SECURITY SYSTEM USING SMART CARD TECHNOLOGY

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ABSTRACT:
Radio Frequency Identification (RFID) is one member in the family of Automatic Identification and Data Capture (AIDC) technologies and is a fast and reliable means of identifying any material object. The significant advantage of all types of RFID systems is the non-contact, non-line-of-sight nature of the technology.

INTRODUCTION:

A smart card reader is provided to read data from the card assigned to the authorized personnel. The smart card reader is interfaced to an 8051 family microcontroller. Whenever the data read by the smart card matches with the data on the microcontroller then LCD would display that the card is authorized and a relay is used simultaneously to switch ON a lamp (indicating a device or access to secure area).

If an invalid card is inserted in the smart card reader, it displays that the card is not authorized and the load (i.e. lamp) remains OFF indicating that the user is not authorized to access the particular area/device. This project can be enhanced further by integrating GSM modem such that any attempt of unauthorized access is made. A smart card, a type of chip card is a plastic card embedded with a computer chip that stores and transacts data between users. The card data is transferred via a reader that is part of a computing system. Smart card-enhanced security systems are in use today throughout several key applications, including healthcare, banking, entertainment and transportation. To various degrees, all applications can benefit from the added features and security that smart cards provide. According to Dataquest, the worldwide smart card market will grow to 6.8 Billion units and $11 Billion by 2006. Introduction of smartcard technology has found its way to a number of proprietary financial applications like credit/debit card , transit application, Personal Identification card, loyalty card for purchasing applications…etc . This paper covers smart card and mobile payment schemes that are available in the market. With the introduction of high ended smart card like java card as SIM card, even mobile phone are also equipped with payment applications. The next section describes briefly about the existing payment schemes in market. Also we cover in brief the potential of mobile payment schemes in the coming years. In the final section gave a small survey result regarding the future of electronic payments.

WORKING:

Smart cards can add convenience and safety to any transaction of value and data; but the choices facing today's managers can be daunting. We hope this site has adequately presented the options and given you enough information to make informed evaluations of performance, cost and security that will produce a smart card system that fits today's needs and those of tomorrow. It is our sincere belief that informed users make better choices, which leads to better business for everybody. The above mentioned reason contributes much towards the adoption of smartcard for financial applications. For more details regarding the security of the smart card has included in the Appendix. Base on the security requirement and ease of its use, there are different types of smart cards available. These types are defined based on some criteria

• The type of chip implanted in the card
• How the interface with the external devices are defined
• Memory capacity
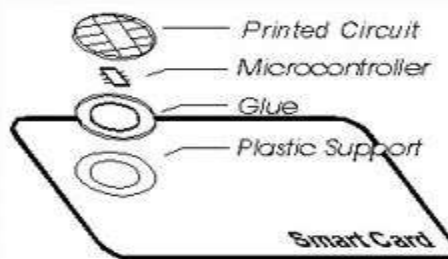
REVERSE SMS BILLING:

The mobile service providers have invented new schemes which also come in the area of the mobile commerce. In this scheme mobile provider over charge some special SMS called Premium SMS. So the price for that SMS would be the price for the goods purchased plus the price for sending the SMS. The user dials a special service number and mention the amount to be transferred, also the Merchant phone number.

He then receives a SMS from the operator which is billed accordingly. Another variation of this scheme is reverse billing SMS. An additional amount is charged for receiving certain kind of "Special SMS". This reverse billing SMS is very popular and widely used for accessing the digital contents like ring tones, music, Video as well as special services from the mobile operator
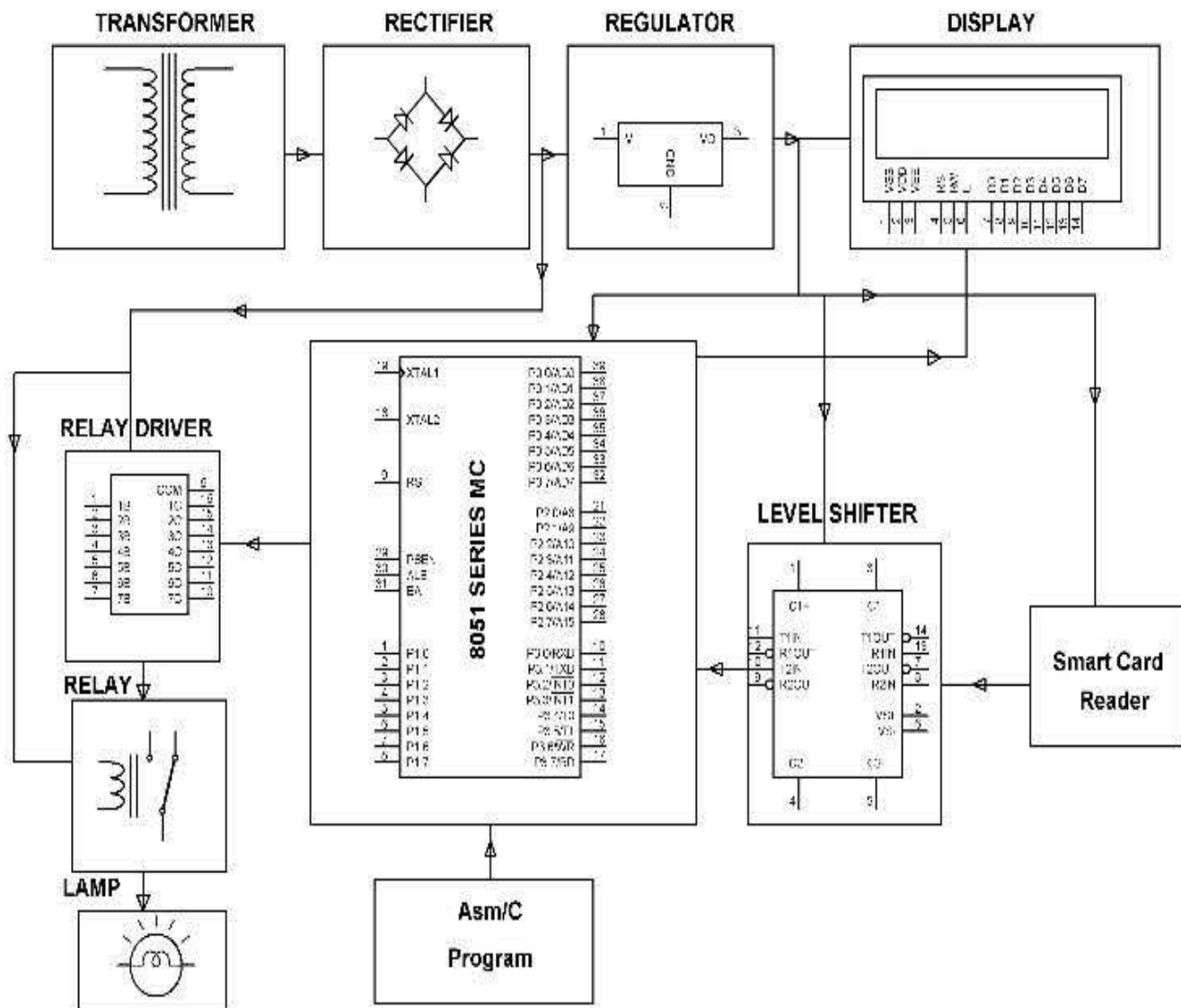
FUTURE TRENDS:

The Business drivers and survey results by the various research organizations have clearly shows the need for new payment schemes. Result of various survey shows that there is high penetration of mobile phones in society. As mobile phones may become payment instruments, we hope that there is the possibility that cards could be replaced by mobile phones. Even the financial institution has the plan to make use of mobile network as a new channel for the financial transactions. There is a trend that magnetic cards will be replaced with small chip set and RFID tags which is embedded in all mobile devices. For effective adoption of mobile payment a committee and focus group which include the representatives from financial institution, mobile operators, mobile hardware providers and settlement agencies are formed. These groups have come up with effective standards like EMV, CEPS etc. which address the issues on financial transactions. The detail discussion regarding the standard have mentioned in the appendix. Major steps are being taken by each bank as well as the mobile operators to proactively promote the new payment schemes. The suggested advantages financial institutions have over mobile operators are their brand names. In fact, consumer's trusting are loyal to classic payment schemes. If banks decided to extend the use of their payment systems to mobile payments, they would have instant recognition from the consumers since they already know the brand and they have been using other kind of transaction facilities on many occasions without any problems.

CONCLUSION:

The smart card being most secure and proven for its security, but was not popular amount the payment schemes. The financial institutions were watching the developments in the area of smart card, until it get mature. But inspire of its proven capability in the area of security, smart card failed to get enough popularity. One of the reasons of it is the lack of acceptance by the user. The penetrations of mobile device like mobile phone and PDA have made a significant impact in the area of e commerce. The mobile operators are also try to sell "Hard" their product by providing additional value added services. Even the Customer wants to have useful application in their mobile devices. The financial institutions are looking for a new revenue generation business and M-Commerce is one of those new areas. Steps are taken by the financial organization to set the Standards for m-commerce From the above discussion it is evident that the financial institute, mobile operator and customer are looking towards a reliable, flexible and proven framework for mobile commerce. If this frame work is in place and supported by financial institutes, then customer will trust the new scheme and mobile commerce is going tube new area of commerce.

REFERENCES:

1. American Express Express Pay -wwww.americanexpress.com/expresspay
2. Master card paypass - www.mastercard.com/aboutourcards/paypass.html
3. American Public Transportation (APTA) - www.apta.com
4. www.erggroup.com
5. www.alittleworld.com
6. www.javacardforum.org
7. http://www.smartcardalliance.org/
8. http://www.gemplus.com/pss/banking/
9. http://www.international.visa.com/footer/contact.jsp
10. www.theruthgroup.com
11. PayPass http://www.oti.co.il/content.aspx?id=101
12. http://www.mastercardmerchant.com/paypass/
13. https://www124.americanexpress.com/cards/loyalty.do?page=expresspay
14. www.mobilepaymentforum.org
15. http://www.mobilepaymentsworld.com/
16. http://www.mondex.com/
17. Prepaid Wireless Service Billed in Real Time, Web ProForum tutorial, www.iec.org
18. Economic Times of India
19. www.cepsco.org
20. www.cellular.co
21. www.emvco.com
22. www.accesskeyboards.co
23. www.coai.com
24. www.findwhitepapers.com
25. Delivering Pre-paid content, Richard Hallet, Intec telecom Systems
26. European Committee for Banking Standards : Implementation guideline for mobile Payments – IG606 V1 March 2005
27. A Framework for M-Commerce, White paper on Wireless Commerce Solution-VeriSign ETSI GSM Technical Specification GSM11.11
28. Towards A Holistic Analysis of Mobile Payments: AMultiple Perspectives Approach by Jan Ondrus, Yves Pigneur