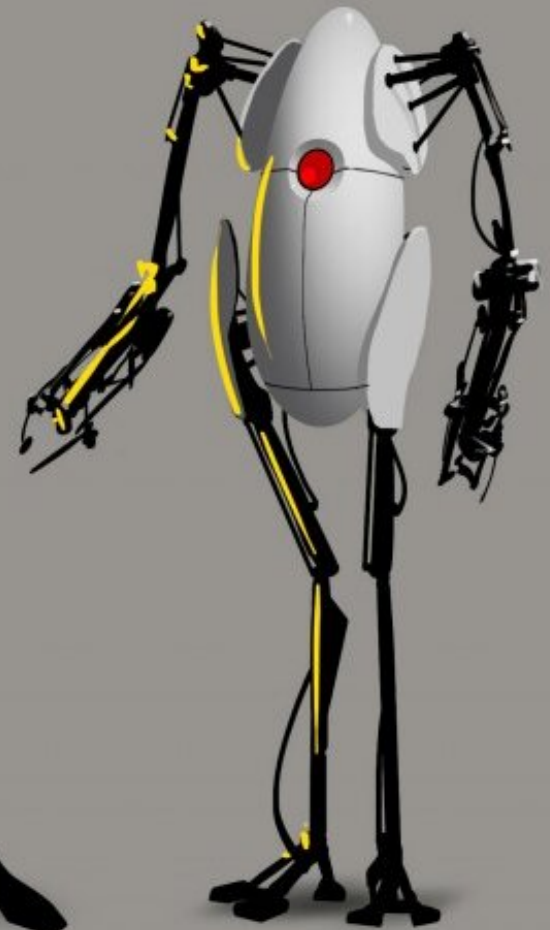
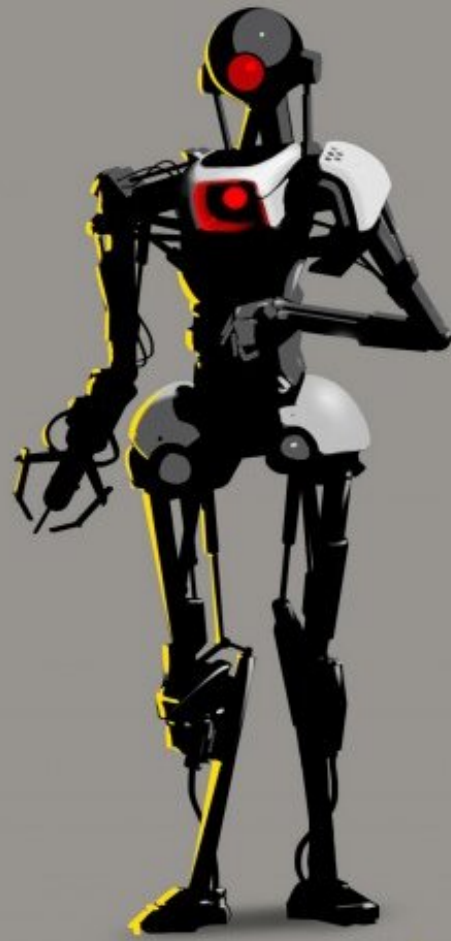
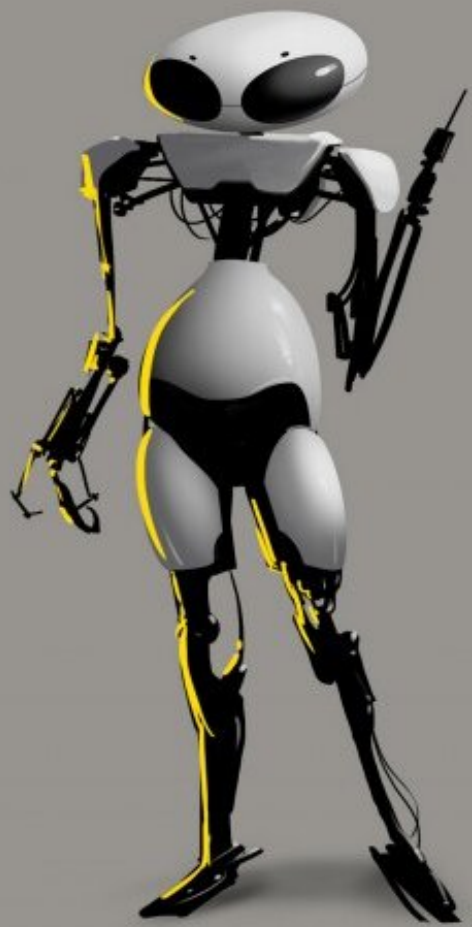












POLL

WHAT PART OF PORTAL 2 WILL YOU PLAY FIRST?

- THE SINGLE-PLAYER. I LOVE THE STORY.
- THE CO-OPERATIVE MODE. IT SOUNDS DIFFERENT.
- I'LL SWITCH BACK AND FORTH.
- I'M NOT SURE YET.
- I WON'T BE BUYING PORTAL 2. CURSE YOU GABEN!

[View Results](#)

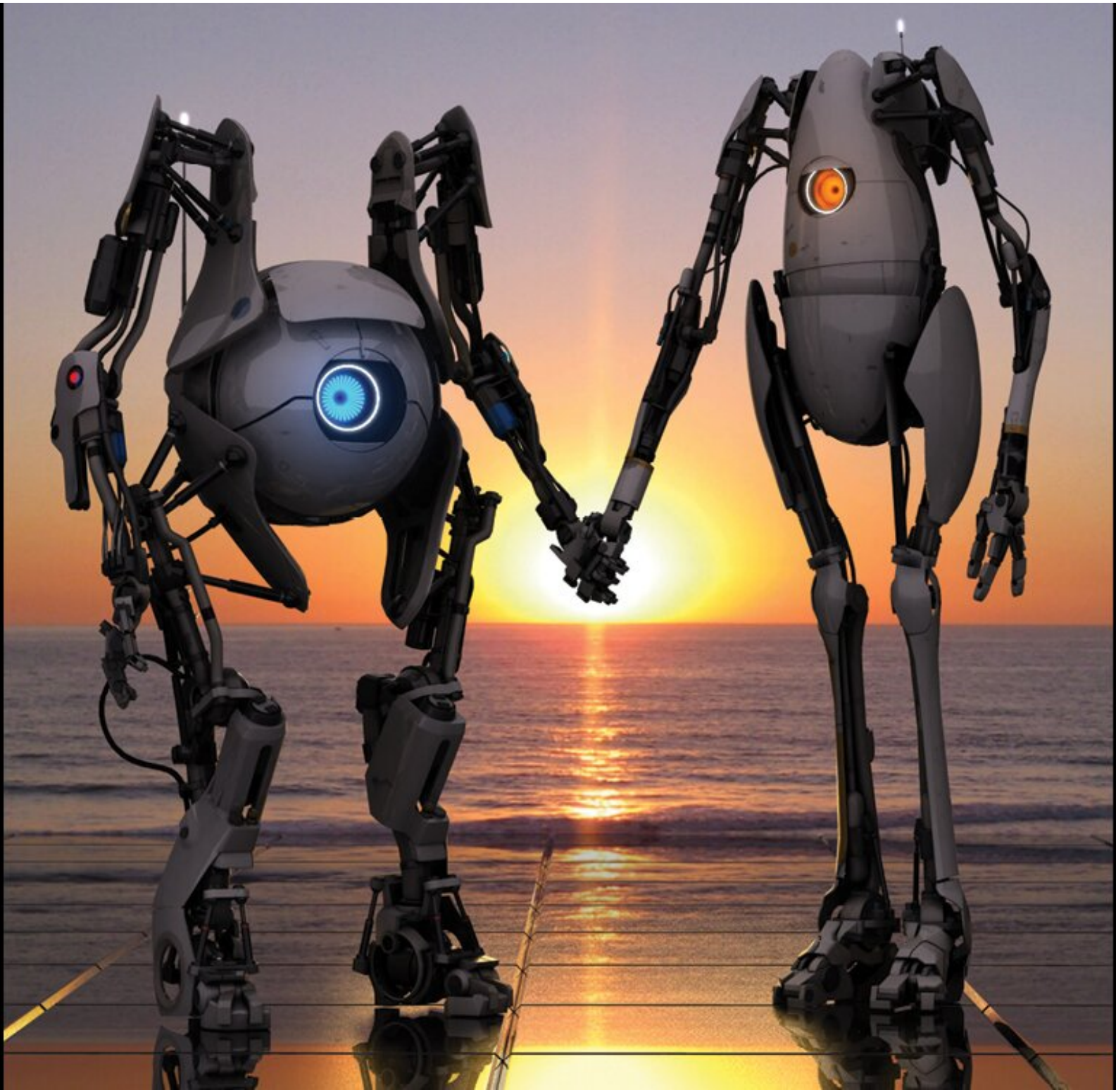
Vote

INTERNET CONNECTION REQUIRED

Valve playtested the concept and, as Faliszek remembers, “Players kept saying they wanted to tell their own story and talk to the other player, not listen to GLaDOS go on and on.” The co-op campaign had violated the one rule of *Portal* storytelling: Don’t interrupt players when they are trying to solve a puzzle or execute actions. Eventually, the team realized that the co-operative campaign didn’t need sweeping twists or extensive dialogue. They were overthinking it. Instead, GLaDOS could just toy with the two players in her usual manner and pretend to favor one bot (or player) over the other.

The co-operative campaign was starting to come together as Valve headed into E3, the annual video game trade show in Los Angeles. But only five days before E3, Valve would make an announcement its fans didn’t want to hear: *Portal 2* was going to miss its fall 2010 release date. There were problems back in Seattle.





10

MAKING GAMES IS HARD

On stage at E3 2010, Gabe Newell announces that Portal 2 is coming to the PlayStation 3.



IT WAS MID-JUNE 2010 when the lights went dark inside the Shrine Auditorium, former home of the Academy Awards. A familiar, robotic-sounding voice came over the PA

system to address the thousand-plus journalists, retailers, and game developers gathered for the Sony PlayStation E3 press conference. “Deploying Surprise in 3....2....1” intoned GLaDOS.

Right on cue, Gabe Newell nonchalantly walked onstage in a red polo shirt. The crowd of thousands looked on, incredulous. Gabe cracked a smile. He loved taking people by surprise. “Hi, my name is Gabe Newell and I work at Valve,” he said, but with this crowd, he needed no introduction.

To those in the know, it was a remarkable sight to see Gabe at a PlayStation press conference. Newell had spent the past few years slaughtering the PS3 in the press. He went so far as to call it an outright disaster to program for, analogous to Steve Jobs’ public scolding of Adobe Flash. Recent Valve games had been released on the Xbox 360 and PC but never the PlayStation 3.

Newell, however, was growing increasingly frustrated with Microsoft’s closed Xbox 360 system. On that system, Valve had to go through Microsoft for everything; it couldn’t directly communicate with its customers and update games on its own. Sony, on the other hand, was offering a more open platform that would support Valve’s Steam service. Users on the PC could even play the co-operative campaign with someone else using a PlayStation 3.

Back at Valve HQ, a bigger surprise was bubbling to the



Wolpaw in a Valve team meeting

surface. Given the late addition of the paint mechanic and the ongoing challenges with the plot, *Portal 2* wasn’t going to be ready for release in November as planned. On June 9, Valve put out a press statement from Aperture Science to announce the “release date restructuring process.” 2011 was the new target, hopefully early in the year. Fans were disappointed but not surprised. Valve games are famous for being delayed beyond the initial

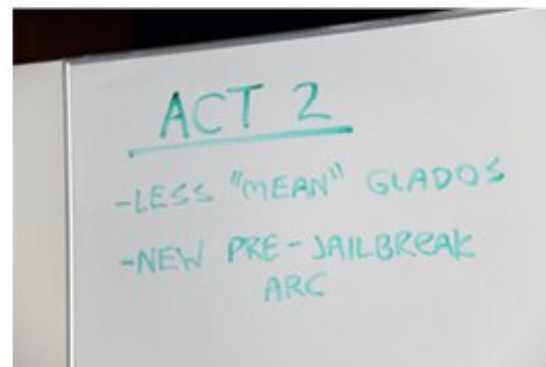


release date, but no one seems to mind when Valve ultimately delivers a Game of the Year-caliber product.

Valve is also known for best-of-breed storytelling. But as the summer of 2010 began, the writing team on *Portal 2* was still behind the eight ball. More than 60 test chambers had been designed by the cabals, but most were missing the dialogue necessary to tie settings and story together. “Critical path is a bad place to be, and the entire team was staring at Erik waiting for him to come through with the story,” remembers Newell. Then he jokes, “It was very entertaining for the rest of us.”

Wolpaw, who had successfully completed a series of three surgeries that dramatically improved his health, was feeling the pressure. In team meetings, he’d slide down in his chair and pull his t-shirt up and over the tip his nose, breathing through the fabric. You could tell he wanted to disappear. But he couldn’t. Significant dialogue needed to be written, and sometimes, what was there just wasn’t good enough.

In playtests, gamers started complaining that GLaDOS was just too mean. At one point she described in graphic detail how she would murder the player. She became so despised that, upon discovering her in the underground of Aperture in the form of a potato battery, many playtesters simply refused to pick her up to advance the



The writers worked to tone down GLaDOS’ mean streak, as voiced by Ellen McLain, pictured at right.

plot. They hated her. Ellen McLain, the stage actress who performs the voice of GLaDOS, started pushing back on the extreme dialogue as well. She felt it wasn’t right for the character or the tone of the game, which is Valve’s first release that isn’t rated M for mature.

Wolpaw heard the complaints loud and clear. As if he wanted to let everyone know, “Yes, I got the message about evil GLaDOS,” he walked over to the whiteboard above his desk and made a note that everyone in the company could see. “ACT 2 — LESS MEAN GLaDOS,” he scribbled in blue ink. Then he sat down, put on his headphones, and carried on listening to “Queen of Denmark,” a bitter song by former Czars member John Grant. It helped put Erik in the right passive-aggressive mood to channel GLaDOS.

ACT 2

-LESS "MEAN" GLADOS

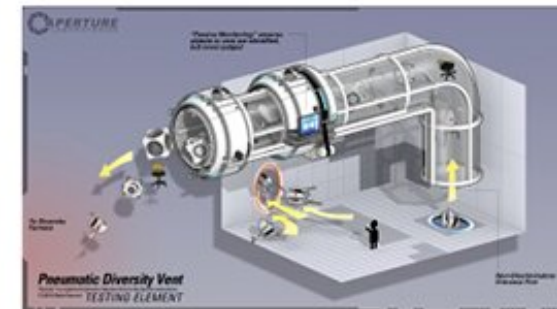
-NEW PRE-JAILBREAK
ARC





There were, however, some key creative breakthroughs in this dark period. The bumbling character of Wheatley, the personality sphere first shown during the Electronic Entertainment Expo, was receiving significant press and attention. Valve animator Richard Lord performed the voice in early demos, primarily because Valve was having trouble coordinating

of *The Office*. Wolpaw and sound department supervisor Bill Van Buren thought they didn't have a shot in hell at getting him onboard but figured it was worth an ask. To everyone's amazement, Merchant agreed to take on the role. Wolpaw rushed to London to record Merchant's lines in early August. The actor delivered a command performance in his Bristolian burr that brought immense



Pneumatic Diversity Vents were cut from the game at the last minute.

schedules with the first actor they approached for the role: Richard Ayoade, best known for playing the awkward Maurice Moss on the British sitcom *The IT Crowd*.

With no word from Ayoade's schedule not working out, Valve approached British comedian Stephen Merchant, co-creator



```
portal_channel: == MAX_CHANNELS  
portal_channel: == MAX_CHANNELS  
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THE FINAL HOURS OF
PORTAL 2



"Passive Monitoring" ensures objects in vent are identified, but never judged

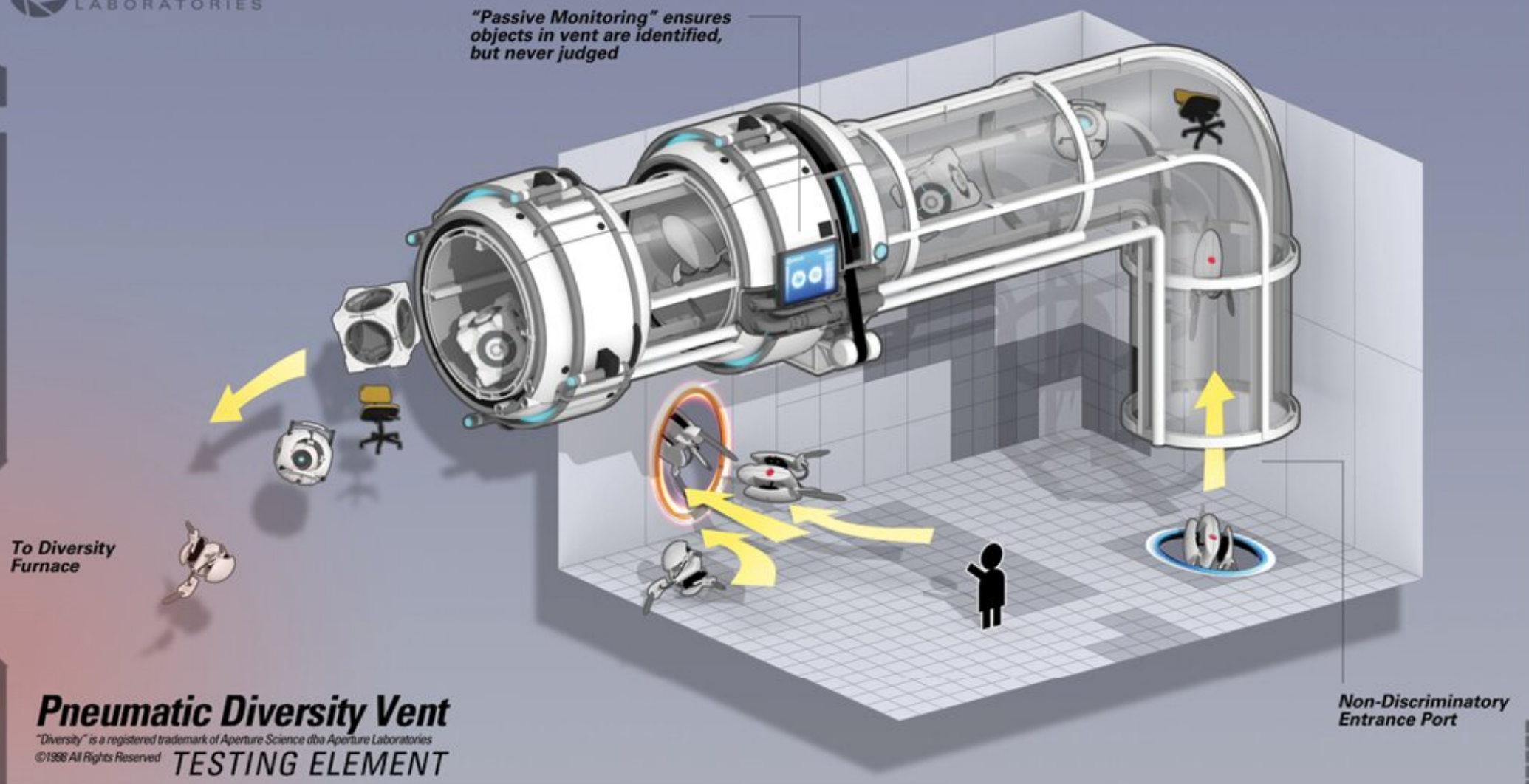
To Diversity Furnace

Non-Discriminatory Entrance Port

Pneumatic Diversity Vent

"Diversity" is a registered trademark of Aperture Science dba Aperture Laboratories
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TESTING ELEMENT



personality to the character, with a flowing cadence seldom heard in video games.

But Flow was lacking when it came to the plot. On every Valve project there comes a time for Overwatch, the “übercabal,” to move in. Comprised of the most senior Valve employees, Overwatch plays through the game and answers one question: Is it going to hit the quality bar fans expect from Valve? The Overwatch review started in late August 2010 and the feedback was generally positive. Some gameplay tweaks needed to be made, including the removal of the pneumatic diversity vents, giant suction tubes that weren’t working well in test chambers.

The feedback on the story, however, was much more direct: The continuity wasn’t quite there. The pacing needed to be tweaked and the ending had yet to be written. “Make the game one complete thought” was the official feedback to the writers. As GLaDOS might put it, the story was still receiving an unsatisfactory mark on its official testing record. To the outside world, *Portal 2* was winning awards at gaming conventions and seemed destined to be another megahit. But inside Valve, the stress was mounting. *Portal 2* was only months from being released and it still needed an ending — not to mention an ending song.

INTERVIEW: STEPHEN MERCHANT



As the co-creator of *The Office* with longtime collaborator Ricky Gervais, British comedian Stephen Merchant certainly doesn’t need video game voice-over work to make a living. But in the midst of preparing for “Hello Ladies,” his upcoming comedy tour dedicated to finding himself a girlfriend, Merchant stepped into the studio to record the role of Wheatley in *Portal 2*. I recently had a chance to chat with Merchant in his only interview about *Portal 2*, his love of games and why he will have to play the game with the sound off.

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INTERVIEW: STEPHEN MERCHANT

GEOFF: What struck me about your performance in *Portal 2* was the cadence and natural flow of Wheatley’s dialogue. It’s different from many games where the dialogue feels like it was recorded line by line and then stitched together. How did you approach the performance?

STEPHEN: I’m glad to hear you say that, it was very deliberate. I’ve played a lot of games over the years and the performances never strike me as very naturalistic. No ums, and ahs, no talking over yourself, no digressions or even pausing. Often the voiceovers are well done, but they are more like Hollywood blockbuster acting. Every line is delivered very crisply, and cleanly and neatly and succinctly. I liked the idea of

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and neatly and succinctly. I liked the idea of doing something where it’s more sassy, and long-winded and gabby. That seemed like an interesting, fresh take to me. I never wanted it to feel like I was reading lines, but more like I was playing out a scene.

I didn’t know you play games. So getting to work with Valve was part of the appeal of signing up for *Portal 2*?

*Sure, yes. I’m embarrassed to admit this but I actually haven’t played *Portal 1* or *Valve* games. My friends all tell me *Portal* is great though. I would say I play fewer games than I used to in college, but I still do play. I used to play a lot of *Doom*, and I really liked the *James Bond* games over the years, even *Max Payne 1* and *2*. I like games that*

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even Max Payne 1 and 2. I like games that are first or third person but have a bit of a thriller aspect to them. There was this game called Cold Winter that I really enjoyed on the PlayStation 2, where you were this MI6 agent caught spying in China. Ubisoft also had this cel-shaded thriller called XIII that was fun to play as well. I have a fondness for games when they are done well, especially when they have a good plot.

So what was it like working on a video game voice over?

Well, if I’m being honest I wasn’t prepared for how exhausting it was going to be. It’s so much hard work. If I had known the amount of hard work it was going to be I wouldn’t have done it. You’re in a studio

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wouldn't have done it. You're in a studio shouting down imaginary corridors or through imaginary air vents. It's so exhausting, you're hollering at the top of your voice for 4 hours at a time. And once you've done a good read you then need to do it 20 other ways in case the player isn't as competent and gets stuck. It was a very funny or at least a very characterful script, but it was very tiring. It's some of the hardest work I've ever done.

You said the script was funny, and I wanted to ask you about that. Comedy is sort of a lost art form in games. How much of that was scripted versus improvised?

The Valve guys wrote most of what's there, I just improvised on top of it a bit. They're

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The Valve guys wrote most of what’s there, I just improvised on top of it a bit. They’re really funny guys. But I totally agree that most games take themselves too seriously — they are too earnest. They are trying to give Goodfellas or Pulp Fiction a run for their money.

All games don’t need to be like that. One of my favorite games is The Simpsons Hit & Run. It was so funny. The writers of the show wrote the game, and as a semi-professional gamer I will admit it probably falls short as a game. But the humor was very refreshing. It felt like you were a part of the world, the suspension of disbelief was there. And I think that’s where many games fall short; you don’t feel like you’re falling into the world. The humor really helps accomplish that in

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I'm sure you've seen bits and pieces of the game, but will you play the full thing?

Probably, but I may need to turn the sound off to enjoy it because I'm not sure I can stand my own voice.

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11

SOMETIME IN THE SUMMER OF 2010, Jonathan Coulton realized that maybe he wasn't going to write the ending song for *Portal 2*. And he was okay with that. Coulton, Gamertag JoCo4Realz on Xbox

Photo by Dale May



Live, is an indie folk rocker best known for his light cover version of Sir Mix-a-Lot's "Baby Got Back," and yes, for the ending song to *Portal 1*, a twisted, auto-tuned ode to the player's mischievous ways, sung by GLaDOS. The song became a cult hit, not to mention a signature part of *Portal's* success.

Coulton is Weird Al Yankovic for the video game generation. Only Weird Al never went to Yale, nor did he recently host a Caribbean cruise for 400 fans. On that cruise, one self-organized group activity was to perform the song "Still Alive" on handbells. (Watch the YouTube video, I'm not making this up.) Coulton has grown into such a sensation that he's now working on a full-length album to be produced by John Flansburgh of They Might Be Giants. By now, it should be clear that Jonathan Coulton's songs aren't parodies. They are geek anthems. Tom Lehner, eat your heart out.

The challenge Coulton faced on *Portal 2* mirrored Valve's challenge. The first song was so beloved, so revered, that it seemed an almost impossible task to create a sequel that could live up to the original. Coulton had casually met with Wolpaw over the years



VIDEO (Internet required): On the JoCo Cruise, a group of fans perform Jonathan Coulton's "Still Alive" using their iPhones as handbells.

to discuss this conundrum and there was never much resolution.

"How are we going to have an emotional moment at the end of *Portal 2* that is just as powerful as the one in the first game?" Coulton asked.

"Yeah, I don't know. We aren't even sure how the game is ending," Wolpaw would respond.

In other words, it was going to be very hard to write a closing song for a game when the plot, including the



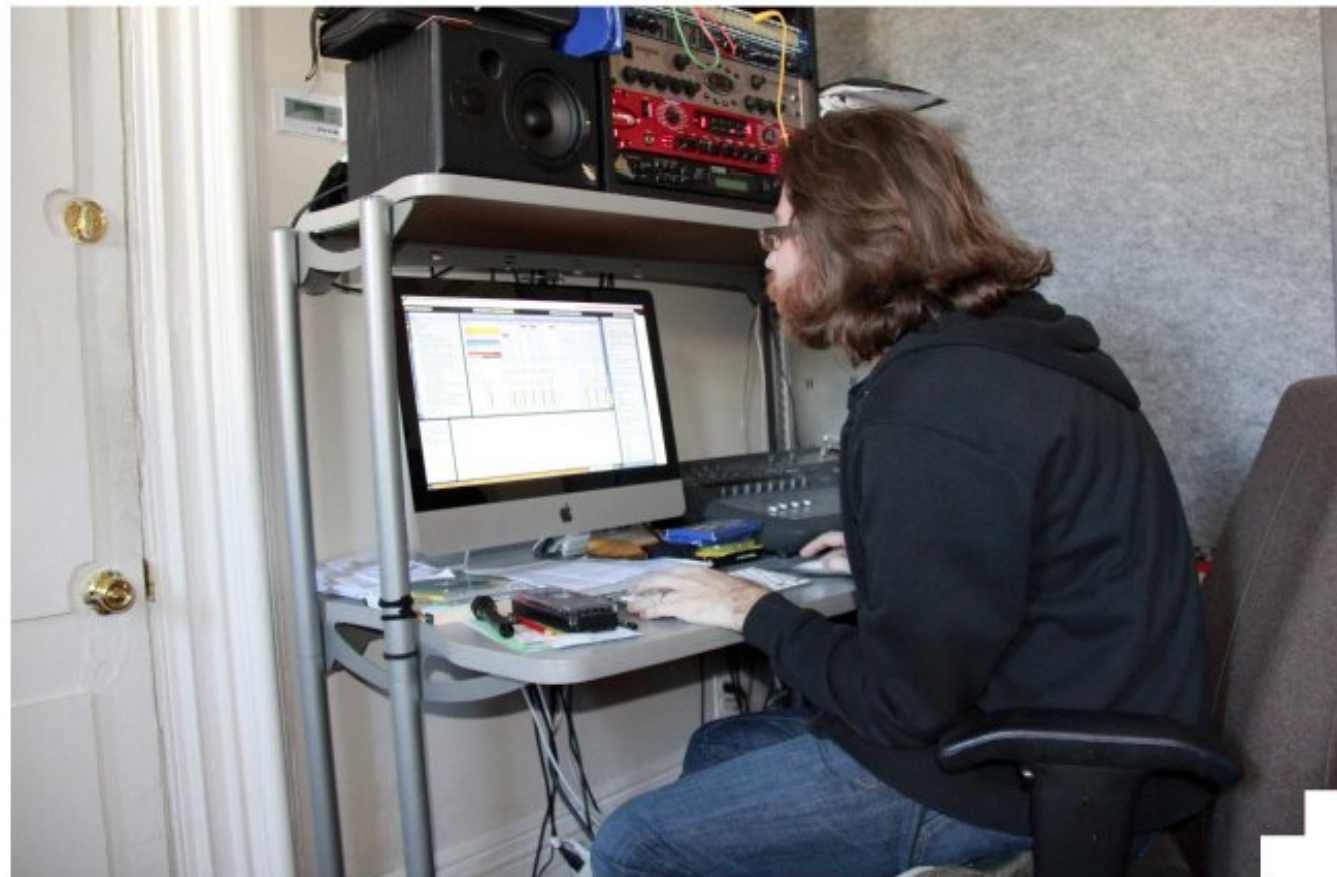
The PC Valve sent to Jonathan Coulton to play Portal 2 sits on his floor; Coulton in his home studio working on the Portal 2 song.

ending, was still a work in progress.

That exchange was in 2009. A year later, in the summer of 2010, Coulton hadn't heard from Valve in a long while.

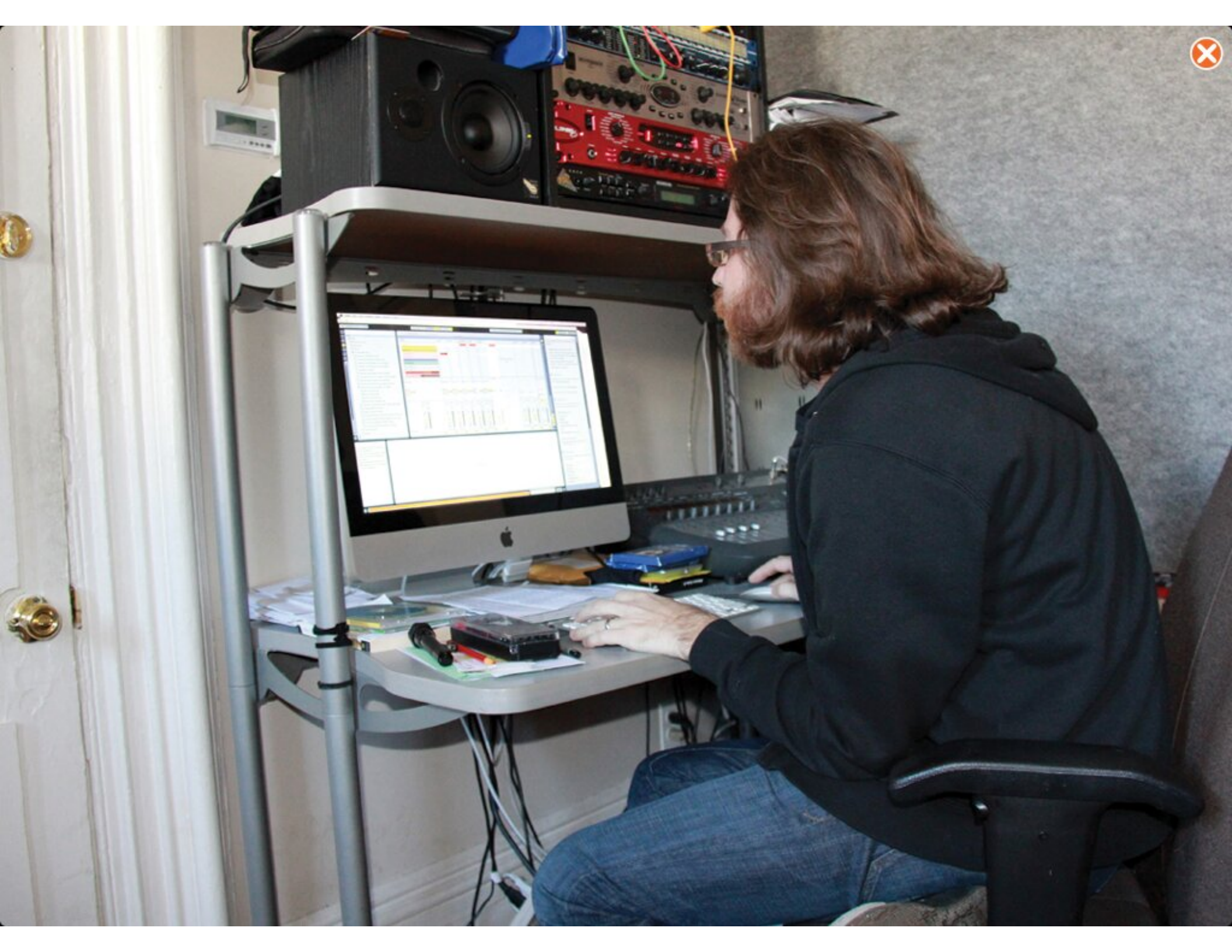
That's when it dawned on him that maybe Valve had decided it didn't need a song as the coda. "I was a little relieved for a moment," he remembers.

In reality, Valve was desperately trying to get its own house in order before going back to Coulton. Many endings were discussed. In one, Chell would actually speak, saying one word, "yes," to end the game.



(This would be a break from Valve's tradition of main characters who don't speak). They had also toyed with the idea of Coulton writing multiple joke songs to play out during fake endings throughout the game. The idea of a duet between Chell and GLaDOS was also considered but dropped because, once again, Chell doesn't have a voice.





MAKING THE SONG

Jonathan Coulton takes us through the creative process of writing "Want You Gone."



TAP BUTTONS FOR AUDIO

- 1 First, Coulton strums a guitar and sings nonsense lyrics into a mic to get the rhythm.
- 2 Next, he plays with the basic arrangement on his iMac and adds electronic drum beats.
- 3 Finally the song is completed with Ellen McLain's vocals.

One day in the fall, Coulton finally heard from Valve. They were ready to talk about the ending and yes, they wanted a song. A few days later, a Dell XPS laptop showed up at Coulton's apartment with an early copy of the game. Discussions continued. While elements of the ending were still in flux, everyone agreed that *Portal 2* was going to end with the AI GLaDOS breaking up with Chell. She would decide you are no good for her. You are too much work. Every time she gets involved with you, she gets hurt in some way. Coulton thought about it. That was different. It was inspiring. Yes, he could write a break up song about computerized voice falling out of love with a mute girl.

There wasn't much time to pull the song together, but that didn't worry Coulton. He's what you'd call an efficient song writer. Years ago, he wrote a new song every week for his website, appropriately called "Thing a Week." So, sitting in his Brooklyn home studio with a keyboard, a guitar, and an iMac, he began to strum chords, sing nonsense into a mic, and wait for a rhythm to emerge. Soon he found a groove he liked and began to think of lyrics. As he imagined words, he wrote them in a Google Document file. The first line was easy, "Well here we are again. It's always

The whiteboard in the writers' room counts down to Dec. 17.

such a pleasure." Then he found the refrain that would anchor the song, inspired by the image of Chell being kicked out of Aperture with the door slammed behind her. "I used to want you dead, but now I just want you gone."

After years of waiting and months of uncertainty, the *Portal 2* ending song was written in a matter of days. Coulton added some electronic drum beats from John Flansburgh to the arrangement, refined the verses (the "When I was a potato" chorus was cut), and sent the song off to Valve.

The writers loved it, and it's a good thing they did. As a giant calendar on the writer's room whiteboard made clear, *Portal 2* needed to have all its content locked by December 17, 2010. They wouldn't quite hit that date, but

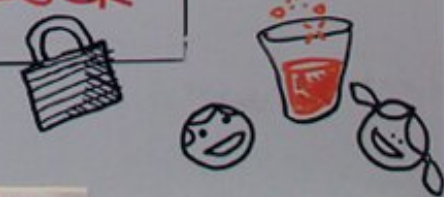


by early January things were almost done. As soon as Jonathan Coulton returned from his JoCo Caribbean Cruise in January 2011, he headed to Seattle to record the final number with Ellen McLain, the voice of GLaDOS.

SCHEDULE

	25	26	27	28	29	30/31
	ACT 3/ GAME/ ACT 4 FINALE	X	X	X	X	X
AM	X	U.K. SIMMONS	MELAN NORTH RETURNS	ACT 4/ WHEATLEY	X	X
PM (TRAVEL)	X	X	X	X	X	X
	8	9	10	11	12	13/14
	ACT 4/ WHEATLEY	X	FINALE X OZ	FINALE 3/ ACT 4	X	X
	15	16	17	18	19	20/21
	STEPHEN MERCHANT 6:00 AM	X	X	X	X	X
	22	23	24	25	26	27/28
	X	X	X	TURKEY DAY	X	X
	29	30	1	2	3	4/
	X	X	X	X	X	X
	6	7	8	9	10	11/12
	ACT 3	ACT 3	ELLEN SCRIPT			CUTTING
	13	14	15	16	17	
	HOOK UPS		CUTS	HOOK UPS	CONTENT LOCK	

TAL
ELSTROM



12

THE
FINAL
HOURS

Gabe Newell



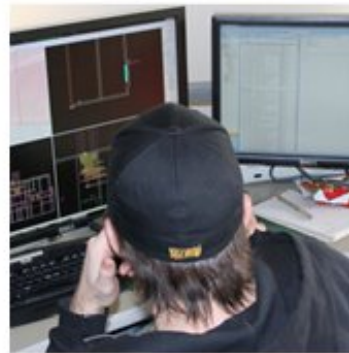
IT'S 10 A.M. AT VALVE HEADQUARTERS in February. Gabe Newell walks into a fifth-floor conference room with his McCafe. Today is black polo shirt day. He picks up a remote, turns on a video conference, and beams himself to the Tippecanoe Valley High School in Akron, Indiana. “Hi, this is Gabe Newell,” he says while swiping his fingers across his iPad. Today is one of the most



VIDEO (Internet required): Newell talks to a high school class.

important days in Valve history: The day that *Portal 2* is supposed to be finished and sent to Microsoft. And for the next 40 minutes, Gabe Newell shares his thoughts with a high school class.

Stories like these make Gabe Newell a legend in the video game industry. He's strangely accessible to the outside world, freely releasing his email to the public and often replying out of the blue to obscure fan requests. Example: A few months ago a kid on an online forum called Zwolf11 needed five friends to donate to his Hoops for Hearts charity. He awkwardly admitted in the forum that he didn't really have five friends. So, on a whim, he emailed Gabe and asked for a donation. A few minutes



later, he found \$100 in his account from Gabe. This gesture was relatively cheap compared to the thousands of dollars Gabe spent flying to Australia to meet a fan because he started a “Fly Gabe Newell [to Australia]” fund online.

Gabe Newell does these things because he cares about his customers. When he speaks, the emphasis he places on the word “customer” is deeply emotional, not transactional. Fans feel that connection, too, and routinely spend their free time making [parody videos](#) starring animated versions of Gabe and [posting them](#) on YouTube. Many have hundreds of thousands of hits. Clearly, the fans feel a complex connection to Valve. The fans and Gabe are forever linked, like Chell and GLaDOS in Aperture.

As Newell talks to the students, you can tell the pressure to finish *Portal 2* is on his mind. He calls it



Scenes from the *Portal 2* test chamber inside Valve



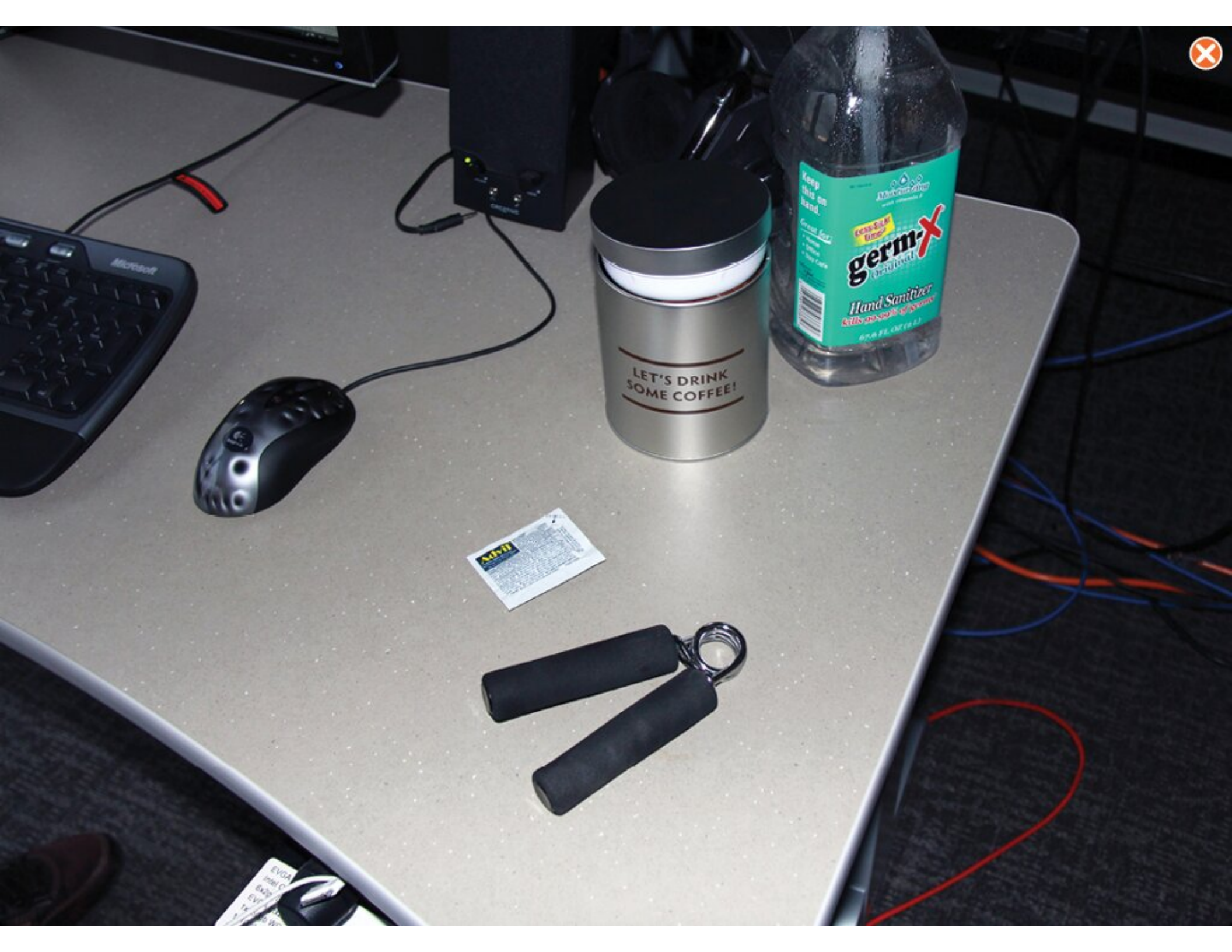
says. “People implode.”

On the opposite side of the office, the *Portal 2* “test chamber” is buzzing with activity. As GLaDOS might say, “testing not yet complete.” This is the war room, where

the best game Valve has ever made, but he also worries it will be a Pyrrhic victory. “We’ve had dentists say to some of our people, ‘We don’t know what you are doing at work, but you need to stop it or you’re not going to have any teeth left,’” Newell says, referencing an employee whose stress-induced teeth grinding means he has to wear a mouth guard. “It doesn’t matter how good you are,” he

**Portal 2 Test
Chamber**





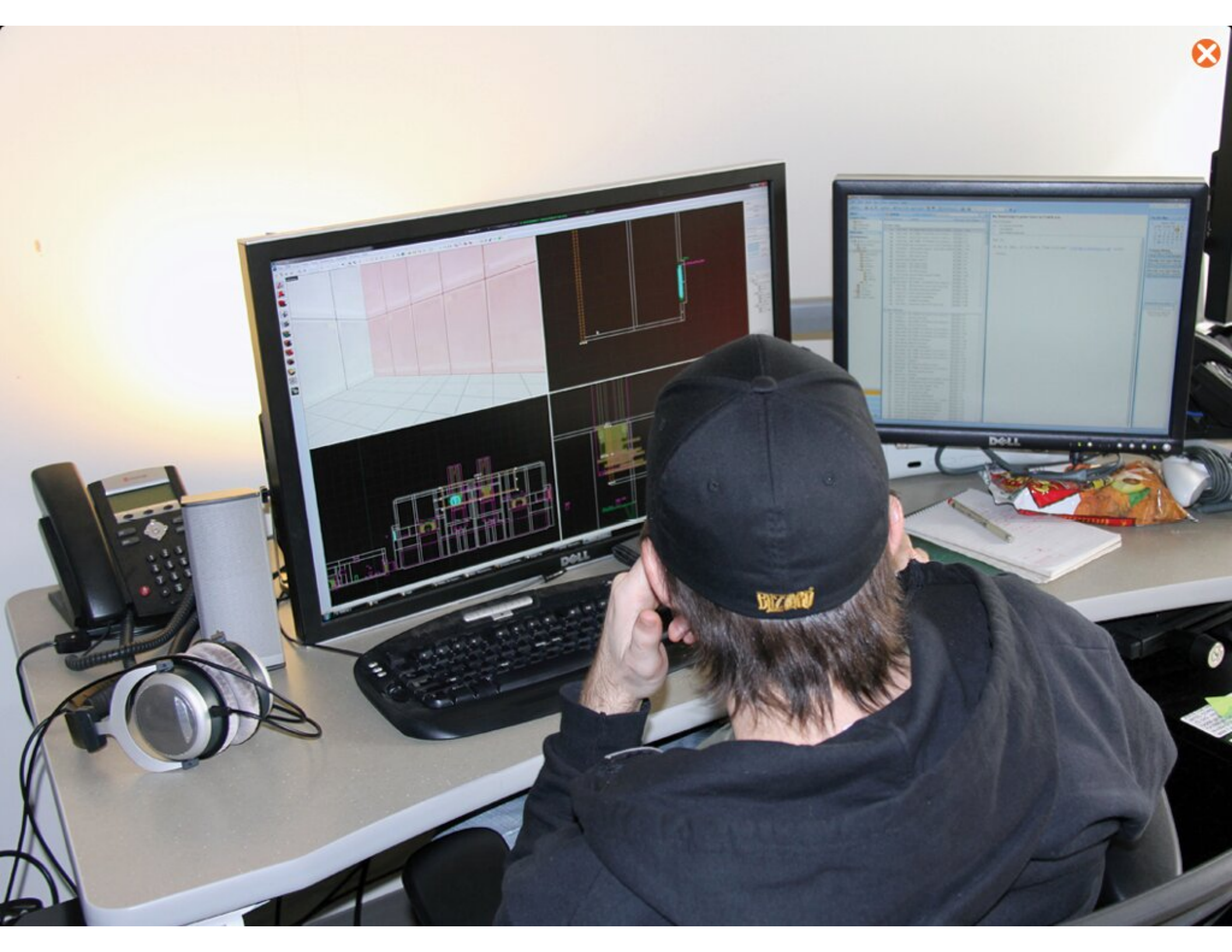
Microsoft

LET'S DRINK SOME COFFEE!

Keep this on hand.
ADVIL
germ-X
Hand Sanitizer
Kills 99.9% of germs
6.76 FL. OZ. (200 mL)

Advil

EVGA
Intel C
8420
EV
10/10/10



KNOWN ISSUES


Showstopper ↴

GAME IS TOO AWESOME - ~~Do not fix~~

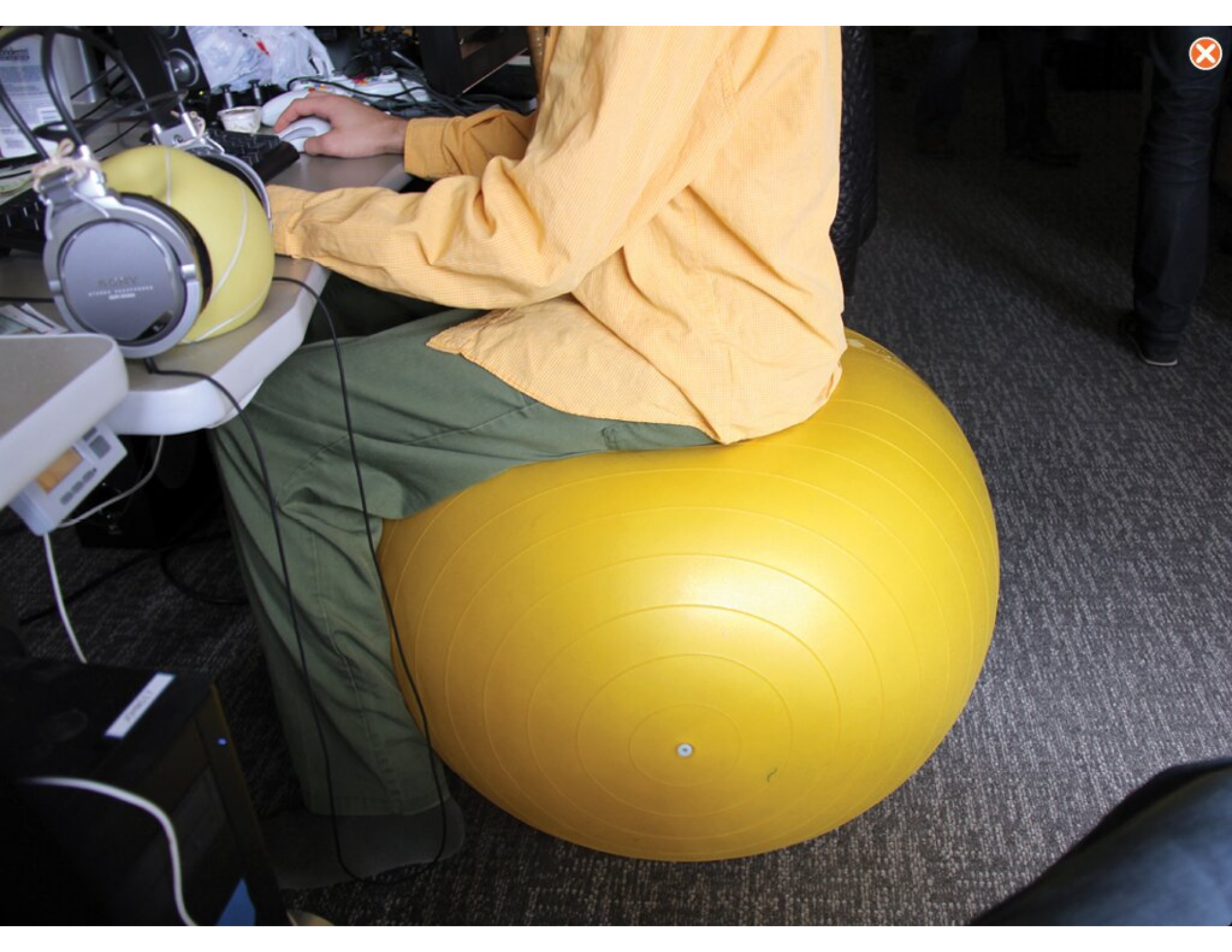
- NO Captions in Container

• Chapter loading screens messed up if 'map' command used,

Handhelds ref to mono - chest still

now in anaglyph 

FIXED! IT SUX NOW



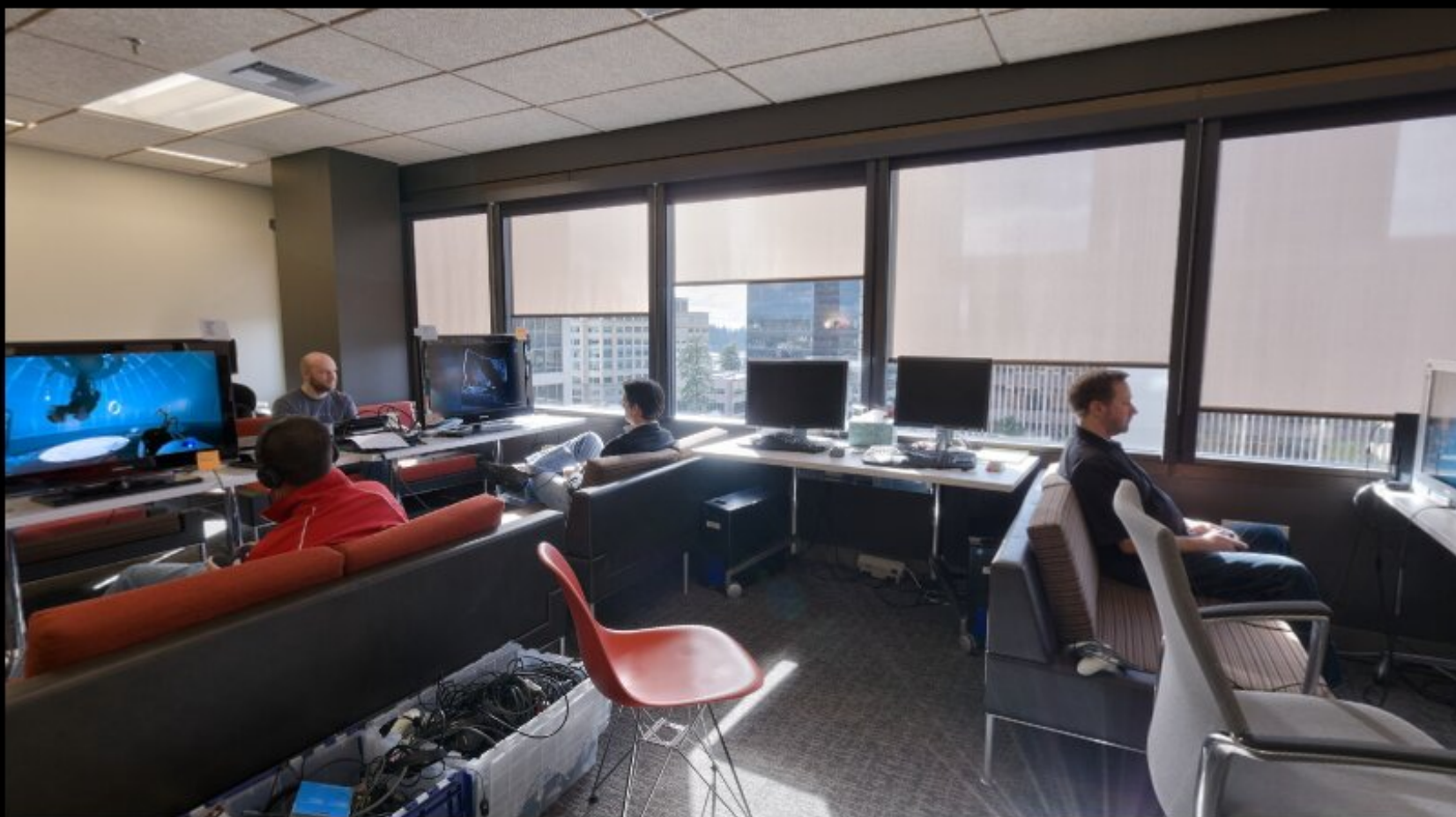


PANORAMA: EXPLORE THE TESTING LAB



SWIPE IMAGE TO VIEW PANORAMA. TAP HERE FOR FULL-SCREEN VERSION

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employees test every version of *Portal 2* for last-minute bugs. The 12 international test stations are named after Muppets: “Scooter” is the Korean version, “Fozzie” the Italian. Against the wall, a whiteboard lists “Known Issues” that must to be addressed before *Portal 2* is finished. “Game is Too Awesome,” the first line reads.

No one’s sure who wrote that, but it’s safe to say it wasn’t Erik Wolpaw. Today he nervously paces around the office and rubs his hands through the long, grayish beard he’s grown over the past few weeks. He’s especially frustrated this morning because an early version of Coulton’s new song leaked to YouTube, although none of the blogs picked up on it. His small desk is cluttered with *Portal 2* T-shirts and sweatshirts mixed with DVDs of the British sitcom *Coupling*, not to mention his favorite pillow on the chair. Resting on the top of his monitor is a little trinket-sized Companion Cube. Wolpaw is immensely proud of the game, but it’s been quite a journey to get here. Like any good writer, he wonders if there isn’t just one more joke he could have written, one more line of dialogue he could have tweaked. But there’s no going back now. *Portal 2* is almost finished.

Other desks in the design cabal reflect the state of affairs. On one, there’s a vial of Germ-X hand sanitizer next to a package of Advil and a coil resistance hand



“This game will make your 12-year-old smarter,” says art director Jeremy Bennett, above. Left, a bearded Erik Wolpaw.

grip, used to stretch fingers after long nights of typing. Nearby, Jeep Barnett rolls back and forth in front of his computer on the yellow inflatable ball he uses as a chair. He checks his email for the latest update on the cooking class that Valve has set up for him and a few fellow employees once *Portal 2* is officially done. Everyone, it seems, has different ways of coping with the pressure of the final hours.

What you don’t see around the development room is a hierarchy. No one’s in an office and there’s no manager pacing the rows of PCs. What you do see is a remarkably unique band of brothers (and a few sisters) coming together in the clutch to make sure *Portal 2* lives up to





its promise. Fourteen years ago, Valve was a company comprised of young first-person shooter action geeks making games for fans of *Doom and Quake*. Today, Valve is a different and more diverse place. Valve has grown up, and its do-what-you-want culture has attracted bright minds from across the entertainment industry.

When she thinks about it, Karen Prell must marvel that 30 years ago, many of her coworkers were little kids eating fruit roll-ups as they watched *Fraggle Rock*. Some, like the creators of *TAG: The Power of Paint*, hadn't even been born yet. At times Karen feels old, but then she feels proud. She has connected to a new generation.

In turn, *Portal* is connecting Valve's employees to a new audience: their children. Jeremy Bennett's eyes light up when he talks about how his boys, ages 5 and 7, giggle away every time GLaDOS calls them fat. "I think the tagline for this game should be, 'This will make your 12-year-old smarter,'" he says.

By mid-afternoon, the testing lab slows for a moment. In one corner, a programmer sits with his mouse hovering over a webpage displaying the button "Submit." Valve is ready to upload what it hopes is the final version of *Portal*

2 for a last round of testing. It's February 16, 2011 at 2:41 p.m. And yes, Erik Wolpaw is still awake.



POLL

IF YOU'VE PLAYED PORTAL 2, WHAT DO YOU THINK OF THE GAME?

- WOW! GAME OF THE YEAR
- VERY GOOD, ABOUT THE SAME AS PORTAL
- GOOD, BUT PORTAL 1 WAS BETTER.
- EH. IT'S OK.
- I'M DISAPPOINTED.
- I HAVEN'T PLAYED THE GAME YET.

[View Results](#)

Vote

INTERNET CONNECTION REQUIRED

6
OF
6

NEXT: THE WORLD IS ABOUT TO CHANGE >>>



Submit



Other Resources

- [Xbox.com](#)
- [Moby.com](#)

Internet | Protected Mode: Off

100%

13

THE WORLD IS ABOUT TO CHANGE

THE DAYS
AFTER finishing a video game must feel strange. After years of toil, you end up stuck in a weird purgatory. The game is done,



The
Companion
Cube

but it will be two months until the rest of the world gets to touch it and react to it. You think about the past three years. Thoughts race through your head. Will the game live up to its fans' expectations? Could we have worked a little harder, done something a little differently? As these questions tumble through your mind, you start to put your life back together. You take in the dry cleaning. Spend more time at home, reconnecting with family and friends. If you're Jeep Barnett, you get your annual head shave. The end of a game brings with it a sense of renewal and a chance to reflect.

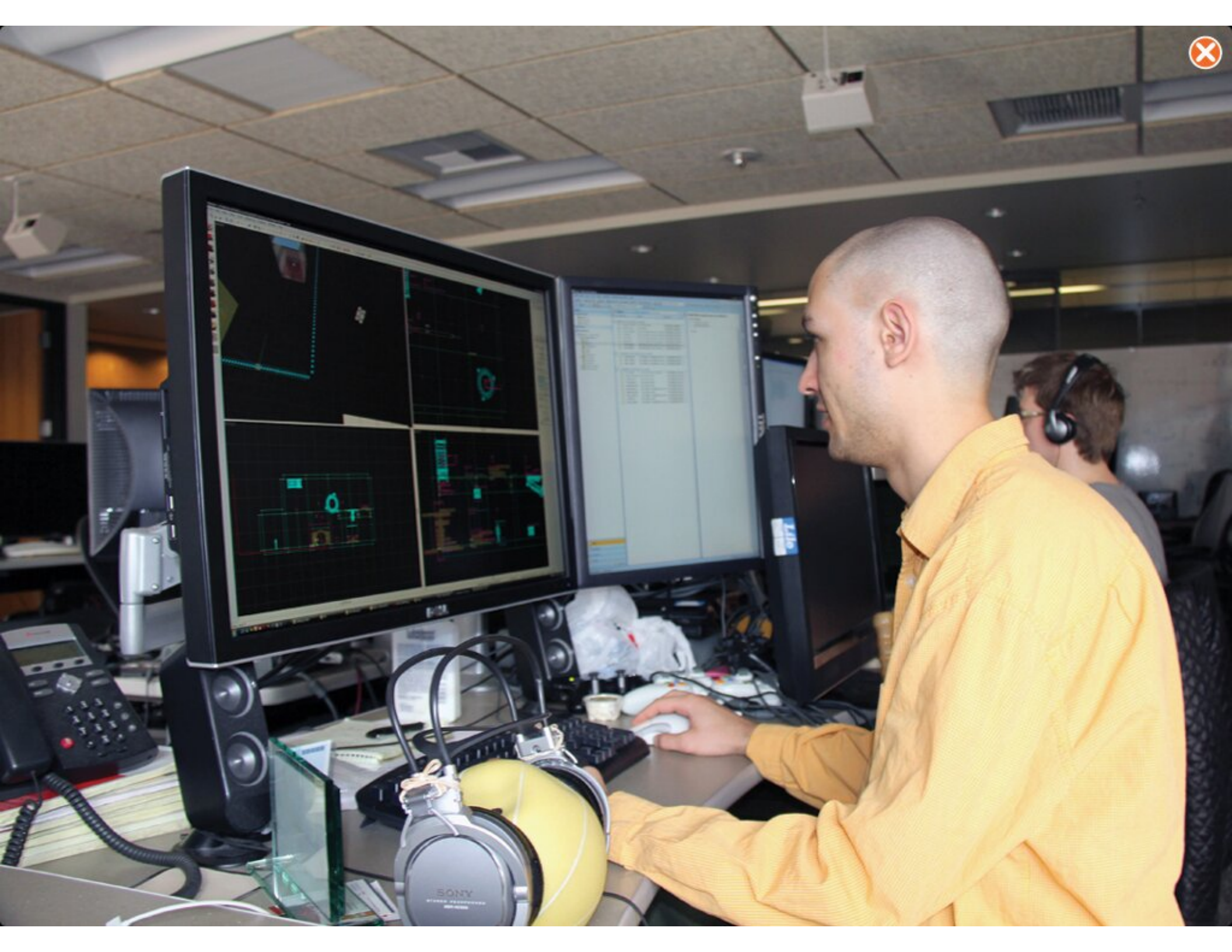
Realm Lovejoy is reflecting, but you wouldn't know it. She's so quiet that Valve employees take side bets on whether she will talk in meetings. But you can tell, like any artist, she's thinking and drawing in her mind. So one night in early March, a few weeks after the game is finished, I ask her over e-mail what



Jeep returns to the office with a newly shaved head.

picture she'd draw to represent *Portal 2*. She responds:

I'd draw the Companion Cube. The most important step for our development was to embrace the abstract, not fight it. Instead of making a normal box, we made an iconic box. The heart puts a drop of humanity in the



sterility. The unexpected elements, like the turrets with their high-pitched voices and the heart on the cube, also go along with that surprise element — a spark in a sterile world. Even a cube or a square room can be unpredictable. There's potential in everything to go outside of the box. I think that's what the Portal world really taught us.

As I read her response, it reminds me of something her fellow Nuclear Monkey teammate Jeep Barnett said about his mother. Every few weeks, he opens his mail and finds a surprise homemade gift from her. Once she took a tree nut from the yard, stuck some button eyes on it, and mailed it off. Some of her gifts are more elaborate. After Jeep finished paying off his student loans recently, a “Party in a Box” arrived from Idaho. It was rigged so that when he opened it, a card yelled “Congratulations!” Inside, he found a tin of confetti, a rainbow lei, and an oven mitt. Those gifts, like the Companion Cube, took ordinary items — a nut, a box — and turned them into something with immense personal meaning.

When you think about it, all narrative game makers aspire to create software that can wrap meaning around the simple mechanics of play. If it works, as

POLL

WHAT GAME WOULD YOU LIKE TO SEE VALVE MAKE NEXT?

- HALF-LIFE 3
- PORTAL 3
- LEFT 4 DEAD 3
- COUNTER-STRIKE 2
- TEAM FORTRESS 3
- AN IPAD GAME
- F-STOP
- SOMETHING ORIGINAL

[View Results](#)

Vote

INTERNET CONNECTION REQUIRED

**“THE NEXT FIVE YEARS,
WHEN YOU LOOK BACK, IT’S
GOING TO MAKE TODAY LOOK
LIKE THE STONE AGES.”**



it does in *Portal 2*, players feel a unique bond with the game. We say to ourselves, “Just one more test chamber and then I’m off to bed.” But we keep playing and playing. When that sense of meaning spills over into the work you do every day, as it does at Valve, the long hours, the sacrifices, and the creative struggles seem worth it.

As Gabe Newell walks the halls of the office, you can tell he’s immensely proud of the team. But now he’s deliberating how to steer Valve’s creative resources through a coming storm of change. “I feel like the world is about to change and we’re frantically trying to get ourselves in the right position,” he theorizes. “It’s sort of a scary place to be, where our prior success will not materially affect our future success.”

Today the industry is abuzz about Facebook games and mobile games on devices like the iPad. Valve has

neither. But online gameplay, like the co-operative campaign in *Portal 2*, will surely be important in the future. In fact, *Portal 2* will probably be Valve’s last game with an isolated single-player experience. What this all means is something Newell is still trying to figure out, but he knows Valve needs to continually innovate by placing both short- and long-term bets.

As Newell leaves the office for the day, he departs knowing that he has an incredible team with him to figure out a future with meaning to Valve and its fans — whatever it may be. This is, to be sure, a team that won’t just be following the trends. They’ll be setting them. And Gabe has a few ideas of his own — including a top-secret project in development that won’t be ready for another five years. “The next five years, when you look back, it’s going to make today look like the stone ages,” he says before disappearing around a corner.



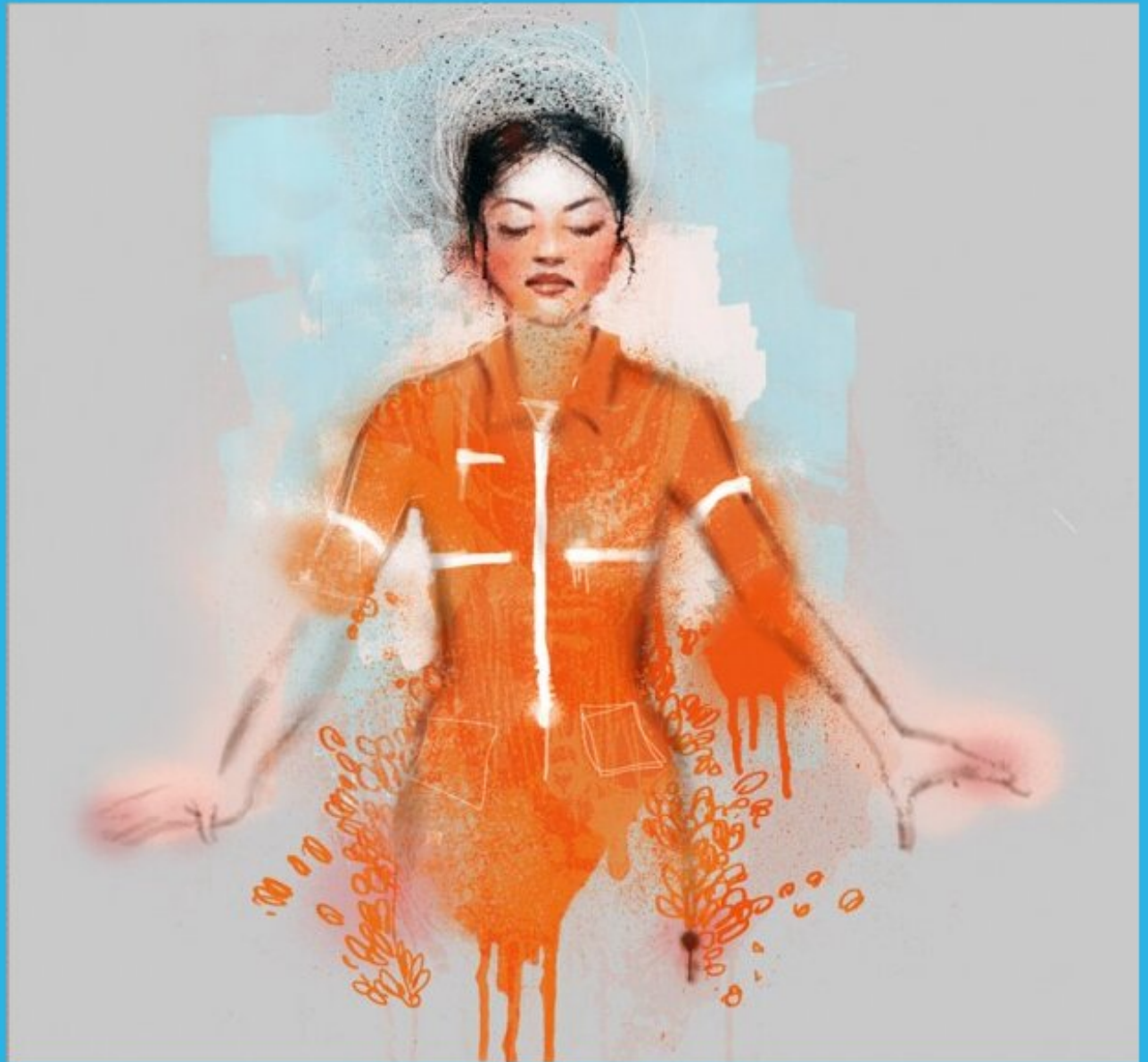
SLIDE
SHOW

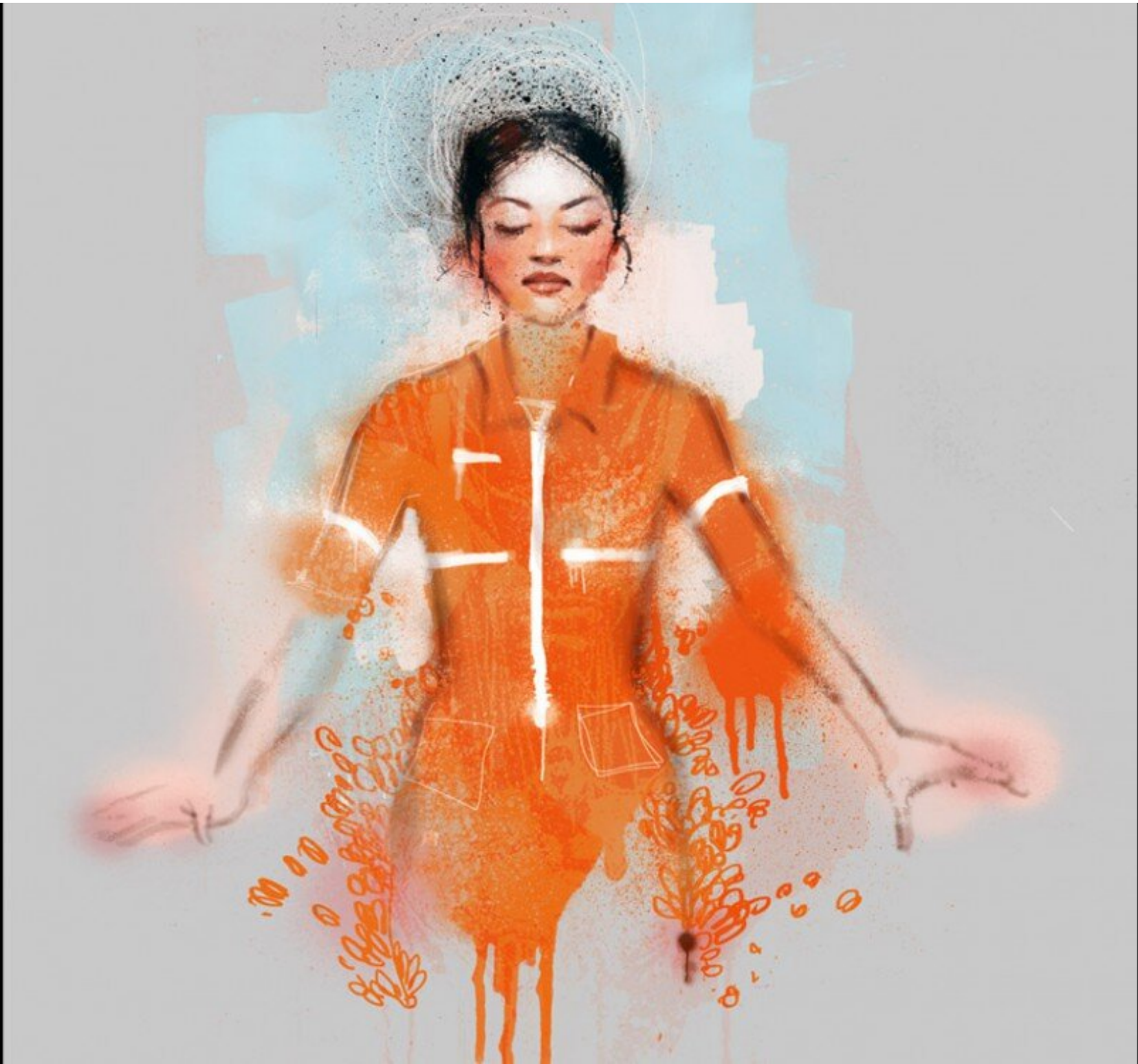
HE'S NEVER SEEN, but you feel the presence of schizophrenic Aperture Science employee

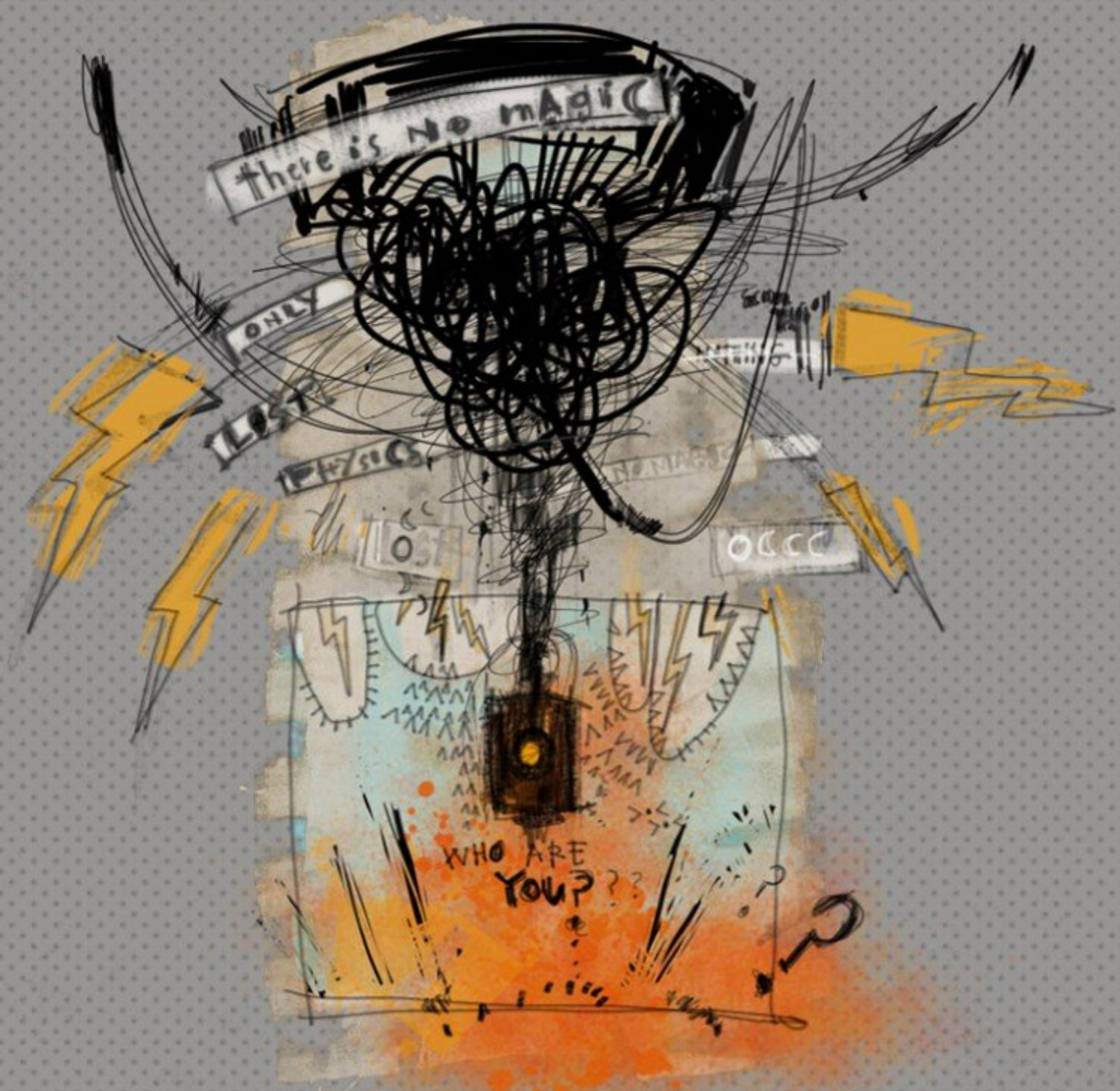
Doug Rattmann in Portal 2.

Trapped without his antipsychotic medication, Rattmann expresses his hallucinations as gigantic wall murals that re-tell events from the first Portal and warn Chell about coming dangers in Portal 2. Take a look at some of his work in these stunning images created by Valve artist Andrea Wicklund.

To learn more about Rattmann, read the Valve Comic "Lab Rat" at www.thinkwithportals.com/comic







there is no magic

ONLY

LOST

PHYSICS

NO MAGIC

LOST

OCCC

WHO ARE YOU??



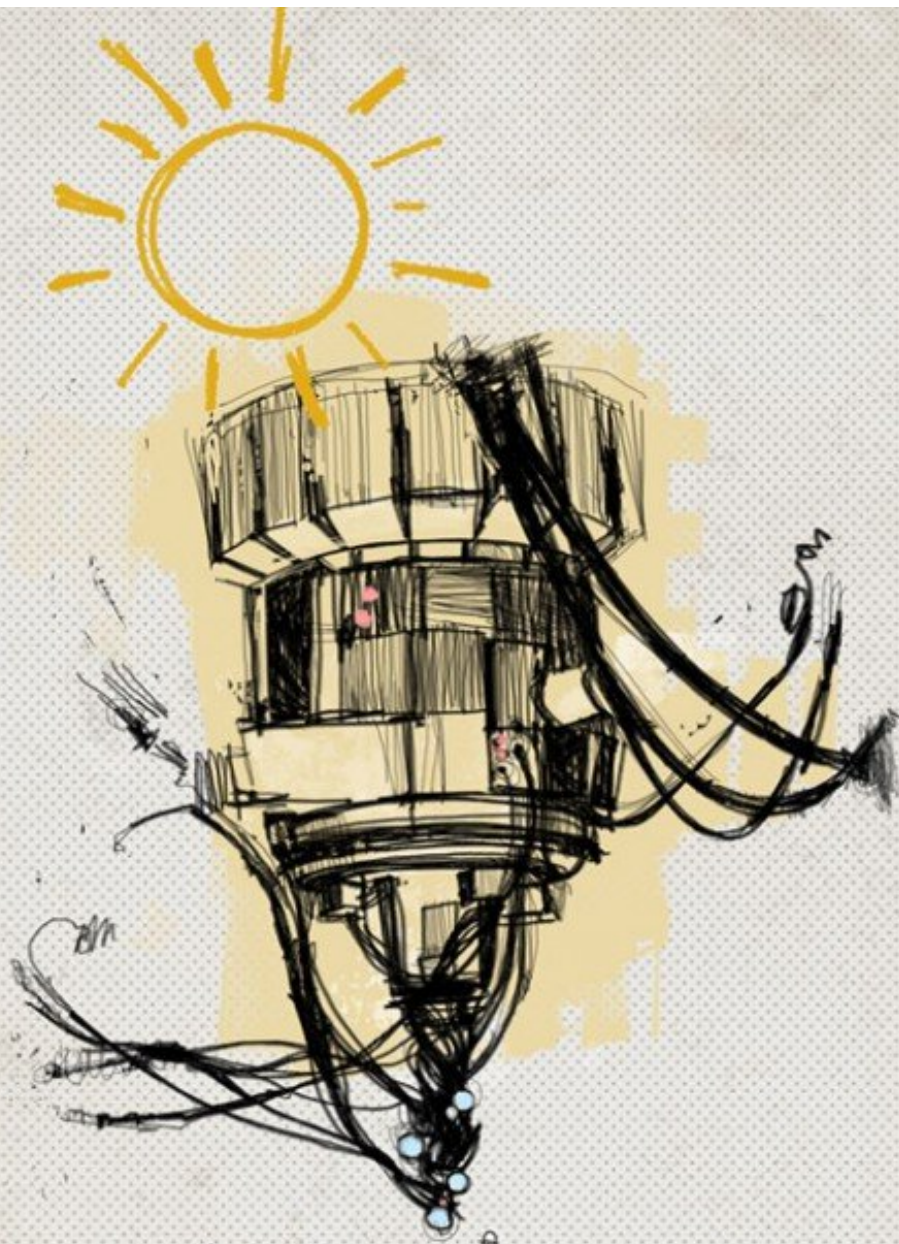


TAKES YOUR MIND

SUCKER'S LUCK

EXILE

219





TELL ME NOT IN BINART NUMBERS
LIFE IS BUT A MADMAN'S DREAM
ALL THE FROZEN TESTERS SLUMBER
AND WALLS ARE NOT WHAT THEY SEEM.





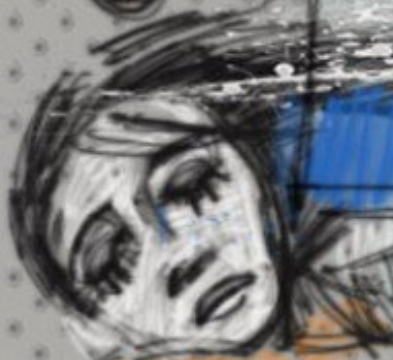




Too Many Variables

TENACITY (X)

TOP 3% = $x + 2\sigma$
19.2% = $x + \sigma$
36% = $x + 1/2\sigma$



THE BELL INVITES

HEAR THE TURRET

FOR IT IS KNELL

THAT SUMMONS

TO HEAVEN

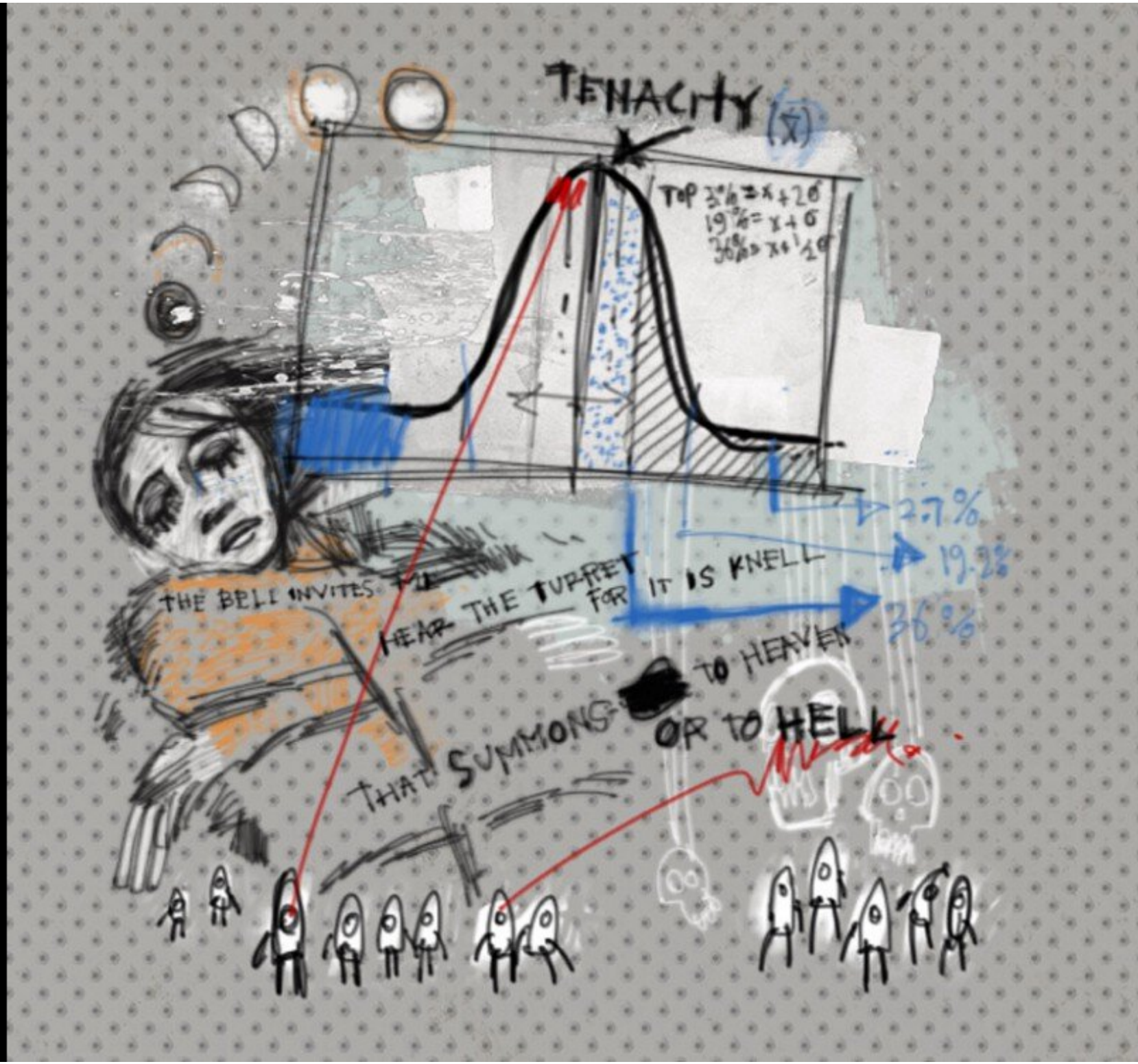
OR TO HELL



27%

19.2%

36%





all i want is
a life without
PAIN



said
God







one two three four
five six seven eight
nine ten eleven
twelve thirteen fourteen
fifteen sixteen
seventeen eighteen
nineteen twenty
twenty one
twenty two
twenty three
twenty four
twenty five
twenty six
twenty seven
twenty eight
twenty nine
thirty

Emergency
Priority

THE FINAL HOURS OF PORTAL 2

WRITTEN BY GEOFF KEIGHLEY
DESIGNED BY JOE ZEFF DESIGN

PHOTO OF JONATHAN COULTON BY DALE MAY
PORTRAIT PHOTOGRAPHS BY JOHN KEATLEY
PANORAMA PHOTOGRAPHY BY BRADFORD BOHONUS
PHOTO OF GEOFF KEIGHLEY BY JILL GREENBERG
INTERACTIVE PORTAL DIAGRAM CREATED BY GSKINNER.COM
INTERACTIVE POLLS CREATED BY SITEBASE
CHET & ERIK ANIMATED ILLUSTRATION BY EDDIE GUY
MENU MUSIC FROM THE PORTAL 2 SOUNDTRACK. © VALVE CORPORATION

APERTURE SCIENCE PORTAL GUN PROP COURTESY OF STEVE DENGLER,
WHO PURCHASED THE GUN TO SUPPORT CHILD'S PLAY CHARITY.
PROP DESIGNED BY HARRISON KRIX/VOLPIN PROPS.

VERY SPECIAL THANKS TO
GABE NEWELL
DOUG LOMBARDI
CHET FALISZEK

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Joe Zeff Design

DEDICATED TO THE INSPIRING
CREATIVE MINDS AT VALVE



Michael Abrash
Mike Ambinder
Max Aristov
Ricardo Ariza
Gautam Babbar
Ted Backman
William Bacon
Jeff Ballinger
Ken Banks
Aaron Barber
Jeep Barnett
John Bartkiw
Mark Behm
Mike Belzer
Jeremy Bennett
Dan Berger
Yahn Bernier

SCROLL TEXT FOR MORE