2 IT systems

- give hardware specifications
- give instructions for using a GUI
- describe different multimedia type
- explain OS installation

System specifications

Speaking 1 Work in small groups. What is the difference between peripherals and internal hardware? Name as many of each as you can. Can you install any?

Vocabulary 2 Are these items *internal components* (I), *peripherals* (P) or *storage* (S)? For some items, there may be more than one possible answer.

1 external drive ___
2 hard disk drive ___
3 headphones ___
4 optical drive ___
5 keyboard ___
6 solid state drive ___
7 mouse ___
8 memory ___
9 monitor ___
10 power supply unit ___
11 printer ___
12 screen ___

Listening 3 07 Listen to a technician describing the motherboard to a new trainee. Match these words to A–G in the photo below.

graphics card = video card
CPU = processor

1 audio socket ___
2 CPU socket ___
3 DIMM slot ___
4 Ethernet connector ___
5 graphics card socket ___
6 SATA socket ___
7 USB port ___

Language

Large and small numbers

For **decimal values**, we say 'point' for the decimal point and pronounce the next numbers individually. We don't always mention the 0 to the left of the decimal point for values less than 1.	*It's 0.54 millimetres long.* ('nought point five four' or 'point five four', NOT 'nought point fifty-four')
To express large and small numbers, we often use **prefixes**. For example, *kilo-* means '1,000'. The main stress is on the first syllable of the prefix.	*a 3.6-**kilo**byte file*

4 Match the prefixes in the box to these numbers.

dual-	giga-	kilo-	mega-	micro-	milli-	nano-
quad-	tera-					

1 1,000,000,000,000 _____
2 1,000,000,000 _____
3 1,000,000 _____
4 1,000 _____
5 0.000000001 _____
6 0.000001 _____
7 1,000,000 _____
8 4 _____
9 2 _____

Pronunciation **5** 08 Listen and underline the stressed syllables in these words. Then practise saying the words with a partner.

1 a dual-core processor
2 a quad-speed Blu-ray drive
3 a 3.5-millimetre socket
4 a micrometre
5 18 nanometres
6 a 26-kilobyte file
7 2.4 megahertz
8 4 terabytes

Listening **6** 09 Listen to an IT manager and assistant talking about a problem with a delivery of new computers. Correct this delivery slip to show what was ordered.

Order for: Wood Publishing

5 × Expression 5710 laptop computers with the following specifications:
- Entel 2.73 GHz dual-core CPU
- 1 × 390 GB SDD
- 8 GB dual-channel DDR3 1666 MHz RAM
- Ladeon 3850 1 GB graphics card
- No optical drive
- 15.6-inch WLED 1920 × 1080 screen
- 4 × USB ports
- No operating system installed
- 1 year next business day on-site service

Dingle Digital Hardware Supplies

10 × Domination 8720 desktop computers
- Entel 3.4 GHz quad-core CPU
- 1 × Eastern Digital 2 TB 7200 rpm SATA HDD
- 16 GB 2000 MHz memory
- Ladeon 7950 2 GB graphics card
- 6 × Blu-ray combo optical drive (Blu-ray, DVD+/-RW & CD)
- 4 × USB ports
- 802.11n WLAN wi-fi mini card
- No operating system installed
- 1 year next business day on-site service

Speaking **7** Work in pairs. Roleplay the conversation the IT manager in 6 will have with the supplier, Dingle Digital.

Hi, we ordered some new computers from you but the order is wrong. We ordered laptops with ... but they came with ...

8 Work in pairs. Write some specifications for a computer. Then ask and answer questions about your partner's computer. Think about these things:

- processor speed
- memory
- hard drive size
- screen resolution

A: How fast is the processor?
B: It's 2.84 megahertz.

9 Work in pairs. Suggest specifications for computers for these people. Then compare your answers with another pair.

1 computers for administration staff
2 a computer for a designer
3 a server for a small business
4 a computer for a sales person

I don't think admin staff need a fast processor. They only need it for word processing and email. What about a two-gigahertz processor?

GUI operations

Speaking

GUI = graphical user interface

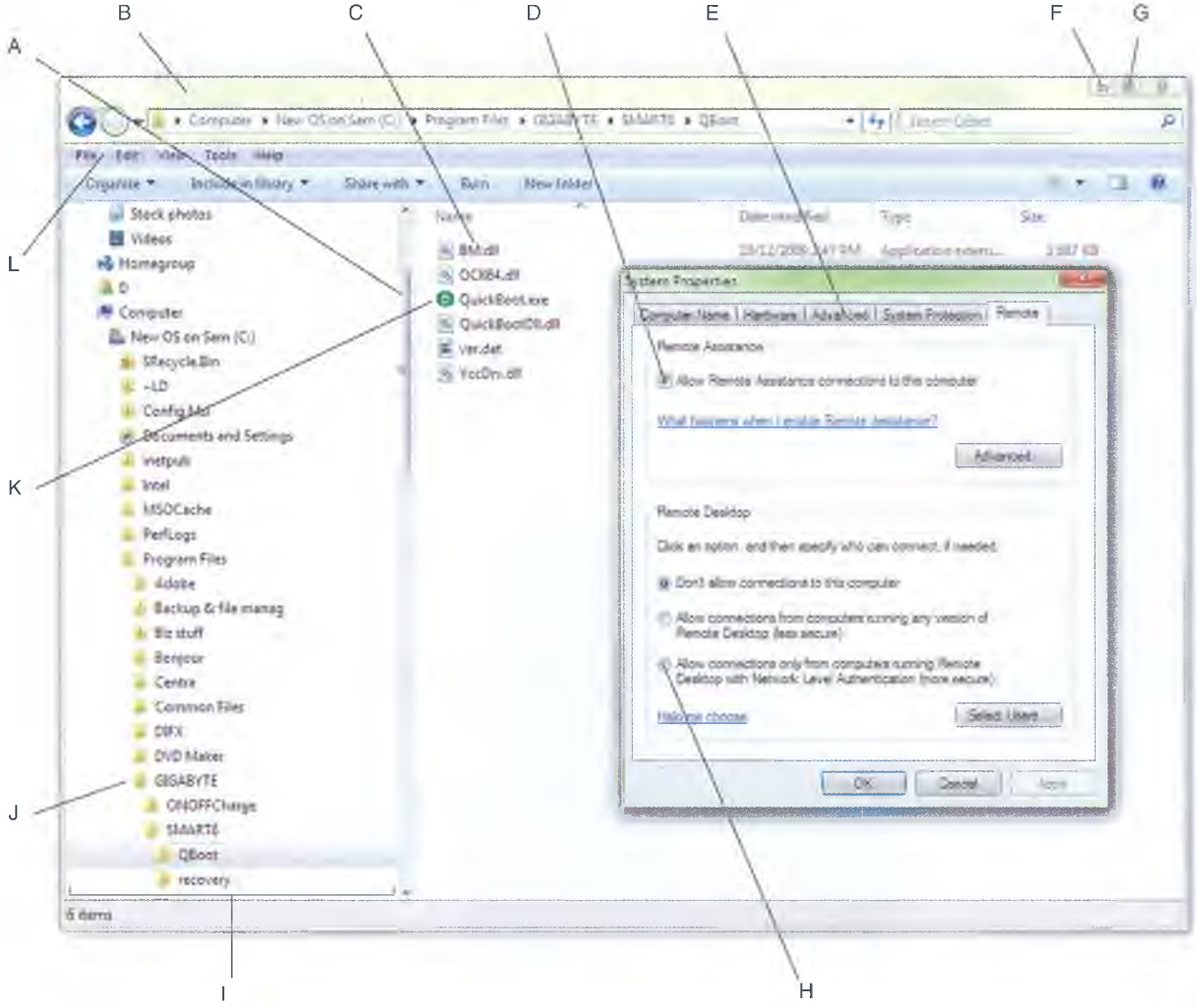
1 Work in pairs. Look at the screenshot in 2. What different things can you do to a window?

You can resize it.

Vocabulary

2 Match these words to A–L in the screenshot below.

1 scroll bar ___
2 menu ___
3 'Minimise' button ___
4 'Maximise' button ___
5 title bar ___
6 icon ___
7 folder ___
8 filename ___
9 left-hand pane ___
10 tab ___
11 check box ___
12 radio button ___



3 Work in pairs. Match actions 1–7 to their results a–g.

1 Double click on the title bar
2 Click on a menu
3 Right-click on an icon
4 Slide the scrollbar down
5 Click the 'Minimise' button
6 Drag the title bar
7 Select the icon

a) to open a new menu.
b) and the window fills the screen.
c) if you want to move the window.
d) to hide the window.
e) to scroll the window down.
f) to open it.
g) and its background changes colour.

Listening 4 10 Listen to a help desk technician talking to an IT user. What information is the technician looking for?

5 Listen again. Number the instructions in the order you hear them.

- ☐ Choose 'Properties' from the menu.
- ☐ Just select 'Manage'.
- ☐ Select 'Install date'.
- ☐ Choose the 'Details' tab.
- ☐ Just right-click where it says 'Disk 0'.
- ☐ Can you scroll up to the top?

Language

Giving instructions

We often use **imperatives** to give instructions. We use '**softeners**' such as *could you*, *can you* and *just* to make the instructions sound more polite.	***Drag** the window to the left.* ***Could you just** double click on the bottom icon?*
We use **sequencers** (e.g. *first*, *then*, *next*, *after that*, *finally*) to show the order of the steps.	***First**, just click on the 'Start' button. **Then** select 'Shut down' in the bottom right corner.*

6 Look at the instructions in 5. Underline the imperatives. What softeners does the speaker use?

Speaking 7 Work in pairs. Take turns being an IT help desk technician and an IT user. Use these prompts to explain to your partner how to follow the steps for each action.

'Start' button → 'Control Panel' → 'System and Security' heading → under 'System': 'View amount of RAM and processor speed'

A: First, could you click on the 'Start' button?
B: Sure.
A: Then select 'Control Panel'. A box will appear.
B: OK.
A: Click where it says 'System and Security', then 'View amount of RAM and processor speed', under 'System'.
B: Got it! Thanks very much.

1 'Start' button → Mozilla Firefox → double click/title bar
2 right-click on 'c:' drive → 'Properties' → 'Sharing' tab → 'Advanced Sharing' → 'Share this folder' check box → 'OK' → 'Close'
3 press 'Start' key and 'E' key to open Windows Explorer → 'Uninstall or change a program' at top → find 'Anki' → right-click → select 'Uninstall'
4 find clock on bottom right of screen → right-click it → 'Adjust date/time' in pop-up menu → 'Change time zone' button → '(UTC+09.00) Osaka, Sapporo, Tokyo' in drop-down menu → 'OK' → 'OK'
5 'Start' button → 'Control Panel' → 'Appearance and Personalization' heading → 'Display' heading → 'Magnifier tool' link

8 Work in pairs. Take turns to explain these actions. Look at the prompts in 7 or use your own ideas.

how to close a program

First, go to the 'File' menu. Then click 'Exit'. Or click the 'x' in the top right-hand corner of the window.

1 how to open a program
2 how to save a file
3 how to change a program's settings
4 how to delete a file

Writing 9 Write an email explaining the steps for one of the actions in 7.

Multimedia hardware

Speaking 1 Work in pairs or small groups. Answer these questions.

1 What do you use computers for? List as many uses as you can.
2 Which items on your list from question 1 use the items in the box?
3 Which other computer tasks use the items in the box?

audio graphics images video

Vocabulary 2 Label the photos with the multimedia equipment in the box.

headphones microphone projector speakers video camera
virtual reality goggles webcam

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

7 _____

Speaking 3 Work in pairs. Who might use each of the items in 2? What might they use them for?

Reading 4 Read this email quickly. What does Kamal want to do?

Subject: Connecting a projector

Hi Kamal,

It should be quite easy to connect your laptop to a projector. First, check that both the laptop and the projector are off. Then connect the projector cable to the laptop: just plug it into the video socket. Most laptops have one, usually at the back or side. After that, insert the projector's power cable into a power socket and turn on the computer and the projector. Next, the computer has to find out the projector's resolution: press the 'Function' key ('Fn') on the laptop and, at the same time, press the key with a picture of a screen on it. The 'Fn' key is usually on the bottom left, near the 'Shift' key, and the key with the screen picture on it is usually on the top row of keys, on the left.

Don't forget to switch off the equipment and unplug the projector from the computer when you've finished.

Best wishes,

Natasha

Vocabulary 5 Match words 1–8 from the email in 4 to words a–h with a similar meaning.

1 cable	a) push
2 plug (into)	b) put (into)
3 insert	c) connect
4 power socket	d) connector
5 turn on	e) turn off
6 press	f) electricity socket
7 unplug	g) switch on
8 switch off	h) disconnect

6 Complete these prepositional verbs.

1 connect _____
2 plug _____
3 unplug _____
4 disconnect _____

Language

Sentences with two objects

Some sentences have **two objects**. We often use a preposition between the two objects (verb + object of verb + preposition + object of preposition).	*I unplugged **the cable from the computer**.* *Insert **the plug into the socket**.*

7 Read the email in 4 again and complete these instructions. Use two objects where appropriate.

Switch *off the computer and the projector*.

1 Plug _____ .
2 Plug _____ .
3 Switch _____ .
4 Push _____ .
5 When finished, turn _____ .
6 Disconnect _____ .

Writing 8 Work in pairs. Read the email in 4 again and mark the features below. What other forms of greetings and signing off can you think of?

- the greeting
- a paragraph
- signing off

9 Write an email explaining how to transfer photographs from a digital camera to a computer. Give instructions for the steps below. Include the features from 8 in your email.

- card reader → computer
- open software
- select card reader/drop down menu
- select destination folder
- 'OK' button

Operating systems

Reading

1 Work in pairs. Put these steps in reinstalling an operating system in the correct order.

- [6] During the process, the computer will restart by itself several times.
- [7] Near the end of the process, you can partition the hard drives.
- [3] In the BIOS, set the first boot drive to DVD. Then reboot again.
- [8] At the end of the process, the operating system will ask for the product key, time, date, network type and details for user accounts.
- [2] First, put the installation DVD into the optical drive. Then reboot the computer while you press the 'F2' key. The BIOS will now start.
- [4] This time, the computer will boot from the DVD and installation will begin.
- [1] Before you start, back up everything.
- [5] Near the start of the process, it will ask you to agree to the licence terms.

Vocabulary

2 Find words in 1 that match these definitions.

1 start again restart
2 split a hard drive into parts that act like separate drives partition hard drives
3 software built into a computer that controls how it starts up bios
4 the drive that the computer reads first when starting up boot drive
5 software comes with this to show you are the owner product key
6 settings for a user user account
7 switch a computer off and on again reboot
8 a series of actions to do something process
9 copy data to another place so that you don't lose it back up
10 rules about how you can use software licence terms

Language

Expressing reason and purpose

We can use these forms to express reason and purpose:	*Why should I update my OS?*
• *for* + noun phrase	***For*** *the new features.*
• *so that* + clause	***So that*** *you can use the new features.*
• *to*-infinitive	***To use*** *the new features.*
• *because* + clause	***Because*** *it has new features.*

3 Work in pairs or small groups. Match 1–6 to a–f. Then complete the gaps with *because*, *so*, *to* or *for* to make sentences.

d 1 Back up everything
e 2 Put the DVD in the drive
a 3 Press 'F2' while rebooting the computer
f 4 During the installation process, the computer will ask you some questions
c 5 You might want to partition the hard drive
b 6 Change the boot drive to the optical drive

a) to enter the BIOS.
b) so that the computer restarts from the operating system DVD.
c) to use the different partitions for different purposes.
d) for safety.
e) so that the process can start.
f) because it needs to know some information, such as where you are.

Speaking

4 Work in pairs. Student A, you are an IT technician. Student B, you are an IT user. Ask and answer questions using 1–6 in 3 as prompts. Give different reasons from those in 3. Then swap roles and repeat the activity.

Business matters

1 Work in small groups. What do you know about open source software? How is it different from proprietary software? Think about cost, who writes it and how much people use it.

Reading 2 Read this web article and check your answers in 1.

Open source: the way forward?

With open source software, what do people think about first? Money, usually, because open source software is free. But this isn't the only important thing. First, there is freedom from the software vendors. Organisations say that freedom is the number one reason to choose open source software. With open source software, an organisation doesn't have to follow the software vendor's decisions. With proprietary software the vendor controls software updates. For example, users can't add features to proprietary software themselves but they can add features to open source software.

Also, with open source software companies have more control of their data. Proprietary software often stores data in special ways that only the vendor understands. So, when a company wants to change to another vendor's software, moving the data to the new software can be very difficult. Open source software is different; open source software vendors explain their data clearly and openly so that they are not a secret. Because of this, moving data isn't a problem.

Sometimes people worry about open source operating systems. They think that their favourite software won't run on open source operating systems. However, this isn't true because there is a lot of office software, such as word processors and spfeadsheets, for open source operating systems. In fact, there are many kinds of this software and they work well. It is only special areas, such as graphics design, where proprietary software is clearly better.

Listening 3 11 Listen to a spokesperson for a major operating system company giving a speech: 'Why open source is a bad idea'. What reasons does the speaker give to use proprietary software? Make a list.

Speaking 4 Use the article in 2 to make a list of reasons to use open source software. Then work in pairs. Give reasons for your answers and discuss any differences.

5 Work in small groups. You are technicians in an advertising company. You look after operating systems and software. Look at this email from your manager and decide whether to use an open source OS, a proprietary OS or some of each. Then explain your decision to the class.

Hi Peter,

We need to replace the computers in our administration office and our design office. The administration staff are using old computers that need updating. The design staff need to keep the software they are currently using (e.g. Photoshop).

What are your recommendations for operating systems? Please let me know.

Many thanks,

Yuriko

Writing 6 Write an email to your manager giving your recommendations. Use the Language box on page 18 and the information about writing emails on page 17.

3 Data communication

- describe browser problems
- define network concepts
- explain advantages of mobile devices
- specify information about emails

Internet browsing

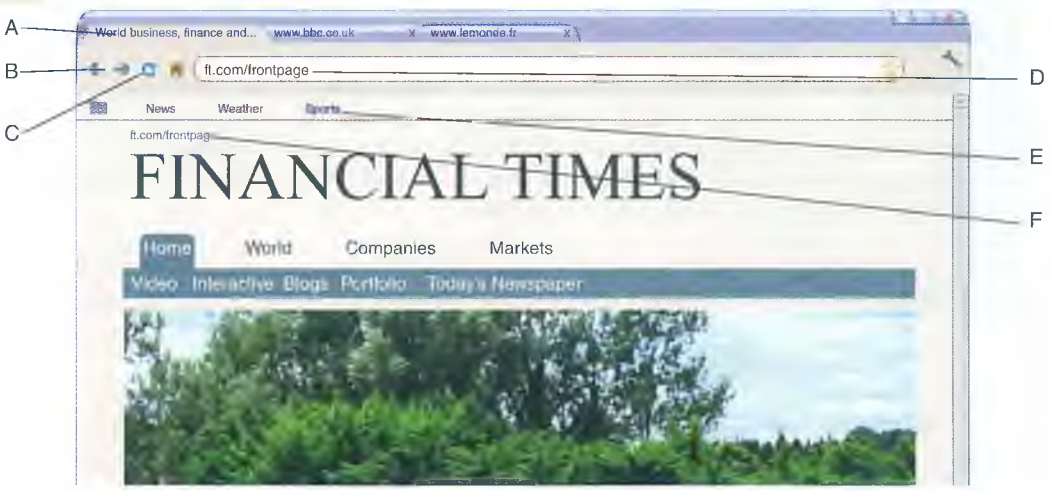
Speaking 1 Work in pairs. Discuss these questions.

1 Which websites do you visit most often?
2 Which browsers do you use? Which is your favourite? Why?
3 What kind(s) of device(s) do you use to access the internet?

Vocabulary 2 Match these words to A–F in the screenshot of a browser below.

URL (uniform resource locator) = web address
favourites = bookmarks

1 web address ___
2 bookmarks bar ___
3 'back' button ___
4 tab ___
5 link ___
6 'refresh' button ___



3 Match verbs 1–8 to nouns a–h to make collocations for things you can do on the internet. For some items, there may be more than one possible answer.

1 follow
2 take part in
3 stream
4 update
5 post
6 download
7 browse
8 enter

a) video
b) a password
c) your status
d) a webinar
e) photos
f) web pages
g) a comment
h) a link

Speaking 4 Work in pairs. What do you do on the internet? Tell your partner. Use the collocations in 3.

Listening 5 12 Listen to an admin assistant telephoning an IT specialist about a new browser. Does the IT specialist solve his problem? What does the admin assistant like about the new browser?

6 Listen again. What three things does the admin assistant need help with?

Language

Present simple vs present continuous, stative verbs

We use the **present simple** to talk about something we do regularly. We use the **present continuous** to talk about an action happening now or a temporary situation.	*I **work** in an IT Department. This week **I'm managing** the department because my manager is away.*
Stative verbs (e.g. *like, know, understand*) describe states rather than actions. We don't usually use the present continuous with stative verbs.	*I **know** how to use HTML.*

7 Underline the present simple and circle the present continuous verbs in these sentences from 5. Why did the speaker use the tense in each case?

1 I'm having trouble with the new browser we're using on our PCs.
2 I understand that now. But something else is confusing me.

8 Complete this telephone conversation between an IT help desk assistant and an employee. Use the correct present simple or present continuous form of the verbs in the box.

check know not work open type in

A: There's a problem with this browser. I usually just (1) _____ my user ID and password and a new window (2) _____ . But it (3) _____ now!
B: OK, I think I (4) _____ what the problem is. Probably your pop-up blocker is on.
A: Hmm … I (5) _____ it now. Yep, you're right. It's OK now. Thanks!

Speaking **9** Roleplay telephone conversations for these situations. Take turns being the IT help desk assistant and the caller. Use the conversation in 8 as a model.

1 problem: video streaming/usually no problem/now not work
solution: internet connection problem/check the connection
2 problem: website images/usually all appear/now no pictures
solution: leave 'Automatically load images' unchecked
3 problem: often visit this website/now error message
solution: enter 'www' in the web address, not 'wwww'

Listening **10** 13 Listen to part of a telephone conversation. Complete 1–5 with the correct symbols from the web address the speaker dictates.

forward slash = slash = stroke

www.d-o-socialwork.gov.ae/schools_2.html?72

1 dash ___ 3 slash ___ 5 question mark ___
2 dot ___ 4 underscore ___

11 14 Listen to part of a telephone conversation. Which web address does the speaker dictate?

1 www.agamy.com/search/results_78.aspx?p
2 www.agamy.com/search/results/78.aspx-p
3 www.agamy.com/search/results_78.aspx-p

Speaking **12** Work in pairs. Student A, look at the information on page 68. Student B, look at the information on page 70. Follow the instructions.

Mobile computing

Speaking

1 Work in small groups. What features do you use on a mobile device (e.g. GPS, maps, camera)? What do you use them for?

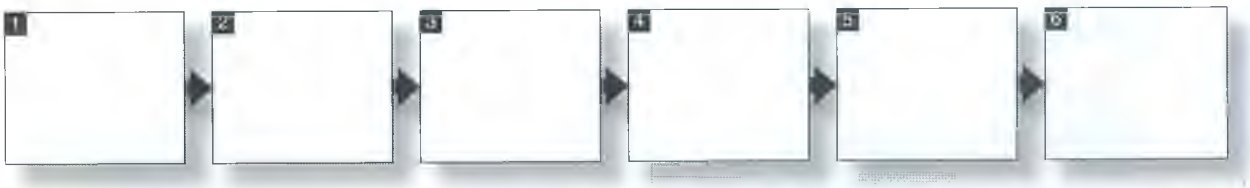
2 Work in pairs. Think about people in these jobs. How might a mobile device be useful to them?

1 a company sales person who visits many client companies
2 a delivery driver for a parcel delivery company
3 a technician who installs entertainment systems in people's homes

3 Complete the flowchart with steps a–f in the correct order.

a) admin staff print out work instructions
b) admin staff send invoice asking for payment
c) client signs paperwork
d) technician finds client and installs system
e) technician picks up instructions
f) technician takes paperwork back to office

Entertainment systems installation workflow



4 Work in pairs. How do you think the workflow in 3 will change if the technician has a mobile device? Draw a new flowchart and complete the stages.

Listening

5 15 Listen to an IT specialist talking to a high-level manager, explaining how their entertainment system installation technicians can use new tablet computers. Check your answers in 3 and 4.

Language

Zero and first conditionals

We use the **zero conditional** to talk about something that usually or always happens as a result of an action or situation.	***If** you **drop** a tablet, it **breaks**.* ***If** you **use** a tablet, you **can send** documents easily.*
We use the **first conditional** to talk about the result of a future action or situation.	***If** we **have** a problem, we'**ll send** a message.*
We use a comma between the two clauses when the *if*-clause comes first but not when it comes last.	*If we buy tablets, we'll save money.* *We'll save money if we buy tablets.*

6 The company in 5 is now using the tablets. Complete these zero conditional sentences.

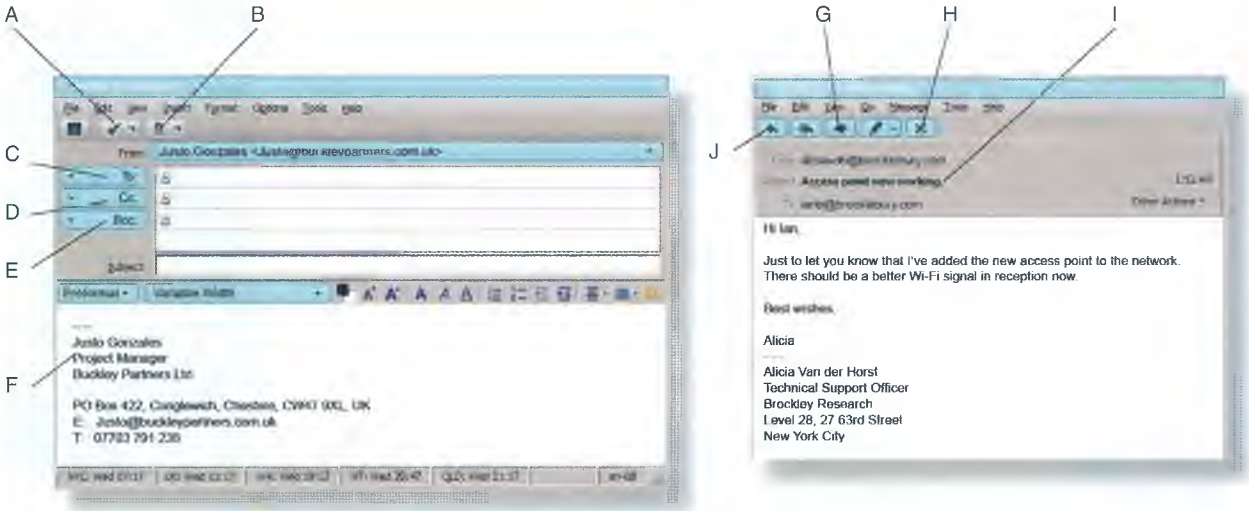
1 With the tablets, if the technician _____ (not know) the way to a job, he or she _____ (use) GPS to find the best way there.
2 If the customer _____ (be) happy with the job, he or she _____ (sign) using the tablet's screen.
3 If a customer _____ (change) their order, the system _____ (update) the details on the tablet.
4 If a technician _____ (need) to order a new part, he or she _____ (send) a message electronically.

Email

Speaking 1 Work in small groups. How often do you use email? When do you choose email instead of instant messaging, face-to-face or telephone communication? Discuss.

Vocabulary 2 Match these words to A–J in the screenshots of email clients below.

1 subject line ___
2 recipient's address ___
3 email signature ___
4 attachment button ___
5 spell checker ___
6 forward ___
7 blind copy address ___
8 reply button ___
9 copy address ___
10 delete ___



3 Note down the steps in sending an email. Then compare your notes with a partner's. Are they the same?

Language

Articles

We use ***a/an*** when we mention an item for the first time.	*Please send me **a** message.* *Could you send me **an** email to remind me?*
• We use ***the*** when the listener already knows which item we're talking about. • We also use ***the*** when the item is the only one of its kind.	*Could you forward **the** email that Jack sent?* ***The** internet is down.*

4 Complete this intranet post about email guidelines with *a*, *an* or *the*.

Here are some guidelines for using email at RML Digital:

- Think carefully about what you write – emails can be permanent records. Even if you delete (1) _____ email, (2) _____ recipient could keep their copy. He or she might also forward (3) _____ email to other people.
- Make (4) _____ subject line clear and short.
- If you receive (5) _____ important email, try to send (6) _____ quick 'thanks' message in reply. It only takes a few seconds and it may stop someone worrying that the email didn't get through.
- If you are copying emails to people who don't know each other, use (7) _____ 'Bcc' line so that they can't see each other's email addresses.
- Check attachment size before sending! Some email systems limit attachments to 10 MB or less.
- (8) _____ standard RML Digital signature should be on all emails sent from the company.

6 Interactions

- describe trends
- describe benefits of video conferencing
- give meanings of e-commerce concepts
- process requests for training

Enterprise social media

Speaking 1 Work in pairs. How do you communicate electronically with friends and family? Which types of communication do you think are better for a) communicating information and b) being friendly?

Vocabulary 2 Match websites 1–3 to types a–e. There are two extra types. Can you give other examples of each type?

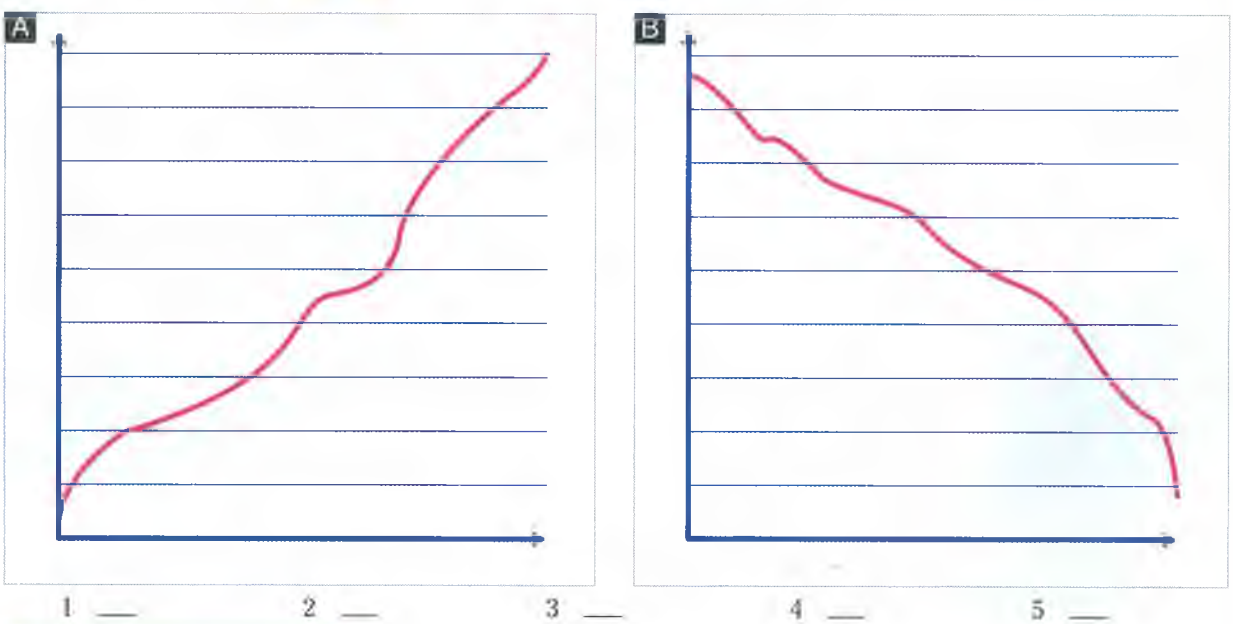
1 Dropbox
2 Facebook
3 Twitter

a) microblogging system
b) internet forum
c) file sharing service
d) social networking
e) blog

Speaking 3 Work in pairs. Look at the websites in 2 and discuss these questions.

1 What are some of the differences between the systems?
2 How are they used differently in a work environment from a social environment?
3 In a company, what security and privacy issues might each lead to?

Listening 4 30 Listen to five people describing trends and match them to graphs A and B.



Language

Describing current changes

We often use the present continuous to describe changes happening now. We can use *more and more* + noun or comparative + *and* + comparative.	*We're* ***having more and more visitors*** *in the forum.* *Smartphone applications* ***are getting cheaper and cheaper****.*
We often use *get* and *become* with comparative adjectives.	*Our website* ***is becoming/getting*** *more popular.*
We can also use verbs such as *increase*, *decrease*, *go up* and *go down*.	*The number of bloggers is* ***increasing****.*

5 Look at audio script 30 on page 77. Underline the parts of the sentences showing change.

6 Complete these short conversations about trends. Use the present continuous and comparative adjectives.

1 A: _____ (hard drives/get/cheap)
B: I think we should wait a bit before buying more of them.
2 A: _____ (our website/get/slow)
B: Maybe we need a faster server.
3 A: _____ (our forum/become/popular)
B: Great! That's just what we want!

Listening

7 31 Listen to a general manager talking to an IT officer about replacing the company's social networking system. Will it be easy or difficult to get the features the manager wants?

8 Listen again. Tick ✓ the correct column to show which features the company has now and which the manager wants in the new system.

	Current system	New system
1 instant messaging		
2 forums		
3 document management system		
4 comments feature		
5 mobile phone access		
6 basic security features		
7 encryption		
8 speech-to-text capability		

instant messaging = chat

9 Listen again. What trends are mentioned? Mark these items ↗ or ↘ to show an upward or downward trend.

1 using the current system ___
2 spending time on emails ___
3 working with overseas departments ___
4 needing data access at home ___
5 importance of security ___
6 popularity of voice recognition ___

Language

10 Work in pairs. Write a sentence to show the trend for each item in 9 using language from the Language box. Then compare your answers with audio script 31 on page 77.

Speaking

11 Work in groups. Think of as many answers to these questions as you can. Use language from the Language box. Which group can give the most answers?

1 What are some current trends in IT?
2 In what ways can enterprise social networking systems help a company?

Video conferencing

Speaking

1 Work in pairs. Discuss these questions.

1 Which method of communicating do you prefer: face-to-face, by video or by telephone?
2 Look at the photo. Have you ever used a video conferencing set-up? If so, describe the situation.
3 What do you think are the advantages of video conferencing over face-to-face meetings?

2 Which of these items can you see in the photo? Mark the items on the photo.

cables | control panels | high-definition monitors | local participants | microphones | remote participants | speakers | video cameras

Listening

3 32 Listen to two technicians talking about video conferencing technology. Which two types of system does the woman talk about?

MCU = multipoint control unit

4 Complete these glossary definitions with the words in the box.

(data) compression | dedicated system | MCU | remote control

Glossary of video conferencing terms

1 _____: a system that is used for only one purpose, e.g. for video conferencing only, nothing else
2 _____: a device that can control the video conferencing system from a distance, without wires. It can be passed from person to person easily.
3 _____: a device that allows video conferencing systems to use more than two locations
4 _____: a way to fit audio or video into a smaller space and use less bandwidth

Language

Second conditional

We use the **second conditional** to talk about something that is not true now or is unlikely to happen in the future.	***If*** *we* ***were*** *a big company, we* ***would buy*** *an expensive video conferencing system.* ***If*** *we* ***got*** *a video conferencing system, our travel costs* ***could go down*** *a lot.*

5 Look at audio script 32 on page 77 and underline all the examples of the second conditional. Which tense do we use in the *if* clause? In the main clause?

Listening **6** 33 Listen to five people talking about video conferencing. Do they think the situation is likely or unlikely? Tick ✓ the correct column for each speaker.

	Likely	Unlikely
Speaker 1		
Speaker 2		
Speaker 3		
Speaker 4		
Speaker 5		

Speaking **7** Work in pairs. Look at audio script 32 on page 77 and complete this table. Then discuss the advantages and disadvantages of having each system.

	Dedicated video conferencing system	Videophone
How many locations of participants?		only two
How many participants in each location?		only one
Cost?		less expensive
Room		any room is OK
Equipment needed		only the videophone

If we had a videophone, we could save a lot of money. But we wouldn't be able to have meetings with lots of people.

8 Work in pairs. What would happen if you wanted a video conferencing system but didn't have these items? Complete this table. Then take turns to say complete sentences.

Item	Problem without this item
1 encryption	*wouldn't be secure*
2 warranty	
3 a high-speed internet connection	
4 an MCU	
5 training	
6 a dedicated room for the equipment	
7 data compression	

If we didn't have encryption, our video conferences wouldn't be secure.

9 Work in pairs. Student A, you are a general manager. You want a video conferencing system but want to save money. Student B, try to persuade Student A, your manager, to have one of the features in 8. Then swap roles and repeat the activity.

10 If these people could use video conferencing facilities, how would their lives be different? Discuss. Use language from the Language box.

1 a deaf person
2 a child who lives a long way from any school
3 doctors working in a small hospital a long way from a city
4 a company director who doesn't have time to visit her clients overseas

E-commerce

Speaking 1 Work in pairs or small groups. Do you buy things on the internet? Why/Why not? What are the advantages and disadvantages of internet shopping? Discuss.

Reading 2 Read this magazine article about Dalya's job. What are three parts of an e-commerce system? Which does Dalya find most difficult to set up?

shopping basket (BrE) = shopping cart (AmE)

Internet shopping: the inside story

Dalya Rahman specialises in setting up e-commerce systems. Here, she tells 'New Careers' magazine about her job.

I work with B2B (business-to-business) e-commerce systems as well as B2C (business-to-consumer) systems and integrate all the components: the user interface, the shopping basket and the payment system. The user interface is the part that shoppers see on their screens. For this, I work closely with designers to make it look good; it's important that customers enjoy using it.

When customers see an item that they want to buy, they put it in their shopping basket. To set this up, I usually integrate standard software packages with the company's website. This software uses small files that the browser puts on the user's computer, called cookies, to track the items in the basket. This stage isn't too difficult – mostly I just match up the code with the client's website.

The next step is the payment processing system. This takes the customer's information – delivery address, credit card number, etc. It processes the payment and outputs the details so that the company can send out the order. This component is more complicated: I have to integrate it into several different systems, including the company's accounting system. Fortunately, there's a special data format, EDI, that is Electronic Data Interchange, which makes this easier. EDI is standard in e-commerce systems so that other kinds of software, such as accounting systems, can accept data from it.

My job is fun because every project is different and I use my technical skills as well; a great combination!

3 Find words in the article in 2 that match these definitions.

1 put together two or more things so that they work well together (paragraph 2) _____
2 smaller parts of something bigger (paragraph 2) _____
3 computer programming instructions (paragraph 3) _____
4 taking a series of steps to do something (paragraph 4) _____
5 the place to send goods (paragraph 4) _____
6 the items that a customer wants to buy (paragraph 4) _____
7 looking after money in an organisation (paragraph 4) _____

4 Read the article in 2 again and answer these questions.

1 For which component is appearance important?
2 Which component involves integration with something else?
3 What do e-commerce websites use cookies for?
4 For which component is programming mentioned?
5 Which item involves integration with more than one other component?
6 Where does the company get delivery information from?
7 Why is EDI useful?

5 There are three acronyms in the article in 2. Underline them and their meanings.

Language

Giving meanings of technical words

To explain technical words, we can: • give the meaning in brackets. • use *called* + the word(s) between commas. • use *be*. • use a separate sentence. • use a relative clause.	*... EDI* ***(Electronic Data Interchange)*** *format ...* *We use small data files,* ***called cookies****, to ...* *We use EDI. EDI* ***is*** *a way of sharing data between components of a ...* *We use EDI,* ***which*** *is a way of sharing data between components of a ...*

Speaking **6** Work in pairs. Student A, look at the information on this page. Student B, look at the information on page 71. Follow the instructions.

DRM = digital right management

NFC = near field communication

Student A

1 Student B will read the definitions of some words to you. Give him/her the correct acronym or phrase from the box for each definition.

bricks and clicks DRM NFC

2 Read these definitions to Student B. He/She will give you the correct acronym or phrase for each definition. Write it in the gap.

a) a data security system which is used over the internet and other open networks _____

b) buying and selling between business and government _____

c) a real shop, not an online one _____

Listening **7** 34 Listen to a telephone conversation between a customer and a salesperson talking about a new product. What is the product? What problem does it solve?

8 Listen again and answer these questions.

1 How do online customers use the product?
2 How do customers use it in real (bricks and mortar) shops?
3 What is a further benefit for the company?

Speaking **9** Work in pairs. What is an e-wallet? Write a definition. Then compare answers with your partner. Discuss any differences and create a new definition combining your ideas. Share your ideas with the class.

10 Work in pairs. Would you be happy to use an e-wallet? Why/Why not? How secure do you think it is? Discuss.

11 Work in pairs. Write definitions for three words from the text in 2 but do not show your partner. Then read your definitions to your partner. Can he/she guess the words?

Training users

Speaking 1 Work in pairs. Discuss these questions.

1 When a company buys new technology, how important is it to train users?
2 What do you think are the advantages of e-learning over face-to-face learning?

Vocabulary 2 Match words 1–8 to definitions a–h.

sync = synchronise/ synchronisation

1 smartphone ___
2 threaded view ___
3 tagging ___
4 announcement ___
5 policies and procedures ___
6 syncing ___
7 instant messaging ___
8 archiving ___

a) documents showing standard ways of doing things in an organisation
b) adding keywords to a file (e.g. a document or photograph) to make it easier to find
c) a type of mobile phone that can also use data
d) a way of viewing emails and comments so that all messages in the same conversation are grouped together
e) saving an old file in a special place because you don't use it very often but might want to use it later
f) making the data from two places match, e.g. making two calendars match
g) an important message for many people, giving new information
h) a system for having conversations using short written messages on the internet

Listening 3 35 Listen to six employees asking for training on an enterprise social networking (ESN) system. Tick the areas/features the employers need training in.

Training needs analysis: Enterprise social networking system

Specific areas/features	Training needed	Specific areas/features	Training needed
• instant messaging	☐	• finding messages	☐
• increasing efficiency	☐	• smartphone syncing	☐
• document collaboration	☐	• threaded view	☐
• policy and procedure access	☐	• archiving of old messages	☐
• company announcements	☐	• tagging of messages, files and documents	☐

Language

Making requests

For requests, we can use polite questions such as indirect questions (e.g. *It would be great to know ..., I'd like/love to know ..., Could someone tell me ...*) or the modal verbs *can* and *could*.

It would be great to know *how syncing works.*
Could someone tell me *how to use the ESN system?*
Could *we learn about tagging?*

4 Write a polite request for training in each of these areas.

1 instant messaging
2 document collaboration features
3 document archiving
4 finding information

Speaking 5 Work in pairs. Choose one of the words in the box and roleplay a conversation requesting a training session. Then swap roles and repeat with another word.

CAD software | databases | networks | spreadsheets

F: Yes, um ... I think that will work. I think the designers will be happy.
J: OK, good, that's decided then. Ulrik, send me an email when you've found a good price. Now, let's move on to the next item on the agenda, which is the cost of the new ...

Unit 2 IT systems

07

OK, see the large thing with silver-coloured edges, near the middle – well, just above the middle? That's the CPU socket, where the CPU, the central processor unit, goes. Now, can you see the long orange and white slots to the right of the CPU? There's a white one, an orange one, then another white one and another orange one. They're for the memory – for the DIMM memory modules. Now look at the bottom of the board. See the green and orange slots of different lengths? These are where the graphics card and things like that go. Now, looking at the left-hand side: this is where the connectors are. The lower ones, nearer the bottom, are the audio sockets, for the sound. And above them is the Ethernet connector, where you plug the network cable in. And higher up are some USB ports, for connecting your peripherals – you know, things like your keyboard and printer. And the hard drives and Blu-ray drive? They plug into the SATA sockets – they're the orange things in the bottom right-hand corner. See the five of them?

08

1 a dual-core processor
2 a quad-speed Blu-ray drive
3 a 3.5-millimetre socket
4 a micrometre
5 18 nanometres
6 a 26-kilobyte file
7 2.4 megahertz
8 4 terabytes

09

[A = Assistant; M = Manager]
A: The shipment just arrived!
M: Great! Let's check everything's here. OK. I've got the order form here.
A: And here's the delivery slip from the shipment.
M: Right. Let's see if they match. What's first on yours?
A: Five laptops, each with a 2.73-gigahertz dual-core processor.
M: OK, that's fine.
A: And 390-gigabyte drives.
M: Ah! We ordered 500-gigabyte drives. Oh dear! How much memory do they have?
A: Eight gigabytes.
M: That's no good. We ordered 16. How about the video card?
A: Ladeon 3850. One gigabyte.
M: Well, at least they got that one right. And the screen resolution?
A: 15.6-inch, 1920 × 1080.
M: Hmm ... Should be 1366 × 768. I won't complain about that though.
A: And four USB ports, no OS, one year warranty.
M: Yep, that bit's fine. How about the desktops? There should be ten of those?
A: Yep, that's what this says as well. And, er ... yep, ten boxes.
M: And they should be 3.4 gigahertz and with eight cores.
A: Well, they're 3.4 gigahertz all right but they seem to be quad-cores.
M: Ouch!
A: All with two-terabyte hard drives.
M: You mean each has two drives, one terabyte each?
A: Nope, they each have one drive, two terabytes.
M: Oh dear! Still not what we ordered. We really need the two separate internal drives. How about the graphics card?
A: Two gigabytes.
M: That's OK.
A: And the optical drive is a 6 × Blu-ray drive.
M: Good.
A: And there are four USB ports and a wi-fi card.
M: Well, they got the optical drive and the wi-fi card right but we asked for eight USB ports! Oh dear! I'll call Dingle straight away.

10

A: OK, so first, can you see 'Computer' in the left-hand pane?
B: Er ... mm ... no, I don't think so.
A: OK, can you scroll up to the top?
B: Ah, yes. I can see it now.
A: Now, right-click on that and a menu will appear.
B: OK.
A: Just select 'Manage'. There may be a short wait but a box should appear. Can you see it yet?
B: Mm ... not yet. Ah, yes! There it is.
A: Can you see where it says 'Storage', in the left-hand pane?
B: Yep.
A: Just to the left of that is a little box with a plus sign. Click on that.
B: Um ... yep, got it!
A: And a new icon will appear, labelled 'Disk management'. Click on that and a list of your drives will appear in the centre pane. How many are there?
B: There are two: 'Disk 0' and 'Disk 1'.
A: I see. Now, just right-click where it says 'Disk 0' and choose 'Properties' from the menu. Then, from the box that appears, choose the 'Details' tab. Then you'll see a drop-down menu.
B: Yep, got it.
A: In that drop-down menu, select 'Install date'.
B: Um ... just a moment while I look for it ...
A: It's about half way down. You'll probably have to scroll down a bit.
B: Ah, yes. Here it is.
A: OK, thanks. What date does it say?
B: 7 December 2011.
A: OK. Thanks very much.

11

We've come across a few organisations recently who have been using open source software. We think this is a big mistake. Why? Well, there are several reasons.

First, there's the issue of cost. Many people think that open source software is cheaper than proprietary software. However, this is not true. Yes, it costs less to buy to begin with but that's not the only cost. There's also the cost of training and the cost of support. A lot of proprietary software is very common, so there are many people who already know how to use it. But open source is often unfamiliar, so additional training is required. Also, open source operating system providers often make their money by charging for support; but if you buy proprietary software, support is free.

Secondly, companies that produce proprietary software can pay salaries to their software developers. This means that proprietary software is usually better, with more features, a better-looking user interface and fewer bugs.

Finally, with operating systems, there is one major disadvantage of open source systems. Most commercial software doesn't run on open source operating systems. Open source applications for word processing do exist but for others, such as design and video editing, they are not very good. For those purposes, the industry standard is to use proprietary software.

Unit 3 Data communication

12

A: Hi, is that the IT Department?
B: Yes. Can I help you?
A: Er ... yes. I'm having trouble with the new browser we're using on our PCs.
B: OK, what's the problem?
A: Well, the old one had a box for searching.
B: The search bar? Yep, this one has it too but it's the same place that you type the web address into.
A: Ah, you mean that one that starts with 'http'?
B: Yep, that's it.
A: OK, let me try it. I need to open a new tab first. I knew how to do that in the old browser but not in this one.
B: Now, see the little shape to the right of your current tab?
A: Yep.
B: Just click on that.
A: Ah, yes. I've got a new tab now.
B: OK, now just type what you are looking for into the address bar and hit 'Enter'. It'll search for you.
A: Oh, I see. OK, that works!
B: Great!
A: Thanks. That's good. I understand that now. But something else is confusing me: I can't see any menus. Where did they go?
B: Well, see that spanner symbol in the top right corner? Click on that and you'll see all the menus there.
A: Oh yes! Thank you. I don't know how I missed that!
B: Great! Is everything else OK?
A: Yes, thanks. There is one thing I do like. I can see all my bookmarks now, just below the address bar. Much easier than going to a menu for them like before!

13

A: What's the address?
B: It's *W–W–W*, dot, *D*, dash, *O*, dash, *socialwork*; all one word ...
A: Yep.
B: Dot, *gov*, dot, *A–E* ...
A: Yep.
B: Then forward slash, *schools*, underscore, two, dot, *H–T–M–L* and then a question mark, followed by *72*.
A: OK, so that's *W–W–W*, dot, *D*, dash, *O*, dash, *socialwork*, dot, *gov*, dot, *A–E*, forward slash, *schools*, underscore, two, dot, *H–T–M–L*, question mark, *72*?
B: That's it!
A: Great! Thanks very much.
B: You're welcome.

14

A: Could you tell me the address?
B: Yes, sure. It's *W–W–W*, dot, *A–G–A–M–Y*, dot, *com*, slash, *search*, slash, *results*, underscore, *78*, dot, *A–S–P–X*, dash, *P*.
A: OK, so that's *W–W–W*, dot, *A–G–A–M–Y*, dot, *com*, slash, *search*, slash, *results*, underscore, *78*, dot, *A–S–P–X*, question mark, *P*?
B: Almost right. It's dash, *P* at the end, not question mark, *P*.
A: OK, thanks very much.
B: No problem.

15

A: And how are your sales team connecting to the internet nowadays when they're visiting clients?
B: Um ... they just log in in the normal way. They have dongles that plug into their laptops. With those, they can send data through the mobile phone system. Or they can use a wireless connection.
A: Hmm ... that doesn't sound very secure.
B: What do you mean? They all have passwords.
A: Well, after the data leaves the computer, there are many ways for people to read it if they try hard enough.
B: Yeah, but that's not very common, is it?
A: Actually, you'd be surprised! It's happened to many of my clients.
B: Oh dear! What can we do?
A: Well, what I recommend is a VPN – a virtual private network, which is a very secure system that's easy to use. Your team will be able to log in from anywhere.
B: Sounds great! Is it difficult to use?
A: Not at all. Your sales team will log in as normal; they can use the same dongle or wi-fi networks as now. The system will encrypt your data – in other words, it will change your data so that no one else can read it; only your company's computers. Even the government won't be able to read it! You don't have to worry about security at all!

16

A: Hi, Matt. Are the new tablets for the installation technicians ready?
B: Yep, nearly.
A: Great! How much paper do you think they'll save?
B: Lots, I think. Currently, we print out instructions and then give them to the installation technicians who go out to clients. And when the work is finished, the customer signs for the work. After all that, the technician takes all the paperwork back to the office.
A: Yep.
B: But with the tablets, we can just send the work instructions over the mobile phone network. The tablets have GPS and maps to help find the clients quickly and easily. The customer signs the electronic version and the system sends it to the customer's email address, together with an invoice. Also, the data about each job goes straight to our database.
A: Great! And do you think the tablets will improve flexibility?
B: Sure. Sometimes a customer changes their order when the technician is already out of the office. In the old system, that was a problem because the paperwork was already with the technician. But with this system, we can just update the instructions remotely.
A: That sounds like better customer service! I guess we can also communicate more easily with the technicians?
B: Yep. If they need spare parts, they just send the specifications directly. Much quicker than telephoning! And there are probably fewer mistakes that way as well. It's the same when changing their schedules. We can do that when they're out working as well.
A: Sounds great!

B: There's one thing they don't like though: we've blocked access to social networking sites and video streaming.
A: Well, we don't want them using those at work now, do we?

Unit 4 Administration

17

A: OK, so here's the price calculations worksheet. You can probably see what it does. We wrote it to add these three values: £2.17, £9.45 and £2.99. So, see, if we add those three values, we get a total of £14.61. OK?
B: Yep, that's clear.
A: Now, see that total, the £14.61? That's in cell B6.
B: Ah, because it's in the cell where column B meets row 6.
A: That's right, you've got it. Now, if we click on cell B6, we can see the formula in it here, right next to where it says *fx*. Notice the equals sign. All formulae have to start with an equals sign. Then, after that, is the function, which, in this case, is *sum*. Now, this function just adds up the values in the cells.
B: OK, I see. It says, 'equals sum, bracket, B3, colon, B5, close bracket'. What does *B3 colon B5* mean?
A: That just tells it which values to look up. It means cells B3, B5 and everything in between in the same column.
B: I see. So it adds up the values in B3, B4 and B5, to get the £14.61.
A: Yep, that's right.

18

1 Can you tell me what's wrong? I typed in the formula from your instructions but I just get an error message.
2 I can't find the spreadsheet! I definitely saved it in my main folder!
3 Yesterday I designed a spreadsheet to work out last month's sales figures. However, it just doesn't work!
4 I typed a date into this cell but it shows me a number instead.

19

Oh, yes, I was going to walk you through our client database. It's quite simple and it has the usual objects – tables, forms and reports. Now, here's the table for the client companies. It looks like a spreadsheet, doesn't it? Each record in the table is like a row on a spreadsheet. It has several fields – like cells in a spreadsheet. This one has the customer ID and information about the person who we contact at the company: given name, family name, job title, email address, you know, things like that. We give each customer a customer ID so that each record is unique – everyone has a different customer ID. Because it's unique, we can use it as the primary key.

Now, um ... there's another table here, the table for orders. We give each order a unique order number – that becomes the primary key for that table. And we have fields for item, number of items ordered, cost and so on.

Next, we have the forms, which make it easy to put information into a table. This one's for adding a new customer or updating customers' details.

And we have a few reports already prepared for printing. Here's one of them, the yearly report for total sales. We can also retrieve a record, of course, if we just want to look at one record. And if we want to combine information from more than one table, we can query the database. Is that making sense? Any questions so far?

20

A: Hey, Kevin. How's everything been?
B: Pretty good, I think. No major problems.
A: How did the upgrade to the accounting software go?
B: Quite smoothly, actually. We deployed it OK. I think most people didn't notice!
A: And the backups?
B: They're all running smoothly. In the Design Department, one of the computers had a disk crash, so I put in a new one and recovered the data from backup. That was fine. It was up and running again in a couple of hours.
A: And the new staff members?
B: All good. I set their permissions on the system and showed them around the network.
A: And the steps we were going to take to improve security?
B: Yep, the marketing team now have read-only access to the accounts data. And I locked them out of some areas completely.
A: And did you check the logs?
B: Well, I did but there was something that looked a bit strange. Let's check that out later?
A: Sure. And were there any other problems?
B: Just the usual small things – I had to reset a couple of passwords that people forgot and sort out a problem with someone who thought his password wasn't working. The usual thing – he'd just left his 'Caps Lock' on!
A: Great! Let's hope today goes as smoothly!

21

1 Dalya, before you close the database, could you email me a report on last month's sales?
2 After partitioning the hard drive, could you run a memory check?
3 Yoshi, check your schedule before you re-install the operating system; it can take over an hour. And you'll have to stay with it – it'll ask you to do several things while it's installing.
4 After I get access to your machine, you'll see the cursor moving around the screen. Don't worry – it's just me checking a few things.
5 Just one point about our company rules: before remote accessing anyone's computer, you should always ask them if it's OK.

22

A: Hi, Peter. Could I have a quick word?
B: Sure.
A: I'm having a bit of trouble with that new NAS device. Everything was fine with it yesterday. But this morning the accountant was trying to save a spreadsheet to it and she got an error message. So I checked it and, yes, I just couldn't connect to it from anywhere.
B: Oh dear! Any ideas?
A: Well, there's no problem with the network – I tested that a few minutes ago – so I'm confused; Perhaps there's a problem with the network cable?
B: That might be it. Let's take a look.

Unit 5 Choice

23

1 Dedicated hosting is more secure than shared hosting.
2 The Basic plan gives you more bandwidth than the Superior plan.
3 Websites run faster on dedicated servers than on shared servers.

Unit 6 Interactions

30

1 Our website is getting more and more visits. We'll need more bandwidth soon.
2 My colleague gave me some good news. Laptops are getting cheaper! I'll buy one soon.
3 The number of companies using a social networking system is increasing.
4 The number of visits to our website is going down. This isn't good. We need to look at this.
5 More and more staff are asking for mobile access in order to work from home.

31

A: So, I think it's time to update our enterprise social networking system. I think we need a few more features – not just the chat and forums in our current system. And our staff are using the current one less and less nowadays. I'll tell you what we want – could you try to find something for us?
B: Yes, sure. No problem.
A: Great. Now for one thing, our staff are spending more time than before with emails. We need to help them be more productive with their time. One thing they ask for is to be able to access documents easily.
B: Actually, we have document management in our current system. It's not very easy to use, though, and I don't think many people know about it.
A: Ah, we need to tell people then! But can we add comments next to each document? Then people wouldn't have to send so many emails and everyone who uses the documents would be able to see the comments. We're doing more and more work with overseas departments nowadays, so this would be very useful.
B: Sure, we can get that. Comment features are normal in most new systems now.
A: And more people are working from home, so they need to access information there. Also, people need access while they are visiting customers.
B: Most systems have Android and Mac iOS clients for mobile phones nowadays, so that should be OK.
A: And security is becoming more and more important all the time. Can you make sure the new system is secure?
B: Yep, I can do that. We have some security features at the moment but they're not very good. We should get better ones: most current systems support encryption, for example.
A: And it would be great to be able to 'talk' to systems – you know, give them voice commands, voice recognition. Then they should be easier to use. That feature seems to be getting popular.
B: You mean speech-to-text capability? Sure, I'll look out for a system that has that. Or we could just use speech recognition software.

32

A: So, tell me what you've found out about video conferencing systems. What is there?
B: Well, there are two kinds: one kind is a dedicated system and the other is a desktop system. Um ... dedicated systems usually have their special room with its own hardware – I mean, the room would have a set of high-definition monitors, a video camera for each participant with remote controls and things like that.
A: I see. And the other kind?
B: Desktop systems are much simpler – we can use an ordinary PC, add some hardware and that's it. But the quality usually isn't as good.
A: Sounds more flexible though.
B: Yes, and cheaper as well.
A: Do we need anything else?
B: Well, an MCU might be useful.
A: What's that?
B: A multipoint control unit. With it, we can hold a video conference between three different locations – or more than three.
A: That sounds useful! If we had one of those now, we could connect to our Tokyo, Dubai and Paris offices! Now, how about bandwidth? Do these systems use a lot of bandwidth? I guess high-definition video would use a lot.
B: Yes, that can be a problem. But most systems use compression, which means they use a lot less bandwidth. Compression techniques are getting better all the time, so that's very helpful.
A: OK. Thanks very much for explaining all that! If we had a video conferencing system, we would save in other areas. Let's have a look at a few systems and compare costs, and get one as soon as possible.

33

1 If we buy a video conferencing system, we'll save a lot of money on travel costs. The boss will be happy with that!
2 If we rented a video conferencing room, it would be much cheaper than buying one but we'd still have to travel to go to it.
3 If we bought a video conferencing solution, we'd have to build another room at the back of our premises! That would be very expensive!
4 If we buy a video conferencing system, we'll have to think carefully about security.
5 If we upgraded our system to high-definition, we'd have to get a much faster internet connection. And it would increase the bandwidth!

34

A: Hi, I heard that you're upgrading your e-commerce system. We've got a great e-wallet system that I think you should integrate. It's getting really popular now for B2C systems!
B: Oh, what's that?
A: It's a system that speeds up e-commerce for your customers. Customers can use it in two ways. One is with online shopping. You know how normal e-commerce systems can be slow to use when customers have to type in lots of information – credit card numbers, delivery address, that kind of thing? It's the main reason for people not liking online shopping. Some people even give up before they finish the process and don't buy anything!
B: Yes.
A: Well, if they use our e-wallet system, it's much easier. Customers just type in their information once and we keep it in our system. That includes their credit card information. Then, when they want to buy something from you, they just log on from your website and type in a password. The system sends all their information to you so that you can take their payment. Because it's faster, you get more customers finishing their transactions and actually buying things! And, even

better, it easily sends data straight to your accounting system! And of course it's very secure. We use high level SSL security.

B: And you mentioned another use?

A: Yes. You still have some real, bricks and mortar stores, don't you?

B: Sure.

A: Well, your customers who still like face-to-face shopping can also use the e-wallet because it works on mobile phones. Your customers just pass their mobile phones over the sensor when they want to pay, type in a password and that's it! Really simple! It uses NFC – that's near field communication – to record the payment electronically. No need to sign anything or use paper. Customers love it and it makes life easier for your accounting staff as well.

35

1 It would be great to know more about the ESN system. I think it would be really helpful for collaboration with other members of the team, especially when we're working with the same documents. We're often in different places. At the moment I can only use the instant messaging system. Oh! I've accessed the section about special deals for employees. That's useful!

2 I don't have any problems with the chat – it's easy to use. And I find it easy to find company information such as policies and procedures. But could we have some training on archiving messages so that we can find them again later? It would be very useful to know about this. Does this involve tagging them with keywords?

3 I would really like to know how to use everything better! They told me the ESN system would help me to work more efficiently but that isn't happening. I'm probably not using it properly.

4 I've just bought a new smartphone and I heard that you can use the ESN system on phones. Could someone tell me how to set it up? It would be great if I could see the same information on my mobile phone and my computer. I'm out of the office frequently, so I would use this feature a lot if I understood it.

5 My problem with this system, and with email as well, actually, is that I can never find old messages. I'd love to know how to do that.

6 The other day I saw a colleague's messages. They were all grouped together. I mean, all the emails in a conversation were next to each other so you could read them just like a conversation. I'd like to know how to do that.

Unit 7 Development

36

A: And as you know, we're just putting together the online pizza order system, so I'd like to ask you a few questions. I understand that you take telephone orders from customers now?

B: Yes, that's right.

A: Good. Could you tell me the steps you go through when you take the order? We'll use the same steps on the website.

B: Sure, no problem. Well, first of all, I usually ask whether they want one of our standard pizzas – you know, like a Margherita with cheese and tomato.

A: And if they don't?

B: Well, then they can choose their own toppings. We just ask them what toppings they want.

A: Then?

B: We write it on the order sheet.

A: OK. I see. And if they want a standard pizza?

B: Then I just ask them which one they want.

A: And you write that down on the order sheet, of course?

B: Yep, that's right.

37

B: And next we ask if they would like another pizza.

A: OK.

B: And if they do, we just repeat the process – ask them the same questions again.

A: And if they don't?

B: Er ... then we ask for the delivery address. Oh, and we tell them approximately when we will deliver it.

A: How do you work that out?

B: Well, usually I just look at how busy the staff are and how many orders have come in, and make a guess from that.

A: I see. Hmm ... we'll have to work out a way for the software to calculate that. OK, that's great information. Thanks very much. And then, what do you do next?

38

A: Now, to begin with, there are two main variables, called *g_Move* and *g_Turn*. The first one, *g_Move*, tells the robot which way to go: back, forward or stay still. If *g_Move* is zero, the robot doesn't move.

B: OK.

A: The second variable, *g_Turn*, tells it to turn left, turn right or not to turn.

B: I see. So, if *g_Turn* is zero, it doesn't turn?

A: That's right. Now, look at the first line of the code, here. It sets *g_Move* and *g_Turn* to zero.

B: Telling it not to move and not to turn?

A: That's right.

B: I see. And the next line?

A: See this variable here, *key_Press*? This has the value of the key pressed on the phone. So, if you press 'a' on the phone, for example, *key_Press* has the value *a*.

B: And if I press the 'x' key on the phone, *key_Press* takes the value *x*?

A: Yep, you've got it.

39

A: Now, let's look at the *if* statements. See the four of them here?

B: Yep.

A: Now, the first one looks at *key_Press*. If *key_Press* is 'a', then *g_Move* becomes 1.

B: In other words, pressing 'a' on the mobile phone means that *g_Move* takes the value of 1?

A: That's correct. And later in the program, we'll see that if *g_Move* is 1, the robot moves forwards a step.

B: I see! So, looking at the next line, if you press 'f' on the phone, *g_Move* becomes 2 and the robot moves forwards 2 steps?

A: Well, the first bit's right, yes. *G_Move* becomes 2. But 2 actually makes the robot move back a step.

B: Mm ... I see. So, for the next one, if you press 's', I can see that *g_Turn* becomes 1 ... but does that make the robot turn right or left?

A: It turns left.

B: So, pressing 'd' makes it turn right.

A: That's correct.