18:01 I thought I turned it on, but I didn't.

Neighbors, please join me in reading this nineteenth release of the International Journal of Proof of Concept or Get the Fuck Out, a friendly little collection of articles for ladies and gentlemen of distinguished ability and taste in the field of reverse engineering and the study of weird machines. This release is a gift to our fine neighbors in Montréal.

If you are missing the first eighteen issues, we suggest asking a neighbor who picked up a copy of the first in Vegas, the second in São Paulo, the third in Hamburg, the fourth in Heidelberg, the fifth in Montréal, the sixth in Las Vegas, the seventh from his parents' inkjet printer during the Thanksgiving holiday, the eighth in Heidelberg, the ninth in Montréal, the tenth in Novi Sad or Stockholm, the eleventh in Washington D.C., the twelfth in Heidelberg, the thirteenth in Montréal, the fourteenth in São Paulo, San Diego, or Budapest, the fifteenth in Canberra, Heidelberg, or Miami, the sixteenth release in Montréal, New York, or Las Vegas, the seventeenth release in São Paulo or Budapest, or the eighteenth release in Leipzig or Washington, D.C. Two collected volumes are available through No Starch Press, wherever fine books are sold.

After our paper release, and only when quality control has been passed, we will make an electronic release named `pocorgtfo18.pdf`. It is a valid PDF document, HTML website, and ZIP archive filled with fancy papers and source code. You will find it available in two different variants, but they have the same SHA-1 hash.

Nintendo's SNES platform was famous for its Mode 7, a video mode in which a background image could be rotated and stretched to create a faux 3D effect. This didn't exist for the Apple][, so on page 4 Vincent Weaver describes his recreation of the technique in software as a recent demo coding exercise.

Many of us began our careers in reverse engineering through line numbered BASIC, and we fondly remember the `peek` and `poke` commands that let us do sophisticated things with a child's language. On page 10, Kev Sheldrake extends the Scratch language so that his son can experiment with memory corruption exploits.

Vi Grey was reading PoC||GTFO 14:12, and a nifty thought occurred. Why not merge a ZIP file into an NES cartridge itself, and not just its iNES emulator file? See page 17 for all the practical details.

If you enjoyed Yannay Livneh's article on the VLC heap from PoC||GTFO 16:6, turn to page 22 for his notes on the House of Fun, exploiting glibc heaps in the year 2018.

Ryan O'Neill, whom you might know as Elfmaster, has been playing around with static linking of ELF files on Linux. You certainly know that static files are handy for avoiding missing libraries, but did you know that static linking breaks ASLR and RELRO defenses, that the global offset table might still be writable? See page 37 for his notes on producing a static executable that *does* include these defenses.

TetriNET is a multiplayer clone of Tetris that St0rmCat released in 1997. On page 48, John Laky and Kyle Hanslovan give us a remote code execution exploit for that game just twenty years too late for anyone to expect a patch.

When performing a cold boot attack, it's important to recover not just the contents of memory but also to descramble it, and this scrambler is often poorly documented on modern systems. On page 58, Nico Heijningen patches Coreboot to reverse engineer the scrambler of the DDR3 controller on Intel's Sandy Bridge processors.

Ange Albertini was one of the fine authors of the SHAttered attack that demonstrated a practical SHA-1 collision. On page 63, he shows how to reuse that same colliding block to substitute an arbitrary image in a larger document, conveniently generated by PDFLaTeX. As is the tradition in most of Ange's articles, `pocorgtfo18.pdf` uses this technique to place a stamp on the front cover. We'll release two variants, but because they have the same SHA-1 hash, we politely ask mirrors to include the MD5 hashes as well.

On page 64, the last page, we pass around the collection plate. Our church has no interest in bitcoins or wooden nickels, but we'd love your donation of a reverse engineering story. Please send some our way.