A 3G Design for the Automation of Inter-Networked banking and Teller Machine operations Using USIM

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ABSTRACT-Automated teller machines (ATMs) are well known devices typically used by individuals to carry out a variety of personal and business financial transactions and/or banking functions. ATMs have become very popular with the general public for their availability and general user friendliness. Existing ATMs are convenient and easy to use for most consumers. Existing ATMs typically provide instructions on an ATM display screen that are read by a user to provide for interactive operation of the ATM. Having read the display screen instructions, a user is able to use and operate the ATM via data and information entered on a keypad. However the drawback in the existing system is that the user should carry their ATM card without fail. But in many cases we forget it. So only we designed a system which helps us to use the ATM machine without the ATM card. In this proposed system we have created the new generation ATM machine which can be operator without the ATM card. By using this system ATM machine can be operator by using our SIM in the mobile phone. When we insert our SIM in the reader unit of the ATM machine it transfers the mobile to the server. In server we can collect the related information of the mobile number (i.e) the users account details, their photo etc. the camera presented near the ATM machine will capture the users image and compare it with the user image in the server using MATLAB. Only when the image matches it asks the pin number and further processing starts. Otherwise the process is terminated.

So by using this system need of ATM card is completely eliminated we can operate the ATM machine by using our SIM itself. By using this system malfunctions can be avoided. Our transaction will be much secured. One more application can also be added in this system for helping the blind people. In the existing system all the transactions are done through keyboard only. It may be difficult for blind people so we can also add voice enunciator to indicate each and every process to the blind people. It that enables a visually and/or hearing impaired individual to conveniently and easily carry out financial transactions or banking functions.

I INTRODUCTION

3G is an International Telecommunication Union (ITU) standard for third generation mobile telephone systems under the International Mobile Telecommunications programmed, IMT-2000. Analog cellular was the first generation, digital PCS was the second. Along with 3G was the big rage in the late 90's, with proponents announcing that it was the Killer Wireless Application because of its ability to simultaneously transfer voice data (the phone call) and other non-voice data

such as music, photographs, video, email, instant messaging, and information downloads. 3G networks use a variety of wireless network technologies, including GSM, CDMA, TDMA, WCDMA, CDMA2000, UMTS and EDGE, and this leads to some confusion as well as a great dealofflexibility.3G implementation was slower than initially anticipated, however, because of the cost of upgrading equipment and licensing fees for additional spectrum. The earlier, 2G networks didn't typically use the same frequencies as 3G (except in the United States), and licensing fees, particularly in Europe, were extremely expensive. Only Japan and South Korea were able to implement this technology quickly, largely because of the high level of government support for new infrastructure advances. In Japan, by the end of 2006 the majority of customers was on 3G and upgrades to the next stage, 3.5G (with 3 Mbit/s data rates), was underway. Implementation in the rest of the world is coming along, but at a slightly slower pace.

II EXISTING ATM AYSTEM

Existing ATMs are convenient and easy to use for most consumers. Existing ATMs typically provide instructions on an ATM display screen that are read by a user to provide for interactive operation of the ATM. Having read the display screen instructions, a user is able to use and operate the ATM via data and information entered on a keypad.

However the drawback in the existing system is that the user should carry their ATM card without fail. But in many cases we forget it. So only we designed a system which helps us to use the ATM machine without the ATM card.

III PROPOSED SYSTEM

In this proposed system we have created the new generation ATM machine which can be operator without the ATM card. By using this system ATM machine can be operator by using our SIM in the mobile phone. When we insert our SIM in the reader unit of the ATM machine it transfers the mobile to the server. In server we can collect the related information of the mobile number (i.e) the users account details, their photo etc. the camera presented near the ATM machine will capture the users image and compare it with the user image in the server using MATLAB. Only when the image matches it asks the pin number and further processing starts. Otherwise the process is terminated. So by using this system need of ATM card is

completely eliminated we can operate the ATM machine by using our SIM itself. By using this system malfunctions can be avoided. Our transaction will be much secured.One more application can also be added in this system for helping the blind people. In the existing system all the transactions are done through keyboard only. It may be difficult for blind people so we can also add voice enunciator to indicate each and very process to the blind people. It that enables a visually and/or hearing impaired individual to conveniently and easily carry out financial transactions or banking functions.
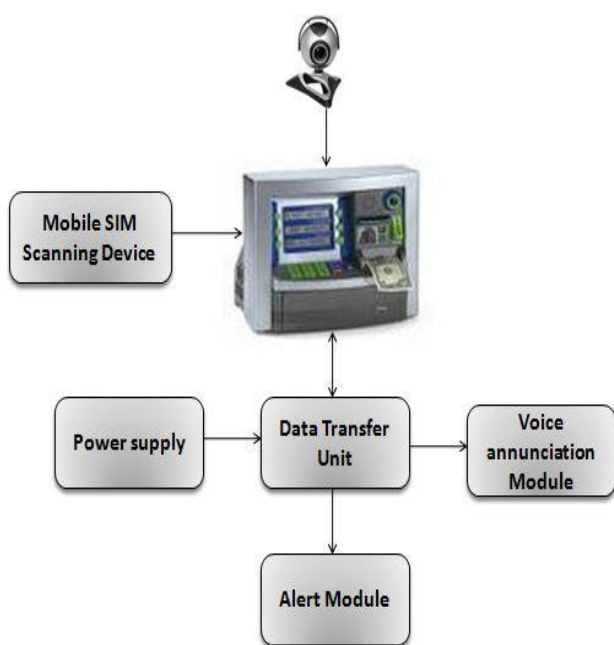

Fig. 1: Block Diagram

IV BLOCK DIAGRAM DESCRIPTION

Mobile scanning device scans SIM number through GSM Modem Collected data is given to the Automated teller machines (ATMs) for further processing. At the same time, web camera captures the images and compares using digital signal processing with the image stored In the data base. Each processing information produces by voice annunciation module. Power supply unit consists of a step down transformer along with rectifier unit to convert 230 V AC into required 7 V DC. 7 V DC supply is given to the micro controller for its action. It may be difficult for blind people to use existing ATM so we can add voice annunciator to indicate each and every process to the blind people.

It enables a visually and/or hearing impaired individual to conveniently and easily carry out financial transactions or banking functions. Each processing information produces by voice annunciation module. If images and PIN number are same then further processing is continued, otherwise it gives alarm through Alert module. Data transfer unit consist of

ARM7 (LPC2148) which transfers the data between alert module, voice annunciation module & ATM machine. Automated teller machines (ATMs) are well known devices typically used by individuals to carry out a variety of personal and business financial transactions and/or banking functions. When USIM is inserted into the mobile scanning device the it scans the USIM number through GSM Modem.

Collected data is given to the equivalent Automated teller machines (ATMs) for further processing. At the same time, web camera captures the image of the user and compares using digital signal processing with the image stored in the data base. When image matched then on the screen the following instruction will appear on the screen. Enter PIN NO: Ex: 2314 If PIN NO matched then the following instruction will appear on the screen. Enter the name of the bank: Ex: SBI Then the following instruction will appear on the screen. Select the type of transaction: Ex: withdraw, balance enquiry etc.

Each processing information produces by voice annunciation module with the help of microcontroller of LPC2148. It may be difficult for blind people to use existing ATM so we can add voice annunciator to indicate each and every process to the blind people. It enables a visually and/or hearing impaired individual to conveniently and easily carry out financial transactions or banking functions. Each processing information produces by voice annunciation module. If images and PIN number are not same then micro controller LPC2148 gives alarm through Alert module. Data transfer unit consist of a micro controller of no LPC2148 which transfers the data between alert module, voice annunciation module & ATM machine.

V RESULTS

Below figure shows Integration of all with Components Connected to ARM7and this is connected to the GSM module, voice announcer and security alarm in a third generation design for the automation of inter-networked banking and teller machine operations using universal subscriber identification modules.
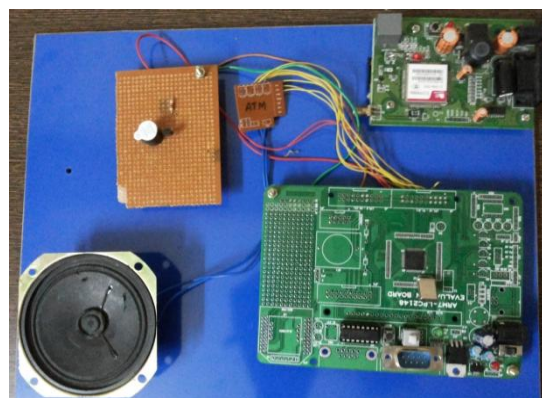

Fig. 2 : Integration of Components to the ARM7

In this we have created the new generation ATM machine which can be operator without the ATM card. By using this

system ATM machine can be operator by using our SIM in the mobile phone. When we insert our SIM in the reader unit of the ATM machine it transfers the mobile to the server. In server we can collect the related information of the mobile number (i.e) the users account details, their photo etc. the camera presented near the ATM machine will capture the users image and compare it with the user image in the server using MATLAB.

VI CONCLUSION

This system creates the new generation ATM machine which can be operator without the ATM card. By using this system ATM machine can be operator by using our SIM in the mobile phone. When we insert our SIM in the reader unit of the ATM machine it transfers the mobile to the server. In server we can collect the related information of the mobile number (i.e) the users account details, their photo etc. the camera presented near the ATM machine will capture the users image and compare it with the user image in the server. Only when the image matches it asks the pin number and further processing starts. Otherwise the process is terminated. So by using this system need of ATM card is completely eliminated we can operate the ATM machine by using our SIM itself. By using this system malfunctions can be avoided. Our transaction will be much secured. One more application can also be added in this system for helping the blind people. In the existing system all the transactions are done through keyboard only. It may be difficult for blind people so we can also add voice enunciator to indicate each and very process to the blind people. It that enables a visually and/or hearing impaired individual to conveniently and easily carry out financial transactions or banking functions.

VII FUTURE SCOPE

Today, single factor authentication, e.g. passwords, is no longer considered secure in the internet and banking world. Easy-to-guess passwords, such as names and age, are easily discovered by automated password-collecting programs. Two factor authentications has recently been introduced to meet the demand of organizations for providing stronger authentication options to its users. In most cases, a hardware token is given to each user for each account. The increasing number of carried tokens and the cost the manufacturing and maintaining them is becoming a burden on both the client and organization. Since many clients carry a mobile phone today at all times, an alternative is to install all the software tokens on the mobile phone. This will help reduce the manufacturing costs and the number of devices carried by the client The paper has proposed a method of efficient 3D head tracking technique to overcome the consequence. Certain applications of face recognition technology are now cost effective, reliable and highly accurate. Face recognition technology can be used worldwide to access buildings; however it can be used in ATMs, which would help address potential security threats in near future.

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