

# How ATM works?

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# INTRODUCTION

## What is ATM?

**Auto teller machine**, mostly referred to as “**ATM**”, is a machine that automatically provides cash without the aid of a bank representative, as well as performs other banking services upon the insertion of a special card that is issued by the bank you applied to.



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Ability to withdraw money at any time even when the bank does not open

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They are faster since you do not have to wait in line and get money

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You can withdraw cash from ATMs in foreign countries

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ATM is protected by a Personal Identification Number which keeps your money safe



# INPUT DEVICES

Input devices are any hardware or peripherals that allow users to insert/put data into the computer to get certain results.

An input allows users to interact and feed instructions and data to the computer for processing, displaying, storing and sending in certain scenarios.



# Keypa d



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This is a hardware device that allows entering alphanumeric/text data into the computer. When using the ATM, this device allows cardholders to select options as well as type in their PINs (Personal Identification Numbers) to allow transactions

# Card Reader



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A card reader is an input device that reads data from an ATM card .

A card reader is part of the identification of your particular account number and the magnetic strip on the back side of an ATM card is used for connection with the card reader.

# Touch Screen



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Recent ATMs now use Touch screens to interact with the system. Touch Screen is a flat monitor with a sensitive panel on the screen that allows users to communicate/interact with the interface using your fingers without having to use a mouse or keyboard.

# OUTPUT DEVICES

An Output device is any hardware or peripheral that allow users to remove or display the processed data (information) from the computer system. Each output devices serves a specific purpose just as the input device e.g. Speakers to output audio.





# Monito r



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The Monitor is the output device that displays the interaction happening between the user and the system. In this case, it allows the card holder to be able see what options they have selected. The most ATMs monitors have a touch screen systems, it means ATM monitors play two different roles, namely input/output.

# Receipt Printer



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These are external hardware output devices that accept text as well as graphic (softcopy) from a computer and shows the information on a paper (hardcopy). Printers vary in size, speed, sophistication and price. Most ATMs use Thermal Printers to print out hardcopies of the transactions that have been carried out.

# Cash Dispenser



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This is an output device, where the required money is collected, and the duty of cash dispenser is to count each bill and give it to the cardholders. If some error occurs during the process, the card reader will reject the plastic card or this output device allows the card users to be deliver bank notes after it is ejected from the ATM.

# Speake r



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The speaker of ATM provides the cardholder with auditory feedback when a key is pressed and card rejected.

# Storage



## Hard Disk

This kind of storage device is easily changeable, if any damages occurs. They typically come in two sizes: 3.5 inch hard and 2.5 inch hard drive.



## Network Attached Storage

NAS are simply one or more regular IDE/SATA hard drives. This kind of storage device is very good option for local backups especially for networks of data servers.

# Communicati

on



Typical ATM uses wireless communication devices. ATM communication device that converts dial up ATMs to a cellular format while at the same time allows providing a two way communication network for security monitoring 24/7.

# PROCESS

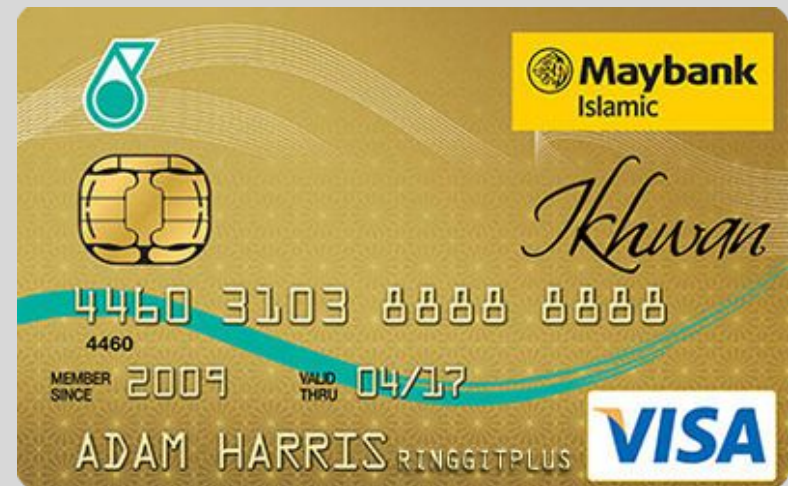
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# Input the card/data process

In this first step, the cardholder begins by inserting a plastic card (provided by their bank) into a card reader. Many ATMs go into a power saving mode, so when the plastic card is inserted, the ATM works with fully awake mode. Then the cardholder has to insert their card's PIN (Personal Identification Number) code via the ATMs keypad. Most modern plastic card's PIN code includes 4 or 6 digital numbers.

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# Checking process

The second step is the Checking Process. The Checking process is the direct involvement between the ATM and host processor. When the cardholder enters either PIN code, the account information is automatically sent to the main host processor. Host processor is a gateway through which various ATMs are networked.

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# Cash giving process

In this process, the cash dispensing mechanism has an electric eye sensor that counts each bill before giving to the customer. Besides the electric eye sensor, there is also has a sensor that evaluates the thickness of each bank note. In some case, if two notes are stuck together, cash dispenser rejects damaged notes to the cash box where this notes saved first, then cash dispenser continues to work with another cash box. A general ATM has 4 cash boxes in it.

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# Printing process

In this printing process, ATM gives a receipt to users about the transaction that he or she has just carried out with this ATM. First, the ATM prints a hard copy of the receipt, then saves it inside of the storage device. After this, the ATM sends it to the host processor. This process continues step by step, if any errors have occurred during the process of printing, the ATM would automatically send feedback to the bank organization employees.

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# Cleaning process

The final step that occurs during the withdraw money process by an ATM is cleaning process. In this step, the ATM automatically clears all of the information about visa card and cardholders. Firstly, the ATM rejects the customers' visa card via card reader, then it clears all of the temporary files, sessions, variables that recognized by sensors. After finishing all of the cleaning process, the ATM starts to work with sleeping mode.

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# RECOMENDATION



# Biometric Fingerprint


Fingerprint scanning, also called biometric fingerprint scanning, is the process of electronically gaining and storing human fingerprints. The digital image created by such scanning/printing is called a finger image.



# Prototype

Biometric Fingerprint Scanner

Scanner



Please, click the rescan button to rescan.

Name:

ID:

# Voice Recognition

Voice recognition is the field of computer science that is involved with designing computer systems that can recognize and analyze spoken words. But voice recognition means only that the computer can take dictation, not that it understands what is being said exactly. According to the users, this technology needs more improvements.





# Prototype



# Conclusion

- You can withdraw cash at any time, day or night, no differences, even the banks don't need to be open.
- ATMs located multiple locations. You can withdraw cash at any bank that is part of the system to which your ATM card is connected.
- Your ATM card is protected by 4-6 digits PIN code, keeping your money safe. You don't have to fill out withdrawal and deposit slips, unlike required at the bank.
- ATMs are faster than going to the bank and waiting your queue.
- You can withdraw cash at ATMs even in foreign countries.