



Money Pad – The Future Wallet

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ABSTRACT

The money of the 21st century will certainly be as different from the money of the present century as our money is from that of the last century. As fiat money has replaced fiat money, electronically initiated debits and credits are becoming the dominant payment methods, creating the potential for private money to compete with government-issued currencies. Paper money is now being replaced by electronic money or e-cash. Hardly a day goes by without new developments in the field of “electronic money” being mentioned in the financial press. The Money Pad presented here uses biometric technology for fingerprint recognition. Money Pad is what we call a form of credit card or smart card. Every time the user wants to access the Money Pad, they have to take a fingerprint of their fingers, which is scanned and compared to the one on the database server's hard drive. If the fingerprint matches that of the user, they are allowed to access and use the pad, otherwise the Money Pad is inaccessible. This secures the eternal transaction currency of the future “e-cash”.

Keywords-Money Pad, Digi-cash, Personal digital Assistance, Biometrics Technology, Finger print Reader, Float, Fiat Money, Specie-Backed, Legitimate

1.INTRODUCTION

The wallet of the future will hold less paper money, coins and magnetic stripe cards. It will instead feature Money Pad, which contains digital cash and other financial information that can be automatically updated from a PDA with a satellite communications link.

As new technologies evolve into new payment methods, concerns naturally arise. Will this technology protect everyone's right to privacy while providing the solid cash needed for the economic health of communities? The answer is simple - it depends on how the new technology is used. There is nothing inherent in the technology that makes it less protective of individuals' privacy and rights. Advances such as biometrics technology have made individual privacy even more secure.

As the development of electronic money continues to accelerate, protecting the rights of individuals must remain a priority. Since the past record of most governments in these early stages of electronic commerce has been viewed by many as confrontational and not protective of the rights of individuals, it is likely that upholding these rights is one of the reasons private currencies are likely to be used the internet and eventually will play an important role in global trade.

To protect everyone's rights and property, we thought about providing a security system that everyone can understand and use. People feel safe when they have their own safeguards in place to protect their rights and assets. Against this background, biometrics technology is used to develop an e-cash handling system similar to the well-known credit cards and smart cards. The e-cash handling system is a device that facilitates secure currency transactions.

TECHNICAL DETAILS OF THE PAPER

Basics of the current system:

Currently, due to the use of computers in almost all areas of demand the use of electronic money has increased. Payments are now made in almost all of deposit currencies in the world's banking systems are settled electronically by a series of interbank computer networks. Credit cards and smart cards are commonly used for input into these interbank computer networks to conduct transactions. These are the popular medium widely used as a newer means of payment in the e-cash scenario. That the usage and security offered by these means of payment are as follows.

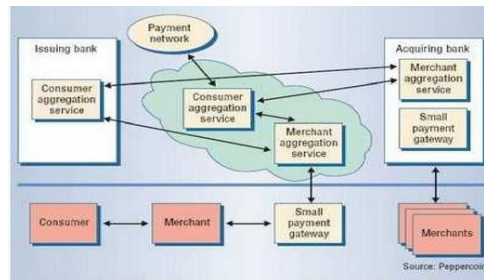


Fig: Basic of the Present System

1. Credit card:



Fig: Credit Card

Credit cards are means of payment that enable consumers to make purchases within certain guaranteed limits set by the card issuer.



To use a credit card in most cases it is sufficient to show the merchant the card number and the card number cardholder name and card expiry date. This data can be conveniently transmitted over the internet. In addition, credit cards process funds electronically means. The user has to exchange the card in the card reader, then the device will ask

for authentication information like secret password etc. Later the user is allowed to do this carry out the transaction. These credit cards have several disadvantages such as

Disadvantages:

1. Immediate credit is not possible.
2. The user is always under pressure from the purchase limits set by the card issuer and each transaction comes with certain fees.
3. Insecure transactions with hard encryption.
4. The card must be renewed after it expires.

Chip cards:

A smart card is similar to a credit card except that it contains a microchip that allows the smart card to store information and sometimes even perform simple calculations. Traditional smart card chips typically contain around 8,000 bytes (characters) of information that enable the smart card to perform a variety of functions, such as B. Identification, storage of bank account information and storage of digital cash. Payment information in the form of monetary values is stored on this chip and can be called up with specially developed card readers.

Disadvantages:

1. Insecure transactions with hard encryption.
2. Risk of data loss due to chip failure.

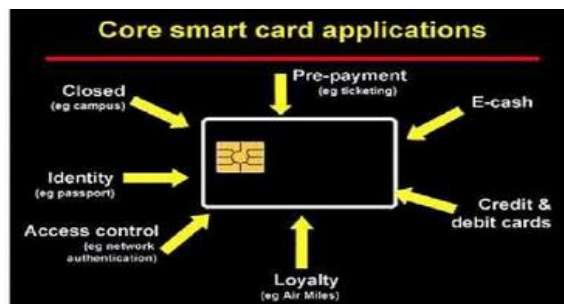


Fig: Smart Card

NEW APPROACH

NEW BEGINNING:

In the internet age, everything goes online like shopping, business, banking, etc. Recently, even money online is available anytime in the form of Digi-Cash or Cybercast, etc. These are the latest means of payment required for e-banking to exist. As the world goes paperless in the future, the existence of e-cash will lead e-banking. In the future, the Internet will conquer the whole world and private currencies will become a medium of exchange in e-banks and replace state currencies. To keep this perspective in mind and to overcome it, we present the disadvantages of credit cards and chip cards as a means of exchange mentioned above to carry digital cash anywhere, which we call "Money Pad".

Money Pad is one such medium of exchange that aims to provide a secure means of exchanging money. "In order to be able to use this block of money, at least one e-bank is required in Every city".

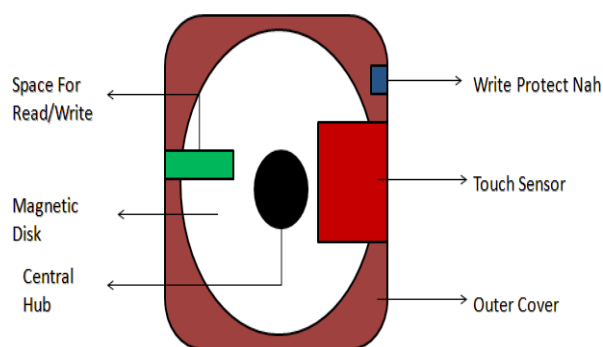


Fig: Money Pad

Money Pad is a biometric system, similar to a credit card or smart card, just like a floppy disk. It consists of a touch sensor and a magnetic plate as peripheral devices. The touch sensor is used to capture the user's fingerprint. A read-write magnetic disk is used to store the user's authentication information, routing number, and cash. The bank code and account number of the owner of this block of money is present on the label.

New User Using Money Pad:

If a user wants a block of money, they should go to a nearby bank that has an e-bank facility. The new user must create an account with a minimum balance. The authentication details are captured along with their fingerprint and stored on the database server. The user is given an account number and routing number along with their block of money. The block of money consists of stored information such as account number, sort code (where he bought this block of money) and his fingerprint.

BIOMETRIC TECHNOLOGY

As a trait, it is a measurable biological (anatomical and physiological) and behavioural trait that can be used for automatic detection. As a process, it involves automated procedures for recognizing an individual based on measurable biological (anatomical and physiological) and behavioural characteristics used to describe a biometric system (e.g. facial recognition or iris recognition) in terms of their basic function. The generic term does not necessarily imply verification of closed set identification or open set identification (watch list).

Task in which the biometric system attempts to confirm an individual's claimed identity by comparing a submitted sample to one or more previously registered templates. The biometrics are collected and compared to all templates in a database. A closed identification is that the person is known to exist in the database. Open Set Identification is that the person is not guaranteed to exist in the database. The system determines whether the person exists in the database.

TRUE BIOMETRIC SYSTEM

Use automated comparisons of electronic data to calculate a match and template data to perform the match. Smaller amounts of data extracted from the detailed sample and differences between the template and the sample conceptually resembling the potential gap between probable agreement and actual contingency create awareness of the organization and prepare for unforeseen situations.

Their protection is the awareness of the participants, the organizational sophistication and the decision-making process. Biometrics are used by national security for automated methods capable of quickly determining an individual's true identity, previously used identities, and past activities. Homeland Security and law enforcement use technology to secure the United States while facilitating lawful commerce and movement of people and identifying criminals in the civilian law enforcement environment.

The enterprise and e-government services are administrations of people, processes and technologies. The personal information and business transactions become business plans that meet customer demand for services anytime, anywhere, across multiple communication devices.

TRANSACTION WITH MONEYPAD

If a user wants to use the Money Pad, they have to place their finger on the touch sensor and then place it in a fingerprint reader. The reader therefore asks for the bank code which he can put into his e-bank, then his account number so he can put it into his account. The reader then accesses the fingerprint and compares it with the existing one on the Money Pad and on the database server. If a match occurs, the reader will do so knows that he is an authorized user and allows further transactions. If not, then the reader

learns that the user is not authorized and a commission can be created for the Digi-cash present in the Money Pad will be emailed back to the authorized account holder, user details present in Money Pad. Since the Money Pad has read and write functionality, it does use to download Digi-Cash, make transactions and store the balance.

WHY USE MONEY PAD?

- **Instant clearing of funds**

Instant clearing of funds means the end of "float" - the time spent waiting for a money transfer to clear. Payments can be made instantly because people carry Digi-Cash with them. No intermediary is required to clear the funds.

- **Avoid the unsafe way of carrying money**

The current trend is full of theft and robbery. Man is afraid when carrying huge amounts from place to place. The introduced medium of exchange (Money Pad) eliminates this fear as the person does not need to carry cash as it is kept in the form of digital money. If the block of money is lost, the loss can be taken care of. Cash can be returned to his own account via email.

- **Offers strong security**

Since we know everyone has a different fingerprint, it's rare to have two people with the same fingerprint. With this in mind, Money Pad uses biometric data technology for strong security.

- **Can be hit by a common man**

Since credit cards and chip cards need to be set up, there should be a minimum deposit, which is very high for a normal man. While Money Pad doesn't require a high minimum deposit, it does require a small amount that can be met by a common man.

- **Cumbersome replacement is avoided**

Once spent, the money block is permanent as it does not need to be refurbished.

TECHNICAL IMPLEMENTATION

The Money Pad uses biometric technology as the technique by which the security is given. Biometric technology is used to accurately identify and verify one individual identity. This involves identifying its physiological and behavioural characteristics. Biometrics in general refers to the study of biological characteristics. With reference to computer security refers to authentication techniques that use biological characteristics that are measurable or identifiable and unique to an individual.

The accuracy of any biometric system is measured in two ways:

- False Acceptance Rate – Where a cheater is accepted as a match.

- False rejection rate – when a legitimate match is denied access.

Fingerprint verification is one such biometric system that authenticates whether the user is an authorized person or not. The user places their finger on a glass plate on which a high-resolution, coupled camera changes. The captured image is compared to that in the system database and decides on user authentication. A fingerprint reader can be used for this purpose.

ADVANTAGES

1. Faster and smarter
2. Portability
3. Flexibility (no need to carry separate ATM, Debit, Credit card, pan card or cash etc).

4. Highly secured (deactivates on illegal use).
5. Reliability (unaffected by electric and magnetic field).

APPLICATIONS

1. Applicable in e-banking and all types of e-transactions

The money pad device is capable of carrying digital cash and is therefore useful to conduct any type of e-banking or any type of e-transaction.

2. Can be used to conduct remote transactions

Since Digi-Cash can be carried in the money pad, it is useful for long-distance transactions such as e-payments, Dig-Cash transfers, etc.

3. Useful to carry digital cash

With paper money going extinct in the future, people need a secure means of transport for digital cash. Since Money Pad provides a secure means of carrying digital cash, it will be very necessary in the future.

4. Use of personal data when filling out order forms

The personal information stored in the Money Pad can be used to fill out order forms, saving users time.

5. Applies to m-commerce transactions

Since Digi-Cash is carried everywhere, it is applicable to any type of m-commerce transaction.

6. Applicable in daily life

Since it is useful in shopping, identification, telephone services and licenses, it is also applicable in daily life.

CONCLUSION

For a digital currency system to be widely recognized and used the following three conditions are necessary:

1. Immediate release of funds
2. Elimination of payment risk
3. Secure transactions with strong encryption

Since the Money Pad aims to meet the above conditions, there is no doubt about that in the near future, it will be widely recommended for use. Once implemented, the Money Pad has a wide range of applications. Although currently we may use fingerprint readers to access the digital cash, in the near future the device may be automated into mobile phones, watches, wearable devices as well as WAP devices.

When the internet takes over the world in the future, it doesn't need a card or pad, just a small device that recognizes the fingerprint and can be attached anywhere in the world. Thus, no money carrying device is required, only one man is needed. Access Digi-Cash and prove Man as Money. As Thumb impression will provide a strong base for security in the future, we can finally predict that "history repeats itself".

KEY WORDS

1. Money Pad - A form of credit card or smart card similar to floppy disk, which is introduced to provide, secure e-cash transactions.

2. Digital or Electronic Cash or Digi-cash or E-cash or E-cash or Digital Money –These terms are also used interchangeably, and they refer to any of the various methods that allow a person to purchase goods or services by transmitting a number from one computer to another. The numbers are issued by a bank and represent sums of real money. Digital cash is anonymous and reusable.

3. Personal Digital Assistance - A PDA, sometimes referred to as a palm-top computer, is smaller than a laptop computer and does not have as much computing power. Used to send email via a wireless modem, write documents in a text editor, perform calculations in a spreadsheet, store names and addresses, and perform other common business and personal tasks.

4. Biometrics Technology - Technology used to accurately identify and verify an individual's identity.

5. Finger Print Reader – A machine with read/write head capable of reading the information stored in the Money Pad.

6. Float – The transaction in terms of Digi-cash, which takes zero-sum gain, is called float.

7. Fiat Money – Authorized money.

8. Specie-Backed – Coined money.

9. Legitimate – Law full.

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