MACHINIMAG 01

Remixed

interview with Paul Marino
Fountainhead's Anna reviewed
the next generation of Machinima
Tutorial for depth of field
A look at HalfLife2 and Doom3
good Production Design

The very first issue was, despite its matter-of-taste-design the most worked on issue of all.
Now, almost 4 Issues later, machinimag slowly gets into shape. Although most of the articles herein seem a bit dated at a first glance, i feel that they still capture a certain essence and mood of this very young medium-to-be:
Eager anticipation of technical development and a little bit of aimlessness.

The original design of IssueOne was intended as a breakaway from the very triste visual appeal machinima had in public. As we all know, this intention just didn't come across at all as the design really didn't fit the medium - funny enough one of the main issues with a lot of machinima movies themselves...

The development of machinimag in this small amount of time, for me, somehow resembles a development seen throughout our medium. New movies are coming out with more appealing approaches in visual storytelling, not necessarily achieved through normal mapping and realtime shadows.
If the magazine could have at least the slightest of an impact on this trend, I'd be most happy.
Please enjoy a -hopefully- very readable redesigned issueOne of the machinima online magazine.

Yours,
Friedrich Kirschner

Paul Marino

Head of the academy of machinima arts and sciences.
In the following few lines, he takes a brief break from his work and talks a little about the history of the medium, his first experience with machinima, the pros and cons of doing it, technical progress and, of course, about who he is and his future plans.

Hi Paul, hope youre fine. What am i distracting you from at the moment?
I'm doing really well. No distractions, really. I'm taking a break from my writing at the moment. I'm currently working on the Machinima book, Machinima Artistry, which is taking up most my time.
I'm also working on putting together the Machinima Film Festival 2004. So there's a bit of juggling going on. And I'll need to get back to it shortly - progress, progress, progress!

For those who dont know you personally, tell us a little about your background. Was there a pre_machinima life?
Ah, yes, I've been in the 3D animation world for quite a bit. I began my career in high school, actually, working for an effects house in New York City after school hours.
From there, I entered college as a film major with a focus on animation. My goal was to work in effects at the time and I thought having both a filmmaking and animation education would help bring the two together.
I then discovered 3D animation and realized that the two worlds of filmmaking and animation played a large part in 3D animation.
Shortly afterwards, I sold my soul to own an Amiga 2000 and a copy of Sculpt 3D. Working in that, I was able to land my first professional 3D gig, which eventually turned into a stint of 14 years doing animation work for television.
During all of this, I was quite the avid gamer and saw that 3D was slowly becoming part of the gaming experience. From there, it wasn't too much further before Machinima became a way to bring everything I liked together.

What was the first machinima piece you ever saw and how did it influence your work?

The first Machinima piece I had seen was Operation Bayshield by Clan Undead. My friend, Manu Smith (ILL Smith of ILL Clan fame) invited me over to his office way day and said "Take a look at this." I was hooked.

The film influenced me and the other guys in The ILL Clan to make the leap from wondering when 3D game technology could be used for narrative purposes to actually using it.

What do you think machinima will look like in two years?

Good question. Obviously, the visuals associated with Machinima will look outstanding -- it will be on par with some the best of today's fully animated 3D features.

In two years time, I think we'll also see the potential for real-time 3D to look truly photorealistic.

To give us an opinion, whats the biggest plus in doing a movie in a game engine?

There are a few. If I had to pick one, it's the blending of all of the production processes. When a film is developed in a real-time space, the levels of production (pre-production, production and post-production) start to become one and the same.

Pre-production is all about the planning of a film. Production, of course, is the making of the film and post-production is the polish to deliver a final film.

While working in a real-time 3D space, a number of these approaches start to merge. Storyboarding becomes less crucial because you have the freedom to choose your shots in the space as they happen, recording a scene and providing the editing and post-production effects can be initiated in the production pipeline, so the amount of time spent putting it all together becomes focused in the area of production itself.

This merges the traditional workflow into one approach, which is ultimately much more flexible from a creative standpoint.

And what do you think is the worst problem about this technique?
I guess there's a new learning curve with this. Most production people anticipate the pre-production and post-production approaches as it helps really plan and polish a production. There's still value to that -- and it will take people a while before they can switch to different production methods.
It will most likely be embraced by the younger generations of filmmakers who aren't aware or haven't the interest in the older approaches to filmmaking -- and just want to go and make a Machinima film.

How did the machinima community evolve? How old is it? How big is it?
The community evolved from the old Quake Movies community. Back in 1996 (Yikes! Nearly eight years old now) Quake players began to use the demo recording function of the game to create Quake movies showing off a deathmatch or single player feats.
Soon afterwards, the Rangers' Diary of a Camper (the first Quake Movie/Machinima film) hit the Quake scene and acted as a shot in the arm for Quake moviemaking. Immediately, Quake players with some creative spark began making films with the same game they deathmatched in. From there, the Quake movies started to grow and people began to explore using other game engines to make films. In 1999, Hugh Hancock began development of Machinima.com, which became the hub for all films made inside a 3D game engine.
The community has really grown since then. I would estimate that there's nearly 200 teams worldwide producing Machinima. There may even be more as most usually operate under the radar.

Which film would you like to see done in machinima?
Hmmm, that's a tough one. I really don't favor remakes, unless they were a great story that eventually became a bad film. I guess I'd like to see an original work created in Machinima. The Hitchhiker's Guide to the Galaxy always seemed to be a good candidate for Machinima. Unfortunately (or fortunately depending on how you look at it), it's already being made into a film for release next year or 2006.

What potential do you see in games in the next two years?
I think games are really going to continue pace - although it may slow as we break into the 1.5 year mark. The games industry has a lot of momentum currently and there's always the need to top the last title developed. Eventually, the graphics will reach a visual plateau (maybe past the 2 year mark though) and there will be more pressure around the innovation of gameplay (actually, this has already started). I also think the delivery of games over the next couple of years will change. Approaches like Steam (Valve's content delivery system), will become more popular, particularly as more households are broadband connected. This will allow for a larger distribution channel for people looking to buy and play games (and Machinima as well).

You seem to be in touch with a lot of important people. Can you give us a glance of how important machinima really is for the gaming industry?
I think the gaming industry sees Machinima as a way to bring their technologies to an even wider audience. It's obvious that good storytelling is never going to go

away -- be it passive, interactive or some mix in between.
Machinima represents a way for the game developers to add another level of entertainment development to their customers without doing a lot more leg-work. Still, its a young medium and there's a bit of "chicken and egg" feel to it. But I can say without a doubt that the gaming industry is watching pretty closely.

If you would get into machinima now, which engine would you choose?
Hmmm - if I just wanted to learn Machinima quickly, I would say FE's Machinimation (based on Quake III Arena). It's the easiest "out-of-the-box" Machinima software to sit down and get working with right away.
If I was someone with some Machinima experience already, I would most likely choose the UT2004 engine, though the Torque engine is a great candidate as well and Far Cry is also a contender.
And of course, I'm looking forward to using the Half-Life2, Doom3 and Unreal 3 engines. I mean, who wouldn't given everything we've seen to date?
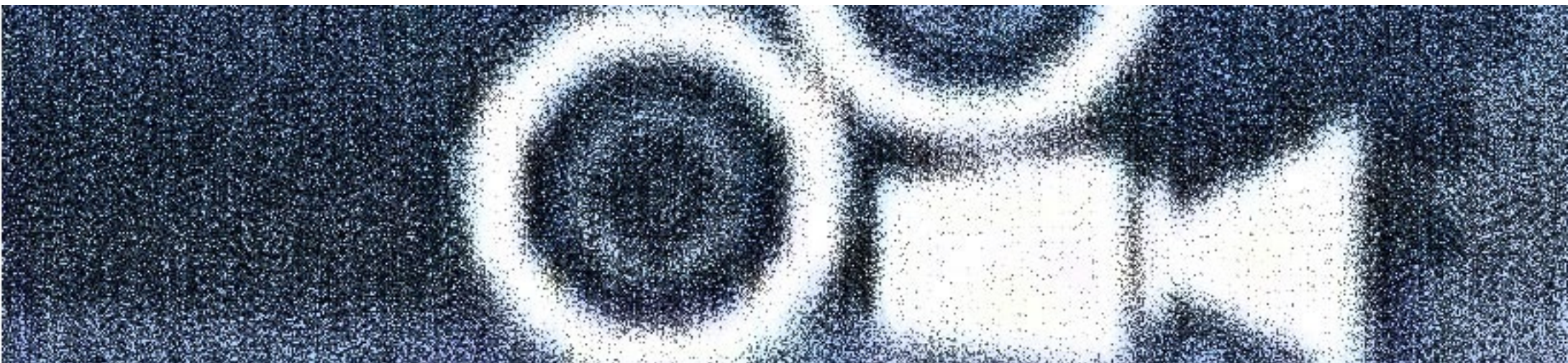
What are your future plans? Any new projects?
Right now, the immediate future plans are to finish my writing and get the festival underway. After that, I plan on exploring some Machinima related projects, as I have some things cooking .
Either way, I can say without a doubt that I'm ready to get back to working in Machinima, so we'll see where that takes me.

Thank you very much for your time.
Thank you for the interview.
I'm glad I can be part of Machinimag's first issue.
Best of luck and much success!

www.machinima.org

The next step machinima?

The award winning new movie from Fountainhead Entertainment has just become publicly available. With so many awards won at the machinima film festival, we are really curious to take an extended look at it.

So here it is, the long awaited new movie from Fountainhead entertainment and it unfolds in front of us. We see beautifully rendered trees fading into smooth distance fog, some sunlight rays, nice shadows and plants on the ground level. All looking very soft and warm.

Yes, you actually forget that you see footage that is taken from a real-time environment. We are stunned, to say the least.

But just before we start to say anything more about the visuals, one might notice that the music might not be everybodys taste. The overall sound of it is slightly too much into the synthesizer area and tends to sound a little strange.

In some way, it fits the overall feeling of the piece, being calm as well, but then again, sounds a little synthetic and simple to really transport the feelings of the movie. But who can afford a full blown orchestra? So never mind and back to the visuals.

Some mist ist layered just beneath the ground of the forest where the movie mostly plays in and works wonderful to transport an "early morning" feeling. The following exposition of the girl works and we all love Fountainhead for being so smart to not show off her face.

But then we see what can happen if you try to achieve a 3D animated look with machinima in these early days. It is not comparable to what is state of the art 3D by now, but it is amazingly close.

It looks like some rendered material from the early 90's, which is way to go for Machinima. And with the girl showing up, you just forget that it is realtime and you compare it with standard 3D.

Why adapt reality?

Give it its own style! More comic like!

It definetly looks like they pushed hard to make it look realistic but in this small scene, the engine boundaries surface.

We were really believing the world we've being presented until the girl appears. It all worked fine, it all was awesome. And now it's a little less.

It is different with the bird that appears as next character. The bird has wonderful painting-like textures and fits well into the environment. Well, that one shot might be a little too wide angle, but we do not want to count peanuts, do we?

So we start believing again until the next scene whith acts as some sort of break. We are shown how a seed transforms into a plant and grows its roots into the soil. The way it is done here reminds you of what you saw in biology classes in your earlier days and again has a touch of aged 3D animation in it.
One very good thing about this sequence however, is that it starts to actually bring some pace into the story. Something really evolves here and you have some sort of climax when the flower finally comes up.

And then it all breaks up again.
With the deer, the following character it is about the same problem as with the girl from the beginning. You clearly see the boundaries of machinima and again, maybe you did not have to. Machinima is close, that's for sure. But for now, it looks as it could not compete in the league of standard 3d animation.

This is all washed away, literally, in the next scene with this very very beautiful rainshower and lightning streaks. The lightning is pretty, lots of concealing shadows, so is the editing with one very short cut at the first lightning sound. Very moody, very well done.
So we have another mini climax and it won't be the last one.
And that's a point here. We have all these small substories linked through the life of the flower but in quite slow pace and with a limited climax each.
Then, we suddenly leave the substory scheme and take on to a greater story with a real climax and relief.
Even though the parts are clearly there and you might be slowed down a little by noticing, they're not replaceable and build up to the big story.

Is this really the next step in machinima?

Well, yes and no. On the one hand, what has been created by Fountainhead compared to other machinima pieces is definetly a giant leap forward.
But it might be in a difficult direction.

It looks awesome if you know about the boundaries of real time engines.
But then again, why do it in realtime?

What you saw here looks like an animation from Maya or 3DStudio made with limited time and with limited budget.
Now you can compare production time and cost of such a movie with standard 3D Animation movies but then again, the movie itself might just not be strong enough to compete against a 3D animated movie.
So, machinima is evolving and here we have the first big step forward. But as long as machinima tries to become a competitor against standard 3D Applications it might loose - for now.
It might be better for machinima to have its own visual style to hide away the technical boundaries and give it an achieveable sense of belief, even for people without the technical knowledge to look behind.
It's not yet working to simulate reality.

But thanks a lot, Fountainhead, for trying to come close to it.
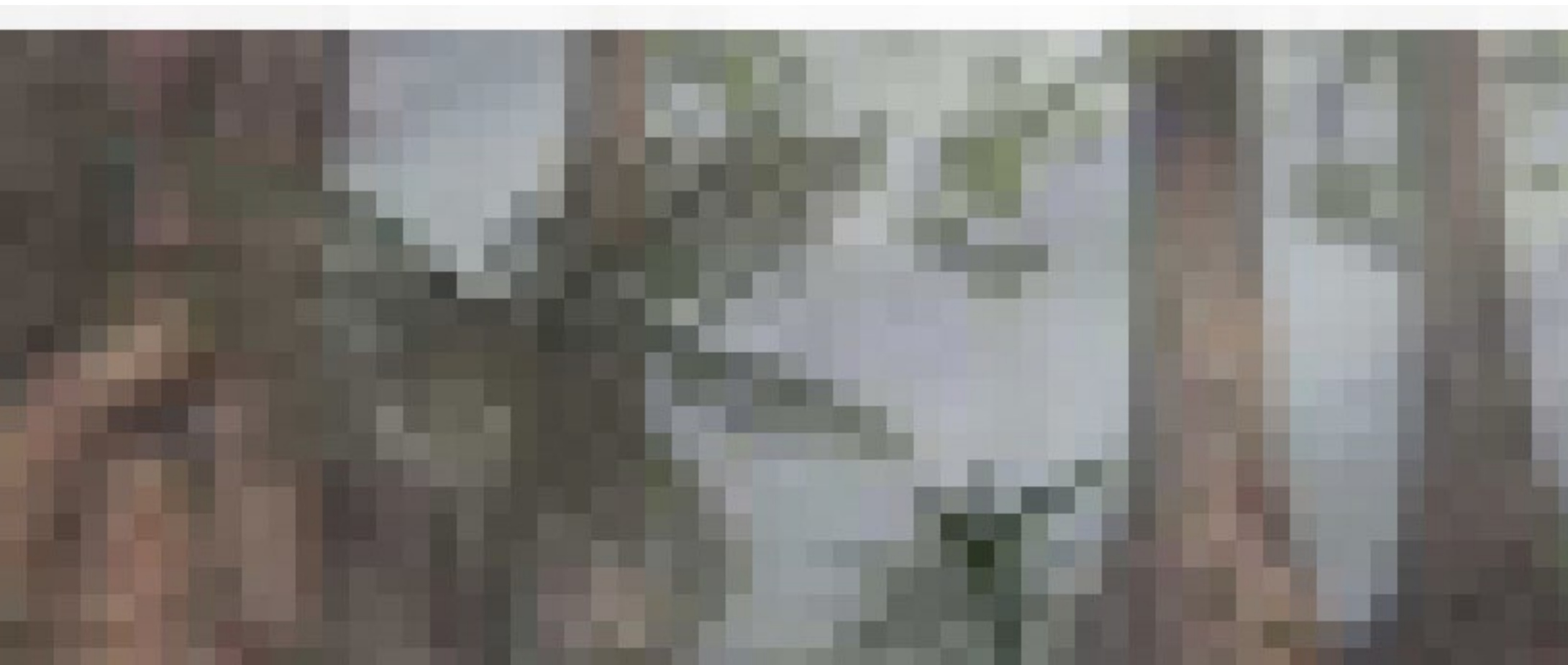
N E X
G E N
E N
G I N E S

With all new engines and technical possibilities, games will come closer to traditional animation and offer even more possibilities for storytelling. Here is some of the points that would make machinima the better choice

Physics

Most future games will have some sort of real-time physics calculation so your actors can interact with the environment. There's no need to create animations for stones falling off cliffs, boulders being thrown through a window or the glass-parts falling to the ground. The engine takes care and saves you a lot of time, not only in animating, but in adapting your animation to different environments.

Animation Blending

Games have more and more resources of predefined animation data. With individual, action oriented animation you can script almost every scene you like - and the engine will take care of the space between your animated parts. Plus the animation fits to every character designed for the game.

Live camera and acting

Games offer the possibility of controlling your actors through the game interface and virtually flying around your sets providing spontanity in your acting and camerawork without rendering times. You can virtually "film" in your set, doing more than one "take" of the action and then assemble.

Shorter Production Time

What you see is what you get. Real-time rendering gives you instant feedback on your creation. You can change your whole setup on the fly, change your characters, add sounds, change your camera angles, add props, change the terrain or redo the lighting.
The game will take account of your changes and your scripting still works.

Easy learning

Game editing toolsets become more intuitive and easier to use. With lots of predefined maps, characters and assets from the game, you can easily build your own movie without doing all the animation, modelling and texturing.
Or you can build a dummy of your production really fast. This saves a lot of time in pre-production and gives a more precise picture of what your movie will look like than storyboards or animatics.
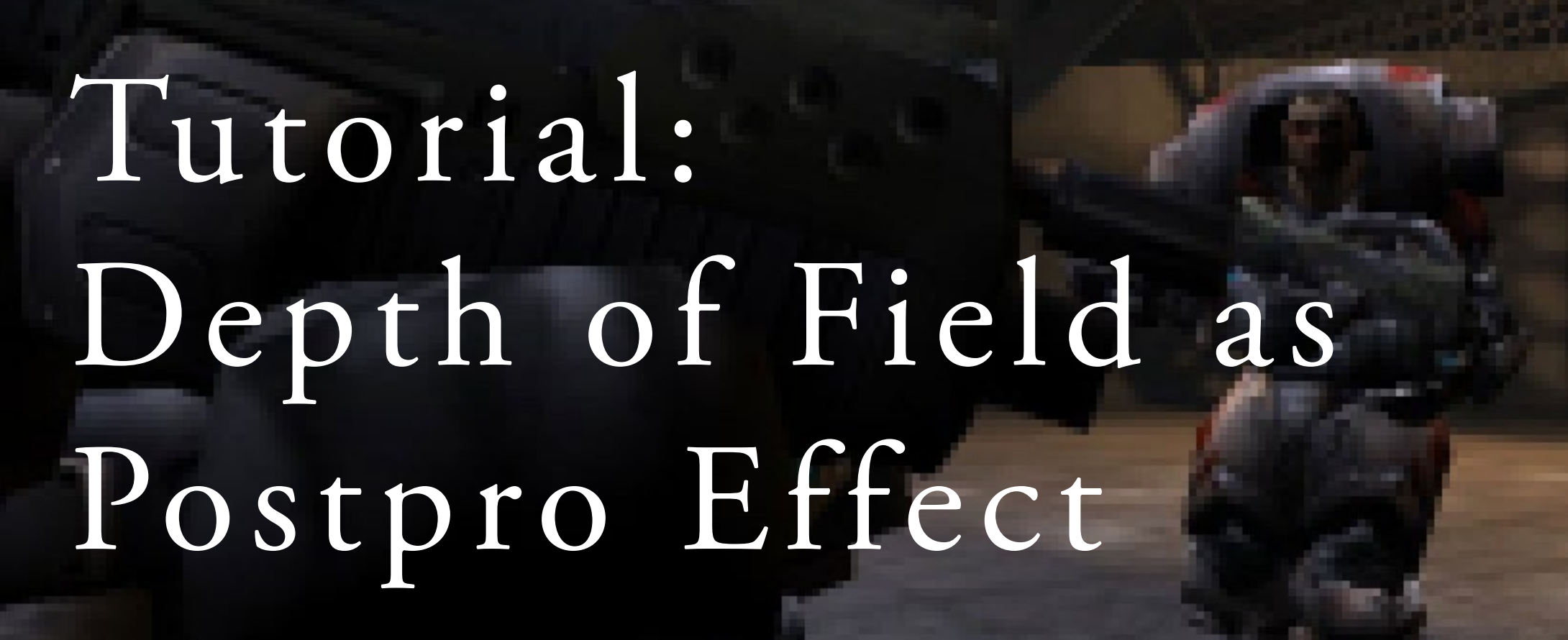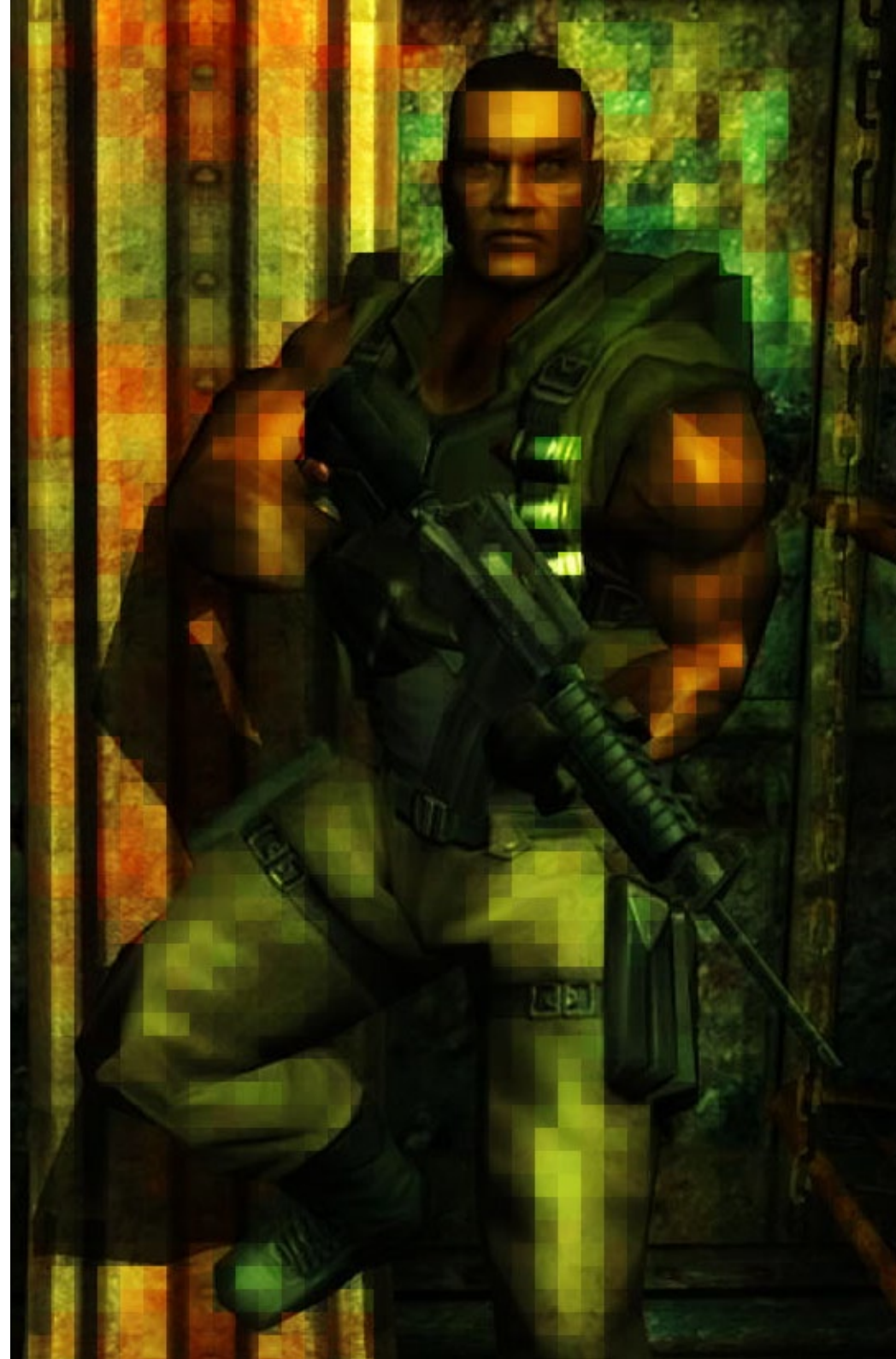
Money

A game is about 40 € nowadays. Compared to a 3d application like 3Dstudio or Maya, this is less than 1% of the costs of your production environment. That however is only applicable if you're doing non-profit productions…

PostPro included

In Games you can assamble your scripted cut-scenes in-engine, without capturing or processing. Besides, state of the art games do your whole surround and music mixing in realtime, including 3d-positional audio and EAX for reverb effects. No manual volume adjustments when your camera closes on a sound source, no 3d positioning of your bullets passing by. And for scripted sequences you do not need an editing suite to cut your movies together.

Tutorial: Depth of Field as Postpro Effect

The most stunning 3D-animated movies use a whole bunch of postprocessing effects to make them look as they do. One of these eyecandy effects is depth of field, which means nothing more than a focus effect of the virtual camera. This is an example of how to generate an alpha channel which can later be used by a compositing application to generate such effects. Although we are using the new unreal tournament games for explanation, the general idea of this could be as well applied to every other engine.

Prerequisites

Unreal Tournament 2k3 or 2k4 matinee sequence, the unreal editor that comes with the pc-version of the game and a postproduction tool capable of assigning alpha channels to a blur effect (e.g. Shake).

Audience

You should be fairly familiar with unrealEd and able to generate your own movies to use this tutorial. You should be familiar with alpha channels and the postproduction tool you are using.
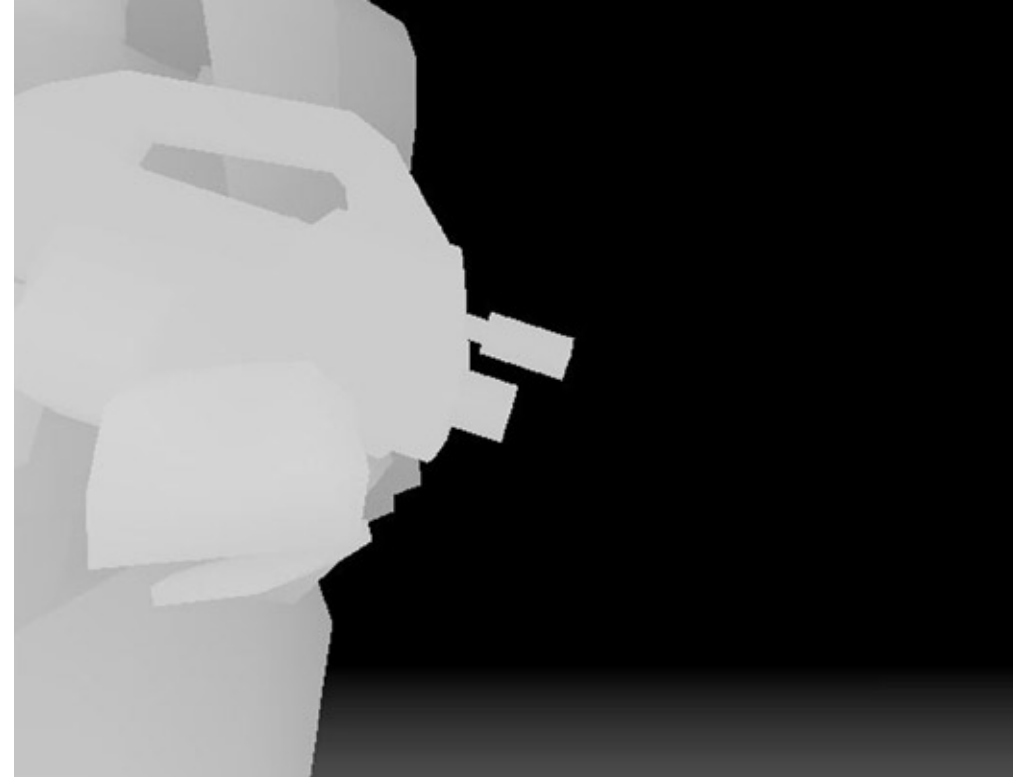
As you might know alpha channels are nothing more but grayscale images used for many interesting purposes. The most common use for an alpha channel of a bitmap or a movie is transparency, where the grayscale value of each pixel from the alpha channel translates into the transparency of the bitmap or movie it is assigned to.

Of course you could also use this mehtod for a lot of other things. For example, you could translate the grayscale value to the outcome of some post-pro effect. In this example we'll do something very similar. We will generate a grayscale map which can later be applied to a blur effect, eventually generating the look of depth-of-field.

We will achieve this through the use of distance fog, a clear-white texture and the ambientbrightness setting of the level's properties.

Now first, open up your matinee sequence and save it under a different name, since we will do some changes to the overall look of the level. Next, you will have to assign a clear, white texture to all of your actors, staticmeshes and geometry. You can do this, for example, by assigning a new constantcolor texture being white.

Additionally, you should set every surfaces' property to Unlit. To do this, right click on a brushs' surface, select select all surfaces, bring up the surface properties and check the Unlit property.

Next, open up the level properties and set the distance fog. For unreal, that means changing bClearToFogColor and bDistanceFog to true in the ZoneInfo tab. Notice that if you are using special ZoneInfo objects, you have to change the values of these objects too.

Then change the ambient brightness of your level to maximum (255). This value is situated in the ZoneLight tab.

The next step should kill all your lighting. This means, select and delete every light in your level. Then, still in the ZoneLight tab, set the Distance-FogColor to black.

Now we should set the distance fog's beginning and ending. This depends very heavily on how detailed you want your blur-effect to be and also on which postproduction package or plugin you use. Lets say you want some blurring in the foreground and some additional blurring in the background. A set-up like that would most certainly take two passes. For the foreground blur, you should set the Distance-FogStart value (in the ZoneLight tab) to zero and the DistanceFogEnd value to something very close, maybe 50.

The DistanceFogStart represents the point from which the blurring will start. DistanceFogEnd represents the point from which onward no blurring will be applied anymore, which means that this is your focus point.

Once done, save the map and record your movie to a file either using the
-recordmovie command from UT2k3 or the
-recordmovie start FILENAME=xxx QUALITY=1
command from UT2k4.

It is necessary to turn off Actor Shadows and Projectors in game to get a useful result. I would recommend setting all the detail setting to low, too (except physics if you use that in your map…) and switch off decals.

Note that the alpha movie you're generating now has to be in sync with your formerly recorded matinee movie to work properly!

Now for the second pass, the background blur, let's think a little bit first. If 'white' in our alpha channel means 100% blur and 'black' means 0% blur, we have to make sure that the background gets white and the foreground black.

To achieve this you could either invert your alpha movie afterwards or you could change your DistanceFogColor to white and the ConstantColor you applied to black. The latter should give you a more direct visual feedback on your alpha channel, but it is up to your preference.

Now that we are aware of this, change your DistanceFogStart to something higher, maybe 100.

Respectively change your DistanceFogEnd, maybe to 800.

The final composite would then have a blur for everything that's closer than 50 units from the camera and an additional blur for everything that's more than 100 units away.

Now record the second pass.

You have now successfully generated two alpha channels for your movie, which you can apply to a blur filter in your postproduction package and achieve the illusion of depth-of-field.

Please note that this tutorial only gives a very brief overview and a very general approach to generating alpha maps for depth-of-field effects. A lot of details might not be covered here including emitters, replacing textures with alpha channels, etc.. Also note that it takes some time to convert all the textures in your map to a clear white ConstantColor and you might have to change Static-Mesh and Actor skinning as well.

The next huge step for first person gaming

.half life_2

There has been plenty of news for the game, the new source engine and the graphical features. One very interesting point was the facial expressions of the characters in the game as seen in different preview movies. Half Life 2 comes with tools to do the facial animation stuff on your own as well as being able to process a .wav file into a phoneme animation of that file.

Which means your dialogues will be lipsync and full of interesting feelings…

Also there's a grphical UI to do the basic actor scripting with, telling your guys where to look, where to move and when.

Another machinimaesque feature to the engine is .tga output at a fixed framerate.

Ok, there's a number of engines that have this feature already implemented, but valve takes this thing serious.

The source engine generates a matching audio .wav file which you only have to combine in some sort of Postpro suite and your movie is done. That's right, no more manual sound editing and still high-res output! But it's getting even better.

Not only demo recording, but post processing camera movements in an already recorded demo sequence really helps streamlining your production workflow. Additionally, HalfLife2 demo-files support some sort of metafile to trigger certain events like fading, titling, additional sounds, etc. at a given frame number.

And now the pretty things: real-time physics, non-scripted AI behavior and beautiful graphics.

Let's hope that texture modifications won't be that complicated and shaders could be designed on your own. Let's hope that physics are easily set up and integrated. And finally, let's hope that the non-scripted AI really does what you want to.

.doom_3

Little is known about the machinima possibilities of this highly antici-
pated game title.
Some of the features that seem to make their way into the game despite
astonishing graphics include latest 3D positional audio and some sort
of ingame editor for mapping allowing for instant manipulation of the
game world.
Other sources tell about a newer version of Radiant to ship with the
game. Maybe they'll mix it all up and shake it…

a look at good production design

It's how things work together, how everything fits into the scenario and how believable your world is, that makes your movie an immersive experience.
Do you switch styles? Is your character's skin looking like plastic and your roomwalls shine in unbelievable realistic metal-like textures? Are you telling horror stories with candy textures?

Ok, you have real-time shadows.
Ok, you have top-notch polycount.
But those are not the reasons why SilentHill3 looks almost photo-realistic in some moments.

What immediately comes to mind is the reduced color palette used for the game. Almost all textures work in red to brownish colors. And almost every texture is somehow dirty, even the skin and clothes of the main actors.
This is commonly used in movies to give an extra mood for the setting and feelings that the characters move through. The lighting is carefully integrated into the setting and color scheme. You have warm lights in dense and dramatically intensive situations, cool lights in urban or technical environments, all with glowing sprites making the lighting a piece of the drama itself.
High contrasts and very dark shadows blend smoothly into the setdesign.
There's always some interesting place to let your eyes rest.
Finally, you have the film grain effect giving you the feeling of actually participating in a movie. You can almost "feel" the celluloid strips behind your screen.

None of these aspects is made possible through latest technical achievements. They are rather carefully chosen to help getting the feeling across the screen. And on the other hand, they help to get over the technical limitations that computer system have today.
The overall texture resolution is pretty bad. On top of that, they are heavily compressed leaving lots of artifacts, dots and dashes on them.
Funny enough you don't mind that at all. You mix it up with the already dirty look of the setting and do not bother with it.
The magic still works.
The polycount is carefully used to design intensive small spaces and help create the typically claustrophobic feeling that horror adventures need to come to life. The same applys to the characters. The main character has lots of facial details and a very high polycount. The monsters however are more stylised and look like a big piece of meat which somehow moves. By using the same color scheme on the monsters, they even fit into a high detail set without looking out of place.

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