



RESEARCH ARTICLE

AN APPROACH TO ELECTRONIC TRANSFER OF MONEY: M- CASH

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Abstract— Research shows that a vast majority of the population from the developing and the under developing countries have been lacking basic financial services which significantly reduces the opportunities for capital and resource accumulation.[1] With the advent of newer and newer technologies, linking the users and creating a technologically friendly web application will help the world come closer to technology. In the proposed system; m-cash, an application will help the users to transfer money electronically using any mode of payment. M-cash acts like a server side wallet. . It supports micropayment providing a quick and simple billing option to over millions of users. It will be a new payment service, which will be supported by all the leading technologies, which is designed to make it easy to pay for low cost services.

Keywords— GSM, Wireless money, Mobile, Transaction, Users, Transfer

I. INTRODUCTION

In a short span of time, massive amount of technological advances have resulted into the development of wireless communication technologies which in turn promises to reduce the vast gap between the developed and developing countries. The narrowing of this divide is directly linked to the developing of the economy, which in turn results in reduction of poverty , research [2] shows that 70% of the population in developing countries, particularly in Africa and Asia, where the majority of the population live in rural areas, have no access to financial services and hence hide the money under the mattress . This practically reduces the capital flow in the market which if available can improve the economy of the money. Given the increasing reach of technology into the deeper markets, we are motivated to propose a system which will transfer money and allow rural people to get easy financial services in their home towns and this will help facilitate flow of money in the economy.

II. LITERATURE SURVEY

Mobile money transfer has been taking place for quite sometime now. Literature survey across various countries has been an evidence to this fact [1][3][4].in Kenya Centre for training and integrated research for asal Development (CETRAD) promotes resources among locals via SMS. Wide spectrum is been covered including various kinds of campaigns for eradication of various deadly diseases and also works for stopping gender violence. Below are the examples of operations of some of the proposals:

A. M-Pesa

In an increasing number of developing countries, millions of poor people are using basic mobile phones to transfer money; pay for goods; and access sophisticated financial services, such as credit, insurance, and savings accounts (Donovan, 2012). As “mobile money” becomes commonplace, research is shifting from studying design and adoption to assessing impact (Donner & Tellez, 2008). Although impact assessment remains nascent, that which does exist has been criticized for lacking rigorous conceptual or theoretical approaches, and instead, relying heavily on practitioner surveys, rather than academic research (Duncombe & Boateng, 2009).[3]

B. Mobile money

The next wave of growth is the latest in a series of EY reports on developments and opportunities in the market for mobile payments and related services. The previous reports in this series, in 2009 and 2011, focused mainly on emerging technologies and the various types of service they enable. This latest study drills into the opportunities for telecoms operators as the pace of evolution quickens in the mobile payments market, driven by new technologies and customer needs alongside a changing regulatory environment.[4]

Developing economies by region^a

<i>Africa</i>	<i>Asia</i>	<i>Latin America and the Caribbean</i>
North Africa Algeria Egypt Libya ^b Morocco Tunisia	East Asia Brunei Darussalam China Hong Kong SAR ^c Indonesia Malaysia Myanmar Papua New Guinea Philippines Republic of Korea Singapore Taiwan Province of China Thailand Viet Nam	Caribbean Barbados Cuba Dominican Republic Guyana Haiti Jamaica Trinidad and Tobago
Sub-Saharan Africa Central Africa Cameroon Central African Republic Chad Congo Equatorial Guinea Gabon Sao Tome and Principe	South Asia Bangladesh India Iran (Islamic Republic of) Nepal Pakistan Sri Lanka	Mexico and Central America Costa Rica El Salvador Guatemala Honduras Mexico Nicaragua Panama
East Africa Burundi Comoros Democratic Republic of the Congo Djibouti Eritrea Ethiopia Kenya Madagascar Rwanda Somalia Sudan Uganda United Republic of Tanzania	Western Asia Bahrain Iraq Israel Jordan Kuwait Lebanon Oman Qatar Saudi Arabia Syrian Arab Republic Turkey United Arab Emirates Yemen	South America Argentina Bolivia (Plurinational State of) Brazil Chile Colombia Ecuador Paraguay Peru Uruguay Venezuela (Bolivarian Republic of)
Southern Africa Angola Botswana Lesotho Malawi Mauritius Mozambique Namibia South Africa Zambia Zimbabwe		
West Africa Benin Burkina Faso Cape Verde Côte d'Ivoire Gambia Ghana Guinea Guinea-Bissau Liberia Mali Mauritania Niger Nigeria Senegal Sierra Leone Togo		

^a Economies systematically monitored by the Global Economic Monitoring Unit of DPAD.
^b The name of the Libyan Arab Jamahiriya was officially changed to Libya on 16 September 2011.
^c Special Administrative Region of China.

Fig. 1 A list of developing economies

III. PROPOSED SYSTEM

The final system consist of an application built for mobile phones, desktop applications and server side code for storing the data of user account. It consists of user panel in which there is register where the user will have to register himself with the m-cash server. He will be creating a new account and will wait for the activation. It will take 24-48 hours for the activation, login where after registration the user will be using the username and password for login, refill where the user will be able to refill his account through authenticated m-cash outlet. A minimum refill of Rs20 and up to Rs 4000 can be done at one go, transaction a minimal fee would be charged for every transaction as per the government of India norms. Users will be able to transfer money when there is sufficient amount in his account and when receiver is also registered in the m-cash community. Users can also withdraw money from authenticated m-cash outlets only, transfer fund and also can place requests for statements through their devices and they will be able to see it .lastly there is a bill payment option where users can pay bills in a hassle free manner i.e. Bills like electricity, telephone and MCGM can be paid via their m-cash accounts.

Admin panel consists of features like admin login, admin verify user admin view transaction & admin manage bill details. Admin can view the history of each & every transaction and there is facility for adding cash via admin .In case of any issue, we can contact admin to resolve any

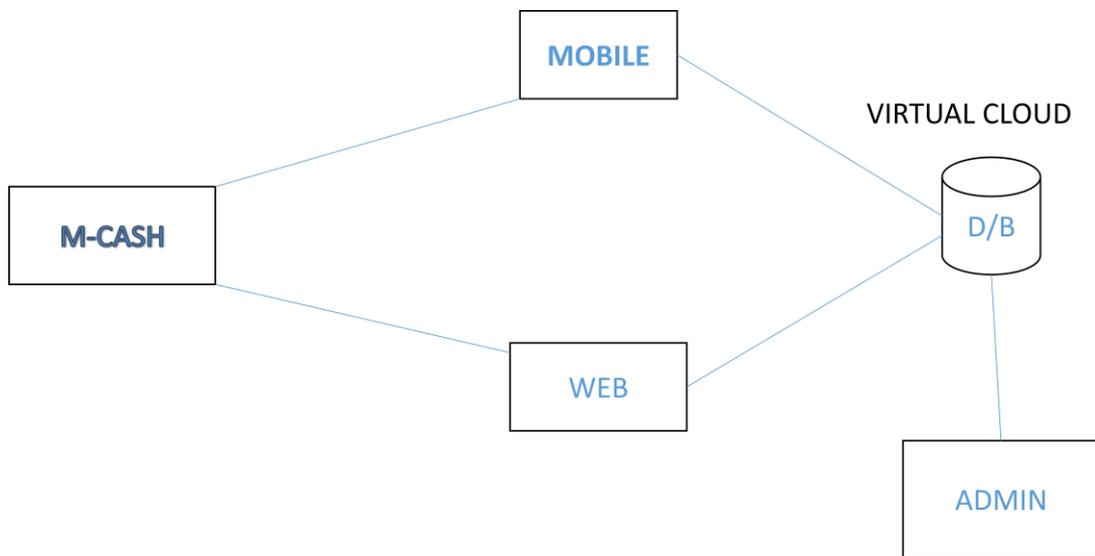


Fig. 2 Working of M-Cash Application

Fig. 2 Illustrates the working of a m-cash application. It involves mobile ,website, database and admin. The m-cash application will contact the admin via the database and the admin will look through the database and contact back the user.

A. Features of M-CASH

A Mobile commerce will leverage the existing payment systems and will influence the future of payment modes in India. M-Cash application includes options that will allow customers to carry out their day-to-day transactions in an efficient manner.

Features of M-Cash

Sign-up: The customer must register by filling in the application form and submitting the required documents.

Database Update: After registration is done , the database is updated with existing mobile phone number details.

Login: The customer must activate his M-Cash money account by providing his mobile number and password

Recharge: To begin using mobile cash application the user must load cash into his M-Cash account by providing the 16 digit scratch card number. Full Value is available for usage and there are no deductions.

The customer can now send commands through the M-Cash application on his Android handset and transact anytime, anywhere

B. System Architecture

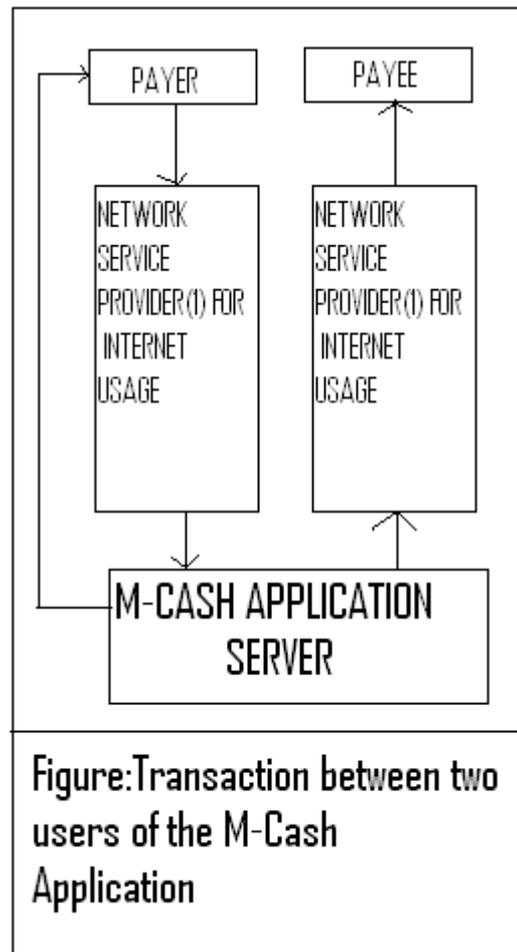


Fig.3 System Architecture

Fig. 3 Illustrates the system architecture. It involve the payer, payee and M-Cash application server and they are inter connected to the network provider and as a result of which transaction takes place.

C. Implementation of M-CASH

At the initial stage user needs to register with m-cash application. Once the user has fills the detail, he will get user id and password. This user id and password will be used by the user whenever he wants to access the application. Once the user registers one's self system admin will verify the details and validate it.

After logging in, the user can perform the following functions

- Add cash to his account
- Transfer cash to another user
- Recharge his cell phone
- Pay utility bills

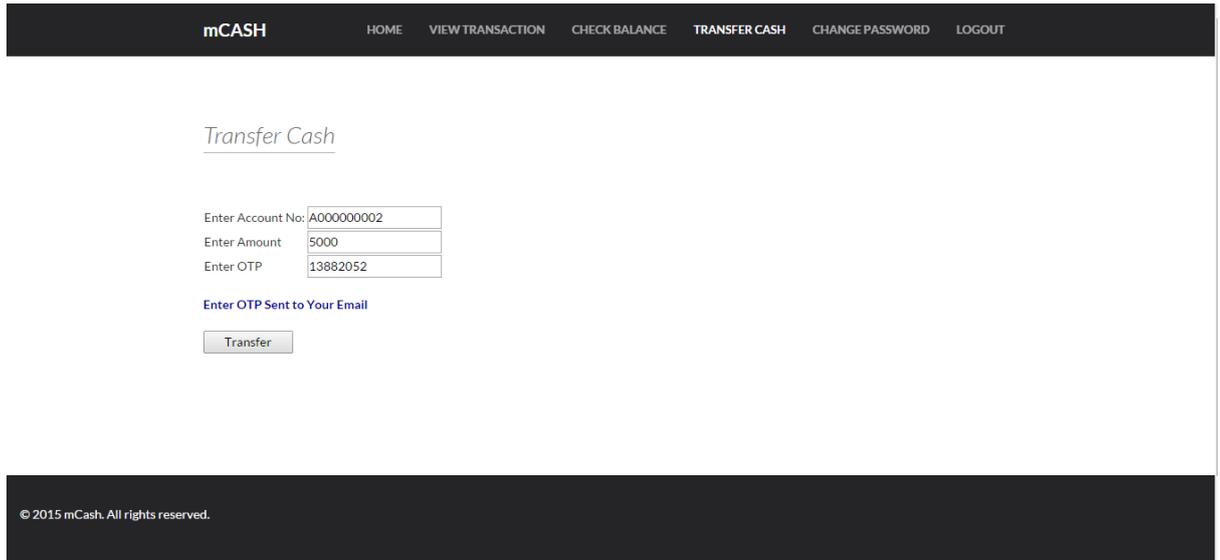


Fig.4 An example of a Client

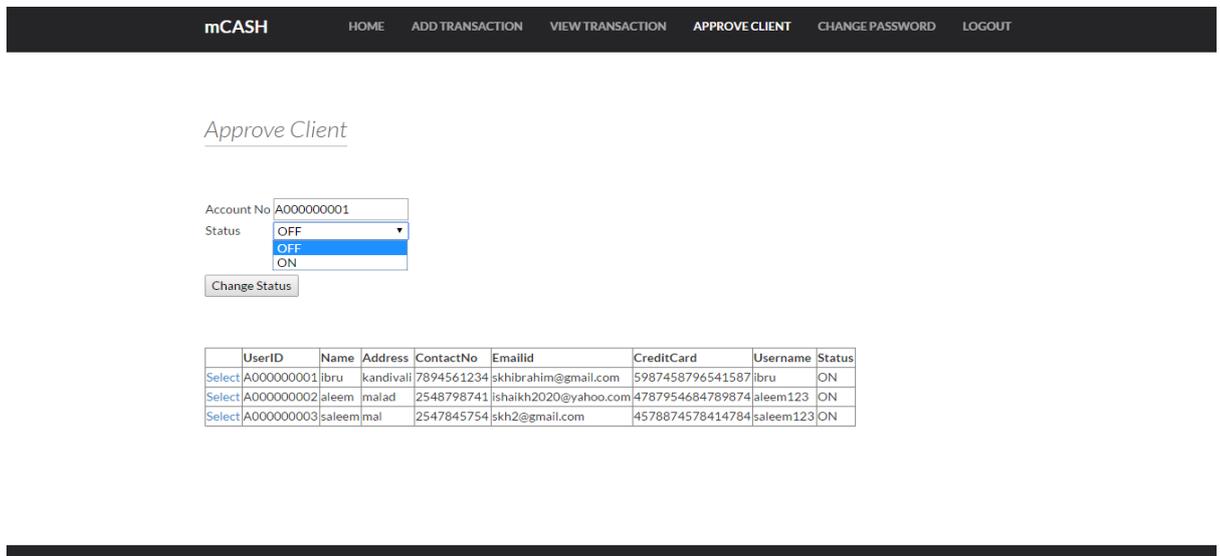


Fig.5 An example of Admin

IV. CONCLUSIONS

M-commerce is experiencing rapid growth in terms of capabilities of mobile device, services, application, standard and network implementation. With the advancement in mobile technology many business activities can be conducted wirelessly. Mobile payment is a new and rapidly adopting alternative payment method. The market for mobile phones, computers and wireless PDAs is increasingly driven by multimedia based intranet application. M-cash application is a mobile commerce solution that offers the convenience of cashless shopping, as well as making remote payment via any mobile phone, where financial and merchandising transactions are done at the touch of the fingertips. This application is suitable for the masses as it is a mobility redemption system that not only help improve efficiency and convenience it also enhance productivity and faster turnaround time. The M-cash application overcome the inadequacies of the present banking and payment system. Since this system is a thin-client application the major advantage is security because there is no sensitive customer information at the handset level. M-CASH system allow customer to pay with their mobile phone and the transaction and information is captured and routed. Then, a normal payment settlement processing is done on the back end leveraging the existing payments infrastructure. There is no need to replicate or reinvent any of the existing infrastructure. A layer is added on the top of the payment infrastructure allowing a person to register there mobile phone and then pay with a mobile phone. The most significant advantage that m-commerce offers is portability that facilitated customer doing business transaction and using service regardless of their physical location. The payment experience

for consumer is consistent, transparent and user friendly at all times. This improvements in user experience will help install customer confidence in paying by mobile, generating repeat business and improved conversion rates for merchants.

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