

COMS W4170

Predicting the Future (Past and Present)

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December 6, 2018

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Ubiquitous Computing (Ubicomp)

M. Weiser, 1990s web.archive.org/web/20180526001207/http://www.ubiq.com/hypertext/weiser/UbiHome.html

- AKA pervasive computing
- One user : **many invisible** computers
 - Invisible → "...make a computer so imbedded, so fitting, so natural, that we use it without even thinking about it"
 - Analogy to motors
- E.g., tabs pads boards
 - number:* 100s 10s few
 - size:* inch- foot- yard-
- Wireless
- Today: smartwatches, tablets, "big" displays

"the age of calm technology,
when technology recedes into
the background of our lives"
— M. Weiser



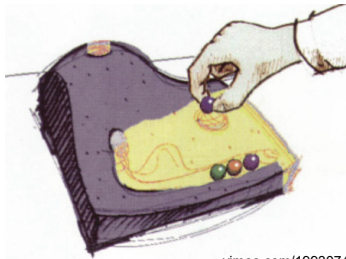
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Tangible User Interfaces

- “Employ physical objects, surfaces, and spaces as tangible embodiments of digital information.”
— H. Ishii

Marbles represent phone messages

D. Bishop, Marble Answering Machine concept, 1992



vimeo.com/19930744

Physical blocks (“phicons”) represent buildings, tools

B. Ullmer and H. Ishii, metaDesk, 1997

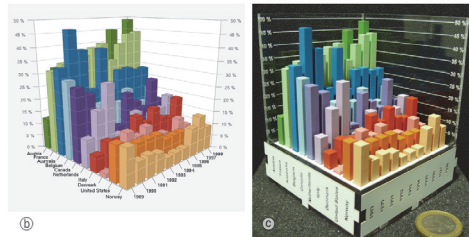


<https://doi.org/10.1145/263407.263551>

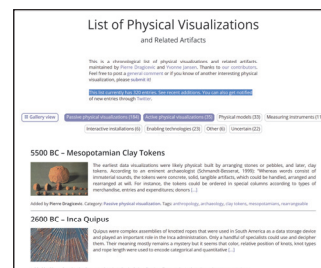
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Tangible User Interfaces

- Data physicalization
 - Y. Jansen et al., *CHI 2013*
<https://doi.org/10.1145/2470654.2481359>



Compared 3D virtual and physical visualizations. Physical bar charts outperformed virtual ones. Physical bar charts had the advantage of being “touchable.” Fingers were used to touch bars as visual and memory aids.



List of Physical Visualizations
<http://dataphys.org/list/>

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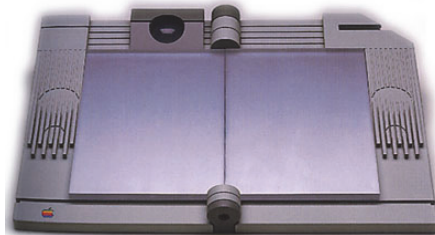
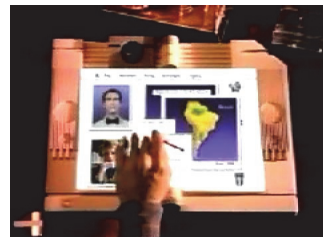
Past Attempts to Predict the Future

[Additional slides not used in class]

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Apple Knowledge Navigator 1987

- 2011 (as predicted in 1987)
- Bowtied intelligent agent
- Folded display
- Videoconferencing
- Real-time end-user design of animated presentations



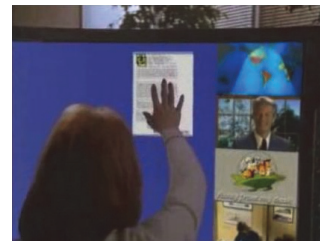
<http://www.digibarn.com/collections/movies/knowledge-navigator.html>

Apple Knowledge Navigator, 1987

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Sun Starfire 1992

- 2004 (as predicted in 1992)
- Bruce Tognazzini et al.



<http://asktog.com/starfire/>

Sun Starfire, 1992

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Alternate Visions of (Past) Future(s)

- NTT DoCoMo Vision 2010 (ca. 2000)
 - <http://www.youtube.com/watch?v=ae-Ssclu5A4>
- NTT DoCoMo Mobile Life Story (2006)
 - <http://www.youtube.com/watch?v=eS0P16lyXOw>
- HP Labs mspace "Roku's Reward" (2007)
 - <http://vimeo.com/45472894>
- Microsoft Office Labs Future Vision Montage (2009) [predicting 2019]
 - <https://www.youtube.com/watch?v=8Ff7SzP4gfg>
- Keiichi Matsuda, Augmented (hyper)Reality: Domestic Robocop (2009) [dystopian future]
 - <http://vimeo.com/8569187>
- Project Glass: One day (< 2012) [concept, not actual product]
 - <https://www.youtube.com/watch?v=9c6W4CCU9M4>
- Keiichi Matsuda, Hyper-Reality (2016) [dystopian future]
 - <http://hyper-reality.co>



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