



SOUTH AFRICA'S PREMIER GAME DEVELOPMENT MAGAZINE

Season's greetings 2007

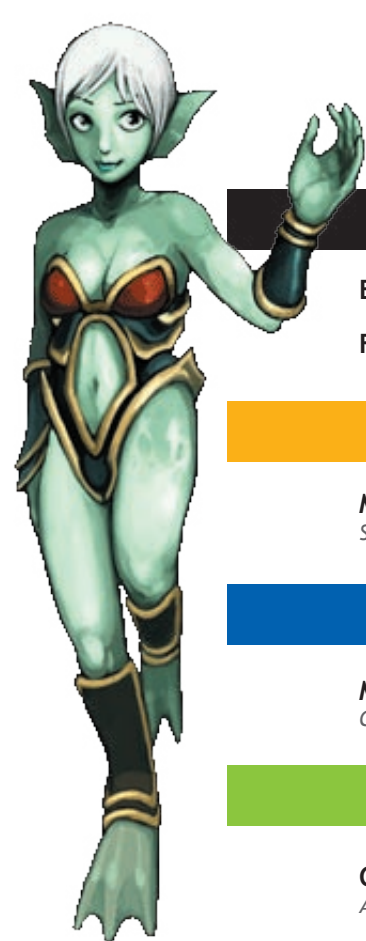
DEV.MAG

CREATE • DEVELOP • EXPERIENCE

AQUARIA

INTERVIEW INSIDE

WE SPEAK TO THE CREATORS OF THIS
UNDERWATER ADVENTURE



REGULARS

Ed's note	03
From the net ...	04

FEATURE

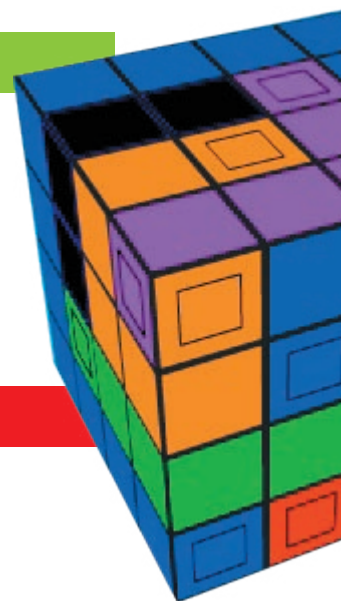
Masters of an underwater fantasy	07
<i>Speaking with the creators of award-winning indie game Aquaria</i>	

OPINIONS

My first game	10
<i>Gazza_N relates the first mistake that a new developer is likely to make</i>	

REVIEWS

Cartesian Chaos	12
<i>A local game with an educational aim and a dash of humour</i>	
3D Logic	14
<i>A mind-bending puzzler with an extra dimension</i>	
3D Logic 2	14
<i>Oooh, there's more?</i>	



TUTORIALS

Blender — intermediate series	15
<i>Time for some in-game animation sequences!</i>	
Game graphics with Photoshop	18
<i>More animation, this time in PS</i>	
Taking the blue pill for Pygame	20
<i>This one is for the Python enthusiasts out there ...</i>	

DESIGN

Creating an effective GUI	22
<i>A look at game menus and HUDs, and how developers sometimes miss the mark</i>	

TAILPIECE

Brrrr!	25
<i>A gander at some of the seasonal games produced by Yoyo Games' first competition</i>	



DEAR READER ...

Yes, I hang my head in shame. I allowed the holiday laziness to grip me a little too early, and this edition of Dev.Mag was terribly late. No extra eggnog for me this year, it seems. The good news, however, is that I can quickly distract you with two interesting facts: firstly, it's the Christmas season, and that's as big in the gaming world as it is with any conglomerate which preys on the festive notions that most people have at this time of year. We've even prepped this issue in a small way to reflect some festive cheer — check out the Tailpiece for more info.

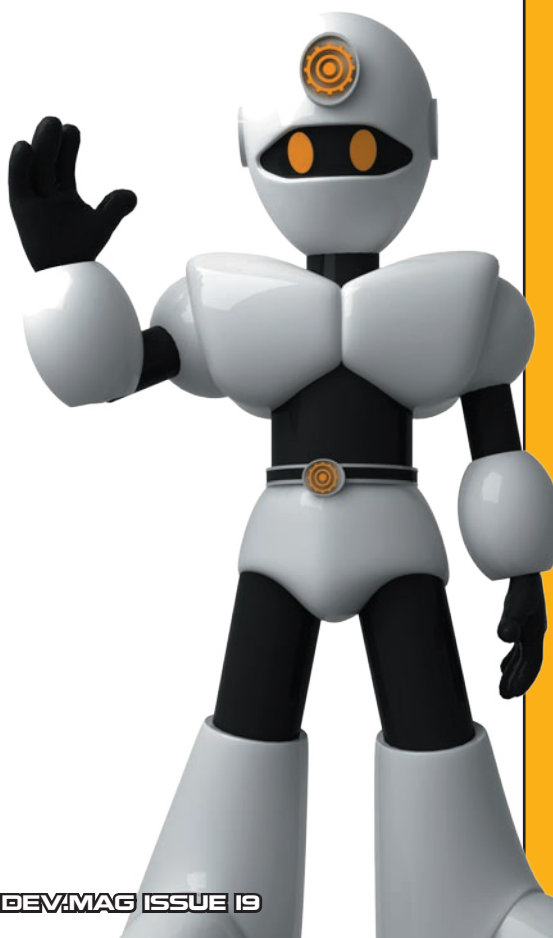
Fact number two is the big one for indie gamers everywhere: Aquaria is out. We've got a lovely little interview with them this issue, and after playing the demo we've decided that the game definitely merits a review in Issue 20. Some feel that the price tag of the full version is a little steep, but I'm in the camp which believes that if people can fork out USD \$30 for some of the mainstream flops that hit our shelves, they can certainly make the same investment for the winner of the 2007 IGF grand prize.

From what I've seen, Derek Yu and Alec Holowka are a fantastically down-to-earth pair of guys who truly deserve to be paid off for their hard work on such an amazing product. Best of luck to them in their future endeavours — I'm sure that Aquaria is going to be a massive success.

My own shameless bias aside (I'm quite awful, really), it's thrilling to see what's happening to indie games nowadays. Projects of an incredibly high standard are cropping up everywhere, and comparing the indie games of today to those of, say, five years ago reveals some startling changes. If you need convincing, be sure to check out this year's lineup of IGF finalists — our From the Net section has more details.

For now, season's greetings and enjoy the holiday! We take our end-of-year hiatus now and will return in February.

RODAIN "NANDREW" JOUBERT
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DEV.MAG ISSUE 19

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We wish you a merry Christmas,
we wish you a merry Christmas,
we wish you a merry Christmas,
and a free copy of Aquaria.



So what if Bookworm Adventures isn't the newest of new games? It's still shamelessly fun, and a few of us jumped onto the bandwagon just recently after our dep-ed played it through and reported that it wasn't just an educational kiddie's title after all. He also managed to spell the word "vivification". The git. Find the game over at <http://www.popcap.com/>

AQUARIA RELEASED

<http://www.bit-blot.com/>

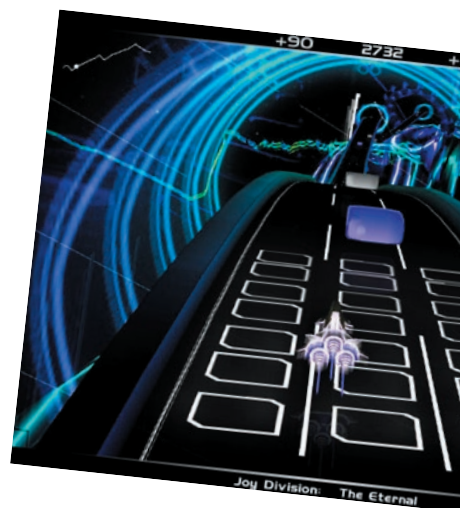
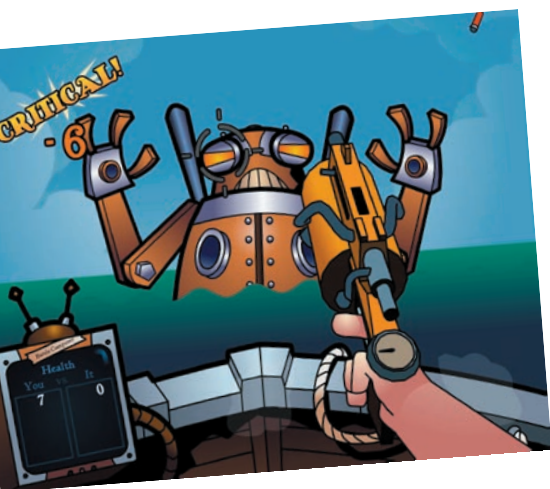
Hey. Hey. Aquaria. Out now. Get it. Get it. Now. Seriously. Now. We've just finished playing the demo here, and it already looks like one of the most awesome indie games that we've ever gotten our grubby little paws on. Needless to say, we'll be grabbing the full version as soon as possible. We'll buy it twice, even. In fact, we'd pay money just to play the demo again. It's really that good. Expect a full review once we've got the whole game to mess around with, and check out this edition's feature for an interview with the creators of this masterpiece.



IGF FINALISTS ANNOUNCED

<http://igf.com/02finalists.html>

The next set of hopefuls in the Independent Games Festival lineup has been announced, ready for the 2008 summit in February. What does that mean for us? Well, a bunch of high-quality releases which are likely to titillate even the most jaded of indie gamers. The lineup has a strong presence of audio-based gameplay (including one game which utilises a Guitar Hero controller for platforming action), as well as one or two surprising entries from the Game Maker front. Some of the games already have full (free) releases available for download, while others have made playable demos.



ELECTRONIC NINJA ROPE? DO GO ON ...

http://www.gamedev.net/community/forums/topic.asp?topic_id=473549

Whilst stumbling about on GD.Net, one of the loyal Game.Dev community members came across a game tentatively titled Electropy and shared his findings with the rest of the group. The game is comparable to playing Elastomania with an electric ninja rope, though it also includes a collection of powerups and far better graphics. It's also rather fun. Check out the link for images, a description of the game and a 33 MB demo.



XNA GAME STUDIO 2.0

<http://creators.xna.com/>

Get ready to rumble with the newest release in the XNA development line. Changes include a wider support for Visual Studio 2005 products, advanced debugging features, a project upgrade wizard (to convert old XNA games to the new format) and some major advancements in multiplayer support. A Net Rumble Starter Kit is already available for people who want to experiment with net code by modifying a pre-built XNA game.



JONATHAN BLOW ON THE "WoW DRUG"

http://www.gamasutra.com/php-bin/news_index.php?story=16392

Gamasutra never fails to bring us people who have interesting and new perspectives on game development. Now, they deliver us a page of Jonathan Blow, the 2006 IGF Design Innovation award winner and creator of the game Braid. And boy, does he have a lot to say about modern game design. A small essay on player motivation, the purpose of gaming, and common misconceptions provides some interesting reading for those keen on understanding game design better.

I'M O.K. ... SORT OF

<http://www.derekyu.com/>

Derek Yu is one of the blokes behind the much-lauded Aquaria. A little bit of investigation shows that he's behind a few other games as well, including the massively popular (and somewhat controversial) ultra-violent platformer "I'm O.K.", the tongue-in-cheek reply to anti-videogame attorney Jack Thompson's "modest videogame proposal".

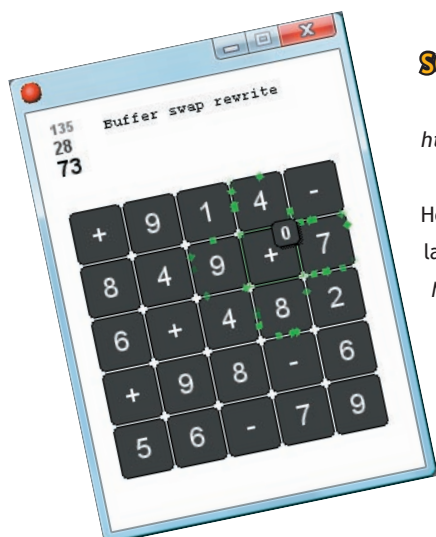
If you haven't played it yet (or are looking for a bit of nostalgia to go along with Aquaria's release) check out Yu's website for the download. Be warned, though - this one's definitely not for the kids and shouldn't be played if you're squeamish.



GEARING UP FOR INSTANTACTION

<http://blog.instantaction.com/>

We're shivering in our booties about this one. Described as "something like XBLA for the PC", InstantAction is slated to be the platform which finally allows web-based gaming to catch up to its peers, with content that downloads as you play and apparently a "near-console quality" potential. A GarageGames innovation, InstantAction's launch is geared for January and will include both free and paid-for products. There's also a competition mentioned on the blog for those interested in developing for the platform.



SOUTH AFRICA "MATH"STERMINDING ANOTHER TITLE

<http://lms.mindset.co.za/mediawiki/index.php/Mathstermind>

Hot on the heels of local production Cartesian Chaos is the news that another entry from last year's Game.Dev educational games competition, currently going by the name of Mathstermind, is in the works for the mobile platform. Although it's still early days (the only thing that we've had a chance to see are a few dang control prototypes for assessment purposes), a description of the game is up on the Mindset wiki and Dev.Mag may soon be graced with a project diary showing readers how a South African group goes about publishing a mobile game. Watch this spot!

HOLIDAY GAMES — MORE WANTED

http://www.gamasutra.com/view/feature/3183/persuasive_games_the_holly_and_.php

Another offering from Gamasutra this month is a feature which basically looks at holiday themes within games and nags us for more. A quick history of seasonal tributes in some of the more popular games - from Super Mario to the Sims - is given, and several examples of festive mods and even changes in game-play based on the time of year are examined. Not a thoroughly deep read, but it's nice to browse through if you're in the seasonal spirit.



MASTERS OF AN UNDERWATER FANTASY

AN INTERVIEW WITH THE CREATORS OF AQUARIA

by Simon "Tr00jg" de la Rouviere



Bit Blot, comprising of Alec Holowka and Derek Yu, is the group which masterminded the winner of IGF's 2007 Grand Prize, Aquaria. Since its release on 7 December, Aquaria has quickly consolidated its reputation as a high-quality product and has subsequently raised the bar for indie games everywhere. Shortly before the official release, Dev.Mag had a chance to speak to the guys about Bit-Blot and Aquaria.

Firstly tell us more about yourself. Who are you and where do you come from?

ALEC: I'm Alec! I grew up in Winnipeg, Canada which explains why I have terribly low self-esteem. My dad was the guy who first got me into making games (he thought it would be more creative/productive than just playing games all day!) with a book called "BASIC Fun" when I was eight years old. Ever since then, I've been writing music, making games and taking names.

DEREK: I'm Derek. I was born in California, in the United States of America. Needless to say, I always carry at least a dozen guns on me at any given time. Hey, it's a dangerous world out there!

What is it like collaborating on a game across the Internet? Don't you sometimes get lost in communication?

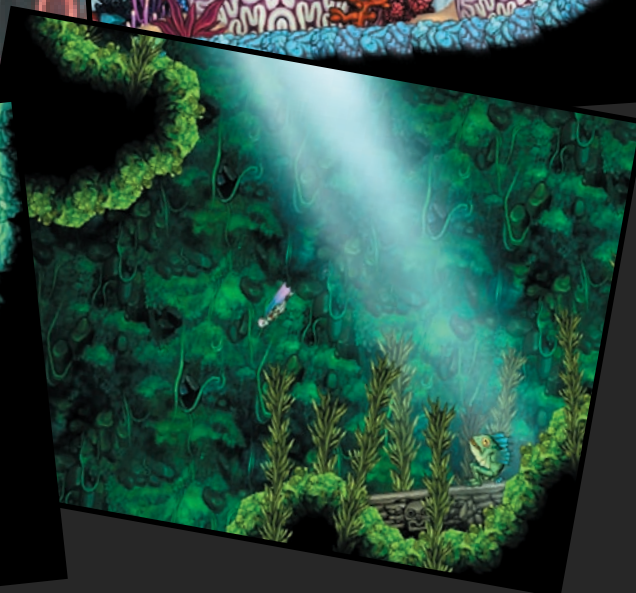
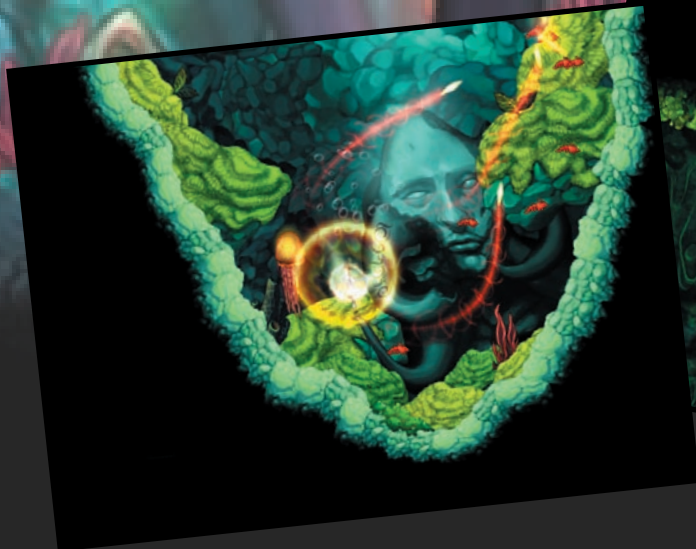
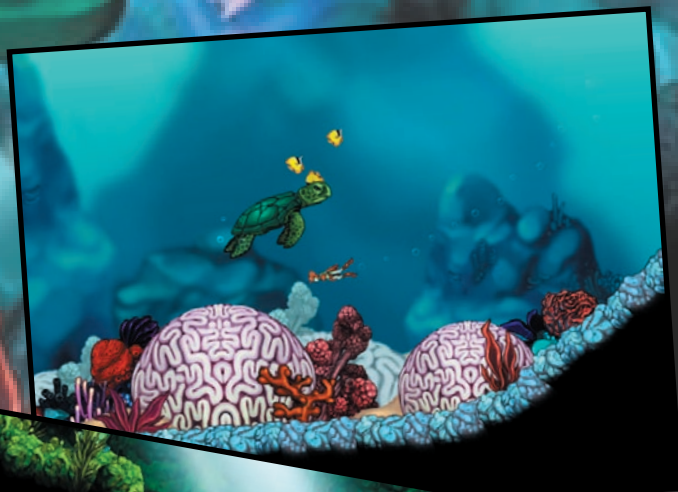
ALEC: Sometimes it can get confusing, but overall it's worked out pretty well. We've also worked together in person a number of times, so we now have a better understanding of where the other person is coming from.

DEREK: There was definitely some difficulty in the beginning ... for the most part Alec and I have similar ideas about how to do things, but for times when we don't, it's

much easier to communicate over the phone or in person. I wouldn't recommend trying it unless you trust who you're working with completely! That said, it does work out pretty well for us.

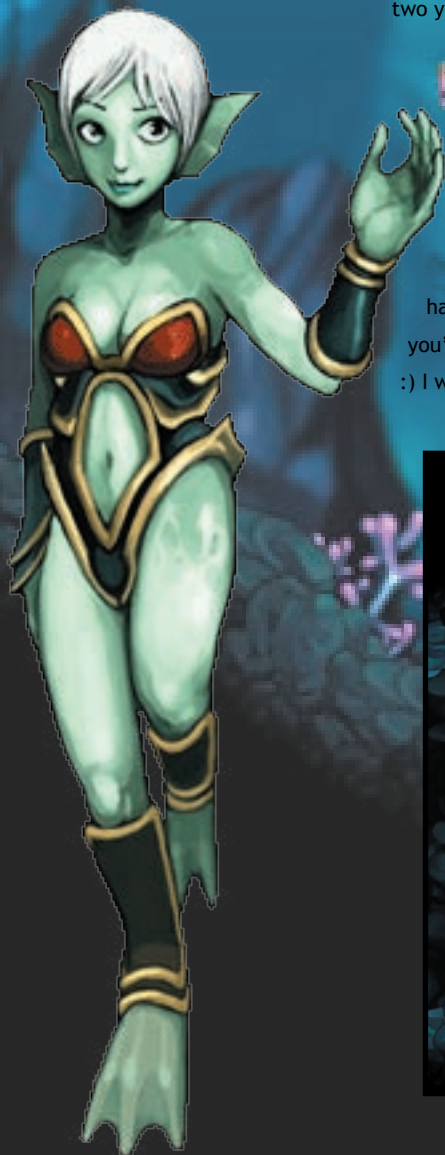
Tell us briefly what your latest project, Aquaria, is all about.

ALEC: The cool thing about Aquaria's story is that it's layered; there's a surface story that is engaging the player, but there is also



a deeper story - and beyond that there are fundamental themes about relationships and creation. I'm hoping that players will be able to fully immerse themselves in the story and the exploration and just get lost in the world we've created!

DEREK: We worked really hard to make sure that Aquaria was a "complete" experience. That is, every part of the game - graphics, sound, level design, controls - works together to ensure that the player is always engaged. The mouse-only control scheme came from that line of thinking ... as did our choice to go with voice acting instead of text-based dialogue. I think one of the unique things about this game is how it marries these various concepts. We wanted everything to be very elegant. But the short answer is that Aquaria is a massive underwater fantasy world. As the player you get to explore it and uncover its secrets.



How did you guys decide you were going collaborate on something like Aquaria?

ALEC: I was doing some music for Derek's game "I'm OK", and we just started talking about games and game ideas, and realized that it would be fun to make a game together!

DEREK: Yeah, it was pretty serendipitous, I must say!

What are your roles in Aquaria?

ALEC: I do programming and music. We work on the design of the game together.

DEREK: I do the graphics and most of the level building!

How long has Aquaria been in development?

ALEC: Since I first showed my ancient prototype of the idea to Derek it's been just over two years.

Where did Aquaria's inspiration come from?

ALEC: For me it was mainly games like Final Fantasy VI - games where you explore a fantastical world while having adventures. Games with worlds you'd want to travel to in person one day!
:) I was also inspired by Blood Omen: Legacy

of Kain, mainly because I loved the atmosphere and the way it used voice overs.

DEREK: I've always liked games where you get to explore and find interesting places and things. Eternal Daughter was an homage to my favorite games as kid - Zelda, Metroid, and Castlevania. There was a lot about that game that I thought could have been improved, and so I think you can see some of it in Aquaria... only much more polished! And, of course, the game takes place underwater, so much of our inspiration comes from there. In particular, many of the creature designs are based on real-life animals. Nature comes up with weirder, crazier stuff than any human mind could.

I read you are already planning your next project. Any hints as to what it is about?

ALEC: We have a grab bag of ideas germinating. So far there seem to be three good candidates ... not sure which one we're going to pick yet! We probably won't be able to work on them for a while ...

When you entered IGF with Aquaria, what were your expectations?

ALEC: When we first entered, we just hoped we'd get nominated for something. Any award. When we received 4 nominations, we thought, "Well, now we'd better win something!"



DEREK: Haha, yeah! It's hard to know what to expect. Part of you wants to win, but you're afraid of jinxing things. We were incredibly happy just to be able to attend, to be honest

What do you think about the indie scene of today?

ALEC: It's exciting!

DEREK: It's getting bigger and better, but it still stays personal - I love that. I can tell you, two years ago, you really had to look hard to find good independent games. These days, it seems like everyone is interested. It's wonderful. There's really nothing more to say other than that it's a great scene to be in.

Where do you see the indie scene going?

ALEC: I'd hope to see more power in the hands of developers. I'd like to see indie developers collaborate to create their own publishing label.

DEREK: I feel like the independent scene is more flexible ... with that flexibility are

going to come more unique opportunities. What we don't have is the kind of power and money the mainstream industry has, so we'll have to make up for it by sticking close and helping each other out. An indie-owned publishing label that's not a casual portal would be wonderful.

What is your advice for indie developers?

ALEC: Keep your stick on the ice. If this is really what you want to do, keep at it until you succeed!

DEREK: Work at it. Finish games, even if they aren't perfect. Don't sell your first finished game. Work with people who share your vision and dedication. Love what you do!

Anything else you want to say?

ALEC: I was hoping you'd ask "Why are you guys so sexy?" to which my answer would be "Aww, yeah." Oh well.

DEREK: I was tempted to answer "Aww, yeah" to every one of your questions, actually! ☺

QUIRKY QUOTES

Favourite Console?

ALEC: Currently Nintendo DS! But in terms of all time, probably Super Nintendo.

DEREK: I think the NES holds the softest spot in my heart. But it's like choosing between children... I don't want to play favorites. I love them all.

Pizza or Pasta?

ALEC: Tacos.

DEREK: Pizza Pasta.

Mars or Jupiter?

ALEC: Uranus

DEREK: Mars. I have three words for you: three-breasted prostitutes.

Master Chief or Mario?

ALEC: I'd love to see Mario crush Master Chief's skull in.

DEREK: Whichever one can defeat King Koopa.

DB SAYS ...

I've already had a shot at the demo, and boy is this game sweet! Expect a proper review as soon as we get our hands on the full version. If you want to try it out yourself, visit Bit Blot's website at <http://www.bit-blot.com/>



“My first game”

by Gareth “Gazza_N” Wilcock

“Hey guys! I’m new to game development, but I’ve got an awesome idea for a game that I wanna share with you. I hope to have it finished in like a couple of months, and it’s gonna be awesome. Here it is: I’m gonna make an MMO with like a million items that you can combine for different effects, and huge randomly-generated areas populated with randomly-generated monsters with randomly-generated attacks, and, like, you can make your own spells, and the story! Man, the story’s gonna be awesome - it’s got aliens and orcs in it. And, like, I know I’m new to this, so the graphics won’t be too complicated - just like Quake 1 graphics. So wadda ya think?”

What do I think? Oooooooh boy...

Now, I’m hardly the Most Enlightened Guru of Game Design, but the urge to squash the above with a snappy “there’s not one iota of the possibility of a chance that you will pull that off” reaches epic proportions. Let’s be blunt - the poor person has absolutely no idea what they’re getting themselves into, do they? They’ll flounder around hopelessly with all aspects of game creation before giving up and doing something simpler and more rewarding, like raiding the liquor cabinet. Better to put them out of their misery straight away, right? I’ll get the flamethrower. Let’s put that poor delusional n00b in their place.

Not so fast ... I’m pretty sure that many, if not most, of the people reading this article

started devving (or are considering it) with the aim of creating exactly the kind of epic game described above. I know I did, and many people that I speak to who are interested in starting development give me very similar ideas. Yet, when I punted my big ol’ idea at Game.Dev a year ago, nobody shot me down. Nobody said “dude, don’t even bother, you have no idea what you’re doing”. They would’ve been right too. Yet, somehow, I’m still making games. Occasionally they’re even enjoyable. And my fellow newbies and I just so happen to be getting better and better despite our initial n00bitude. Imagine that.

My point - the vision is what’s important

here. Those with the drive and passion to make games will work past the initial disappointment and start working towards their grand ideas, learning and improving as they go. Those who aren’t willing to put the effort in (or who just aren’t suited to it) will crash and burn. It’s like that with any human endeavour. Slagging newbies, like I’ve seen done in some of the more elitist online communities, does nothing for their confidence. It certainly isn’t helping them in any way, and it discourages someone who could potentially be the next great design legend from ever getting started. Nice moves.

After all, I wonder how Will Wright’s critics feel now... 🎯



Windows Vista

Open Source Win64

GameBoy Advance

DirectX 10

.NET 2.0

XBox 360 via XNA

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OpenGL 2.1

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CARTESIAN CHAOS

<http://www.retrotoast.com/>

by James "NightTimeHornets" Etherington-Smith



Cartesian Chaos, version 1.0, is the first commercial release from South African developers RetroToast studios, the winners of Game.Dev Comp 15. Regular readers of DEV.MAG may be familiar with their work, having been featured in the October 2007 edition.

Cartesian Chaos is a challenging educational title that tests one's mathematical prowess while being fun at the same time. The story: once every millennium, spiteful mathematical 'expressions' migrate across the Cartesian plane seeking to throw themselves back into the origin and end their tortured existence. This cannot be allowed to happen or else the basis of mathematical reality will be torn asunder. Never before has the world been so close to dividing by zero. All is not lost however, for each expression has a weak spot which can be targeted to destroy it and this is where the player steps in – to take the fate of the universe into their hands.

The game world is graphically simple yet polished and crisp, presenting a colourful Cartesian plane which will be familiar to anyone who has entered the first year of high school. A scoreboard and control panel keeps track of the current game on one side of the screen. The spiteful expressions, or monsters, appear from the sides of the screen and drift towards the center of the Cartesian plane, the origin. A wide variety of cartoon faces with expressions such as angry, confounded, happy, sad or frightened will assault from all angles. The faces also bear a mathematical expression above them, their weak spot, and this all makes for a nifty pun. Once a monster's weakness has been uncovered it will be destroyed with a

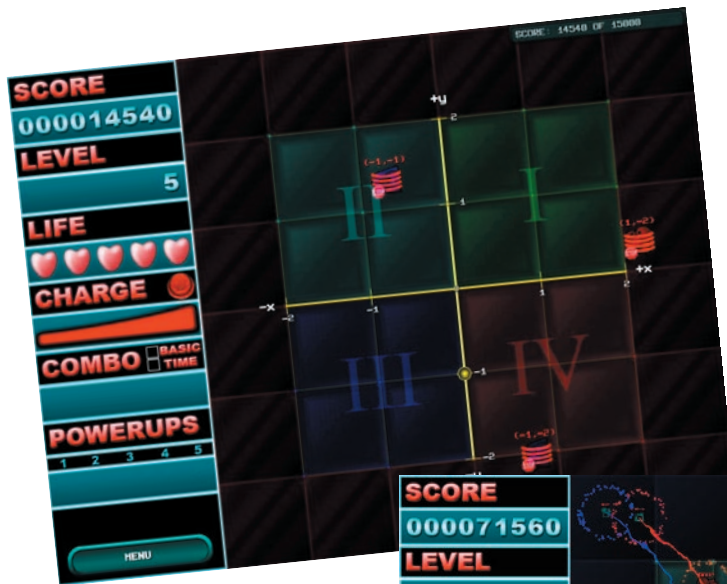
satisfying bolt of lightning and a comical wail which encourages the speedy dispatch of the next assailant. The musical soundtrack helps set a pace to the gameplay and offers enough variety to avoid becoming overbearing.

The game provides three game modes: 'Quick Quadrants' has you identifying which of the four Cartesian quadrants contains the monster's weakness, and 'What's the Point?' requires you to pinpoint the (x, y) coordinate of the weakness; 'Define the Line' is the most challenging and requires the solving of a line formula in the format of $Y = MX + B$ in order to plot the gradient of the line. Simple and mostly effective tutorials are provided for each of these modes to ensure that the gamer doesn't have to take a refresher course in mathematics from their 10 year old cousin. The more complex line equations can become slightly confusing, especially if one hasn't

practiced solving such formula recently and the tutorial on this could do with an added dose of clarity, something which is sure to be addressed in future updates.

Along with the reflexes of a mathematically adept puma, the player also has a number of weapons at their disposal. These are awarded in the form of 'powerups' during the game and provide much-needed assistance. Five powerups in total allow the player to hinder the spiteful expressions' progress and even reveal the locations of their weak spots. All is fair in math and war. Descartes himself had developed a devastating weapon named the Descartes Doomsday Device, better known as the DDD. With enough kills under the belt, the DDD becomes available and this bad boy has the power to zap every monster currently on screen. It comes with a warning however, "Do not push this button." Scary stuff.





The game can be played in either 'Arcade' or 'Challenges' mode and at four difficulty levels; easy, medium, hard and the aptly-named crazy. Arcade, as one would expect, has the player striving to set a personal best score. In Challenges, 48 scenarios are offered and have the player attempting to beat certain scores or time limits, reach the target number of kills or deliver a certain number of combos. A combo is achieved by zapping 5 monsters in a row without missing and then continuing the streak. A speed combo is achieved by zapping monsters quickly. Multiple player profiles can be used within the game and this allows for competition amongst friends and family to rank highest on the scoreboard.

There are minor gripes such as the inability to disable sound or music from within the actual game, being forced to return to the main menu to do so. This is further compounded by the fact that one cannot leave a game to be resumed later. This could prove especially annoying in arcade mode when trying to achieve a high score. The option to run the game in windowed mode seems largely redundant as the game is forced to run at 1024x768 and using any desktop resolution lower than this will result in a windowed game that does not fit the screen at all. The only perceivable reason to use this would be the availability of the minimize button, for those who haven't quite mastered alt+tab,

to use in case the boss is about to catch you slacking off again.

The Quick Quadrants mode is by far the simplest, with only four possible solutions to any expression, but would still prove useful in teaching mathematical concepts to a child. Older players may quickly realise the loophole in this game mode as there is no real punishment for an incorrect answer, other than a loss of combo score, thus reducing the game to a frenzied click fest in order to beat the challenges. This is especially true on the higher difficulty levels in which the monsters assault the origin so quickly that there is no time to contemplate the correct

answer. What's the Point and Define the Line modes require more thought, often proving challenging and even downright impossible on the 'crazy' difficulty. Define the Line is no doubt aimed at those who have at least covered these concepts in school but in no way precludes younger players

from learning. The equations require a sharp mind to calculate speedily and will provide a daunting test of one's ability on the higher difficulty levels.

Cartesian Chaos is a terrific little package that injects some new ingredients into math, namely colour and fun, and gives an original and refreshing spin to puzzle games. Children will find themselves learning basic mathematical concepts in the guise of a fun-filled game and teenagers and adults will find plenty of challenge in honing their math skills. Math is an area poorly explored by electronic games and Cartesian Chaos will really give the left hemisphere a solid workout. 🎯

DB SAYS ...

Want to try this game out for free? Find a demo of Cartesian Chaos at <http://www.retrotoast.com/>

The full version is available from Savage Software at <http://savagesoftware.com.au/>, and the product link is also available on Retrotoast's home page.



3D Logic

<http://www.kongregate.com/games/AlexMatveev/3d-logic>

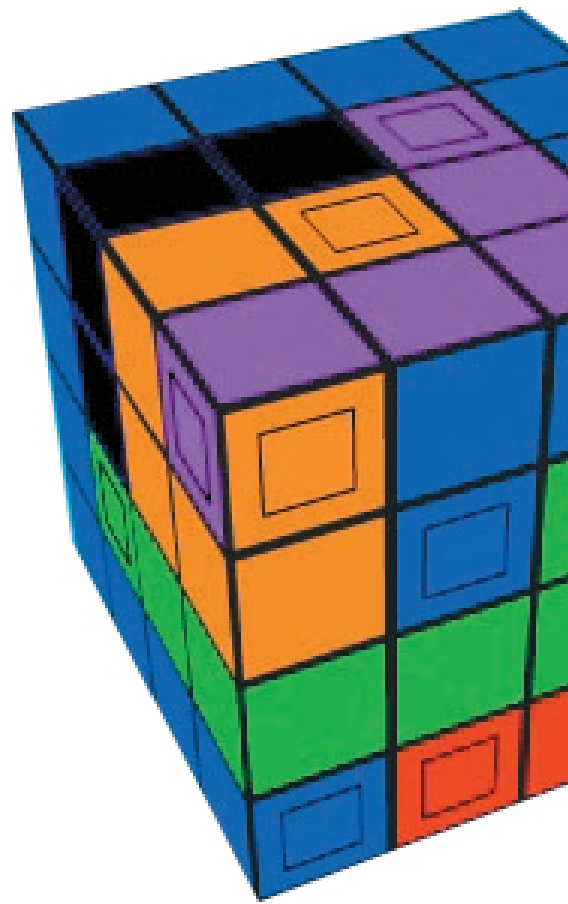
by Claudio "Chippit" de Sa

It's uncommon to find a puzzle game that isn't simply a tried and tested idea with a simple twist. In fact, more often than not, that's all a puzzle game needs. 3D Logic, however, is a little more than a simple twist on an old idea.

The premise of the game is quite simple, as is often the case with successful puzzlers.

You are presented with a grid of varying sizes and are required to connect special coloured squares with their counterparts by filling open blocks on the grid with a matching colour. The twist here is that field of play itself is mapped onto three faces of a cube.

The addition of an extra dimension adds a deceptive amount of challenge to what would otherwise be a rather simple game. But anyone persistent enough to complete all 30 devilishly tricky levels will be awarded with the simple pleasure of a tangible feeling of success together with the boasting rights that it earns. 🎯



3D Logic 2

<http://www.kongregate.com/games/AlexMatveev/3d-logic-2-stronghold-of-sage>

by Claudio "Chippit" de Sa

3D Logic 2 takes the gameplay tested in the first incarnation and gives it a good new coat of paint, some polish and 30 new, even more menacing, levels.

While the sequel doesn't actually add any new gameplay elements to the game besides a relatively redundant 'story mode', it is rather selfish to ask for more than what it has already done. With a smooth new look, more intuitive controls and more high-quality levels, 3D Logic 2 does all it needs to do.

With its new skin to keep things fresh and the new controls that make it easier than ever to get every line connected, this sequel takes everything that was good about the first game and simply gives us more of it. If you ever feel masochistic, remember this game; it's a perfect way to break your head. 🎯





BLENDER TUTORIAL

Animation Sequences

By Stefan “?rman” van der Vyver



This article refers to resources available at the “Contents” section of the Dev.Mag website (www.devmag.org.za). It is recommended that you visit the site and download these resources.

Enhancements to the games that you develop can take many forms. One enhancement that adds real spice is in-game movies. Blender 3D is an excellent free tool to help you produce short motion clips in almost any format. This tutorial will focus on some basic aspects of animation that I hope will assist you in creating animations that will enhance your game development.

Animation involves moving pictures. To make the moving pictures, we move things around, photograph them and then play the photographs back to make it look like they moved. Getting things to move is easy. But simply telling an object to move does not define the detail of the movement. Take a ball, for example. You can position the ball to fall to the ground, bounce and continue like this until it comes to a stop. The detail of the bounce is that the ball has zero speed at the highest point of its bounce, and the fastest speed just before it hits the ground. Where do

you tell the bouncing ball to change its speed? Or consider a rocket taking off. You may place the rocket on the ground, and then higher up in the air, but nowhere can you define how fast it accelerates. I'll use this tutorial to tell you how to define that movement.

Storyboarding the animation is quite important. It is necessary to know how much time we have, as well as how to pose the objects as cinematically as possible. This is where you have the opportunity to play film director. You call the shots.

I am going to use a planet, a satellite, and a camera. We will animate them separately from each other. The .blend file with all the elements will be provided, so that you can focus on learning the animation aspects quickly. The planet will be my main actor. In

this animation the camera will be doing a slow pan onto the planet from right to left. The planet will fill two thirds of the screen, indicating that we are quite close to it. At the end of the shot the planet will fill almost the entire screen. Then the satellite will fly in from the right, going towards the left. Without the satellite, the shot could simply be a documentary about a planet. The satellite flying past indicates some contact by humans with the planet. This could mean simple interest, monitoring of the surface, or many other things. The point is that it brings another emotion into the scene.

I have decided to animate the sequence as below, based on my storyboards.



Begin this tutorial with the Blender file that is available from the website.

(<http://www.devmag.org.za/uploads/BlenderSatelliteStart.blend>)

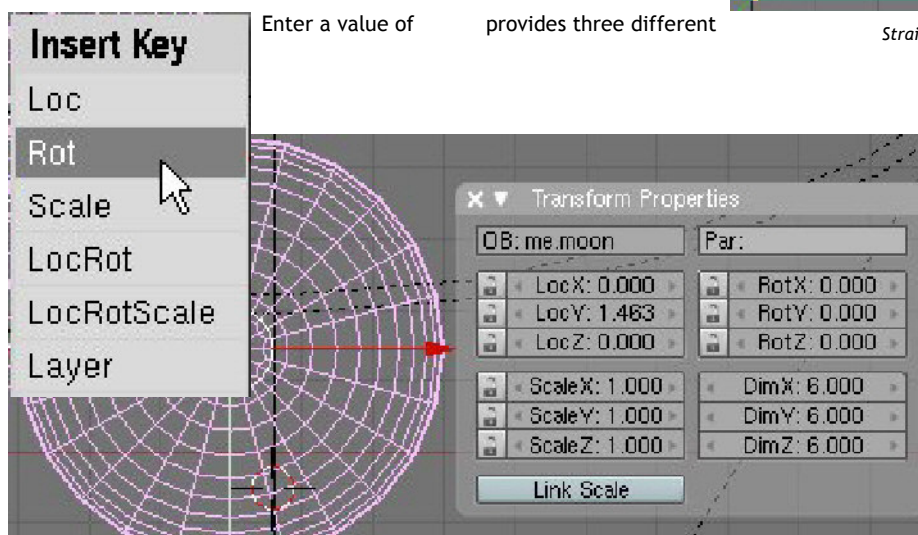
You will see two viewports. The one on the left is the active camera view, which also represents the final rendered image view. On the right is a top view of the scene.

The Planetary rotation

I'm going to guess that you will also be too lazy to work out the rotation for the planet in a scientific way. Certainly your viewer/ player will be less concerned with the correctness of your planetary rotation than with its appearance. Therefore, I'll make a suggestion for the rotation values. You can change it any way that you like.

Select (RMB) the sphere representing the planet. With your mouse cursor over the top view, press [N]. You should see the object properties displayed like this (The property dialog will appear centered on your mouse cursor position):

Please note that all rotation values are currently zero. We will animate the RotZ value. Remember that, in Blender, you use the arrow keys to advance through frames. Up and Down advances or rewinds 10 frames at a time, while left and right moves one frame at a time. Once you are certain that you are on frame 1, press [I] and choose Rot from the list to insert a keyframe for the rotation value that the planet will have on this frame. Advance to frame 225. That will be the last frame of our animated sequence.



10.00 next to RotZ. Insert another Rot keyframe.

Now change your bottom window to an "IPO Curve Editor" by clicking on the top left icon and choosing IPO Curve Editor from the list. Use the 'zoom view to area' icon to zoom in on the selected keyframes. This IPO curve represents acceleration. If you feel challenged by or scared of this screen, my suggestion is that you take a deep breath and hang tough.

On the horizontal axis we have time, and on the vertical axis the value that has been keyframed. In this case, we are seeing the rotation keyframed over time. As such, it is obvious that there is a slow start to the rotation, followed by a steeper acceleration curve, ending in a slowing down of the rotation.

This means that the planet will start rotating slowly, then speed up, and then slow down again. This is definitely not good behaviour for a planet, so we are going to change that. The way in which we will change it, will be by giving the curve a uniform acceleration.

Select the curve representing the Z-rotation. Press [TAB] to enter edit mode for the IPO curve. Press [A] until both keyframes turn yellow (indicating that they have been selected). Blender provides three different

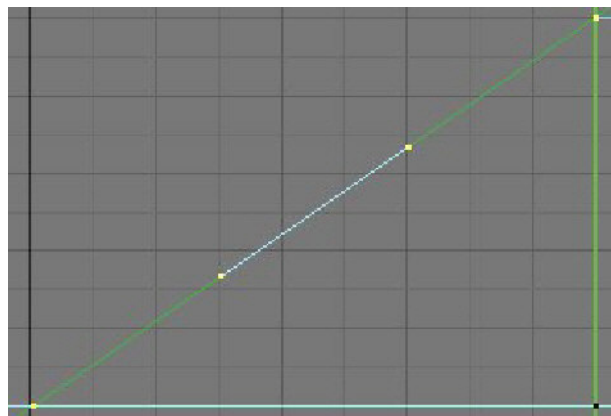
types of handles or controls for defining the shape of a curve. In this case we will use the Vector handle type to straighten our IPO curve.

Hit [V] and see the handles change to green, and the line is immediately straight. Now we have a constant rotation throughout. The planet will spin at a steady pace right from the start of the animation until the end. Hit [TAB] again to exit edit mode.

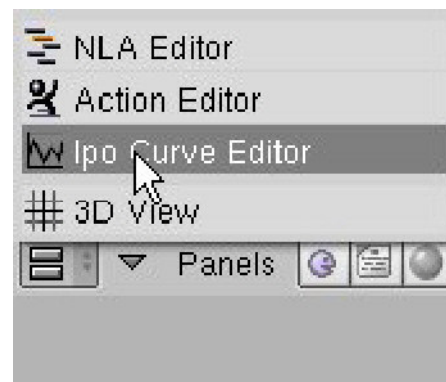
The Camera Movement

RMB select the camera. Insert a LocRotScale keyframe at frame 1. Now advance to frame 225 and position the camera as in this image. Then insert another LocRotScale keyframe.

Since the camera represents a subjective view of the scene, we can accept any kind of motion. My suggestion would be to have the camera stationary for a few frames before the movement starts, and then again let the movement end a few frames before the end of the animation. We can do this by editing the curve and calling up the curve point (keyframes) properties.



Straightened IPO Curve



Select the rotation curve and go into editing mode. Select the curve point on the left and press [N]. The Vertex X value represents the frame value of the keyframe, i.e. this is the frame at which this keyframe or curve point is activated. To advance the keyframe along the timeline, simply type a different value next to Vertex X. In this case, I would suggest a value of 10.

You will see that your keyframe has moved. Now select the other curve point or keyframe, and change the Vertex X-value to 215. This gives us 10 frames before the camera animation starts, and makes the camera movement stop 10 frames before the end of the animation. That's it for the camera. Press [TAB] to exit edit mode in the IPO curve editor.

The satellite fly-by

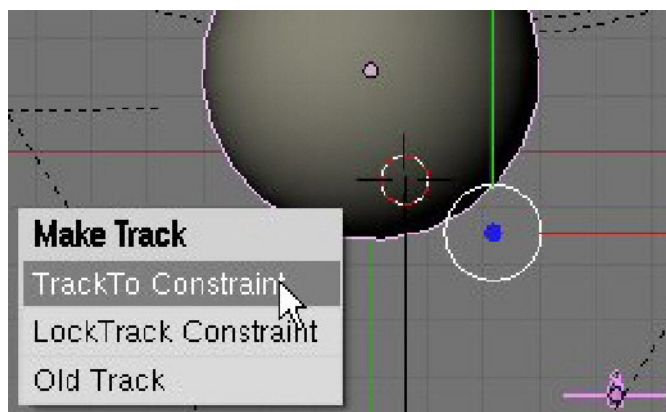
We want to have the satellite always pointing straight at the planet, in order to create the illusion that the satellite is observing the planet. We can do this by have the satellite point at the planet. I have made sure that the planet and the satellite have the same local orientation by selecting each in turn and pressing [Ctrl]-[A]. That applied their orientation, rotation and scaling.

at frame 150. Go to frame 100. Position the satellite just out of camera view and insert a LocRot keyframe at that point. Now advance to frame 150 and position the satellite at the opposite side of the camera view, just out of view. Add another LocRot keyframe.

When you now use the arrow keys to advance forward and backwards through your animation you will see the satellite fly by the planet. We did create a problem... The satellite now comes into view accidentally before and after it should. My suggestion is that you go to frame 99 and 151, and in both cases move the satellite quite far out of shot and insert a keyframe at both points.

Considering that a satellite would move at a relatively constant speed, my suggestion would be that you edit the curves for the satellite animation, making them straight as well, indicating constant movement.

To sort out the starry background, I have set my background color to black, and activated



the "Stars" button under the "Shading" ([F5]) and "World" buttons.

To render the animation, I have set my render screen up as in the image below.

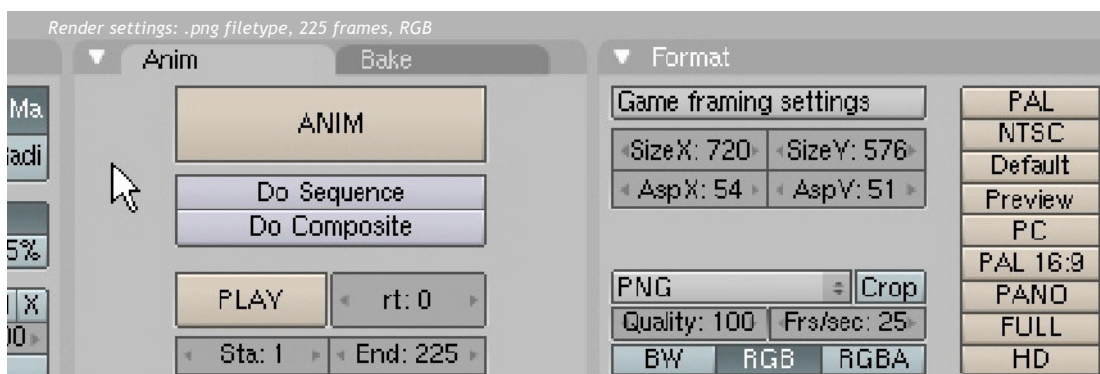
The way in which you use the rendered frames depends on your development platform. Blender has a built-in video editor that allows you to render sequences of rendered files as video, should you require it in that format.

I hope that you have learnt some valuable information that will aid you in your future game development!

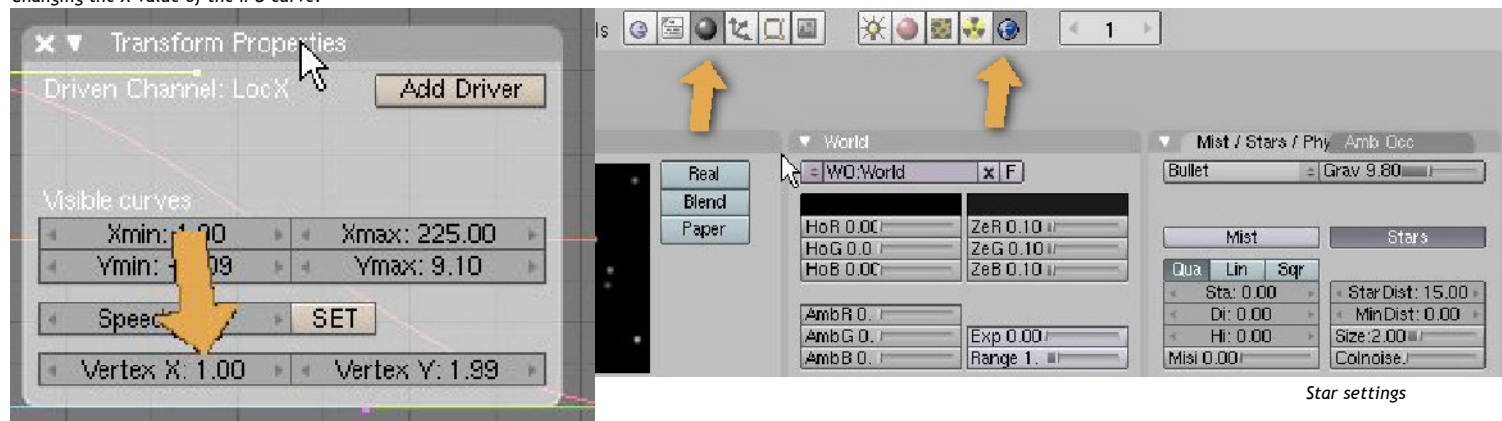
Happy Blendin' ☺

Select the satellite then the planet. Press [Ctrl]-[T]. Select TrackTo Constraint. If you grab [G] the satellite now and move it around, it should automatically rotate so that it always faces the planet.

According to the storyboard I created, I want the satellite to come into shot at frame 100, and leave the field of view



Changing the X-value of the IPO curve.



Star settings

GAME GRAPHICS WITH ADOBE PHOTOSHOP

GAME GRAPHICS DESIGN

Part 3: Basic Animation

By Rishal "TheUntouchableOne" Hurbans



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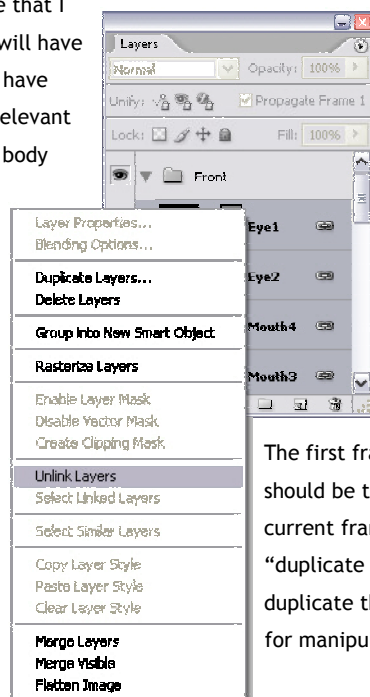
You have learned how to create a basic vector sprite and it can be very useful in a game, it will enrich the game and make it fun to play and interesting, the only problem is that a static, non-animated sprite will not add the professional feel and polish needed to make a game really stand out, even a small amount of simple animation can create a wondrous feel to the game with minimum effort. In this tutorial you will learn the basics of creating simple animation in Photoshop. It is very simple and easy to perform.

Firstly, open the last Photoshop project file we worked with. The different views of the character should be sorted into groups. Select the front view group and duplicate it to a new project of suitable size, preferably a size that is similar to the character itself.



If you downloaded the file that I supplied last month, you will have to unlink the layers as I have linked them to keep the relevant parts of our character's body sorted and grouped together without creating a separate group for each body part. Select all the layers by pressing Ctrl + click on layers, right-click, select "unlink layers".

The first movement we will create is a very simple one, walking. All characters need to walk,



well at least most of them do.

You will need to see each frame of the animation, so you will need to make the animation window available. Click Windows>Animation, make sure there is a tick next to the "animation label" and make sure the animation window is visible.

The first frame in the animation window should be the current image. While the current frame is selected, click on the "duplicate selected frames" icon, this will duplicate the frame and make it available for manipulation.



While the second frame is selected in the animations window, select the characters right foot and move it up slightly, to give the effect of taking a step forward.

Now click on the duplicate layer icon. In this frame we will set the image back to its original state by moving the character's right foot back down to give the effect of the character completing his step.

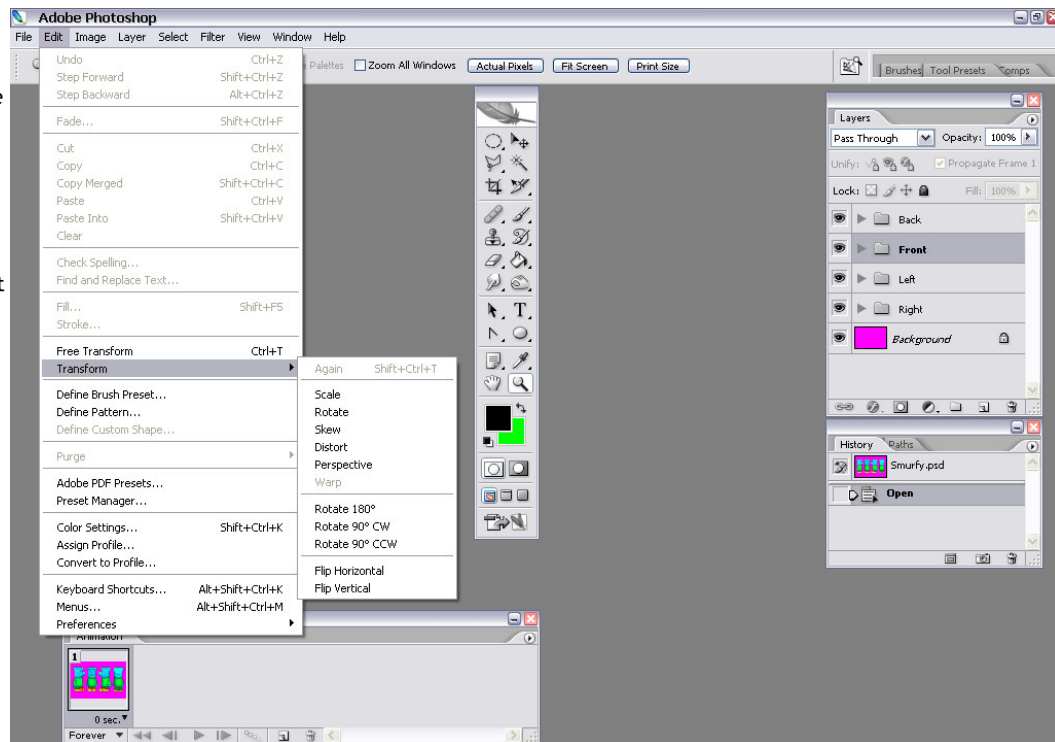
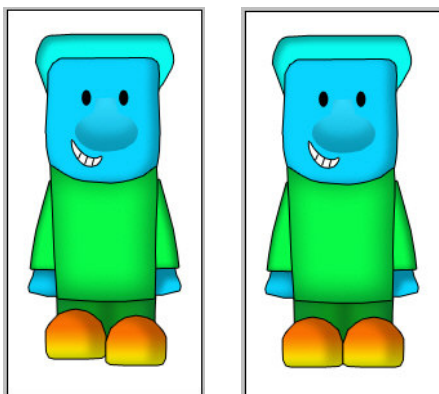
Select the current frame and duplicate it once again, this time, we will move the character's left foot slightly up to give the effect of taking a step with the left foot.

Click on the play button to view the animation. It's animated but not animated enough; it looks like the character is just tapping his feet. We need his entire body to be affected every time he takes a step, so select the second frame where he lifts his right foot and select all the layers (Ctrl + click on layer) except the foot layers then link them (right click>Link layers).

While the layers are selected, click Edit>Transform>Rotate. Now rotate the character's body slightly to the right by approximately 3 to 5 degrees. Now click on frame 3, click Edit>Transform>Rotate and rotate the selected layers slightly to the left by approximately 3 to 5 degrees.

Click the play button; if you performed the method correctly, you will see a really cool looking animation of our character walking forward. This animation can be used in a game to make it look really awesome and polished.

That's the basics of animation in Photoshop; you can experiment with the other views of the character and create every movement

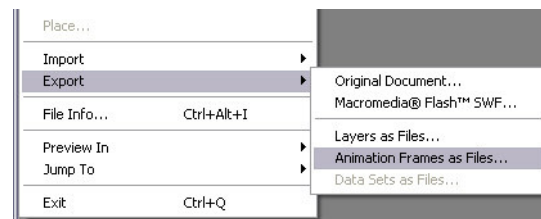


needed using the skills learnt in the past tutorials. The most useful tools for creating movement animations are the tools in the transform drop down menu under the edit menu. You can create a range of effects using these tools. For colour animations you can manipulate the blending options of the different layers in different frames and produce some really cool effects such as a change of skin colour to green when eating a poisonous item and other similar effects.

Once you have completed your animation, select File>Edit in Image Ready. When the project is open in Image Ready along with the animation window select File>Export>Animation frames as files, now save and you will have the images ready to use in a game.


If you are using a library/engine that needs the animation in GIF format, you can save the frames as GIF files then use the free application called UnFREEz to create one

animated GIF file. Just drag the images into the UnFREEz window and save as an animated GIF file. If you are creating animations for games then stay away from the tween option in the animations

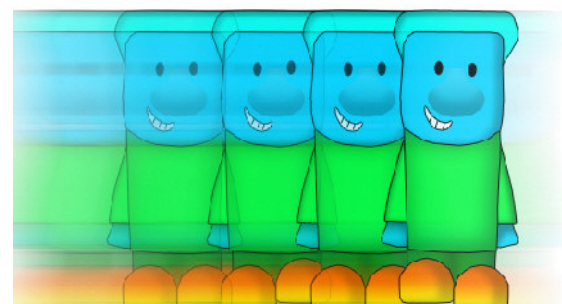


window, this will really mess up the background transparency as it creates translucent images to optimise the animation. If you are creating animations for web sites then using the tween option shouldn't be a problem at all.

That's the basics you need to know to create your own animated sprites for your games. Experiment with whatever you can in Photoshop, it can only help.

Go on, start creating some awesome animations to make your games even more fun and exciting! 

UnFREEz:
This application can be obtained from <http://www.whitsoftdev.com/unfreez/>





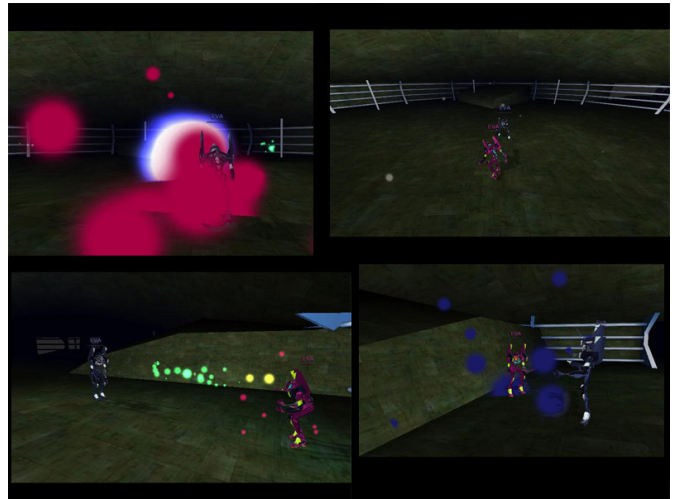
Taking the blue pill for...

PYGAME

By Kyle "SkinkLizzard" van Duffelen

The game development revolution is here! Well, not really, but for those who feel like developing games in Python, Pygame is the next best thing since sliced bread. Pygame is a set of modules and add-ons based on the Simple Directmedia Layer (SDL) library for the Python interpreter and programming environment. Created by other enthusiast Python developers to help you create the perfect game with less effort, the library includes graphics, keyboard,

mouse and sound handling, amongst others, and adds onto an already reasonably powerful but easy to learn programming language. As it says on the Pygame website, it 'takes the C++ out of game development'.



its classes and sub modules appear in the python dot menu (the menu that pops up when you put a full stop after an identifier) making them easily accessible after a simple import statement.

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Beginning Game Development with Python and Pygame

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Advantages to Pygame

Being an add-on for Python means it is cross-platform, allowing development for Windows, Mac OS and Linux, with each platform having its own Pygame version. One thing to note, though, is that Pygame will not install on a higher than required version of the Python IDE; if it says Python 2.4, be certain that it is in fact 2.4 you are using otherwise it will simply tell you that no Python environment is installed. Once installed, Pygame is fully integrated into the programming environment and all of

Pygame is well documented and there are many tutorials covering the basics of game development in Pygame. Several of these as well as full documentation can be found at <http://www.pygame.org/docs/>. There is even a book on beginner's development in python and Pygame available for sale. Information on the book can also be found on the Pygame website. Regular competitions are also run by the folks at pygame.org where you can showcase your acquired Pygame development skills. Another interesting addition to Python that is worthy of interest is Panda 3d which is a C++ 3D library with a set of Python bindings. More information on that can be found at www.panda3d.org.

You can find the various downloads of Pygame at www.pygame.org, and the required python interpreter at www.python.org. 



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Creating an effective GUI

A practical approach to the layout and design of graphical user interfaces for games

by Sven "Fuzzyspoon" Bergstrom

In this article I aim to share some ideas, experiences and even tips for creating the GUI your game really needs. By no means am I an expert, but I aim to share information I have picked up over the years about interface design, and in this article I will cover topics ranging from the main menu of your game, through to the game menu, right even across to the interface design of the HUD, the options menu as well as crossing some points on window based design.

At one stage in my life, in one stage in my game development cycle I decided to make a menu for a game. I made a few logical decisions - about what need to be there, what was too much information, how many options I would provide my user with and the like - but after all that, even after implementing my "perfect menu design" I felt unhappy with it. I was no artist; I wasn't really even a good programmer at the time. But I knew then that I didn't understand why the menu wasn't as cool as other games I had played, or even as cool as my abilities could create.

So I went on a mission to understand how games made effective designs out of minimal components, and how immense games could use a single mouse driven menu for everything that needed to be done. How an effective GUI can be created and implemented was deeper than I had expected, but it made or breaks a LOT of how your game affects the game play, the player and even your engine.

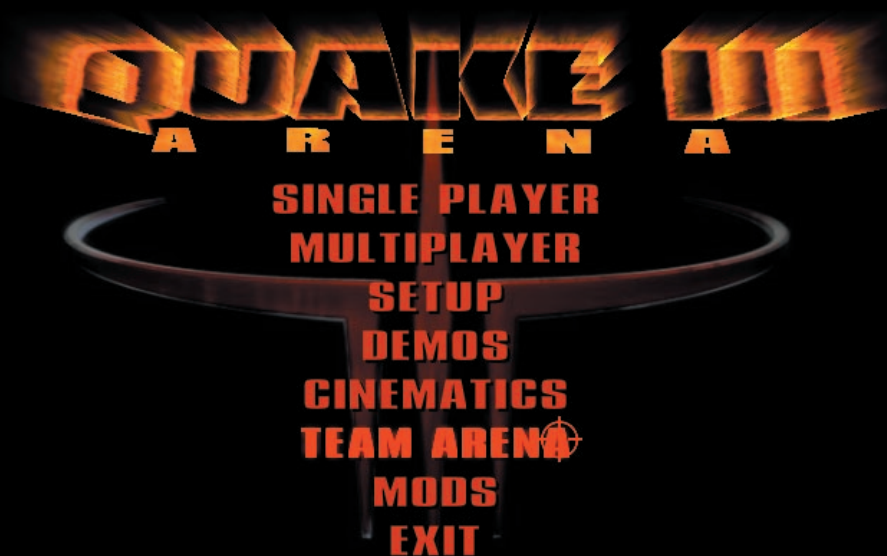
Main menu

The first point I'm going to shed light on is the main menu. Ooh, obvious choice, but hear this. Did you know that about half of what someone thinks about the game is the menu? What is the first thing they see? Most gamers would skip intro movies and head for the game itself to see what the rave is about, and they are faced with your menu. A cumbersome menu with too many commands can overwhelm a player quite easily; to the point where he may just quit instead (it happens). Too many options can distract a player from setting up the important options, causing (for

example) a player starting a game with an awesome custom skin for his player, custom music, all the wonderful things your game offers in the main menu but then, the graphics lag and jerk because he has vertical sync set to on and he doesn't have the greatest PC. This causes an instant black mark on the game to the players mind, because he needs to go back to the menu and try FIND what he needed to set in the first place. Don't get me wrong, I'm not telling you to stick too many options into the main menu, but look at what options you are using screen space for, and how much of the space is dedicated to what is relevant to starting the game.

On the other side of the field, I don't think you can have a menu with too little. Without making a stupid thought come up, if you leave out the options menu, that's too little. I'm referring to a menu with only what's important, as well-placed items and easy-to-use interface that even if simplistic, is effective. As you may figure out, I am a minimalist when it comes to design, but I always notice that menus that grab my attention have had only a few items - and they are well-executed. This is an obvious statement to most of us, but I see far too many games that have poor menus because they try overdo the "functionality : wow factor" ratio. I WANT developers to make kickass, random, sexy, animated, motional amazing unconventional menus, but the second that crosses over to making the menu a little bit silly on the functionality side, revert.

Let's look at some well-known examples, even of recent games that are out to see how we can identify a good clean and functional menu. My first example will be the good straightforward menu example: Command and Conquer 3, Counter-strike, Quake, Unreal Tournament, and so on. They all have



Quake III Arena(c) 1999-2000. Id Software, Inc. All Rights Reserved

animations, all have a simplistic design. They have no excessive animations which make you wait while it animates itself, it doesn't make load times excessive and it keeps the eye candy at a reasonable level. A game like Transformers, on the other hand, has an excessive animation. It makes me wait while it makes the cube spin. Even though it's not lagging it feels slow. The average gamer / user wants to be able to navigate fast regardless of how cool it is. Let's say I have been playing GenericGameName: 2 for a few days and it's the 10th time I am logging in. I doubt I would need to re-familiarise myself with the menu, and I doubt I will be gawking at the eye candy. I want to be able to PLAY the game, that's why I am running it. The Chronicles of Riddick: Escape From Butcher Bay had a cube menu and extensive animation, but its navigation is simple, fast and well-made.

As far as first impressions are concerned, a great menu and an OK game goes a lot further in the mindset of a player than a good game with a poorly managed menu. Some tips for a main menu: it must be simple, fast and effective. Cliché at least, but logic supersedes the need for fun menus when it comes to functionality.

Options menu

This part of the GUI, I hear you ask? Sure, it's

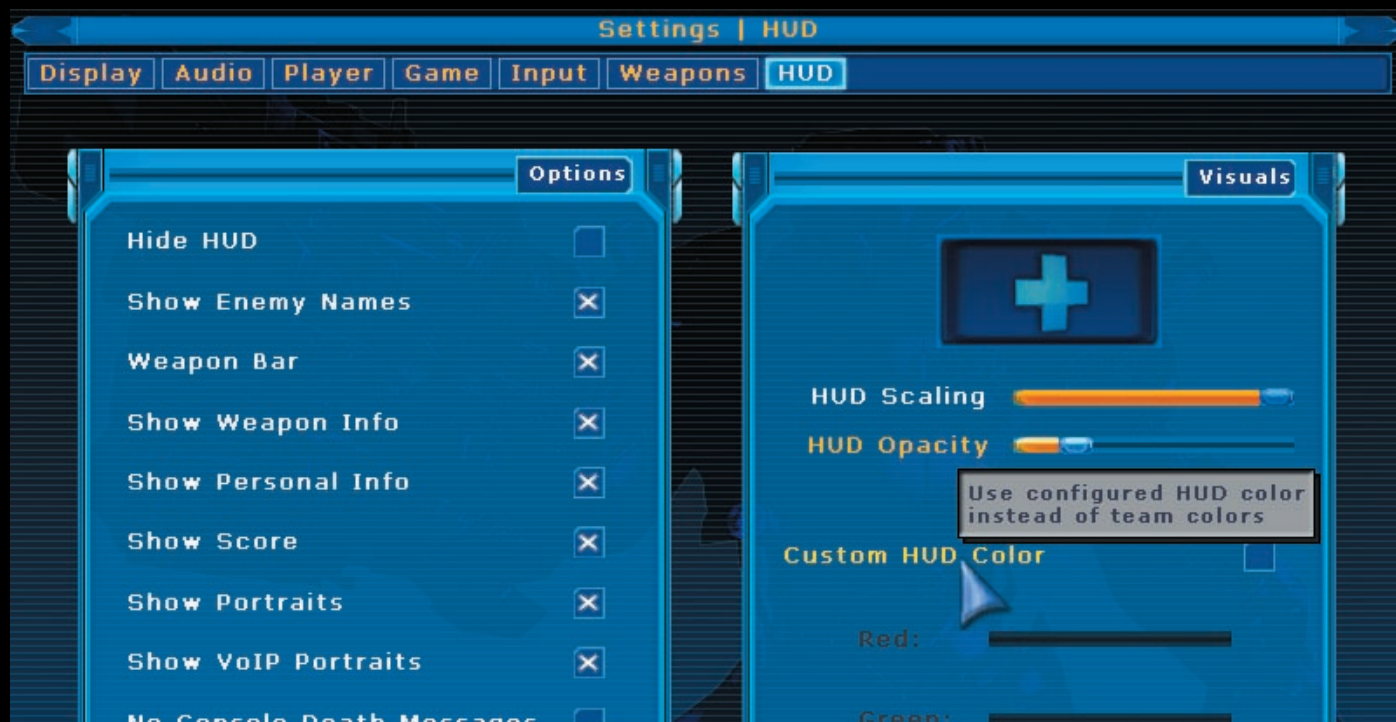
the same theme, same graphics even. Well, if your options menu is not cumbersome, but has a lot of options, that's OK. But if it has a lot of options scattered all over the place not grouped by any means, no descriptions of what sets what option, for example, FSAA will most likely make some unsuspecting non-technical person put it on, which is horrific when it comes to lag in games, especially with full screen post-processing shaders like HDR and bloom. In turn this forces the player to now try beat the lag to get to undo an option, which would most likely need the graphics device to reset, in turn unloading and having to reload the game again, making it a huge pain in the jack to make a mistake. Eventually, players may feel it safer to turn all the options off and play with less features because of one badly described menu feature. This is in the general tips, so I won't carry on with that point.

An important thing to watch out for in the options (and elsewhere) is the use of combo boxes, check boxes and other such GUI items. Don't get me wrong, I love the simplicity, but have you ever played a game where the options flick back and forth when you are moving your mouse wheel on another option, which (as has happened to me) could mean you are scrolling through the list of resolution options? Make each option you are "working with" highlighted if possible, this will help

players understand that what happens is their mistake, not the game's fault. Also, be sure to make the items properly functional. There are a lot of half-baked GUI types out there because they're created inside a game engine. If you notice a lot of games put all the main important options outside of the game, in the operating system before you play, making sure you get to have a look at that first, where it's not squashed by spacing and it's not limited by the code of the programmer who is rushing to meet a deadline. This is a great solution to most game options problems and seems to work really well in my view.

HUD and other on-screen displays

Don't you love choice? Sure, I didn't always go into Quake and change the HUD colors and transparency to make it personalized, but what if I wanted to? If I'm describing a new game to a friend, I can't describe the graphics more than saying how great they might be but I can point out other, more specialised aspects, and one thing players love is choice. It may take a little longer to implement customisability, but what if a particular player likes to play with their HUD almost invisible, because they don't really care how much gold or mana they have at the moment? If I'm confronted with a HUD that is static and "in the way" of my playing, my view of the game is tarnished. The colors, the size, the



transparency ... they're small things, but they can help a player enjoy a game more if they have the ability to make it personal and more to their liking.

I know nobody reading this would be dumb enough to make a HUD over some part of the screen that might prevent a player finishing a task in the game, or seeing that last enemy setting up an ambush for them. But few easy logic points will still be mentioned:

- A HUD should never block gameplay (take focus from the game)
- A HUD is for information and feedback, don't litter it with useless specs
- A HUD can be whatever you want it to be, but make it useful

On-screen displays often have the choice to be hidden. This is a great help and will most likely make the game easier for you as the creator and the player. Players, believe it or not, are critical, especially if there has been any tiny speck of hype or build-up to a release. The minute they get into the game

they immediately look at it with the harshest of critics and think about what they might not like. Even if the graphics of the menu are simple and not fancy, even if they are badly implemented, if it works great, and looks ok, and doesn't stop me from playing the game itself most players breeze past the menus and enjoy the game a lot more than if there was any hindrance to getting the game going.

General Tips

Always display necessary information in the game, the menus everywhere. "Undocumented" options are cool for advanced users, but most likely will push a player to not play a game with the games full potential, or his machines ability.

KISS - Keep it simple, is it that hard? A GUI that is simple but effective beats an advanced 3D menu that makes it hard to get to the game I want to play.

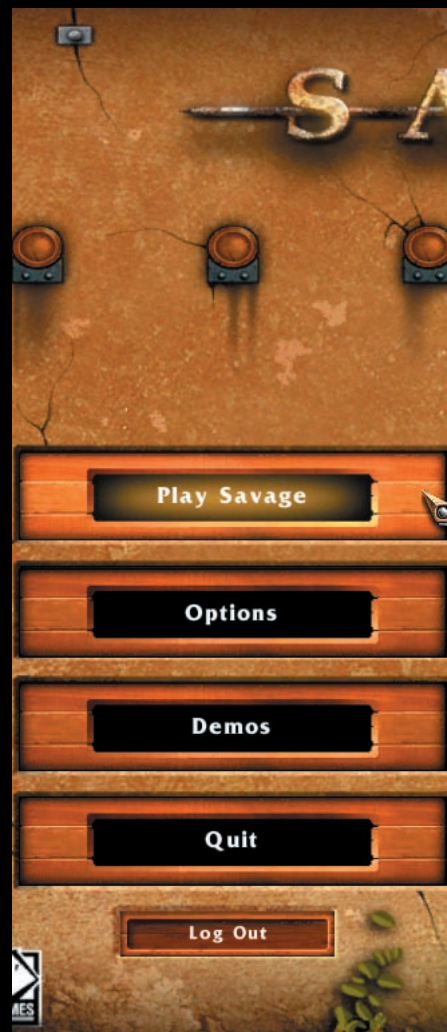
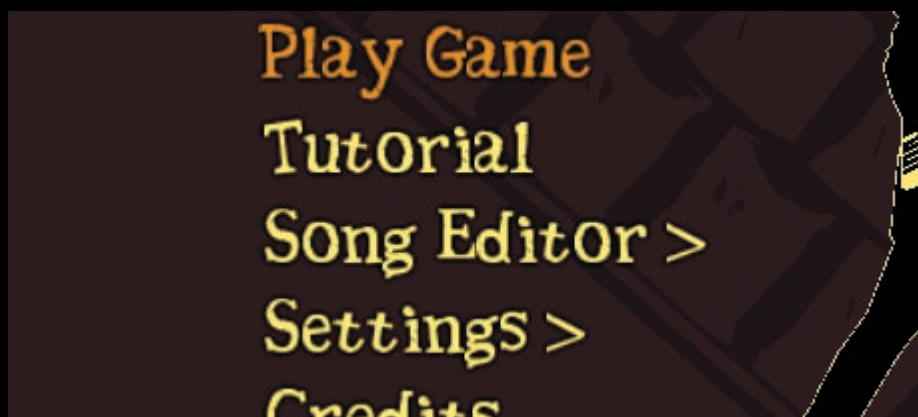
In-game menus are really, really important. If I get drawn away from my game - let's say

my dog got its head stuck in the fan and is trying to flick the switch - I must be able to hit a key that will allow me to return to my game and know what was going on, as well as present me with game options and information that I might find useful.

Besides having a clumsy dog, I must be able to get out of the game quickly. There must be a good way to quit in most parts of the GUI in my opinion, because if I want to quit it shouldn't take me a really long time. Saving must be in the quit option if needed, or autosave must be done if possible and enabled. I never want to feel like the game is the reason I was late for an appointment.

Conclusion

Some may think this is all general knowledge, but I felt compelled to elaborate because some games frustrate me (no names mentioned) due to the lack of GUI logic. This is open for discussion, and I'm always keen to hear opinions. These are mine, and are limited, but I hope you found them useful. 🎯





BRRRR!

A TOUCH OF WINTER FROM YOYO GAMES



by Rodain "Nandrew" Joubert

It was early November, and the finishing touches were being applied to Dev.Mag for the month. We made our final e-mail check before the release, and were confronted with a little elf that had snuck into our mailbox. It bore news of a great competition with amazing prizes, held in the faraway realm which was ruled by the group known as Yoyo Games.

Romanticism aside, we were sufficiently interested in this news to add a quick post about it before finishing off Issue 18 and sending it out into the big bad world.

A month passed. Overcome by December laziness and looking for anything to do other

than work, I remembered the message sent to me by the great Yoyo. Deciding that it would be an interesting venture (and a great seasonal addition to Dev.Mag) I set off to investigate the competition for myself. The theme? Winter. Santa Claus, penguins and snowmen were to greet me at every turn ...

Yoyo Games are the new driving force behind the distribution and showcasing of the rapid game development tool Game Maker. They're still in the beta phase (as reflected by a few niggling issues on some of the site's pages) but they've already secured a strong following in the Game Maker community and their competition has attracted lots of very well-made entries in just over a month.

The site operates in a simple yet effective manner, similar to many other online game portals. The twist comes in when you realise that the games you're loading up are entirely Game Maker products, playable straight from your browser using a special plug-in supplied by Yoyo Games. At a glance, players can see a list of games, their descriptions, their relative popularity, and even player comments and reviews to help other people get a perspective on the various titles.

Although the winter competition hasn't yet finished, here's a smattering of the entries to show you what people in this community produce when they get their development groove on ...

GARDEN GNOME CARNAGE

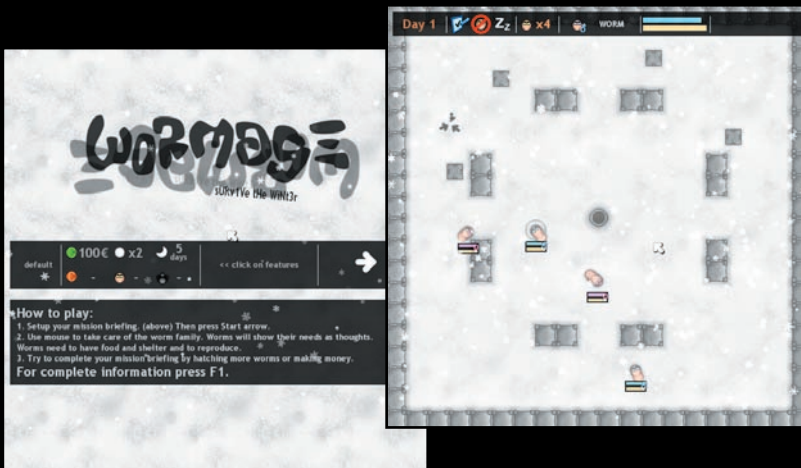
Finally, the gnomes have their revenge against all those pesky elves who come stomping around every Christmas. Tie yourself to a skyscraper on wheels and make those elves fly! A delightfully humorous and incredibly well-executed arcade game, Garden Gnome carnage is a fine example of what can be done with simplicity in mind. Although the gameplay isn't as deep as a full-scale

MMORPG, the short, merry sessions that players have with this title are unforgettable. GGC has been polished well enough to shine. Players are motivated, the eye-candy is pleasing, sounds and combos are satisfying and the winter theme is most definitely there in full force. Throw in a few extra elements such as unlockable protips, a tower that you can disassemble brick by brick (throwing aforementioned bricks at the hapless elves) and some interesting appearances when your score goes up, and you have a game that does a great job of filling those five-minute voids between tasks.



WORMAGE

Now here's a friendly little title. As its description goes, there's no violence, no gore, just good ol' worm management in an effort to help the little critters survive winter! Wormage works because, like GGC, it doesn't promise the earth. Rather, it works on giving the player just a few features and makes sure that everything works well together. It also works well to promote objective-based gameplay as well as good old sandbox fun. The graphics are nice, the sound is adorable and it has the potential to occupy a fair amount of a player's time.



FLYWRENCH

To be honest, Flywrench's supposed back story seems to be the only half-hearted link to the competition's winter theme that can really be found in the game. Still, it deserves a mention due to its interesting gameplay and stylistic use of retro graphics and sounds. The

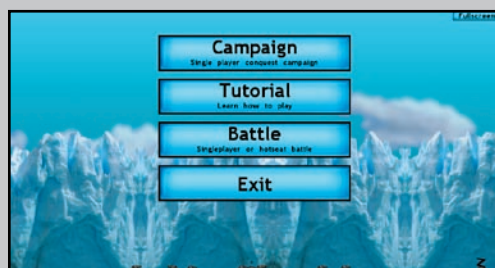
basic gameplay involves a small ... thing ... which moves about in several different ways. The catch is that each particular movement changes the object's colour, allowing it to get through like-coloured obstacles without getting zapped. Play this game if you want an example of how really basic graphics and game mechanics can offer a player with something fun and interesting. Be warned, however, as the game is perhaps a little too difficult and will chase away less determined gamers.





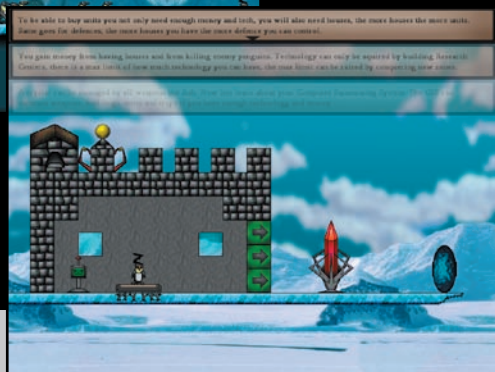
TWODASE

Now to change the genre to puzzler, and the number of dimensions to three. Game Maker has a somewhat dubious reputation for 3D. It can be done, but most efforts involve a simple walk-around-and-shoot-generic-stuff mechanic which is praised and drooled over by developers who don't stop to consider that the end result is about as fun and original as a raw turnip. Twodase is a game which not only showcases GM's 3D capability, but puts it to use in a game which the author has actually shown a great deal of care in making. It's slick, and it engages the player beyond simply clicking at bad stuff to make disappear. In Twodase, you guide your snowman across a multitude of levels, bouncing on a series of ice blocks which subsequently disappear and leave a gap through which clumsy players can fall. To complete a level, players need to jump on all the blocks in a way which allows them to do so without falling.



PENGUINS UNDER SIEGE 2

We wrap up this brief showcase with something that occupied my attention for perhaps the greatest amount of time. Penguins Under Siege 2 isn't the perfect game, but it has a surprising amount of content, including a multiplayer mode and several skirmish maps. The game pits two rival penguins against one another, each combatant's goal being to destroy the other's crystal. Both sides have strongholds which they upgrade to increase their income, research new technologies and create powerful offensive and defensive structures. For the most part, the game is quite well-balanced, and most potential problems seem to have been considered and eliminated by the author. This is a great example of a GM title which genuinely has a lot to offer. 🎯



DB SAYS ...

Weee-ooo! If you're looking for some quick indie gaming this holiday season, you can do a lot worse than checking out the entries of the Yoyo Games winter competition. Fire up your web browser and go to <http://www.yoyogames.com/gamemaker/competition01> to try the games suggested, or explore the site for yourself! Just remember to keep an open mind — the community is full of developers who are at various levels of experience, and if you find a game which you think needs to be improved, always offer the author some *constructive* feedback. As a good game developer, it's best to take the good with the bad and learn from both!



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