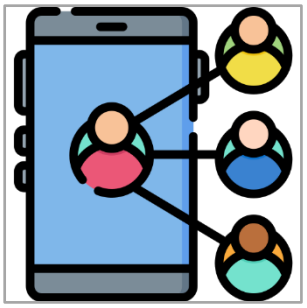
How will Smart Phones evolve in the future?



The mobile phones of the future are expected to be more closely embedded in our day-to-day lives than ever before. Some futurologists and industry experts predict that in years to come mobile phones will become remote controls for our whole lives, while others forecast that in the future mobile phones will literally run our lives for us. One thing's for certain: the technology involved in mobile phones and mobile networks has developed so rapidly over the last few years, it's going to be an exciting ride.

Smartphones are now the preferred access and communications device for almost everyone everywhere, it's fair to ask if there is--or even could be--anything really big on the horizon that might start a new handset revolution. It is not expected to happen in the near term. When it comes to the future of smartphones, consider it more of an ongoing evolution. Given that advances in Wi-Fi (802.11ac Wave 2, the upcoming 802.11ax, and perhaps even 802.11ad and .11ay) and 5G will absolutely require new hardware in the future, it would seem that that the upgrade market will be intact for now, even absent any other meaningful user-visible enhancements.

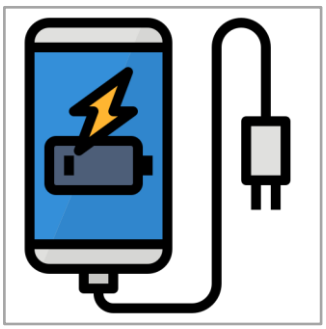
Let us look at some aspects below

1. Batteries and Power

This is the big one--potentially, anyway. There's a great deal of research about batteries going on today. This research is driven, in part, by environmental concerns, such as storing wind and solar output, but it's also driven by advances in basic battery chemistry (but still with lithium at the core). While there's a big

difference between industrial-scale energy storage and the requirements of a mobile device, the batteries in that mobile device are being asked to provide ever-more juice in the same or sometimes less physical space. And--importantly--the batteries are non-removable by the end-user--again, at least partially for environmental reasons. Wireless charging based on the Qi standard is thus becoming common, enhancing convenience and, with charging pads even appearing in cars now, in effect enhancing working battery life. Still, with the dead battery a top cause of end user frustration, expect the vendor community to continue to devote significant resources to solving this problem. And, with so much action here, expect good results. You'll also likely be hearing more about supercapacitors acting as a buffer between the battery and the electronics, further enhancing battery life to some degree.

2. Dropping Physical Ports

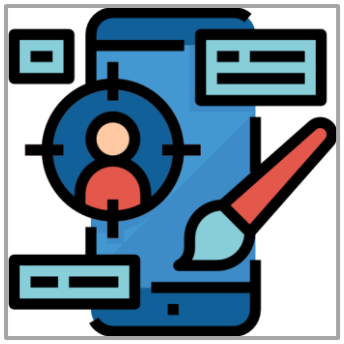


We expect physical ports to disappear entirely from handsets, and, with wireless battery charging and the wide variety of radios for transferring information, they are no longer required. Don't underestimate the cost savings here, along with a corresponding improvement in reliability: With no exposed gaps or wires, devices will be stronger, more water resistant and less costly to manufacture. This is a win/win/win, except for those who really want to plug in a USB cable. But USB is so 2010, at least with respect to mobility, and it's time to get over it. Note that this move in some ways depends on the advances in batteries noted above, as a portless phone would render add-on emergency wired batteries useless and portable wireless chargers seriously inconvenient.

TAKE AWAY

Smart phones will surely see a big-time evolution, even though not in the near future. There are many aspects which can be improved in a smart phone. It can be mind blowing ,30 or 40 years from now the way we use smart phones

3. Shift in Usage Models



The relationship between the handset and the cloud is already changing. What we're seeing today is in fact a return to the timesharing model of computing that was the norm in the 1970s. And, thanks to the shared, collaborative nature of IT in organizations and beyond today, we're also seeing the essential end of offline processing. The handset is really a personal communicator, not a personal computer: Processing and data will typically be on the other side of the (wireless) link, with local apps often just an interface to this reality. Indeed, beyond the gamer community, why would we need faster handsets with more memory and storage?

4. Enhanced Security, Integrity and Reliability

Handsets today are often used as part of a two-factor authentication scheme, typically via messages or an app. Unfortunately, gaining access to the handset itself is usually not similarly two-factor. While biometrics (fingerprints, faces, etc.) may eventually become acceptable here, real two-factor authentication is based on something you know plus something you have, and not something you are--at least, not until the instant, mobile DNA scanner becomes a reality, anyway. For this reason, I believe, wireless tokens, likely based on NFC, will become popular. In addition, as we increasingly move to the cloud for all computing and communications, the token will enable any device to become "yours" on demand. While users will likely continue to have their own handsets, all other access and edge computing devices could be in effect rented or borrowed, with complete security in the bargain.

5. Reduced Enterprise Mobility Management (EMM) Requirements

Finally, if mobile devices become more cloud-centric, with little to no sensitive organizational data stored and processed locally, EMM solutions will become simpler and more cost-effective.

6. Your new best friend

For most of us nowadays though, this sentiment applies to our smartphone. From setting alarms and reminders to checking our Facebook feed, doing online shopping and managing our finances, we reach for our phones as soon as we wake up and don't really put them down until we're ready to sleep. As smartphone technology becomes ever more intuitive, we're growing increasingly attached to our mobiles.

Back in 2011, Julius Tarng designed the Modai, a modular handset aiming to turn your smartphone into your best friend. This companion device was inspired by human behaviours and designed to help users bond with it physically and emotionally. The Modai phone would greet you in the morning, and keep silent at night, and would adapt to different situations in much the same way a human would.

TAKE AWAY

Some predict that virtual reality (VR) will be a big driver for handset evolution, but the separate and immersive headset required will seriously limit the appeal. We don't believe that VR will have much impact on the vast majority of handset users--apart from hardcore gamers, anyway. Ditto for exotic possibilities like direct-brain interfaces (typically enabled via electromagnetic sensors). These devices offer great hope for people facing physical challenges, but they're not going mainstream anytime soon--if ever.

Given the fundamental limits on usability imposed by the essential limitation on the size of the handset, being able to integrate the device with the remainder of one's personal and organizational IT arsenal--input devices, displays, storage, whatever--may represent the final and even most valuable frontier for smartphones going forward.