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OBJECTIVE

The project EasyBuy(PIN Auth) is aimed to provide a Micropayment system where very small amount of money payments can be made using GSM phones by User's PIN Authentication.

INTRODUCTION

EasyBuy(PIN Auth) is Micropayment solution framework which essentially implements a secure file transfer mechanism for funds transfer across two account holders of the same bank.

The application EasyBuy(PIN Auth) could be innovatively used for a host of requirements and one such implementation is purchase of goods from merchant establishments by accounts holders who have registration for using the mobile banking facility of the bank.

DESCRIPTION

The application starts with the authentication framework which is PIN based. The authentication as well as transaction data is encrypted to ensure adequate security for financial transactions.

Once the authentication is successful, the credentials of the merchant and the customer are sent securely to the Bank's transaction platform. This could be a separate application with its own database as a first step but will eventually be a part of the centralized core banking architecture. After the transaction is executed the response will flow back to both the mobile systems of the customer and the merchant with details of the transaction.

The data transfer from the merchant establishment to the core banking platform and back is SMS based and by

associating priorities for SMS application, it is possible to guarantee near online performance with expected QoS.

EASYBUY SYSTEM OVERVIEW
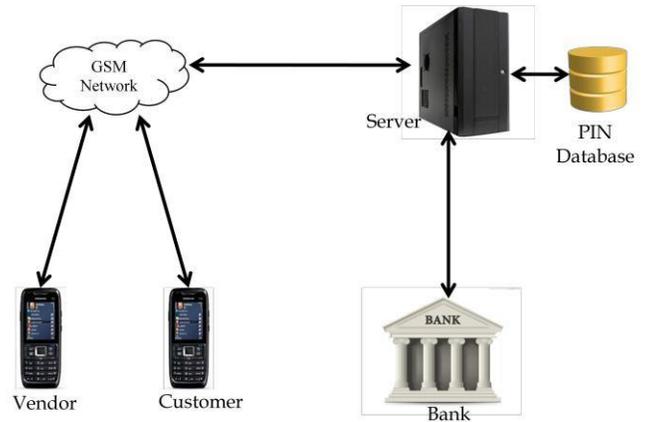
TECHNICAL BENEFITS

Convenience

SMSMicroPay offers the convenience of a bank customer service agent anywhere, any time. It enables the customer to make a payment using just a mobile phone even a payment for a retail purchase at a store.

Security

All communications within the system are encrypted right from the handset all the way to the banking system. This ensures total security for all transactions.

Portability

The solution can easily be run on various handsets and back-end servers.
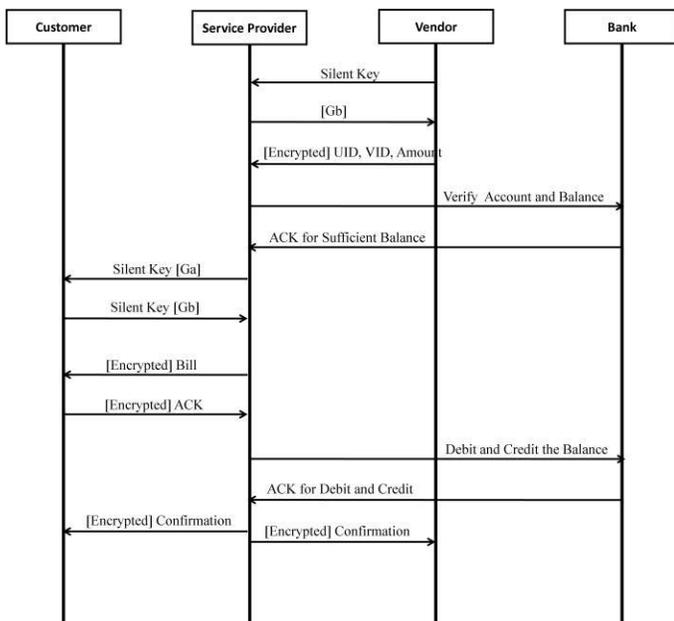
Economy

SMSMicroPay is a relatively low cost solution that can be used as an alternative to ATMs and bank branches. It provides a cost-effective way for banks and customers to interact both in terms of time and money, even when the transaction values are small.

User Experience

SMSMicroPay offers a seamless experience to all users, regardless of their roles in each transaction. The system approaches payer and payee uniformly, thus providing an intuitive, uncomplicated interface

SEQUENCE DIAGRAM

- Maintains record of recent transactions
- Choice of high and normal levels of encryption
- Simple option to change mPIN through the application UI
- Quick shortcut to repeat last transaction in case of failure

For banks

- Intermediate server simplifies integration with existing banking systems.
- Scalable architecture to handle increased loads
- Comprehensive registration process for registering mobile phone numbers, verifying users, approving service activation, generation of user names and mPINs.
- Detailed logging system ensures proper audit trail of each transaction
- Provides a low-cost alternative way of handling transactions between bank's customers
- Extensible - NPCI interface can be added to enable inter-bank transactions.

FEATURE SUMMARY

For users

- Mobile application runs on almost all Java enabled handsets
- Simple registration process associates mobile phone with user's bank account
- Micro payment user ID and mPIN used in all transactions
- Two-factor authentication (mobile number and mPIN) for higher security
- mPIN never stored on the mobile phone
- Dynamic key generation for each transaction for higher security

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