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Jeff Lew created his *Killer
Bean* shorts using *Hash
Animation: Master*. Since then
he's moved on to top-end
apps for effects on movies
such as *The Matrix Reloaded*,
but still uses Hash's product
for his personal work

CHEAP AND CHEERFUL?

In the second part of our low-cost special, we set out to
discover what the industry thinks of sub-£500 apps. We
talk to the companies that make them, the pros that use
them – and the studios that hire them   BY MARK RAMSHAW

igh end applications from
the likes of Alias|Wavefront,
Softimage, NewTek and
Discreet form the bedrock of
the 3D industry, so it should
come as little surprise that these vendors
dominate headlines, discussion groups,
and trade shows. But consider this: high-
end, premium-priced 3D software
captures only a tiny fraction of the
overall market. The majority of
computer users aren't working on multi-
million-dollar movies effects or lavish
broadcast work, and lack the finances or
specific expertise such software requires.
A glance at data regarding company
ranking by licences sold up to 2001
(Source: the Roncarelli Report on the
Computer Animation Industry – 2001;
www.pixelnews.com) revealed that in
this respect, Caligari, publisher of
trueSpace, is the real market leader.
And Hash Inc, the fiercely
independent company
behind Animation:Master,
held the number seven spot,
out in front of both Softimage
and Alias|Wavefront. This
research shows that it's the low- and
mid-priced 3D applications, those

falling within the £100 to £500 ($150 to $750) price bracket, that really attract the users.

"There are around 15,000 seats worldwide in the high-end market, whereas our potential market is several million," points out Antoine Clappier, President and CEO of Eovia Corporation, the publisher of two key affordable product lines; *Carrara Studio* and *Amapi*.

Understandably, this translates into a massive disparity in sales. *Carrara*'s predecessor, MetaCreations' *Ray Dream Studio*, was selling 100,000 units a year, for example, and *Carrara* looks set to follow suit.

It's possible to break the user base of such applications down into two main sub-categories. At the lowest level are the hobbyists and novices, people who are taking their first steps in modelling, animation, or 3D art and who don't want to break the bank doing so. Then there's the burgeoning 'prosumer' market.

"They are professionals such as graphic designers who only occasionally need some kind of 3D solution," continues Clappier. "These are the sort of people who will choose a program like *Carrara Studio*, which is even priced to sit alongside other programs they'll be using, such as *Flash* and *Photoshop*."

While the *Carrara Studio* package targets this burgeoning 'prosumer' market, Eovia is also targeting those novices with the stripped down *Carrara 3D Basics*. The aforementioned *Hash Animation:Master* has also found much favour at this level. Company founder and owner Martin Hash says his software 'is not a tool, it's a teacher'.

"What if you just want to have fun? What if you've got some clever and creative ideas inside you trying to get out, but you can't draw? Can the computer instruct aspiring storytellers how to animate? Can it ease the burden of learning and remove some of the constraints of talent? The solution's got to be easy to use with non-intimidating documentation and interface; and inexpensive. *Animation:Master* strives to fill that goal... It doesn't sell to people in the industry, and so doesn't even compete with established market norms. In fact, the majority of *Animation:Master*'s new customers only impression of competing software is that it is hard to use."

LEARNING THE ROPES

But just how useful do beginners, graphic designers and other potential users of low- and mid-range apps find this sort of software? Can newcomers actually learn the ropes with them? And do they truly provide enough functionality to be effective in a work environment?

>>

SO WHY DO YOU USE... ANIMATION:MASTER?

JEFF LEW

AGE: 30

JOB TITLE: Creator of *Killer Bean*

PROJECTS WORKED ON:
Killer Bean (1998–2001), *The Amazing Adventures Of Spider-Man* theme park ride (1999), *X-Men* (2001), *Kung Pow* (2002), *The Matrix Reloaded* (2003)

URL: www.jefflew.com

Jeff is a self taught animator. Having started out in 1996 with *Hash Animation:Master* and several books on 3D, he honed his skills in his spare time and set about using the software to create *Killer Bean*, a comical animation inspired by the John Woo film *The Killer*. Full-time work in the 3D industry followed, most recently with Jeff working as an *animation supervisor* on *The Matrix Reloaded*. His latest project is a two-DVD character animation tutorial.

WHAT MADE YOU CHOOSE HASH ANIMATION: MASTER IN THE FIRST PLACE? I wanted to create animated shorts with characters in them, and back then it was the only software that had specific character animation tools.

HOW EASY HAVE YOU FOUND IT TO USE? The modelling side of things is much different than other 3D packages, but once you get used to it it's pretty fast. With texturing you just slap on a decal and that's it. And the animation is so streamlined, it's probably the closest thing you can get to stop-motion claymation.

HAVE YOU TRIED GETTING RESULTS WITH MORE EXPENSIVE 3D APPLICATIONS? I've used Maya for many years, but only for high-end animation work. I still have yet to learn how to model, texture or even render high quality images with it. I'd rather spend that energy creating 3D art. *Animation:Master* makes my work a lot easier and when things are easier, I can focus on the art side of things, the fun stuff.

WHAT HAVE BEEN THE MAIN ADVANTAGES OF USING ANIMATION:MASTER RATHER THAN A HIGH-END PACKAGE? Hash created *Animation:Master* for the low-end computer, so you don't have the RAM or video card requirements that other 3D packages demand, you can preview animations in real

time, and the file sizes are really small. In a word, it's about speed.

IF YOU WERE STARTING OUT AFRESH, WOULD YOU STILL OPT TO USE IT? Yes, I would. Sure, you can use the learning editions of high-end packages, but you can't do commercial work with them. For me, it's not about playing around or learning 3D, it's about actually making something from it.

WHAT ADVICE WOULD YOU GIVE TO ANYONE LOOKING TO WORK IN YOUR FIELD? If you're looking to become an effects guy, lighter or modeller, you're better off learning the software you think you'll be using at a studio. But character animation is a separate art form. Specific software won't help you animate better. You still have to learn the art of animation. In that case, you'd be better off with using *Animation:Master*, because it takes so much of the technical work out of 3D animation.

The proliferation of high-quality images and short animations created using such software certainly suggests that a low price needn't equate with low quality. Jeff Lew (www.jefflew.com) is one of the best-known creators of high-quality, low-cost animation. His *Killer Bean* shorts are famously created using *Hash Animation:Master*.

"I started with *Animation:Master* mainly because of its price and what it can do," says Lew. "I wanted to become a character animator and make animated shorts by myself, and it was the only fully fledged 3D package in my price range. At the time, seven years ago, buying anything else was definitely not an option."

Since creating his first *Killer Bean* short, Lew has found much success in post-production, most recently lending his talents to several shots in the upcoming *The Matrix Reloaded* movie. Tellingly, he continues to use *Animation:Master* for his personal work.

"Low-cost packages definitely offer an all-in-one solution," he says. "You can create some great looking animations. I think the drawback is how far you want to go with the low-cost package. Do you want particles? Sure, you can have particles in a low-cost package. Can I have fluid dynamic particles? Not quite yet. Do you want rigid body dynamics? Yes, but you can't just yet link the rigid body objects together in a chain. Can you render with depth of field, motion blur and global

illumination? Yes, that is available. You just can't render with high dynamic range images. So low cost packages are very complete, it's just a question of how far you want to go."

Although these tools are understandably more modestly specced than their counterparts costing two, three or even four times as much, what they do, they invariably have to do very well. "Despite the low price, users of cheaper software are still very demanding, particularly when it comes to rendering quality," notes Antoine Clappier.

"DESPITE HAVING PAID A LOWER PRICE, USERS OF CHEAPER SOFTWARE ARE STILL VERY DEMANDING, AND PARTICULARLY SO WHEN IT COMES TO RENDERING QUALITY"
Antoine Clappier, PRESIDENT AND CEO, EOVIA CORPORATION

"Our customers demand more of us than any producer of 'professional' product has to deal with," says Martin Hash. "They want the price of dinner out, the reliability of a microwave, and the ease-of-use of a TV remote."

Martin Hash points out that companies such as his don't save money by skimping on customer care. "We provide free telephone product support. We have a money-back guarantee. Our software doesn't expire, or require a maintenance agreement. Yearly upgrades are only $99. And we let people transfer their software license."

Similarly, while *form•Z* – used by creative

consultants Graphical House on the titles for Channel 4's recent *Sex And The City Uncovered* night – isn't cheap (it costs around $1,500), the reasons the company gives for choosing to use a rather specialised solid surface modelling tool for this kind of work are relevant, highlighting how modestly specced software can still prove useful for create professional 3D work.

"Nowadays we carry the big titles because of the price cuts and our move into broadcast and motion, but I chose to use *form•Z* for the *Sex And The City* night titles: partly for the nostalgia, but mainly because it could do the job," says Graphical House's Graeme Johnston. "The stylised shots of New York have no fancy shaders, which meant there was no need for *Maya*'s sophisticated but incredibly complex Hypershade, which I hate. And it contains no characters or rigging, no dynamics, particles, fields. It's just basic camera passes through a static architectural city. That can be done in *form•Z*, so why use a team hammer to crack a nut?"

TALENT WILL OUT...

If low-cost applications are used by newcomers as a way of gaining an understanding of the mechanics of modelling, texturing, rigging, lighting, and animating, it follows that many will then be eager to secure a role in the post-production industry. But just how seriously do studios using high-end software take applicants versed only in more modest applications?

Frank Kitson is CG Supervisor at the main UK studio of video games developer and publishing giant Electronic Arts. There the artists and animators work use both *Maya* and *XSI*.

"A lot of people don't have access to these packages, so we've seen people making use of just about every affordable program imaginable," he says. "We've had some modellers come in who only had exposure to packages like *Rhino*, for example, but that's still relevant experience. As much as anything, time with a cheaper 3D package teaches them what can go wrong; they get an understanding of the general limitations of 3D software. And I do think most packages adhere to commonly held principles, from work with bones through to consistent logic of layout and menus."

Kitson concedes that some experience with the 3D applications used by Electronic Arts does put an applicant in a more advantageous position, but adds, "I'd never take on a technical whiz rather than someone with innate talent."

A sneak peek at some action sequences for the new Jet Li movie. Would you expect Poser to have been used in the previsualisation work? David Allen at TeamWorks Digital uses the right tool for the job, regardless of price tag

for your average 14-year-old at home who wants to get into 3D, though. And if someone only needs the most basic features, there's no point in shelling out three or four times the money for things you know you'll never use."

"Even with the price cuts the high-end programs are still very expensive, because you're not just dealing with the initial cost of acquiring

the product," says Antoine Clappier. "Even if Maya's price was to drop again I don't think it would affect us, unless it was selling for $99!"

"There will always be a need for highly specialised, expensive, and inherently hard-to-use professional 3D tools," says Martin Hash. "The price of high-end 3D packages will have to increase again for people to stay in business, though."

For Jeff Lew, neither the expanding feature sets of cheaper software, nor the lowering prices of high-end software are key issues. "The main factor in my mind is that the more advanced packages haven't become easier, while the cheaper packages have become more powerful and are still easy to use. The reason why I've stuck with Animation: Master for so long is because it is easy to use and easy to animate in. I animate much faster in Animation: Master than I do in any other software package, and it is not just because of experience. There's also the fact that high-end software companies and the low-cost

software companies listen to what their respective customers want. Big studios want photoreal rendering, advanced particles, all the real fancy stuff to make their effects more believable. Low-end hobbyists want the ability to create complete 3D animations by themselves. The two interests really are different."

But what of programs such as Maya Personal Learning Edition? These free demo editions are, after all, aimed at the very same novices and newcomers that are buying programs such as Animation:Master, PIXELS 3D, trueSpace, Anim8or and so on.

"Coming up with the term Personal Learning Edition is a very clever move," says Antoine Clappier. "It's really just a demo, and every company produces demos for their products. It may affect direct competition, but I don't think it's had any impact on us."

"Even if the competition was free – and it is, either through PLEs or via piracy – new customers would still purchase our software because it does what they want," adds Martin Hash.

"One thing I see happen quite often is that a novice who wants to become a character animator will choose to learn using Maya PLE, and then get drawn into the technical side of CG," warns Jeff Lew. "And of course one major difference

between a full low-cost package and a learning edition is that you can do paid work with low-cost software – which you can't do with a PLE."

HALFWAY HOUSE?

There are, of course, a select few affordable packages that have been adopted by the larger studios as well as home users and semi-professionals. Poser and Bryce are the most significant of these, both notable for the way they make a virtue of limited feature sets. It's extremely time-consuming to create human models and landscapes with traditional 3D applications, but by focusing solely on these niche areas, these programs make it possible to do so both quickly and easily.

Dominic and Ian Higgins at Soupmedia (www.soupmedia.com) use Poser as the basis for 3D illustration and online avatar creation.

"We picked up a free copy of the original version of Poser out of curiosity, and though it was pretty basic back then immediately saw its potential," says Dominic Higgins.

"Poser's true strength lies in its versatility," adds Ian Higgins. "It's absolutely ideal for 3D novices and those who don't have the time or necessary skills to build a character from scratch, while also offering more experienced users an excellent starting point for their character creations."

Ian admits that this approachability does often lead to it being unfairly dismissed as a quick fix solution.

He also agrees with the notion that applicants working with more limited software are more likely to keep their showreels focused. The sheer versatility of an application such as *Maya* can actually prove distracting.

"Showreels work better when everything is very clearly shown, rather than clouded in special effects, particles, and flashy elements such as fur. In that sense I do think that using a cheaper package can lead to a better presentation."

Michael Carter, head of the CG studio at Aardman Animations, has no doubt that low-cost packages play an important role.

"Spend as little money as possible on the tools you are going to use to learn CGI," he advises. "There are plenty of freeware and cheap applications out there that do have feature sets similar to the 'professional' packages. As soon as you get into a production the studio is ultimately hiring someone for their creative ability not their skills in running a certain piece of software. You always have to think of yourself as being an artist, not an operator. In the end, the software is only the tool. At Aardman, the applicant's artistic talent is what we are most concerned about."

"With regards to the choice of applications, it really depends how much a student would like to be challenged," says Carter. "I found *Animation: Master* to be a great tool for first time character animators. It's cheap, relatively effective and can teach the basic principles of CGI animation, like keyframing. Although if you're striving to be a technical director, then a more expensive technical application will probably be best."

PRICE WAR

In the wake of last year's round of software price cuts, the gap between the low and high-end products has obviously narrowed. Could we eventually see the two camps merging?

"I really doubt that the higher-end packages can afford to reduce their price much more than they have," says Jeff Lew. "If *Maya* reduces their price to $500, I'd be the first in line to buy it for the things it is capable of – but it still won't be my 3D package of choice. Companies with low-cost packages know they have to cater to their customer base, so they will try to make things as easy as possible, yet still becoming more powerful as they evolve. When creating a large amount of 3D content, you have to factor in 'ease of use' as a cost."

"I must admit, the high-end stuff is pretty reasonably priced these days," says Brian Taylor, currently working full-time using *Infini-D* to complete his acclaimed *Rustboy* short film project (www.rustboy.com). "It's still quite a price jump >>

SO WHY DO YOU USE... POSER?

DAVID ALLEN

AGE: 32

JOB TITLE: President of TeamWorks Digital

PROJECTS WORKED ON:
Batman Forever (1995), *Flubber* (1997), *My Favourite Martian* (1999), *Dude, Where's My Car* (2000), *Reckoned* (2000), *Rocky & Bullwinkle* (2000), *Monkeybone* (2001), *The One* (2001)

URL: www.teamworkdigital.com

David grew up in Arkansas, met up with VFX supervisor Eric Durst while at the state university and so gained the chance to do an internship at Dream Quest Images. After then taking a degree in film production, he set up TeamWorks Digital as a side venture. Originally created to produce motion graphics for sports teams, it has expanded to take on commercial and feature work. The studio is currently providing a number of the effects shots, plus all of the previz, for Warner Bros' film *Torque*.

WHAT MADE YOU CHOOSE POSER IN THE FIRST PLACE? It's interactive and easy to look at. When Jet Li's fight team are behind you explaining a punch or a kick or some unique move that only Jet can perform, they can easily recognise the character controls and thereby become more involved in the process.

HOW EASY HAS IT BEEN TO USE AND GET THE NECESSARY RESULTS? When doing previsualisation, the speed of output is extremely important. *Poser* has the toolbox of characters we needed to start turning out shots right away.

HAVE YOU TRIED THE SAME SORT OF WORK WITH MORE EXPENSIVE 3D APPLICATIONS? Sure. One of the things a visual effects company has to do well is know when to use what application. One of the benefits of using a company like TeamWorks Digital is the experience we have in taking shots from the design phase and previsualisation through rough compositing and delivery of film resolution visual effects.

WHAT HAVE BEEN THE MAIN ADVANTAGES OF USING POSER RATHER THAN A HIGHER END PACKAGE? Price is the first advantage. And there are more *Poser* resources on the internet. Characters and walk cycles are already completed and available as freeware or shareware.

IF YOU WERE STARTING OUT AFRESH WOULD YOU STILL OPT FOR POSER? Yes. It gives those just starting out the ability to see the complexity of such work without having to actually be an experienced character animator.

FINALLY, WHAT ADVICE WOULD YOU GIVE TO ANYONE LOOKING TO WORK IN YOUR FIELD? Start by downloading demos of software such as *Poser* and *Maya*. Find every sample project and tutorial you can get your hands on and try them out. Film school is a good starting place as well. Education gives you more than just homework; the people you meet in school are invaluable. And educational discounts on hardware and software can often offset the price of tuition.

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"In fact, it requires a fair amount of skill and creativity to produce professional looking results with it, so the argument upheld by many professionals in the 3D world – that using *Poser* requires no expertise – is completely untrue."

Poser also comes into its own as a previz tool. At TeamWorks Digital (www.teamworksdigital.com) David Allen recently utilised it in conjunction with *LightWave* to determine the layout, character interaction, timing, lighting and camerawork of the complex action sequences in Jet Li movie *The One*.

"During production we were able to use the software to its potential along with the *Poser Pro Pack*, which allows *Poser* characters to be implemented into larger 3D packages," explains Allen. "We were actually the first to beta test the pack in a feature environment."

Despite his experiences using *Poser* for feature work, he believes the software shouldn't evolve into a pro-level tool at the expense of its hobbyist appeal. "*Poser* should always ride the line between large and small. The ability to bridge the two worlds is what makes it so important."

A GROWING ARMY

So it seems that affordable 3D applications are not only alive, but thriving. That army of amateur and semi-pro users continues to grow, and continues to blow away preconceived ideas about just what can be achieved on a limited budget. Granted, they can only ever be of limited use to most industry professionals, but through specialisation, the low-cost favourites are not only grabbing a different market share from the premium price software, but even generally managing to avoid competing with one another.

And while Maya, XSI, LightWave and their ilk are constantly battling to cater for the myriad needs of the post-production industry, the way the low-cost solutions provide more streamlined feature sets makes them tremendously approachable and appealing. In the end, it's the fact that these applications are so good at what they do – while remaining so accessible – that makes them irresistible to millions of existing users, and still see them attract customers for the foreseeable future.

"There is a tendency in this industry to judge a software package by its price tag, but the fact is, you don't need to spend thousands of pounds to be able to create works of art," muses Dominic Blagrave. "In the end, it comes down to talent – and that, of course, is priceless."

SO WHY DO YOU USE... INFINI-D?

BRIAN TAYLOR

AGE: 42
JOB TITLE: Creator of Rustboy
PROJECTS WORKED ON: Previously an illustrator
URL: www.rustboy.com

Brian Taylor's interest in 3D began years ago, after seeing renders of projects such as Jim Blinn's *Evolution Of A Goblet* in magazines, and watching the CG animation used in Tron and Pixar's early shorts. Years later, while making use of his traditional illustration skills for work in the design and advertising industries, he got hold of his first computer (an Apple Mac) and invested in a copy of *Infini-D*. By 2002 Brian found himself a patron and gave up his day job to spend all his time on animated short Rustboy. Along with the film, he is also currently putting together an accompanying book.

WHAT MADE YOU CHOOSE INFINI-D IN THE FIRST PLACE? I first got into *Infini-D* around 13 years ago when high-end 3D software was completely out of the question – it cost more than buying a house. Also, being a Mac user, there wasn't much choice in the lower-end price range.

HOW EASY HAVE YOU FOUND IT TO USE? I've found it very easy and intuitive, and the rendering quality is excellent for the price. The weakest point is the modeller, but I find this isn't too much of a problem as it is easy to do it elsewhere and import into my scenes.

HAVE YOU TRIED GETTING RESULTS WITH MORE EXPENSIVE 3D APPLICATIONS? I have tried other packages and I just can't get the look I want, though I think this is purely down to familiarity after using *Infini-D* for so long. It is fairly easy to learn a new 3D package, but getting to the point where you really know it inside–out takes years. It is just too huge a learning curve to switch to new software during a project, so it's easier to stick to what I know.

WHAT HAVE BEEN THE MAIN ADVANTAGES OF USING INFINI-D RATHER THAN SUCH A PACKAGE? The relative lack of features suits my way of working and thinking. I tend to have a very set vision in my head before I start, and I'll figure out a way of getting that look on screen one way or another. I feel that software with too many features, effects, and presets built-in makes people lazy and less creative. Some people like that fact because it gets the job done and out the door, but it's not for me.

IF YOU WERE STARTING OUT AFRESH WOULD YOU STILL OPT FOR INFINI-D? No, I'd choose something which is better supported (and still developed).

FINALLY, WHAT ADVICE WOULD YOU GIVE TO ANYONE LOOKING TO WORK IN YOUR FIELD? I always say, use what you feel most comfortable with, rather than going for the package which seems to be the coolest. Also be aware that the majority of the cutting-edge work you see out there probably has a lot more to do with the person who created it than the software used.