



*The following is a short excerpt from The OPCFG Interview with David Crane as it appears in the book *Memoirs of a Virtual Caveman*.*

Rob: Over the years, I've read all about how you came up with *Pitfall!*, but I've seen very little about how you came up with *Pitfall II: Lost Caverns*. As my favorite 2600 game ever, I have to ask about that one. I'd love to hear more about it.

David: By the time I was ready to make a sequel to *Pitfall!*, the Atari 2600 had lasted almost 10 years in the market—well past Atari's expectations. With new systems coming out, I felt that the 2600 needed a face lift in order to compete. While on vacation (watching the U.S. Open Tennis Tournament), I designed a supplemental integrated circuit to go in the cartridge and expand the 2600's capabilities. This chip expanded the graphic abilities of the system, as well as added harmonic music. *Pitfall II* became the first (and last) game to use this more expensive cartridge. I used the new capabilities to allow for more detailed screens in the game.

Rob: Where did Rhonda & Quickclaw originate? I always wondered if you created them and they were used in the Saturday morning *Pitfall!* cartoon (which was part of the Ruby-Spears cartoon series *Saturday Supercade*, which I used to watch every Saturday—I wish I had been able to record them), or vice-versa. For that matter, I have a vague recollection of first hearing the theme song (my very first favorite piece of videogame music) on the show, but I might be remembering things wrong.

David: The characters were created by the Saturday morning TV show writers, as was the theme song.

Rob: My memory's not as bad as I thought, I guess. **laughs** So how much input did you have into the *Pitfall!* cartoon?

David: I was busy working on another game—probably *Decathlon*—so I left the cartoon series to the professionals. They knew their audience and their business. I read the 'bible' and looked over a few scripts, but made very few comments. (I briefly considered being the voice of Pitfall Harry, but my 'cartoon

voice' sounded too much like Dudley Dooright.) You said that you watched those shows religiously, so it may come as a surprise that I was a little disappointed at how much they had dumbed-down the stories and dialog. But for whatever reason they were writing for a younger audience than I would have.

Rob: One thing I always felt about *Pitfall II* was that it seemed like such a natural expansion of the original game, yet there were so many new gameplay elements, so many that if you hadn't decided to make it a *Pitfall!* sequel, it could have been an original game. One standout element is the red cross revival technique. How did you come up with that?

David: While designing the game, I realized that it was going to be a much longer adventure than *Pitfall!*, and that I would either have to give more lives or come up with something new. The red crosses were the first "game save way points" in a video game. The first time I had Harry die and fly back to the last way point, the music was much too upbeat for the mood. I was trained in music as well as art, so I composed a minor-key version of the theme song that conveyed the sad emotion of failure. As it turns out, that was the first time music was used in a video game to convey a mood. Inventions like those were common in the early days of video games. In many cases we were the first to tread new ground, so we had to innovate every day. It was a great time to be a part of history.



Pitfall II: Lost Caverns (Atari 2600, 1983)

Rob: The "Adventurer's Edition" of *Pitfall II* that was released for the Atari 5200 and Atari 800/XL line had additional content created by Mike Lorenzen. Did you have any input into that at all? I played it on a friend's Atari 800 ages ago, and was totally surprised by the "second quest," as it might be called. Never finished it, either—it was tough!

David: The development of the C-64 and Atari 800 versions of *Pitfall II* should be a case study. We started both game ports on the same day with two programmers: Mike Lorenzen on the 800 and Tim Shotter on the C-64. There are two ways to port a game:

1. Translate the code directly. For a game written in assembly language, this pretty much requires that the two systems share the same microprocessor. Then what gets rewritten are the display drivers and anything that is hardware-specific.

2. Use the original game as a spec and re-write the code. A finished game is a perfect specification for what to program. The programmer can play the game until he is intimately familiar with its operation, and while coding can go to specific places in the game and see exactly what it does.

It is a known fact that it is difficult to read someone else's code, so for the C-64 version Tim decided to rewrite from scratch (even though the C-64 did use the same microprocessor as the 2600). Mike decided to port my code, rewriting the display code for the 800. They sat in the lab less than 8 feet away from me so either of them could ask questions or get clarification on the code or game operation.

The two projects proceeded at different rates. The C-64 version showed daily progress—background, screen, characters, etc. Mike hammered on the 800 version for weeks, translating the code and taking care not to affect any game logic. The 800 version always looked like it was behind.

Lo and behold, the games reached Beta on the same day, and then came the surprise. The C-64 version had to go through an entire normal two month QA process, fixing bugs that occurred during from-scratch development. The 800 code was bug free! It played exactly as the original because it used the game play logic right out of the original 2600 game. In fact, if there were game logic bugs in the 2600 version, they probably existed in the 800 version.

Marketing wanted to release the two versions simultaneously, so while Tim was going through a completely natural debug phase, Mike had time to design and implement an entirely new game world that unlocked when you finished the first. This taught us a valuable lesson regarding which porting method was best, at least for assembly-language code.

Rob: On the subject of *Pitfall II* ports, how does it feel knowing that you created one of the only home games to ever receive an arcade port? I've played Sega's *Pitfall II: The Lost Caverns*, and I enjoyed it (seems like a nice mix of *Pitfall!* and *Pitfall II*). Did you have any input on that one at all?

David: I had no input on any of the games after I left Activision (in 1987). But it was nice to see a game that started as a home version move to the arcade, rather than the other way around as was common. *Pitfall!* also became the first (and one of the only) video games to become a board game and a Saturday morning cartoon series. I knew when I created the game that it had the legs to grow in many ways. These events validated my belief in that.

*Written by Rob Strangman. This excerpt from the book *Memoirs of a Virtual Caveman* is © 2008, 2014 SCAR Productions. Please do not distribute without the author's permission. Direct all inquiries to Rob at gradiusone@yahoo.com*

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