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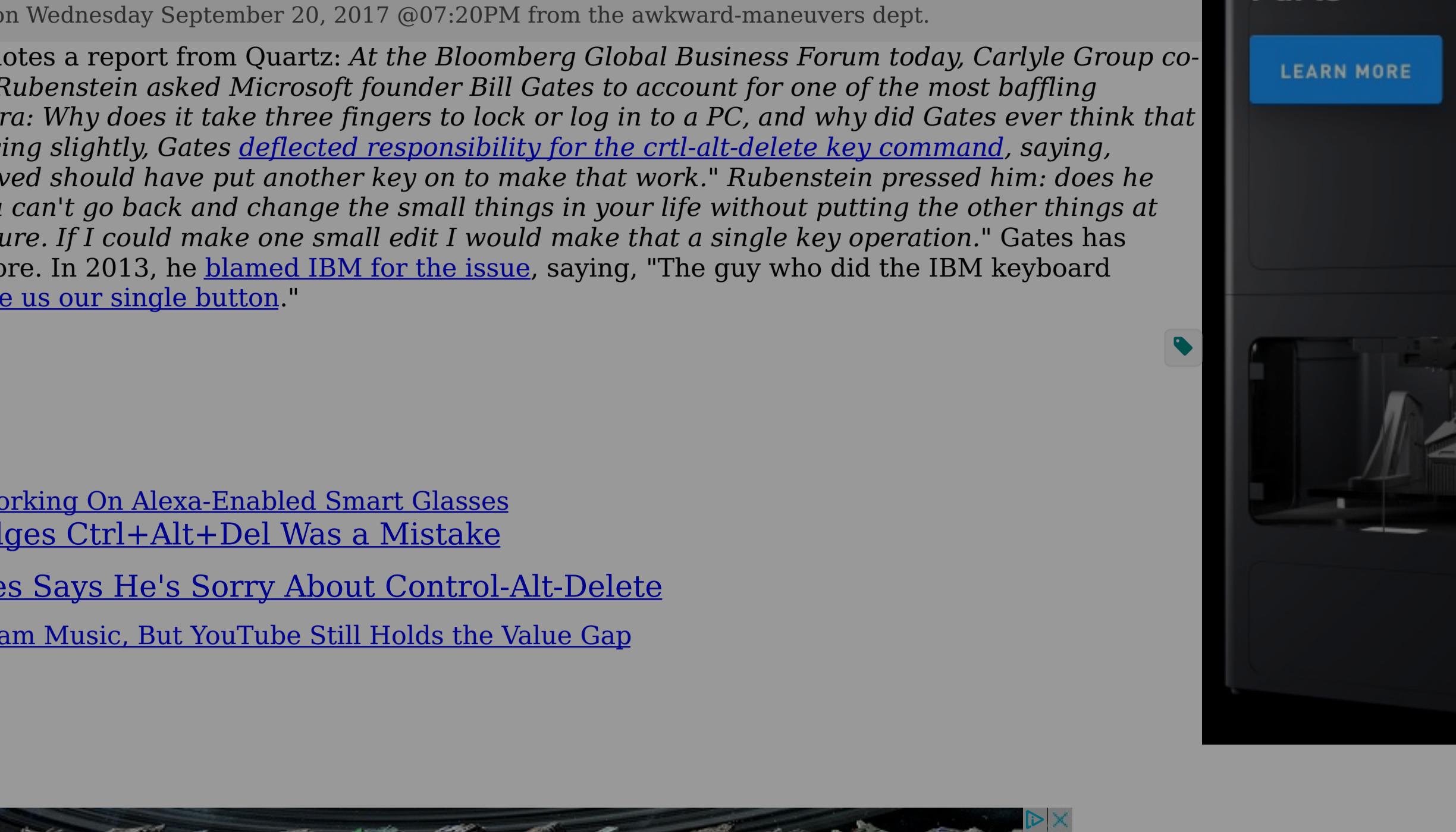
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**Bill Gates Says He's Sorry About Control-Alt-Delete** ([az.com](#))

1 Posted by BeauHD on Wednesday September 20, 2017 @07:20PM from the awkward-maneuvers dept.

An anonymous reader quotes a report from Quartz: At the Bloomberg Global Business Forum today, Carlyle Group co-founder and CEO David Rubenstein asked Microsoft founder Bill Gates to account for one of the most baffling questions of the digital era: Why does it take three fingers to lock or log in to a PC, and why did Gates ever think that was a good idea? Grimacing slightly, Gates [deflected responsibility for the ctrl-alt-delete key command](#), saying, "clearly the people involved should have put another key on to make that work." Rubenstein pressed him: does he regret the decision? "You can't go back and change the small things in your life without putting the other things at risk," Gates said. But, "Sure. If I could make one small edit I would make that a single key operation." Gates has made the confession before. In 2013, he [blamed IBM for the issue](#), saying, "The guy who did the IBM keyboard design didn't want to give us our single button."

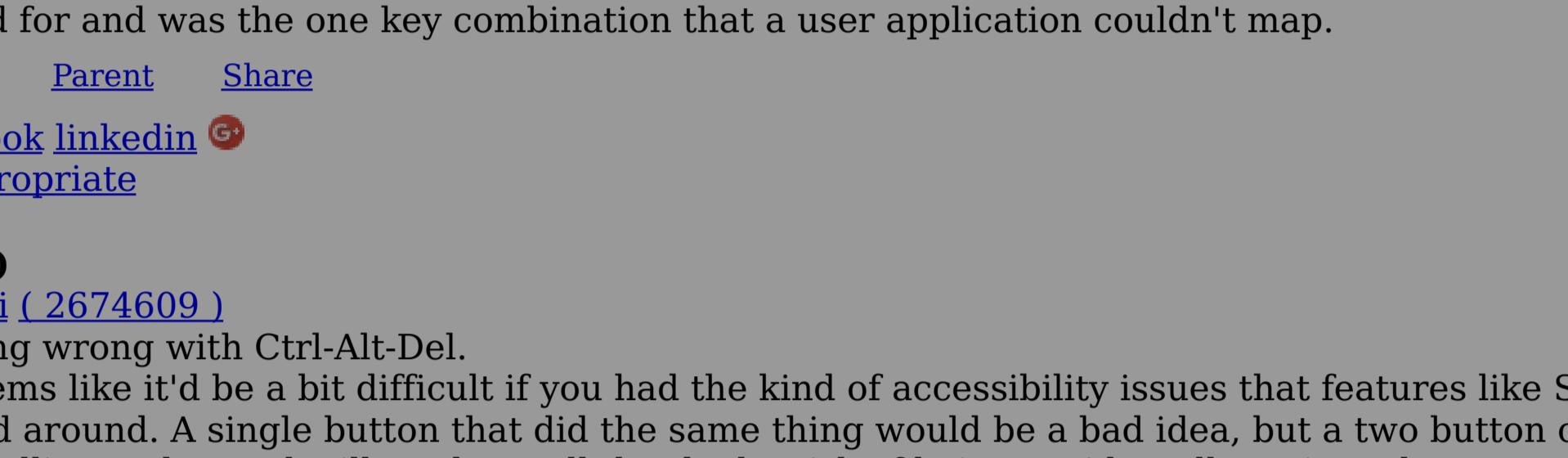
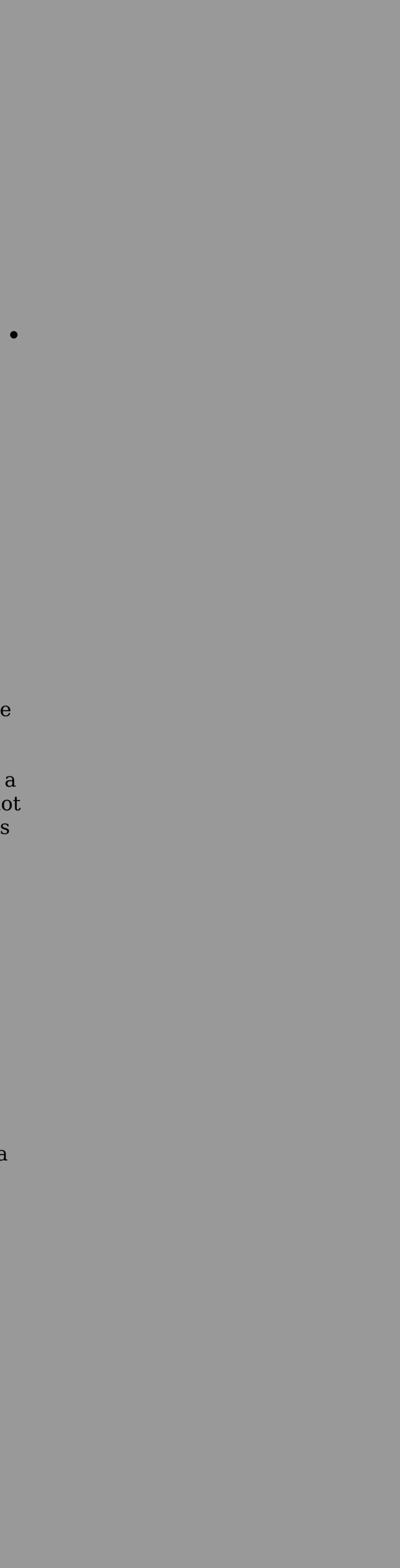
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Amazon Is Reportedly Working On Alexa-Enabled Smart Glasses

Bill Gates Acknowledges Ctrl+Alt+Del Was a Mistake

Submission: Bill Gates Says He's Sorry About Control-Alt-Delete

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**If I ever meet you (Score:5, Funny)**

by BeauHD ([1022085](#)) on Wednesday September 20, 2017 @07:25PM (#55235009)

I'll control-alt-delete you (Weird AI)

**Nicknames:**

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by BeauHD ([1022085](#)) on Wednesday September 20, 2017 @08:27PM (#55235409)

Ctrl+Alt+Delete was handled at a low level and could bring up task manager or restart the machine.

Applications could not detect the keypress.

When they went to implement multi-user and logins, they realized they needed to ensure applications could not spoof the login screen to trick users into entering their credentials. A malicious application could potentially save and reuse these credentials especially if they were of a DIFFERENT user or an admin user.

What to do? Well if they had the user press a key combination that applications couldn't detect to log in, or even a key combination that would result in a different action if they were already logged in, a fake application would not be able to detect this keypress and spoof the actual login screen. Given what, an existing key combination fit this criteria. They could have invented a new combination, of course, but chances are a legacy application might use this combination as a hotkey, and reserving it for login user would break that application.

--

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**Re:If I ever meet you (Score:5, Funny)**

by jandres ([4851](#)) <[kensama@vt.edu](#)> on Wednesday September 20, 2017 @09:29PM (#55235727) [Homepage](#)

Journal Of course it also gave MS-DOS users pause the first time they were asked to log into a WinNT machine. "Is this a prank?"

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**Re:If I ever meet you (Score:5, Insightful)**

by Strider- ([39683](#)) on Wednesday September 20, 2017 @10:11PM (#55236037)

The whole point of Ctrl+Alt+Del was that it's protected in the BIOS. Invoking it would jump to a routine that was hard to override. In most cases, though, under DOS the subroutine just caused a reboot. Later operating systems, it was trapped for and was the one key combination that a user application couldn't map.

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**Re:If I ever meet you (Score:4, Informative)**

by Strider- ([39683](#)) on Wednesday September 20, 2017 @10:35PM (#55236037)

The reason they used that combo in the first place was for compatibility with legacy applications.

Back in the olden days of DOS, pressing Ctrl+Alt+Del immediately rebooted your computer. But, it's not really

possible to accidentally press Ctrl+Alt+Del and lose whatever you were working on.

Windows, CTRL+ALT+DEL was handled at a low level and could bring up task manager or restart the machine.

Applications could not detect the keypress.

--

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**Re:If I ever meet you (Score:5, Insightful)**

by Strider- ([39683](#)) on Wednesday September 20, 2017 @10:11PM (#55236037)

Yes, I agree that Control-Alt-Delete is an entirely reasonable design, and I'm not sure why Gates is apologizing for it -- particularly when there are a number of other things that I think most people would agree he should apologize for.

For instance -- using the backslash for directory paths when every other OS used normal slashes. As a developer, I think I curse about once per week.

Or, maybe more controversially, the registry.

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**Re:That's the one! (Score:5, Insightful)**

by BeauHD ([1022085](#)) on Wednesday September 20, 2017 @08:01PM (#55235524)

This was my reaction exactly.

Actually, I think CTRL-ALT-DEL is one of the things they got right. There is little chance of doing it by accident, a dedicated button would have been a waste of keyboard real estate, and resulted in far more inadvertent resets.

It actually makes sense that the decision was forced on Microsoft, and if the decision had been left up to Bill, he would have taken the dumb alternative.

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**Re:That's the one! (Score:5, Funny)**

by default\_luser ([529321](#)) on Wednesday September 20, 2017 @08:20PM (#55235539) [Journal](#)

You know, like that stupid Reset button on the Apple II. Located conveniently above the RETURN key.

Can't tell you how many times I fucking hit that thing.

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**Re:That's the one! (Score:5, Insightful)**

by BeauHD ([1022085](#)) on Wednesday September 20, 2017 @08:20PM (#55235539)

Yes, I think it was supposed to be a "good" thing to prevent people from accidentally restarting their machines by pressing the wrong button. From that perspective, it's a success.

The fact that windows now adds a whole bunch of other options to that command, like change password, log off, lock the computer, etc, is entirely their fault; there's nothing stopping them from adding \*those\* commands to another button, like say an F10 or something, that allows you those options. So what is wrong with Ctrl+Alt+Delete again?

Blaming IBM is silly.

As an example how this is useful, back when I was in college we had an old Vax network with green terminals. Being a clever asshole, I wrote a login screen emulator, which ran from my logged-in account. It captured the login and password, popped up an "incorrect password" notice, and then logged me out, terminating the login emulator. The victim would have a slighter longer than normal delay as they got dumped back to the login prompt, but the network was dodgy enough that it wasn't totally out of the ordi

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The NT prompt requiring control alt delete was intentional for this reason when it was designed.

**It was a reaction to the Apple II reset key (Score:5, Interesting)**

by [JecelAssumpcao Jr \(5602\)](#) on Wednesday September 20, 2017 @07:50PM ([#55235175](#)) [Homepage](#)  
The IBM PC was designed by observing the market leader (the Apple II with a Microsoft CPM card) and copying all the good stuff while trying to avoid its problems. One of the problems of the Apple II was that reset was a simple key close to the return key. So it wasn't rare for you to type in stuff all night only to watch it all vanish due to a slightly misplaced finger. A popular add-on product for the Apple II was a little plastic cap for the reset key that you had to lift before you could press it. IBM selected three keys that were far enough apart than nobody would type by accident.

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**Re: (Score:3)**

by [drinkywoo \(153816\)](#)

And it was a good enough idea that others copied it. The Amiga had ctrl-amiga-amiga and mac had cmd-option-escape, which is difficult to hit by accident but which can be done reasonably with one hand, as long as you have the left one.

**Re: (Score:3)**

by [Chris Katko \(2923353\)](#)

Yeah, I've had keyboards on client machines with a power button right next to home and delete. It's the most insane, horrific thing ever.  
You shouldn't be able to POWER DOWN A SERVER with a single keyboard press. You don't power down machines that often. You shouldn't even be able to restart Windows with a single accidental press by pressing the windows key and then a couple more keys (this has happened). You don't make "high risk, low occurrence" things faster... unless you're an idiot.

I, for one, want a bu

**Re: (Score:2)**

by [drinkywoo \(153816\)](#)

You shouldn't be able to POWER DOWN A SERVER with a single keyboard press.  
That's why the power options should specify that the power and sleep buttons do nothing by default. They used to, didn't they?

**Re: (Score:2)**

by [tpples \(727027\)](#)

Better yet, have both the power and suspend keys pop up a dialog box to the effect "Do you want log out, shutdown, restart, or sleep?" with the default being "log out" until the user changes the setting away from "Ask" in power management settings.

**Re: (Score:2)**

by [tpples \(727027\)](#)

You don't make "high risk, low occurrence" things faster... unless you're an idiot.  
Then Google are idiots, as anyone can wipe a developer-mode Chromebook by turning it on, pressing Space as prompted, and pressing Enter as prompted.

**Re: (Score:2)**

by [mentil \(1748130\)](#)

This even has a tvtropes page: [Caps Lock, Num Lock, Missiles Lock](#) [tvropes.org]

**Re: (Score:2)**

by [sexconker \(1179573\)](#)

Exactly, it's as a key combination that wasn't used by something else (as far as I know) and wasn't going to be accidentally triggered. Giving them a dedicated key for it would have caused issues with accidental key presses

and everyone else trying to hijack the key for other functionality. CTRL+ALT+DEL is fine.

The only legit complaint I could think of is that it may be hard for people with disabilities to trigger.

**Re: (Score:2)**

by [Dadioo \(899435\)](#)

My problem with Ctrl+Alt+Del, especially in the DOS days, was that it was handled by software. If the currently running program wasn't using the DOS input routines or checking for the sequence, itself, it simply wouldn't work, and you'd have to power-cycle your computer to reset it.

If they had actually wired up those keys to send a hard reset to the CPU, it would have been fine.

**Re: (Score:2)**

by [jandresa \(485\)](#)

That is not my memory at all. Ctrl+Alt+Delete worked unless your machine was *hard* locked (trapped in an interrupt handler thanks to a buggy driver or misbehaving hardware).

**Re: (Score:2)**

by [Dadioo \(899435\)](#)

Ctrl+Alt+Delete worked unless your machine was hard locked

Even if that's true (and I'm pretty sure it isn't), it happened all the time, and it's exactly one of the things a hard reset would fix.

**Re: (Score:2)**

by [Solandri \(704621\)](#)

Ctrl+alt+del generates a hardware interrupt which bypasses whatever program is running. Originally it went straight to the BIOS and triggered a reboot of the computer. But was later modified to invoke a handler attached to that interrupt. That's why it's used to initiate a login onto Windows Server. When you press ctrl+alt+del, you're guaranteed to get the real Windows login prompt (which is triggered by that interrupt). If malware has set up a fake look-alike login prompt, ctrl+alt+del will bypass it

**Re:I don't understand. (Score:5, Funny)**

by [FrankHaynes \(467244\)](#) on Wednesday September 20, 2017 @07:39PM ([#55235109](#))

That's a terrible thing to say about the President!!

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**Don't apologize to me\* (Score:2)**

by [elroussi \(869638\)](#)

Apologetic to poor old Two-Finger down at the bar!

**Re: (Score:2)**

by [mentil \(1748130\)](#)

He's only able to give computers the two-finger salute, it's not to be taken personally.

**Compatibility (Score:5, Informative)**

by [The MAZZTe \(911996\)](#) <[megazz AT gmail DOT com](#)> on Wednesday September 20, 2017 @07:34PM ([#55235071](#)) [Homepage](#)

The reason they used that combo in the first place was for compatibility with legacy applications. In legacy Windows, CTRL+ALT+DEL was handled at a low level and could bring up task manager or restart the machine. Applications could not detect the keypress.

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**Re:Compatibility Addendum (Score:4, Informative)**

by [The MAZZTe \(911996\)](#) <[megazz AT gmail DOT com](#)> on Wednesday September 20, 2017 @07:36PM ([#55235081](#)) [Homepage](#)

I forgot to mention... I think the key combo stretches all the way back to MS-DOS, where CTRL+ALT+DEL would instantly reboot. I assume 16-bit Windows trapped this combination first of all so DOS wouldn't intercept it and reboot right away, and also so they could anticipate the user was having problems and offer to run Task Manager.

But the key combo was first declared in DOS as a key press that could be used to soft reset the machine, but would not be pressed accidentally. CTRL+ALT+DEL makes perfect sense for that scenario. Then it just evolved organically.

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**Re: (Score:2)**

by [Nonesuch \(90847\)](#)

The apology was for the choice to capture the historical "Reboot" key sequence and re-purpose it for logon. This was particularly annoying when we still had a mix of OSes in the workplace, and people got into the habit of walking up to any unknown "PC" and the first thing they do is give the 3-finger salute, rebooting the computer if it was running something other than the latest Microsoft product.

Almost as big a sin against computing as the 1994 introduction of the "Windows Key".

**Re: (Score:2)**

by [Tablizer \(95088\)](#)

It appears it gradually became widespread and entrenched such that nobody bothered to put a halt to it, like the parable of the boiling frog. I suspect at one point there was a conversation similar to:

PHB1: What if a program or Windows locks up? How can the user end the program or reboot?

PHB2: Well, the technicians have added a secret key combo: ctrl+alt+delete for that. But that's not very user friendly.

PHB1: How about something a little easier, such as Ctrl+Esc? It's hard to bump accidentally, but easier

**Re: (Score:2)**

by [Trax3001BBS \(2368736\)](#)

The reason they used that combo in the first place was for compatibility with legacy applications. In legacy Windows, CTRL+ALT+DEL was handled at a low level and could bring up task manager or restart the machine. Applications could not detect the keypress.

The way they sold it for the NT was the key combo terminated any TSRs (an old DOS term for Terminate and Stay Resident). Only had 640K memory to use, any little bit helped.

**killer death button (Score:2)**

by [bugzSquash \(1132591\)](#)

so where was this single NMI button supposed to go

In between TAB and CAPS LOCK.

**Re: (Score:2)**

by [PopeRatzo \(965947\)](#)

so where was this single NMI button supposed to go

Ctrl+Alt+Delete

If the machine is doing OK then Billy could have picked any key to get its attention, when things go wrong the Non-Maskability of the interrupt doesn't seem to do the trick reliably

C-A-D was probably never a NMI. It's serviced by a DOS interrupt handler (INT 1? IIRC) and thus you could always change the behavior. I'm not absolutely sure the original IBM PC didn't get a real interrupt from the keyboard controller, though.

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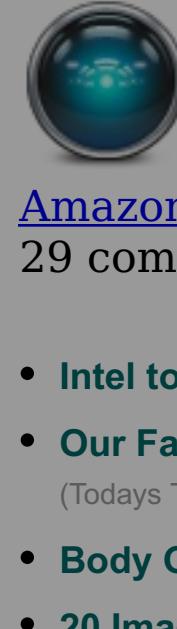
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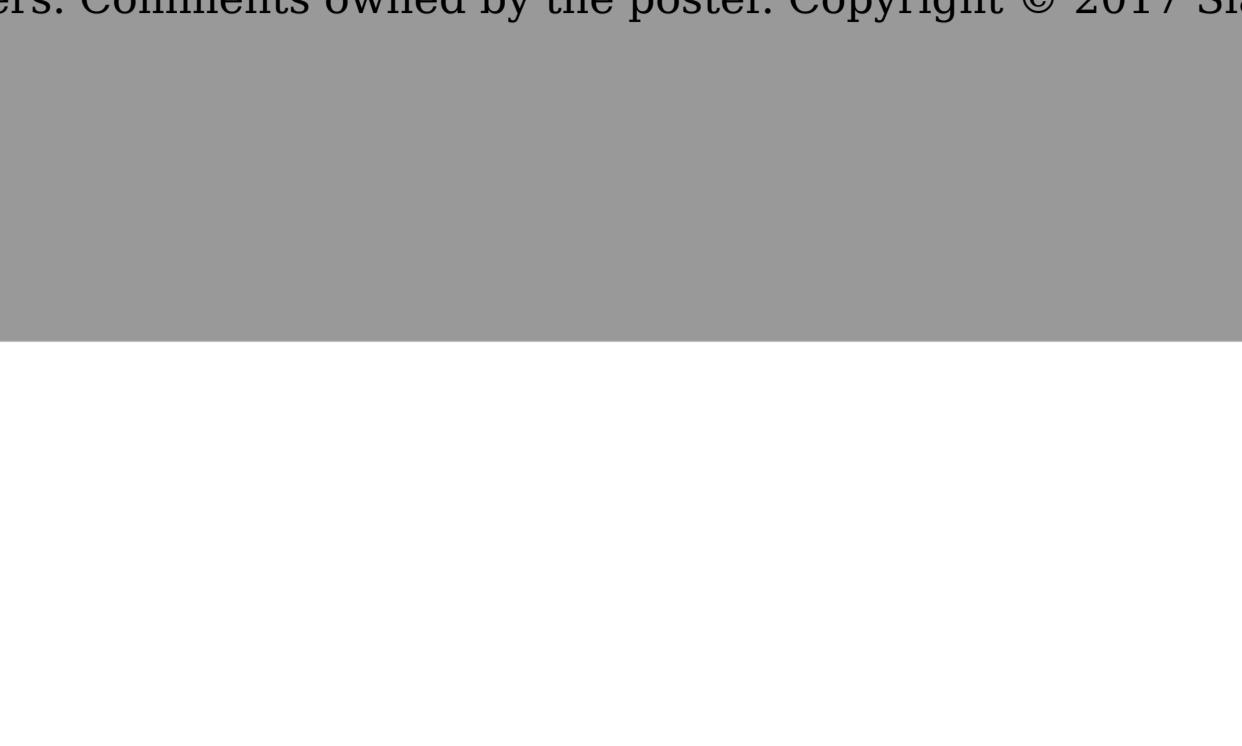
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