

## Design of A Model for M-Commerce using Mobile Cloud Computing (MCC)

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**Abstract:** Mobile Cloud Computing (MCC) is the combination of the mobile computing with the cloud computing architecture. Mobile cloud computing is an infrastructure where both the Data storage and the data processing happen outside of the mobile devices. Mobile cloud applications move the computing power and data storage away from the mobile device and store into the cloud. Now a days everyone using the smart phones with IOS, Android and the Windows operating system. Smart phones are becoming an essential part of human life and it is very effective and convenient communication tool not bounded by time and place. The rapid progress of mobile computing becomes a useful trend in the IT technology as well as Commerce and Industry fields. MCC offers some advantages to users to use the infrastructure and software. M-commerce is the one of the application of mobile devices.

**Keywords:** MCC, Cloud Computing, Smart phones, M-Commerce.

### I. INTRODUCTION

The mobile applications and emerging of cloud computing concept, Mobile Cloud Computing (MCC) has been introduced to be a potential technology for mobile services. MCC integrates the cloud computing into the mobile environment and overcomes obstacles related to the performance, environment and security. Mobile devices are increasingly becoming an essential part of human life as the most effective and convenient communication tools not bounded by time and place. Smart phone users accumulate rich experience of various services from mobile applications which run on the devices or on the remote servers via wireless networks. MCC is a powerful trend in the development of IT technology as well as commerce and industry fields. However, the mobile devices are facing many challenges in their resources and communications. The limited resources significantly impede the improvement of service qualities. Cloud computing has been widely recognized as the next generation's computing.

With the high increasing of data computation in science & commerce field, the amount of data processing has been considered as a strategic resource in all over the world.

### II. MOBILE CLOUD COMPUTING

Mobile Cloud Computing is known to be a promising solution for mobile computing due to many reasons. In the following we describe how the cloud can be used.

- It Improves data storage capacity and data processing power/speed is also a constraint for mobile devices.
- Improving reliability: Storing data or running applications on clouds is an effective way to improve the reliability.

### III. EXISTING SYSTEM

E-Commerce is the technology in which electronic shopping, bill payment is done with the help of atm's in the shopping mall, stores etc. This facility provided by the different banks such as sbi freedom, airtel money like different application for the online transaction and the view passbook. Main drawback of the existing technology is that Security, low bandwidth, speed, storage etc. Limited customer using the E-commerce application and it is not user friendly.

### IV. PROPOSED METHODOLOGY

M-COMMERCE using the Mobile Cloud Computing technology. The main advantage of the application is user friendly that as per the user requirement. The main feature is the transfer the amount by one bank customer to the non-customer (means customer don't have any account in bank) using the message alert and secret code shared between them provided by the bank server.

### V. ARCHITECTURE OF MCC

The below Fig. 1 shows the Architecture of Mobile Cloud Computing. MCC has many advantages for mobile users and service providers. However, because of the integration of two different fields, i.e., cloud computing and mobile networks. Protecting user's privacy from adversary is a key to establish and maintain consumers. Security is one of the main concepts. Securing the Data on Clouds for both mobile users and application developers benefit from storing a large amount of data information and applications on a cloud. The Efficiency of Data Access With an increasing number of cloud services.

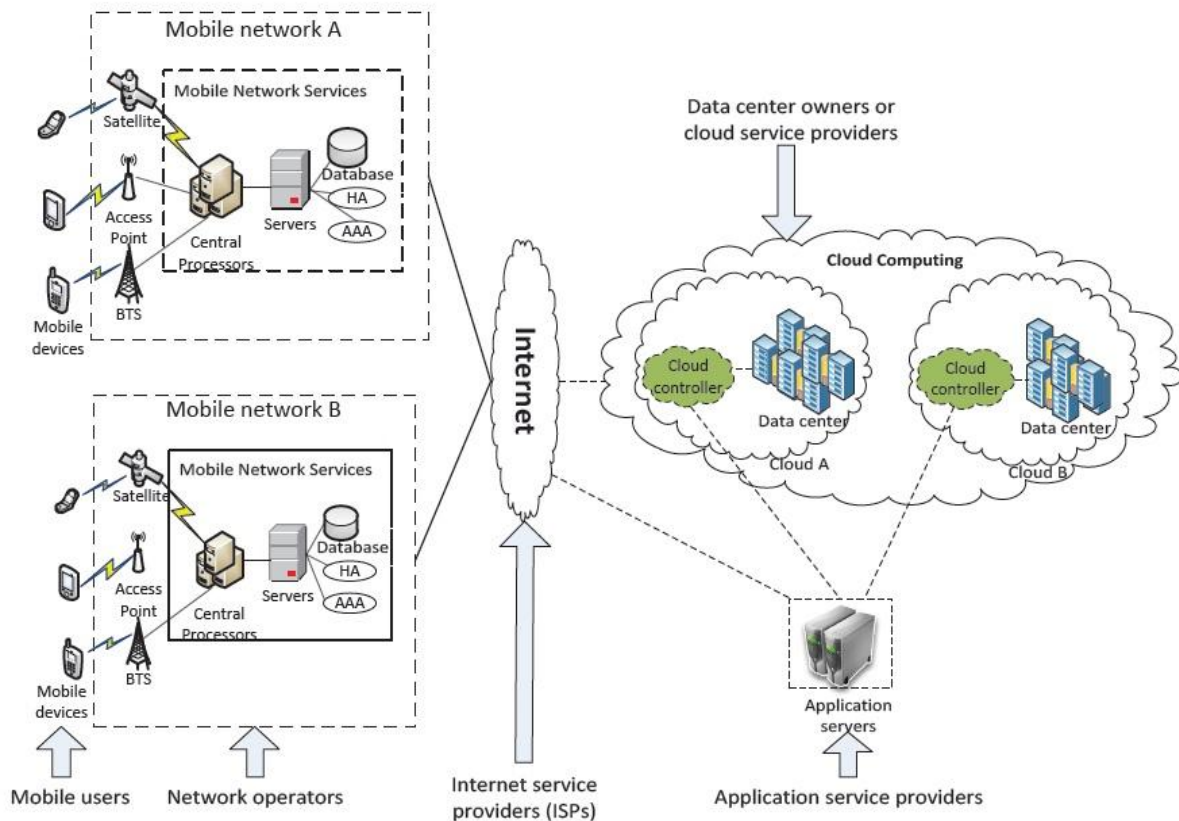


Fig. 1. Architecture of Mobile Cloud Computing (MCC)

Mobile cloud computing (MCC), as a development and extension of mobile computing (MC) and cloud computing (CC), has inherited the high mobility and scalability, and become a valuable research concept in present years. The M-commerce applications have to facing many challenges like low network bandwidth, high complexity of mobile device configurations, and security. M-commerce applications are integrated into Mobile Cloud Computing environment to address these issues. Using 3G/4G network and cloud computing to increase data processing speed and security level based on PKI (public key infrastructure). The PKI mechanism uses an encryption-based access control and an over-encryption to ensure privacy of user's access to the outsourced information.

## VI. MODULES OF M-COMMERCE

### A. Login Module:

Login module is the common module that we have for both administrator and customer, here the user/admin can get login to their application by specifying their credentials and can make use of application services.

### B. Registration Module:

Here customer can get registered to the application by specifying their details such as customer name, address, contact number etc. during registration process customer gets the unique ID and password, using that info customer can get login to the application.

### C. Manage Customers:

Here administrator can view all the registered customer details like customer name, address, contact number, email id, registered date etc.

### D. Transactions:

Here administrator performs the adding all transaction details each customer such as add amount, view transaction, pay-bills, view balance etc.

### E. PIN Generation:

Administrator is the main service provider will provide or generate the secrete PIN during transaction amount to the non-account holder

### F. PIN Verification:

Administrator will send the generated pin number of the transaction to account holder using message alert.

### G. ATM Module:

Administrator will send the generated transaction details of account holder to ATM database in which the mobile number will be key constraint to withdraw cash and validity of the PIN and transaction is one day.

## VII. ADVANTAGES OF M-COMMERCE

- Improving the data storage capacity and the data processing speed.

- Increasing reliability.
- Dynamic provisioning.
- It is securable, time saving and Scalability.
- Multi-tenancy.
- Ease of Integration.

### VIII. APPLICATIONS OF MCC

- Mobile Commerce(M-commerce)
  - It includes mobile transaction, bill payments, mobile messaging, and mobile ticketing, mobile marketing.
  - The m-commerce applications can be classified into a few classes including finance, advertising and shopping, etc.
- Mobile Learning
- Mobile Healthcare
- Mobile Tourism
- Mobile Gaming

### IX. RESULTS

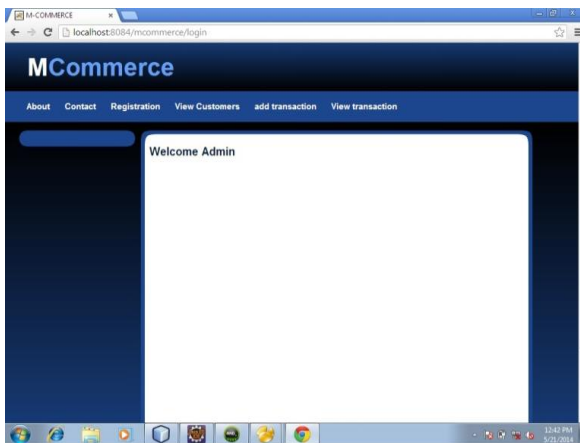


Fig. 2. Admin Home Page

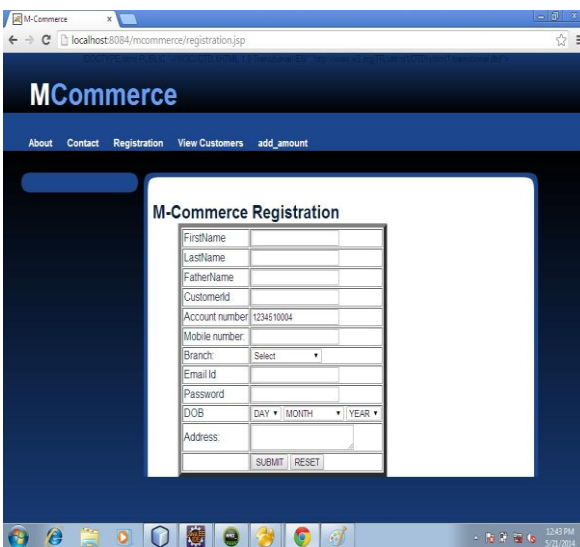


Fig. 3. Customer Registration Window

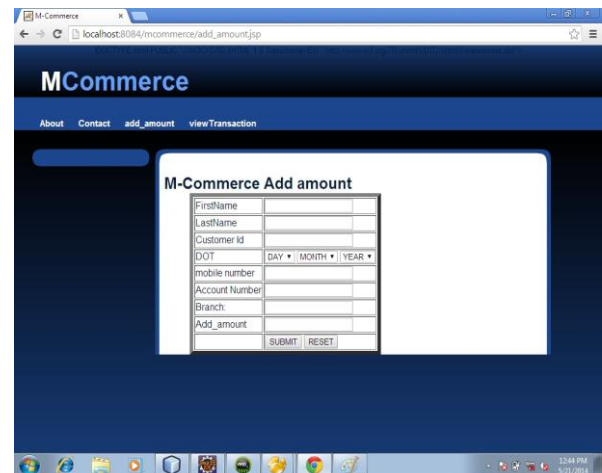


Fig. 4. Admin Credit Amount to Users/Customer Account

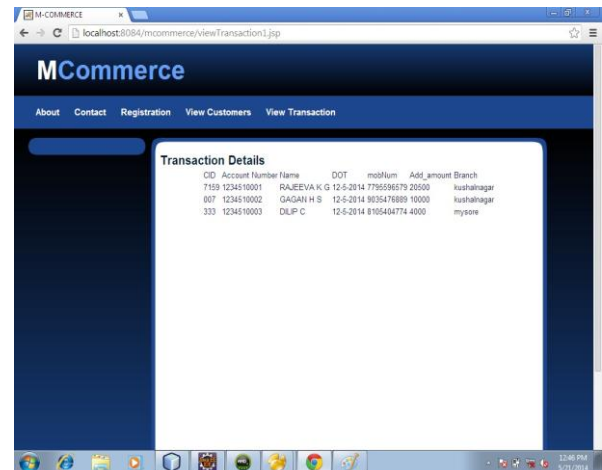


Fig. 5. View Transaction Details

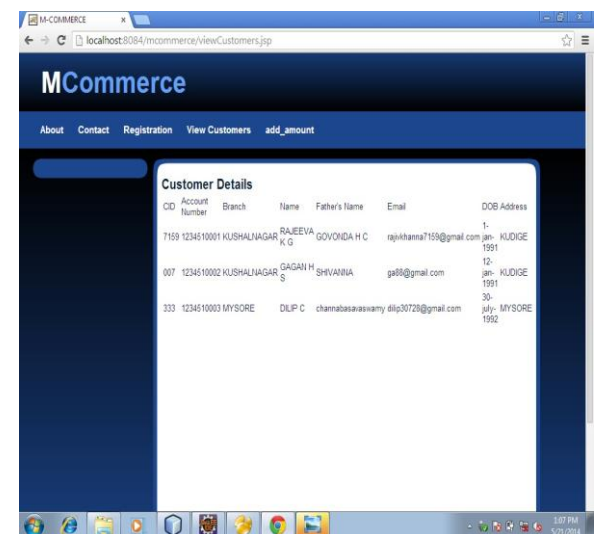


Fig. 6. Admin Views Customer Details



Fig. 7. Customer Login Window

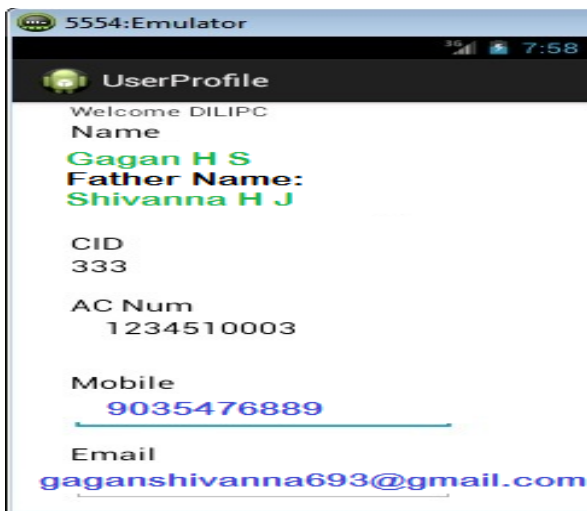


Fig. 8. Customer Profile



Fig. 9. Sending Amount to Another Non Account Holder

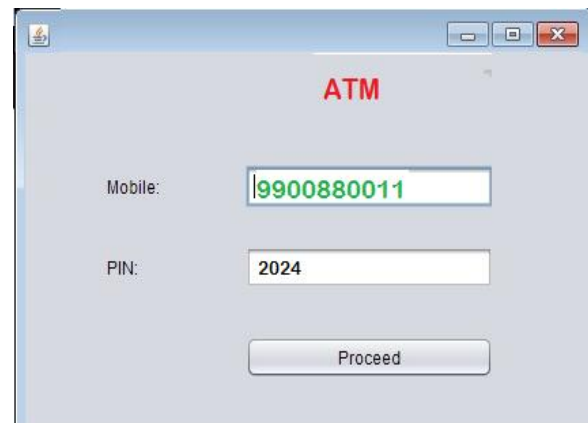


Fig. 10. ATM Model for Amount Withdrawal

## X. CONCLUSIONS

Mobile cloud computing is one of mobile technology trends in the future since it combines the advantages of both the mobile computing and the cloud computing, thereby providing optimal services to mobile users. Emergent feature in this paper is that the transfer of the amount to the customer does not have the account in the bank using the technology mobile cloud computing on m-commerce field. This article has provided an overview of the mobile cloud computing's definitions, architecture, advantages, applications have been presented. The applications supported by mobile cloud computing with mobile commerce technology have been discussed. Which clearly show the applicability of the mobile cloud computing to a wide range of mobile services.

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