

GENERAL VOCABULARY

safe a strong metal box or cupboard with special locks to contain money and valuable things

SKILLS SELF-DIRECTION

SKILLS INTERPRETATION

HINT

Never put humans in charge of creating backups because they will forget. An automatic system is more reliable.

DID YOU KNOW?

About 85% of payments around the world are still made in cash.

GENERAL VOCABULARY

cashless society a society in which people pay for goods and services using methods other than cash

- Schedule backups for late in the evening when users will not be using the data that is being backed up in order to avoid conflicts.
- Create more than one copy.
- Keep one copy of a folder containing important files backed up using online storage.
- Store copies at multiple locations.
- Store important data in a fireproof **safe**.

ACTIVITY

▼ DATA SECURITY

Read through the list of ideas for creating a thorough backup procedure. Discuss how each idea will help to keep data secure.

ACTIVITY

▼ RAID BACKUP STORAGE

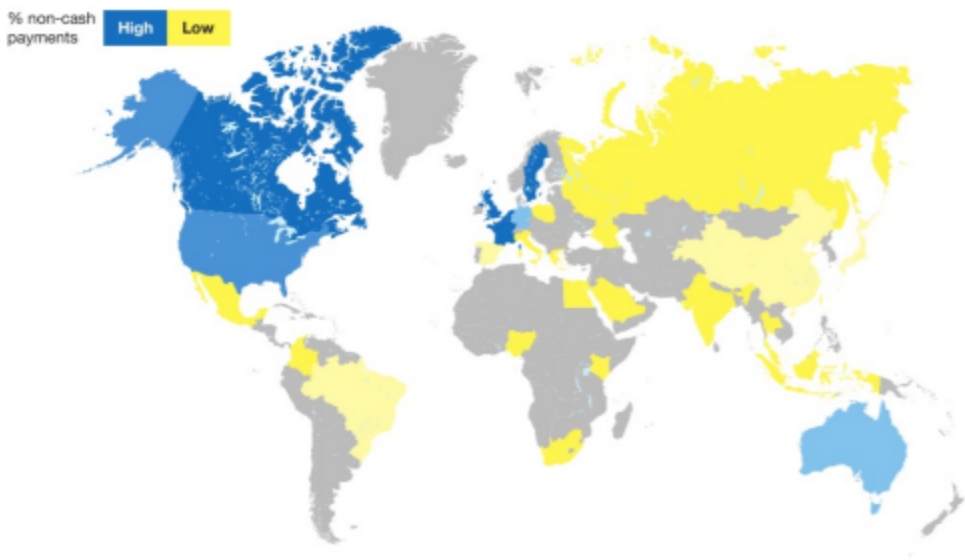
Research RAID backup storage. Why is RAID 1 backup storage better for data security than RAID 0 backup storage?

ONLINE PAYMENT SYSTEMS

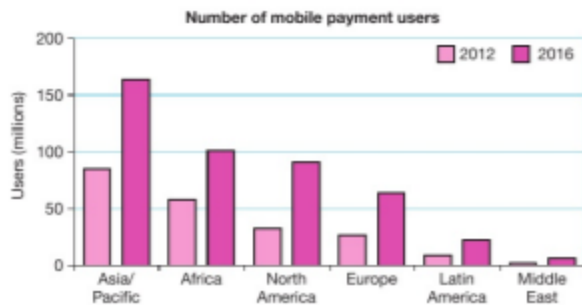
People can pay for goods and services online using various payment systems. These systems send payment details across networks to computers that process the payments.



▲ Figure 6.14 Many countries are moving quickly towards a **cashless society**



▲ Figure 6.15 The percentage of people using non-cash payments differs in different countries around the world



▲ Figure 6.16 Mobile payments are a growing area

ONLINE THIRD-PARTY PAYMENT PROCESSORS

SUBJECT VOCABULARY

payment processor a computer that authorises financial transactions

Online third-party **payment processors** like PayPal or Skrill allow users to create an account so that they can send and receive money using email accounts for identification. Users can also use systems that link with online shopping applications, which can make shopping easier and faster.

BANK CARDS

GENERAL VOCABULARY

expiry date the date after which something can no longer be used

Bank cards allow customers to pay for goods and services online and in shops. When paying online, you usually need to enter the:

- card number
- **expiry date** (and sometimes the start date) of the card
- name on the card
- three- or four-digit card security code (CSC).

HINT

- The card security code is often called a card verification code (CVC) or card verification value (CVV).
- The card number is not the same as the bank account number.



▲ Figure 6.18 Systems are used to authenticate people using payment cards online



▲ Figure 6.17 A bank card contains a number of security and identifying features

When a user chooses to use a card online, they are sometimes asked to authenticate the payment by entering a password using a secure system. These systems are used by financial organisations such as Mastercard^{®10}, which operates the Mastercard SecureCode[®] system.

CONTACTLESS CARDS USING NFC

SUBJECT VOCABULARY

reader a piece of electronic equipment that can read information that is stored or recorded somewhere, for example, on a card

contactless users can use a contactless debit card or credit card to pay for things by waving it over a machine, without using a pin number

Near field communication (NFC) is used in payment cards to allow the transfer of payment data. The payment does not require a PIN or any form of user-authentication. If a card **reader** is in range and requesting payment, then the **contactless** card will take payment up to a maximum amount. This amount is limited, so that any people using card readers or apps to commit fraud can only steal a small amount.

NFC cards can be wrapped in foil to prevent the very weak signal from being intercepted by criminals. See *Unit 1 Digital devices* (page 30) for more information about the uses of NFC.



▲ Figure 6.19 Criminals can use card readers or apps on NFC-enabled devices such as smartphones and smartwatches in order to commit fraud

SUBJECT VOCABULARY

smartwatch a watch that provides data connectivity and often uses sensors to provide feedback to the device about its environment

PROTECTING ONLINE PAYMENTS USING HTTPS

See page 104 for more information about secure websites and the use of HTTPS.

SKILLS EXECUTIVE FUNCTION
COMMUNICATION

ACTIVITY

▼ RISKS TO DATA

Produce a fact sheet for other students at your school or college. The fact sheet should help to increase their awareness of the risks to their data and the methods that they can use to reduce those risks.

CHAPTER QUESTIONS

SKILLS PROBLEM SOLVING

- 1 Which **one** of these is used to control internet traffic entering a network? (1)
- A Server
 - B Backup
 - C Firewall
 - D Encryption

SKILLS INTERPRETATION

- 2 Explain why CAPTCHA tests work. (2)

- 3 State the purpose of pharming and phishing. (1)

SKILLS PROBLEM SOLVING

- 4 List **three** pieces of data from a bank card that a user is asked to enter when making an online payment. (3)

SKILLS INTERPRETATION

- 5 Describe **one** way in which incremental backup differs from differential backup. (2)

SKILLS INTERPRETATION

- 6 Describe how encryption secures data on a network. (2)

SKILLS PROBLEM SOLVING

- 7 State **two** methods used by an online system to authenticate a user. (2)

SKILLS PROBLEM SOLVING
PERSONAL AND SOCIAL RESPONSIBILITY

- 8 State **two** methods used by criminals to get users to visit fake sites. (2)

SKILLS INTERPRETATION
COMMUNICATION

- 9 Explain **one** disadvantage of using online storage for backups rather than local storage. (2)