ALAMAYA

GARDEN OF
BEAUTIFUL CREATURES

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Made by Team

NVIDIA
Powering the Way You Play and Work

When the term 'computer graphics' surfaces in conversation, the things that usually come to mind are videogames and 3D animated films, where computer graphics (CG) are most obvious and prevalent. Jaw-dropping 3D visuals, smooth and lifelike animations, spectacular special effects - computer graphics have come a long way in enhancing the various multimedia entertainment options that we enjoy today.

Yet not many people are aware that CG also plays an important role in the creation of many products and services that we use today, or even live in! Televisions, mobile phones, computers, cars, buildings - many of these things are designed with computer-aided design (CAD) software that makes it easy to draft and design the technical blueprints that make up the physical components and conceptual designs of products and objects. CAD is incredibly important to engineers and designers as it makes it easy to view and layout their work on screen, allowing them to save and edit their work.

However, just as computer graphics have advanced in CAD applications, so have its hardware demands, especially for more powerful graph cards. Graph cards today come with GPUs (graphic processing units) that are now capable of faster image rendering and computational tasks, shaving time off processes that used to take hours to complete. The power of graph cards aren't only limited to the manufacturing and entertainment sector. For instance, they may also allow for faster simulation and computation for various scientific fields such as biochemistry, biophysics, and genomics.

The graph cards required to produce this kind of graphics aren't your everyday consumer graph cards. They are specialized graphics cards, designed and certified for professional applications like CAD. NVIDIA®, the worldwide market leader in consumer graphic cards with GeForce® line, also is the market leader in professional graphics solutions, known as the NVIDIA® Quadro® line, Quadro® solutions are used by industry professionals in CAD and digital content creation (DCC) to produce highly detailed graphic and renderings that typical consumer graphics card is not designed for. In the following pages, you will learn more about the Quadro professional grphics solutions, designed to empower these and other industry professionals. You will also read a testimonial from a local DCC company that has benefited from using Quadro solutions. Additionally, you can read about the various cards. On the other side of the booklet, you can read up on the various NVIDIA technologies that have been incorporated into various multimedia – such as games and movies – to provide not only realistic-looking graphics and simulation but also to speed up general computing processes.
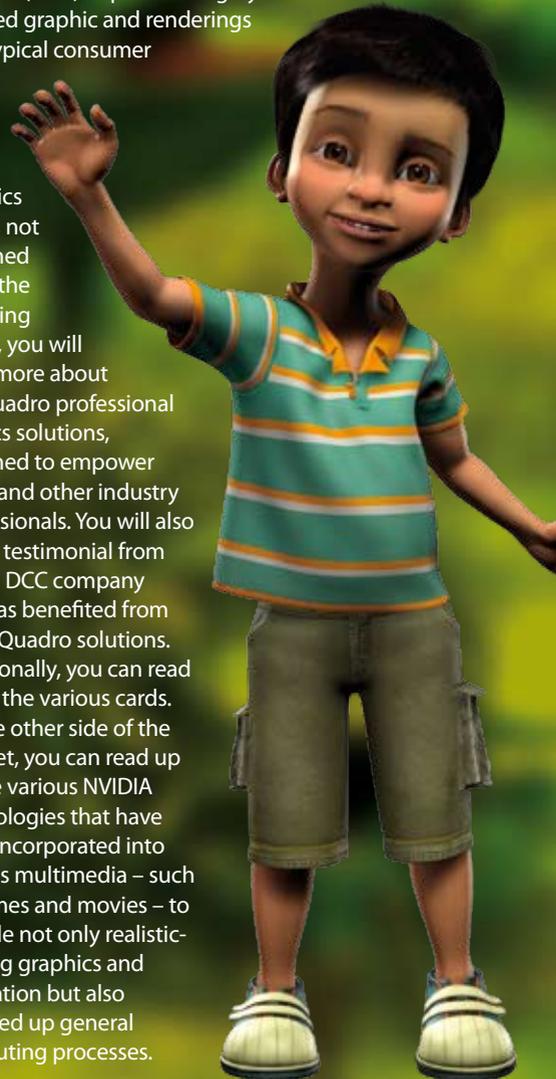
Alamaya
behind the garden of Beautiful Creatures

A young boy named Jian begins his biggest adventure when he puts together the pieces of a magical book in his mother's small florist shop and accidentally opens the door to a new world called Alamaya. Suddenly, Jian finds himself travelling to an amazing world filled with many fantastic and extraordinary creatures - but there's one problem, he doesn't know how to get back to where he came from.

As Jian tries to work out a solution he comes across a strange and peculiar creature that he has never seen before – the funny and lovable snaileon, Dzul. A cross between a snail and chameleon, Dzul offers to accompany Jian and help him in Alamaya, and to find his way back home.

Together, both Jian and Dzul begin a cross-world journey through the magical world of Alamaya to get back to his mother. While the world of

MYET-KRONG SWAMP

Alamaya is full of wonderful splendor unknown to mankind, it is also fraught with danger. He embarks on a mission that may seem too big for a little boy, but his courage and wit tell us otherwise.

Born from the mind of creative director Eugene Foo, Alamaya: Garden of Beautiful Creatures is the highly anticipated local animated film from animation studio Shock3D!, whose first IP has won accolades from local and international award juries. Staffed by a number of newcomers and veterans, Shock3D! is currently working hard on Alamaya, determined to produced the best local animated film that Malaysia and the world has ever seen.

Alamaya: Garden of Beautiful Creatures is expected to premiere in local cinema theaters in 2011.

NVIDIA Quadro FX
Professional Workstation Video Cards

Compatible with
Windows®7

To the everyday gamer and IT user, the NVIDIA® GeForce brand is a familiar name. Powering some of the most spectacular graphics for modern 3D games, GeForce consumer graphics cards are highly sought after by video enthusiasts, digital photographers and hardcore gamers. But not many people realize that the same graphics company is indirectly behind these eye-popping visuals in videogames and even modern 3D animated films showing in cinemas today, albeit developed under a different brand. That brand is NVIDIA Quadro, company's professional graphics solution.

It is common for many people to assume that the average high-end consumer graphics card can be used for any visually-demanding applications. To a certain extent, as most high-end consumer graphics card such as the NVIDIA GeForce series do provide an optimal level of performance for a wide spectrum of applications. However when professionals require exceptional application performance, stability and reliability from their graphics cards, they turn to Quadro solutions.

What is the difference between GeForce and Quadro graphics cards? In laymen terms, think of the GeForce and Quadro cards as a police officer and a SWAT officer respectively. While both officers are law enforcers made of flesh and blood, the police officer is tasked with maintaining public order, apprehending criminals, and preventing crimes. The SWAT officer is equipped with specialized equipment, and is highly trained and specialized for particular high risk operations that fall out of the jurisdictions of normal police officers.

So even though Quadro cards are based on a similar architecture to their GeForce consumer brethren, the architecture and drivers are finely tuned for specific professional applications and purposes, such as CAD and DCC (digital content creation). Likewise, professional design applications bring work loads to a system that differ from videogames, thus requiring special graphics acceleration that only Quadro professional solutions can provide.

Quadro professional graphics solutions are at the forefront of modern graphics for several industries, such as 3D simulations and animations. For instance, many of the latest 3D animated films are developed using Quadro solutions, such as the recent blockbuster "Cloudy with a Chance of Meatballs."; the same goes for scientific fields and businesses that run intensive visual simulations, models, and designs. Whether it is for film and entertainment, or science and education, Quadro solutions are responsible for bringing to life many of the things that we take for granted today.

Featuring NVIDIA CUDA™ massively parallel computing architecture, Quadro solutions are even more powerful today. Imagine halving

the time it takes to render a visually-demanding texture heavy model, or computing complex algorithms and physics simulations at blistering fast speeds never seen before – the CUDA architecture leverages an NVIDIA graphics processing unit (GPU) to solve many complex computational problems in a fraction of the time required on a CPU.

It's no surprise that Quadro graphics cards are the choice for professionals in several industries, especially in the film and entertainment sector. Even Malaysia multimedia companies have recognized the value of utilizing Quadro graphics solutions in their workstations. On the following pages you can read more about Shock3D!'s work and how important NVIDIA and its Quadro FX graphics solutions factor into performing key production and visualization tasks in their workplace.

HOW DID SHOCK3D! COME ABOUT?

I had an idea about 4 years ago to develop a little short film, and this short film was called Garden of Beautiful Creatures. It had all this different weird little animals, and I brought this idea to a friend. This friend of mine also provided me jobs of which I did freelance for, many of which consisted of motion graphics and little corporate videos. When I shared it with them, they took an interest in it. We sorta came together, and said "Okay, let's start this project going".

So from a short film, the idea expanded into an episodic series, which we eventually developed a small 40 seconds trailer. We brought the trailer to Mipcom (the world's largest international audiovisual content trade show) at Cannes in 2007, and we tried to look for investors and co-producers.

We finally found a local private investor who provided the initial investment to startup the company called Shock3D! using Alamaya – Garden of Beautiful Creatures as the pioneer project for this company. So basically, Shock3D! was founded for the sake of a project but right now we also want to produce other projects. In fact in the next few months, we will soon be discussing what kind of ideas we want for the next projects.

I would say it was a good stroke of luck that there was an investor who wanted to take this on. It's not easy to find one this time and day, and of all the things that they would want to put it in, animation is one of the riskiest. People would rather put their money into a live action film than animation, because animation is really tricky when you are dealing with something for kids. Trying to appeal to both adults and kids is an even harder target audience. Honestly I think if you appeal to enough kids, you can appeal to the adult audience, but if you cater your program in such a way that it's only for adults, you'll only end up with the adult audience, so you need to be selective with your scripts.

Eugene Foo
Creative Director, Shock3D!

RECENTLY SHOCK3D! WON THE BEST OF MEDIA AND ENTERTAINMENT AWARD AT THE THE MSC MALAYSIA ASIA PACIFIC ICT AWARDS (APICTA). WHAT WAS IT LIKE TO WIN IT?

I'm very grateful to the jury, whom I found was a very fun jury that consisted of various media and very experienced people in the industry for many years. When I was going for the presentation, they were looking at a lot of different aspects that I was not prepared for. Even though I had the answers to their queries, I didn't expect them to look into these areas. For example, they were looking into a lot of the narrative of the story, while I was preaching more on the technical aspects. But they were really more into the creative content, looking into the intrinsic value of the product.

Picking up the APICTA award was a great win for us as it made it our second win for our first IP. Our first win was in Korea for the Seoul International Cartoon and Animation Festival (SICAF), winning the Best Planning Award that's also quite unique by itself. The award recognizes projects that are still under production and at proposal stage, which is what we're at.

There were 20 finalists, 10 Koreans, 10 Internationals. We were the only Malaysian company among the International participants. We consider ourselves very fortunate as this was our very first project submitted; there were some contestants who have been submitting for over 3 years without any luck.

Actually, we were more developed than most other projects that were competing. There were some who came with PowerPoint slides of the episodes they were doing, which was acceptable. We had the added advantage of turning our PowerPoint slide into a movie slide, and we added in a bit of a trailer of the 1st episode that we previously did on our workstations powered by NVIDIA Quadro cards.

We had the pleasant advantage of meeting an investor who very quickly wanted to do this project with us. We knew about the e-Content fund provided by MOSTI (Ministry of Science, Technology, and Innnovation), and we found about the funds when we went to Cannes, so we went to apply for it.

WHAT ARE YOUR CURRENT EXPECTATIONS FOR YOUR FIRST IP, ALAMAYA?

The team is currently working on making this movie the next best thing that will happen for Malaysian cinema. We're facing a lot of technical issues, some of which are unprecedented to our staff. We hope that people would come to watch it not only to critique it but support Malaysian cinema for that matter.

Raimy Mohammed
3D Modeler, Shock3D!

WHAT ARE THE BASIC PROCESSES TO MAKING A 3D ANIMATION FILM?

It starts from the director that comes up with the idea, which will go to a concept artist who actually fleshes it out using Photoshop and what not to get the final look of the characters, environments, and props. After it is approved, that goes to the 3D modelers like me who start modeling characters with low-res models with no textures.

Then it'll be moved to animators who can start 'rig' it. Rigging is the process of putting bones and controls, so it makes the characters like a puppet to animate in a scene. Parallel to that, the modelers finish texturing their characters to save time. Once the animation is done and it's in the scene, and the materials are set for the hundreds of characters and props, and it goes to the lighting stage where we add the lights. Lighting is a bit like painting, because you start off on a grey canvas.

Eventually the animation goes for batch rendering, basically we set the frame count for that shot and just let it render and hopefully there aren't any problems! *laughs* After the rendering, the scenes' background images are then passed over to the compositor who puts it all together to blend in the background, shot done, put into we use Final Cut Pro for final shot editing.

HOW POWERFUL DO YOUR SYSTEMS NEED TO BE FOR A COMPANY LIKE THIS? CAN YOU USE STANDARD GRAPHIC CARDS?

Up to a certain point, you can get away with using a non-professional graphics card, but the limitation is typically that the image quality won't be as high as possible. If you're working with content creation, you need to make sure that you can see close to what your final output will be. Otherwise when you render it out and it turns out to be incorrect, you have to go back to the drawing board. Too many back and forth takes up too much time, and time is money. In this industry, you have to do things as fast as you can, and find the precise look you want as close as possible to what you're rendering while you're working.

WHY DID YOU CHOOSE NVIDIA QUADRO CARDS?

NVIDIA is the go-to company when it comes to video and graphics cards. When we were researching cards, the Quadro cards were at the top of the list for workstation cards. A lot of people have been using them, and based on our feedback and research, a lot of people are happy with the Quadro solutions for all their animation tasks.

HOW HAS NVIDIA QUADRO CARDS HELPED YOU IN YOUR WORKPLACE?

Sometimes when you have a few characters onscreen as well as a texture-heavy scene, it starts to get a bit heavy on the system as the polygon count goes up. The video card helps so that you can see everything, and it runs as smooth as it can. It also helps to load up textures for the models, so that everything doesn't appear gray or too bland. But I think it helps most during the lighting phases; the textures for every jar, every lamp post, and every character is affected by lighting, and often times you need to see them properly.

So you need as much performance and optimization from the graphics card to be able to visualize onscreen what you're seeing in real life. This is because once we put in the light, the lighting will affect the scene in real time so we have a better idea of what we're going to get when we start to render it, so we're not just rendering blind. This is the most important thing because rendering obviously takes time, so the feedback loop is a bit slow, and we have to render every 2 minutes, even for a test frame. And when you make various changes or adjustments, it adds up. So if we can see how something looks like before it renders, it really helps.

WHAT IS THE MOST CHALLENGING THING ABOUT 3D ANIMATION?

Rigging is sometimes technically complex based on the characters, as it can be a time consuming process. It might look okay when it is being animated, but you may need to tweak various things. Lighting takes a lot of computing resources and time because it's also technically complex. For example, all the problems that you didn't see before during the rendering process may turn up in the lighting stage.

NVIDIA Quadro professional graphics solutions help a lot because we need to see that what we're doing is as close as possible to what we're rendering. If we can lessen the feedback loop, we lessen the time to change the little things, and we can get things more on schedule. So again, while consumer graphics cards are geared towards raw speed at the expense of overall image quality, Quadro profesional graphics solutions provide a very high level of performance, quality and reliability to ensure make you can see everything as realistically as possible.

THE ART OF ALAMAYA: GARDEN OF BEAUTIFUL CREATURES

As work on Alamaya: Garden of Beautiful Creatures continues, Shock3D! has shared with us a few screenshots, concept art, and character renders of what viewers can expect when the movie premieres in 2011. Here are some of the many wonderful creatures and environments in the world of Alamaya.