

Tech Sportscasting is in. Historical analysis not yet out

A deep dive into one of the first engineering societies that became the IEEE



IMPERCEPTIBLE RELICS

JAN 14, 2024



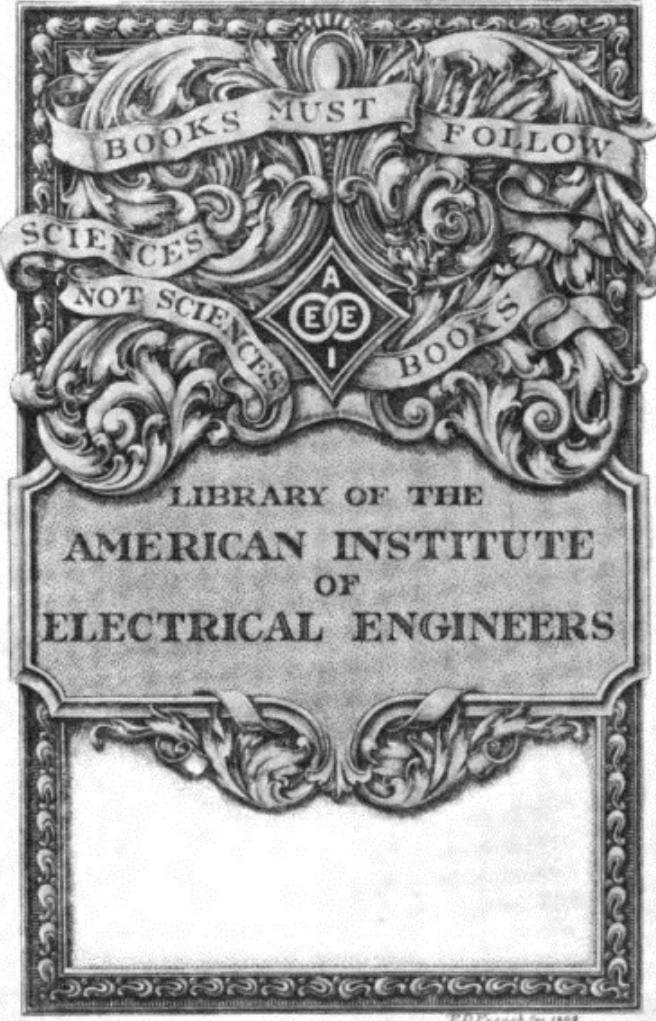
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Welcome to my new persona! My new image is going to be writing with broad shoulders. As Ernest Hemingway once supposedly called Oak Park, Illinois a place of “wide lawns and narrow minds,” (though [no evidence](#) of him saying that has ever been found), I prefer this post to be a relatively narrow analysis on the history of engineering in the United States and what would later merge with the [Institute of Radio Engineers](#) to become the IEEE in 1962, an organization with a majority membership from over 160 [countries](#).

First U.S. engineering society, 1884



“Books must follow sciences, not sciences’ books”

According to Wikipedia,

“The 1884 founders of the American Institute of Electrical Engineers (AIEE) included some of the most prominent inventors and innovators in the then new field of electrical engineering, among them Nikola Tesla, Thomas Alva Edison, Elihu Thomson, Edwin J. Houston, and Edward Weston. The purpose of the AIEE was stated "to promote the Arts and Sciences connected with the production and utilization of electricity and the welfare of those employed in these Industries: by means of social intercourse, the reading and discussion of professional papers and the circulation by means of publication among members and associates of information thus obtained."

Britain’s first [engineering](#) organization, the Institution of Electrical Engineers, was founded in 1871, but will not be the focus of this article.

“Following several attempts to form a technical organization of wireless practitioners in 1908–1912, the Institute of Radio Engineers (IRE) was finally established in 1912 in New York City. Among its founding organizations were the Society of Wireless Telegraph Engineers (SWTE) and the Wireless Institute (TWI). At the time, the dominant organization of electrical engineers was the American Institute of Electrical Engineers (AIEE). Many of the founding members of IRE considered AIEE too conservative and too focused on electric power. Moreover, the founders of the IRE sought to establish an international

organization (unlike the “American” AIEE), and adopted a tradition of electing some of the IRE’s officers from outside the United States.”



Institute of Radio Engineers logo, 1927

“Merger

Until the early 1940s IRE was a relatively small engineering organization, but the growing importance of [electronic communications](#) and the emergence of the discipline of [electronics](#) in the 1940s have increased its appeal to practitioners. Students of electrical engineering and young electrical engineers favored IRE over its older rival, the AIEE, and in 1957 IRE (with 57,000 members) was the larger organization.

Negotiations about merging the two organizations started that year and continued until a new joint organization, the [Institute of Electrical and Electronics Engineers](#) (IEEE) was established in 1963. Several new professional organizations (such as the [Society of Broadcast Engineers](#)), were founded shortly thereafter by IRE and AIEE members who opposed the merger.

Fast [forward](#) 60 years (Note: I whimsically jump around time like the 1999 movie [Run Lola Run](#), except condensing 140 years into a 20 minute post):

“New iPhone, new charger: Apple bends to EU rules”

(09/2023) Apple's latest iPhone will almost certainly feature a USB-C charge point when it is unveiled on 12 September.

The firm's phones currently use its proprietary Lightning adaptor, unlike rivals, including Samsung.

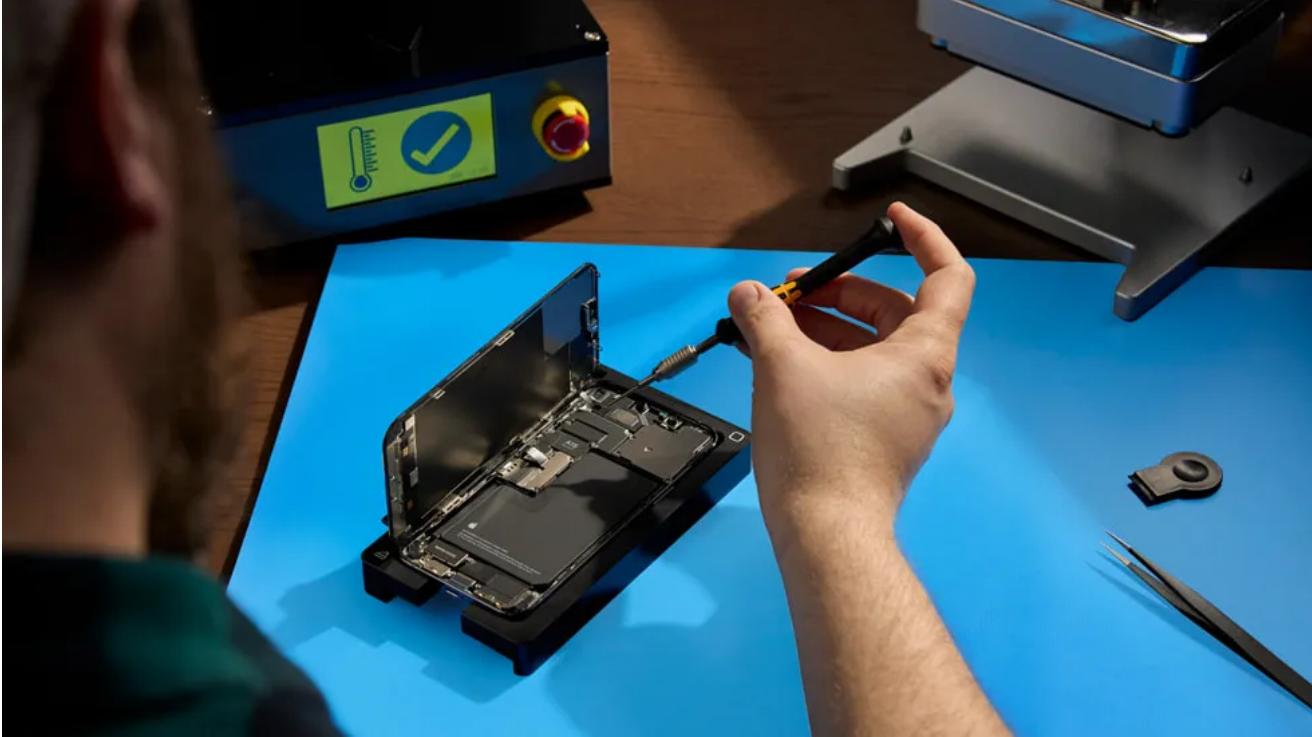
A European Union law requires phone manufacturers to adopt a common charging connection by December 2024 to save consumers money and cut waste.”

What began as an American vehicle for capitalism has now witnessed its first major victim: the death of a glorified proprietary standard for charging a phone. Similar to how copyright grants IP holders exclusive rights to sell a likeness, for a time, whether it is [95 years](#) after the author/artist’s death (as in the case of Walt Disney’s Steamboat Willie), or expired computer [micropocessor patents](#) from the early 1990s, the novelty of accessory components is finding resistance from environmental groups.

This suggests that Apple's profit margins are dependent on not selling a different charger for the EU, because the cost of manufacturing a different phone that uses a proprietary charger in regions that don't require a USB-C to extract more profit from the exclusionary drive to require a proprietary charger is not feasible, at least without modular manufacturing tooling (and that would most likely result in increased costs).



The result? Too big to fail. The iPhone and Apple is too big to fail without regulatory oversight. So many companies are dependent on Apple, yet it is at the destruction of the environment. The high tech Right to Repair option reluctantly being offered by the likes of Apple is this:



The solution costs more than the price of a part.



"iPhone repair costs

How much does it cost to [repair an iPhone](#)? Well, as with any device, the cost of repair comes down to [what part of the device needs to be fixed](#). Here are some of the most [common costs](#) for repairing an iPhone:

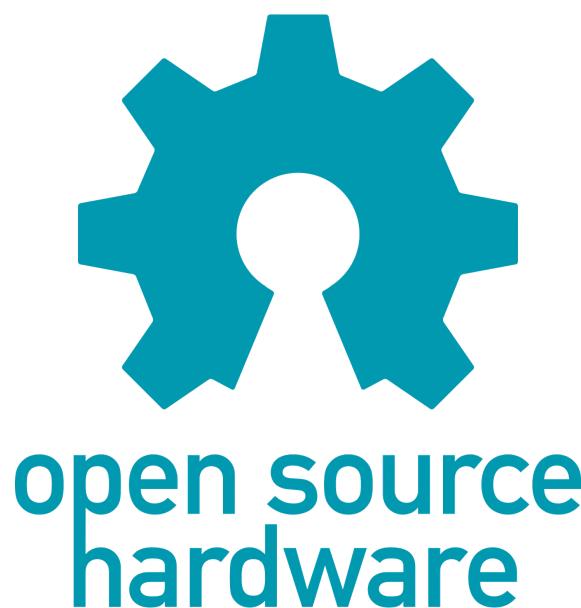
iPhone screen repair

[iPhone screen repair costs](#) depend on the model of iPhone you have, but can range anywhere from \$129 for an iPhone SE to \$379 for an iPhone 14 Pro Max. These prices are based on Apple repair, but you can also take your chances with a [third-party repair company](#), as these are known for offering cheaper prices.

Battery service

The cost of iPhone [battery replacement](#) ranges anywhere from \$49 to \$99, depending on the iPhone model you have. However, if you look into third-party repair service providers, you might find that they have even lower fees.”

The low tech solution? [OSH](#)

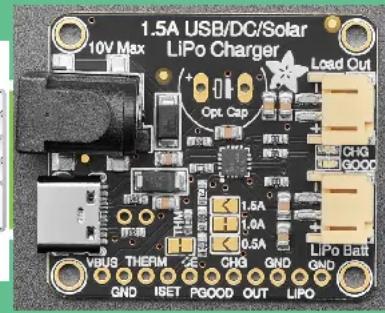
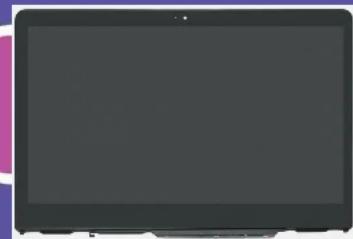
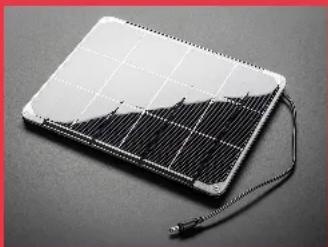




The 90s were like the 60s for computers. Great Ideas, Great Breakthroughs.

Two great things happened (among others): The ATX motherboard was [patented](#) by Intel. The last and smallest in the ATX x86 family, [Mobile-ITX](#) was never significantly commercialized.

But if it were, it would look like this:



So easy a child could put it together. Obviously these are not fully interoperable or small enough to fit in the green laptop. But that is the goal.

The other, was when Intel rockstars deserved their fame:



I promised you I would relate this tangent this back to the USB-C & Apple story above. (Note: the commercial features an actor and not the actual USB inventor)

Do you see my frustration? I want to celebrate most industry and academic celebrities, but I can't. According to a Michael Malone [LinkedIn post](#) in 2021 titled “*Can Silicon Valley Find Its Way Back?*” (Apologies for quoting nearly half the post):

“Hardware to Software — For decades — from tubes to transistors, chips to PCs — the Valley was a place that built things. Today, it is a place that encodes things. There is a fundamental difference between those two worlds in terms of culture, attitude and business philosophy; the former is aggressive, competitive, and personal; the latter is passive, manipulative, and anonymous. Hardware tries to sell you; software entices you to enter another reality.

Blue-collar kids to the children of privilege — The first generations of Valley leaders were the sons (and a few daughters) of tough, mostly Midwestern, working men. Gordon Moore's father was a cop, Steve Jobs dad was a car salesmen, Bob Noyce's an itinerant preacher. These Valley pioneers had often risen from tough beginnings, and those beginnings had never really left them. Arrogant as they might be, they knew where they came from and that gave them a humanity and an empathy for other people.

Today's Valley giants typically come from families of the professional class. Mark Zuckerberg's parents are a psychologist and a dentist, Larry Page's dad is a computer science professor. Instagram's Kevin Systrom is the son of two corporate executives. They were born into comfort and have little understanding of how the other half lives. Would anyone characterize them as having "the human touch"? [Tellingly, the outlier is Apple's Tim Cook, whose father was a shipyard worker.]

Double E's to Coders — Though it may not seem apparent, there is a profound difference between an electrical engineer (who works with the flow of electrons through circuitry) and a computer coder (who works with the operation of digital algorithms through devices and systems). Because electrical engineering focuses on the basic functionality of physical objects, it tends to attract more traditional, conservative personalities — the kind of folks who have families, mortgages and live in suburbia. Software engineering, by contrast, is about using devices to create applications and experiences, and it tends to attract younger, single and more urban personalities . . . hence, over the last two decades, the eclipse of San Jose and the South Bay suburbia by big city San Francisco, and all of the consequences that ensued.

Commercial to Consumer — Until social networks came along, nearly every product or service created by Silicon Valley was initially designed for commercial and industrial applications. Indeed, until the early 1980s, the idea of selling to consumers was anathema to the tech world. And those who tried, such as Intel with watches, got burned. But all of that changed with Atari and Apple. Today, all of the dominant tech giants are consumer-oriented. This shift entailed a very different model of marketing, branding, and retailing — a move away from competing on product specifications to capturing users through psychological manipulation.

Fee to Free — Freeware may be the most pernicious invention of the last few decades. You don't buy tech anymore; you rent, you subscribe and, most of all, you get it for free. How can you say no, especially if you're an adolescent? And all you have to give up is every bit of information about your life so that it can be sold around the world.

You no longer own your own data. That may not seem like a big deal now, but we are rushing towards a world of tight social control. The single most soul-rotting characteristic of modern Silicon Valley is freeware. It has granted companies absolute cultural, financial and political power, the kind that no company before them has ever known. And that power has corrupted these companies absolutely."

ALL GOOD WITH
JANE GOODALL?
CHIMPS SAY NO.



WOW!
Six sizzling-hot
John D. and
Catherine T.
MacArthur pics!

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STEPHEN HAWKING SHOCKER:



**"Supernovas suggest
universe has small
cosmological
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**What are they hiding about their new method
for producing electrodes using nanoscale
materials obtained from hydrogen-driven
metallurgical reactions?**

If universities and companies were doing cool research, I'd be happy to laud more of these luminaries. According to Noah Smith though, that appears to be in decline.

Another time warp to 1884, sorry:

"The purpose of the AIEE was stated "to promote the Arts and Sciences connected with the production and utilization of electricity and the welfare of those employed in these Industries: by means of social intercourse, the reading and discussion of professional papers and the circulation by means of publication among members and associates of information thus obtained."

They mentioned arts! That was kind and interesting of them. I wonder why they found that so important back then. When the cooler, younger Institute of Radio Engineers formed in 1912, the AIEE had lots of members but were losing some popularity, not to mention all the ones who left for Hollywood and broadcasting. Note: this paragraph is veering into pure speculation right now with wild inaccuracies abound, but I will explore that term's use or disappearance from later amalgamations of the society into the IEEE in a future post. However, I bet they thought, since they founded their own American Federation of Television and Radio Artists (AFTRA) in 1937, who needs them? Spurred by a lover's quarrel perhaps, the IEEE shut the door to the arts three years before Bob Dylan's electric set at Newport Folk Festival. They knew it was coming! Hurt, cold, and feeling robbed of their specialty, an electrical engineer cried Judas! in a Manchester crowd (Yes, I know that was Britain, no I won't suggest he was a visiting American- or was he?).

Historical Reminder: There is no proof Alfred Nobel declined to create a Prize for mathematics due to a rejected lover. That rumor should end, but a new one should be generated. Dylan

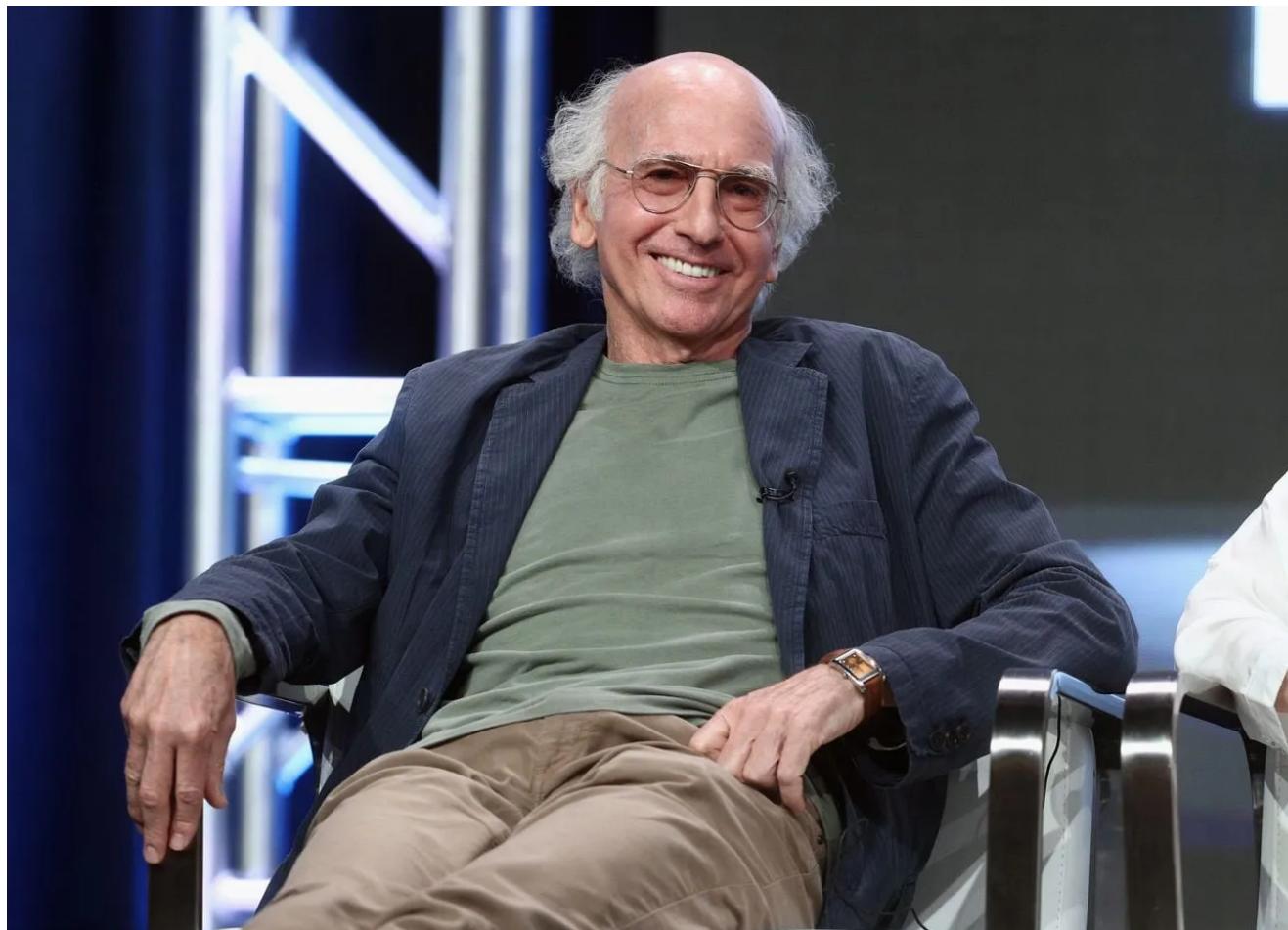
abandoned acoustic said “Don’t look back” and that was the final straw.

So to avoid another [stigmatic era](#) resembling the Hollywood Blacklist, It's time to celebrate electrical engineers again! They will make Silicon Valley Great Again!



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caption...



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