Today’s State of the Art: How far have we come?

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The Dynabook – Alan Kay

The KiddiComp concept, envisioned by Alan Kay in 1968, while a PhD candidate and later developed and described as the Dynabook in his 1972 proposal "A personal computer for children of all ages", outlines the requirements for a conceptual portable educational device that would offer similar functionality to that now supplied via a laptop computer or (in some of its other incarnations) a tablet or slate computer with the exception of the requirement for any Dynabook device offering near eternal battery life.
Teaching in the modern classroom
But, the Dynabook is not yet realised...

- The software and the educational curricula are still missing.
- Not able to simulate all existing media in an editable/authorable form in a highly portable networked form.
- No “symmetric authoring and consuming”

“The education establishment in the U.S. has generally treated the computer (a) first as undesirable and shunned it, (b) as sort of like a typewriter, (c) not as a cheap but less legible textbook with smaller pages, etc. (d) as something for AP testing, (e) has not ventured into what is special about computing with reference to modeling ideas and helping to think about them.”

(Alan Kay- 2013 interview: http://techland.time.com/2013/04/02/an-interview-with-computing-pioneer-alan-kay/)
Hypertext

Hypertext is text displayed on a computer display or other electronic devices with references (hyperlinks) to other text that the reader can immediately access, or where text can be revealed progressively at multiple levels of detail.

Numerous implementations over time

WWW – an imperfect version of hypertext (according to Ted Nelson)
But how far *have* we come?
Wearables
Smart Homes

https://youtu.be/dpQueG8oxtI
Future Smart Homes?

https://youtu.be/wk146eGRUtI
Smart Cities

https://youtu.be/szktRPHl1U8
Smart Cities

https://youtu.be/ayt4TMybTuA
What about the risks?
Robotics and AI

Sophia
Robotics and AI
Any sufficiently advanced technology is indistinguishable from magic.

Arthur C. Clarke
Digital Fabrication Technologies
Smart Textiles
New Musical Instruments

rounded squares are sound filters (here, a band-pass filter)

https://youtu.be/HaAkWY5qvnU
And new types of performances

https://youtu.be/Xadmwk2qAVE
The computer as material

“We propose to understand the computer as a material for design as means to invite artists, architect, and designers to participate in envisioning how and where the computational power can be used.”

(Vallgårda and Sokolar 2010)
Microprocessors to experiment with

Arduino & Raspberry Pi;
sensors and actuators;
Escapism by Lette Moloney

https://dublin.sciencegallery.com/blog/brunswick/2010/11/escapism-pedal-through-google-streetview-stationary-bike
We may not have the Dynabook, but we have got a lot...