Automatic teller machine

Technology

ATM is a blessing in modern age. With the advent of modern ATM machines, people do not need to carry cash with them all the time. Instead, whenever required, they can just walk to a self service information system and make the transaction using a plastic card only. A powerful real time database and information system work behind the scene to take care of all the required accounting and fund settlement.

Key Processes in an ATM System

Some of the key elements that make up an ATM system include:

Input

Processing

Output

Feedback

Figure: A typical ATM System

Source: www. howstuffworks. com

Input Function

In order to authenticate the financial transaction, ATMs are implemented that require two step authorization mechanism. One input is done through ATM card – a plastic card having a magnetic stripe that holds the customer's information like name etc. ATMs have special card readers installed as part of the system that accept and read the card.

The second input is done through keypad or touch screen that is integrated part of the ATM machine. It is used to enter PIN (Personal Identification Number) to authorize the transaction. In addition, it is used to take inputs

like transaction type, amount and other information from the users.

Processing Function

The processing of the ATM initiates when both card and PIN are entered into the machine. The core processor that controls the operations of the system sends this data to the central computer of the bank where all information about users is maintained. This is done using telephone lines as shown in figure above. Once the bank computer verifies the identity of the person, the user inputs, with regard to transaction type, amount and other details are processed by core processor and are sent to central computer for verification. After ensuring that user has enough balance in his/her account, the central computer sends a signal to the core ATM processor which then signals the cash dispenser to pick the currency notes and push these outside the machine. The amount is deducted from the user account.

Output Function

An ATM system performs various types of output functions. A typical ATM uses monitor or some other type of screen to display messages to the customers regarding their balance limits, transaction guide and help etc. In addition, to confirm the transaction, ATMs print a receipt and push it outside the machine for the customer's record. Another important output function performed by ATMs is providing the cash to the customers using cash dispensers that pick and place the desired amount of currency notes at the tray which is then pushed outside to provide the money to customers.

Feedback Function

The feedback function of an ATM system provides information about the transaction to stakeholders. This might include calculating and printing receipts of the transactions, informing customers about their account

balance after the transaction, and informing bank's computer systems about the date, time, location and amount of transaction. This information is used by bank and customer to track their funds and balances and for reconciliation purposes.

Hence, ATM is one of the best examples of a complete system having all the required functionality of a standard information system.