

## Interview: John Champeau

In our last number we were lucky enough to talk with Mr. **Thomas Jentzsch**, the German who's already part of the Atari 2600 history due to it's long lasting dedication to the scene, his conservation efforts and the homebrews he developed. A 6502 ASM wizard who tries to extract the most he can from the original hardware.

On this edition I had the honor to talk with one of the shiniest members of the Atari homebrew scene, the man that dedicates himself to pushing those same limits: **John Champeau**. This 52 years old American from Connecticut with a degree in Computer Sciences that works daytime as a software engineer for a company that writes software to process financial transactions and detect fraud. During his free time, John creates "impossible" Atari 2600 games using extra technology recently created, specially the **DPC+** system, used by AtariAge in some of its games and that changes substantially the way we can develop for the Atari 2600. A man with a profound respect for the classic hardware, but that mastered like very few the art of looking forward.

"My first encounter with an Atari 2600 (called the VCS at the time) was in the Fall of 1978 at a local department store playing Combat with my brothers. That Christmas, we were all quite surprised to find it hooked up to our living room console TV. We were all so excited! My brothers and I spent most of the day playing Homerun, Air Sea Battle, Breakout, Basketball and of course, Combat", he says.

John is not a newcomer to the independent game development scene. In the early 90s he was the founder and chief programmer of a small gaming developer called **CHAMProgramming**, specializing in porting classic 80s Arcades to MS-DOS. Their games were distributed as Shareware in the beginning of the commercial Internet, and the games' quality is still remembered today.

"Like most teenagers at the time, I spent a lot of time (and whatever quarters I could scrounge up) at the local arcades and bowling alleys playing video games. We had a couple in our town that I would visit on the way home from school. It was there that I got to play some of my favorites from back-in-the-day, like Tempest, Space Invaders, Asteroids, Elevator Action, Donkey Kong (actually the first version of this I played was the clone Crazy Kong), Pole Position and Star Wars Arcade, to name a few. Back in the early 90's after finishing school, I started dabbling in programming my own games for DOS. The shareware part started after I had uploaded my Pac-man clone (called Pac-maniac) to AOL.com. It was well-received and from there the requests started coming in, so I found a few other classic game fans to help with the graphics and sound effects. From there we produced clones of Donkey Kong, Asteroids, Galaxian, Pac-man, Ms. Pac-man and Centipede, and new ports of Space Invaders and Galaga. After a few years, real life and other things became more important and CHAMProgramming was shut down".

His entering at the Atari homebrew scene came in a very peculiar way: During the early 2000s the Atari Flashback was launched, a "update" of the Atari 2600 who's a best-seller

for 15 years. For the second iteration of the hardware a company was hired to port some games, but the quality of those ports was not stellar. John had bought a Flashback 2 and contacted the company (Legacy Engineering), offering to fix the problematic games. Offer accepted, John grabbed the opportunity.

“One of the games that were included with the Flashback 2 was a port of **Lunar Lander** (NOTE: a classic arcade from the 70s). Although it was okay, the game suffered from massive flicker. I worked on fixing Lunar Lander for a planned future release on an updated Flashback 2+, but unfortunately the deal fell through and the FB2+ was never released. Lunar Lander is a complete and playable game and I have considered releasing it someday, but most likely not until I spend some time adding in some more bells and whistles, tweaking the gameplay and et cetera”, he recalls.

John also worked on the recreation of another FB2 game, the port of “Caverns of Mars”, originally an Atari 8-bit game. The game was also completely rewritten for the FB2+ but this time John managed to release the game in cartridge format. “When the Flashback 2+ was canceled, I decided to release the game with an updated title and graphics to avoid any issues”. The game was renamed **Conquest of Mars** and it is currently available in the Atari Age store.

Mr. Champeau’s following Atari adventure had an extremely personal origin. He explains: “**Lady Bug** is my favorite game I’ve developed for the Atari 2600 and the one I am most proud of. My mom loved maze games (Pac-man was her favorite) but she also loved to play Lady Bug too, but she only got to play it a few times as we had borrowed a friend’s Colecovision (NOTE: By that time Lady Bug was a console exclusive), and that’s why she asked if we could play it on our Atari”. John committed himself to creating the perfect conversion of his mother’s favorite game for the favorite console of both of them. “I dedicated Lady Bug to her memory (she passed back in 1995), but I’m sure she would have loved to play the game on our ol’ Atari. I like to think she has been able to sneak in a few games up in the great arcade in the sky”, he adds with a smile.

After a long hiatus, John returned to the Atari 2600 programming scene and embraced the new technology that had been developed during his absence: DPC+ , a special cartridge format created by a group of talented hardware developers that not only allows bigger games, using a new bankswitching scheme, but also contains an embedded auxiliary ARM processor that can be used for extra programming and processing, complex calculations and many more things that our poor, 40 year old Atari simply is not capable of doing.

“The jump to DPC+ was a little challenging, but once I was able to get a setup going, I felt more at home developing games with the new technology as it more closely resembles how I developed games for DOS back in the 90’s. I can write game logic in C for the ARM processor, using 6502 assembly as a bridge between the new hardware and the original Atari. I am using the same graphic converters and sound utilities that I used for the assembly-only games and have developed a few more utilities for specific tasks like converting playfield data, for example”.

His first two DPC+ games were Scramble and Super Cobra, two solid classic arcade shooters that happen to be a series of games.

“**Scramble** was very challenging to make because it was the first game that I programmed using the DPC+ paradigm, plus it has been almost 10 years since I had done any Atari programming so I was a bit rusty (laughs). It was also a challenge working on game that utilized playfield scrolling and was very different from a maze game like Lady Bug. However, it was similar to Conquest of Mars (which has been referred to as a “vertical” Scramble due to their similarities) so that did help a bit. **Super Cobra Arcade** started off as a “hack” of Scramble, meaning I took the Scramble code and modified its graphics and sounds. Although this was straightforward, adding in all the other elements of Super Cobra proved to be very difficult - Scramble was 32K with 6 stages so “hacking” it to be Super Cobra which has 11 unique stages and more enemies was impossible, so it ended up being a complete rewrite using a newly created bankswitching scheme called “CDF”, which is an update to DPC+ with some more options. One small regret I have is releasing Super Cobra Arcade just a few months after Scramble as I think it became a bit “lost in the shuffle” due to the two games’ similarities. If I could do it over again, I would have held back the release of Super Cobra Arcade for a few more months as I feel it’s been a bit overlooked; for me, it’s one of my personal favorites that I play the most often”.

John was also responsible for creating the game that left the Atari community dumbfounded: Mappy. An arcade game already ported to the NES, Mappy has multicolored, detailed graphics, a dozen things going on at the same time, multiple enemies and a very pleasant background music, really complex for the Atari 2600 standards. A game that, a few years ago, would be dismissed by the homebrew community as “impossible to make”.

He tells us a little about its creation: “**Mappy** is probably the most complicated game I’ve made so far, mostly because of the scrolling platforms coupled with all of the other elements (trampolines, trap doors, bells, 10+ cats, prizes, radioactive doors and all the rest). The music was quite a challenge since Mappy is using the DPC+ chip to play 3 voice music, just like Pitfall 2. For that I developed a MIDI-to-DPC converter that took a few weeks to complete. The music was done by Mike Haas. One of the final technical challenges I had was getting the iconic 5-color MAPPY logo to be displayed on the title screen, but for that I had some help from Thomas Jentzsch”.

In 2020 John released two new games: The Wizard of Wor and Galaga ports. Wizard of Wor Arcade is a very accurate arcade conversion, including voice effects. He tells us about it: “**Wizard of Wor Arcade** started as an assembly-only game back in 2007 and was shelved after a few months. After releasing Mappy, I decided in late 2018 that I wanted to finish the game so I ported it over to CDF so I could add in all the bells and whistles, including over 60 speech phrases using the AtariVox, enhanced graphics, sounds, and even an in-game maze editor that allows you to create your own mazes”.

“Development for **Galagon** started as a proof-of-concept in late March of 2019. I started by implementing the in-forma-tion code that was used in Atari’s 2600 Galaxian that

allows up to 8 sprites to be drawn on one line without flicker. Once I got that stable, I added in the star field (thanks to DPC+) and the player's ship and missiles.

At this point I contacted Nathan Strum, who has worked with me on all my projects, starting with Lady Bug, and is a great resource for initial design and produces amazing graphics for the 2600. He was onboard and quickly produced all the sprites I needed for the game. Around the same time, I was made aware that another Atari developer, Ross Keenum, had already ported over most of the sound effects and music to the Atari's TIA. I reached out to him and got his permission to include his sounds in the game as well.", he says.

"The next step was adding in all of the patterns and game play logic. Since I had previously ported Galaga to DOS in my CHAMProgramming days and the game logic was written in C, I was able to port it over to DPC+ fairly quickly. After six weeks we had a fully playable game that debuted on **Zero Page Homebrew's** Twitch stream as "Champ Games Secret Project" on May 15<sup>th</sup>, 2019. Additional features were added over the next six months (including an exclusive co-op mode that allows 2 players to play simultaneously) and the game was released at the Portland Retro Gaming Expo in October 2019, along with Wizard of Wor Arcade. Both feature amazing artwork by Dave Dries".

John has two other games ready to release: Zoo Keeper and Avalanche, both home conversions of fairly obscure arcade games. I've asked him why he picked those two. He replies: "**Zoo Keeper** was not a game I played back-in-the-day. My first exposure to the game was on MAME and it almost immediately became one of my favorites. It appears that Atari themselves had planned to port Zoo Keeper to the 2600 back in the early 80's and had even started development as the source code for the sound effects and some video of early graphics have turned up over the years. I chose to port Zoo Keeper because I think it's a fun game, offering three unique stages and gameplay that is very different from other games I have developed. I have also received permission to use the original sounds that were to be included in the 2600 version, programmed by Robert Vieira, so there will be some historical significance as well".

"Avalanche was developed over a weekend back in 2007 for inclusion on possibly another Flashback console (which incidentally wasn't released either). I had never heard of it beforehand but I was intrigued by it's history of being the inspiration behind Activision's Kaboom!. It also gave me a chance to develop a game that used the paddle controller. In early 2019 I dusted off the code, and with some help from Thomas Jentzsch, we have added improved the game play, added skill levels, high score saving with the AtariVox, a splash screen and title screen, all while keeping it pure assembly and in only 4kb!. It is scheduled to be released this summer through Atari Age and will feature amazing artwork from David Exton".

John is currently working on a few projects, the more advanced of those being a new Gorf port. "Development for **Gorf Arcade** is going very well. As it turns out, this is a game that is a favorite of Nathan Strum, and since he has done so much over the years with all my games, I am very happy to help bring this classic to the 2600 for him (and all of us) to enjoy. I am also a big fan of Gorf; I can vividly recall the first time I played it on a middle school outing to the

local roller skating rink. We are planning some improvements from the original CBS version (NOTE: An official arcade conversion was released by the time, but severely limited): including all five arcade levels, updated graphics and sounds, high score support and even over 30 spoken phrases using the AtariVox. Although we don't have a definite release date, we are hoping to have it released for the holiday season this year!", he adds.

Another ongoing project is a Rip Off port, a beautiful vectorial game already released on Vectrex. I talked to him about the historical difficulties on porting vectorial games for the Atari 2600 and asked him how is the project going. His answer: "**Rip Off** was started around the same time as Wizard of Wor, in 2007. For this game, I got 'the band' back together that worked on Lady Bug: Nathan Strum for the graphics, Bob Decrescenzo (aka PacManPlus) for the sounds and myself for the development. Although development stopped a few months later, we did make some good progress. The game has not been abandoned and as it turns out, it may be starting up again pretty soon! This game will be written in 100% assembly".

One of the most eagerly anticipated Champ Games Project is a port of the classic arcade game "Elevator Action", that went through some testing and was abandoned for now. I've asked John if there's hope the project will be back on track eventually. "**Elevator Action** was also one of my favorite's back-in-the-day! I fondly remember stopping by the local ice cream shop many times on the way home from school to spend a few quarters on this great game. I had originally started Elevator Action a few years ago using the CDF bankswitching scheme and it looked pretty good. However, in 2018 a new technology was on the horizon called 'BUS stuffing' that squeezes even more out of the Atari by allowing for more graphic updates per line. When I discovered this, I immediately thought how I could use this to vastly improve the graphics for Elevator Action, and I leveraged the additional graphic updates to change the colors for up to 7 doors per line (NOTE: One of the key aspects of the game are doors constantly opening and closing, and also doors with different colors to indicate goals), plus many other improvements that are only possible with BUS technology. Unfortunately, a few months later there were reports that BUS stuffing isn't stable on some models of the Atari (some 7800's and later Jr. models), so it was decided that those issues need to be resolved first before anyone can comfortably release a game to the masses with this technology. The good news is that these issues are being worked on and hopefully a potential solution is on the horizon! Although I could in theory move forward with a CDF version of EA, now that I've seen how good it can look with BUS stuffing I will most likely wait for a stable solution to be available".

I jokingly say to John that he only released ports by now, and I ask him when we will finally see his pet project coming to life. He smiles and says: "Ah, **Mountain Raider**! Back in 1982, I was a 14 year old with dreams of working for Atari, and Mountain Raider was the game my friend Dennis and I came up with. It can be best described as a combination of Scramble, Berzerk, Laser Blast, Vanguard and H.E.R.O.! We actually sent the design to Atari, but unfortunately it was rejected (I still have the original designs), but I hope some day to bring it to the 2600. For this one, I will most likely stick to the technology of the era so it can be viewed as something that 'could have' been released at the time". And he adds: "We have started (and announced) our first original game: **Champ Sports Baseball**! It's about 25% done

and there is no timetable for it's release, but we're hoping that it will be well-received by the community and inspire us to work on other Champ Sports titles such as Hockey and Basketball. I also have some other original ideas that I've been kicking around for a couple years that I think would make good candidates for an Atari 2600 game".

Then I touch a tricky subject: The use of new technologies on the Atari 2600. In an interview a few years back John compared DPC+ to EGA graphic boards and Soundbaster audio boards, something that organically adds and improves classic hardware. But that is not an unanimous opinion in the Atari scene, since some programmers argue that this is some sort of "cheating" and to ignore the (severe) restrictions of the original Atari 2600. John replies: "I have heard the comments of some developers claiming that it's 'cheating', but I don't think their intention is malicious. I believe they are mostly concerned in educating the community on the differences between the games that can be developed using technology that would have been feasible "back in the day" vs. the games that can be developed using today's technology. There is no argument that the resources available today make it easier to develop a game for the Atari 2600, and the technology allows for much more complicated games that would not have been possible 30 years ago. For me personally, I am driven by the "latest and greatest", bleeding-edge technology that allows me to make my games more enjoyable. Of course there is a learning curve to this new technology, and that inspires me to continue making games and pushes my creativity to places that otherwise I would not be if I confined myself to the restrictions of the older technology. I applaud all developers for their efforts and support their decisions on what they choose to inspire them to make a game for a 40 year old system, and I believe there is room in this niche group for both to exist happily and inspire each other to ultimately make the best games we can".

I ask John what are the plans for the following years, and he gently gives me a tour of what's up his sleeve: "In May of 2020 we revealed that Champ Games is working on a port of **Robotron: 2084** for the Atari 2600. No release plans have been announced but the game is about 85% complete. We are taking the next few months to work on releasing Avalanche and Zoo Keeper, and then will focus on finishing Gorf Arcade for the end of the year. 2021 will most likely see a Robotron: 2084 release and maybe Champ Sports Baseball, plus we hope to be closer to releasing Lunar Lander and Rip Off!. We also announced that we have started work on a more-arcade accurate port of Tutankham for the 2600, but it only a proof-of-concept and we haven't decided whether we will continue development. Lastly, we also hope to continue our tradition of revealing a secret game in May of 2021 - in 2019 it was Galaga, 2020 it was Robotron. For 2021...???", he adds, misteriously.

Finally I ask John for a message to Brazilian fans and users. He says: "I would like to say thanks to all of the Champ Games fans for all the support and enthusiasm you give to us that keeps us inspired to make more games. There is nothing more satisfying than getting to read a review or comment from someone who has been made happier because they played one of our games!".