

Form. Fit. Function.

I found myself with a looming deadline (basically, this column was due five days ago) and was scrambling to come up with a good topic that fits in with “Legacy Systems Software.” I kept delaying, and decided that I would write the column when I flew to New York for a meeting. I was waiting for inspiration. As luck would have it, as I was texting my wife from the airplane, the flight attendant gently reminded me that it was time to turn off all electronic equipment.

And there it was. You see, I am a relatively proud user of an..... well, to keep from getting sued, let us say I have a “MiPhone.” In fact, I have been a MiPhone user since 2009. I also have a MiPad, and several MiMacs (two laptops and a desktop at the office). I have been a loyal MiMac user since 1988, and prefer it to the alternative operating system.

I teach computer science, and 30% of my students use Macs. I feel I have an obligation to show students how the two major desktop operating systems compare. On a PC, I cannot install Mac OS. However, on all three of my Macs, I can run several virtualized operating systems simultaneously. I can show how to accomplish some task on Mac OS, and then quickly show the same task on Windows 7, and then on Windows 8 with just a simple swipe to another virtual environment. To me, a computer is simply a tool, and right now, with the job I have, a Mac is the right tool for me.

Back to my MiPhone. Since I bought it back in 2009, it has basically operated the same. I got it when MiOS 3 was out, and through MiOS 4, 5, and 6, it has basically operated the same. Each successive operating system brought out new features, but the older features basically worked exactly the same. So much so, that my brain trained itself to run on autopilot. Need to unlock the phone? My thumb knew where to push to enter my massively secure 4-digit password. Need to go to mail? Once loaded, my thumb automatically knew how to read an email, and then swipe to delete it.

Need to set an alarm? The MiPhone alarm had two dials to set the hour and minute, and my thumb, over the last five years, automatically knew how hard to swipe it to get it to roll from 15 minutes after the hour all the way around to 45 after. In fact, like so many others, my phone was so much a part of my life that I automatically grabbed for it, unlocked it, and clicked an icon without thinking—until last week.

I am writing this column the last week of September, at which time, the long-awaited MiOS 7 was released. And while adding lots of cool features, it also changed a lot of existing features.

The unlock screen changed both the size and location of the number pad. Granted, it only takes a while to figure out the new positioning, but why is there a new size and layout of the number pad?

For some reason, the icons for certain long-used applications (such as Photos) have totally changed. In fact, there is a general redesign of almost all of the graphics. Everything somehow looks childish and less colorful. Again, I have to ask—why? For almost five years, I automatically knew what the icon for Settings looked like. It was like being on autopilot to find it. How hard is it to have to re-learn what the Settings (and Photos, and several other apps) icons look like? But the bottom line is, why should I have to re-learn what I already knew well?

One last complaint. To get to the Spotlight search screen, you used to go to the home screen and swipe left to right. MiPhone users learned to quickly hit the select button twice (bringing you to the first home screen) and then swiping. Now, however, you swipe down from the middle of any screen to get to search. I agree, the new method is better. But they disabled the older method. The older way could have been left working. Now I have to retrain my muscle memory. For five years I have automatically clicked twice and swiped without thinking about it.

Form. Fit. Function. These are the keys to sustainable legacy software. Legacy software must evolve, but have the same basic form. The fit must match existing interfaces. And any new function should not violate rules that the user has spent years and years learning. It is ok to make users learn new things, but do not make them unlearn what has always worked. Any new functionality should not delete old functionality (assuming the old functionality was not incorrect).

Imagine a Windows computer where the three keys for the task manager became Tab-Shift-Return. How long would it take you to quit hitting Ctrl-Alt-Delete by reflex?

My wife, who has owned both a MiPhone and MiPad longer than me, summed it up nicely when she said, “If I am going to have to relearn basic functionality, why not just relearn on an Android instead of a MiPhone?”

Change it too much and your users might start looking for newer alternatives. Be it an Android or large-scale software. One thing is for sure, your users certainly won't be happy.

Form. Fit. Function. Even on an inexpensive phone.

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