

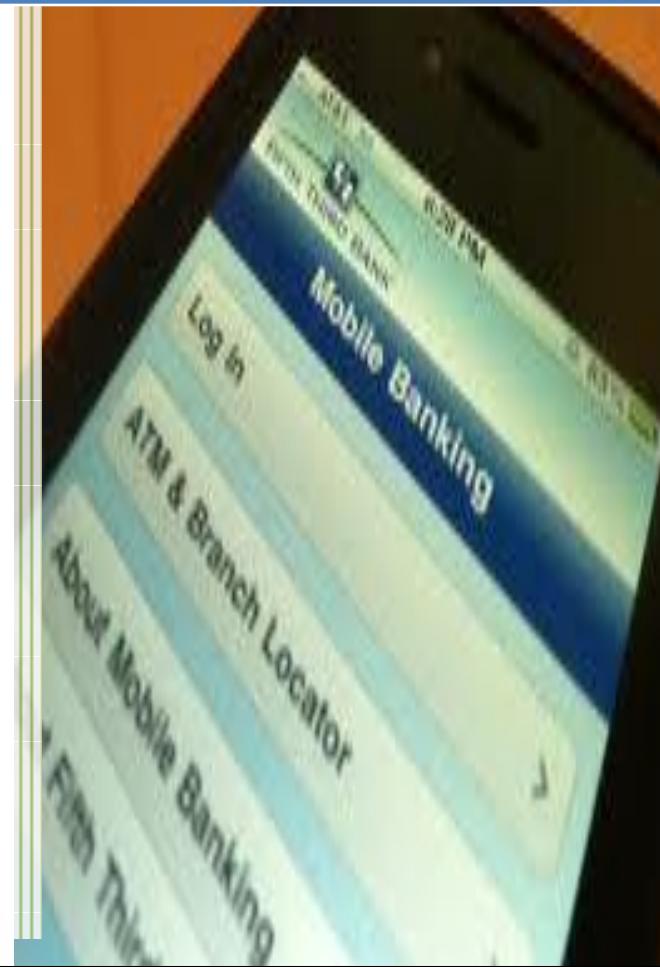
ZAGAZIG UNIVERSITY

FACULTY OF COMPUTERS AND
INFORMATICS

2012

Mobile Banking

The perfect balance of mobile convenience and account holder activated security features .



Under Supervision Of :

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2012/2013**

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All praise to Allah most gracious, most merciful and his peace and blessing is upon his family, companions and whoever follows him.

To every doctor and every assistant who offer us knowledge and help through the past few years.

We dedicate this humble work.

To our fathers ,our mothers and our brothers.

to our friends who helped us and continue .

to person who I loved .

to ones who have provided advice to us.

To every person who made us better .

Specific thanks to,

Dr/ Ibrahim El-Henawy.

Eng/ Kareem Ergawy.

AND OUR SUCCESS CAN ONLY COME FROM ALLAH

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Abstract

Aim of our work

- o Allow buyers to make all their payments (up to some pre-defined upper limit) using their mobile phones.
- o Increase the number of commercial manipulations especially small scale purchase operations.
- o Eliminate the buyers' need to carry cash money or even to have their own credit card just to make small scale purchases.
- o Allow people to deposit all their weekly/daily balance in one place; their mobile phone, and consume this balance dynamically in both phone services and mobile payments.

Effective time management and speed of response to service requirements, meaning savings in time and effort.

- o allows the system to provide many services and numerous, and would also be secret accounts.
- o To achieve the client where a person allows the use of mobile give the customer a feeling that the focus of attention because the service is between him and the bank directly.
- o productivity and effectiveness of performance where they can rely on the mobile phone in overcoming production constraints and performance in times of stress at work or being out of work.

Project Idea

Until now, you have had to depend upon banks to conduct your banking transactions and to keep your account secure.

Now, with your cell phone, you can instantly conduct banking transactions and secure your own accounts.

You receive instant text messages on any transaction activity against your account, including your current account balance.

Your available options on account notifications are ...

... You can be notified whenever a “card not present” purchase has been made (typically an Internet, or phone purchase) ...

... when account balance has dropped below a pre-determined level you have established ...

... when a deposit or transfer has been credited to your account ...

... or you can choose to receive a notification whenever any purchase is made on your card account ...

Introduction

1.1 Introduction to Mobile Banking

Internet Banking helped give the customer's anytime access to their banks. Customer's could check out their account details, get their bank statements, perform transactions like transferring money to other accounts and pay their bills

sitting in the comfort of their homes and offices.

However the biggest limitation of Internet banking is the requirement of a PC with
an Internet connection, not a big obstacle if we look at the US and the European

countries, but definitely a big barrier if we consider most of the developing countries

of Asia like China and India. Mobile banking addresses this fundamental limitation of
Internet Banking, as it reduces the customer requirement to just a mobile phone.

Mobile usage has seen an explosive growth in most of the Asian economies like

India, China and Korea.

The main reason that Mobile Banking scores over Internet Banking is that it enables

'Anywhere Anytime Banking'. Customers don't need access to a computer terminal

to access their bank accounts, now they can do so on-the-go while waiting for the

bus to work, traveling or when they are waiting for their orders to come through in a restaurant.

The scale at which Mobile banking has the potential to grow can be gauged by

looking at the pace users are getting mobile in these big Asian economies.
According

to the Cellular Operators' Association of India (COAI) the mobile subscriber base in

India hit 40.6 million in the August 2004. In September 2004 it added about 1.85

million more. The explosion as most analysts say, is yet to come as India has about one of the biggest untapped markets. China, which already witnessed the mobile boom, is expected to have about 300 million mobile users by the end of 2004. All of these countries have seen gradual roll-out of mobile banking services, the most aggressive being Korea which is now witnessing the roll-out of some of the most advanced services like using mobile phones to pay bills in shops and restaurants.

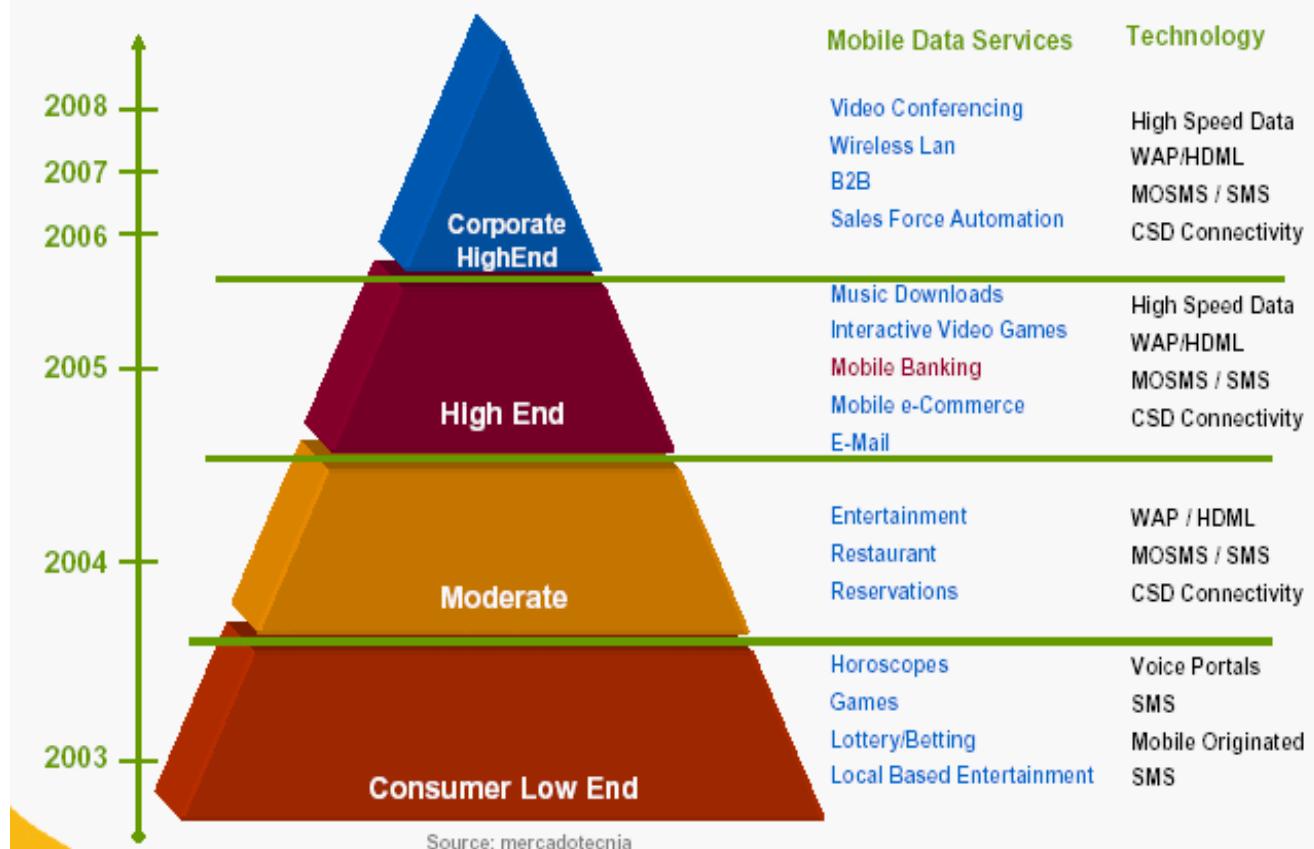
1.2 Mobile Banking in the past

- Mobile banking solutions were mainly reproduction of already existing web-based applications with less stress on its mobile aspects
- Low bandwidth & latency issues
- High communication costs
- Low functionality and fewer capabilities in the mobile devices
- Security concerns

1.3 Mobile Banking today

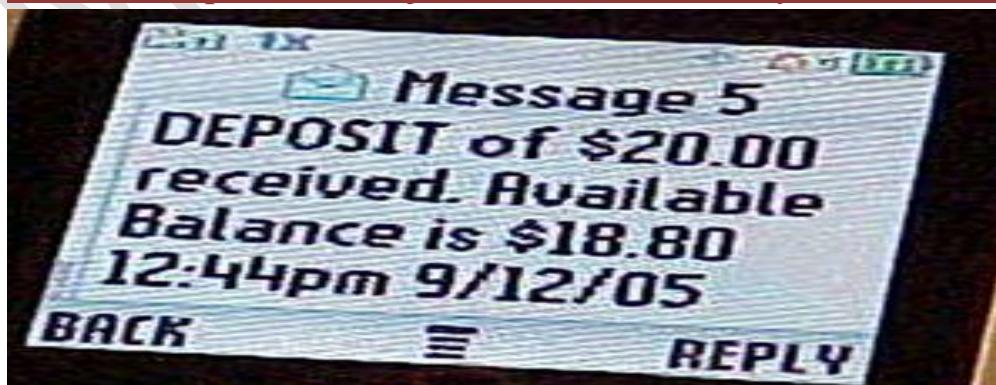
- Fast data services (GPRS)
- Low data transfer costs (e.g. flat rates)
- More functionality possible (new devices with better displays and browser functionality)
- Higher Security mechanisms
- Applications capitalize on the mobile aspects and diversify from existing web-based solutions

Mobile Trends

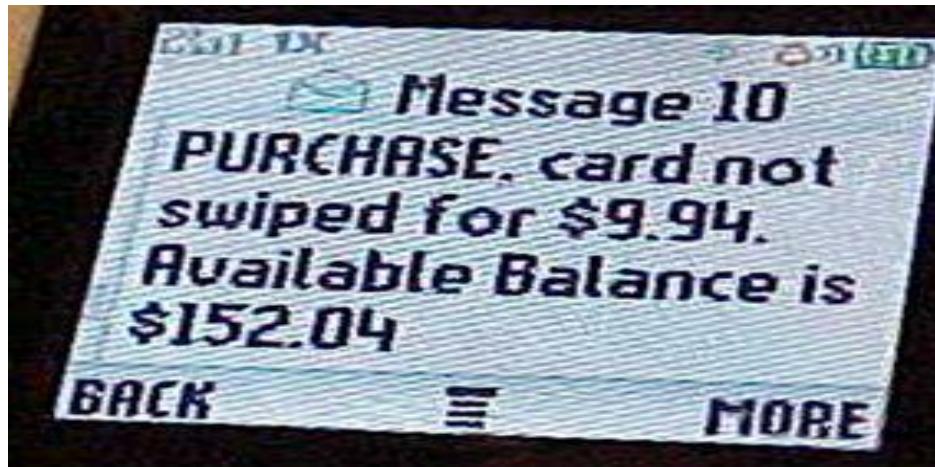


1.4 Mobile Banking Features

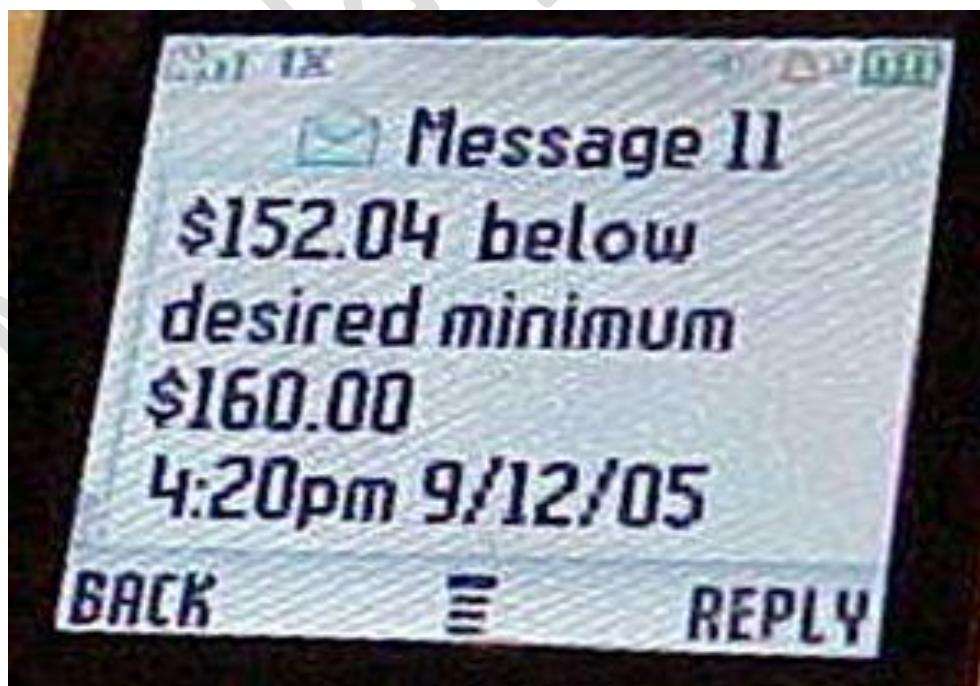
... when a deposit or transfer has been credited to your account...



...You can be notified whenever a “card not present” purchase has been made (typically an Internet, or phone purchase)...



...when account balance has dropped below a pre-determined level you have established...



... or you can choose to receive a notification whenever any purchase is made on your card account...



...You can even be notified if there is an attempted use while your card is toggled off (disabled)!



Activation can be completed online at <http://www.GAT.com> or by calling Cardholder Services at 01126932677 .

Account-to-Account transfers

- ▶ The account-to-account transfer feature enables you to use your cell phone to instantly transfer money to other account holders, and to make purchases or payments.
- ▶ These transfers can be made by typing in either the recipient's cell phone number or their card account number.
- ▶ You can receive an instant transfer of funds to your account by simply providing the sender your cell phone number.

Subordinate card issuance and controls

- ▶ A primary account holder can have subordinate cards issued in the name of the card user. Subordinate cards can be controlled by the primary, including limits of usage.
- ▶ The most common issuance of a subordinate account is for a minor child (13+). Parents may exercise controls over the card with instant notification of usage.
- ▶ Subordinate cards provide corporate expense controls for field staff or project personnel. These accounts can even be used to automate expense reporting.

Mobile Banking blends our state-of-the art secured banking and payment technologies with mobile phones.

Now you are in control,

and it wont cost you a penny!

***Which features would
you like today?!!!***

1.5 Security Measures

- SMS channels can be used with encryption by mobile payment applications to protect data integrity and security.
- Use of crypto-Java SIM cards & PKI (Public Key Infrastructure) for establishing hierarchy of trust; non-repudiation.
- Debit/Credit cards linked to a specific phone number of consumer for added transaction security
- Implementation of secure PIN for transactions
- For a financial application, gateways should reside behind your firewall instead of the carrier premises.

Chapter Two

**Mobile
Banking ...**

The Future

2.1 Brief Discription

- Banks play an important role in turning the economic wheel and with the technological development, emerged electronic banking, but the growing role of the creation of a new applications for the banking service in an efficient and fast in performance, convenience and cost reduction, which in turn lead to a reduction operations performed in the branch so that the does not exceed 10% of the total operations in developed countries and the rest is by electronic channels such as ATMs and electronic points of sale and the ability to do most of the banking business through a personal computer via the Internet "Home banking" and which provided the time and effort to banking customers and provide them with an operations easily, such as account opening and access to credit cards, pay bills and transfer money between accounts and during all hours of the day, as well as newly emerging mobile banking services in some countries, which is one of the latest applications and new electronic review the following mobile bank through the following points: -
 - Mobile Banking definition.
 - How Mobile Banking Works.
 - Companies that will be through the implementation of this service.
 - Some banks have developed the Mobile Banking service in Egypt.
 - Benefits of mobile bank.
 - The Mobile Banking risk.

2.2 Mobile Banking Definition

- Is an expression called the modern banking services that lead to bank customers through the mobile phone, so the client can follow up all its operations in the account the financial with the bank through your mobile phone and through the secret number, and the most important services provided by the Mobile Banking open an account, complete the operations sale or purchase, apply for credit cards, pay bills and transfer funds between accounts in the sense of cash transfers to any bank or any other account, whether inside or outside the country.

2.3 Mobile banking services and how Mobile banking work.

- ▶ In recent years, emerged what is known as Mobile banking , a means to obtain the service through mobile phones and where the customer from any location at any time during the day the request a specific number who shall a bearing upon the information replied and asked to enter a PIN, which has already been given to her bank Page is displayed with all data for this client and get the service they want immediately, despite the novelty of this system unless it is proven that it meets the bank's profits up to 6 times the profits the ordinary,
- ▶ and because the Mobile Banking phone use information technology to improve relations and expand the scope of his dealings with customers by dealing with personal data, which has about the customer in an intelligent way, to the marketing of services such as open account and obtain credit cards and pay bills and transfer funds between accounts, in addition to marketing the services of a new kind of customer If the customer's data suggest that has a son reached the age of marriage, the bank mobile uses this information automatically and displays the new customer offers, such as buying a car or an apartment for his son to his marriage or even get an insurance policy in his name, offered his son financing post-graduate study for master's or doctoral degrees.

2.4 Companies will be through the implementation of this service

- Will be the implementation of this service through mobile operators existing three in Egypt, "Vodafone, Mobinil Telecom", was held more than a meeting between officials of the mobile phone companies and some leaders of the central bank to set up a mechanism to allow the running of banking services via mobile phone and is currently being finalized rules that relate to how dealing with electronic money to provide money transfer service via mobile phone.
- I have made Vodafone the request of the Central Bank for a license to the transfer of funds of customers using mobile between countries where the networks so that not only remittance services via mobile on a local scale only, as is the situation now, according to official government relations Vodafone that the central bank has some fears of causing this step to expand the money laundering operations, Mobinil is also seeking to take the necessary measures to obtain the approvals to start the Mobile Banking service to the public.

2.5 The governor said...

- the central bank governor that it will be the completion of standards for the transfer of funds through mobile phones within 6 months of the start of the new service, which will make development in payment systems and reported that the central bank aims to strengthen financial stability and safety of payment systems will not be urgency in launching any new services without placing regulations and standards governing them. And some banks now offer some banking services for mobile Kalastalam balance, pay bills and transfer funds internally and message service over the phone, and these banks: -

- Egyptian Arab Land Bank**

Provides a service to query the account through mobile phone and the service is to inform the customer of any change in the account at the bank for withdrawals or deposits, as well as the client can send a message to inquire about the balance of the mobilephone.

The above is by going to any branch of the Bank and provide personal identification and registration of the request to add the service and fill out the subscription form.

- **National Bank Societe Generale**

customers can also, Commercial International Bank and Arab Bank to access information about their accounts and benefit from the services of the bank through the service provided by Vodafone (mobile banking) It provides: -

- Inquiring about the account and credit card information and receive alerts.
- Payment of credit card bill.
- Transfer funds between accounts of the Interior.
- Know where ATMs.
- Stop checks and stolen cards.
- Access to foreign exchange rates and stock market.

To subscribe to this service through the bank, which deals with the client.

- **Bank of Egypt**

Bank of Egypt provides to its customers of mobile phone carriers for SMS services to inquire about the bank balance or services, reducing the available credit cards, currency exchange rates.

2.6 Some banks have developed to service the Mobile Banking in Egypt

- ⊕ Currently seeking more than one bank, "including bank HSBC - Citibank - Commercial International Bank and BNP Paribas" to get the approval of the Central Bank to provide money transfer services through mobile "Mobile Banking" and being made the central bank for all the controls to maintain confidential and secure transfer operations with emphasis on the role of the bank where he must have passed the message to the bank first to make a debit and credit transfer to the

account number and then the other to make sure another message stating to end the process.

2.7 And More ...

As mobile networks are upgraded with WAP, GPRS and UMTS to deliver next-generation multimedia services, the banks are getting ready to unleash services on mobile phones. Customers will be able to view their account statement, transfer funds between accounts, be notified of large payments or get notified of transactions above a pre-defined threshold, and will have immediate and full control over their finances. Next-generation mobile banking services will deliver significant improvements with user-friendly icon driven instructions, instant access, security and immediate transaction processing all at a lower session cost. Banks will attain higher levels of customer satisfaction and increased loyalty by providing anywhere, anytime banking. They will benefit further from lower administrative costs, lesser number of branches, reduced headcount, streamlined call centers and lower handling charges - savings which, hopefully, will be passed onto customers.

2.8 Mobile Banking Business Models

A wide spectrum of Mobile/branchless banking models is evolving. These models differ primarily on the question that who will establish the relationship (account opening, deposit taking, lending etc.) with the end customer, the Bank or the Non-Bank/Telecommunication Company (Telco). Models of branchless banking can be classified into three broad categories - Bank Focused, Bank-Led and Non Bank-Led.

Bank-focused model

The bank-focused model emerges when a traditional bank uses non-traditional lowcost delivery channels to provide banking services to its existing customers.

Examples range from use of automatic teller machines (ATMs) to internet banking or mobile phone banking to provide certain limited banking services to banks' customers. This model is additive in nature and may be seen as a modest extension of conventional branch-based banking .

Bank-led model

The bank-led model offers a distinct alternative to conventional branch-based banking in that customer conducts financial transactions at a whole range of retail agents (or through mobile phone) instead of at bank branches or through bank employees. This model promises the potential to substantially increase the financial services outreach by using a different delivery channel (retailers/ mobile phones), a different trade partner (Telco / Chain Store) having experience and target market distinct from traditional banks, and may be significantly cheaper than the bankbased alternatives. The bank-led model may be implemented by either using correspondent arrangements or by creating a JV between Bank and Telco/non-bank. In this model customer account relationship rests with the bank.

Non Bank-led model

The non-bank-led model is where a bank does not come into the picture (except possibly as a safe-keeper of surplus funds) and the non-bank (e.g. Telco) performs all the functions.

2.9 Mobile Banking Services

Banks offering mobile access are mostly supporting some or all of the following

services:

Account Information

- Mini-statements and checking of account history
- Alerts on account activity or passing of set thresholds
- Monitoring of term deposits
- Access to loan statements
- Access to card statements
- Mutual funds / equity statements
- Insurance policy management
- Pension plan management

Payments & Transfers

- Domestic and international fund transfers
- Micro-payment handling
- Mobile recharging
- Commercial payment processing
- Bill payment processing

Investments

- Portfolio management services
- Real-time stock quotes
- Personalized alerts and notifications on security prices

Support

- Status of requests for credit, including mortgage approval, and insurance coverage
- Check (cheque) book and card requests
- Exchange of data messages and email, including complaint submission and tracking

Content Services

- General information such as weather updates, news
- Loyalty-related offers
- Location-based services

One way to classify these services depending on the originator of a service session

is the 'Push/Pull' nature. 'Push' is when the bank sends out information based upon

an agreed set of rules, for example your bank sends out an alert when your account balance goes below a threshold level. 'Pull' is when the customer explicitly

requests a service or information from the bank, so a request for your last five

transactions statement is a Pull based offering.

The other way to categorize the mobile banking services, gives us two kind of

services – Transaction based and Enquiry Based. So a request for your bank statement is an enquiry based service and a request for your fund's transfer to

some other account is a transaction-based service. Transaction based services are also differentiated from enquiry based services in the sense that they require

additional security across the channel from the mobile phone to the banks data servers.

Based upon the above classifications, we arrive at the following taxonomy of the services listed before.

	Push Based	Pull Based
Transaction Based		<ul style="list-style-type: none">• Fund Transfer• Bill Payment• Other financial services like share trading.
Enquiry Based	<ul style="list-style-type: none">• Credit/Debit Alerts.• Minimum Balance Alerts• Bill Payment Alerts	<ul style="list-style-type: none">• Account Balance Enquiry• Account Statement Enquiry• Cheque Status Enquiry.• Cheque Book Requests.• Recent Transaction History.

2.10 Technologies Behind Mobile Banking

Technically speaking most of these services can be deployed using more than one channel. Presently, Mobile Banking is being deployed using mobile applications developed on one of the following four channels.

1. IVR (Interactive Voice Response)
2. SMS (Short Messaging Service)
3. WAP (Wireless Access Protocol)
4. Standalone Mobile Application Clients

IVR – Interactive Voice Response

IVR or Interactive Voice Response service operates through pre-specified numbers

that banks advertise to their customers. Customer's make a call at the IVR number

and are usually greeted by a stored electronic message followed by a menu of

different options. Customers can choose options by pressing the corresponding

number in their keypads, and are then read out the corresponding information,

mostly using a text to speech program.

Mobile banking based on IVR has some major limitations that they can be used only

for Enquiry based services. Also, IVR is more expensive as compared to other

channels as it involves making a voice call which is generally more expensive than

sending an SMS or making data transfer (as in WAP or Standalone clients).

One way to enable IVR is by deploying a PBX system that can host IVR dial plans.

Banks looking to go the low cost way should consider evaluating Asterisk, which is an open source Linux PBX system

SMS – Short Messaging Service

SMS uses the popular text-messaging standard to enable mobile application based banking. The way this works is that the customer requests for information by sending an SMS containing a service command to a pre-specified number.

The bank

responds with a reply SMS containing the specific information.

For example, customers of the HDFC Bank in India can get their account balance

details by sending the keyword 'HDFCBAL' and receive their balance information

again by SMS.

However there have been few instances where even transaction-based services have

been made available to customer using SMS. For instance, customers of the Centurian Bank of Punjab can make fund transfer by sending the SMS

'TRN (A/c

No) (PIN No) (Amount)'.

One of the major reasons that transaction based services have not taken off on SMS

is because of concerns about security.

The main advantage of deploying mobile applications over SMS is that almost all

mobile phones are SMS enabled.

An SMS based service is hosted on a SMS gateway that further connects to the

Mobile service providers SMS Centre. There are a couple of hosted IP based SMS gateways available in the market and also some open source ones like Kannel.

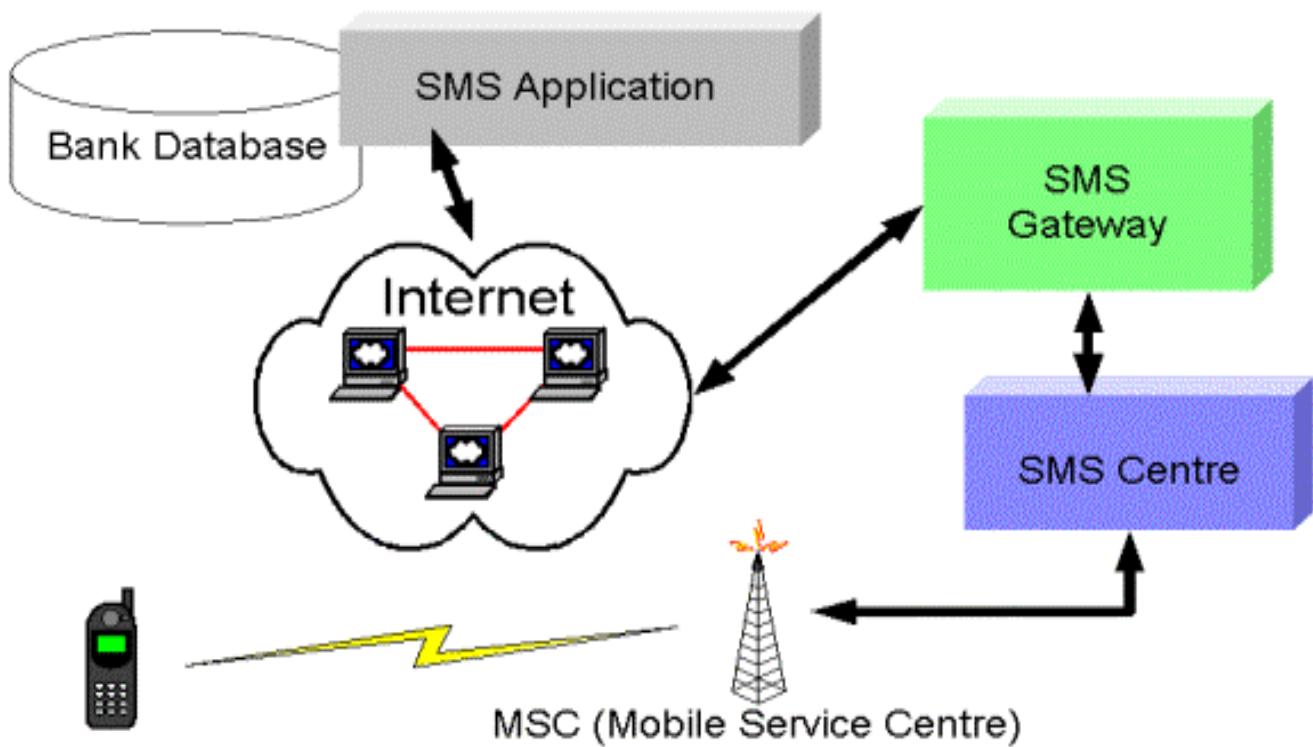


Figure 1: SMS Network Architecture

WAP – Wireless Access Protocol

WAP uses a concept similar to that used in Internet banking. Banks maintain WAP sites which customer's access using a WAP compatible browser on their mobile phones. WAP sites offer the familiar form based interface and can also implement security quite effectively.

Bank of America offers a WAP based service channel to its customers in Hong Kong.

The banks customers can now have an anytime, anywhere access to a secure reliable service that allows them to access all enquiry and transaction based services and also more complex transaction like trade in securities through their phone

A WAP based service requires hosting a WAP gateway. Mobile Application users access the bank's site through the WAP gateway to carry out transactions, much like internet users access a web portal for accessing the banks services. The following figure demonstrates the framework for enabling mobile applications over WAP. The actually forms that go into a mobile application are stored on a WAP server, and served on demand. The WAP Gateway forms an access point to the internet from the mobile network.

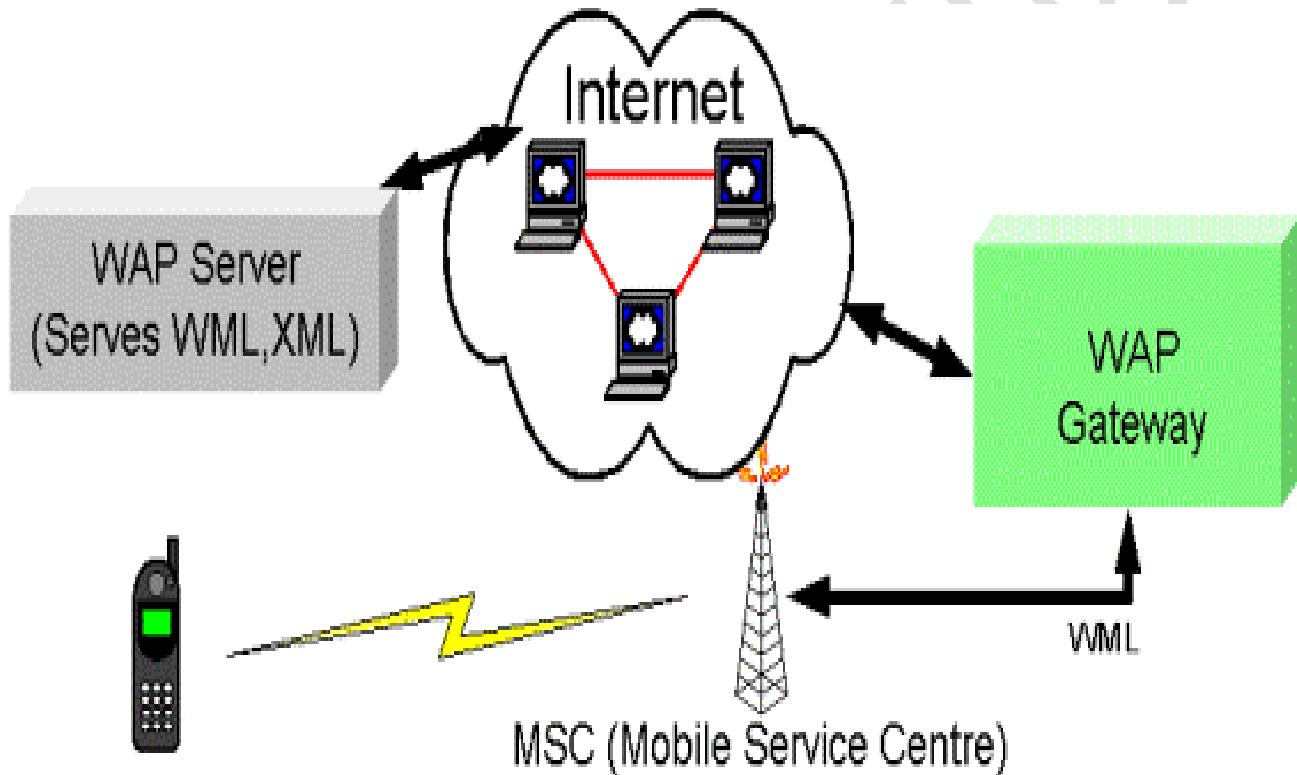


Figure 2: WAP Network Architecture for Mobile Applications

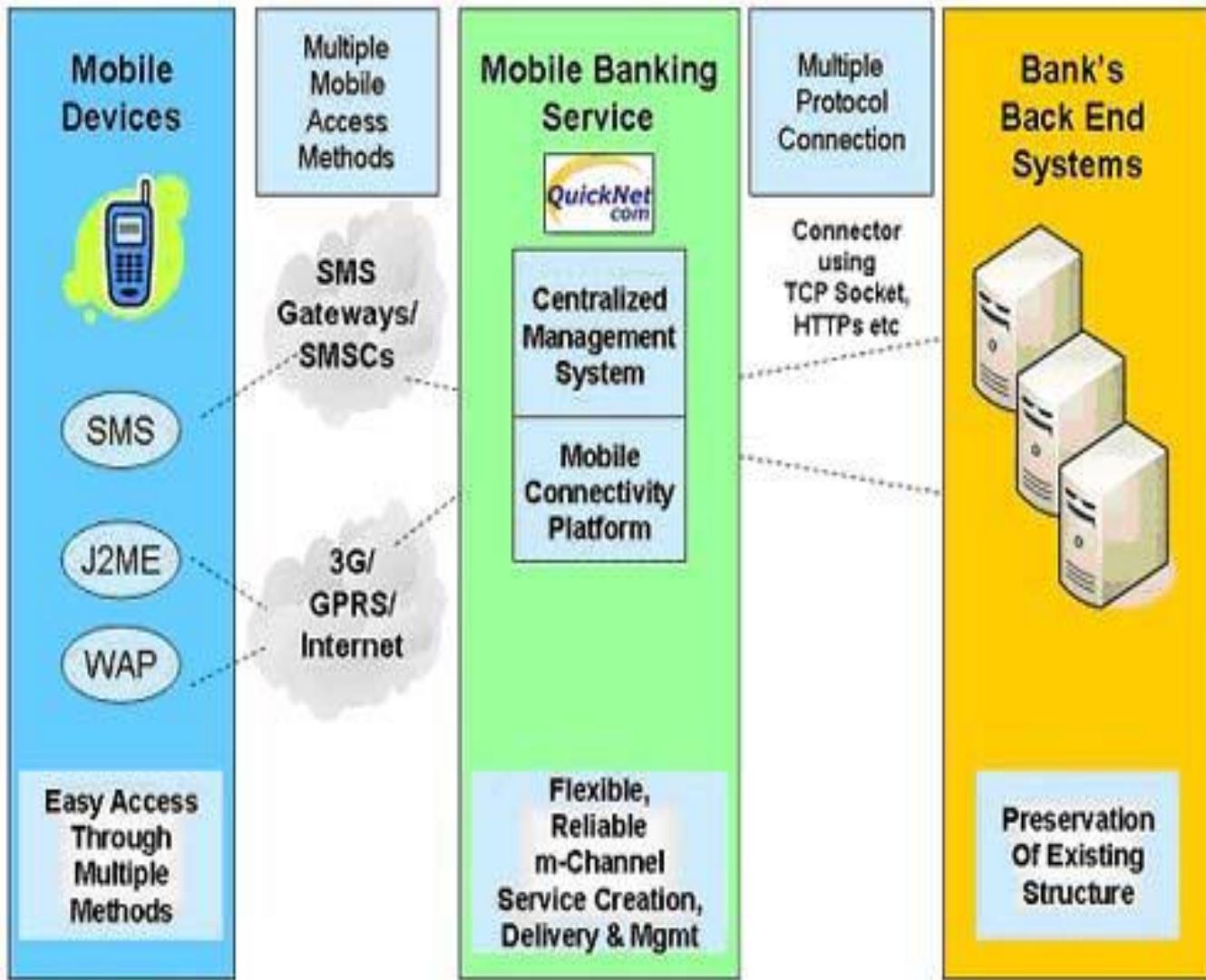
Standalone Mobile Application Clients

Standalone mobile applications are the ones that hold out the most promise as they are most suitable to implement complex banking transactions like trading in

securities. They can be easily customized according to the user interface complexity supported by the mobile. In addition, mobile applications enable the implementation of a very secure and reliable channel of communication. One requirement of mobile applications clients is that they require to be downloaded on the client device before they can be used, which further requires the mobile device to support one of the many development environments like J2ME or Qualcomm's BREW. J2ME is fast becoming an industry standard to deploy mobile applications and requires the mobile phone to support Java. The major disadvantage of mobile application clients is that the applications needs to be customized to each mobile phone on which it might finally run. J2ME ties together the API for mobile phones which have the similar functionality in what it calls 'profiles'. Out of J2ME and BREW, J2ME seems to have an edge right now as Nokia has made the development tools open to developers which has further fostered a huge online community focused in developing applications based on J2ME. Nokia has gone an additional mile by providing an open online market place for developers where they can sell their applications to major cellular operators around the world. Quite a few mobile software product companies have rolled out solutions, which enable J2ME mobile applications based banking. One such product is Wireless Ibancos. The mobile user downloads and installs the wireless I-banco application on their J2ME phone. The J2ME client connects to the wireless I-banco server through the service providers GSM network to enable users to access information about their accounts and perform transactions. One of the other big advantages of using a

mobile application client is that it can implement a very secure channel with end-to-end encryption.

However countries like India face a serious obstacle in the proliferation of such clients as few users have mobiles, which support J2ME or BREW. However, one of the biggest CDMA players in the Indian telecom industry, Reliance Infocomm has about 7.01 million users all of which have handsets, which support J2ME. Reliance has unveiled one of the most ambitious data services deployment program in the country. On the other hand a country like South Korea with its tech-savvy population has a widespread adoption of the higher-end mobiles, which support application development.



2.11 Advantages of Mobile Banking

The biggest advantage that mobile banking offers to banks is that it drastically cuts down the costs of providing service to the customers. For example an average teller or phone transaction costs about \$2.36 each, whereas an electronic transaction costs only about \$0.10 each. Additionally, this new channel gives the bank ability to cross-sell up-sell their other complex banking products and services such as vehicle loans, credit cards etc.

For service providers, Mobile banking offers the next surest way to achieve growth.

Countries like Korea where mobile penetration is nearing saturation, mobile banking

is helping service providers increase revenues from the now static subscriber base.

Service providers are increasingly using the complexity of their supported mobile

banking services to attract new customers and retain old ones.

A very effective way of improving customer service could be to inform customers

better. Credit card fraud is one such area. A bank could, through the use of mobile

technology, inform owners each time purchases above a certain value have been made on their card. This way the owner is always informed when their card is used,

and how much money was taken for each transaction.

Similarly, the bank could remind customers of outstanding loan repayment dates,

dates for the payment of monthly installments or simply tell them that a bill has been presented and is up for payment. The customers can then check their balance on the phone and authorize the required amounts for payment.

The customers can also request for additional information. They can automatically

view deposits and withdrawals as they occur and also pre-schedule payments to be

made or cheques to be issued. Similarly, one could also request for services like

stop cheque or issue of a cheque book over one's mobile phone.

There are number of reasons that should persuade banks in favor of mobile phones.

They are set to become a crucial part of the total banking services experience for

the customers. Also, they have the potential to bring down costs for the bank itself.

Through mobile messaging and other such interfaces, banks provide value added

services to the customer at marginal costs.

Such messages also bear the virtue of being targeted and personal making the services offered more effective. They will also carry better results on account of better customer profiling.

Yet another benefit is the anywhere/anytime characteristics of mobile services. A mobile is almost always with the customer. As such it can be used over a vast geographical area. The customer does not have to visit the bank ATM or a branch to avail of the bank's services. Research indicates that the number of footfalls at a bank's branch has fallen down drastically after the installation of ATMs. As such with mobile services, a bank will need to hire even less employees as people will no longer need to visit bank branches apart from certain occasions.

With Indian telecom operators working on offering services like money transaction over a mobile, it may soon be possible for a bank to offer phone based credit systems. This will make credit cards redundant and also aid in checking credit card fraud apart from offering enhanced customer convenience. The use of mobile technologies is thus a win-win proposition for both the banks and the bank's customers.

The banks add to this personalized communication through the process of automation. For instance, if the customer asks for his account or card balance after conducting a transaction, the installed software can send him an automated reply informing of the same. These automated replies thus save the bank the need to hire additional employees for servicing customer needs

2.12 How our project is important ?!!

We Are A Winner in Nahdet El-Marousa Competetion

Amir Gouda <amir.hasebat@gmail.com>**FW: YOU ARE A YOUNG INNOVATORS' AWARD WINNER!**

1 message

Heba Ghannam <yiabd@nahdetmasr.org>
To: Amir.hasebat@gmail.com

Tue, Jun 19, 2012 at 2:55 PM

From: Heba Ghannam [mailto:yiabd@nahdetmasr.org]
Sent: Tuesday, June 19, 2012 2:22 PM
To: 'Amir.hasebat@gmail.com'
Subject: YOU ARE A YOUNG INNOVATORS' AWARD WINNER!

Dearest Egyptian Innovators,

This is to inform you that YOU ARE A



After evaluating hundreds of graduation projects from 87 faculties from all over the 18 universities in Egypt, we're happy to inform you that your team have been selected as one of the winning groups that will be awarded an encouraging award of **EGP 6000 J**

Chapter Three

Mobile Banking Analysis

3.1 Systems Analysis background:

3.1.1 Systems Analysis Definition – (SAD)

The analysis of the role of a proposed system and the identification of the requirements that it should meet. SAD is the starting point for system design. The term is most commonly used in the context of commercial programming, where software developers are often classed as either systems analysts or programmers. The systems analysts are responsible for identifying requirements (i.e. systems analysis) and producing a design. The programmers are then responsible for implementing it.

3.1.2 System Analysis

In this phase, the current system is studied in detail. A person responsible for the analysis of the system is known as analyst. In system analysis, the analyst conducts the following activities.

3.1.3 Needs Analysis

This activity is known as requirements analysis. In this step the analyst sums up the requirements of the system from the user and the managers. The developed system should satisfy these requirements during testing phase.

3.1.4 Data Gathering

In this step, the system analyst collects data about the system to be developed. He uses different tools and methods, depending on situation.

3.1.5 Written Documents

The analyst may collect the information/data from written documents available from manual-files of an organization. This method of data gathering is normally used if you want to computerize the existing manual

system or upgrade the existing computer based system. The written documents may be reports, forms, memos, business plans, policy statements, organizational charts and many others. The written documents provide valuable information about the existing system.

3.2 Interviews

Interview is another data gathering technique. The analyst (or project team members) interviews, managers, users/ clients, suppliers, and competitors to collect the information about the system. It must be noted that the questions to be asked from them should be precise, relevant and to the point.

Advantages of using an Interview

- If the respondent lacks reading skills to answer a questionnaire.
- Are useful for untangling complex topics.
- The Interviewer can probe deeper into a response given by an interviewee.
- Interviews produce a higher response rate.

Disadvantages of using an Interview

- the interviewer can affect the data if he/she is not consistent.
- It is very time consuming.
- It is not used for a large number of people.
- The Interviewer may be biased and ask closed questions.

3.2.1 Questionnaires

Questionnaires are the feedback forms used to collect Information. The interview technique to collect information is time-consuming method, so Questionnaires

Are designed to collect information from as many people as we like. It is very convenient and inexpensive method to collect information but sometimes the response may be Confusing or unclear and insufficient.

Advantages of using Questionnaires

Scanning can be the fastest method of data entry for paper questionnaires.

Scanning is more accurate than a person in reading a properly completed questionnaire.

Disadvantages of using Questionnaires

Scanning is best-suited to “check the box” type surveys and bar codes.

Scanning programs have various methods to deal with text responses, but all require additional data entry time.

Scanning is less forgiving (accurate) than a person in reading a poorly marked questionnaire.

3.2.2 Observations.

In addition to the above-mentioned three techniques to collect information, the analyst (or his team) may collect Information through observation. In this collect technique, the working, behavior, and other related information of the existing system are observed. It means that working of existing system is watched carefully.

Advantages of Using Observations

- You get to know the child well.
- It enables you to gain an insight into the uniqueness of the child.
- It allows you to obtain a better understanding of the ‘norms ‘of development.
- It enables you to chart development changes over a period of time.
- As the study is over a period of time you may uncover an area of concern, this may enable you to ensure help/guidance is offered earlier than otherwise have been.

Disadvantages of Using Observations

- The child may be absent from the setting for a long period of time or leave the setting. (It is therefore recommended that you start the study with two children.)
- Relationships with parents may become strained due to the continuous observation of the child.
- Objective observations may upset parent/career.
- If a child's behavior or development proves to be atypical (not typical) this may give a distorted view of normal behavior and developmental norms.
- Issues around confidentiality may be raised, as it may be easy for others to identify the child.

3.2.3 Sampling:

If there are large numbers of people or events involved in the system, we can use sampling method to collect information. In this method, only a part of the people or events involved are used to collect information. For example to test the quality of a fruit, we test a piece of the fruit.

Advantages of Using Sampling

- A collection of precise data/when completed data is readily accessible.
- It is quick and easy to use.
- It is more closely focused.
- It can reveal unsuspected patterns of behavior.

Disadvantages of Using Sampling

- Allocating time to complete the task (may need to take place over a long period of time).
- It needs to be carefully prepared.
- Being aware of the passage of time when doing time samples.
- Keeping one child insight at all times remembering to be unobtrusive as possible

3.2.4 Data Analysis:

After completion of Data Gathering • step the collected data about the system is analyzed to ensure that the data is accurate and complete. For this purpose, various tools may be used. The most popular and commonly used tools for data analysis are:

DFDs (Data Flow Diagrams)

System Flowcharts

Connectivity Diagrams

Grid Charts

Decision Tables etc.

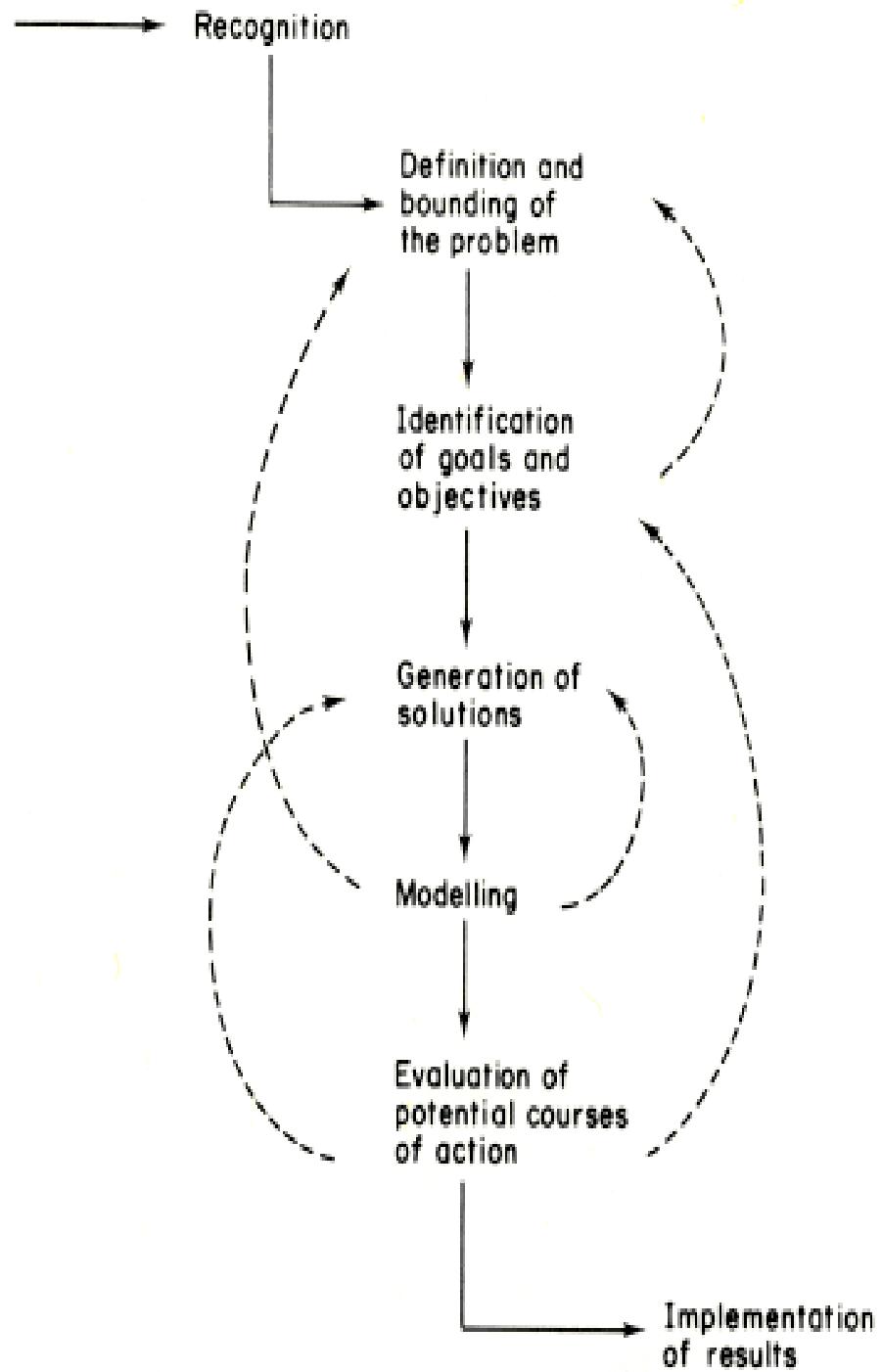
3.2.5 Analysis Report:

After completing the work of analysis, the requirements collected for the system are documented in a presentable form. It means that the analysis report is prepared. It is done for review and approval of the project from the higher management. This report should have three parts.

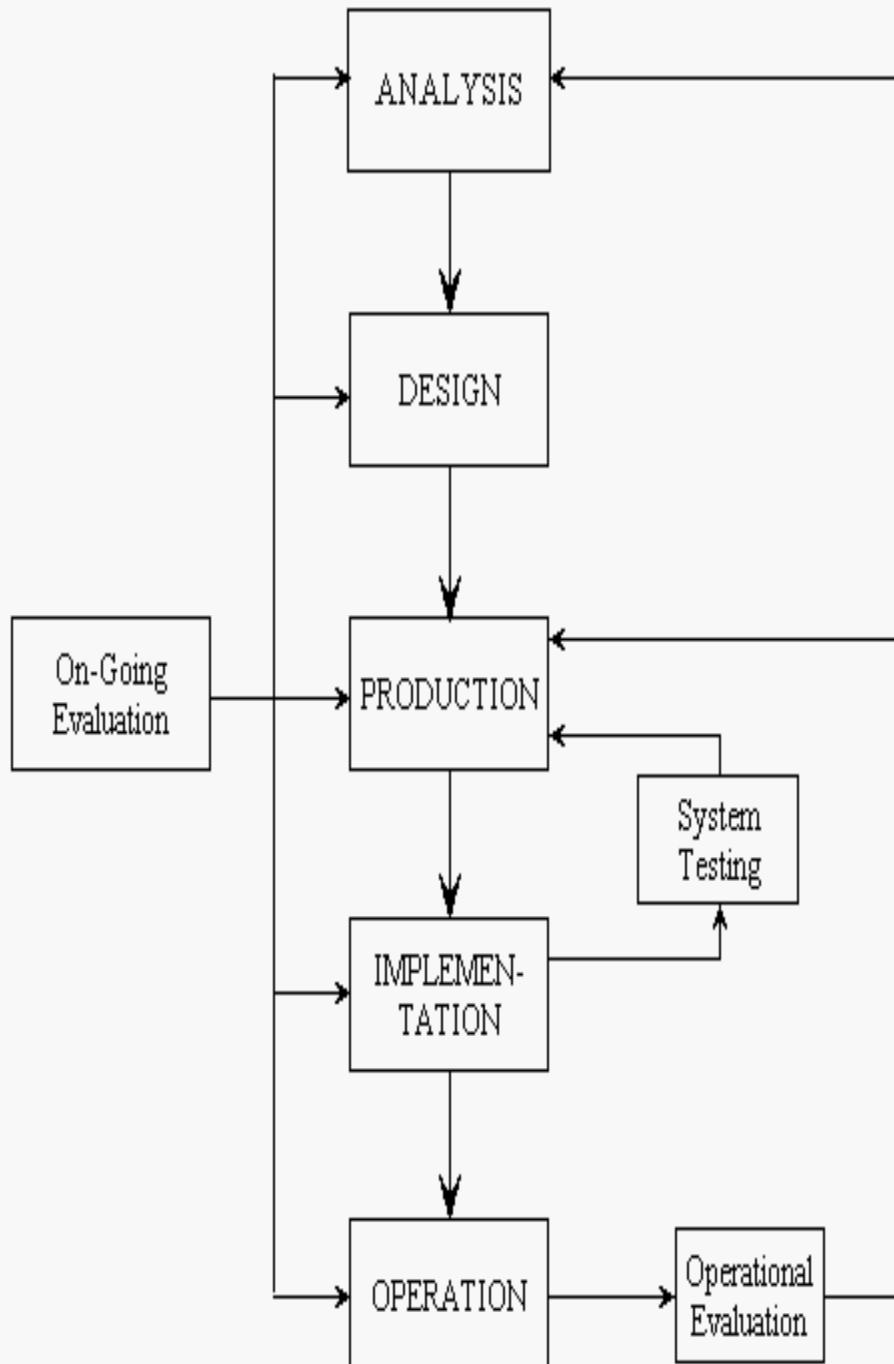
First, it should explain how the current system works.

Second, it should explain the problems in the existing system.

Finally, it should describe the requirements for the new system and make recommendations for future.



PHASES OF SYSTEM DEVELOPMENT



3.3 Project Methodology

Software package programmed using Eclipse and installed on the Android operating systems on smart phones that apply it.

-More than is currently seeking bank, "HSBC bank-Citibank-Commercial International Bank and Banque Paribas Bank" to get the approval of the central bank to provide the services of the transfer of funds by mobile "Mobile Banking" are underway to take all the Central Bank controls to keep secret operations and ensure conversion with emphasis on the role of the Bank, where it must be the passage of the letter to the Bank first to the process of discount and the conversion of the balance to the account number and then the other to make sure another message according to an end to the process.

Project Methodology and steps for payments

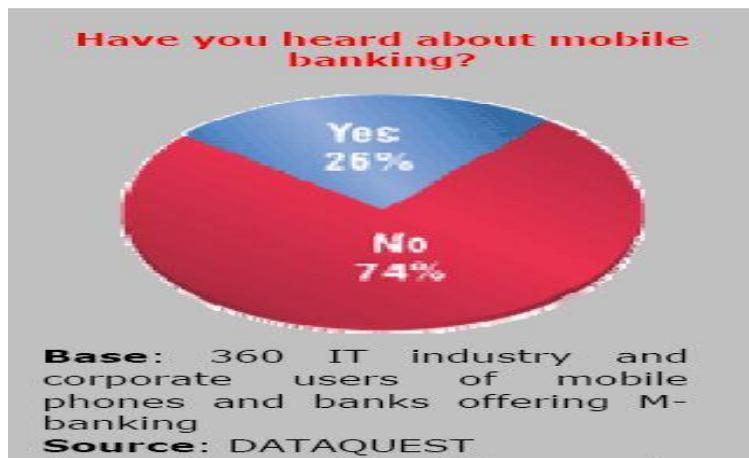
Our proposed model maintains the minimum number of relationships among all parties (bank, operator, our server, seller and buyer). This approach minimizes theft and fraud risks. All communications follow a carefully designed protocol which ensures that the amount of information revealed by the bank is minimal and of general use; no account numbers, credit card numbers or balance reports are exchanged or shared. Mobile phone operator must provide our server with a secure credit transfer web service. Bank role will be limited to providing some web service through which our server will be able to make deposit requests to sellers' bank accounts. This limited bank role allows easier implementation and less communication overhead.

A typical scenario of using our proposed system will be as follows:

1. The buyer's phone number will use a pre-installed mobile application client to issue a purchase order.
2. The phone will use some sort of Near-Technology (e.g. RFID) to get the sellers ID from the cashier's computer (or even a simple RFID enabled-circuit).
3. The buyer enters the amount of money to be paid. This purchase order will be SMSed to our server.
4. Our server in turn will issue a withdraw request from the buyers mobile phone credit.

5. After this request is approved by the operator, our server will issue a deposit request to the seller's bank account.
6. After this request is confirmed by the bank, our server will send a confirmation SMS to a designated seller's phone number concluding the purchase operation.

3.4 What People know and feel about mobile banking

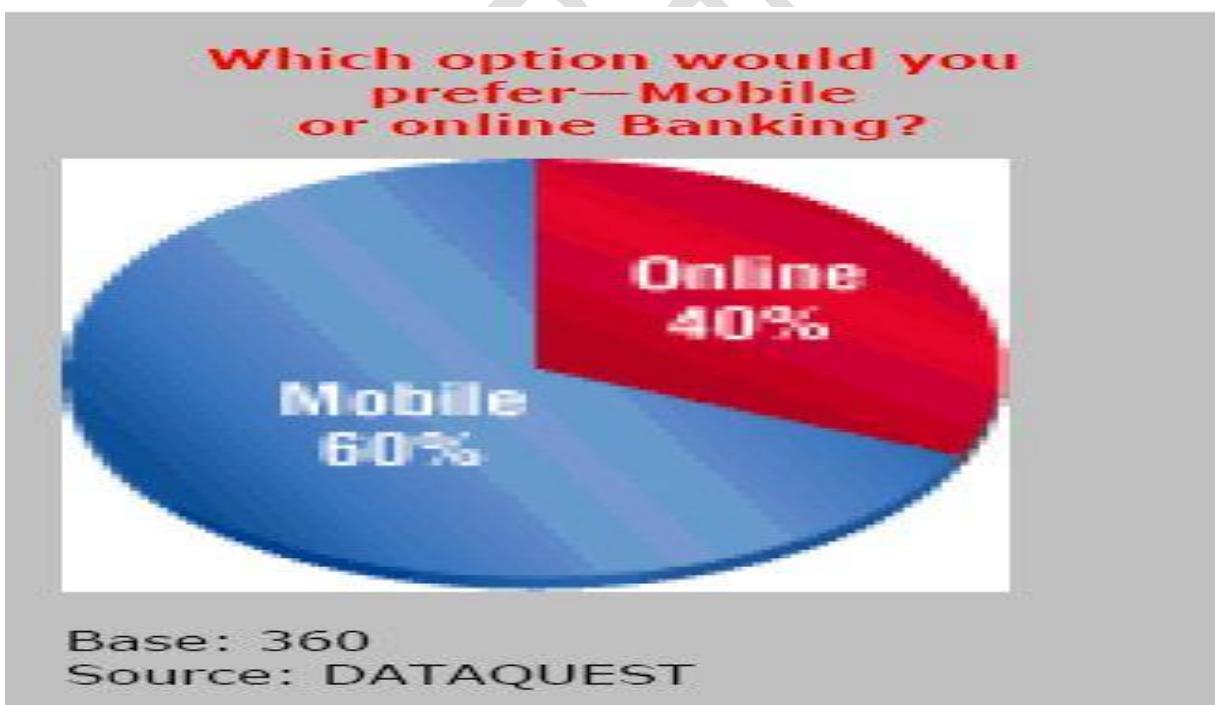
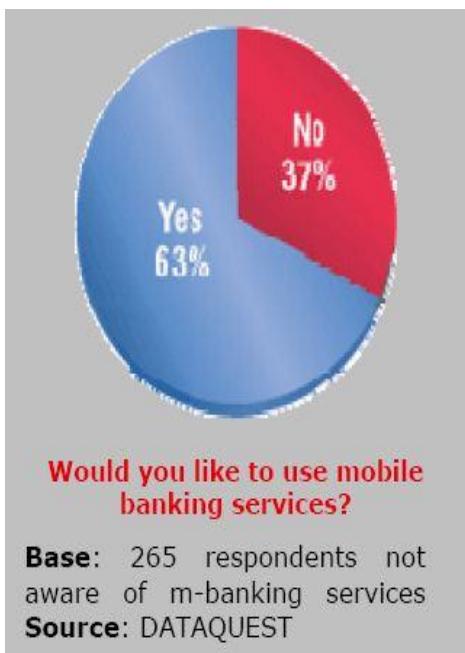


Given the profile of the people surveyed, it's no surprise that over 26% of the sample had heard about mobile banking services. *Dataquest* did a mix of

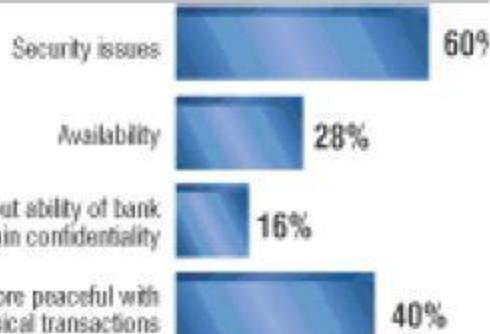
60:40 (non-IT: IT people) in the NCR region. Awareness about mobile banking services was higher among 'IT people'. HDFC Bank's CN Ram agreed—

"We have 1.75 lakh registered users for mobile banking

While awareness remains at 26%, people are keen to try out mobile banking. 63% of the respondents evinced interest in the services. Given the convenience factor—the fact that mobile banking can be used from anywhere in the world as long as one can send and receive SMS'—most were interested. Since m-commerce is still about the core virtues of mobile communication, issues like mobility, any-time access



ARE YOU COMFORTABLE USING WITH M-BANKING TRANSACTIONSS



Base: 95 (Those who said there are aware of mobile banking and/or their bank provides the service)

Source: DATAQUEST

WHY DO YOU USE M-BANKING SERVICES



Base: 95 (Those who said there are aware of mobile banking and/or their bank provides the service)

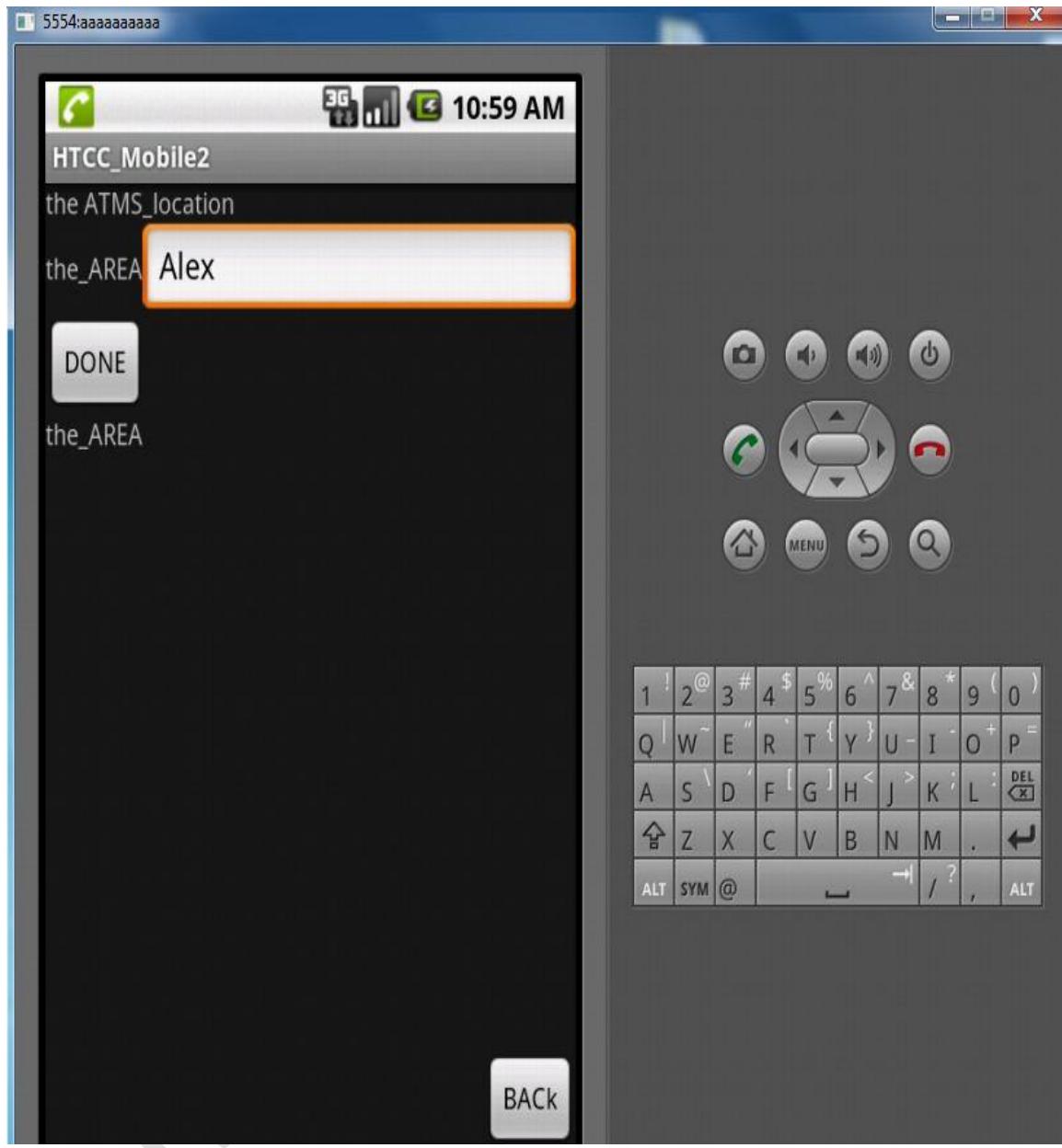
Source: DATAQUEST

Bankers are punching away at their calculators and beginning to develop futuristic grins while driving daily to their banks—even if 1% of today's mobile phone base were to use their service, that's a total number of around 120,000. Factor in a similar number within the year for CDMA users (assuming policy changes allow service providers in this space to offer SMS, as Reliance Infocomm is already promising), and we have a total mobile banking user base of a very healthy 240,000 (Dataquest survey points to an awareness rate of 26%, a usage rate of 7% on the total respondent base of 360.

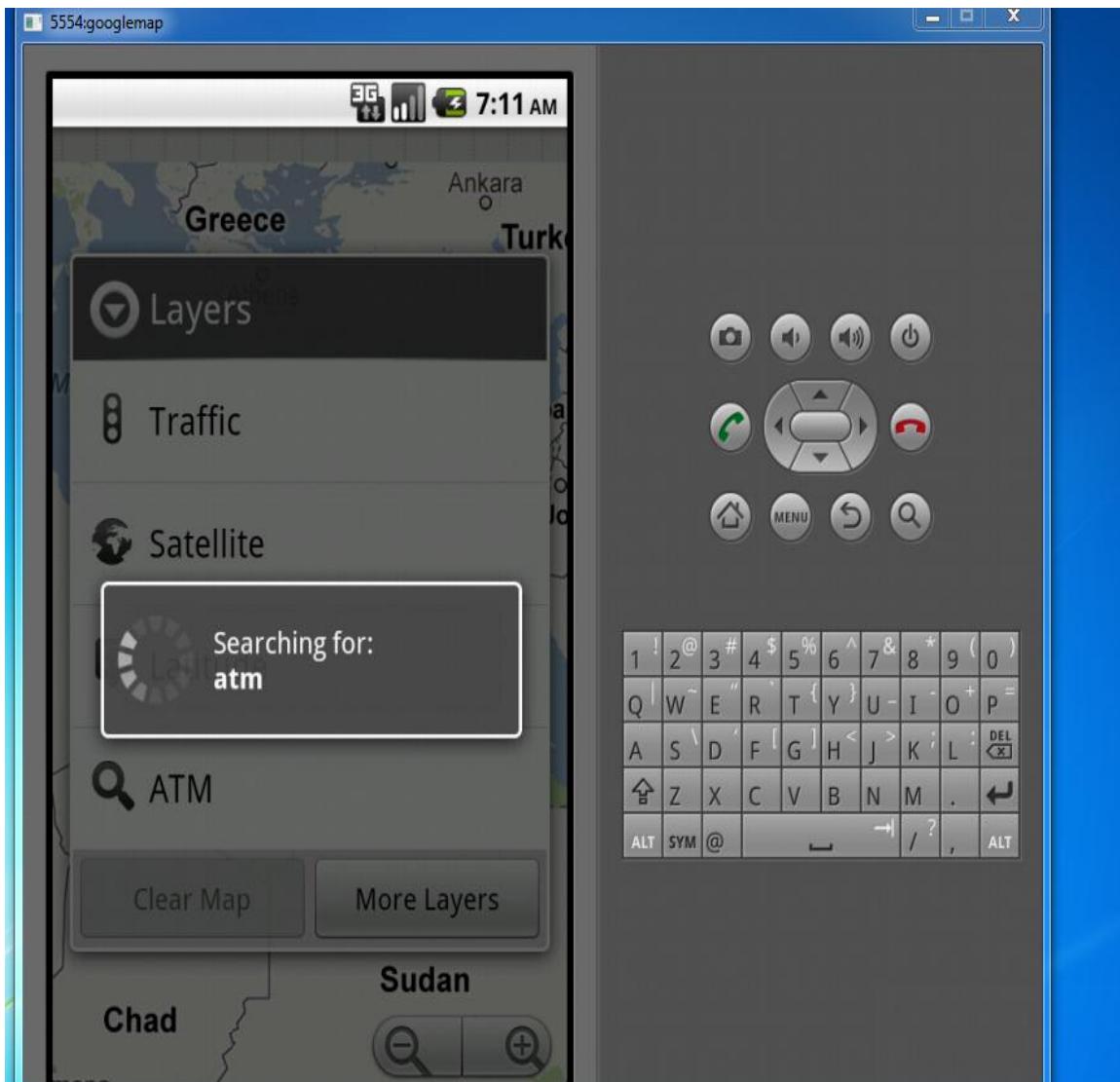
3.5 Determining the nearest ATM



Using map to search places as you want like the nearest ATM from your position after clicking it in google map .

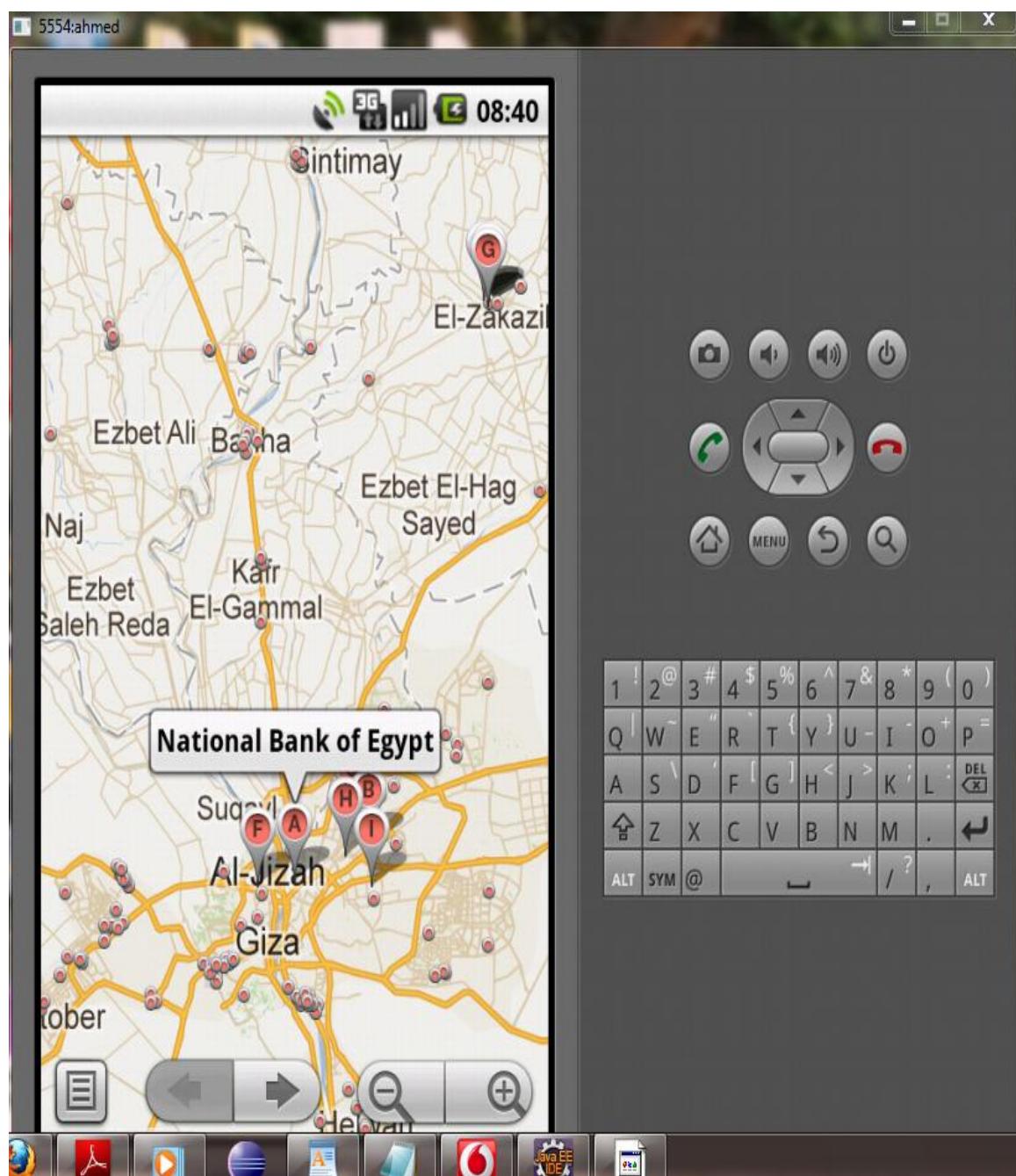


Retrieving information about specified ATM stored in database

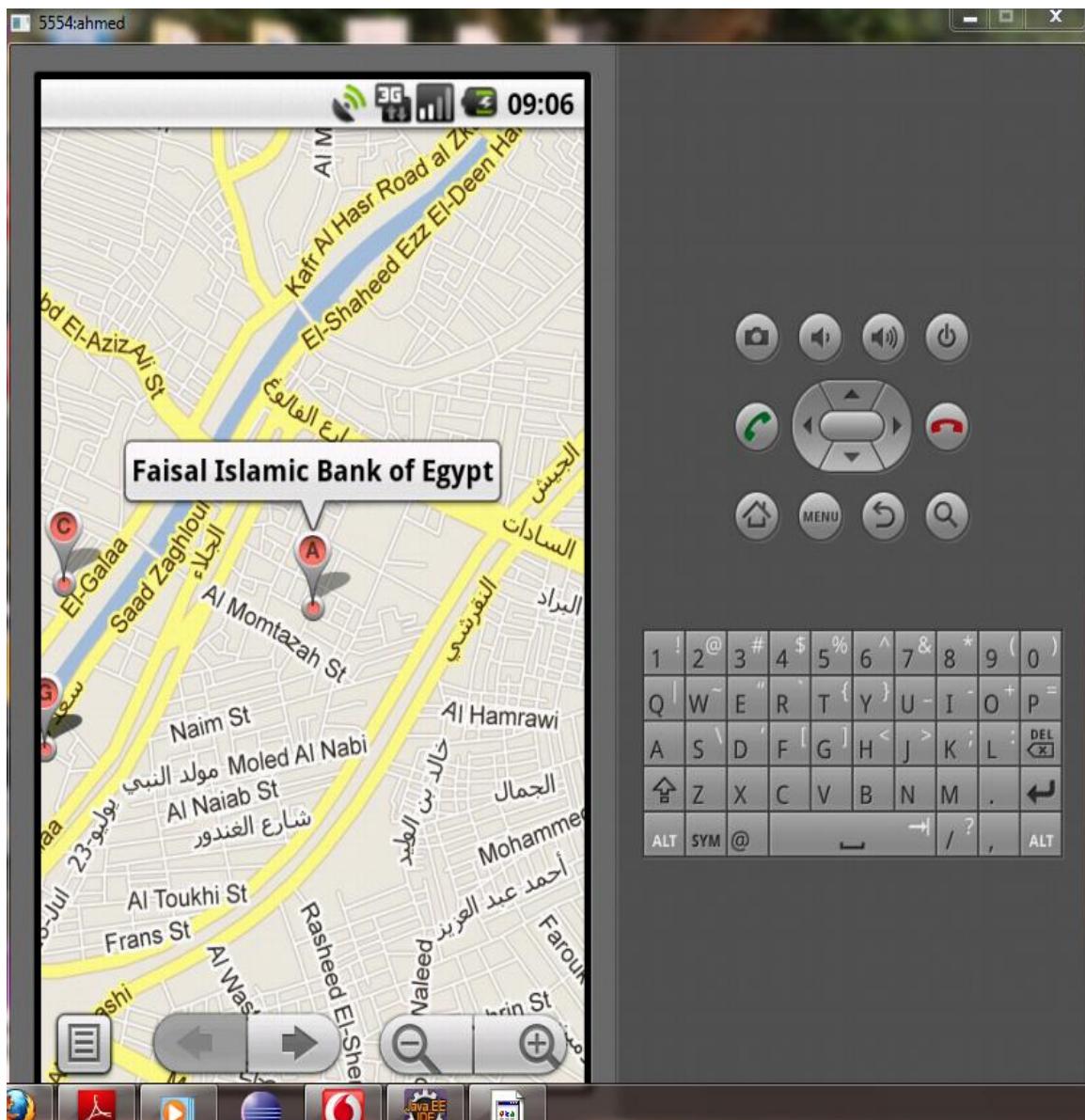


Search on map about ATM from your current location on map

bank



Search on map about the bank found in the place that you specify on the map



Search on the map about the bank from my current location in zagazig

Chapter Four

Mobile Banking Design

4.1 Systems design:

Is the process or art of defining the architecture, components, modules, interfaces, and data for a system to satisfy specified requirements?

Systems Design Techniques

Logical Data Modeling

Entity/Event Modeling

Logical Data Modeling

The objectives of this section are to provide definitions for the terms Logical Data Model (LDM) and Logical Data Structure (LDS), and to explain the constituent parts of a Logical Data Structure, and finally to introduce a step by step process for constructing Logical Data Models.

4.1.1 What is a Logical Data Model?

A Logical Data Model (LDM) is a representation of the data used by a system. It shows how the data is logically grouped and the relationships between these groupings as defined by the business requirements of the system.

The LDM comprises:-

A diagram called a Logical Data Structure (LDS). NB LDS is simply the SSADM terminology for a Data Model or Entity-Relationship Model). Associated documentation of entities and relationships.

4.1.2 What do Logical Data Structures consists of?

Logical Data Structures consist of entity *types* and *relationship types*:-

An entity type is a logical grouping of data which is relevant to the application in question. The entity type must be relevant, e.g. an information system specifically for the Learning Resources Centre (LRC) would not hold information about lecturer's cars, since this is not relevant.

An entity type is an identifiable object, classification, concept, activity, event or thing concerning the application. The thing must be identifiable

since if it cannot be identified no information can be recorded about it in a database, e.g. a chair within the library isn't identifiable so wouldn't be an entity, however the classification chair type possibly would be an entity.

An entity is an occurrence of an entity type. The terms entity type and entity are often used interchangeably, the context usually defines what is actually meant. There must be the possibility of an entity type having more than one occurrence. A common mistake is to include one 'super' entity type in the LDS representing the company, the garage the library or the surgery or whatever. For example in a LDS for the University of Glamorgan's LRC, LRC is not an entity type since there is only one occurrence. If however a LDS is being developed for all the college libraries in Wales then LRC is an entity type because there is the possibility of more than one occurrence.

4.2 Entity types

Are represented as soft rectangles containing the name of the entity. Naming of entities is critical, especially when groups of people are working together. An agreed definition of what is actually meant by an entity name will avoid a lot of confusion and pointless discussion.

Relationships may be recursive, i.e. an entity can be related to other entities of the same type. Recursive relationships can be 1: M (e.g. a tree structure like an organization chart) or M: M (e.g. a bill of materials structure).

M: M recursive relationships are broken down into two 1: M relationships and a link entity in the same way as non-recursive M: M relationships.

Relationships can be mutually exclusive with other relationships. In other words an occurrence of entity type A may be owned by either an occurrence of entity type B or an occurrence of entity type C. Consider an application in which there is an entity type called Course Type, e.g. SSADM Version 4 and an entity type called Course_Run, e.g. SSADM Version 4 at the Marriot Hotel Cardiff on July 19th 1994. If there are places available on a particular Course Run then a booking may be created owned by that Course Run. If there aren't any places available on any Course Runs, then a booking can be owned by the Course Type indicating that the booking is on a waiting list.

When a place becomes available the booking can be disconnected from the Course Type and connected to the appropriate Course Run.

Alternatively an occurrence of entity type A can either own occurrences of entity type B or occurrences of entity type C. Consider an application which needs to trace who has bought particular parts and who has supplied particular parts. An Organization entity could either own many Supplier_Of_Part entities or many Purchaser_Of_Part entities. Mutual exclusion is shown using an arc across the relationship lines.

Each end of each relationship must be optional or mandatory. If a relationship end is optional (shown by using a broken line) the entity at that end of the relationship can exist without taking part in the relationship. If a relationship end is mandatory (shown using a solid line) the entity at that end of the relationship must take part in the relationship.

This gives rise to four types of 1: M relationship:-

Owner Optional - Member Mandatory;

Consider an application in which a Customer can own many Orders. A Customer entity is allowed to exist without having placed any Orders (e.g. a potential customer), but an order must have been placed by a customer.

Owner Mandatory - Member Mandatory;

Consider an application in which an Order consists of many Order Lines. In this case an Order must have at least one Order Line (an order consisting of 0 order lines is nonsensical) and an Order Line must be owned by an Order.

Owner Optional - Member Optional;

Consider an application in which Employees negotiate Orders with Suppliers, but Orders can be received direct from Customers. In this case an Employee (who isn't a salesperson) can exist without negotiating any Orders and an Order isn't necessarily owned by an Employee.

Owner Mandatory - Member Optional;

Consider an application where some Employees are paid extras via a

privately negotiated Commission Plan. In this case a Commission Plan would not exist unless there was at least one employee being paid via that Commission Plan. An Employee does not have to be on a Commission Plan.

Relationships are named at both ends, the names chosen should be such that meaningful sentences can be constructed describing the nature of the relationship using the entity names and the relationship names.

4.2.1 The Relationship between Logical Data Structures and Data Flow Diagrams

Since LDSs and DFDs are different views of the same thing you would expect there to be some commonality between them. The obvious area is data stores and entities. Each entity type in the LDS has to be represented in a data store somewhere. This may be a one to one mapping, e.g. the customer entity type will map one to one on to the customer's data store, or a many to one mapping, e.g. the order and order line entity types will be held in one data store called orders.

4.2.2 How is Logical Data Structures Created?

The following steps may be helpful but there really are no hard and fast rules. As the analysis and design exercise proceeds the LDS will evolve and many re-drafts may be necessary as the analysts understanding of the application improves:-

Identify an initial list of entities

Using an Entity/Relationship cross reference identify the initial relationships

Create a first draft LDS

Validate the LDS against the identified requirements

Identify any new entities/relationships required

Rationalize the LDS by combining removing entities/relationships

Re-Draft the LDS

Identify and place the required attributes, ensuring that each entity has the appropriate primary and foreign keys

Ensure that the structure is in third normal

4.2.3 How are Logical Data Structures and Data Flow Diagrams related?

Each entity type in the LDS will have an associated ELH; each event has to be supported by a process or processes in the DFD. Entity/Event modeling in addition to providing a useful system viewpoint in their own right can be used to check the consistency, accuracy and completeness of the LDS and DFDs.

As can be seen analysis is not simply a case of drawing the LDS, drawing the DFDs and then drawing the ELHs, frequently the analyst will have to change tack and move from LDS to DFD to ELH, modifying and re-drafting as understanding improves.

At the end of the analysis and logical design stages the analysis/design team should have three separate but linked models which have been cross validated and which together give a complete picture of the system in question.

4.3 ER Diagram

Here snapshots to relations used in database

And brief explanation to each of them .

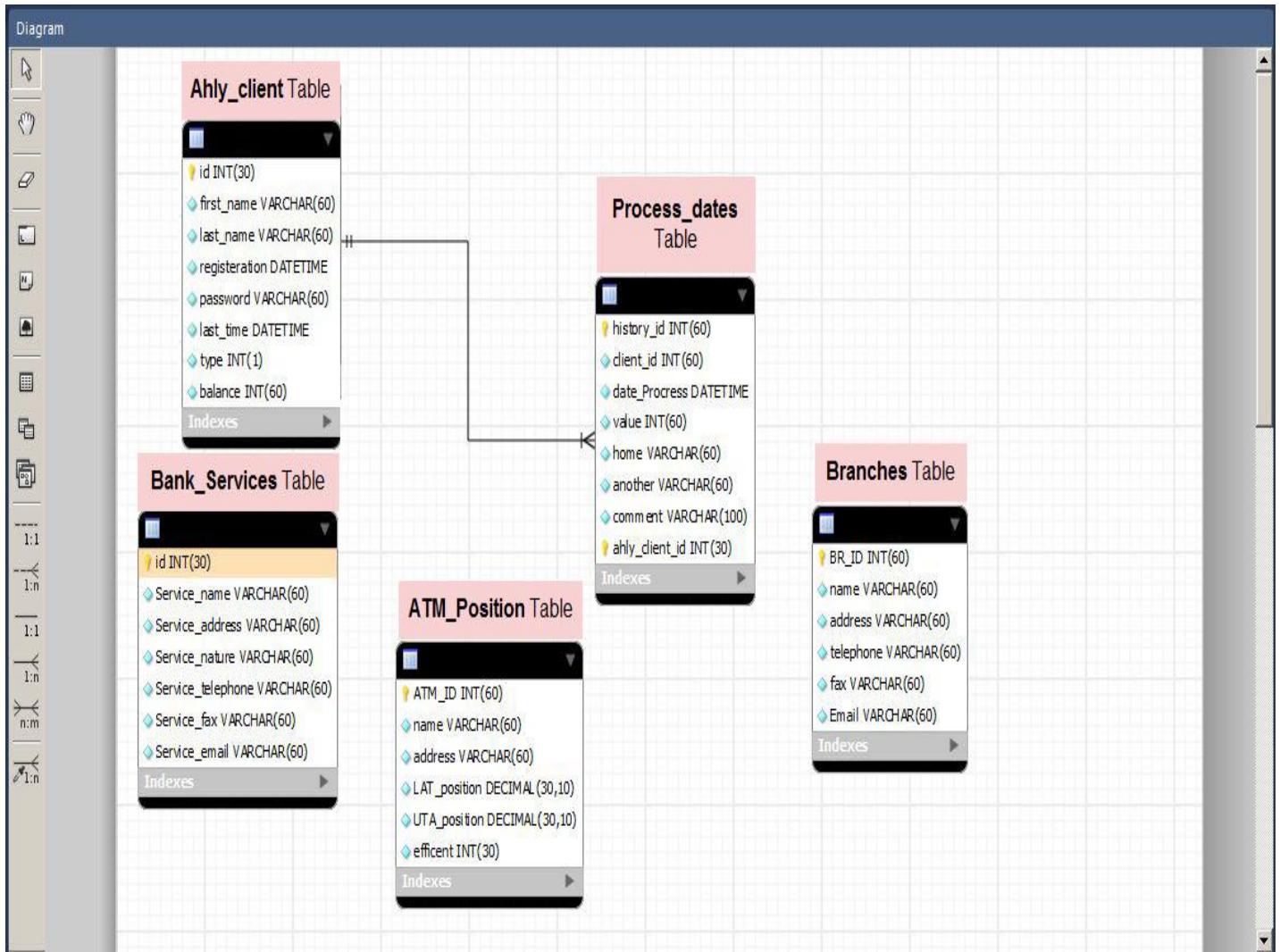
1) The database construction from MySql

The screenshot shows the MySQL Administrator interface with the following details:

- Left Panel (Server Information):** Contains icons for Server Information, Service Control, Startup Variables, User Administration, Server Connections, Health, Server Logs, Replication Status, Backup, Restore, and Catalogs.
- Left Panel (Schemata):** Shows the current selected schema is **ahly_bank**, along with other available schemas: information_schema, middleware, mysql, and test.
- Main Area (Schema Tables):** Displays the **ahly_bank** schema with the following table list:

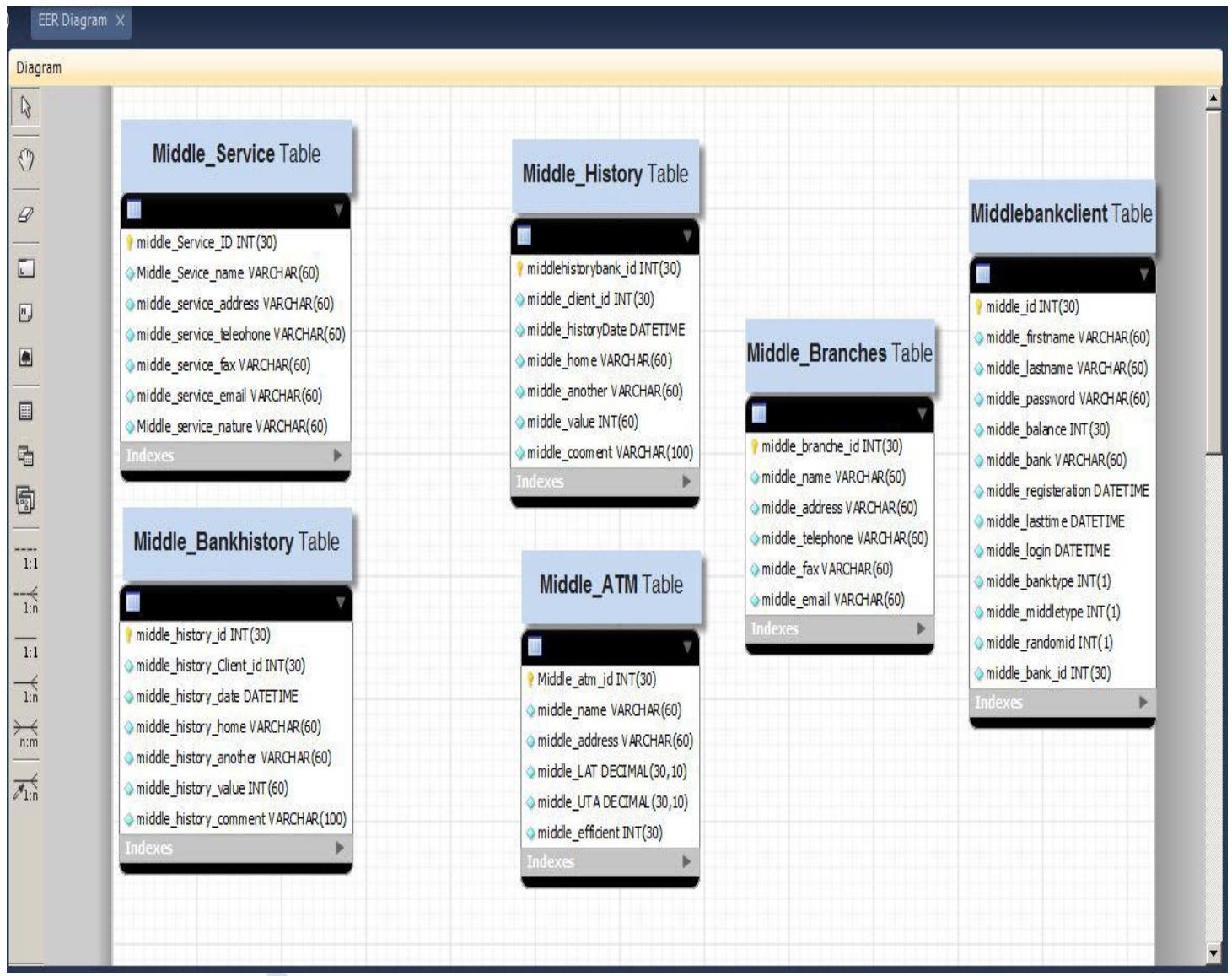
Table Name	Engine	Rows	Data length	Index length	Update time
ahly_client	InnoDB	5	16 kB	0 B	
atm_position	InnoDB	4	16 kB	0 B	
bank_services	InnoDB	5	16 kB	0 B	
branches	InnoDB	5	16 kB	0 B	
process_dates	InnoDB	10	16 kB	0 B	
- Bottom Buttons:** Num. ofTables: 5, Details >>, Create Table, Edit Table, Maintenance, Refresh.

2) Ahly bank tables relations



This is the project database table that receive value from user that have an account on ahly_bank .

3) MiddleWare Relations



This middleware database that control all process that happened on the server .

Tables contents and design :

1) Ahly Bank Side

a) Ahly_client Table

The screenshot shows the MySQL Table Editor interface for the 'ahly_client' table. The table has the following structure:

Column Name	Datatype	NOT NULL	AUTO INC	Flags	Default Value	Comment
id	INT(30)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL	0	
first_name	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
last_name	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
registration	DATETIME	✓				
password	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
last_time	DATETIME	✓				
type	INT(1)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
balance	INT(60)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		

Indices and Foreign Keys tab is selected. An index named 'PRIMARY' is defined on the 'id' column, which is of type BTREE.

b) Bank Services Table

MySQL Table Editor

Table Name: bank_services Database: ahly_bank Comment: InnoDB free: 4096 kB

Columns and Indices | Table Options | Advanced Options |

Column Name	Datatype	NOT NULL	AUTO INC	Flags	Default Value	Comment
id	INT(30)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
Service_name	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
Service_address	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
Service_nature	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
Service_teleph...	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
Service_fax	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
Service_email	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		

Indices | Foreign Keys | Column Details |

PRIMARY

Index Settings

Index Name: PRIMARY
Index Kind: PRIMARY
Index Type: BTREE

Index Columns (Use Drag'n'Drop)
id

Apply Changes Discard Changes Close

c) ATM Position Table

MySQL Table Editor

Table Name: atm_position Database: ahly_bank Comment: InnoDB free: 4096 kB

Columns and Indices | Table Options | Advanced Options

Column Name	Datatype	NOT NULL	AUTO INC	Flags	Default Value	Comment
ATM_ID	INT(60)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
name	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
address	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
LAT_position	DECIMAL(30, 10)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
UTA_position	DECIMAL(30, 10)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
efficent	INT(30)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		

Indices | Foreign Keys | Column Details

PRIMARY

Index Settings

Index Name: PRIMARY
Index Kind: PRIMARY
Index Type: BTREE

Index Columns (Use Drag'n'Drop)
ATM_ID

Apply Changes Discard Changes Close

d) Process Dates Table

MySQL Table Editor

Table Name: process_dates Database: ahly_bank Comment: InnoDB free: 4096 kB

Columns and Indices | Table Options | Advanced Options |

Column Name	Datatype	NOT NULL	AUTO INC	Flags	Default Value	Comment
history_id	INT(60)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL	0	
client_id	INT(60)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
date_Process	DATETIME	✓				
value	INT(60)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
home	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
another	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
comment	VARCHAR(100)	✓		<input type="checkbox"/> BINARY		

Indices | Foreign Keys | Column Details |

PRIMARY

Index Settings

Index Name: PRIMARY
Index Kind: PRIMARY
Index Type: BTREE

Index Columns (Use Drag'n'Drop)
history_id

Apply Changes Discard Changes Close

e) Branches Table

MySQL Table Editor

Table Name: branches Database: ahly_bank Comment: InnoDB free: 4096 kB

Columns and Indices | Table Options | Advanced Options |

Column Name	Datatype	NOT NULL	AUTO INC	Flags	Default Value	Comment
BR_ID	INT(60)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
name	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
address	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
telephone	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
fax	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
Email	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		

Indices | Foreign Keys | Column Details |

PRIMARY

Index Settings

Index Name: PRIMARY
Index Kind: PRIMARY
Index Type: BTREE

Index Columns (Use Drag'n'Drop)
BR_ID

Apply Changes Discard Changes Close

The screenshot shows the MySQL Table Editor interface for the 'branches' table. At the top, it displays the table name 'branches', database 'ahly_bank', and comment 'InnoDB free: 4096 kB'. Below this are tabs for 'Columns and Indices', 'Table Options', and 'Advanced Options'. The 'Columns and Indices' tab is selected, showing a table of columns with their data types, constraints, and flags. A primary key index is defined for the 'BR_ID' column. The 'Index Settings' panel shows the index name as 'PRIMARY', kind as 'PRIMARY', and type as 'BTREE'. The 'Index Columns' panel lists 'BR_ID' as the indexed column. At the bottom, there are buttons for 'Apply Changes', 'Discard Changes', and 'Close'.

2) MiddleWare Side

a) Middle Services

MySQL Table Editor

Table Name: middle_service Database: middleware Comment: InnoDB free: 4096 kB

Columns and Indices | Table Options | Advanced Options |

Column Name	Datatype	NOT NULL	AUTO INC	Flags	Default Value	Comment
middle_Service_ID	INT(30)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
Middle_Service_Name	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
middle_service_ip	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
middle_service_port	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
middle_service_desc	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
middle_service_status	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
Middle_Service_Status	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		

Indices | Foreign Keys | Column Details |

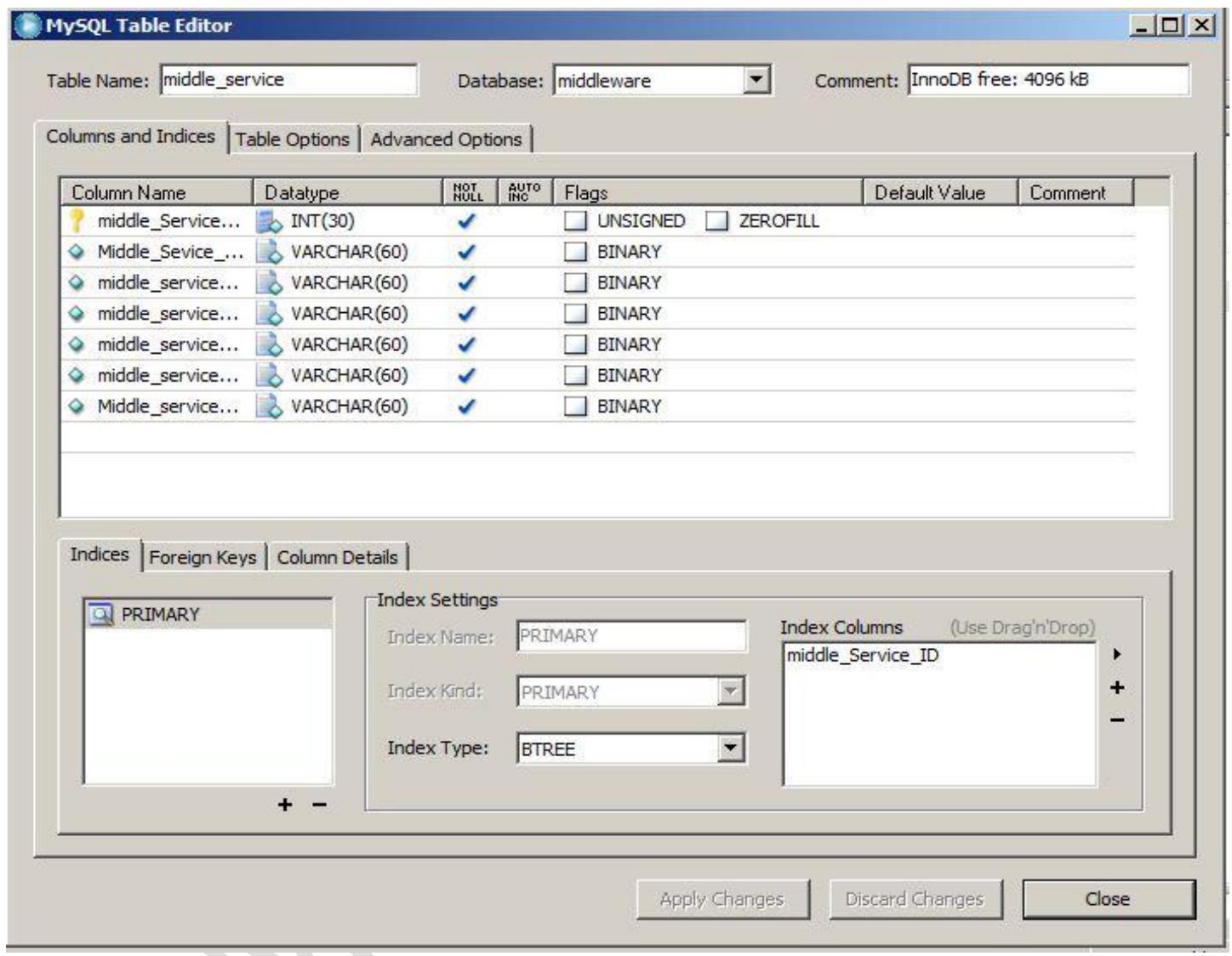
PRIMARY

Index Settings

Index Name: PRIMARY
Index Kind: PRIMARY
Index Type: BTREE

Index Columns (Use Drag'n'Drop)
middle_Service_ID

Apply Changes Discard Changes Close



b) Middle Bankhistory

MySQL Table Editor

Table Name: middle_bankhistory Database: middleware Comment: InnoDB free: 4096 kB

Columns and Indices | Table Options | Advanced Options |

Column Name	Datatype	NOT NULL	AUTO INC	Flags	Default Value	Comment
middle_history_id	INT(30)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
middle_history...	INT(30)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
middle_history...	DATETIME	✓				
middle_history...	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
middle_history...	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
middle_history...	INT(60)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
middle_history...	VARCHAR(100)	✓		<input type="checkbox"/> BINARY		

Indices | Foreign Keys | Column Details |

PRIMARY

Index Settings

Index Name: PRIMARY
Index Kind: PRIMARY
Index Type: BTREE

Index Columns (Use Drag'n'Drop)
middle_history_id

Apply Changes Discard Changes Close

c) Middle History

MySQL Table Editor

Table Name: middle_history Database: middleware Comment: InnoDB free: 4096 kB

Columns and Indices | Table Options | Advanced Options |

Column Name	Datatype	NOT NULL	AUTO INC	Flags	Default Value	Comment
middlehistorybank_id	INT(30)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
middle_client_id	INT(30)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
middle_history...	DATETIME	✓				
middle_home	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
middle_another	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
middle_value	INT(60)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
middle_cooment	VARCHAR(100)	✓		<input type="checkbox"/> BINARY		

Indices | Foreign Keys | Column Details |

PRIMARY

Index Settings

Index Name: PRIMARY
Index Kind: PRIMARY
Index Type: BTREE

Index Columns (Use Drag'n'Drop)
middlehistorybank_id

Apply Changes Discard Changes Close

d) Middle ATM

MySQL Table Editor

Table Name: middle_atm Database: middleware Comment: InnoDB free: 4096 kB

Columns and Indices | Table Options | Advanced Options |

Column Name	Datatype	NOT NULL	AUTO INC	Flags	Default Value	Comment
Yellow Diamond Middle_atm_id	INT(30)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
Green Diamond middle_name	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
Green Diamond middle_address	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
Green Diamond middle_LAT	DECIMAL(30,10)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
Green Diamond middle_UTA	DECIMAL(30,10)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
Green Diamond middle_efficient	INT(30)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		

Indices | Foreign Keys | Column Details |

PRIMARY

Index Settings

Index Name: PRIMARY
Index Kind: PRIMARY
Index Type: BTREE

Index Columns (Use Drag'n'Drop)
Middle_atm_id

Apply Changes Discard Changes Close

e) Middle Branches

MySQL Table Editor

Table Name: middle_branches Database: middleware Comment: InnoDB free: 4096 kB

Columns and Indices | Table Options | Advanced Options |

Column Name	Datatype	NOT NULL	AUTO INC	Flags	Default Value	Comment
middle_branch...	INT(30)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
middle_name	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
middle_address	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
middle_telephone	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
middle_fax	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
middle_email	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		

Indices | Foreign Keys | Column Details |

PRIMARY

Index Settings

Index Name: PRIMARY
Index Kind: PRIMARY
Index Type: BTREE

Index Columns (Use Drag'n'Drop)
middle_branch_id

Apply Changes Discard Changes Close

f) MiddleBankClient

MySQL Table Editor

Table Name: middlebankclient Database: middleware Comment: InnoDB free: 4096 kB

Columns and Indices | Table Options | Advanced Options

Column Name	Datatype	NOT NULL	AUTO INC	Flags	Default Value	Comment
middle_id	INT(30)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
middle_firstname	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
middle_lastname	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
middle_password	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
middle_balance	INT(30)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		
middle_bank	VARCHAR(60)	✓		<input type="checkbox"/> BINARY		
middle_register...	DATETIME	✓				
middle_lasttime	DATETIME	✓				
middle_login	DATETIME	✓				
middle_banktype	INT(1)	✓		<input type="checkbox"/> UNSIGNED <input type="checkbox"/> ZEROFILL		

Indices | Foreign Keys | Column Details

PRIMARY

Index Settings

Index Name: PRIMARY
Index Kind: PRIMARY
Index Type: BTREE

Index Columns (Use Drag'n'Drop)
middle_id

Apply Changes Discard Changes Close

ChapterFive

Android Interface Design

5.1 Interface Problems:

According to Galatz, these problems result in confusion, panic, frustration, boredom, misuse, abandonment, and other undesirable consequences.

Excessive use of computer jargon and acronyms

No obvious or less-than-intuitive design

Inability to distinguish between alternative actions (“what do I do next?”)

Inconsistent problem-solving approaches

Design inconsistency

5.1.1 Commandments of User Interface Design:

Understand your users and their tasks.

Involve the user in interface design.

Test the system on actual users.

Practice iterative design

5.1.2 Human Engineering Guidelines:

The system user should always be aware of what to do next.

Tell the user what the system expects right now.

Tell the user that data has been entered correctly.

Tell the user that data has not been entered correctly.

Explain to the user the reason for a delay in processing.

Tell the user that a task was completed or was not completed

The screen should be formatted so that the various types of information, instructions, and messages always appear in the same general display area.

Messages, instructions, or information should be displayed long enough to allow the system user to read them.

Use display attributes sparingly.

Default values for fields and answers to be entered by the user should be specified

Anticipate the errors users might make.

With respect to errors, a user should not be allowed to proceed without correcting an error.

If the user does something that could be catastrophic, the keyboard should be locked to prevent any further input, and an instruction to call the analyst or technical support should be displayed.

5.1.3 Guidelines for dialogue Tone and Terminology

Tone:

- Use simple, grammatically correct sentences.
- Don't be funny or cute جذاب!
- Don't be condescending متنازل.

Terminology:

- Don't use computer jargon.
- Avoid most abbreviations.
- Use simple terms.
- Be consistent in your use of terminology.
- Carefully phrase instructions use appropriate action verbs.

5.2 Common Approaches to Showing the Display Area:

Paging displays a complete screen of characters at a time. The complete display area is known as a page (or screen). The page is replaced on demand by the next or previous page, much like turning the pages of a book.

Scrolling moves the displayed information up or down on the screen, one line at a time. This is similar to the way movie and television credits scroll up the screen at the end of a movie.

5.3 Styles or Strategies Used For Designing Graphical User Interfaces:

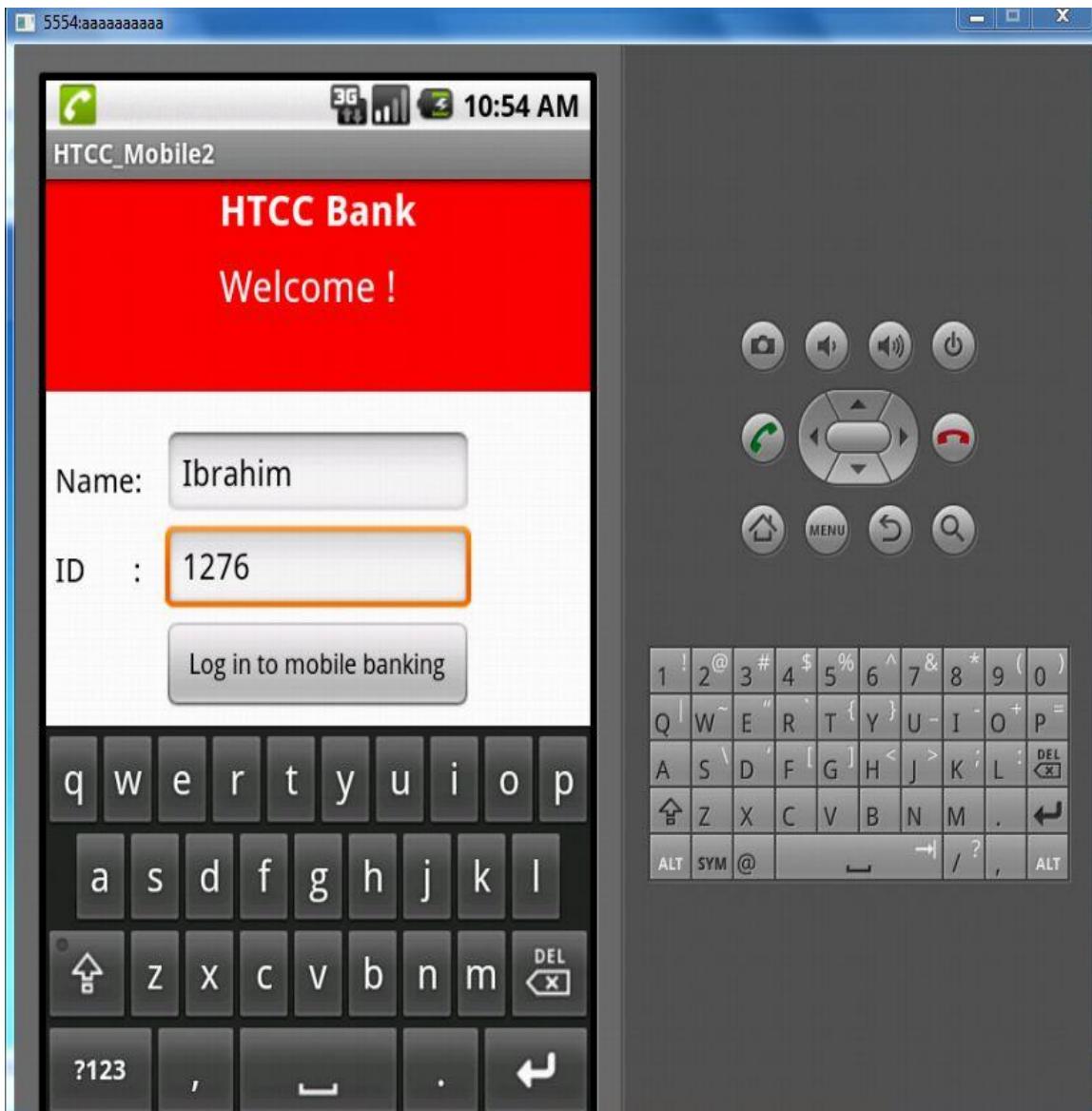
1-Windows and Frames.

2-Menu-Driven interfaces.

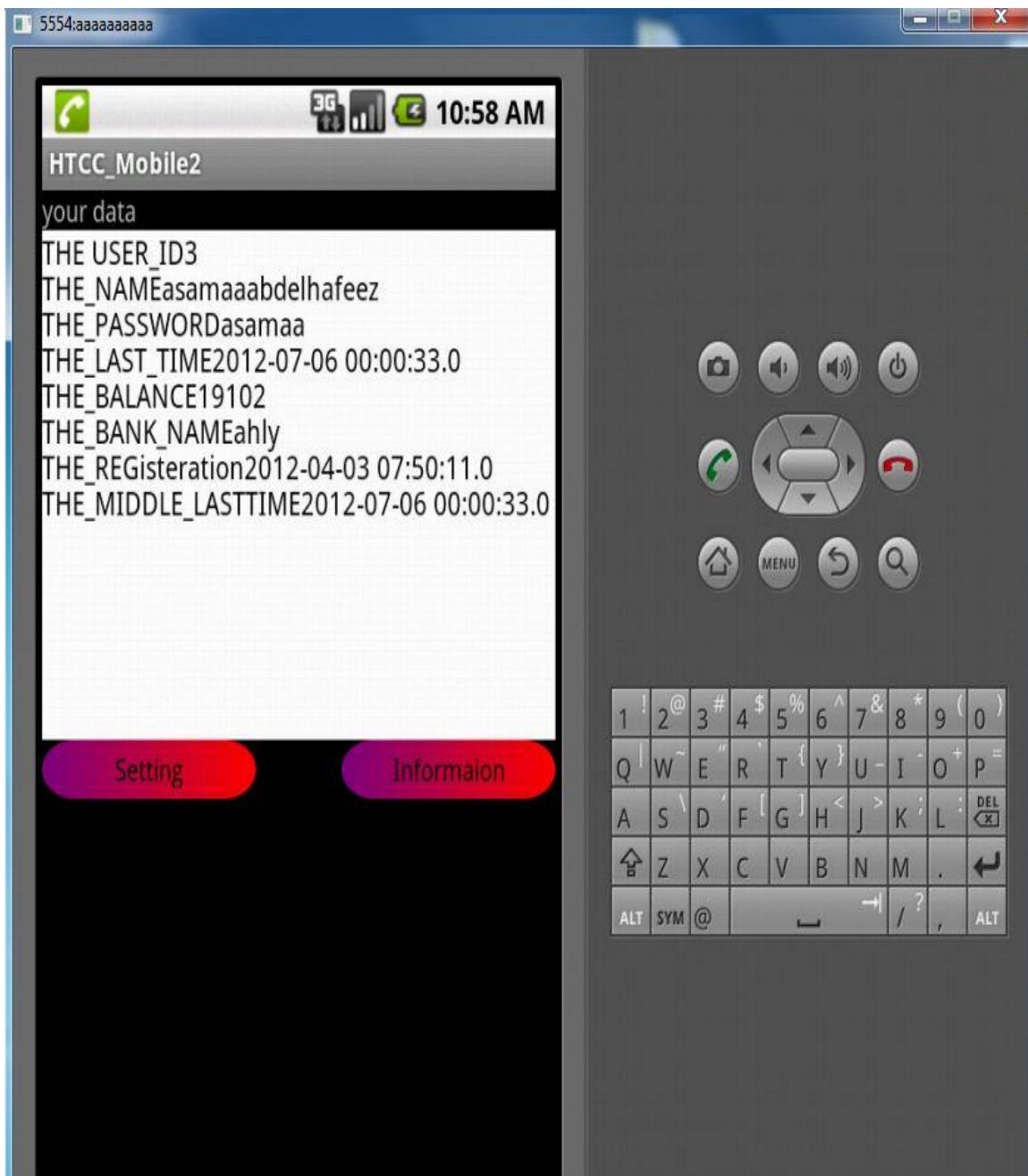
3-Instruction-Driven Interfaces.

4-Question-Answer Dialogue.

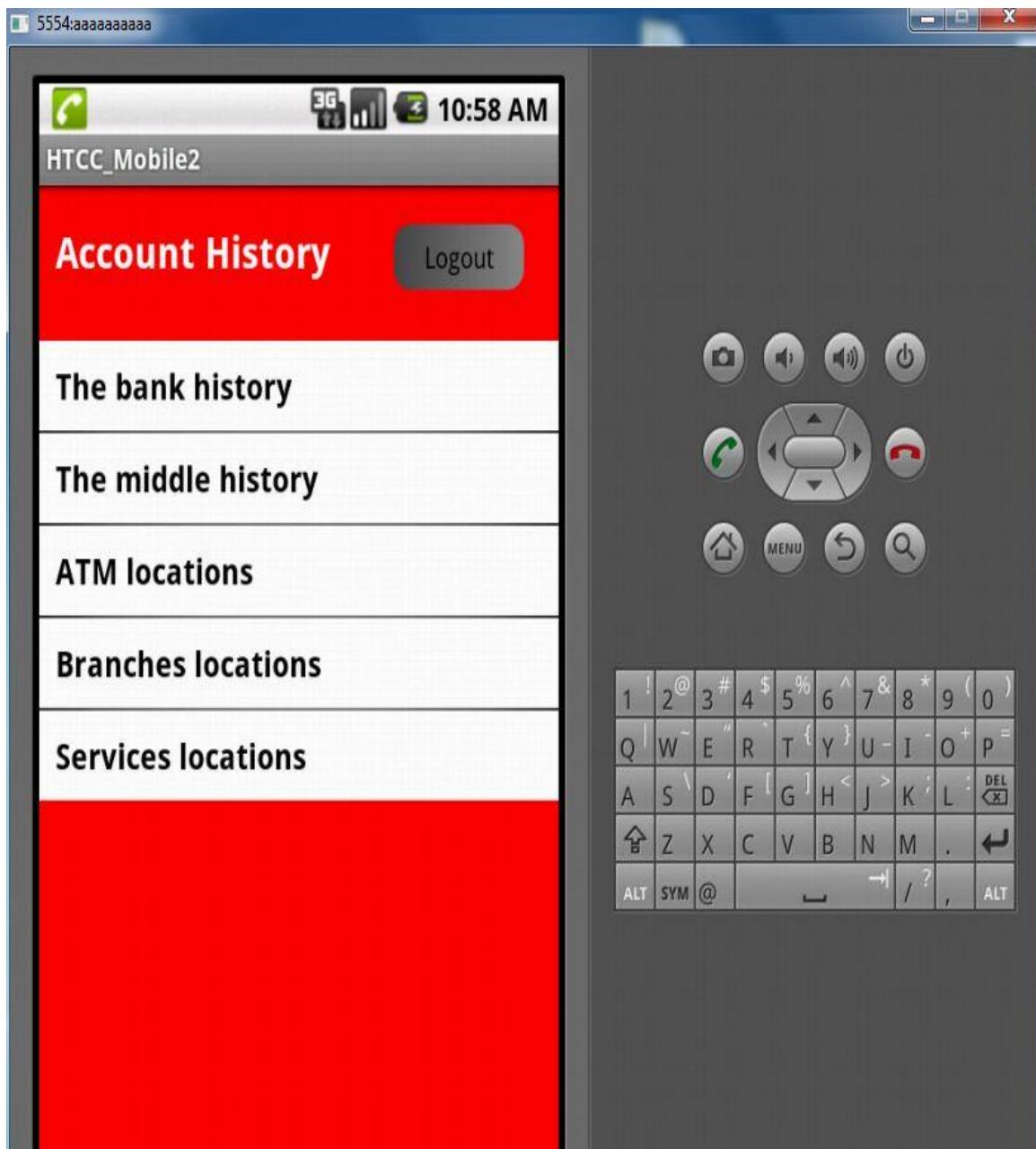
5.4 interfaces used in Android Work Programming



Application login page...you must login with your name and your Id to complete...



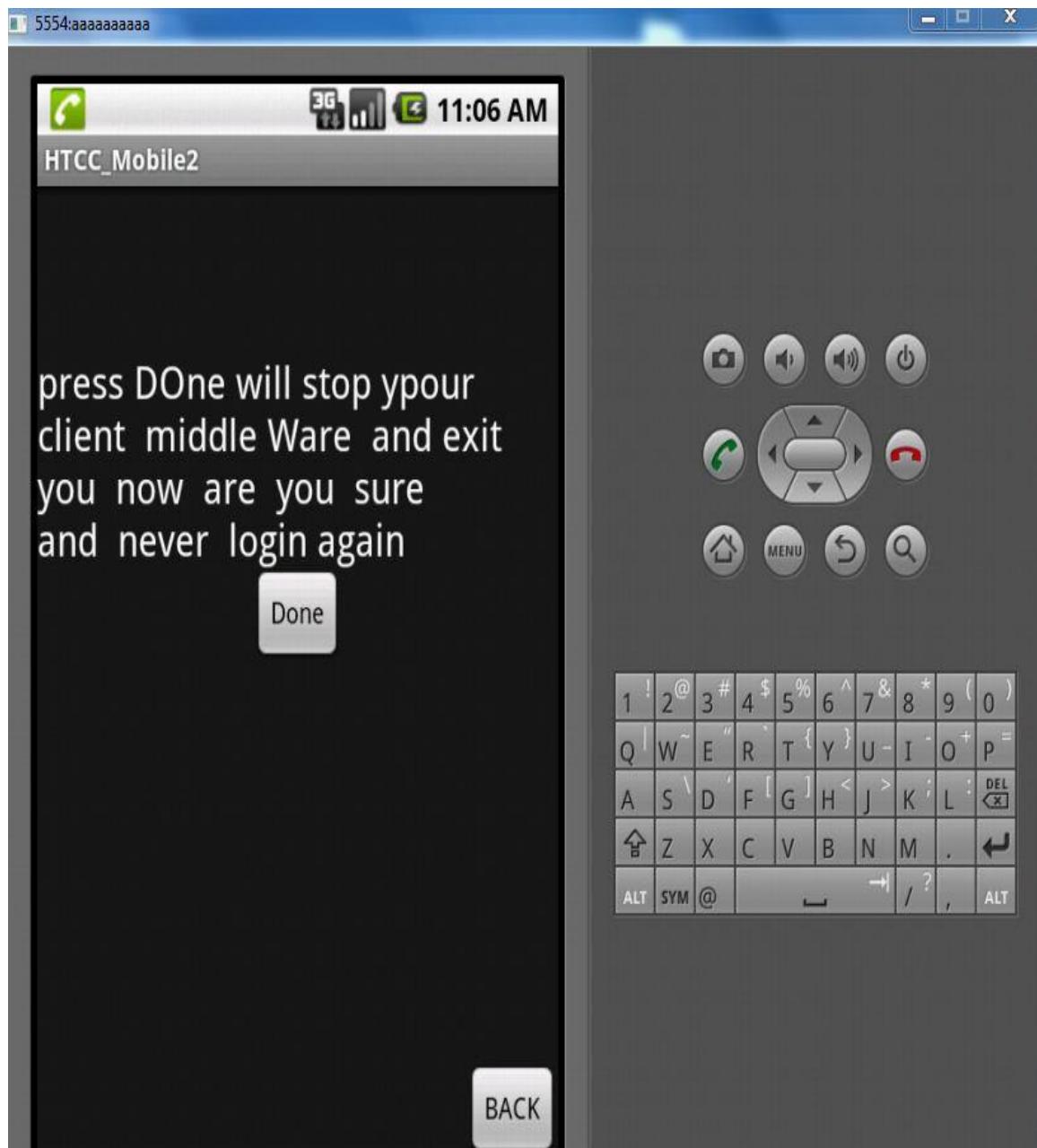
Information about the logged account



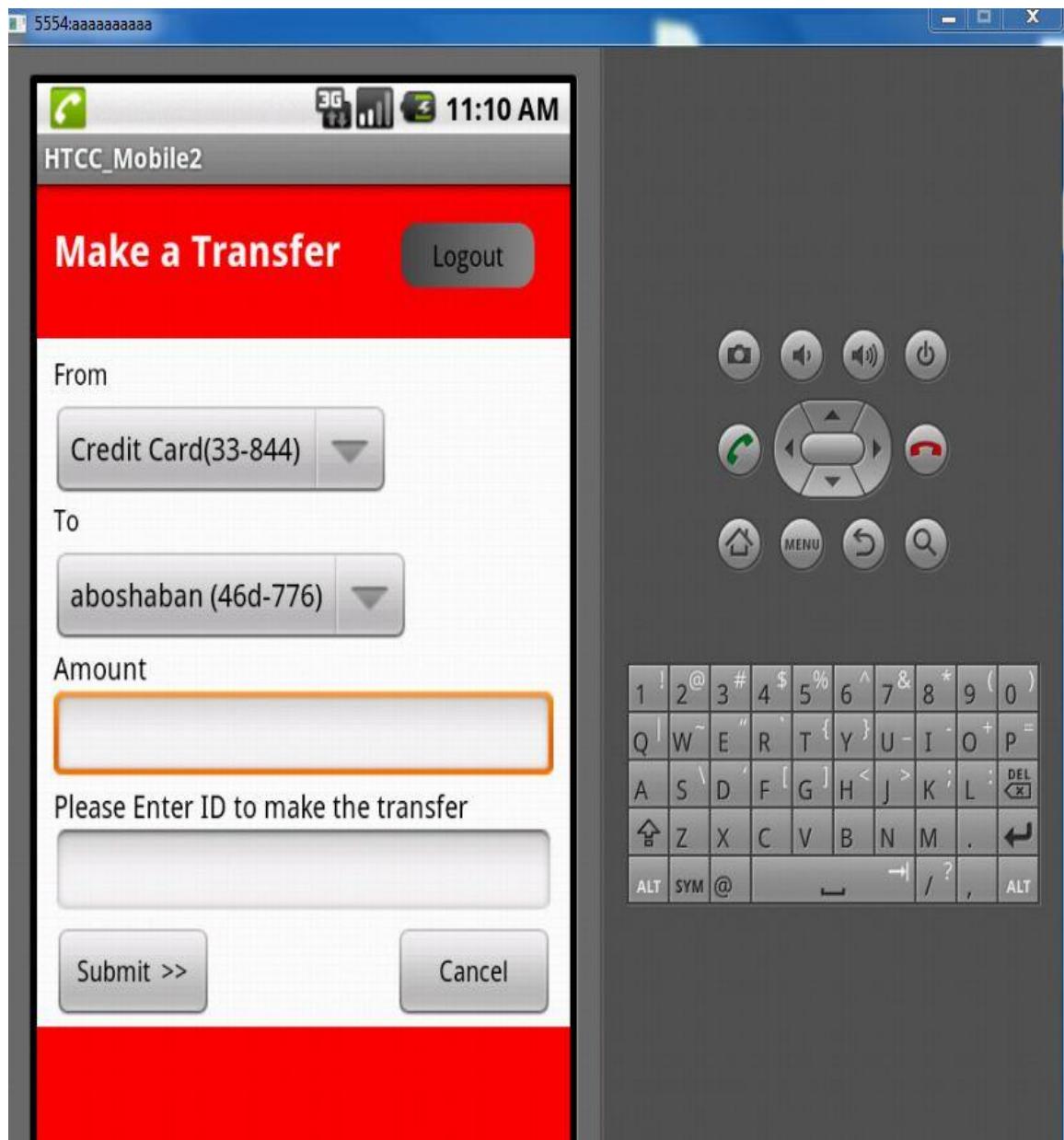
Transaction that happened through app...



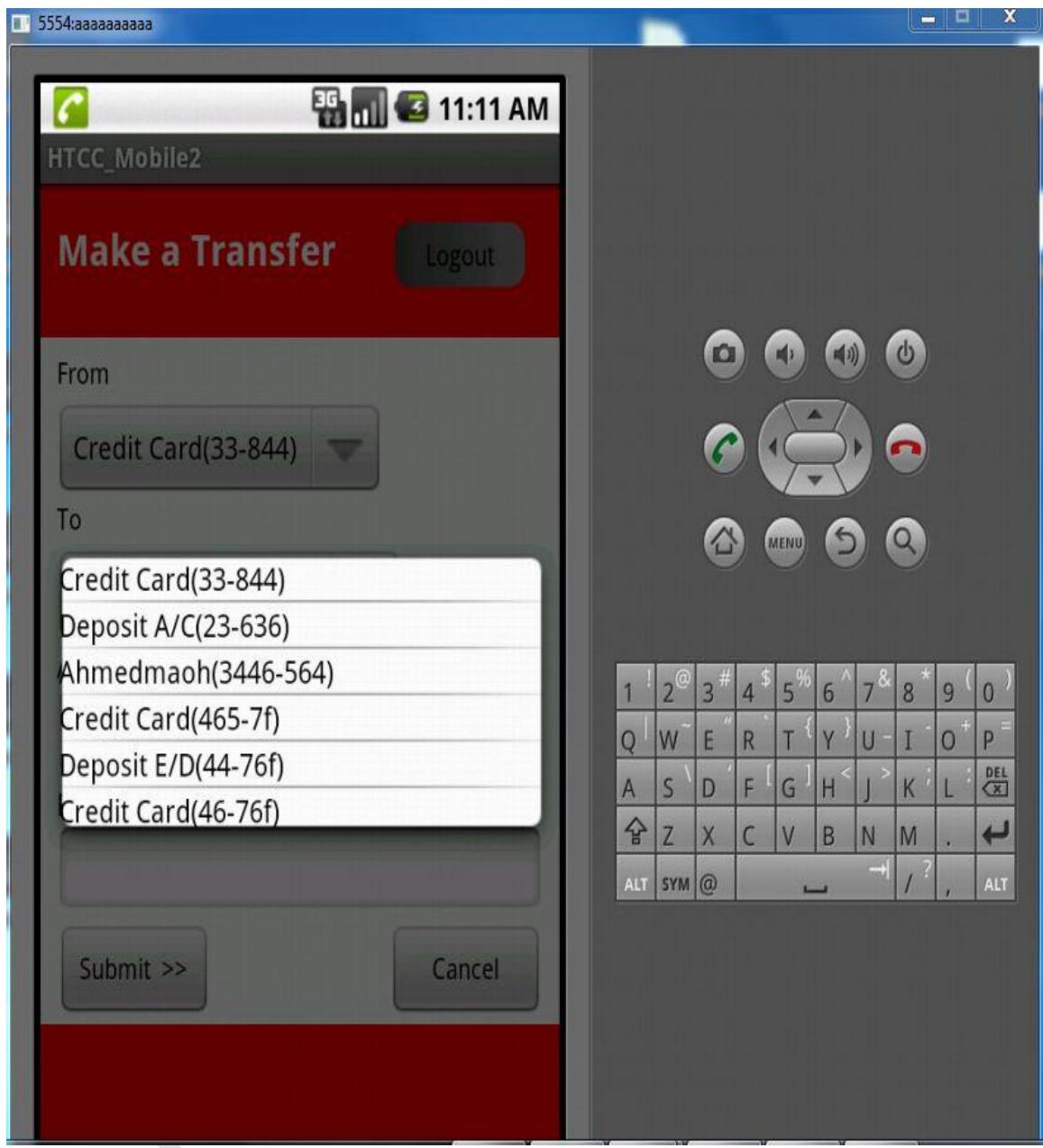
Transaction that happened to the active account



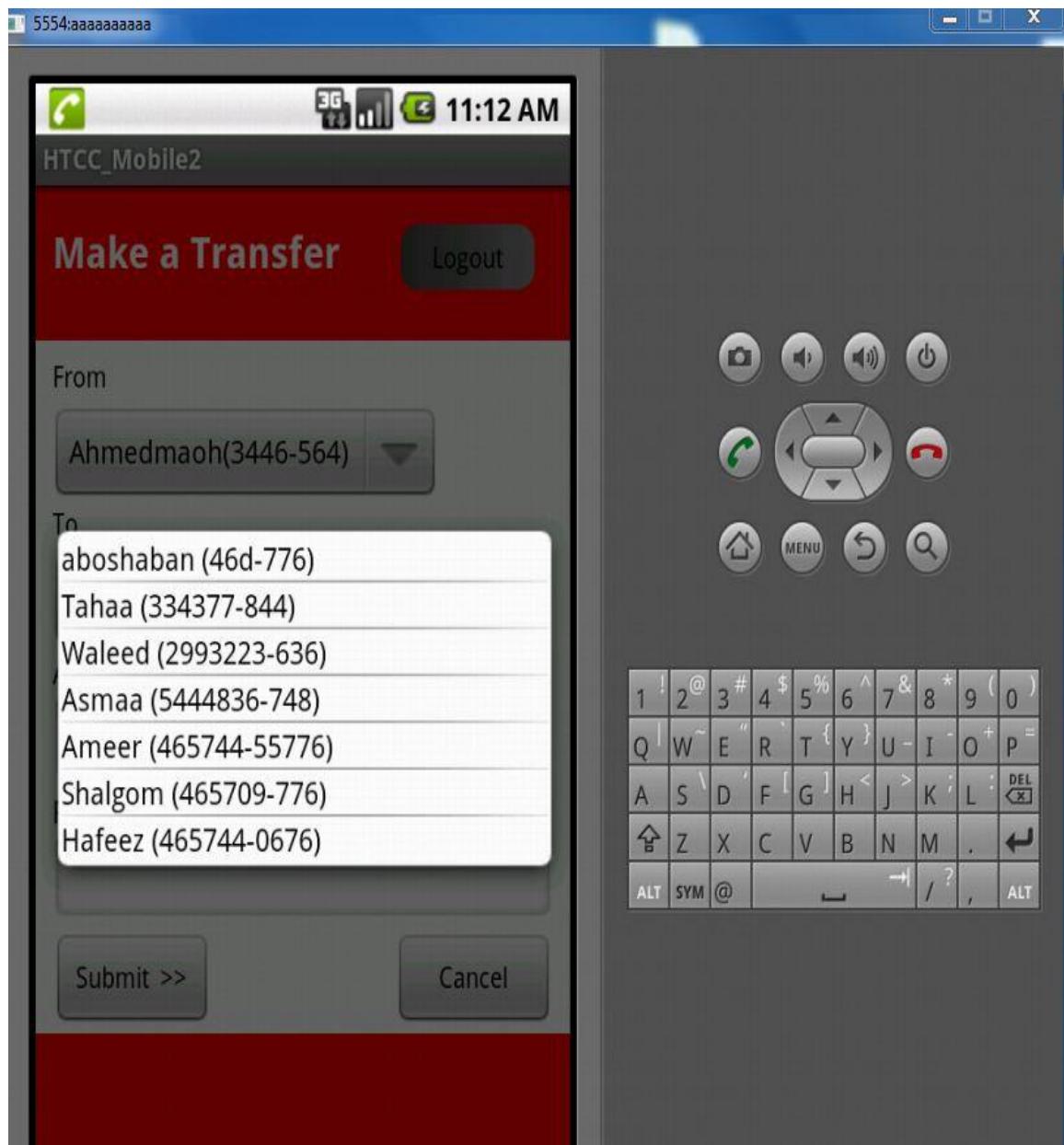
Stop account from working and make process



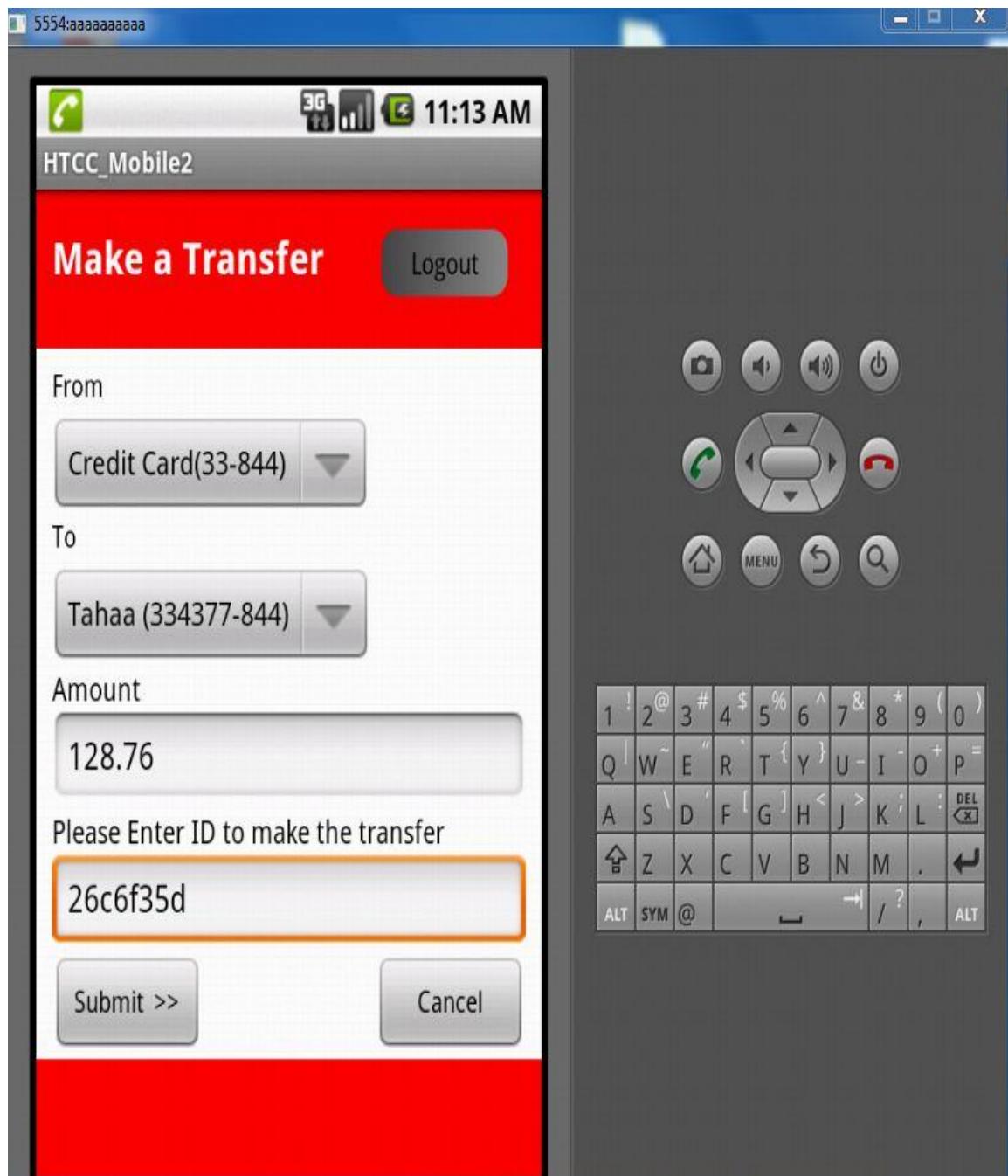
Account transfer (transfer from/to) another account



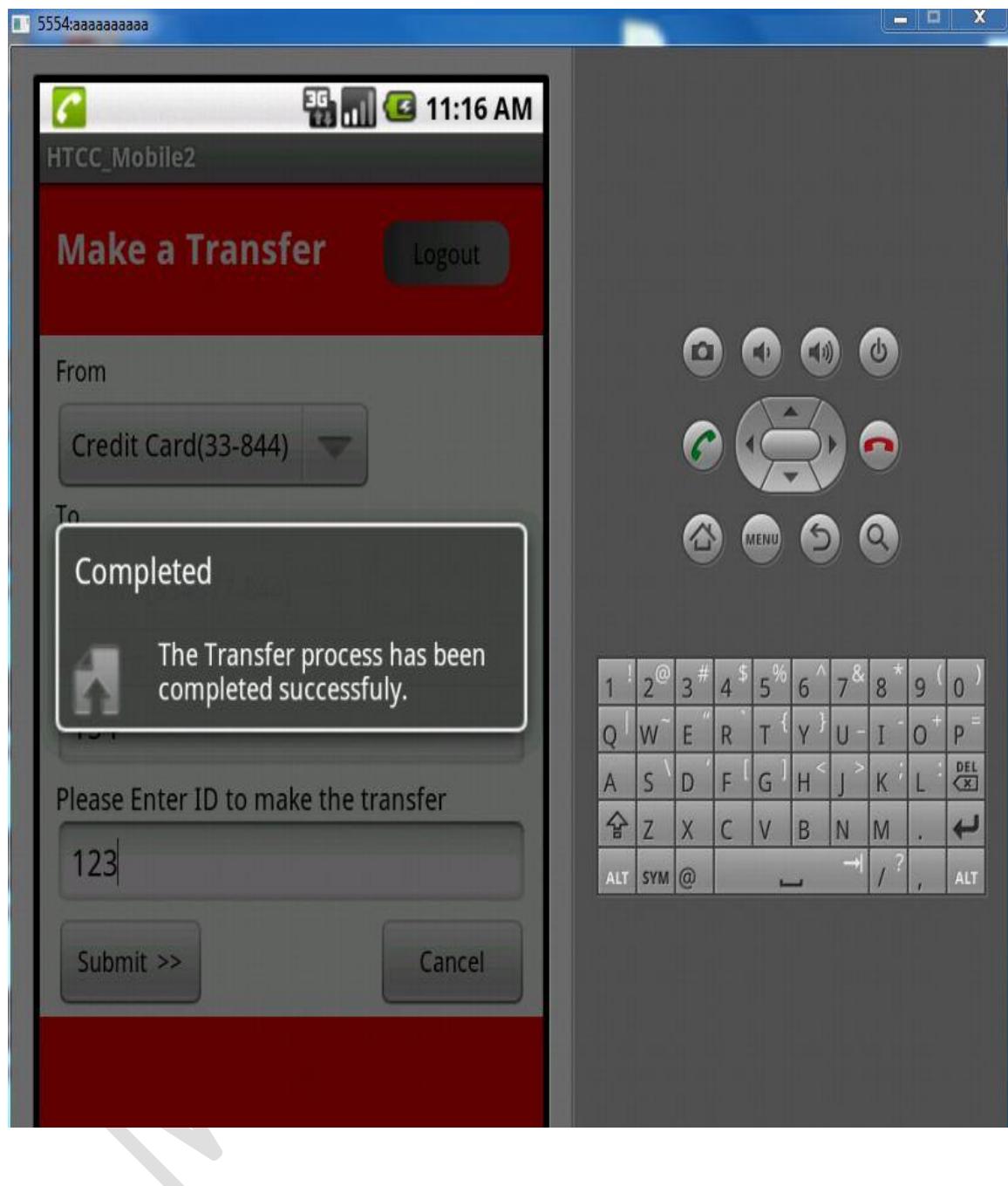
Current account that used to transfer from/to...



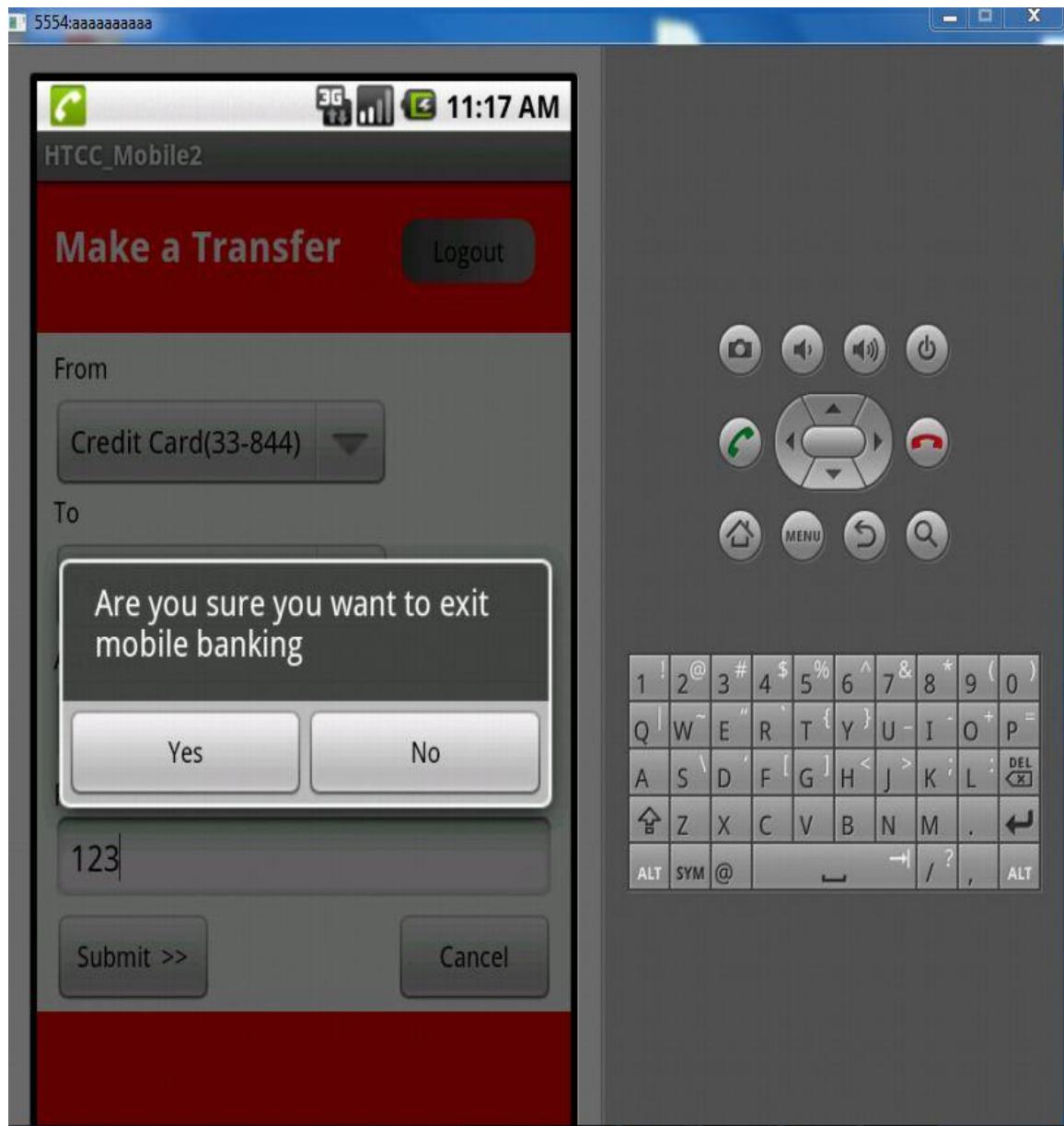
Current account that used to transfer from/to...



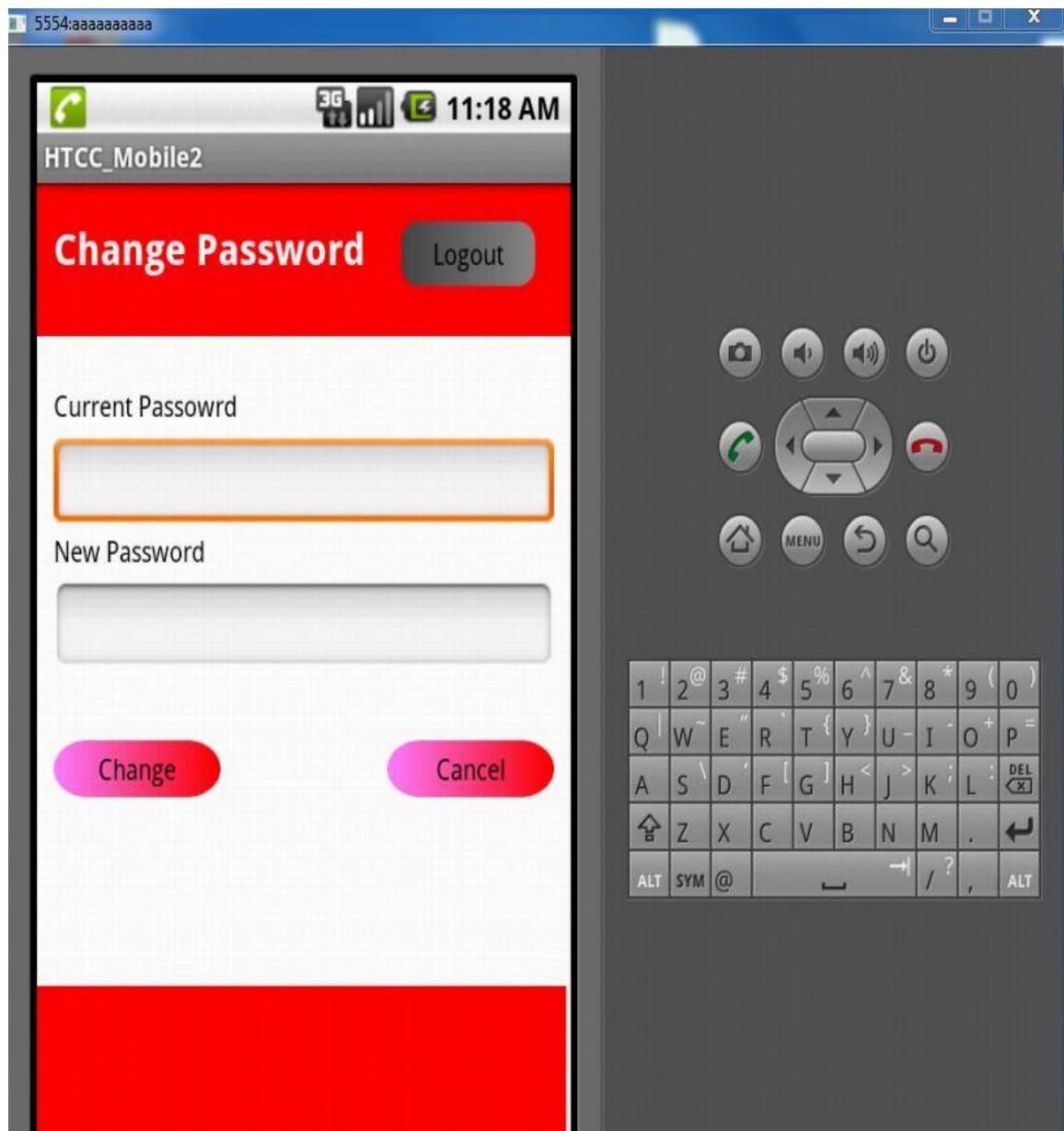
Make transfer from one account with specified Id and credit # to another one



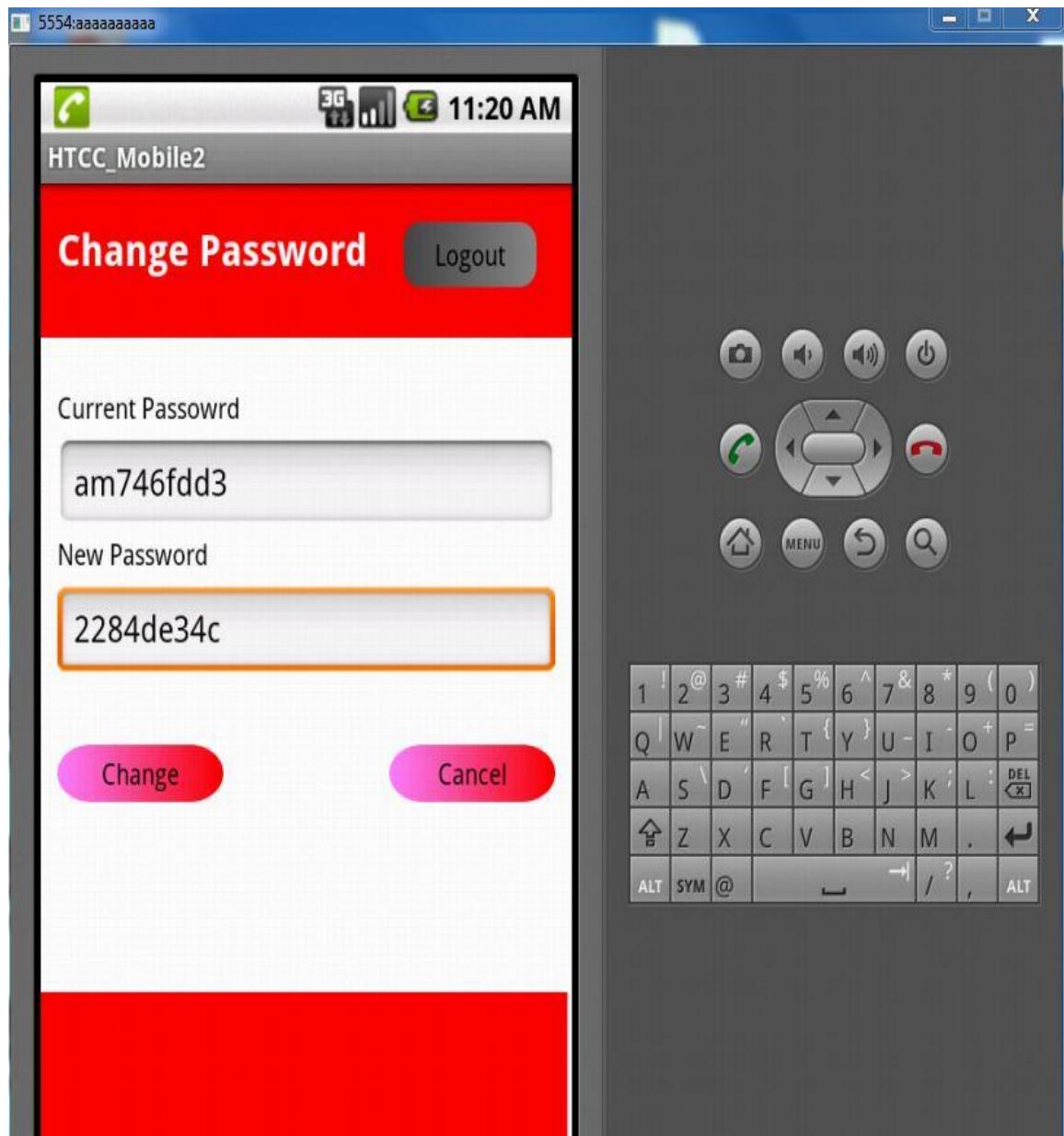
Transfer process completed successfully



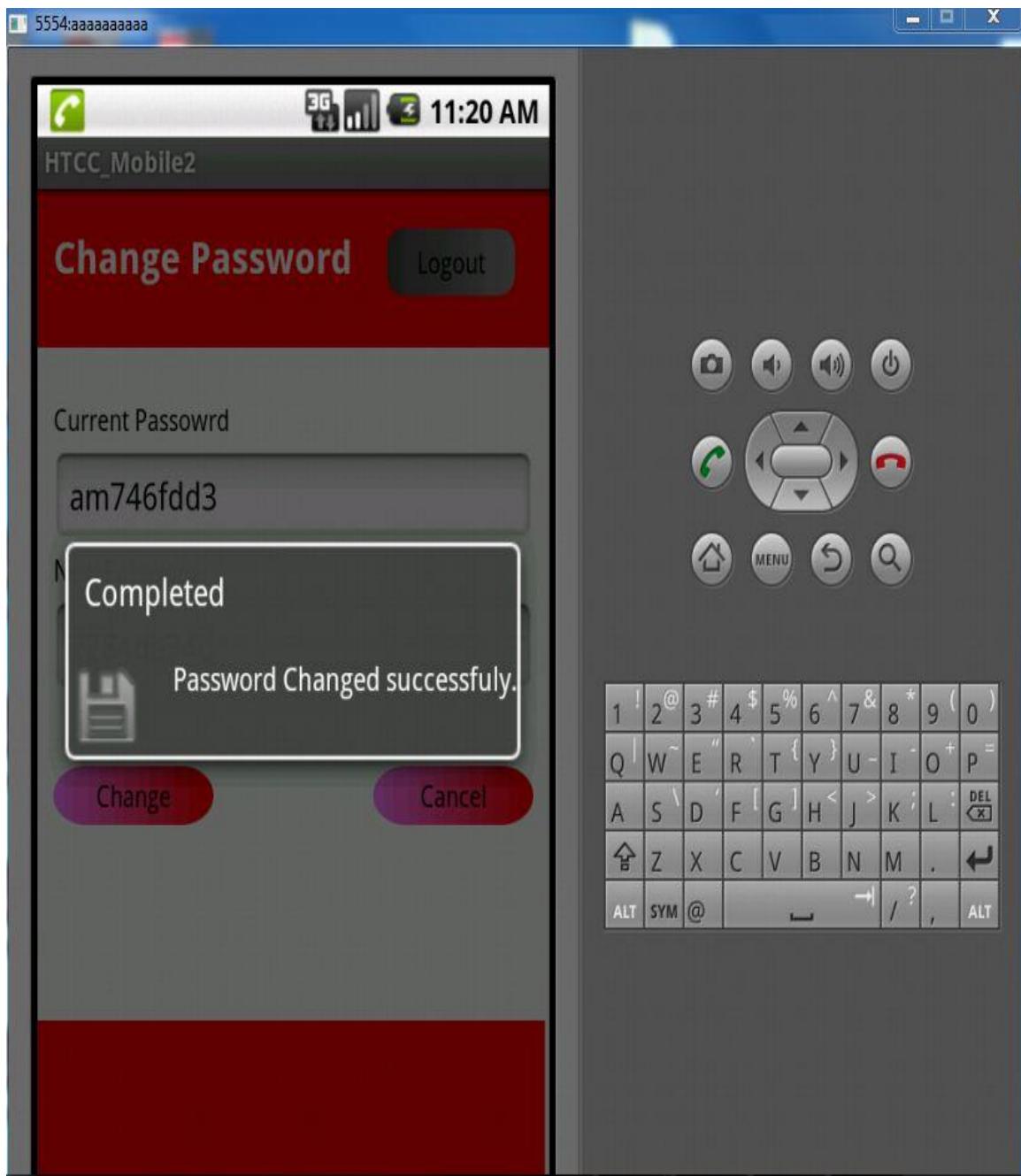
Logout from your account after your transaction



Change some info... about yourself



Data that you want to change



Data was changed sucessfully and stored in database

Chapter Six

Conclusion and Future Work

6.1 Conclusion

Mobile banking is poised to become the big killer mobile application arena. However, banks going mobile the first time need to tread the path cautiously. The biggest decision that banks need to make is the channel that they will support their services on.

Mobile banking through an SMS based service would require the lowest amount of effort, in terms of cost and time, but will not be able to support the full breath of transaction-based services. However, in markets like India where a bulk of the mobile population users' phones can only support SMS based services, this might be the only option left.

On the other hand a market heavily segmented by the type and complexity of mobile phone usage might be good place to roll of WAP based mobile applications. A

WAP based service can let go of the need to customize usability to the profile of each mobile phone, the trade-off being that it cannot take advantage of the full breadth of features that a mobile phone might offer.

Mobile application standalone clients bring along the burden of supporting multiple

mobile device profiles. According to the Gartner Group, mobile banking services will have to support a minimum of 50 different device profiles in the near future. However, currently the best user experience, depending on the capabilities of a

mobile phone, is possible only by using a standalone client.

Mobile banking has the potential to do to the mobile phone what E-mail did to the

Internet. Mobile Application based banking is poised to be a big m-commerce

feature, and if South Korea's foray into mass mobile banking is any indication,

mobile banking could well be the driving factor to increase sales of high-end mobile phones. Nevertheless, Bank's need to take a hard and deep look into the mobile usage patterns among their target customers and enable their mobile services on a technology which reaches out to the majority of their customers.

6.2 Tools we used:

- 1- MySQL .**
- 2- NetBeans IDE 6.9.**
- 3- Android Sdk .**
- 4- Eclipse .**
- 5- quartz-2.1.1 jars .**
- 6- Hibernate jars .**
- 7- ksoap2-android-assembly-2.5.8-jar-with-dependencies jar .**
- 8- ADT-15.0.0 .**
- 9- AVD Android Emulator .**
- 10- Microsoft Office (access).**
- 11- Microsoft Office (Word).**
- 12- Microsoft Office (PowerPoint).**
- 13- Design for Database.**
- 14- Internet Explorer.**
- 15- Mozilla Firefox**
- 16- XML language.**
- 17- Opera 1035.**
- 18- JavaMail 1.4.3 .**
- 19- Snagit 9.0 .**
- 20- eclipse-jee-helios-SR2-win32 .**
- 21- apache-tomcat-7.0.8 .**

6.3 Future Work

1) A Mobile Payment

- ✓ We aim in future to make over mobile banking the feature of ***mobile payment*** that Enabling buyers to pay using their mobile phones is the dream of each buyer and seller. There won't be a need to carry cash or to have a credit card. All your daily/weekly balance can be deposited in one place; your mobile phone. How many times have you been out of the required cash and still have credit in your mobile phone and vice versa? Have you ever been surprised by a cashier telling you that your credit card is no longer valid or hasn't enough credit? In all these cases and many more, Mobile Payment will be your savior.
- ✓ ***Mobile Payment*** is also the dream of every Mobile Phone Operator and Bank. It is a big competitive advantage for an operator to tell his customers that by joining his network they will be able to pay major stores using their mobile phones. Finally, from the banking point of view Mobile Payments will lead to an increase in transactions due to the increase of commercial manipulations.
- ✓ Although some mobile banking services have been in use in the past few years, banks are usually skeptical when it comes to mobile payments. Mobile Payments are susceptible to theft and fraud. Banks also need to be less conservative when it comes to revealing clients' information to trustworthy institutions.

Possible Beneficiaries:

- o Buyers
- o Stores
- o Mobile Operators
- o Banks

3) Our Own Web Site to Market The project which is under construction

Ads

Welcome To GAT Workspace

The page features a red header bar with navigation links: Home, The Product, Gallery, About Us, Login, and Register. Below the header is a login form with fields for User Name (Ibrahim El-Henawy) and Password (*****). A 'Remember Me' checkbox is checked. At the bottom of the form are 'Cancel' and 'Login' buttons.

All rights reserved 2012 ...Mobile Banking... Designed and developed at FCI labs

Ads

Ads

Welcome To GAT Workspace

The page features a red header bar with navigation links: Home, The Product, Gallery, About Us, Login, and Register. Below the header is a registration form with fields for First Name (Ibrahim), Last Name (El-Henawy), User Name (Ibrahim El-Henawy), Email (Henawy2000@yahoo.com), Password (*****), Retype Password (*****), and Address (Zagazig). At the bottom of the form are 'Cancel' and 'Register Now' buttons.

All rights reserved 2012 ...Mobile Banking... Designed and developed at FCI labs

Ads

6.4 References

- 1- *Core Java 2 Volume I - Fundamentals, Seventh Edition.*
- 2- *Android_in_Action book .*
- 3- المختصر_المفيض_في برمجة_الأندرويد .
- 4- *The_Android_Developer .*
- 5- *Hello__Android__Introducing_Google*
- 6- *6322_android-dev-op .*
- 7- *AndroidVerySimpleBook .*
- 8- *Implementing_a_Simple_Web_Service .*
- 9- *Wrox Press Professional Android 2 Application Development (2010) _2*
- 10- *Wikipedia website.*
- 11- *angabdelwahed_s Channel – YouTube .*
- 12- *Android in Practice – by Charlie Collins, Michael Galpin, Matthias Kaepller .*
- 13- *Beginning Android Tablet Application Development (Wrox Programmer to Programmer) – by Wei-Meng Lee .*

نسخة توضيحية لفكرة عمل
المشروع

6.5

الملخص:

البنك المحمول

MOBILE BANKING

تقوم المصارف بدور هام في تحريك العجلة الاقتصادية ومع التطور التكنولوجي ظهرت العمليات المصرفية الالكترونية بل تعاظم دورها وتم ابتكار تطبيقات جديدة للخدمة المصرفية تتسم بالكافأة والسرعة في الأداء والسهولة وخفض التكلفة والتي تؤدى بدورها إلى انخفاض العمليات التي تتم داخل فرع البنك بحيث أصبحت لا تتجاوز 10% من إجمالي العمليات في الدول المتقدمة والباقي يتم بواسطة قنوات الكترونية مثل أجهزة الصرف الآلي ونقاط البيع الالكترونية بالإضافة إلى إمكانية القيام بمعظم الأعمال المصرفية من خلال الكمبيوتر الشخصي عبر شبكة الانترنت "Home banking" والتي وفرت الوقت والجهد لعملاء المصارف وتؤمن لهم إجراء العمليات بسهولة ويسر مثل فتح الحساب والحصول على بطاقات الائتمان ودفع الفواتير ونقل أموال بين الحسابات وذلك طيلة ساعات اليوم ، كذلك ظهرت حديثا خدمات البنك المحمول في بعض الدول والتي تعتبر من أحدث التطبيقات الالكترونية الجديدة ونستعرض فيما يلى البنك المحمول من خلال النقاط التالية :-

- تعريف البنك المحمول.
- كيفية عمل البنك المحمول.
- الشركات التي سيتم من خلالها تنفيذ هذه الخدمة.
- بعض البنوك المتقدمة لخدمة ال Mobile Banking في مصر.
- مزايا البنك المحمول .
- مخاطر البنك المحمول .

تعريف البنك المحمول

هو تعريف يطلق على الخدمات المصرفية الحديثة التي تؤدى لعملاء البنك من خلال التليفون المحمول ، وبهذا يتمكن العميل من متابعة كافة عملياته في حسابه المالي لدى البنك عن طريق جهاز التليفون المحمول ومن خلال رقم سري ، ومن أهم الخدمات التي يقدمها البنك المحمول فتح حساب ، إتمام عمليات البيع أو



الشراء ، طلب الحصول على بطاقات ائتمان ، ودفع فواتير ونقل أموال بين الحسابات بمعنى إجراء التحويلات النقدية إلى أي بنك أو أي حساب آخر سواء في داخل البلاد أو خارجها .

ونوضح أن خدمة البنك المحمول ظهرت في العديد من الدول الأجنبية والعربية ولكنها لم تطبق في مصر إلى الآن بمفهومها الشامل بل يطبق منها خدمة الرسائل أو

النظام البنكي الإلكتروني خدمة إرسال رسائل قصيرة عبر المحمول بشكل أسبوعي أو يومي بالتغييرات التي تحدث في حساب العميل وذلك نظير اشتراك مالي شهري بسيط يخصم من حساب العميل ، كذلك الاستعلام عن الحساب ومعلومات بطاقات الائتمان ودفع فاتورة بطاقة الائتمان ، كذلك تحويل الأرصدة بين الحسابات الداخلية ومعرفة أماكن ماكينات الصرف الآلي ، وإيقاف الشيكات والبطاقات المسروقة ، بالإضافة إلى الإطلاع على أسعار العملات الأجنبية والبورصة أما تحويل الأموال بين الحسابات خارجياً فهي لم تطبق في مصر إلى الآن.

الخدمات المصرفية المحمولة وكيفية عمل البنك المحمول

خلال السنوات الأخيرة ظهر ما يعرف بالبنك المحمول وهو يعني الحصول على الخدمة من خلال التليفون المحمول وفيها يقوم العميل من أي مكان وفي أي وقت خلال اليوم بطلب رقم معين يقوم جهاز محمول عليه برنامج معلومات بالردد عليه ويطلب منه إدخال الرقم السري الذي سبق أن أعطاه له البنك فتظهر صفة بها كل بيانات هذا العميل ويحصل على الخدمة التي يريدها فوراً ، ورغم حداثة هذا النظام إلا أنه ثبت أنه يحقق للبنك أرباحاً قد تصل إلى 6 أضعاف أرباح البنك العادي ، وذلك لأن البنك المحمول يستخدم تكنولوجيا المعلومات لتحسين علاقاته وتوسيع مجال تعاملاته مع العملاء عن طريق التعامل مع البيانات الشخصية التي لديه عن العميل بطريقة ذكية ، ليقوم بتسويق خدماته مثل فتح الحساب والحصول على بطاقات ائتمان ودفع فواتير ونقل أموال بين الحسابات ، بالإضافة إلى تسويق خدمات من نوع جديد للعملاء فإذا كانت بيانات العميل تشير إلى أن لديه ابن بلغ سن الزواج فان البنك المحمول يستخدم هذه المعلومة أوتوماتيكياً ويعرض على العميل عروضاً جديدة مثل شراء سيارة لابنه أو شقة لزواجه أو حتى الحصول على وثيقة تأمين باسمه أو يعرض عليه تمويل دراسة ابنه بعد التخرج للحصول على الماجستير أو الدكتوراه .

الشركات التي سيتم من خلالها تنفيذ هذه الخدمة

سيتم تنفيذ هذه الخدمة من خلال شركات المحمول الثلاث الموجودة بمصر "فودافون ، موبينيل اتصالات" ، وقد تم عقد أكثر من لقاء بين مسئولي شركات المحمول وبين بعض قيادات البنك المركزي بهدف وضع آلية تسمح بتشغيل الخدمات المصرفية عبر المحمول ويجري حاليا الانتهاء من القواعد التي ترتبط بكيفية التعامل مع النقود الالكترونية لتقديم خدمة تحويل الأموال عبر المحمول .

وقد تقدمت شركة فودافون بطلب للبنك المركزي للحصول على ترخيص يسمح لها بنقل أموال عملائها باستخدام المحمول بين الدول التي تتوارد فيها شبكاتها حيث لا تقتصر خدمات التحويل

عبر المحمول على النطاق المحلي فقط مثلا هو الوضع الآن ، وأفاد مسئول العلاقات الحكومية بشركة فودافون أن البنك المركزي لديه بعض التخوفات من تسبب هذه الخطوة في توسيع عمليات غسيل الأموال ، كما تسعى شركة موبينيل لاتخاذ التدابير اللازمة للحصول على الموافقات الخاصة للبدء في تقديم خدمة الموبايل بankenj للجمهور .

وتتنافس شركات الاتصال الثلاث "فودافون" "موبينيل" "اتصالات" لتقديم بعض الخدمات المصرفية المختلفة مع البنوك وتحويل الأموال من خلال الموبايل عبر شبكاتها حيث تعاقدت شركة فودافون مع بنك HSBC“ لتقديم خدمة "الموبايل كاش" ويتم من خلال هذه الخدمة شحن الرصيد واستخدامه في التحويل والشراء وسداد الفواتير .

بعض البنوك المتقدمة لخدمة ال Mobile Banking في مصر

يسعى حاليا أكثر من بنك " منها بنك اتش اس بي سي - سيتي بنك - البنك التجارى الدولى وبنك بي ان بي باريما " للحصول على موافقة البنك المركزي لتقديم خدمات تحويل الأموال عن طريق المحمول "Mobile Banking" وجارى حاليا اتخاذ البنك المركزي لجميع الضوابط لحفظ على سرية العمليات وتأمين التحويل مع التشديد على دور البنك حيث انه لابد من مرور الرسالة إلى البنك أولا لإجراء عملية الخصم وتحويل الرصيد إلى رقم الحساب الآخر ثم التأكد بر رسالة أخرى تفيد بإنها العملية .

وقد أعلن محافظ البنك المركزي انه سوف يتم الانتهاء من المعايير الخاصة بتحويل الأموال عبر الموبايل خلال 6 أشهر لبدء تفعيل الخدمة الجديدة والتى ستحدث تطورا فى أنظمة المدفوعات وأفاد أن البنك المركزي يستهدف تعزيز الاستقرار المالى وسلامة نظم الدفع ولن يتم الاستعجال فى إطلاق اى خدمات جديدة دون وضع الضوابط والمعايير المنظمة لها . وتقدم بعض البنوك حاليا بعض الخدمات المصرفية المحمولة كالاستعلام عن الرصيد ودفع الفواتير وتحويل الأرصدة داخليا وخدمة الرسائل عبر التليفون ومن هذه البنوك :-

- البنك العقارى المصرى العربى

يقدم خدمة الاستعلام عن الحساب من خلال التليفون المحمول وتتم هذه الخدمة باطلاع العميل على أي تغير يطرأ على حسابه لدى البنك فيما يخص عمليات السحب أو الإيداع ، كذلك يمكن للعميل إرسال رسالة



استعلام عن الرصيد من خلال التليفون المحمول .

ويتم ما سبق عن طريق التوجّه لـ فرع من فروع البنك وتقديم إثبات الشخصية وتسجيل طلب بالإضافة إلى الخدمة وملئ استمارة الاشتراك .

• كذلك يستطيع عملاء البنك الأهلي سوسيتيه جنرال والبنك التجارى الدولى والبنك العربى الوصول إلى معلومات عن حساباتهم والاستفادة من خدمات البنك من خلال الخدمة المقدمة من فودافون (الخدمة المصرفية المحمولة) وهى تتيح :-

- الاستعلام عن الحساب ومعلومات بطاقة الائتمان وتلقي التنبيهات .
- دفع فاتورة بطاقة الائتمان .
- تحويل الأرصدة بين الحسابات الداخلية .
- معرفة أماكن ماكينات الصرف الآلى .
- إيقاف الشيكات والبطاقات المسروقة .
- الاطلاع على أسعار العملات الأجنبية والبورصة .

ويتم الاشتراك في هذه الخدمة من خلال البنك الذى يتعامل معه العميل .

• بنك مصر
يتيح بنك مصر لعملائه من حاملى التليفون المحمول خدمات الرسائل القصيرة للاستعلام عن الرصيد أو خدمات البنك ، الحد المتاح لبطاقات الائتمان ، أسعار صرف العملات .

مزایا استخدام البنك المحمول

أثبتت التجارب الدولية أن الدول التي انتشرت فيها هذه النوعية من البنوك قد قامت بنووكها الكبرى بإغلاق العديد من فروعها بسبب اعتماد العملاء على هذا النظام البنكي الجديد ومثال ذلك ما حدث في بريطانيا بإغلاق أعداد كبيرة من فروع بنوكها بسبب هذا النظام لزيادة استخدام العملاء لنظام البنك المحمول والانترنت حيث تتعدد مزايا استخدام البنك المحمول ومنها :-

- فعالية إدارة الوقت وسرعة الاستجابة لمتطلبات الخدمة ، بمعنى التوفير في الوقت والجهد .
- يتيح النظام تقديم خدمات كثيرة ومتنوعة ، كما يحقق سرية الحسابات .
- تحقيق شخص العميل حيث يتيح استخدام المحمول منح العميل شعور انه محظ اهتمام لأن الخدمة تكون بينه وبين البنك مباشرة .
- الإنتاجية وفعالية الأداء حيث يمكن الاعتماد على التليفون المحمول في تجاوز معوقات الإنتاج والأداء في أوقات الضغط في العمل أو التواجد خارج العمل .
- تخفيض كثير من التكاليف عن عاتق البنك حيث يعفى البنك من أعباء فتح فروع جديدة وكثيرة في أماكن مختلفة داخل أو خارج الدولة وذلك لتقديم الخدمة إلى عدد كبير من العملاء والقضاء على الزحام وذلك لأن البنك المحمول ينقل البنك وخدماته المتنوعة إلى كل عميل حيثما كان .
- القدرة على الوصول للمعلومات محل الاحتياج بسهولة وسرعة .
- سهولة استخدام الخدمة قياساً ببعض الخدمات الأخرى .
- عدم التقيد بمكان تواجد البنك .
- الحد من عمليات الاحتيال التي يقوم بها قراصنة المعلومات والذين يقومون بتحويل مبالغ مالية من حسابات بعض العملاء لحساباتهم الشخصية استغلالاً منهم لعدم قدرة بعض العملاء على عمليات المتابعة الدورية لأرصادتهم البنكية خاصة التي يمر عليها فترة كبيرة من الزمن .

مخاطر وعيوب خدمة البنك المحمول

هناك عدد من الملاحظات التي تؤخذ على البنوك مقدمة خدمة البنك المحمول منها :-

- أن بعض البنوك المقدمة لهذه الخدمة لا تبذل الجهد الكافي لإخبار عملائها هذه الخدمة ، الأمر الذي يقلل عدد المستفيدين منها .
- هناك نوع من التطويل في أسلوب الرد الآلي للحصول على هذه الخدمة نظراً لأن العملية كلها تتم عبر التليفون المحمول فمن المطلوب أن يتم اختصار الخطوات المتتبعة حتى يمكن للعميل التعرف على ما يريده من خدمات .
- انشغال خطوط الاتصال في بعض الأوقات لاسيما في أوقات الذروة مما يجعل العملاء يفقدون الثقة في هذه الخدمة .
- جهل كثير من العملاء كيفية الاستفادة من هذه الخدمة وبالتالي لابد من زيادة عملية الوعي لهذه الطريقة عن طريق توزيع الأدلة الورقية التي تشرح خطوات الاستفادة من خدمة البنك المحمول أو تخصيص موظف فني بكلفة فروع البنك لتوضيح وتبسيط عملية استخدامها .
- إمكانية تعرض الأفراد لعمليات نصب حيث أن الخدمة البنكية عبر المحمول يكون من الصعب مراقبتها بصورة دقيقة .

وعلى الرغم من مخاطر هذا النوع من البنوك إلا أنها آخذة في الانتشار في معظم دول العالم حيث يوفر الوقت والجهد والرسوم وقد بدأ في دولة التشيك عام 1988 ثم السويد عام 1999 وكذلك استراليا بالتعاون بين بنك الكومونولث وشركة فودافون العالمية ، وكذلك بدا عمله في بعض الدول العربية وبعض دول الخليج العربي نظراً لأن هذه الدول لديها بنية أساسية جيدة من حيث شبكة الاتصالات والتجهيزات الفنية بالبنوك .

وقد أكدت مؤسسة "وسترن يونيون" للتحويلات المالية أن مصر تعد سوقاً واعدة لنظام التحويلات المالية عبر المحمول حيث يحول العاملون المصريون بالخارج نحو خمسة مليارات دولار سنوياً إلى مصر.

فكرة عمل المشروع هو :

خلال السنوات الأخيرة ظهر ما يعرف بالبنك المحمول وهو يعني الحصول على الخدمة من خلال التليفون المحمول وفيها يقوم العميل من أى مكان وفى أى وقت خلال اليوم بطلب رقم معين فيقوم جهاز محمول عليه برنامج معلومات بالردد عليه ويطلب منه إدخال الرقم السرى الذى سبق أن أعطاه له البنك فتظهر صفة بها كل بيانات هذا العميل ويحصل على الخدمة التى يريد لها فوراً ، ورغم حداثة هذا النظام إلا أنه ثبت أنه يحقق للبنك أرباحاً قد تصل إلى 6 أضعاف أرباح البنك العادى ، وذلك لأن البنك المحمول يستخدم تكنولوجيا المعلومات لتحسين علاقاته وتوسيع مجال تعاملاته مع العملاء عن طريق التعامل مع البيانات الشخصية التي لديه عن العميل بطريقة ذكية ، ليقوم بتسويق خدماته مثل فتح الحساب والحصول على بطاقات ائتمان ودفع فواتير ونقل أموال بين الحسابات ، بالإضافة إلى تسويق خدمات من نوع جديد للعملاء فإذا كانت بيانات العميل تشير إلى أن لديه ابن بلغ سن الزواج فأن البنك المحمول يستخدم هذه المعلومة أوتوماتيكياً ويعرض على العميل عروضاً جديدة مثل شراء سيارة لابنه أو شقة لزواجه أو حتى الحصول على وثيقة تأمين باسمه أو يعرض عليه تمويل دراسة ابنه بعد التخرج للحصول على الماجستير أو الدكتوراه .