

PCMCIA Wallet Computer, May 94

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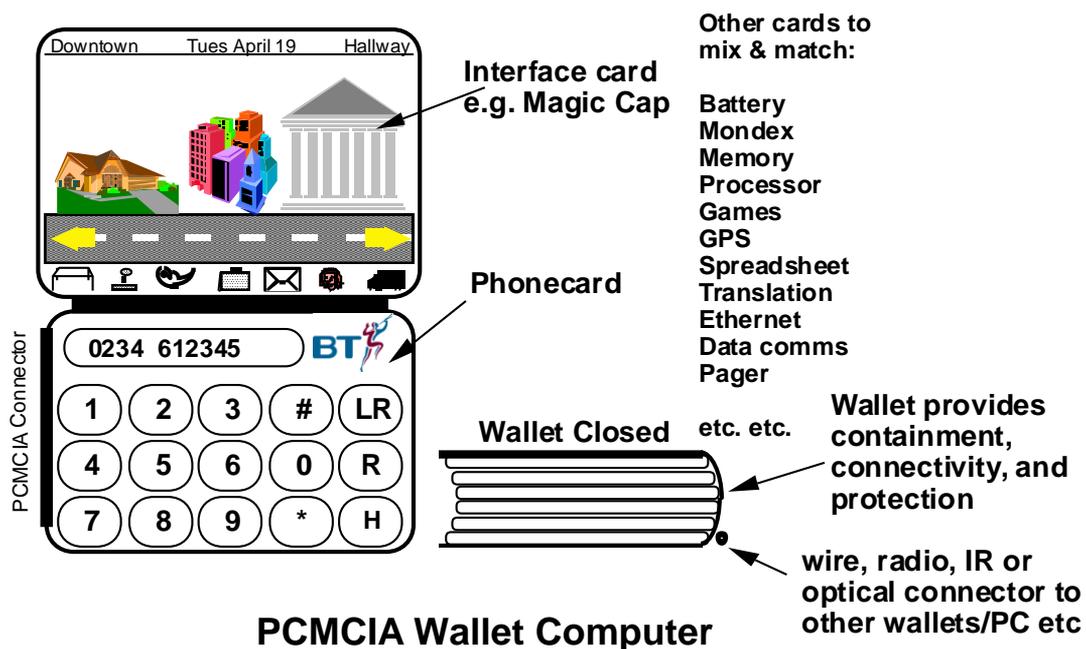
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I was really pleased with myself when I had this idea and quickly knocked up a demonstrator. I then applied for a patent, and was very disappointed to find that the basic idea had already been invented by a Japanese company in 1991. It's a tough life.

Sadly, no-one ever bothered to use the idea and as far as I can tell, it would still be pretty novel and even useful today. The pick and mix approach to computing based on a simple wallet holder would have advantages over general purpose machines such as smart phones, allowing people to choose the amount of processing, bandwidth and storage instead of having specifications decided by the manufacturers.

PCMCIA WALLET



PCMCIA Wallet Computer

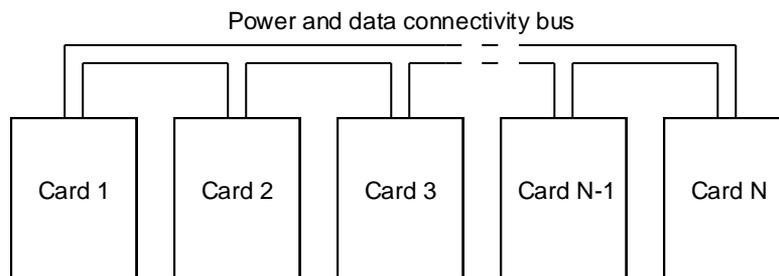
BACKGROUND

Traditionally, PDAs are fairly large devices with a rigid structure and pre-determined functionality. This functionality may be enhanced by addition of software or by inserting PCMCIA cards. However, the number of slots is usually limited to one or two, so cards may

need to be swapped frequently. There is usually no means provided in the PDA for continuous housing of the cards.

MAIN CONCEPT

The PCMCIA wallet computer allows the functionality of several PCMCIA cards to be added together to give a customisable and compact personal digital assistant (PDA). This it does by providing a permanent housing for the cards, helping to keep them free from damage, and by providing a bus to link together all of the PCMCIA cards held within for both power and data connectivity. The wallet has compartments to hold several PCMCIA cards, and each compartment has a PCMCIA connector. It thus forms the 'case' of the PDA.



The wallet can be folded for storage and is ergonomically similar to a credit card wallet, i.e. it is compact, easy to open and close, with easily accessible compartments into which cards can easily be inserted and withdrawn from (in the same way as a credit card wallet holds credit cards).

OPTIONS

The case may be fabricated from a suitably moulded polymer battery, providing power to the cards.

Due to the sizes of the PCMCIA cards, compactness requires that only type 1 cards are used, which may make some card functions unavailable until further miniaturisation is employed. However, if cards are required which are thicker (types 2 or 3), then some tradeoff against compactness must be accepted.

Variations on ergonomics are also possible, as with credit cards wallets. The wallet may thus be hinged along either the short or long edge of the cards, or be of the concertina type, unfolding into a long strip as shown in the figure:



The wallet may also have an additional fold-out flap to hold the display card so that is not obscured by folding another card in front of it.

For the invention, any size of card could be used in principle and these could be mixed in the same wallet.

It may provide a touch sensitive screen, with an interface such as "Magic Cap".

Some basic processing and memory associated with the interface may also be led in the wallet.

It may provide a microphone and speaker for audio input/output, and may provide a camera for visual input.

Communications to other devices may use wired, radio or optical means. Wallets may thus be linked to each other or to other computers, printers etc.

Alternatively, some or all of the above functions may be provided by PCMCIA cards within the wallet or by external connection.

Depending on the inclusion of the above, the wallet may be made of various materials such as plastic or leather.

CUSTOMISATION

PCMCIA cards may be 'mix and matched' according to customer preference to form the PDA. A user would simply gather those cards of interest and insert them into containers in the wallet. Their functionality would then be available on line.

Wallets may be fabricated with a range of basic functionality, with containers for additional cards to allow functionality enhancement. For instance, the wallet may provide a Magic Cap interface or any other interface available in a suitable form. Cards likely to be included include processor cards (if there is no suitable processor already in the wallet itself), memory cards (if required), personal ID verification, mobile communications, cash cards (e.g. Mondex), navigation cards based on GPS, fax modems, wireless LAN connectivity and many others.

Power supply may be from a polymer battery forming part of the wallet structure, a battery card, or via a power lead from an external power supply.

The wallet may contain a speaker and microphone to aid its use as a mobile phone and also to cater for audio based applications.

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