



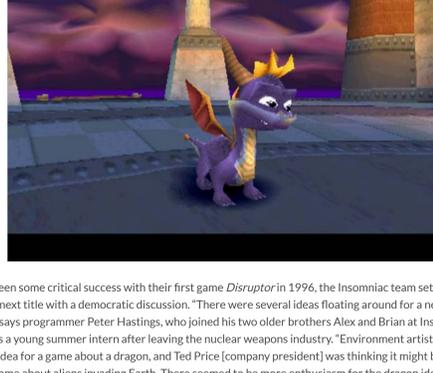
## Behind the scenes of Spyro The Dragon

LATEST ISSUE

**When the world thought it couldn't handle another platformer with an anthropomorphic lead, Spyro the Dragon flew into our lives, breathing new fire into the genre**

**Back in the mists of the late nineties, the platforming genre saw a continuing rise in popularity as developers utilised the possibilities of the fabled 'third dimension'.** By 1998, the console wars were well under way, with Sony's PlayStation and the Nintendo 64 as the front runners. Sony and Naughty Dog had already seen worldwide success with two *Crash Bandicoot* games, a flagship series that competed with the landmark 3D platformer *Super Mario 64* and cemented Crash as an unofficial mascot of Sony's grey wonder box.

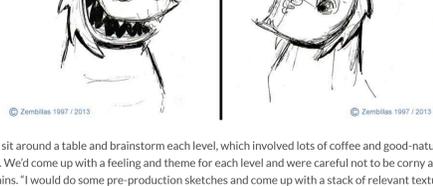
But hot on the heels of the moustachioed plumber and mischievous marsupial was a cocky purple dragon by the name of Spyro, created by relative newcomers Insomniac Games. *Spyro the Dragon* put a new spin on explorative platforming through large panoramic worlds in which players could glide great distances, fight enemies with fire breath and horn charges, or complete multiple goals simultaneously such as freeing dragons, recovering stolen dragon eggs, collecting keys and amassing gems.



Having seen some critical success with their first game *Disruptor* in 1996, the Insomniac team set a course for their next title with a democratic discussion. "There were several ideas floating around for a new project," says summer intern Peter Hastings, who joined his two older brothers Alex and Brian at Insomniac Games as a young summer intern after leaving the nuclear weapons industry. "Environment artist Craig Stitt had this idea for a game about a dragon, and Ted Price [company president] was thinking it might be cool to make a game about aliens invading Earth. There seemed to be more enthusiasm for the dragon idea."

Hastings reveals that Ted Price's suggestion was eventually realised as *Resistance: Fall of Man* on PS3. Although the team was set on their idea, Spyro's eventual realisation as a character went through several stages "Spyro was originally named Pete," Hastings reveals, "but it didn't take long for our publisher's lawyers to tell us that Disney had a movie called *Pete's Dragon*, and there was no way that was going to fly. The name 'Pyro the Dragon' was briefly considered, but sounded a little too mature, so we went to Spyro."

But alongside a loveable character, intriguing game worlds were needed. Often platformers' environments are interchangeable with the obligatory 'fire world', 'ice world', 'jungle world' set-up. But *Spyro* was different, introducing major themes such as Artisans, Peace Keepers, Magic Crafters and Machinists. The main instigator behind this was Kirsten van Schreven, an artist with a background in fine art and animation. "I was pretty much given full creative reign by Ted Price who was a most delightful, patient and charming boss," she reveals, before detailing the process of design undertaken by the team.



"We'd all sit around a table and brainstorm each level, which involved lots of coffee and good-natured shouting. We'd come up with a feeling and theme for each level and were careful not to be corny about it," she explains. "I would do some pre-production sketches and come up with a stack of relevant textures for each level. I would always bring a sketchbook to the meetings and draw ideas while the crew discussed the level in question. Gameplay also evolved out of some of these designs and so the production design and gameplay meetings were all rolled into one."

Although the worlds had a fairy tale-esque quality running throughout, some of Kirsten's design influences came from cinema. "I'm a bit of a film nerd" she proudly states, revealing the cinematic classics that inspired particular stages. "The Beast Makers hub was inspired by Kurtz's compound in *Apocalypse Now*. Some levels were borderline *Indiana Jones* and there was also a bit of *Star Wars* (Cliff Town etc) thrown in there for good measure."

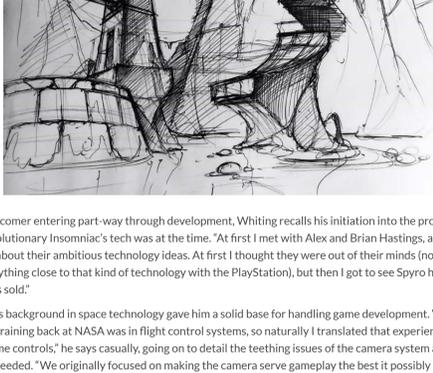
*Spyro's* worlds were designed to be panoramic, allowing for open player exploration. But in order to make this happen, a solid game engine and a lot of custom coding was required, as Peter Hastings explains. "The new technology back then just barely had the power to render in 3D, and everything had to be written with maximum efficiency in mind. I recall Alex [Hastings] saying (or bragging, perhaps?) that about 80% of the code being run in *Spyro* was hand-written assembly code. What didn't get written in assembly was written in C, which is slower than assembly but still orders of magnitude faster and harder to use than modern languages like C#." Hastings is quick to emphasise just how much coding has changed since then. "To a programmer starting to work in games today, the industry back then would be almost unrecognisable."



This in-depth approach to development allowed the team to introduce new takes on player exploration. "In *Spyro* we made the unorthodox decision to give the player a completely unrestricted ability to glide," Hastings explains. "Spyro can jump in the air and glide without any artificial timer restricting how far he can go. You could glide all the way across the level if you found a high enough point to start from. On the face of it this made the levels harder to design since Spyro's movement is so much less bounded. But it also gave Spyro something he could do that no other platformer could." Hastings then tells us how this element created new experiences for both designer and player, and how this could create a fun experience in-game.

"It became possible to design levels with high peaks, where the player was expected to look out across the entire level and spot distant secret areas to glide to. This led to another subtle but important design decision; the sparkle of a gem in *Spyro* can be seen at any distance. Even if the gem is so far away that it would be smaller than a single pixel on your television screen, the game still draws a lens flare sparkle over its position. This is because there are some gems that we really did intend you to fly halfway across the level to retrieve!"

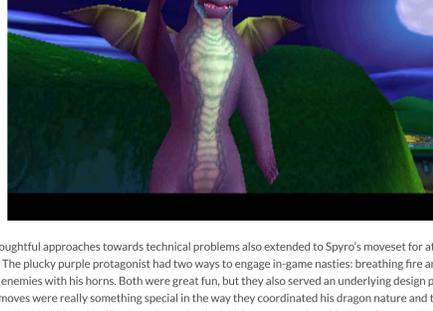
But for large terrain traversal, *Spyro's* control system needed to be accurate and fluid. Insomniac did a bang-up job, with *Spyro* boasting some of the smoothest controls among platformers at the time. And like other developmental decisions, the explanation behind this achievement is unorthodox. "We hired a rocket scientist from NASA," Hastings says. "No, really. Matt Whiting programmed a great deal of the control and camera code, and the smoothness of the controls is owed to his ability to give us a great deal of matrix algebra into the tiny slice of computational time that the PlayStation could give us."



As a newcomer entering part-way through development, Whiting recalls his initiation into the project and how revolutionary Insomniac's tech was at the time. "At first I met with Alex and Brian Hastings, and they told me about their ambitious technology ideas. At first I thought they were out of their minds (nobody was doing anything close to that kind of technology with the PlayStation), but then I got to see *Spyro* himself, and I was sold."

Whiting's background in space technology gave him a solid base for handling game development. "My original training back at NASA was in flight control systems, so naturally I translated that experience into videogame controls," he says casually, going on to detail the teething issues of the camera system and the tweaks needed. "We originally focused on making the camera serve gameplay the best it possibly could be. This meant aggressively trying to stay lined up with the direction *Spyro* was going and showing the player what lay ahead. Play-testing showed us that the fast-paced, dynamic motion of the camera as it tried to keep up with *Spyro's* acrobatics was causing some players to feel seasick, so we dialled it back in several key areas to find just the right balance of playability. One example in particular was the up-and-down motion of the camera following *Spyro* as he jumped. The tilt up and then back down feels very much like a boat riding on waves, and has the same effect: seasickness. By allowing *Spyro* to move up and down a little on screen, the camera was able to remain steady while still showing what lay ahead."

Due to the design elements of constant camera adjustments and higher freedoms of player movement within an open space, Insomniac faced a huge challenge when it came to rendering graphics in the world as players explored and uncovered it. Luckily, they had a fresh solution on the problem, as Hastings explained. "There were actually two separate worlds being rendered in a *Spyro* level. Each level had a detailed version built out of textured polygons, and a much more impressionistic, simple version built out of fast-rendering untextured polygons. For anything near the player, the detailed world was drawn, but for distant objects the simple version was used. This 'Level-Of-Detail' system is now used by pretty much every game on the planet, but at the time it was quite new."



These thoughtful approaches towards technical problems also extended to *Spyro's* moveset for attacking enemies. The plucky purple protagonist had two ways to engage in-game nasties: breathing fire and charging enemies with his horns. Both were great fun, but they also served an underlying design purpose. "*Spyro's* moves were really something special in the way they coordinated his dragon nature and the game design," explains Whiting, detailing how these simple decisions came to be with the guidance of Mark Cerny – an industry veteran who has worked on numerous games and was lead architect for the PS4's hardware.

"He has a really fantastic, almost mathematical approach to design. He identified the need for a second attack move along with specific enemy vulnerabilities to create the depth we needed for a combat-focused platformer. From that, the charge move was born." This introduction meant players had to switch tactics when facing different enemies, but without having to remember a huge moveset. For example, some enemies would be impervious to fire by using shields or armour, but that couldn't stop players from bashing them to bits with *Spyro's* horn charge.

And while *Spyro the Dragon's* new approaches in graphical rendering, level traversal and attack options all added to the fun, an undeniably crucial element of the game's atmosphere came from the soundtrack created by Stewart Copeland: co-founder and drummer for world famous rock band The Police. "I would do roughly three songs a day," reveals mad-man Copeland, "then the next day I'd go back and tart them up a little bit." Although the deadline was tight, Copeland saw this restriction as a positive. "It was somewhat daunting to look at the deadline of music that they needed, which was like a double album of backing tracks, but that has never worried me so much because I've learned that there are times when you have to produce a lot of music fleetingly, that by some strange anomaly comes out as being profound."



In order to create a great soundtrack Copeland was given access to early builds of *Spyro*. "They gave me very early versions of the levels to play with and I had a lot of fun playing with it. And immediately, writing music for it was welling up. It just seemed like a real natural fit." Of course, playing through the game added an extra layer of challenge to his role as composer. "Some of the levels I couldn't beat and they would have to send me cheats. Of course they got to make me invincible. I could turn on that cheat. But then I'd still have to jump over the course and get to that f\*\*\*ing landing zone there. No matter how invincible you are, you still gotta make the jump!"

And although dynamic soundtracks were still a pipe dream for game developers and composers, Copeland notes the odd phenomenon of pre-recorded music syncing with unscripted action. "The weird thing about the soundtrack is that the music just tinkles along according to its own agenda but somehow seems to match the gameplay by some miracle. You know, just at that point the riff changes into the minor key and you think 'oh s\*\*t'! It becomes a plot point: 'I was happy, now I'm sad.'" It's for reasons like this that Copeland reflects positively on his hard work. "They're some of the best tunes I ever wrote. I am extremely proud of that and my heart is full of love for those that got the same buzz from it that I did."

Even though the work was strenuous for everyone involved, there was a sense of camaraderie, especially in the small Insomniac office. "The atmosphere was very much like a start-up." Hastings nostalgically recalls. "Everyone was extremely close since we were working crazy hours on the project, eating lunches and often dinners together at the office. We also played an insane amount of *Mario Kart 64* and *StarCraft*." Van Schreven also remembers the humble nature of the industry back then, and its technology. "It was exciting as it was the very early days of videogames and the crew was very small. I still remember Sony bringing in the very first PlayStation, which could only be used for half an hour at a time or it would overheat and spontaneously combust!"



But it wasn't just other members of Insomniac that shared in the good times. The team also had a close relationship with Naughty Dog, the developers of the hugely successful PlayStation platformer *Crash Bandicoot*. "In the very early days of the studio, we worked in the same building right across the hall from each other. We shared some of our technology on later games as well, and people from each office would play builds of the other's games when they got close to shipping." This relationship can be discovered in-game, as it contains an unlockable demo of *Crash Bandicoot 3: Warped*, and vice versa. "I don't know how the decision to include the demos got started, but I wouldn't be surprised if it just came up over lunch one day."

On release, *Spyro the Dragon* overall scored well with critics and was a huge commercial success, selling over five million copies, forever cementing its place in videogame history as one of the great 3D platformers while spawning a franchise in the process. As a young university student, the feedback on release was of great importance to Hastings. "I think I read every magazine that published a review of *Spyro*. Every website, too!" He recalls, "I cared enough about the project that negative, or even just mixed reviews rankled. Over time I've learned that it's important to keep some distance between the games that I make and my own sense of self-worth. But back then I was letting the reception of my work define my existence." But regardless of reviews, Hastings still has fond memories of his entry into the business. "I couldn't have asked for a better introduction to the videogames industry than working on *Spyro*, or a better team to work with."

Since the Insomniac trilogy on PlayStation – *Spyro* has seen a range of games of hugely varying quality, with *Spyro* himself eventually being relegated to being part of the Skylanders franchise. Of course, many have speculated over a return to *Spyro* with Insomniac at the helm. And with the team having given *Ratchet & Clank* the treatment this year, many still have their hopes up. When broaching this topic, Hastings's answer is simple. "I'd definitely buy it!" Copeland backs up Hastings' response whilst referring to his current *Classical* work with a little glib humour. "If I got a call for some new version of *Spyro*, I would love that. I would totally jump all over that, right in-between writing my great majestic symphonic works! Aw, what a great other side of the coin that *Spyro* game would be."

In the age of reboots, perhaps there could be a chance for *Spyro* to proudly soar again in an open-world platformer with the quality that fans remember him fondly for. But for old gamers and newcomers alike, *Spyro* still holds the lasting legacy of a great platforming trilogy.

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