



**create - develop - experience**

**Game Dev 101 :**  
Just starting out ?  
We'll point the way.

**Hot Labs :**  
Where they are  
and why you  
want to be  
there !

**Desperate  
for ideas ?**  
Worry no more !

**Motivation :**  
What do you need  
to keep going ?

**Design Tips :**  
Help from the  
team, baked  
with love.

**ISSUE 1**

**NATIONAL  
DEFENSE 2 - 2005**

# ED.NOTE

Welcome to the first edition of Dev.Mag! Hopefully this will be a special one, one that will set the trend. First off I think I should explain why we created a game development magazine.

I have a dream, as Martin Luther King put it. My dream? I want to spread the word that game development is not as hard as you might have come to believe. Tools like Game Maker, for example, with an easy drag-and-drop interface for beginners and a coding platform for more advanced developers, are making game development as a hobby more and more attractive to people, not to mention more easy as well! Why am I preaching this to you? If you're reading this you are probably a game developer already, right? Not necessarily. One reason why this magazine is here is to get as many would-be developers out into the open as possible and get them developing! You might be scared to try, as dumb as it may sound, but it's true, it happened to me as well. I was also new to this at one stage, but as soon as you get into it you'll never want to turn back. You might not know it yet, but you might just be talented in something you once never even knew existed!

This magazine is aimed at everyone interested in Indy game development. From the small time developer, to people who do it for a living. This magazine is a platform or stepping stone you might say. Use the information in here to better the quality of the games you produce. Even your mistakes are a good thing to learn from, so don't let fears of inadequacy scare you off. If you're new to game development and your first game is not as you pictured it, just remember that the more you work the better you will become, just like everything else.

Indy developers have been around for ages. Indy developers were there when the gaming revolution took place and we're still here. In fact we are the ones who started the gaming revolution. Without our garage game-brewing ancestors gaming as we know it might not be as it is today, or even be here at all. This has hopefully inspired you so that you to want to be a developer. To join our world, just read on and learn.

Stuart 'GoNz0' Botma

## THE TEAM

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Stuart "GoNz0" Botma

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Bernard "BurnAbis" Boshoff  
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This magazine is a project of the NAG Game.Dev forum. Visit us at  
[www.nag.co.za](http://www.nag.co.za)

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So, are you a real developer? Maybe. Let's first introduce you to

# THE WORLD OF YESTERYEAR

*I remember back when there was a time that I would get more enjoyment out of a game based purely on the CGI cut scenes and quirky animations. This was, of course, that extra value-added eye candy that I craved so much. Remember when Sonic tapped his feet, pointing at his watch signaling that it was time to get moving? And Jim! Who could forget Jim? He was the Fonsey of idle character movement! Not to mention Worms ... I remember how I used to marvel at the way the characters bitched and complained as I painstakingly pounded them with my mouse cursor... an exploding sheep!!! I LOVE IT! Who honestly thinks of this stuff?*

Well, you know what they say. "Small things..." Lead to even bigger ones. Case in point, look at where we are today with the continuous advancements in personal computers and technology paving the way for the bigger things in life. I mean, what is the world coming to when I have to fork out 5 Grand on a graphics card? That's 5 GRAND my china! Just so that I can beat my best friend in a benchmark -- and the sucker paid R4 500 for his a year ago!

Again ... what is this world coming to, when you need to cough up that much of your hard-earned dollar just to play a game? Where is the entertainment derived from? Do we receive the

same adrenaline rush and dopamine reward from cutting through countless lines of virtual enemies that we would receive from hunting a bear for a warm fur coat or defeating a foe in our prehistoric days?

Somehow I think not, but it sure is fun collecting the heads of your friends, while you rampage, dominate and OWN your way towards the other teams' base in the land of make believe, the land of ones and zeros.

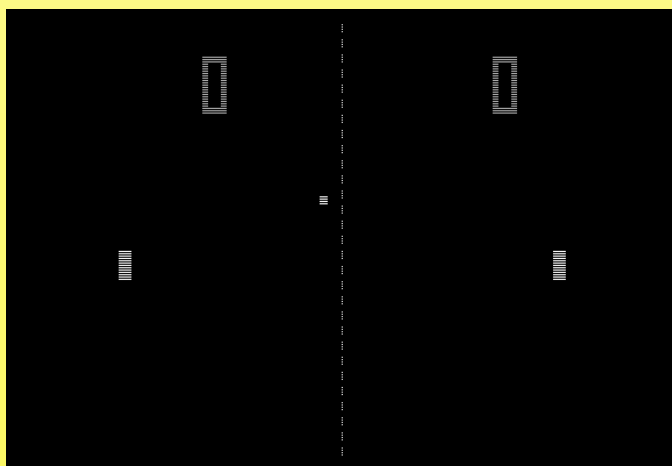
I think, to fully understand where we are today, we need to look at where we have come from, to take it back to the "old skool". However as with most historical "tales and myths", there is always uncertainty to the

complete truth. I will attempt to portray this tale as accurately as possible.

Many would recall Pong (1972) – the linear, seminal interactive game which many presumed as the first, mostly due to its popularity. Pong was in fact Atari's second game, their first being Computer Space, which was their rendition of another game that many believed as the first -- Space War (1960), created by MIT university computer hacker Steve "Slug" Russell.

Space War was a simple game between two human players, due to the lack of AI logic (Artificial Intelligence) and required players to use crude joysticks to fire missiles at each other, later enhancements included a star field background and a centred focal point star that simulated gravity, thus adding an element of strategy to the game.

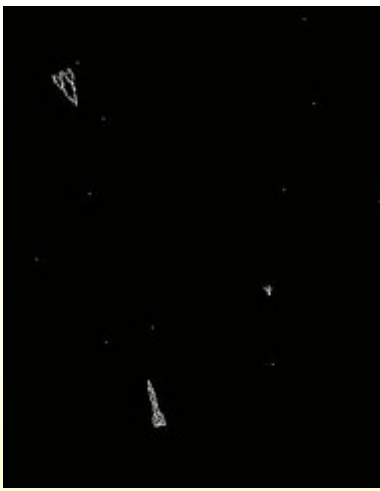
This also saw the first steps into realism in games, as the torpedoes were programmed to jam at random ... something which proved frustrating, as I'm sure you can all imagine! Thus, it became apparent from a very



*Pong (1972)*

*Possibly the first time that the words 'mindless' and 'fun' were put together in the same sentence.*





*Space War (1960)*

*What George Lucas secretly played as a kid.*

early stage that playability would reign over strict realism.

Oh, but for fun sakes, I haven't even mentioned the grand pappy of digital games yet ... or have I? Basically, I have, but to be true to my study I will have to irk onwards with some minor detail. There is, in fact, a "game" older than Space War and that was Tennis for Two (1958). This "game" ran on an analog system which looked like a fancy ancient circuit board that had been plugged into an oscilloscope (digital display), and required the player to angle the ball over a net. Once over, it could be hit back by pressing a paddle (open circuit – closed circuit). Very primitive indeed. However, the fundamentals were in place and it was the first live action game on a digital screen... or was it?

Well, now that I'm done with the formalities, how about taking a look see at what has changed in the past 5 decades? The personal computer, for one, is something of a necessity nowadays, the introduction of the Internet has created a global community of networked individuals, and this has been a wonderful growing experience for all us gamers out there.

Innovations and developments in the industry have come a long way from the first console release in 1972 and I'm sure that many of us 80's children out there still remember the Atari 2600 with their large plug-in cartridges, a meager 1.19MHz 6507 chip, 128 bytes RAM, 8 sprites and a whopping 128 colors. The Atari saw significantly influential titles such as Space Invaders, Asteroids, California Games, Dodge Em, Karate and many more, giving us hours of "mindless" enjoyment, as we rammed and whipped those joysticks around in our attempts smite whatever came our way.

On the desktop side I recall Friendlyware and early DOS games such as my first true love, Star Control 2, which I never clocked because I just didn't want the adventure to end ... an adventure now lost in cyberspace and in the recesses of my consciousness.

The evolution has appeared to happen overnight -- in the blink of an eye, I went from Monkey Island to Neverwinter and while the concepts and plots remain the same, the experience changes every time. Game play and graphical bliss are today's key buy-in factors, with every fresh release pushing the boundaries of physics and performance to new heights and making me want that bloody card so that I can play FEAR on it's highest settings and take in all that creativity, detail and eye candy that I love so much.

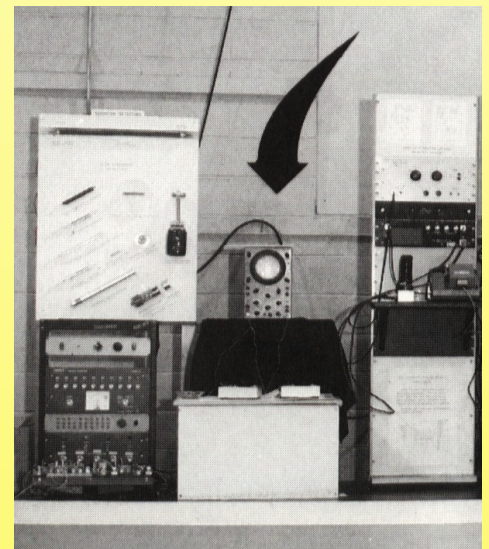
From the moment I saw my older cousins playing Space Invaders on their brand new state-of-the-art Atari console I fell harder than when Ken met Barbie. I knew this was a relationship that was going to last, the only thing that would change would be my thrills and spills, the rush from executing my first Fatality and watching that opponent burn baby burn and all

it took was a simple Start; Up; Up; Up.

I'd have to say that Tennis for Two was a defiant landmark for electronic games, because it rendered the impossible possible. A revolution at the time seeming so Unreal and far-fetched, the kind of stuff that moon landings are made out of, bringing about an earth Quake so profound, that its aftershocks will continue to travel like the proverbial pebble in the pond.

From it's conceptualisation by one Ralph Bauer in the early 1950's, the idea of having an electronic game system on a television is now very real and the competition is fierce. All from a wild pipedream, one that has shaped the way we live, interact and socialize, whether it is discussing the new silent cooling kits over a braai, having a few ales or in a chat room waiting for someone to host a game. Gaming has come a long way and believe you me, it is here to stay.

**- BURNABIS**



*Tennis for Two (1958)*

*It's a computer game ... we promise!*

# GAMEDEV 101

*So you love games. It's all you eat, dream and sleep. Then I'm sure the thought of making them has crossed your mind. The idea of where and how to start can be daunting but fear not, it's not that hard and can be a lot of fun.*



There are so many different tools for creating games that it's tough to know which is a suitable one to begin with. A good place to start is [www.gamemaker.nl](http://www.gamemaker.nl), where's it's possible to download Game Maker 6.1, a handy free program where the only limits are your imagination. Game Maker is an object-orientated program which lets you create games using a simple interface involving very little coding. It's a great tool to learn the mechanics behind making games without being hampered down by lines and lines of programming. You should then give the site's tutorials a visit and download them. Make sure you also check out the rest of the site -- there are some great resources and forums available.

Basically, that's all you need to get started and make your own dream games.

An important tip for beginners to game development is to write everything down -- every little concept and idea for a game should be scribbled into a notebook or saved on your computer, otherwise you might forget them forever. Even if an idea might seem useless at the moment, it can still come in handy at a later stage.

When creating a game, make sure you plan ahead. Make a design document and plan everything like your goals, concepts and how the game is going to progress. Try to plan every possible angle and how the game will play before you start making it.

An awesome tool for keeping your notes organized is [wikidpad](http://wikidpad.python-hosting.com/), downloadable from <http://wikidpad.python-hosting.com/>

Remember to have fun and enjoy the challenges and rewards involved in creating games! What are you waiting for? Go and make that killer game now!

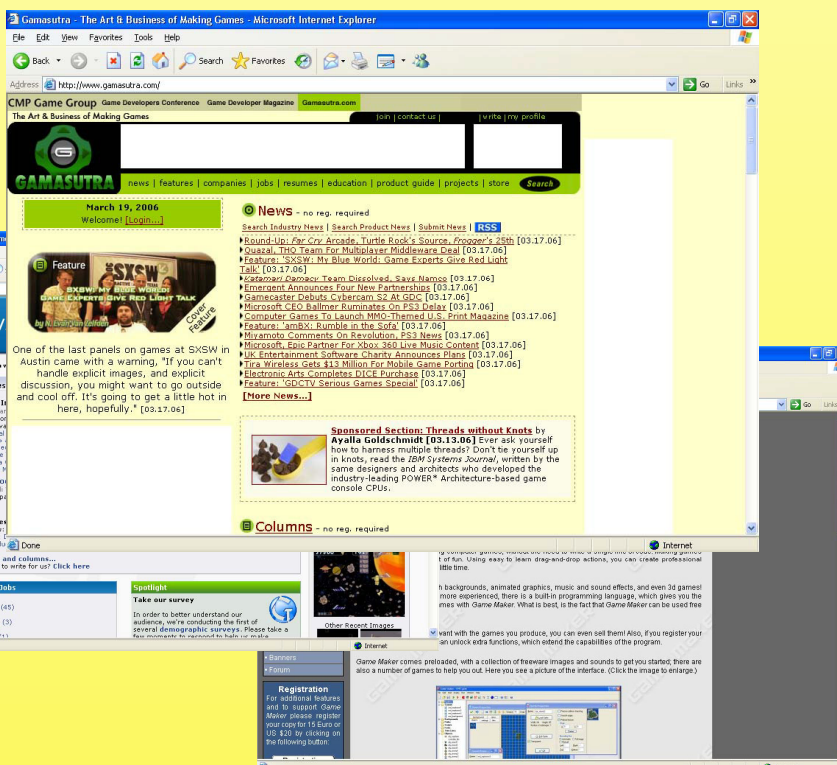
**- INSOMNIAC**

*Some other useful places to check out while starting off include:*

[www.gamedev.net](http://www.gamedev.net)  
[www.gamasutra.com](http://www.gamasutra.com)  
and most importantly, the Game.Dev community on the NAG forums,  
[www.nag.co.za](http://www.nag.co.za)

*Here you will find a crowd of like-minded and enthusiastic game developers who are always willing to give support.*

*The web is practically stacked with useful resources and sites dedicated to helping you with your game development career.*





IT'S THE QUESTION ON EVERYBODY'S LIPS ...

# WHAT ARE THE DIGITAL GAMING HOT LABS?

## FEATURE

Two problems facing a would-be game developer are learning a toolset or framework to build games in and understanding the mechanics in a game that make it visually appealing and playable.

Enter the Digital Gaming Hot Labs, a free workshop where speakers give technical talks on game development. The Hot Labs are by game developers, for game developers and are aimed at hobbyist game developers and beginners interested in writing games.

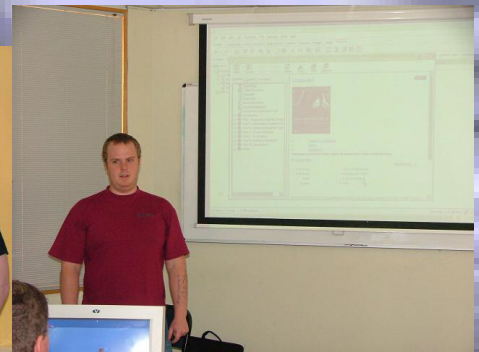
For 2006 the Hot Labs have teamed up with the NAG Game.Dev community to present sessions on Game Maker, a powerful tool for making games rapidly which doesn't require programming knowledge, and sessions on gaming concepts like control systems, simple AI, multiplayer support and level editing.

The talks are focused on Rapid Game Development; encouraging people to use the tools that are already available over building your own set, as well as making games that are fun to play rather than focusing on super graphics and sound. Reminiscent of the slogan: **"Make Games, Not Engines"**.



*Scenes from the recent DevLAN held in Johannesburg, a new initiative sponsored by the Hot Labs.*

*Pics of the Hot Labs in action. Here, budding game developers can get together to learn, deliberate and eat lots of pizza.*



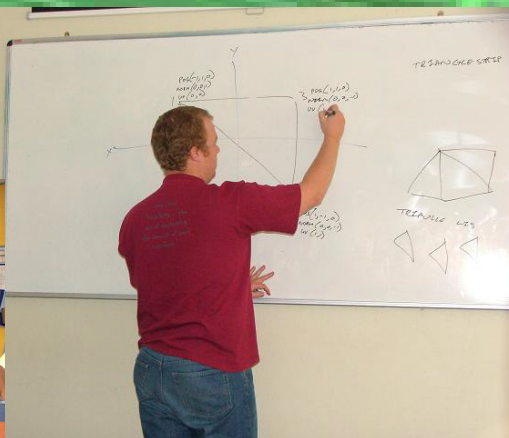
The Hot Labs run on the last Saturday of the month and are usually about 2 hours long. After the presentation, everyone meets up for an open discussion on game development and talk about the games they're busy making. The speakers are also available to help out, if they can, with any specific questions or problems with games being developed.

Currently the Hot Labs are only based in Johannesburg, but as the speakers travel the countryside they present their material to game communities across South Africa.

The Hot Labs also sponsor the NAG Game.Dev devLAN competitions where game developers get together to battle it out and create a game in a limited amount of time based on a theme set at the start of the competition. Prizes are awarded for creativity, game play and completeness

To find out more about the Digital Gaming Hot Labs, visit the NAG Game.Dev forum for news of upcoming events.

**- FENGOL**





# SOME GOOD GAME DEV PRACTICES ...

*Making good games today may be a really difficult job, but you don't have to be one of the best programmers around to use good game development practices. Making games as interactive as possible is a priority for many game developers, but no matter how great you want your game to be, you still have to implement the most basic features so that the users who play your games will feel that they really are in control. The basics of good game development can be summarized as **C.I.A.O.**: Control, Interest, Applicability and Options.*

## C ... for Control

It's important to give the user full control of your game. You must remember that the end user may not have the control you've had during development and the testing of your game. The user should be able to control your game (ie. once it's running) easily and efficiently. But remember also, that it's a bad idea to create an endless system of menus or configuration screens which would discourage new users from playing your game. In such cases, at least give you user default values to try out rather than forcing him / her to fill them in manually.

## I ... for Interest

Your game needs to be interactive and interesting. Firstly, you need to grab the user attention. You need to give the user a good reason or reasons why they should go through the trouble of playing your game. You can do this by using images/videos or by having unique features in your game. Secondly, once the user has gone through the trouble of installing, downloading or buying your game, they expect a certain level of interactivity. Imagine buying a game where all you can do is move backward, forward and shoot. You would probably either throw the game out the window or return to the shop and demand your money back. Even the most basic 2-D games require a

reasonable level of interactivity. If you are not experienced enough to create a high level of interactivity (e.g. being able to blow up stuff other than the enemy, having objects in your game which users can interact with e.t.c), at least try to make your game's world seem alive *within the range of your abilities*. How you do this is up to you -- your creativity is a powerful tool.

## A ... for Applicability

You need to know which group of people your game is applicable to. For example, you shouldn't make a First Person Shooter and go advertise it on a RTS fan site. You should decide from the beginning what sort of game you are trying to make and what sort of gamer will get the most out of it. Applicability isn't just about who you make the game for, but what sort of platform you make it for. You should try and broaden the system requirements for your game as much as possible and clearly specify what sort of system is needed to play your game at a reasonable frame rate.

## O ... for Options

If your game is not going to be a run 'n gun sort of game where all the user needs to do is run the game and start shooting, you need to include enough options to expand the interactivity of your game. Giving the user many

options which let them determine how they will play the game can help maximize the general playability and increase your game's "life span" (i.e. how long a user can play the game before getting bored of it). Correct balancing of options is a skill, however -- problems such as that in point no. 1 can easily arise if you become too careless.

Now that you've read this basic guide on improving games, you are now ready to go and try make your own masterpiece.

- KNET .

Besides C.I.A.O, there are a few key do's and don'ts for good game dev:

**DO:** Include help files and maybe tutorials to help the user understand and play the game.

**DON'T:** Assume the player is a veteran gamer. You still need to show users how to play even the simplest of games.

**DO:** Reduce the number of settings a user must set before playing a game.

**DON'T:** Assume that the user will want to input all controls, audio and video options manually.

**DO:** Target the right platform for your game (i.e. don't specialize in making games for Windows 98 unless you have time and resources to waste.)

**DON'T:** Ask the user to specify advanced video and audio options they may not know much about.



# SO ... STOKED FOR IDEAS?

*Do you have trouble coming up with new, innovative and original ideas? It happens to all of us. This disease (yes, I prefer the term 'disease') is commonly known as writer's block or in this case Game Developers block. Your mind enters a vegative state of "blankness" which keeps furtive ideas from culminating in your mind. Before you decide to make yet another pacman/megaman/sonic/mario clone try to get your brain going from STOP to GO with the following three steps.*



**1** - The most important thing is to get into the habit. I cannot stress this enough. It is a rewarding habit that not only gives you unique game ideas, but helps a great deal in other aspects of your life.

**2** - How do I get into this habit? Where do I start?

- Start small! Take existing games and try to add your own ideas to it.

- Get the habit going. If you wake up in the morning think of a new gun that would've been great in Half-Life. If you go to sleep think of a new monster that would've been a challenge in Diablo 2.

- Write these things down! This has been said many times and for good reason. You just can't keep every idea in your mind. Most of the time I come up with half-baked ideas, but I still write them down! It won't be long before two half-baked ideas complete each other and form a brilliant game.

**3** - Okay, I have come up with 50 new monsters for Diablo 2 and 50 new guns for Half-Life... Now what? If you haven't already stumbled upon a new idea, then all you have to do is look around you. Open your mind's eye! Take things from everyday life and try to implement them into games. You will be surprised how many ideas are right in front of you! Here is an example. It follows my chain of thought:

- I see an old-fashioned garage door. It has two heavy on the side to keep the door in place.

- How would I make a game with that?

- The heavy weights and the door counteract each other to stay in its designated spots.

- This idea I can employ into a puzzle type game.

- A puzzle has lots of interlocking pieces.

- Each piece, if moved, counteracts another piece, which moves the two pieces in the opposite directions.

- You can easily elaborate on this and form a challenging puzzle game.

... remember, this type of thinking has always paid off, even in other types of creative endeavours. Now if you will excuse, I have games to make!

**- TROOJG**

## THE END PIECE

# "WHAT COMES AFTER INSPIRATION"

Once upon a time, a long long time ago, someone decided to make a game ... and then someone else decided to make a game also. Soon, the world was full of people wanting to make a game. Each person had some great wonderful idea of what game to make. But very, very few of these people ever actually finished a game.

Its important to understand that an idea for a game is worth as much as an idea for a new spaceship: pretty close to nothing. Turning that idea into a design document gives it a very small value. Turning that idea into a prototype makes it good. Turning the idea into a finished game makes it valuable. But very few people can get to the point of having a prototype, let alone finishing it.

What we all need is motivation. Motivation comes in many forms. One of the best ways of motivating yourself is to plan on making money from a

shareware game. Another way to motivate yourself is with deadlines. There are many ways of setting deadlines for yourself. You could decide to finish a game as a new year's resolution, or as a gift for your younger brother.

Another way to make yourself deadlines is to enter online game development contests. NAG's game.dev forum, for example, has a regular one every second month. There are game development contests that range from as little as 4 hours to as much as 4 months in duration. I find that the 48 or 72 hour contests are a great way of forcing yourself to keep to a small, realistic project and force you to actually get something finished. While these games are not ready to be released as shareware products they are finished, playable games.

Another site for competitive game developers to visit is [PascalGameDevelopment.com](http://PascalGameDevelopment.com).

The contest this year was substantially different from the most other contests in the way that it defined intermediate stage deadlines which counted for points. There is even a prize to the project that followed the suggested deadlines the closest. The nice thing about the intermediate deadlines is that it gives all entrants an idea of how to structure their future projects.

If you have a problem finishing projects - consider entering an online game development contest and get a basic game finished within the given deadline. Once you start entering these contests you will continue to meet a regular crowd of people entering the contests, and come to understand the great rewards of being part of a living, breathing, game-developing community.

- CAIRNSWM

### Here are some links to a variety of Game Development Contests:

NAG game.dev:

[http://www.nag.co.za/e107\\_plugins/forum/forum\\_viewforum.php?10](http://www.nag.co.za/e107_plugins/forum/forum_viewforum.php?10)

Pascal Game Development Contest:

<http://www.pascalgamedevelopment.com/competitions.php>

The 74hour Game Dev Contest:

<http://www.pixel-arts.org/72/>

GameDev.net contests:

<http://www.gamedev.net/community/contest/>

The Game Competition announcement mailing list:

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