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Reprint of the Factoid Web Page

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Reprint of the Factoid Web Page

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ABSTRACT

This document serves as an archival copy of the Factoid web page.

1. Introduction

The Factoid project at Compaq Research has created quite a bit of interest in the technical community, and several papers and web sites have been published that refer to the Factoid web page. Since web pages come and go, this technical note serves as an archival copy.

The Factoid web page first appeared on June 6, 1997, describing the Factoid concept. Subsequently minor changes were made to the web page, the most notable one being the addition of references as related work was pointed out to me. The page reprinted here is dated July 25, 2001.

When referring to Factoid, please reference this technical note as:

> Robert N. Mayo, *Reprint of the Factoid Web Page*, Technical Note TN-60, Compaq Computer Corporation, Western Research Laboratory, July 2001.

2. Web Page

The web page follows.

Research Topic- Pocket Computing

Factoid

The Idea Project Plans Resources Contacts

The Idea

The Factoid's purpose in life is to accumulate information that is broadcast from other Factoids, and upload it to the user's home base. The sort of information envisioned are tiny facts, such as one might see on a sign, on a business card, in an advertisement,or on the display of an instrument like a thermometer or GPS receiver. These facts are small, say 200 bytes.

While gathering up data, a Factoid is also on the lookout for an Internet connected Factoid server. When it finds one (that is, when you walk near one), it uploads the facts to the user's home base in a reliable and secure fashion, and deletes them from its own memory.

Once uploaded, these facts are kept forever. There simply is no need to delete things that are only 200 bytes in size. If you gathered 1,000 facts per day for a year, that only comes to 73MB per year, and is highly compressible. Thus, they can be saved forever and constitute a sort of history of the user's life.

At home base, the user interacts with application software to access his lifetime collection of facts. Various reports could be generated, perhaps in the format of a trip diary, a daily diary, or perhaps even client billing records. Search engines could be used to find that "needle in a haystack" fact that you want to recall. Since this lifetime collection of facts is very personal, privacy concerns are a major part of this project.

A Factoid can be viewed in many ways. Perhaps the simplest is to think of it as a minimal PDA. It is about 3" long, 3/4" wide, and 1/4" thick. It has no display, no buttons, no microphone, and no speaker. The only I/O device is a 900MHz radio with a range of 30 feet. There is no power switch, as the Factoid is always turned on. The device fits on a keyring using not much

more space than a key. I expect people to carry their Factoid around with them in their pocket, daypack, or briefcase.

The Long Term Vision
The Factoid project sits in the context of this long-term goal: Remember every piece of information a person encounters during his entire life.

This goal implies recording every sound and every sight encountered. Perhaps smell and touch, too, if we can figure that out. And perhaps even information that you didn't quite encounter, because you weren't paying attention or were looking in the wrong direction. It remains to be seen how useful such a log would be to a person, and if the privacy concerns can be sorted out. Until we build it, we won't know.

It is interesting to note that we have proof of a human desire in this area, as we already build and buy "remembering" devices. Some example include: voice note recorders, cameras, camcorders, and written memos. People regularly take photos during vacations, for example, and arrange them into a neat history of the trip. Would it be useful for this sort of accumulation be automatic?

Project Plans
I'm actively designing and building the Factoid device. The photo above is a non-functional mockup of what should be feasible.

Power consumption is a big issue. Power draw while inactive, but listening for facts, needs to be under 500 uW in order to have the three hearing aid batteries (model 675) last for a month. This looks feasible, and could even be improved upon if I was willing to design a custom chip.

Privacy is another big issue. Will users be worred about the log of facts getting into the wrong hands, even if it is encrypted with their personal password? What other privacy concerns are there?

There is a natural evolution for this device. The next step is to add different types of data to the log. Voice memos seem to be a popular choice, and would involve adding a microphone, and perhaps a button and a speaker. A tiny camera would also be a good choice in a few years.

There are currently no product plans based upon Factoid or related ideas. Our plan, as a research project, is to build prototypes and learn from them. We'll convey what we learn to the product groups in Compaq, who can evaluate our ideas and technologies for possible inclusion in future products.

Resources

Vannevar Bush, *As We May Think*, The Atlantic Monthly, July, 1945.

Mik Lamming et al, *The Design of a Human Memory Prosthesis*, The Computer Journal, Vol 37, no. 3, 1994

Mik Lamming, Mike Flynn, "Forget-me-not" Intimate Computing in Support of Human Memory, Xerox Research Centre Europe, Technical report EPC-1994-103, 1994.

Bradely J. Rhodes. *The Wearable Remembrance Agent: A System for Augmented memory*, Proceedings of the First International Symposium on Wearable Computers, 1997. Other web pages describe the Remembrance Agent and Augmented Memory.

Contacts

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