This chapter features interviews with several established designers and artists from the games industry. Each interviewee talks about a subject of their choice. For example, one talks about texturing while another focuses on architecture. The aim of the interviews is to gain insight into experienced peoples’ philosophies and their preferred way of working.

Note that the opinions of the interviewees may not reflect their employer’s stance on an issue. Their answers must be viewed as their personal opinions.

CEDRIC FIORENTINO – GENERAL LEVEL DESIGN

Cedric Fiorentino started as a modeler back in 1994 and quickly evolved to a Level Designer while working for Epic Games where he worked on all the Unreal games. Known in the industry as “Inoxx”, he’s known for his involvement in the community, especially for the release of the “Inoxx Pack”, a free level pack for Unreal Tournament. His most famous level is “Facing Worlds”, the most played Unreal Tournament level.

In the past he also worked for Webzen as the Environment Director on the MMOFPS Huxley, and he is currently working on an unannounced project for Arkane Studios.

How do you begin and plan a new level? How do you work and in what order?

This depends greatly on the particulars of your company, your team, the style of game you’re working on, the technology you’re using...

The actual process of making levels evolved quite a bit over the years. It used to be a task that could easily be done by a single Level Designer, just opening up the editor, start cutting blocks and brushes, add some textures, drop a few lights and you had a Level. Some of the levels that shipped with UT were in near-final form after just a day of work.

The process became gradually more and more complicated as the games increased in complexity. The time required for a single Level Designer to actually build all the elements in a level quickly became prohibitive, so Level Designers started using libraries of already built assets. This method became a standard about five years ago.

Then it became obvious that the level designer tasks where still too time-consuming, so next-gen engines further subdivided the tasks by allowing multiple Level Designers to work simultaneously on the same world. Nowadays you can easily have one person working on terrain, another on modeling assets, someone else working on sound and one working on the gameplay. And so on.

These days each world is basically a collection of layers, or sub-levels, that can all work together seamlessly.

I’ll explain the workflow that I’ve implemented for the project I’m currently working on.

The creation of a new level nowadays involves quite a bit of team work. During the initial stage we decide the basics and choose the goals we’re trying to achieve with this specific level.

First of all, we need to choose the gametype, the overall size and the number of players required to play, as well as the maximum number of players. Once these factors have been decided, we start building a basic shell. The shell is a gameplay prototype with little or
no visual detail, build out of simple geometry, to represent an accurate design of the final gameplay. It is important to us to have the game playable as soon as possible, in a prototype form. Once the shell is playable we playtest it daily and redefine it multiple times in a short period of time, with daily play sessions and daily improvements.

In the meantime we’re deciding what’s the environment is going to be like, how it fits in the rest of the world. The concept artists are sketching some roughs, they get done when the shell gameplay has been refined.

That’s when preproduction stops and actual level production starts. The team is divided into Cells, each cell is made of a Level Designer, a Texture Artist and a Modeler. The Cells get the Shell and the sketches and start detailing the Level while keeping the gameplay consistent.

The last stage consists of performance and memory optimizations as well as visual polish.

Each level has its specificities, depending on the skills and inclinations of different team members, or external factors, but we try to avoid diverting too much from this ideal process.

Once all that is complete, preproduction stops and the actual level production starts. We divide our team into cells. Each cell is made up of a Level Designer, a Texture Artist and a Modeler. Each cell gets a prototype level shell and the designs and sketches and starts detailing the level while keeping the gameplay in mind.

The last stage consists of performance and memory optimizations as well as visual polish.

Each level has its specificities, depending on the skills and inclinations of different team members, or external factors, but we try to avoid diverting too much from this process.

What do you try to achieve with your levels and what do you do to try to attain that? What’s your philosophy on levels, your goal?

There’s only one thing that’s really important when you are working on a game: Fun. In the end that’s only thing that matters. You can have the most beautiful environment, but no one will play it if it’s not fun.

Of course other than fun there are also a lot of other things to achieve in a level such as re-playability, visuals, immersion, unique environments and so. There also a lot of technical challenges, for example, trying to make as much as possible fit in the limited memory budget, get the best possible framerate and offer a lot of scalability, so that people with slower computers can still have a great experience playing the game.

How do you develop a certain style or art direction for a level? How do you decide what style and atmosphere a level should have?

The overall look and feel is decided by the Art Director, the Lead Concept Artist and myself. We just sit down together and discuss the specific details of a level. What will make it unique, how it will fit into the world, where it’s located and what the historical and environmental factors of the storyline are that might affect the look of the level. Other elements can be considered as well. For example, depending on the uniqueness of the level, we need to decide which assets have to be created, which assets can be reused and which ones can be outsourced.

This is a very different process from the “old days” where a single Level Designer could single-handedly make a level from start to end. The reality of today’s game development is such that all these measures are necessary in order to get levels done within an acceptable timeframe.
What do you do to maintain the consistency between different elements and the rest of the environment? How do you preserve the unity of the world?

Each environment is carefully sketched out by the concept art team, so consistency is easily attained.

The world is divided into several regions which have their specific look and feel. If a level is supposed to take place in one of these regions, its look will be determined by the background story of that world region and the specific properties of the level’s location.

Consistency is also improved by the use of modular elements that can be reused within the same region, sometimes with minor changes or with no changes at all.

How do you view the connection between gameplay and the visuals/environment as a whole? What should support what? What kind of influences do the style, theme, and/or atmosphere of the environment have on the gameplay? Or the other way around?

Without a doubt, visuals are here to support the gameplay. Using the development process I detailed earlier, we can ensure that there is minimum friction between the gameplay direction and the art direction because those two are implemented at different times. Of course there are always small points of argument about what plays better versus what looks better but these contentions are fairly limited, as the intended gameplay layout is established early on.

What’s more of a problem is the connection between the gameplay side and the technical side. It’s more common to have a good, fun layout that requires changes in order to run well on the target machine.

Which aspects are most important to you when creating a level? What part of the process or element do you devote the most time to?

I tend to be a maniac when I make levels and I tend to spend way too much time on little details. I’ve learned how to get better at it over the years but it’s still tempting to iterate on an area until it’s perfect. I’m also very picky about performance, probably because I can’t forget the frustration of playing games on slow computers when I was younger, so I really try to get the best performance, sometimes going through great lengths to save a few ms from a frame.

This kind of attention to detail is a very good thing for console games because any performance you gain will be enjoyed by everyone, any memory you save can be used to have more details somewhere else. On the PC, it’s harder to justify spending so much time on optimization, because after some time, whatever you gain on one graphics card might be slower on a different model. And the hardware evolves so quickly that all the compromises you make at a specific point in time may seem silly just six months after the game’s release.
In your opinion, what are some of the most common mistakes people make when creating a level?

There are many mistakes that are easy to avoid. One thing that really annoys me in some user made levels are 45-degree ramps. Even though they are easy to walk on in-game it doesn't look very realistic. Buildings in a real world never have slopes steeper than a few degrees. I think nothing looks more fake than these levels with 45-degrees slopes everywhere, it completely breaks the illusion for me.

Also, just because the computer let's you get away with all kinds of designs that would never support themselves in the real world, it doesn’t mean that you can ignore the laws of physics. I've seen a lot of structures that don't make sense, pillars that look too small to support what’s on top, or just above a hole, architectural details from different eras used together... and so on.

All these mistakes can be OK if done intentionally in order to create a stylized feel, but when you see those things in a level that is intended to look realistic; it breaks the illusion and credibility.

What do you think people should always keep in mind when designing a level?

Make it fun! Easily the best advice I can think of. Don’t get stuck on a particular area, sometimes you invest so much time and effort into one area that you might become reluctant to change it later on while sometimes it might be in dire need of a change.

Another thing to keep in mind is what other people's experiences are going to be when they play your level. You have to think about the different ways to play the level so it appeals to a broad audience, while maintaining a good balance. It’s very useful to just let others play your level, sit behind them, and watch how they play. Some people will find clever ways to abuse the level to their advantage, these problems will need to be fixes as quick as possible, or on the other hand some tricks or strategies that seem obvious to you might be too complicated or hard to find for somebody else.
**ROGELIO OLGUIN – GENERAL LEVEL DESIGN**

Rogelio Olguin has made level designs for *Tactical Ops: Assault on Terror* and *Unreal Tournament 2004* for which he mainly worked on AS-Mothership, AS-Fallencity, DM-1on1-Desolation, and DM-Hyperblast2. He has been making custom levels since he acquired *Doom 2* and continued on through games such as *Duke Nukem 3D, Quake, Quake 2, Half-life, Unreal, Unreal Tournament*, and *Unreal Tournament 2003*. Rogelio has led several user mapping projects for the Unreal community. He makes sure every level he designs is unique and new to his previous designs with strong focus on artistic design.

**How do you begin?**

The first thing I do when I’m about to start a level is to figure out what kind of gameplay elements have to be implemented and also what the story and theme will be. Those have to be very clear from the start of the project. The concept stage is very important to me when I start a new level. Making sure everything is prepared before starting any models is always good.

Of course the concept will not be the final result since concepts also tend to not work in a level design sometimes. But they will offer a good base to start from.

**Where do you find your inspiration?**

I get my inspiration from everywhere. Really you should not trap yourself with one area. Inspiration comes from training your eye to see details in the world or in your minds eye. Though I do have a certain biased towards Art Deco, Victorian, and Art Nouveau.

How do you work and in what order?

The order I work with is pretty standard. I go from Concept to laying down the main forms and paths for the player than I start adding the actions in the levels such as elevators, doors, and other events that need to be implemented. Once those are set up I start on making the visuals.

First I start with textures making sure I use a good color palette for the level and what the mood will need to be. From that I build the filler details, like trims, lights, chairs, and anything that might be needed to convey the theme and mood of the level. Lighting is done throughout the filler stage. The end is the polish stage, making sure everything works.

A very important part with level design is to regularly have the map tested by others to see what they think. This should be done from the very start when you have your very basic blocked out layout of your level.

**Why do you make certain decisions? What is your philosophy and what do you do to try to achieve that?**

I make decision based on my traditional art teachings. I base everything on balancing the moving canvas, what is in view. I pay attention that every scene is well balanced visually and interesting to view although some decisions are made for you since game art is still restricted to the speed of computers.

My philosophy is form equals function. It is the philosophy of Frank Lloyd Wright and I whole heartily agree with it. The level layout must drive the player through it; not impair the player.
What do you do to maintain the consistency between different elements and the rest of the environment? How do you preserve the unity of the world?

This starts from the concept stage. Though, I tend to put more than one style on some levels to help the mood. City maps specifically have very different styles, building to building. It is good to maintain standards in your level designs but it is equally as good to know when to break away from the standards and make a design that is true to the naturalism of the real world. The real world buildings are refurbished all the time and sometimes in a single building you see traces of many different styles. Color/lighting is the greatest weapon to equalize the world. Color has been described also as the number one design element since color can directly influence mood and feelings. Color is a great symbolic tool to use.

How do you develop a certain style or art/game direction for the elements in the world?

This all depends on the concept stage. But concepts should always be upped a few times over when you make your level designs based on concepts. For example, if the lighting requires to be made more dramatic to improve the atmosphere then do so. A game design crew should develop a style together and find what works and what does not and apply it. It is a collective direction. Concept can only go so far but the real challenge is upping the designs and to keep improving them all the time.

Which aspects of design are most important to you? What part of the process or aspect do you devote the most time to?

I devote a good bit of time to the concept stage; it makes level design far easier if you have a good idea you can work from. Apart from the concept stage I also devote a lot of time to the visuals. I want my levels to have an essence of symbolism within the colors, textures, lighting, and forms. I want people to unconsciously experience them and the atmosphere and style they bring forth.

What’s the most commonly made mistake?

Not having a good concept before starting and working on one area at a time. Finishing area per area, one at a time, will usually make the level look scattered and inconsistent.

What should people always keep in mind?

Level design is based on nature. Everything in the level should have a feeling like nature has had a say in the building or construction. Nothing is left untouched by the human hand or nature. For me being a level designer is to embrace romanticism.
ANDREW WELDON – SINGLEPLAYER GAMEPLAY

Andrew Weldon originally hails from the *Half-Life* mod community, most notably as a contributor of two official levels to *Natural Selection*. He joined the *Quake 4* team at Raven Software in 2004 and served as a level designer for the singleplayer part of the game and also contributed to a number of multiplayer maps released in the post-release map pack. He is currently working for Gearbox Software on the game *Borderlands*.

How do you work and in what order?

First and foremost, there has to be a plan. What’s the goal? Is the level going to be an epic singleplayer adventure? A scary horror story? A sprawling coop level? I usually start with nothing more than that, scope and game type. From there, I might sketch up some rough layout ideas or dive into prototyping. I like to keep any sketches pretty simple. Just rough boxes with some arrows here and there can do the trick. For me, at least, overly detailed layout sketches hinder the sort of iterative evolution that comes through the entire design process. It’s like working from a checklist, it’ll help identify what needs to be done, but won’t really give it the love it needs.

Instead of committing to a weeks-long project only to find half the great ideas don’t work, prototyping is a great way to test out and tweak ideas in generic settings in just a few minutes or hours. And it’s a lot of fun! I fiddle all the time with little prototype test maps to see how different ideas will work out. This phase can help weed out bad ideas, emphasize really good ones, and also give important information on workload. Getting deep into a project only to find that an element of it is going to be completely unreasonable can be devastating. Identifying issues like this early opens the opportunity to trim things down or at the very least plan accordingly.

When it’s time to start building, rough geometry is best. It’s good to get in and get a feel for the size and check out how it feels to move around. No sense wasting time with detail when you don’t know if you’ll scrap an hour, or even a week, of it later. Ideally, all gameplay would be fully implemented before building a single detail, though plenty of tweaks will occur all the way to the end.

From there and into the visual phase, I actually get pretty free-form. Where some (and perhaps more intelligent) designers work in distinct phases of texturing, detailing, lighting, etc., I tend to start by completely finishing an area or two to establish the theme, then bounce around the level as ideas arrive in my head, eventually propagating out to the entire map. It’s a little dangerous in that it leaves a little more room for error, but I like the sort of visual evolution that comes out of it even if it means a little extra work to go back and touch up other areas to keep the consistency.

What are some of the aspects you focus on in your levels?

Single player requires a certain level of linearity to tell a story, but that doesn’t have to mean a straight path through the level. It’s fun to offer multiple paths or even just set up some rooms to be entered multiple ways with the AI inside reacting differently for each. Setting things up this way adds a hefty workload, but has the payoff of giving players choices and adding at least slight replay value.

I’m also a big fan of reusing areas. This gets into the often hated issue of backtracking, typically seen running back and forth through the same chunk of geometry with monsters magically respawning in it each time. This can be done well, but I prefer multiple unique
passes rather than repeated ones. There are a lot of ways to push flow through key areas. It might be as simple as running under a bridge, then crossing it later. Perhaps multiple catwalks and ledges serve as connecting points in moving through a large vertical space and its surrounding areas. As a designer, smart reuse of areas yields a lightened work load and allows more time and effort to be spent on more focused content. As a player, finally reaching a level-wide landmark can sometimes be reward enough for navigating the level while passes near and through memorable landmarks can help ease navigational confusion present in some more sprawling areas.

Where do you find your inspiration?

I get the most mileage out of the games I play. There are always those elements that can stick with you. For me, a couple include the intro tram ride in *Half-Life* and the apprehension of venturing into *System Shock 2* that can help you re-think the way you approach your work. Even the most mundane detail can kick-start your thought process into a new direction you might not have thought of before. Community maps are great in that regard, too. As time goes on, it’s easy to get used to doing things a certain way. Seeing what others are doing, particularly in the up-and-coming talent, can break you out of that stagnation and into continued improvement as time goes on.

Games aren’t the only thing that can inspire a level, though. In the past I’ve pulled ideas from books, TV, photos, and movies. Even walking by a random building can give that spark. There are also incredible resources online. Concept art galleries are wonderful inspiration (always be mindful of copyrights before taking too much inspiration). Stock photo galleries and urban exploration photos can also provide some of the most jaw-dropping real-world scenes imaginable.

What do you think people should always keep in mind when designing gameplay?

At the most basic level, playing a video game is nothing more than pressing buttons on a keyboard or controller. Gameplay at its simplest is nothing more than making the act of pressing those buttons fun. Much of this is handled in the core game mechanics but the important elements of pacing, context, and means are delivered solely within the levels. This yields some important questions: What is the player doing? Why is the player doing it? How is the player doing it?

The “what” covers the player’s actions and gameplay pacing, the spread of these different actions through the game. Is the player shooting? Exploring? Sneaking? Driving? Jumping? How much time is spent with each action? Perhaps 10 minutes of all-out gunplay is balanced by a few minutes of explorative cooldown. A more in-depth puzzle could be followed by a cooldown of some brainless shooting. Good pacing balances the different play styles within the level (and even on the broader scope of the entire game) to keep any one aspect of the game from becoming too stale. This is especially important when trying to create longer stretches built around one element, say, a vehicle level. Being locked in to one thing for 30-45 minutes is bad pacing. The Halo series has addressed this well by not only breaking up extended vehicle sections but also employing a more open implementation of vehicles where players can sometimes use different vehicles or take on different roles within a vehicle (drive for a stretch, hop in the turret for a bit, etc.).

Context, the “why,” is primarily story-side and can exist independently of gameplay. However, context can trigger extra emotions which can sort of “fool” a player into thinking something is much more than it is. A simple jumping puzzle can be boring and annoying. A simple jumping puzzle against the backdrop of crumbling geometry while being chased by powerful enemies is exhilarating! It’s good to think of presenting the gameplay in ways that will garner that sort of emotional involvement.
“How” refers to the means by which the player accomplishes his or her goals. There’s some overlap with the actions relevant to pacing, but this time it’s in the context of what result comes from that action. An enemy can be killed by gunfire, or a puzzle can be solved by moving a physical object. Simple enough.

One consideration to keep in mind is today’s common aim of “cinematic gameplay”. It’s easy to take a “show the player” approach. Enter room X, then trigger a cinematic of enemies entering. Defeat boss Y, then cut to a cinematic of his death. While the presentation of cinematics and scripted sequences makes for an important element when present, keep in mind the players’ payoff in gameplay comes from partaking directly in the act. Robbing the player of his precious button-pressing time too often or in the wrong places can drastically reduce a level’s appeal.

**How do you see the connection between gameplay and the visuals/environment as a whole?**

It’s interesting; it’s possible for the two to exist independently, to have fun gameplay with no visuals or environment to speak of, or stunning visuals with no gameplay to speak of. Yet, particularly in an action game, the visuals can become an extension of the gameplay. Well-placed darkness and shadows can naturally lead into slower and stealthier play. The clutter, railings, pillars, the omnipresent crate (or whatever more creative solution may be applied), and other mid-sized details can become cover for more tactical play types.

On a less tangible level, a game’s visuals can even enhance that ever-important ‘feel’ of the gameplay. The whimsical and at times plain silly gameplay provided within Psychonauts was mirrored perfectly in the wild, stylized, and varied environments. Half-Life 2’s grittier and oppressive nature was accented wonderfully by the often muted and at times beautifully drab urban environment. Would either game have “felt” right if the environments had been switched on each other? In the end, while visuals are worthless without that elusive fun factor, visuals on top of fun with the right balance of presentation and style can make all the difference between a great level and a truly incredible one.
Tom Hanrahan is currently a Level Designer at Monolith Productions. Before arriving at Monolith, he worked at Timegate Studios on the games *F.E.A.R Extraction Point*, *F.E.A.R Perseus Mandate*, and *F.E.A.R Files*. Tom broke into the industry based on the work he did creating custom levels for *Quake*, *Half-Life*, *Half-Life 2*, *Far Cry*, *Doom 3*, and *Unreal Tournament 2004*. He has been designing levels since he was 14 years old – the days when his mom wondered why he was getting a C in Geometry despite the fact he spent his free time at home dragging vertices across a grid.

**How do you start? What do you always look at or design first?**

If I’m making a level for fun and I don’t have any idea what I want to do yet, I’ll often start by opening the editor and designing a small test room or area. It helps me decide upon an architectural and lighting theme for the level. Once I’m happy with my theme, I’ll come up with a layout for the entire level.

However if the theme is already in place and the concept artist has already dictated what I should be designing, (as is the case for most commercial projects) then I’ll usually start by drawing a complete layout for the level. After that, I just need to make sure that what I create matches the scale and style of the concept art, and from there it’s all just grinding it out.

**Where do you find inspiration for architecture?**

Everywhere. The best thing you can do as a Level Designer is to go to places! You don’t necessarily need to visit the Guggenheim or the Parthenon; you just need to go out and observe how and why the structures all around us are built; look carefully at details and ratios and apply what you see to what you build.

I grew up in a big city and lived close to an even bigger city, so from a very early age I feel I was inspired by modern urban planning. Images of skyscrapers, bridges and subway tunnels were etched into my brain during my formative years. Of course, the places that you experience don’t even need to be real. I am equally inspired by the architecture I see in computer and console games and the places I read about in books.

I find a lot of existing video game architecture to be very helpful, especially FPS levels. If I’m feeling uninspired all I have to do is load up some of my favorite levels that the Quake, Unreal, etc. communities have put forth and marvel at them for a while. Sometimes real life architecture just doesn’t spark my imagination in the same way that a lot of FPS architecture does, which is probably because FPS architecture isn’t bound by things like feasible engineering.

My own imagination is also one of the biggest sources of inspiration. Imagination is given a lot of fuel by personal experience so you have to make sure you’re always keeping your imagination strong by continuing to seek out everything life has to offer. I’m always amazed at how inspired I’ll become just by going out for a walk.
What's the most common mistake you see in level architecture?

The most common mistake I see today in amateur levels is a lack of detail. It can be very difficult and time consuming to propagate a level with the amount of detail necessary to satisfy gamers’ expectations. It's tough because this is often the least “fun” aspect of level design – you've built already built the level, chosen a theme, and addressed gameplay concerns, now it's time to place detail items carefully around the world and add architectural flourishes like levels, broken sections, and other assorted details that make the level feel more interesting. Some amateur designers simply don’t have the time or patience do that sort of thing and consequently release levels that have a distinct lack of polish. The best advice I can give on the topic is this: no matter how detailed you think your level is you can always add more.

What should people always keep in mind when creating architecture for their levels?

Make sure that the architecture you’ve created in your level facilitates fun gameplay! I can’t stress that enough. It’s nice that you have the ability to create an exact replica of your local supermarket but if it’s not fun to put the player in that situation then no one will play it for more than a few minutes. Some of the best levels I’ve ever played make no sense from a traditional architectural standpoint. Always design levels such that the architecture fits the gameplay and not the other way around.

The other thing you should always keep in mind is that you will usually need to include some kind of “stereotypical” element to the architecture in order to sell it to the player without telling them directly what it’s supposed to be. For example, if you’re making a sewer environment, you’ll want to make lots of pipes and pools of sludge everywhere. In real life, a sewer might not always look like that, but if your level looks like it has no function outside of existing solely for gameplay purposes, you’re going to bore the player. You should always try to find a balance between the abstract and the exact – never make a carbon copy of a real life structure or area, but never make a level so abstract that the player doesn’t know what the function of the area is.

How do you see architecture fit into levels in general? According to you, what is the role of architecture within an environment?

I believe that architecture has two main roles within a game level: creating a sense of place, mood, and purpose and then facilitating that sense of purpose.

Architecture is very important to defining the way a level feels as a whole. Even in 2D games where the architecture is nothing more than some platforms in the foreground and a static piece of art in the background, the way that those elements are placed, drawn, and set into their final position is vitally important to shaping what the players feel when they are playing the level. The style of architecture is extremely important for defining the context of the game, especially in first person shooters. If you look at F.E.A.R. for example, the architecture is fairly simplistic and true to what you’d see in any commerce-based area -- an office building, a warehouse, etc. In fact, I think that’s why F.E.A.R. was so successful – the well-executed real-world architecture was vital to facilitating the challenging artificial intelligence that you encounter. I don’t think F.E.A.R would have had the same impact in a fantasy environment, or even a real world environment that had less of an “everyday” feel.
What do you do to keep the architecture consistent?

I like to have as much reference material as possible when I’m working to help ensure the architecture in my level is consistent. It would be really embarrassing to put something in one of my levels that was disparate to the style I was trying to execute. For example if I were tasked with making a historically accurate Romanesque level, I would never cap a building off with a minaret. Of course, I might try to blend those styles if I had no “accuracy” constraints holding me back, but as a general rule of thumb, reference material is an excellent guideline when it comes to keeping a consistent style.

If I’m left to my own devices to create a style (as I was for my *Half-Life 2* deathmatch map DM_Ortho) I certainly do like to try and mix a number of different architectural elements into my level.

It can be very tricky to tie them all together, but the best way to do so is to keep other elements of the level mostly uniform. For example, keeping the type of light fixtures and lighting consistent can help to blend contrasting styles. You also don’t want to call too much attention to a single element. Subtlety is hugely important in keeping things unique but still consistent.
Daniel Luka - Texturing

Daniel Luka is a Senior Texture Artist at Eidos in Montreal. He started his game development career in his early teens when he first released custom created content for the game Monaco Grand Prix Racing Simulation 2 back in 1999. After creating game art in his spare time for five years, using several different game engines he later moved on to become a renowned artist in the Half-Life mod community.

The breakthrough came when Daniel shipped his first game Day of Defeat at age 17 in May 2003, which had started out as a mod project. A year later he was picked up by Ubisoft Entertainment and has since contributed to established titles such as Tom Clancy’s Rainbow Six Vegas and the Splinter Cell franchise.

In April 2006, Daniel was invited to be a guest speaker at the Savannah College of Art and Design where he spoke to an audience of 100 students and professors about what it takes to “become a video game artist”.

After spending a year in sunny Barcelona, Spain Daniel is now back in Canada where he is working at the Montreal-based Eidos studio that is developing Deus Ex 3.

How do you begin?

Textures are a vital part of any computer game. They bring life and color to the world and if cleverly used in combination with lighting can evoke many different emotions in a player. When working on creating a realistic environment, for example, a real-life location my first step is to collect references of that location. This can be done either in the form of photos or videos. Additionally, in professional game development, companies often send their employees to these locations so that they can experience them first-hand and collect all the reference material that they will need during the production process. The artists then take those references and use them as base for creating their game art assets in accordance with the project’s art direction and style.

Where do you find your inspiration?

I find my inspiration in many things. It can happen in every-day situations such as walking down to the grocery store or just going for a walk. I may see a nice little piece of architecture on the way and say “oh that’s cool, I really like this!”. Luckily we are living in a world where technology is getting more and more advanced and cameras are getting smaller and easier to carry around. I recommend to always carry a camera with you so that if you do find something inspiring you can take a few snapshots of it and store it on your computer for reference. Other sources of inspirations include movies and television but also books and good literature. Many game development studios also usually employ concept artists who create illustrations and sketches of the games environments that are passed on to the production artists for inspiration.
How do you work and in what order?

As mentioned earlier, the first step is to find as many good references as possible of what I'm about to create. If I'm working with a 3D modeler I will usually wait for him to finish up the 3D model. I then unwrap it and start the texturing process with the help of my reference material. As I am working on the textures I do my best to get feedback from the art director to make sure I'm on the right track. Once the texture is completed I prepare for importing everything into the game engine. I will then import the assets and, depending on the complexity of the rendering system, create the necessary shaders from my textures. Some tweaking may be necessary here and there once the object is in the game, so I often go back and forth for a little while to make those changes. Once I am satisfied I move on to the next object or area.

Why do you make certain decisions? What is your philosophy and what do you do to try to achieve it?

When doing game art, one very important thing is to not regard every asset one works on as a single asset but as part of a larger whole. After all, every object is placed in the world alongside other objects and the whole of that is what makes the environment what it is. For instance you can make the most awesome, most detailed looking truck but if it doesn’t fit in well with the rest of the environment it is basically useless. This takes a lot of practice and learning-by-doing. At the end of the day though, the payoff is huge! You know you have done well if you look at your environment, nothing looks out of place and everything “works” and looks like it really belongs to the same environment.

What do you do to maintain the consistency between different elements and the rest of the environment? How do you preserve the unity of the world?

One good of way of doing this (in regards to textures and color balance) is to try and unwrap your object so all the textures fit on a single map. That way it is very easy to evenly balance out colors and details on all the pieces. Sometimes you cannot do this due to the way the model is built, engine-, memory-, or streaming restrictions. What I do in this case is create a big blank canvas that I paste all my textures into so that I can see them side-by-side and tweak them with the “bigger picture” in mind. One can do similar things for the actual 3D environments. Start placing objects in your scene, light it, then go in-game to see if everything works together. Be critical with yourself and your work!
How do you develop a certain style or art/game direction for your aspects in the world?

As an example: if one has worked on realistic textures for a long time and is suddenly asked to make cartoon art on the next project it will require a totally different approach. Here is why.

When I create realistic textures I subconsciously work by a set of “rules” that I have in my mind but that are not written down. For example, when I’m working on a brick texture there are a lot of moments where I’m thinking “OK, now do this”, or “don’t do that”, with the idea in mind that the end result is supposed to look realistic. Every brush stroke I make either adds to the realism or takes away from it.

When I need to change to a new style I have to throw all these rules out the window and come up with new ones that nail down this “new style” I’m working in. The best way to nail it down is to make “sample textures”. A set of materials that I know for sure are going to appear in the game. I talk to my art director and show him my tests and get feedback on them. Then I go back and do more tests with different materials until I have clearly defined the new style.

What’s the most commonly made mistake?

A common mistake is that many people add too much grime and dirt to their textures and really overdo it instead of keeping the dirt relatively subtle and sparse and only placing it in spots where it would make sense. I used to do the same thing. I felt like every texture I was making had to have lots of dirt in it just so it doesn’t look boring. Then I realized that a texture is way more interesting if you treat details the way they are meant to be treated...as details. Think about it like salt and pepper in your soup. If you don’t have enough it’s bad, if you add too much it’s bad, too. So you want to find the golden middle.

Another mistake is the use of bad source photos. Too often have I seen textures made up of low-res and pixelated photos with little to no touch-up work done to them. If you use a photo source (on that note: there’s nothing wrong with it, everybody does it!) make sure that it’s a good photo source. I do prefer a nice handpainted texture over a bad photo texture any day though.

What should people always keep in mind?

When making textures one really has to stay objective and self-critical about their work. If one is not sure about a change they’ve made to one of the textures and find themselves hitting “undo” and “redo” over and over again, chances are one probably doesn’t like it and is trying to convince themselves that they do. When that happens it’s usually the best idea to go with the original. Or in case of serious doubt get feedback from somebody else.

Pay close attention to subtleties in the world and keep them in mind when doing artwork. Get feedback from other people. Even encourage people to be harsh with your work when they critique it. Because, at the end of the day we learn more from our mistakes than from what we do right.
MATTHEW FLORIANZ - SOUND

Matthew Florianz, born and raised in the Netherlands, has been working in the games industry since 2001. As a graphic designer, his first assignment was that of level designer on several shooters. During these projects he also doubled as an audio producer and currently works as the full-time audio director for the MMORPG The Chronicles of Spellborn.

His interest in sound comes from his background in ambient music (www.matthewflorianz.com) which he has been producing since 1995. For The Chronicles of Spellborn, Matthew has been a liaison to music-composer Jesper Kyd and was responsible for all in-game sounds and background ambiances.

How do you begin?

Before running off and tackling problems head on, it's better to start working on something slowly. If you can work on more than one “project” it's good to start thinking about something that you’re not immediately working on; let the ideas and background information stew for a while in your mind.

This gives you the time and room to come up with something original.

Where do you find your inspiration?

Inspiration is an odd thing to describe, let alone find. When creating sounds, ambiance, or music the choices made are related to what I liked when I was much younger and far more impressionable. Seeing a film with great atmospheric sound (Alien) or visiting a spooky castle in a theme park are impressions which have left their traces.

One example that always comes to mind is the single player campaign from Unreal. Early on in the game the player enters a mine and cavern system and quite some time is spent underground. When the player finally emerges from the underground, the sun is just setting and warm ambient music plays back above ground. The tunnels, on the other hand, were full of deep drones and basses. I am not even sure if it all really was that long, and if the underground was as dark as described, but it felt like it, and in no small part thanks to a minimal but very efficient sound design.

How do you work and in what order?

I start outside the editor, and even outside the world that’s inside it. Instead, I want to try and think about what’s going on in very broad terms. Instead of thinking about trees and plants, I think about the forest, the colors, the temperature, and mood. These all go hand in hand suggesting what sounds to use, and in what rhythm to use them.

A streaming ambiance (much like music) results from this. It captures the mood, the essence of an environment in sound that is not related to the details of an environment, but its general mood.

When the ambiance is set, then locational sound (effects) are placed. Specific objects such as the leaves on a tree or water running in a stream are given their own sound. If done right, the effects and the ambiance will melt together and create a rich and full soundscape.
Why do you make certain decisions? What is your philosophy and what do you do to try to achieve it?

In movies there is a saying that music should be felt, not heard. It expresses a work ethic in which the composer does not try to show off their extraordinary writing skills; instead they apply them to the canvas, so to speak. Good film music balances between being very “visible” where it needs to be, and guiding emotions in a more subtle way where it can. It’s a dying art form, unfortunately, and the same goes for sound design. In my opinion sound should not over-act, it should never make you aware that you are listening, because the moment it does communicate directly with your senses, you run the risk of breaking the spell that a movie, or good game casts. It’s often called immersion and when a sound suddenly flies around your head, all it really does is take your eyes from the screen and make you aware of having a head. A bit over exaggerated but a good dogma to follow nonetheless, which doesn’t mean it cannot be broken.

I tend to dislike graphic-intense games where, for instance, blooming or bump-maps have been used too obviously. I prefer games that downplay these technical achievements, treat them not as something special, but as tools to help suspend a player’s disbelief. No audiovisual element should stand out so strongly that it can take the player out of the game experience. The best sound in my opinion is the sound one notices when it’s gone but doesn’t when it’s there.

Still, I am very aware that players may eventually start to pay specific attention to the atmospheric sound and as much as I have to make sure that nothing stands out, on the other hand, when picked out it also has to offer something special. One way to achieve this is by adding abstract sound stories. The movie Seven is great material for study in this respect, there’s always something going on outside the windows of apartments, someone having an argument, noises of fights or other unpleasantness. The movie also has a fantastic explanation of the music and sound design, and I think it would explain a great deal more about sound than I could.

What do you do to maintain the consistency between all the different elements and the rest of the environment? How do you preserve the unity of the world?

By listening and listening and then listening once again, there’s really no other way to do it. It helps to listen in an unfamiliar setting. Use headphones when you always work on speakers, or the other way round. It helps you focus not on the work you did, but the way it ended up in the environment. It’s very hard to look or listen to something you made and be a listener instead of a creator. But being able to listen to your own work is hugely important and not as easy as it might seem.

How do you develop a certain style or art/game direction for your element in the world?

Probably by just working and listening critically for what works and what doesn’t. Making games is a team effort and when something I have created doesn’t work, I’ll hear about it quickly. Of course, my background in ambient music helps and there is cross-pollination from doing sound for games and sound for albums. Often the game’s style is already there in the visuals; the process of creating atmospheric sound is as simple as connecting the dots in such a case.
Which aspects are most important to you? What part of the process or element do you devote the most time to?

Most of my time is spent tweaking volumes and making sure that nothing draws attention to itself more than it should. Of course, effects such as weapon effects or interaction sounds are different from the background ambience, but taking this into consideration, sound can quickly become too much or annoying if it doesn’t work well with the visuals. If the sound is bad, it is most often the tone and volume that make it so.

What’s the most commonly made mistake?

A mistake often made is sound for the purpose of having sound. The same goes for music and voices. What we did for a certain project is to hire stage performers instead of voice actors. Although their voices don’t have the strength and clarity of a voice actor, they do bring something into their performance which I find far more interesting than having the perfect sounding voice. “What can the sound add?” should always be a sound designer’s principle question, not; where one can add more sound.

What should people always keep in mind?

Wherever you can, integrate the sound with the environment and don’t try to take the environment too literally. Sometimes completely abstract sounds or noises can create an interesting counterbalance to the images. Compose the sound in your worlds as if it is a symphony, where the players movement speed is akin the tempo in music.

Strengthen contrasts in areas such as cold or warm, harsh or gentle, soft or loud. Games are not very good in working with all your senses but you can definitely try and bring them out more through sound, and of course visuals.

Blue feels cold, so don’t use a droning bass sound in such an environment, use higher pitched noises. Then again, for every such rule or observation, there is a good occasion to purposely break away from it.