

SKETCHES OF SINGULARITY

MY REFLECTIONS ON "THE COMPUTER FOR THE 21st CENTURY"

Summary - For computers to transcend their importance and innovate to be useful in as many ways as possible, they have to be more intuitive, accessible, and adapted for a multitude of use cases. The "one size fits all" approach can only go so far, and hence the design of computers should lead towards ubiquitous computing. The capabilities of small and large computers should be adapted according to their specific purpose, location, and scale. Challenges of hardware, software, networking, and storage will be inevitable; solving these can result in a future of ease for humans where we are more in touch with our world instead of being isolated because of the computers.

The culture around a topic can often be attributed to the books, news, and television broadcasts we are surrounded with. **The 90's decade started with paranoia about computers taking over our lives. 1984 by George Orwell and Neuromancer by William Gibson imagined a dystopian future** where the presence of computers was metaphysical and adversely affected humanity as we know it. **Mark Weiser, the author of the aforementioned paper, paints in stark contrast a humane and utopian symbiosis of man and machine.**

The ideas and visions of Weiser resonate with the present. In 2021, we have the automated coffee machines, iPads, employee RFID cards, and interactive screens that were hypothesised by Weiser. **The enhancement of Sal's life with ubiquitous technology, from reading newspapers to making notes at office, is the current reality for many of us.** The prophesied issues surrounding privacy and security of networked devices is also a challenge for society and technology. IOT has leveraged the availability of cheap and accessible computing to make Sal's life a reality, making computers essentially invisible. In my very room, I have a digital camera, a laptop, a monitor screen, a smart watch, a smart television - all of which are capable of communicating with each other. **Weiser was visionary with his ideas, particularly the notion that for something to be wildly successful, it has to be so seamless to use that we do not even notice it** - for example, once we learn cycling, we don't even notice or become conscious of the act. This forms an important aspect of building successful products - hacking the secrets of our habits.

Weiser's time had computers which took away our efforts and attention, and gave us information overload in exchange. Hence, he wrote about **how computers should be designed to integrate with our daily tasks** instead of taking us away from them, and how managing information should also transform. Storage would be a concern, and so will be the size of displays - larger displays are difficult to design and consume more power. Networking and software were also evolving at a different pace in a different direction, and needed to align with the vision too. This seems to be largely the direction technology has gone into - pen drives, tablets, wearables that connect with internet, and software protocols that manage them together have been developed.

This paper was another important milestone in my understanding of the development of Human Computer Interaction, and how we ended up where we are today. By taking a step back from what the industry is doing, we can have the view of what direction development should be steered into. I believe this is essentially how some companies have progressed far beyond other companies - **they designed for the future.**