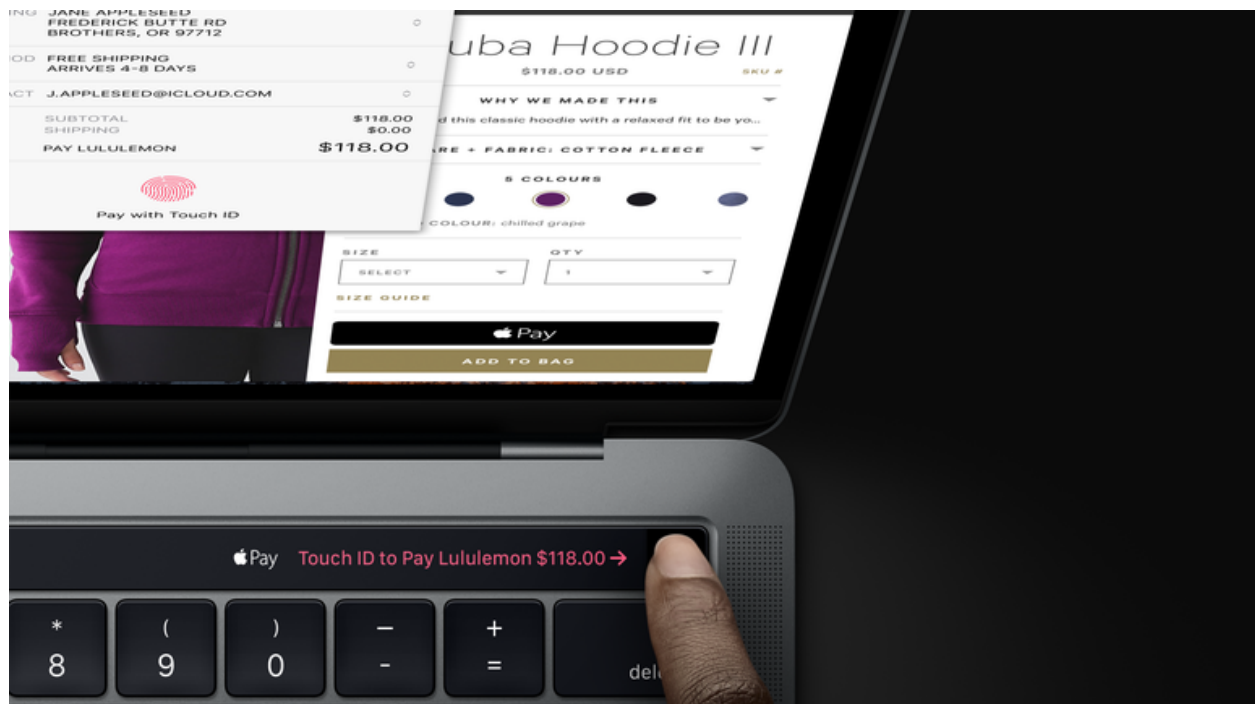


The new Apple MacBook Pro: Apple's amazing strip show reinvents the laptop keyboard

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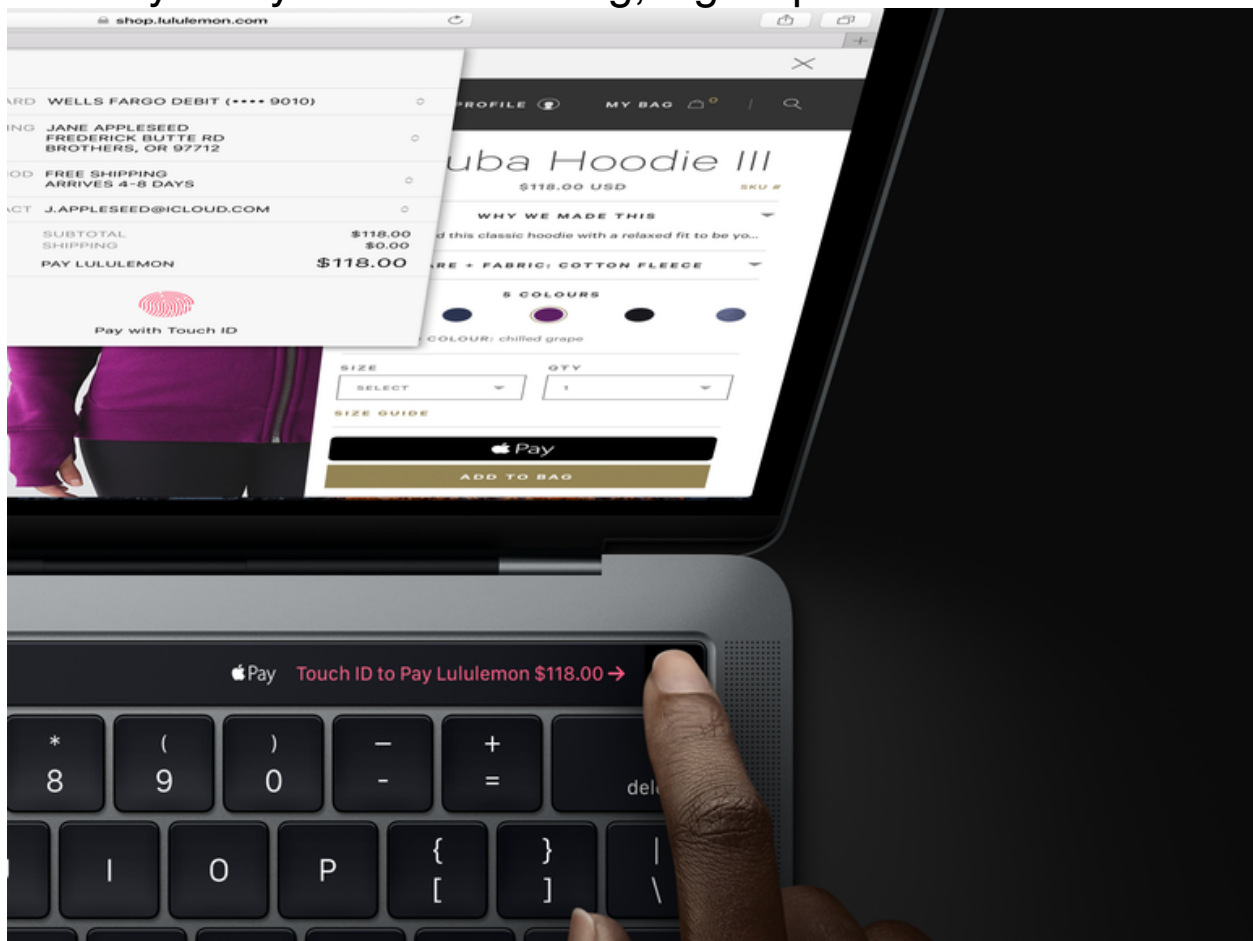


Apple really did think different about its new laptops.

The sheer number of big-picture changes to the iconic laptop line made my head spin during an exclusive hands-on preview of Apple's new MacBook Pro laptops at the company's Cupertino, California headquarters earlier this week. While Apple kept the MacBook Pro name it's used

since 2006, nearly everything about the new generation of the high end notebook has changed.

And that's a good thing. Apple's last major update to the MacBook Pro, its priciest and most powerful [computers](#), was back in 2014. That's a long time in computer years. Phil Schiller, Apple's senior vice president of worldwide marketing, and Craig Federighi, senior vice president of software engineering, said the wait had to do with making sure this revamp wasn't just a "speed bump" with faster chips and memory. They were after a "big, big step forward."



The MacBook Pro's new Touch Bar feature.

Apple

What we've got now is two new 13-inch MacBook Pro models and one new 15-inch model. Schiller and Federighi walked me through the laptops' striking evolution.

The long-rumored "Magic Toolbar," an OLED-display strip for context-sensitive touch commands, is real. Apple calls it the Touch Bar, and it's worth all the hubbub. Just 60 pixels high (and 2,170 pixels wide), the Touch Bar could be a tool with the potential to be the Swiss Army knife of laptop input, changing itself on the fly to work across different apps, imitating a series of touch buttons, control sliders and even jog dials. This is Apple's answer to the touchscreens found on most Windows laptops.



A closer look at the dynamic Touch Bar.

Apple

"It provides all your system functions that you're used to up there," said Schiller, pointing to the Touch Bar. "But in a much more attractive, better, adaptable way."

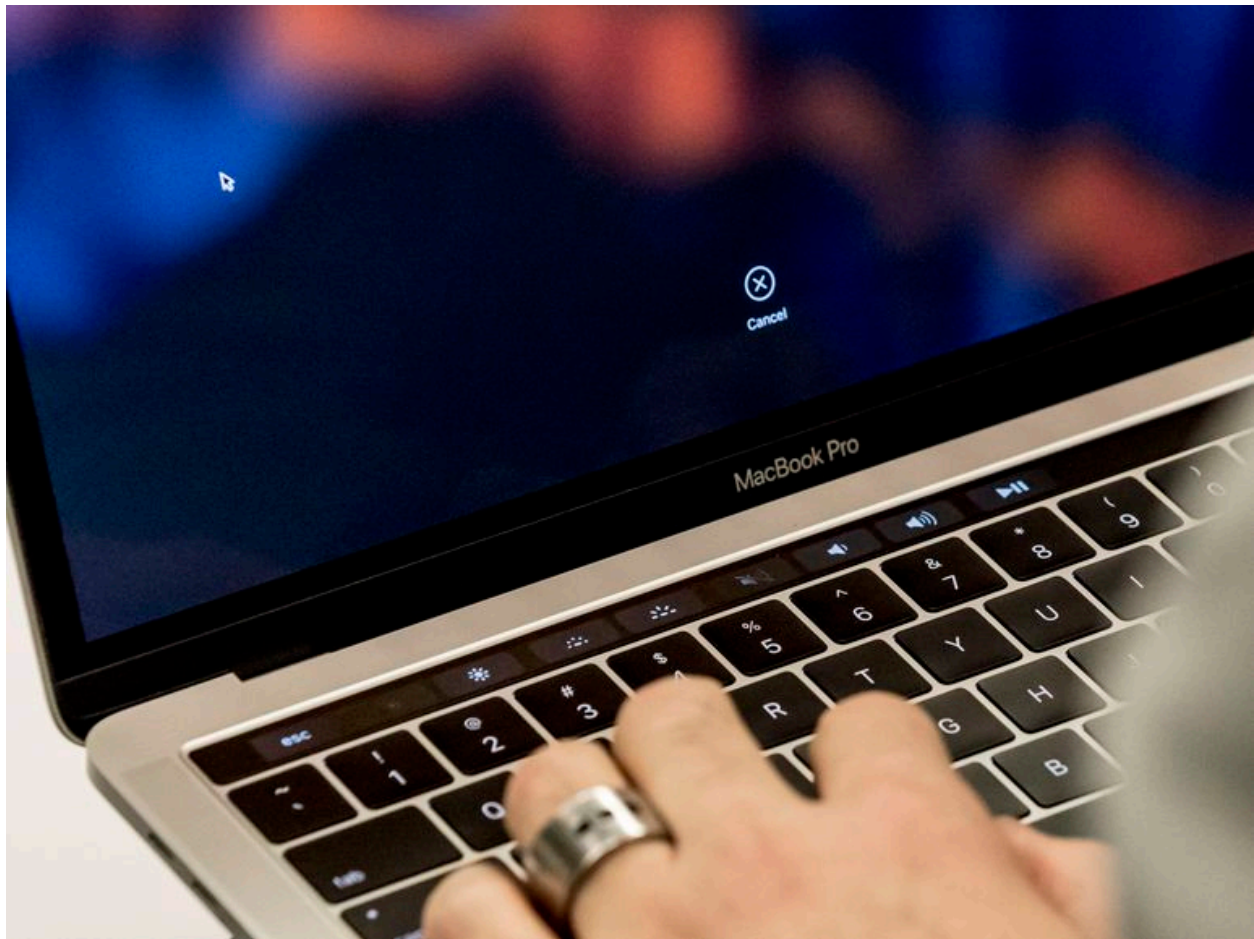
So, for example, you can adjust the brightness or the volume just by touching the bar. "It provides all your system functions," he said. "That alone replaces everything that the function keys were ever being used for anymore, but it does so much more."

He's right. I did see it do much more than the old function key row ever did, instantly transforming itself to fit to the task at hand. But before we can talk about that, we need to talk about all the other changes to the MacBook Pro. And that includes the cost.

[APPLE MACBOOK PRO SWAPS OUTDATED FUNCTION... SEE FULL GALLERY](#)

Flip open the aluminum lids of these new laptops and almost everything -- including the keyboard and touchpad -- looks reinvented, too. On the outside, the physical design is just different enough to mark it as a new generation, without radically rewriting the DNA of the MacBook Pro.

These new laptops are thinner and lighter. That's no surprise, although they don't come close to competing with the slimmest high-end Windows laptops. The 13-inch model is 14.9 mm thick and weighs 3 pounds (about 1.36 kg), while the 15-inch model is 15.5 mm thick and 4 pounds (1.81 kg). That's compared to 18 mm for the previous 13- and 15-inch Pros, which were each about a half-pound (0.23 kg) heavier than their replacements.



If you're looking for the thinnest possible laptop, [HP's Spectre](#) and [Acer's Swift 7](#), both powered by new seventh-generation "Kaby Lake" Intel Core i7 processors, are both less than 10 mm thick. Left feeling positively massive by comparison is the classic MacBook Air, once the king of the thin laptops, at 17 mm.

Besides the traditional silver, the new MacBook Pros come in space gray, adding a splash of (muted) color to the previously monochromatic Pro. It joins the [12-inch MacBook](#) (as well as the [iPhone](#), [iPad](#) and Apple Watch) in giving you at least a little color customization. The space gray model isn't as striking as the [classic black MacBook](#), but it's cool to see a

bolder color. That's especially true on the larger 15-inch MacBook Pro, which wears its space gray finish with a subtle sophistication.

Not so cool: The MacBook Pro gets a painful price hike. The 13-inch Pro with a dual-core Intel Core i5, 8GB of RAM and 256GB of [storage](#) costs \$1,799. The 15-inch model, with a quad-core Core i7 (all part of Intel's sixth-generation of Core i-series chips, also known as "Skylake") and 16GB/256GB, sells for \$2,399. The 15-inch models also include discrete AMD Radeon graphics, just as the larger preceding Pros did. In terms of battery life, expect 10 hours of work time on both sized models. That's a tiny boost versus the old 15-incher, and exactly the same for the 13. (See the chart at the bottom of the page for UK and Australian pricing.)

For the most part, though, these specs -- especially the CPUs -- are a welcome update. They finally put the MacBook Pro on par with the best Windows laptops, whereas the previous models were a generation or more behind. (Those aforementioned superslim Windows laptops are powered by even newer seventh-generation "Kaby Lake" Intel processors, but those [don't seem to offer a big performance boost](#) over their predecessors.)



A few other updates help justify the prices. The RAM is now a faster 2,133MHz version, while the built-in solid state storage can transfer data faster, at up to 3.1 gigabytes per second. According to Apple, the displays, while retaining the same Retina resolution, are both brighter and have a wider color range, and consume 30 percent less power. These are specs many users likely won't notice in everyday use, although faster storage is key for transferring large files (like videos) and a brighter screen is always welcome. Left off from my personal wish list is a full OLED display, a feature just starting to turn up in a handful of [high-end Windows laptops](#).

If that's too much sticker shock, there's also an entry-level version of the 13-inch MacBook Pro that keeps the new design and keyboard/touchpad, but drops some of the specs and loses the Touch Bar in favor of a traditional row of function keys. That model starts at \$1,499 and is available now. But keep in mind that before today, a 13-inch MacBook Pro could be had for as little as \$1,299, so this is a big step up in price no matter which model you choose. I suspect there may be a few shoppers who try and track down the last stock of the [previous 13-inch Pro](#) to save some money.

The second screen

Laptops makers who mess with the traditional keyboard-plus-touchpad design are rarely rewarded.

The idea of adding a second screen to a laptop, or another place to touch and tap besides the touchpad, isn't new. But it rarely works. Previous attempts often included a secondary touch input at the expense of a primary input method. [Razer sold a line](#) of big-screen gaming laptops that replaced the traditional touchpad with a touch-sensitive LCD display that could act as a touchpad or as a context-sensitive screen. The clever idea was undone by two key flaws -- it moved the touchpad to the far right side of the laptop, and it had limited software support (mostly a handful of [PC games](#)).

Acer tried the [Iconia 6120](#), an ambitious full-size laptop that was essentially two 14-inch LCD screens clamshelled together. Both were standard laptop touch displays, but the bottom one could show a large, touch-sensitive on-screen

keyboard, as well as media transport controls and other widgets. There was no second version.



Craig Federighi (third from right), Apple's Senior Vice President of Software Engineering

More recently, Lenovo released the [Yoga Book](#), a 10-inch hybrid with a vanishing keyboard. Its lower half is a Wacom tablet that can, at the touch of a button, display a backlit keyboard overlay. It's an impressive engineering feat, but the stylus-based slate mode worked much better than the hard-to-use keyboard.

The Touch Bar in the new MacBook Pro tries to skirt these pitfalls by focusing on the gaps left behind by the keyboard

and (much larger) touchpad. It's an additional tool, rather than a replacement for something more practical. The thing that it does replace, the function key row, is itself a relic.

"Function keys were put into the notebook so you could do terminal emulation. That use has gone away for quite a long time now," says Phil Schiller, describing how the F-keys on your laptop were originally created for old computers to talk to even older computers. Since then, more consumer-friendly commands have been mapped to these keys, making for an occasionally awkward compromise.

"It's kind of a crazy thing to take an old, unused technology and map things onto it just so they're not nonfunctional."

Phil Schiller

"It's kind of a crazy thing to take an old, unused technology and map things onto it just so they're not nonfunctional," Schiller adds. "We've decided to remove them completely, and instead replace it with something built with modern technology that can adapt and do things we need to do with today's computing needs."

With its context-sensitive OLED secondary display, Apple abandons the pretext that we need a string of F-labeled keys at all. What we really want is all those other secondary commands, like adjusting the brightness or muting the audio. By default, the Touch Bar displays a command strip view with brightness, volume and other system control functions. When

another Apple app is launched, including Photos, Mail or [Safari](#), the command buttons roll up to the far right side of the strip, leaving the rest of the space free for app-specific commands, which can take the form of buttons, sliders or dials.



Apple's Phil Schiller

The possibilities seem limitless.

During my visit to Apple's headquarters, I saw some examples demonstrated for me at our exclusive hands-on. These included a jog wheel for rotating photos in Apple's Photos app, suggested words and corrected spellings in Mail, and a tiny display of open tabs in Safari.

The Messages app naturally gives you [a menu of emojis](#). Other programs, including Adobe's Photoshop, will support Touch Bar, which seems especially relevant for design and creativity apps. Future support from third-party apps and websites will make or break the Touch Bar. I'm eager to see what it can do when teamed with apps like Netflix or Spotify, which could hypothetically let you fast-forward through a movie or song with the slide of a finger.

Federighi says the Touch Bar will make it easier to find and use features often buried in rarely accessed software submenus. "Some of these apps have a lot of power that is often hidden behind menus and things, that they can surface contextually on the Touch Bar, which is so powerful." Of course, ditching that function key row claimed another casualty: the escape key. But the good news is that at least one of the customized Touch Bar designs already had a "soft" escape key right where we still expected it.



The 13- and 15-inch MacBook Pros side-by-side.

Apple

The far right side of the Touch Bar has a small square set aside for a Touch ID input. That's the same fingerprint technology that's in current iPhones, and lets you log into the system and make payments via Apple Pay. You can do that already if you have a [MacOS](#) MacBook and an iOS 10 iPhone, if the two devices sit close to each other, but in the new MacBook, it's a self-contained system powered by Apple's built-in T1 security chip.

As a clever party trick, the new MacBook Pro can also switch user profiles on the fly, just by sensing a fingerprint. Simply

place your finger on the sensor, and the other person's desktop logs out, replaced by yours.

Twice the touch

The touchpad, which still uses [Apple's Force Touch technology](#), now spans twice the surface area of the previous MacBook Pro's touchpad. It's massive -- completely dominating the front of the interior. It's also a bold challenge for other laptops to try and match (though some [HP models](#) have been down this path, too).

Like the touchpads in the previous-gen MacBook Pro and 12-inch MacBook -- Apple prefers to call them trackpads -- this one has four corner sensors under the glass pad, rather than the more traditional top-mounted hinge. That means the pad doesn't actually click down, but instead gives you a little force feedback kick. It feels a lot like a touchpad click, but lets you, for example, fast-forward a video by applying more finger pressure to the glass. It also takes up less space, so laptop bodies can be thinner. It's now in every laptop Apple makes, with the exception of the MacBook Air.



With such a large touchpad, how does the system know to reject errant palm hits while you're typing?

Federighi tells me the palm-rejection software was already pretty finely tuned from the last major MacBook Pro refresh in 2012. "I don't know if we fundamentally changed our algorithms because we got it pretty solid in the last generation," he says. "We've had to tune it of course. We do all kinds of tuning of these. But our old algorithm does the job."

Cracking the keyboard code

Sitting above the larger touchpad is a redesigned keyboard. It's going to be the topic of a lot of discussion.

Anyone familiar with the 12-inch MacBook will have a better idea of what to expect. The keyboard here uses Apple's butterfly mechanism, which allows for shallower keys and a thinner body. Using a very shallow keyboard made sense in the very thin 12-inch MacBook, but it'll come as a bit of a shock for Pro users, who are used to the deep, clicky physical feedback of the current MacBooks.



The keyboard on the new MacBook Pro models have the same shallow key travel (an industry term for the distance the

key moves downward to register an input) as the version on the 12-inch MacBook. But the new "feel" of the keys and how they register a click gives the keyboard a more substantial feel. In a brief typing test I was struck by how much the keyboard felt like the one on a 12-inch MacBook, and how unlike the current generation of MacBook Pros it felt. You lose that satisfying feeling of your fingers being on big, chunky keys that click down with a satisfying thunk. Instead, typing becomes a quieter, more subtle task. The keys in older MacBooks rise up from the system surface, like tiny platforms. Now, the keys just slightly break the plane of the keyboard tray.

The new keyboard feel will be one of the tallest hurdles for potential buyers to jump. MacBook keyboards are iconic, and for good reason. The biggest complaints I've heard from readers about Apple's 12-inch MacBook since its 2015 release have been about the shallow keyboard and the single USB-C port. Will MacBook buyers give the new keyboard design a shot? I found that the butterfly keyboard in the 12-inch MacBook wasn't my favorite.

I eventually got used to it after a short adjustment period. Since then, I've easily typed over 100,000 words [on the 2015 and 2016 MacBooks](#). But as an all-day, everyday computer keyboard, I'm unconvinced. Check back in a few weeks of heavy use and I'll offer a more complete opinion.

The port problem

Every time some enterprising computer company takes away a port or connection on a laptop -- essentially branding it as a

"legacy" port we can do without -- there's a huge outcry from aggrieved users over this loss of flexibility and expandability. Generally speaking, however, the doomsayers are almost always wrong, and the minimalists are right.

Windows laptops in mainstream sizes have mostly dropped the Ethernet jacks and even the optical drives. Before that, a process of natural selection led to a survival-of-the-fittest array of ports, with VGA and DVI connections, parallel and PS/2 ports, and others vanishing at first slowly, then all at once.

The 12-inch MacBook started the trend of dropping nearly everything in favor of USB-C, which can carry Thunderbolt-speed data, connect to power, and through add-on adaptors, support USB sticks, HDMI output, and anything else you'd want to plug into a computer.



In the new MacBook Pro, Apple more than doubles down on the idea of USB-C; it quadruples down. There are now four USB-C ports, two on each side (except for the entry-level 13-inch Pro, which has only two USB-C ports) and nothing else. It's a bold move for a laptop that often spends a lot of time tethered to your desk, driving external displays or connected to storage drives. As with your [iPhone 7](#), get ready to stock up on some dongles.

Another carryover from the 12-inch MacBook: the beloved MagSafe power adapter is gone. Like the 12-inch MacBook, the new Pros juice up via USB-C, too.

Generally speaking, the doomsayers are almost always wrong, and the minimalists are right.

It's actually not USB-C or nothing, though. There's one more port still hanging around the MacBook Pro. The humble headphone jack, recently excised from the iPhone 7, gets a reprieve here. For now.

"We have a lot of Pros who hook up to studio [speakers](#) or amplifiers," says Schiller, "and we absolutely believe wireless is the way to go for [headphones](#). But there are other uses on the desktop configuration with a notebook."

A decade-long evolution

This major reworking of the MacBook Pro comes as the Pro line hits the 10-year mark. For the past decade, the MacBook family has largely defined the idea of a laptop in the public consciousness. Its silhouette is instantly recognizable across a crowded coffee shop or conference room. There's a reason almost every portrayal of a laptop in film or TV since the mid-2000s is either a MacBook or a silver-colored prop lookalike. The aluminum unibody, the minimal visual clutter (which I sometimes refer to as Apple's "strictly enforced minimalism"), the soft-focus beacon of a logo beaming out from the back of the lid. These all chime with the perceived user of the laptop's owner: young (at least in spirit), creative and, of course, affluent. These aren't cheap machines.

My [2006 review of the first-generation MacBook Pro](#) highlights much of what's made the MacBook Pro such a popular laptop over the years. It reads: "Apple's minimalist school of design is well represented in the MacBook Pro. Opening the lid, you'll find only a power button, a full-size keyboard, stereo speakers, a sizable touchpad with a single mouse button, and a built-in iSight camera that sits above the display. We're big fans of the keyboard's backlighting feature and the two-finger touchpad scroll (run two fingers down the touchpad and it scrolls like a mouse wheel)."

Rereading that sent me down a rabbit hole, to the [first review of the black polycarbonate MacBook](#) (an Editor's Choice winner for 2006) and the [very first MacBook Air review](#) from 2008. The latter is the only one of these I consciously recall writing, largely because of the active back-and-forth debates held with my CNET colleagues at the time about the scandalous omission of an optical drive from that system, and its single USB port for connectivity.

Is the MacBook Pro still king of the laptops?

When anyone asks me the loaded question, "What laptop should I buy?" my default answer has been the 13-inch MacBook Pro. It's as close to a one-size-fits all laptop as anyone has ever produced, and the reason the MacBook Pro has been the first choice for many people, especially creative professionals, for the past 10 years.

Of course, if you need something specifically for playing PC games, if you're looking to spend less now, rather than

making a big multi-year investment, or just want a touchscreen, detachable keyboard or any of a dozen other features that MacBooks lack, then my recommendations fan out to one of the dozens of other worthwhile laptops made by the likes of Acer, Asus, Dell, HP, Lenovo, Razer and Samsung.

Of late, some of these PC makers have come remarkably close to hitting the same highs as the MacBook Pro, with high-res displays, powerful processors and even touchpads that are not as far from the mark as they used to be. Dell's XPS 13 and XPS 15, Acer's [Swift 7](#), HP's Spectre and the Lenovo's ThinkPad X1 Yoga are all worth serious consideration, although none are in danger of replacing the MacBook Pro as my default starting point for laptop buying advice.



So, what's the new default? My head says the entry-level, 13-inch MacBook Pro is the smartest choice of these. It's missing the new Touch Bar, but it has almost every other new feature, including the slimmer design, new keyboard and touchpad, and brighter display. Apple intends it to be the new mainstream pick, and what you should look to if you're chasing the idea of something as portable as a MacBook Air, but with a Retina display.

But my gut says you'll regret not having the Touch Bar. It's only in the early stages of its development now, with a handful of partner apps, but it's the kind of implementation that most second-screen concepts miss -- adding to your experience,

rather than trying to distract you with gimmicky bells and whistles. That said, even I did a double take when I heard the 15-inch version of the MacBook Pro starts at \$2,399. Even \$1,799 for the 13-inch with the Touch Bar is a big ask, considering where MacBook Pro prices were beforehand. Once we've had a chance to fully test and review the new MacBook Pro, we'll be able to better make a buying recommendation. But if you're interested in one of the Touch Bar models, you have a little time to make a decision. The entry-level 13-inch Pro is available to order now, while the Touch Bar versions aren't coming until sometime in November.