

● Paco Rodriguez, producer of *Donkey Xote*, says first-time producers should maintain a good balance between artistry, budget and the schedule





GOLD RUSH

The tumbling cost of pro-quality hardware and software means that you - yes, you! - can join the CG gold rush and create your own money-spinning feature film as we enter the Age of the 3D Animated Movie. But is it really that simple?

BY KIRA-ANNE PELICAN

The secret is out. CG feature production is not only often highly lucrative, but 3D features can now be produced on a low budget. Yes, that's right: 'low budget'. Not words frequently associated with feature film production - and yet, across Europe and beyond, there's a positive flurry of 3D activity in the independent animation sector, as artists set to work on CG features being made for €8,000 and up. Over 20 low-budget CG features are currently in production. Just as traditional American animation peaked in the 1940s, we're now in another golden era. Welcome to the Age of the 3D Animated Movie.

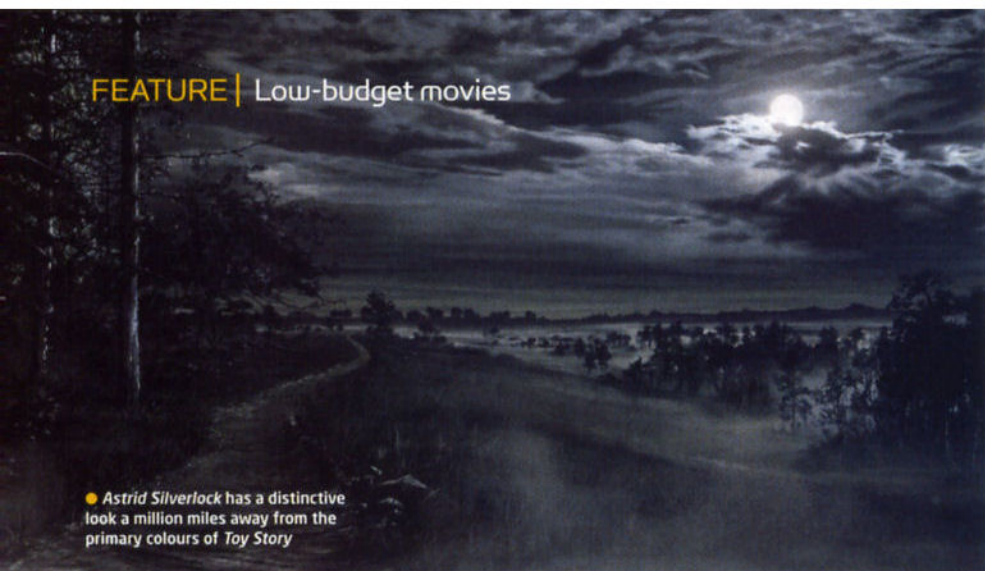
Reasons for the growth in independent CG feature production are numerous. The successes of the larger studios have proved there is a viable market for this kind of movie. *Shrek 2*, for instance, was produced for \$70m and brought in an impressive \$921m at the box office. Even more impressive was the \$100m worldwide return made on *Hoodwinked*, made for a modest \$15m.

Now that hardware and software prices have fallen so sharply, the playing field, once open only to major studios like Pixar, Disney and DreamWorks, has levelled out. In the words of writer/director John Bergin, "A low-budget animated film used to mean pencil and paper. These days it means *Maya* and digital video." 3D animation is also becoming increasingly accessible, both to independent studios and artists for hire, so there's a much larger talent pool from which producers are able to recruit.

For many new animation directors, who've seen their first success on the festival circuit with a short film, a low-budget feature is the natural step forward. For others, a background in commercial work has provided the experience to branch out on a project of their own. "We always had a vocation of telling our own stories and being the creators of our own shows," says Raul Garcia, director of forthcoming Spanish features *Astroschool* and *Noah's Lark*. "Providing animation services is a great way to gain experience and build a reputation, but at the end of the day you long for being something more than a hand for hire. Our studio is divided between providing services and working on our own productions. That way we have the perfect formula to grow as a company and as artists." ▶

● *Donkey Xote* is an ambitious Spanish production that is making the most of its limited budget





● *Astrid Silverlock* has a distinctive look a million miles away from the primary colours of *Toy Story*

In the world of CG feature film production, low-budget tends to mean under €10 million, and most European productions cluster around the €6 million mark (see 'How much does it cost?', page 47). "The majority of European features are looking for European theatrical distribution and revenues from pay TV," explains Robert Rhodin, president of White Shark Film, currently in pre-production on the animated Viking movie, *Astrid Silverlock*. "For a budget under €10m, the money is easy to recoup. Going over €10m needs a US distribution deal." And that's far harder to come by.



"A low-budget animated film used to mean pencil and paper; these days it means Maya and digital video. I'm using narration instead of lip-synch and depth map shadows instead of global illumination"

JOHN BERGIN, WRITER/DIRECTOR AND ANIMATOR, FROM *INSIDE*

Getting a distribution deal is often the key to raising finance, and the first challenge in producing any independent film. With banks becoming increasingly cautious about lending money, and international sales and pre-sales becoming less lucrative sources of revenue than in the past, there's an increasing reliance on 'soft money' from tax shelter funds and government subsidies.

A typical European production might raise finances as a combination of co-production deals with other countries, government departments and local subsidies, and pre-sales or minimum guarantees against the likely revenues in individual territories. Pre-sales generally aren't paid in advance but provide



● "Nine out of ten CG movies feature talking animals," says Robert Rhodin. "With *Astrid Silverlock*, we've produced something different."

guarantees of future revenues, which the producer can bank to keep production rolling.

"Packaging is the most important part of raising finance," stresses Rhodin. "You first need to get the attention of your investors, then they want to know who's behind the film - the production people, the director and the talent. They also want to know that you're working with a fresh idea." Tony Luke, director of the British animated feature *Dominator X*, which has been covered in *3D World's* Production Diary, adds: "The trouble with getting low-budget 3D financed properly is that the movie finance industry still tends to base its estimates on the costs involved with physical 35mm film. I was annoyed recently when one industry individual told me that what we were doing was impossible on a low budget. It should be noted that he'd had absolutely no production experience whatsoever, never mind working in 3D! My advice to everyone is: if you know it can be done, get on and do it, and prove the naysayers wrong."

KEEPING COSTS DOWN

Given that hiring 3D talent is generally the major cost of CG feature production, one way of reducing budgets is through outsourcing CG work overseas. With FTP sites, teleconferencing, Skype and the internet, animators no longer need to be local. The producers of *Hoodwinked* made headlines by outsourcing work to 3D artists in the Philippines, reducing labour costs to as little as \$500 per week. Putting aside your feelings on the ethics of hiring cheap labour abroad, Robert Rhodin provides the following food for thought: "3D work on a set or character that might cost \$10,000 in Sweden would cost \$25,000 in the UK, \$50,000 in the US and a mere \$3-4,000 in China."

Wherever they're located, crew flexibility on a low-budget film is paramount. "The needs of a small animation studio require that every artist and technician be multi-talented and able to perform different functions," explains Raul Garcia, director of *Astroschool*



● To save render time on *From Inside*, John Bergin built a low-poly train for extreme long-shots and a more detailed version for everything else



● To reduce set-up and render times, Bergin created this shot mostly in *After Effects*, although some of the debris was modelled in *Maya*

HOW IS THE BUDGET DIVIDED? | A breakdown of where the money is spent on a typical low-budget production: White Shark Film's Viking feature, *Astrid Silverlock*, is budgeted at €6m



Team costs €2.42m (40% of total budget)
 Team costs include 12 modellers, ten animators, two lighting TDs, two composers and three supervisors, as well as the producer, director and creative director. "We advertised for interested artists on CGtalk.com and got around 200 responses," says executive producer Robert Rhodin. "From those, we picked 30 individuals and companies from across the world. We gave them each a design and test. In the end we selected two studios in China to outsource our work to. Their quality of work is comparable to that of *Shrek*"

Acting talent €0.74m (12%)
 Attaching the right talent is key to packaging a successful film and getting a distribution deal. White Shark Films is currently considering known US leads. Performers for mocap sequences have also been accounted for in the budget

Legal costs, reserve, completion bond and investor meetings €0.68m (11.3%)
 Hiring an entertainment lawyer to protect copyright and produce contracts is vital for any feature production. The reserve budget is a contingency sum for unexpected costs. A completion bond insures the investors have insurance for completion of the film

Hardware and software €1.46m (25%)
 Maya is the predominant 3D software being used on the production. Since 90 per cent of the animation will be motion-captured, this adds a sizeable sum to the hardware budget, but brings labour costs right down

Admin €0.44m (7.3%)
 Admin costs include setting up and running the studio, internet and utility bills, and insurance. (Print and ad costs are usually covered by the distribution company)

Research, script, sound and music €0.27m (4.5%)
 An expert on Vikings from the Swedish Historical Museum was hired to check the accuracy of Rhodin's 86-page script



● *Astrid Silverlock* depicts the pillaging Vikings of legend in a different light. It focuses on a daughter's quest to save her father

● To keep the budget down, this 3D CG Viking has been animated primarily through motion capture, with additional tweaks by hand





IN FOCUS | How can I make my own movie?

With three established models for getting an idea for a feature into production, your first challenge will be deciding which method is best.

If you're a great all-rounder, keen to apply yourself, going it alone could be a good option. But beware, finances are hard to come by, and distribution even rarer if you haven't made a name for yourself.

Slugging away alone at a project, day after day, may not be quite as thrilling six months into a particles nightmare as it

seemed on day one. If you're a member of an active 3D community, why not suggest a collaborative project? You won't have as much creative control, but at least you'll be able to pool resources and draw on others' expertise. Alternatively, if you come up with a great idea and are already working for a studio, why not suggest they make it? In the current climate, well-conceived 3D animated films stand a good chance of doing well at the box office. If you're going to have a shot at making one, now's the time to try.



NAME OF PRODUCTION MODEL: Lone animator
SAMPLE PROJECT: From Inside
TYPICAL BUDGET: €10,000
TYPICAL TEAM SIZE: 1
TYPICAL PRODUCTION SCHEDULE: One year
HOW THE MODEL WORKS: Often the next step for

an independent animator who has had success with a short on the festival circuit, and now wants to go it alone, these films tend to be made by one person working out of their home office. The lone animator writes the script, animates the film, composites the layers and often scores the soundtrack! Complicated shots are kept to a minimum. Funding may come from personal funds or private investors.

NAME OF PRODUCTION MODEL: Community project
SAMPLE PROJECT: The Tin Woodman of Oz
TYPICAL BUDGET: €70,000
TYPICAL TEAM SIZE: 50-100 artists working remotely
TYPICAL PRODUCTION SCHEDULE: Up to three years
HOW THE MODEL WORKS: Open to all, community projects are often made by artists using the same software, or fans drawn to similar kinds of films. Created by a global network of passionate volunteer artists, scheduling, good communication and a robust technical pipeline are key aspects in making these kinds of projects work.



NAME OF PRODUCTION MODEL: Independent studio project
SAMPLE PROJECT: Noah's Lark
TYPICAL BUDGET: Less than €10m
TYPICAL TEAM SIZE: 30-80
TYPICAL PRODUCTION SCHEDULE: Two years
HOW THE MODEL WORKS: Independent studio

projects may be a natural progression for an established commercials studio looking for the artistic fulfilment that comes with working on its own feature film. With a proven track record, indie studios stand the best chance of securing pre-sales deals, investor and local subsidy funding. Some studios use their existing pool of artists, while others outsource animation production abroad, where labour costs tend to be significantly lower.



● "The final product doesn't reflect any of the budgetary shortcomings," says Raul Garcia, director of *Noah's Lark*. "We're proud to have achieved a great movie with a high level of quality"

and *Noah's Lark*. "So even if we have around 30 animators and 20 TDs, everyone can jump from one function to the next." Locating the key people in one room and being methodical about working practices is the best pipeline there is, Garcia adds. That's all very well when staff are working on-site within a studio environment, but what happens when your artists are scattered to the four corners of the Earth?

That's just the case for the *Hash A:M* community feature, *The Tin Woodman of Oz*. Over a hundred volunteer artists have contributed to the project to date, and the creation of an efficient pipeline has been vital in avoiding the production descending into chaos, explains Martin Hash, creator of the *A:M* software and producer of the film. To facilitate production management, DotProject (www.dotproject.net) is being employed to keep track of delivery dates, costs, hours, dependencies and status. *The Tin Woodman of Oz Wiki* (a website with facilities for collaborative document authoring and management) acts as a repository for everything that has been done so far. It's a common access site for the script, work in progress, crew contacts and recruitment. The *A:M* forums have also proved invaluable for the discussion of ongoing processes and issues.

FREE ACCESS FOR ARTISTS

With project management and communication issues taken care of, the next step is to build a robust and usable technical pipeline. One of the toughest problems that arises when managing a project where files are accessed by multiple users is revision control. Large studios, which often have their own R&D teams, can spend months developing version control scripts. For those without R&D staff to hand, open-source software such as *Subversion* (<http://subversion.tigris.org>) can be the best way to go. "It keeps track of the latest models and scene files in our vast 3D database, consisting of tens of thousands of files and gigabytes of data," explains Martin Hash.



● Raul Garcia says the success of a project such as *Noah's Lark* depends on artists and TDs being proficient multitaskers

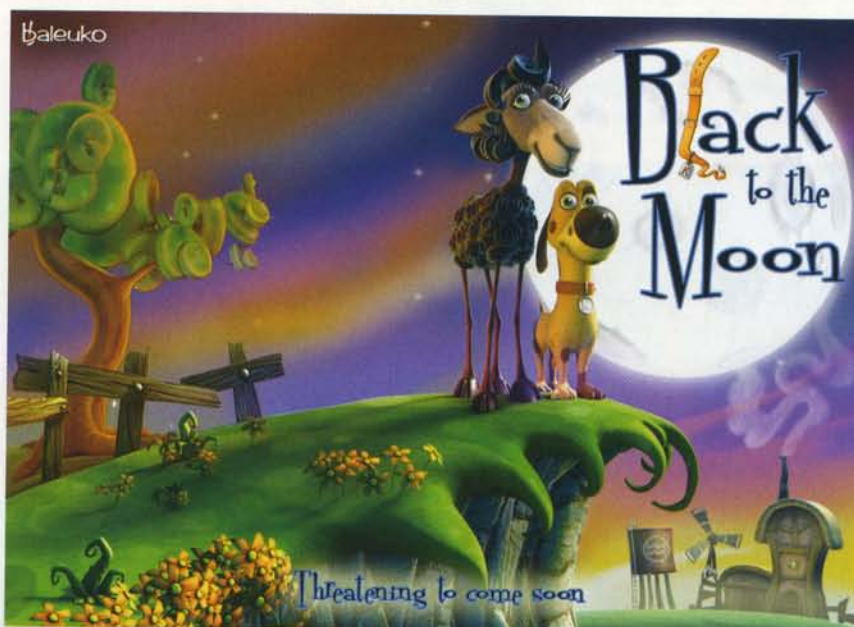
HOW MUCH DOES IT COST? | The vital statistics of a range of indie feature animations currently in production across the world. *Hoodwinked* is included for comparison

TITLE	COUNTRY OF ORIGIN	OVERALL BUDGET	NAME OF STUDIO	TEAM	LOCATION OF ARTISTS	LENGTH OF FILM	PRODUCTION TIMESCALE	PRINCIPAL SOFTWARE
From Inside	USA	€7,700*	Grinder Tool & Die	1	USA	70 mins	1 year	Maya
Tin Woodsman of Oz	USA	€77,000*	Hash Inc and the Animation: Master community	100	Across the world, working remotely	60+ mins	Approx 3 years	Animation: Master
Plumíferos	Argentina	€773,000*	Manos Digitales	30	Argentina but may also work with additional remote artists	75 mins	18 months	Blender
Dominator X	UK	€1.5m*	Renga Films	8	Three at the studio in the UK, and five working remotely across the world	90 mins	2 years	Maya, Cinema 4D, Poser
Jungo Goes Bananas	Denmark	€3.4m*	Co-production between PH3 ApS, Asta Film ApS, A.Film Latvia and Nordisk Film AS	30	Mainly in Denmark	72 mins	18 months	3ds Max, Maya
Noah's Lark	Spain	€4m*	Kandor Graphics	Around 80	Spain	85 mins	2 years	3ds Max
Black to the Moon	Spain	€4.2m	Baleuko SL	60	Spain, and possibly elsewhere	80 mins	3 years	Maya
Astrid Silverlock	Sweden	€6m	White Shark	30 so far, possibly up to 150	Primarily China	86 mins	2 years	Maya
Astroschool	Spain	€6m	Kandor Graphics	Around 80	Spain	80 mins	2 years	3ds Max
Temper the Mage	Belgium	€6.5-8m	Temper Pictures	25-35	Flanders	90 mins	18-24 months	3ds Max, Maya, MotionBuilder
Hoodwinked	USA	€12.3m*	Kanbar Animation Studio	50	Manila, Philippines and India	95 mins	3 years	3ds Max
Donkey Xote	Spain/Italy	€15m	Filmmax Animation	300	Spain and Italy	85 mins	3 years	Softimage XSI

* Currency conversion

Claudio Andaur, a *Blender* TD working on Argentinian low-budget feature *Plumíferos*, would agree. Working entirely with open-source software, from *Blender* to *Gimp*, helped cut the film's production costs considerably. *Subversion* was used to keep every artist's workstation up to date with 3D content, but they also had to plan their pipeline so artists could work on different areas of a shot without interfering with each other. "If a character needed to be UV-mapped and skinned at the same time, problems would arise because in *Blender*, all this information belongs to the mesh object. Fortunately there are several Python scripts to transfer UV maps or weight painting from two identical meshes."

On *Plumíferos*, working with open-source software has had advantages and disadvantages. "Due to the large number of scenes, we really needed some way of referencing characters so all scenes could be updated when one rig was altered. This is a feature *Blender* lacked at the time," explains Andaur. "For the first months of production we were forced to work with 'local' rigs. Fortunately *Blender* is constantly evolving, and at a very fast pace. Now this obstacle has been overcome. That's one of the greatest things about working with open-source software - you can interact with developers in a very close way and have bugs fixed and features developed continuously." So, having experienced the process of developing and creating a film in this



• Baleuko Studios, maker of *Black to the Moon*, has already made six animated features with budgets under €1m. "For us, €4m is a great budget!" says executive producer Miguel Gomez-Tejedor



● *The Tin Woodman of Oz* is a community effort run through an online project management system

manner, would Andaur recommend working with open-source software on another project? "Using free software in general was at first a little hard for artists, because most of them only had experience in proprietary software packages. That meant the initial months were mostly devoted to training people. But in the end, we benefited from close collaboration with developers, and

"We all want the gorgeous budgets of a Hollywood film, but the reality of the market makes you stand on your feet and contemplate more realistic approaches to what you can spend on an animated feature film, and what are the genuine possibilities of recouping your investment"

RAUL GARCIA, DIRECTOR, *ASTROSCHOOL* AND *NOAH'S LARK*

easy access to the tools for all people looking for training." Open-source software may be one good way to slash budgets. Another is motion capture. It may not be the most helpful method when animating talking animals, but if your feature depicts hoards of lifelike Vikings, as is the case with *Astrid Silverlock*, it can help bring costs down. Production costs can also be reduced by sticking to the maxim 'keep it simple' - one of the most straightforward lessons in low-budget animation, preached by nearly all the indie animation studios. Other useful tips include planning at the storyboard stage; opting for 2D or 2.5D, which is nearly always cheaper than 3D development; using textured layers instead of fully rendered 3D environments; and modelling only those things that the audience will see.



● Spanish studio Dibulltoon is drawing on 20 years of animation experience to make *Christopher Columbus*, with five CG artists and a team of freelancers



● Forums and a wiki provide the means for animators around the world to collaborate on the same footage without reproducing their effort

Writer/director John Bergin is creating his first animated feature, *From Inside*, for \$10,000. "It's about the same amount Robert Rodriguez spent on *El Mariachi*. Robert used step-ladders instead of camera booms..." says Bergin. "I'm using narration instead of lip-synch, fog machines instead of particle generators, and depth map shadows instead of global illumination."

While the techniques used on low-budget features might differ immensely from their Hollywood counterparts, with today's lowered hardware costs, the equipment used is often the same. "It's just that they can buy lots more render nodes with their bigger budgets," points out director Tony Luke. But that doesn't come without consequences. For some productions it means keeping render times well below 15 minutes. For others, it means begging or borrowing other studios' render farms, or rendering only at night and weekends. On the plus side, "the great thing is that with today's low costs, we're able to make *Dominator X* in full hi-def," says Luke. "That would have been financially terrifying a few years ago. Almost everyone insists on material being made in HD nowadays - it really helps with those overseas sales."

As more indie studios have access to the means of production, and with so many animated features set to flood the market, the question on everyone's lips is whether audiences are set to face CG fatigue. "That the market will soon be flooded with low-budget 3D animated features is a fact," says Robert Rhodin. "Those that stand out will have a strong story, and an original look." *The Ant Bully*, released last year, produced for \$50m, made a disappointing \$28m in the US, and only just recouped its costs at the worldwide box office. Why it failed to perform we'll never fully know, but in the eyes of many, and certainly the critics, it all came down to a disappointing script. Whether the Age of the 3D Animated Movie is set to continue will be down to the quality of individual productions and their ability to capture the hearts and minds of their audience. In the end, CG animation is just another medium for telling stories. ●

