



■ Exhibiting cartoon-quality animation, *Dragon's Lair* was a very exciting prospect in the arcades of the early-Eighties.

ENTER THE DRAGON'S LAIR

2008 marks 25 years since groundbreaking laserdisc game *Dragon's Lair* arrived in arcades. To celebrate, United Coders is bringing the classic title to DS with a brand-new approach to development. *games™* explores the phenomenon

I STILL RECALL being blown away by the fantastic visuals *Dragon's Lair* offered, and I still remember the day when the junk-food places first powered up the *Dragon's Lair* arcade. It remained a major crowd attraction for as long as I can remember, and I spent all my pocket money trying to rescue Princess Daphne. I failed." Those are the memories of Hans Olsen, lead programmer of the United Coders team behind the DS version of *Dragon's Lair*. "When it was released in 1983 it was ahead of its time. The laserdisc technology was in its infancy. What made it special back then – and even today – are the visuals. The original creator did a fantastic job on the visuals, which still impress 25 years on."

The storyline may be familiar – bumbling hero overcomes the odds to defeat an evil monster and rescue the fair maiden – but Hans and his team are bringing the game to a new audience with the blessings and co-operation of original creators Don Bluth, Gary Goldman, Rick Dyer and John Pomeroy. So, why did Olsen choose to convert this particular title? "Although I would like to believe that I have grown up (my wife begs to differ), I never forgot about *Dragon's Lair*. For as long as I can remember, it has been a dream of mine to get involved in a *Dragon's Lair* game. Granted, it is now available on many platforms – there are about 50 different versions on a variety of platforms and consoles – yet no release was ever arcade perfect. I approached *Dragon's Lair* LLC (the original creators) and Digital Leisure (co-owners of the intellectual property) with a proposal to develop a version for Nintendo DS less than a year ago. I grabbed the opportunity to get United Coders involved in the project," says Olsen.

To ensure the accuracy and playability of the conversion, a special group was formed. The *Dragon's Lair* Advisory Panel, consists of die-hard fans who live and breathe the game. Their love for the game is expressed in many ways – from Alan Pinion's arcade

machine with a marquee signed by the four creators to Bruno Bardi's website www.dragonslairfans.com. Another key player is Shane R Monroe, famous for his RetroGaming Radio shows. Technical director Dave Hallock knows the game inside out, having reverse-engineered the original ROMs to fix flaws. A second team, the QA (quality assurance) group, was brought in to test the game and provide all-important feedback on bugs and problems.

I HAVE LONG DREAMED OF GETTING INVOLVED WITH A DRAGON'S LAIR GAME HANS OLSEN

Olsen explains why the Panel has been important: "The arcade version of *Dragon's Lair* released in North America in 1983 differed from the European version, and even in Europe, some arcades played differently. For example, difficulty modes and DIP switches in Europe were different from the North American counterpart. Also, in Europe there was an extra scene you could play where Dirk

crosses a drawbridge but falls through and is attacked by tentacles. This scene was never played in the North American version. In fact, when the game was originally released back in 1983 the actual laserdisc had quite a lot of video footage that was completed but never used in the final version. *Dragon's Lair* as a game has roughly 40 scenes that are playable depending on how you count them; eight of these scenes are

reversed counterparts, and some scenes, like the falling platform, are played multiple times during a single gameplay session."

As another long-term fan of *Dragon's Lair* and its sci-fi follow-up *Space Ace*, Shane R Monroe **CONTINUED >**



HANS OLSEN
Lead programmer

■ makes his feelings clear. "When I heard that *Dragon's Lair* was coming to my favourite console, the DS, I knew I had to be involved – or at least expose the product for the half-assed port it would surely be. I contacted the main programmer, offered my help for free if the game would be accurate. I provided a lot of early assistance with sound effects, move accuracy and so on, as well as helping iron out some technical details. Once the advisory team was created I was, of course, part of that. I think it is the smartest thing any game developer has done. Just like with movie franchises, people become very close to certain gaming properties. To assume that your team – that probably never even finished the original game in the arcade (or wherever) – knows more than the fans about what sort of game it should be... well, you're asking for fan backlash.

Dragon's Lair has been done to death a hundred times, but never to the satisfaction of the die-hard fans, and that's tragic. Unfortunately, the term 'close enough' has been used a bit too freely when discussing classic gaming ports on home consoles (I'm looking at the Activision collection for GBA specifically). Sadly, the 'not even close enough' ports like those found in the TV game toys have proved that, despite inaccuracies (sometimes larger-than-life ones), people will buy on name alone – and that is even more tragic." Monroe looks back to the original arcade machine. "Our local 7-11 convenience store got one, then it was bye-bye paper route money. I ended up dumping every profit I made into that machine. Understand that, while I spent a fortune on *Dragon's Lair*, I still dreamed about *Space Ace* long after it disappeared from the arcades."

■■■ **THE QA TEAM** is spread worldwide, meeting online through a special forum to discuss bugs and problems. The diverse group includes homebrew developers, podcast creators, writers and gamers, brought together by their love of Nintendo DS. *Dragon's Lair* enthusiast Alan Pinion describes the lengths to which he went to ensure that the score added up properly. "I keep a notebook with me to jot down anything that stands out while I am playing. I have also been doing the same when I play my arcade game. Since we are trying to get the game as arcade-perfect as possible, whenever a discrepancy between the two was found I let Hans and the forum know. When the working scoreboard was added to the DS beta, I paused the game between every move and calculated how many points the move scored. Scoring in the original *Dragon's Lair* was odd. For example, the Mausoleum/Crypt Creeps scene with Dirk's sword hanging from his left hip gives you 915 points for pressing the sword button correctly for the second move. But the mirror-reverse scene with Dirk's sword hanging from his right hip gives you 2,191 for the same move. When I had finished noting every scoring move, I discovered that the scoring was completely off. I found only two moves that gave the wrong score. I'm really glad the pause feature was

added. It would have taken me a lot longer to verify the scoring without it."

This sort of dedication and attention to detail is what testers need. In the earliest alpha version, just four scenes were playable. As time went on, that number increased and the Advisory Panel kept a careful eye on the timing of moves. This was particularly important when some scenes added to the alpha build had a mixture of moves from the easy and hard difficulty levels, leading to confusion. With the move to beta, more features were added: a score counter based on LEDs, and the choice between the two modes. Scene names derived from the original specifications have been added for authenticity. The proper order of the scenes gradually emerged, too, having gone from being a set order to a random choice and back again. A pause button helped the testers immensely. One funny moment occurred when someone guessed the file name for the next build and tried to download it before Hans had finished uploading it...



SHANE R. MONROE
Associate producer

DRAGON'S LAIR HAS NEVER BEEN REPEATED TO THE SATISFACTION OF THE FANS

SHANE R. MONROE

Like all the testers, Monroe put in a lot of time, making videos of the Daphne emulation to compare with the DS and checking for bugs. "Probably my favourite bug had to do with the timing of moves on Pot Of Gold, the screen where Dirk has to evade the Lizard King," he says. "I remember playing the original arcade game and drawing the moves out a long time (namely when the King goes to hit you on the head with his mace) and it would scare the crap out of my friend who would watch me play. He couldn't believe I didn't move sooner – and he was sure I'd be brained. The DS version didn't offer the full window of time the moves allowed **CONTINUED >**



■ An original background animation painting, on display at the Game On exhibition in 2006.



■ The opening shot of Mordroc's Castle, where the action takes place.



■ Less than a year ago an assembly of experts including the game's original creators and a hand-picked selection of *Dragon's Lair* fans started up what became known as the *Dragon's Lair* Advisory Panel. The team worked tirelessly to make the DS version as arcade-perfect as possible.



Testing Times

So, where did the testers actually test the game? The answers may surprise you...



"At work mainly. People ask me why my DS is sitting there running cartoons all day"

Chris Ahchay



"My only sanctuary is the bedroom when the kids are at school, I like to lie down on the bed and relax with my DS"

Steve Drysdale



"I test it when I manage to pull one of my co-workers away from their DS at lunch. I got some odd looks from people at my office, but they approved once they knew what I was up to"

Warren Ondras



"Anywhere: work, front room, tram, I even get cramp in my legs if I sit on the loo for too long"

Andy Pelton



"Whenever I get a chance: at work, in the car during lunch, when my son is taking a nap, on a five-hour road trip to Mississippi. One night, at around 1am, I was testing the game with my headphones on. My wife, half-asleep, rolled over and asked me what I was doing. I told her I was working"

Alan Pinion



"Relaxing on the sofa, or in the study while I'm waiting for my PC to do something. Pretty much wherever I am at the time (and yes, that does include the toilet). I end up isolating myself from the rest of the world, to the displeasure of my wife"

Craig Train

in the original, so I recorded a video of me playing it on Daphne, and they couldn't believe it. Needless to say, it's in the game now."

Since the game already existed, the testers had to approach things differently. As well as searching for bugs and glitches, the players had to try the unexpected to see how the game reacted. As Monroe continues: "I've played the scenes over and over again, played alternate methods, tried to die even in the odd ways that most people haven't seen. For a simple game, the amount of accuracy testing is enormous because the fans will expect no less than perfection this time. I'm pleased to say that this has been the most accurate version of *Dragon's Lair* short of an actual emulator like Daphne. I played so much of this game at the arcade and on Daphne that I can do the moves and timing in my sleep, which means I was nit-picking a lot of the time, making damned sure every scene was as accurate as I could possibly make it."

DIRK'S SHARP SWORD would have come in handy for cutting the immense amount of video data down to size. Initially, the HD-DVD version was used as the source, but during the development process the decision was taken to go back to the original laserdisc. With a storage capacity equivalent to between 30 and 50GB of uncompressed data, there was a real challenge to get the 20 minutes of animation sequences onto DS at a high quality. Olsen explains: "The largest cartridge size currently available from Nintendo is 128MB. We spent the best part of two months experimenting with the original video and audio to see how much we could compress and how to fit every single video frame (some 30,000) onto a Nintendo cartridge. We did dozens of prototypes and experimented with various video formats and codecs."

Dragon's Lair panellist Warren Ondras has done this sort of video transfer before. "My main interest has turned out to be making archival-quality digital transfers from crusty old analogue laserdiscs, so they can be enjoyed long after they have rotted to pieces. I don't do video work professionally, but I've carved out a niche in this area. I've had the opportunity to help out with the creation of the 2002 *Dragon's Lair* laserdisc re-issue (one of the last laserdiscs ever produced), and the laserdisc video transfer for 2005's *Thayer's Quest* DVD from Digital Leisure." Several members of the testing team knew of Ondras's work and suggested he get involved. Ondras puts his interest in the machines down to the ease of availability on eBay, and now has a large collection of the discs, boards, players and artwork for various machines including *Cobra Command*. He admits, "I actually only played *Dragon's Lair* once back in 1983. It was too expensive for me as a kid of 14. 50 cents went a



Once *Dragon's Lair DS* is complete, both *Space Ace* and *Dragon's Lair II* are expected to follow, possibly as a double pack. The publisher is naturally waiting to see whether or not *Dragon's Lair* is a success first.



IT'S SAD TO SEE IT GO, BUT IT'S ALWAYS SATISFYING TO SEE IT ON THE SHELVES

HANS OLSEN

lot further on other games. But it was quite a marvel to look at, that's for sure."

Dirk now faces a dilemma before he even starts his quest: the choice of two paths, the Arcade mode or the new Director's Cut. Arcade mode caters for fans of the original and is controlled solely with the D-pad, and the A-button to swing Dirk's sword. The scenes play out in a semi-random order, just like the original arcade machine. The new Director's Cut mode adds a 'journey' through a special map of the castle that appears on the second screen, and the order of the scenes encountered is different. "In Director's Cut mode," explains Olsen, "you have more video, an extra scene, more lives [five in total], and a unique scrolling castle feature. In this mode the player can use the D-pad to navigate Dirk, or even the stylus to tap on the bottom screen to invoke an action. In addition, the Rumble Pak shakes the Nintendo DS when the player is supposed to make a move. Most new players are frustrated because they are not sure when to make a move, and in which direction to move. From a player perspective, when in doubt, if the Nintendo DS shakes it's time to take action or you die. You also have voice recognition, meaning you can sit back, relax, and talk to the Nintendo DS to control Dirk throughout the adventure."



BRUNO BIORDI
Dragon's Lair Advisor



In It For The Money?

IS DIRK REALLY just trying to save Daphne? There's the temptation of the gold and jewels stacked up in the dragon's lair itself, but one scene puts a new perspective on Dirk's motives. In *Pot Of Gold*, Dirk has to dodge the Lizard King to retrieve his sword, which has become attached to a moving pot of gold. Having disposed of the lizard, Dirk takes a few moments to fill his backpack with coins. The later games also feature gold that Dirk can grab for bonus points. And in *Dragon's Lair 3D*, treasure and gold coins are often found just lying around the castle – prompting Daphne (through the magic amulet) to tell Dirk off for picking up treasure while she is still in peril.

■ Players can choose to play through Arcade mode or the new Director's Cut mode. Fans of the original game choosing Arcade mode will control the game with just the D-pad and the A-button and will have only three lives, while Director's Cut mode will bring many new unique features including extra lives.

Emerging from the darkness of the castle and into the light, development has taken a total of six months. The first two months were spent experimenting with video formats and compression algorithms. Over the next four months the game gradually built up to the final release candidate submitted to Nintendo for approval. "I have a background writing games on C64, Amstrad CPC and Amiga and Atari ST, and the development process is not that different," says Olsen. "It's like learning to ride a bicycle: once you learn your way around the development tools, the strengths and weaknesses of the hardware, writing games on Nintendo DS is similar to most other platforms. Mind you, if you've only done games on PC, Xbox or PlayStation, there is a lot to learn. On Nintendo DS, memory and space on the cartridge is sparse, and every byte counts."

Now that the whole process is over, Olsen looks back on the development. "The best moment was, without doubt, when we did our first playable alpha version, which featured only four playable scenes. It looked and played amazingly, and the feedback from the Advisory Panel and the QA team was amazing. We could have finished the game a little faster, but it was critical to us that we delivered a state-of-the-art product with no compromises on quality. The worst moment is undoubtedly the day we submitted the final build to Nintendo and realised we had reached the end of the road. The game is done, playable, and enters production and you have this empty feeling inside. You are proud of completing the game, but also sad to see it go. But it's always satisfying to see it on the shelves."



Would The Real Sequel Please Stand Up?

WITH THE limited memory of 8-bit machines, Software Projects could not squeeze all the scenes of the original arcade game into its conversions. This resulted in *Escape From Singe's Castle*, not an official sequel but a further collection of eight games based on the arcade scenes including Boulder Alley and the Throne Room. The story saw Daphne abducted

by a shape-shifter shortly after Dirk had rescued her from Singe.

The game was also split into two instalments, over multiple floppy disks, on 16-bit machines. *Escape From Singe's Castle* featured optional 'helper' arrows to guide inexperienced players.

The proper arcade sequel, *Dragon's Lair II: Time Warp*, was released in 1990. This had been

in development at the same time as the closely related *Space Ace*, but work had stopped in 1984 due to the unreliability of the laserdisc machines. *Time Warp* was ported to many of the emerging CD-based formats – the CD-I, 3DO and the Atari Jaguar CD-ROM. The third game in the series, *Dragon's Lair III: The Curse Of Mordread*, appeared on Amiga, ST and PC in 1992.



■ A sequence from *Dragon's Lair III* on the Amiga, inspired by *Alice In Wonderland*.



■ The Sloping Corridor in the Amiga *Escape From Singe's Castle*, complete with helper arrow.

Nintendo's Lair

Dragon's Lair has been released on several different Nintendo formats in the past. However, none have ever come as close to replicating the coin-op as the upcoming DS conversion. Here's why...



GAMECUBE *Dragon's Lair 3D* also leapt onto Xbox and PS2 but was met with disappointing reviews. The castle was recreated in 3D, with Dirk and the enemies in pseudo 2D, an effect that didn't always work. Gameplay is solid if repetitive, and control can be awkward at times. It's no *Prince Of Persia*, but it's worth a look for Dirk fans.



NES This was an incredibly difficult flick-screen platform game, many people never actually saw beyond the opening screen where Dirk has to cross the drawbridge while under attack from a fire-breathing dragon. The over-sized Dirk sprite is quite impressive for the hardware but spends most of its time collapsing into a pile of bones. Avoid the NES version of *Dragon's Lair* to avoid raising your blood pressure.



GAME BOY Released on the Game Boy, *Dragon's Lair: The Legend* is essentially the old Spectrum game *Rollercoaster* dressed in new clothes. Shame on you, *Elite*. This is a dull collecting game spread across repetitive single screens. Frustration will quickly set in.



SNES More platform action, but this time it was a bit more forgiving. Many argue that it borrows too much from *Castlevania*, particularly as Dirk now carries secondary weapons, like an axe. Still, there are 24 large levels to get through against tough time limits, and once again the animation of the large Dirk sprite is well done.



GAME BOY COLOR Cramming 20 different scenes with full-screen animation into such a small cartridge may sound impossible, but Digital Eclipse and Capcom managed it. The music loses some of the impact, with only a few samples used, and it is not arcade-perfect as some scenes are cut short or are missing. But, until now, this was the best way to enjoy a portable *Dragon's Lair* experience.



FORTHCOMING ATTRACTIONS

OLSEN REVEALS that United Coders has plans for more laserdisc action. "Throughout the process of developing *Dragon's Lair* for Nintendo DS, we have created a genuine laserdisc game engine, which allows us to adapt any laserdisc game to our code. Obvious games for us to work on would be *Dragon's Lair II* and the unique *Space Ace*, both of which are very similar to *Dragon's Lair* from a technology point of view." PSP and PS2 users will be pleased to hear that the original *Dragon's Lair* is also on the way to their machines, with extra features that could not fit onto the DS cartridge. "We are also very interested in porting an old retro game called *Mr Do*," continues Olsen. "I am confident we will do another DS title with a Christmas 2008 release, but don't be surprised if you also see a PSP title on the shelves with our label on it."



■ Here is a batty example of just one of Dirk's many amusing death scenes.



■ Dirk obviously did not jump out of the throne in time...