Teacher Pack Sample

Introduction

These sample pages – from the Digital Information Technology Teacher Pack, 2nd edition – give you an overview of the approach and depth of treatment you can expect and the various learning features the resources contain. The map of resources describes the full content of the complete pack, and should be an invaluable aid to lesson planning for the whole course.

On the following pages you will find:

Please note that these sample resources are taken from early proofs of the Teacher Pack, so may not reflect the exact contents that will be contained in the published Pack. The published Pack may include amendments or adjustments made during final proofreading and checking.

The content of this 2nd edition has been thoroughly revised and updated to ensure alignment with the new specification and assessment arrangements for the 2022 BTEC Tech Award qualification.

The aims and scope of the Teacher Pack

This Teacher Pack – which is being hosted on Pearson's ActiveLearn platform – consists of a range of teaching and learning materials to help you deliver the course content and engage your students through practical activities – all conveniently placed as on-the-page hotspots within a digital version of the Student Book.

The materials can be adapted to suit your needs. They are designed to be as flexible as possible, offering you a range of different delivery options.

You could:

- work through the pages in the digital Student Book, clicking on the resource icons for front-of-class use
- use zoom functionality to show enlarged sections of the digital Student Book
- create playlists for specific lessons using selected resources, adding your own resources where you wish
- download all resources individually, or with a single click, and save them to your computer or network.

Playlists can be customized to include your own resources or weblinks – you can upload documents to the playlists and add weblinks, such as YouTube clips or websites.

Many of the resources can be used independently by learners if desired. A number of tasks are suitable for either classroom or homework. Learners will need a printed worksheet for the relevant task or activity if completing it at home.

Component 1

Learning outcome A: Understand interface design for individuals and organisations

Activity sheet 1.1: Using user interfaces

PowerPoint 1.3: Sensor interfaces

Activity sheet 1.1: Using user interfaces

Learning outcome A: Understand interface design for individuals and organisations

A1: User interfaces

1. What is a user interface?
   Describe in your own words what a user interface is.

2. Who uses user interfaces?
   Explain how the following factors might affect the needs of users.
   (a) Accessibility

   (b) Skill levels

(c) Demographics

3. Describe how you have used the following features of a user interface.

(a) Name of feature: menus

Describe in your own words how you have used this feature.

(b) Name of feature: forms

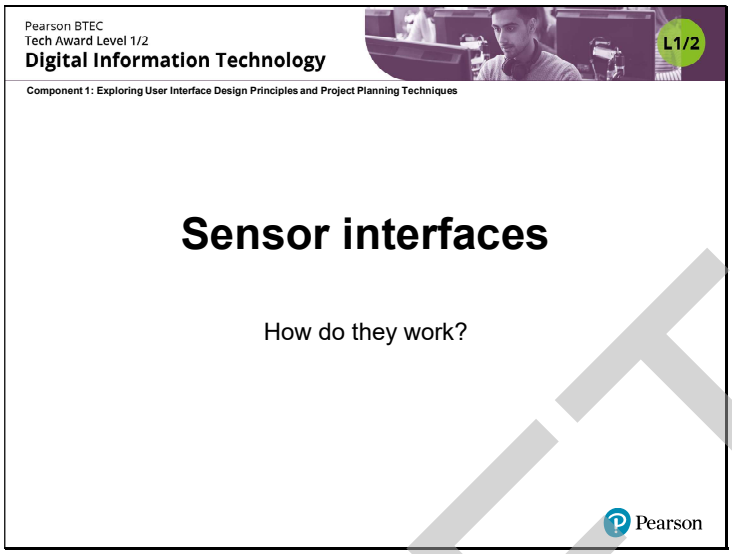
Describe in your own words how you have used this feature.

(c) Name of feature: voice

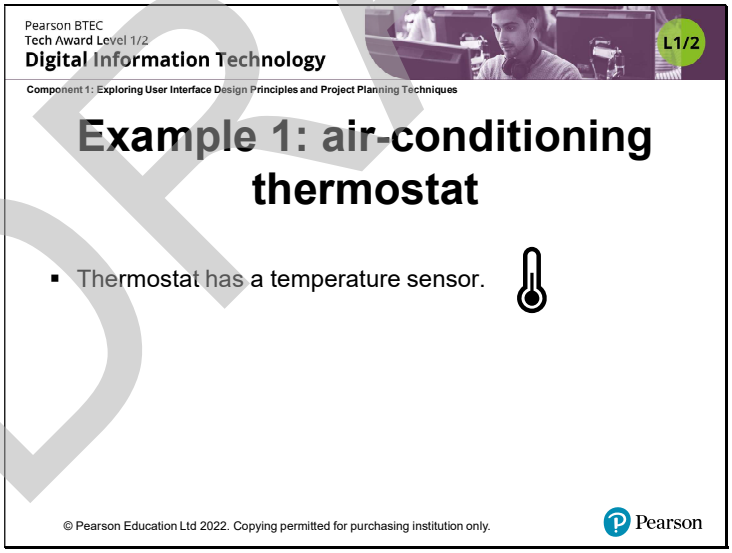
Describe in your own words how you have used this feature.

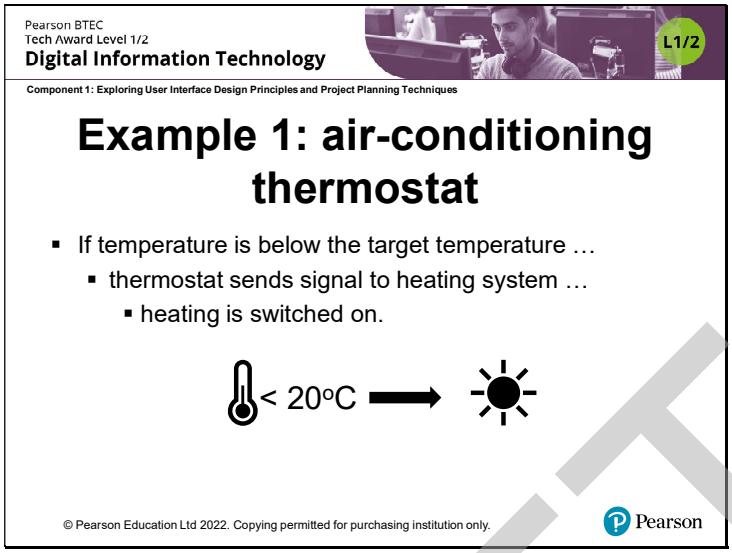
4. The table lists examples of different types of device. Each device uses a user interface.
   Add some more examples of each type of device.

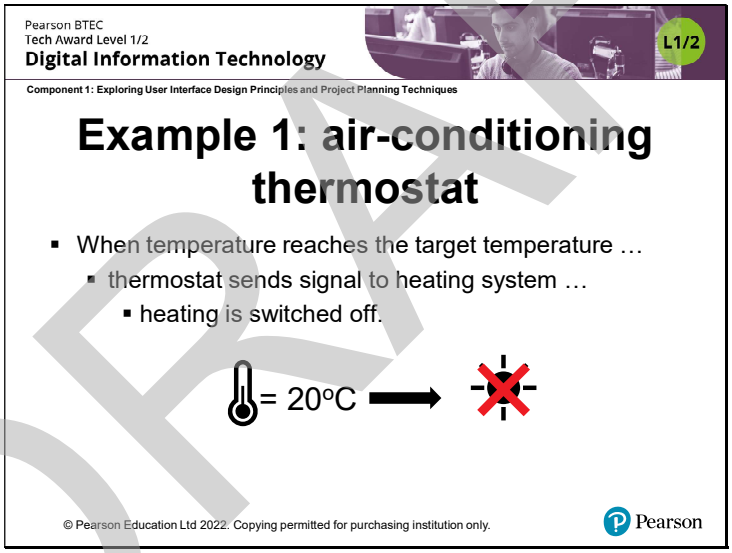
Type of device	Examples	Add your examples here
Computers	• Desktop computers • Laptop computers	
Handheld devices	• Smartphones • Tablets • Laptops • E-readers	
Entertainment systems	• Game consoles • Home theatre systems	
Domestic appliances	• Air conditioners • Dishwashers • Tumble dryers • Freezers	
Controlling devices	• Security lights • Central heating controllers	
Embedded systems	• Electronic parking meters • Traffic lights • Vending machines • Smartwatches/digital wristwatches • Robotic vacuum cleaners	

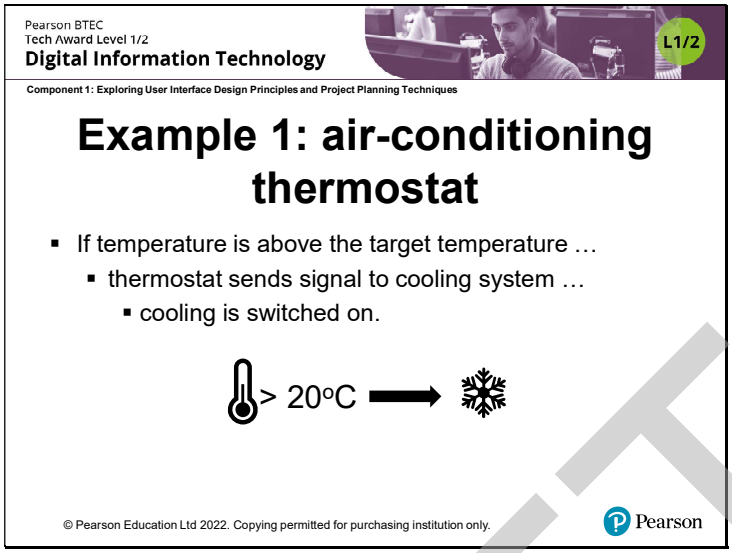


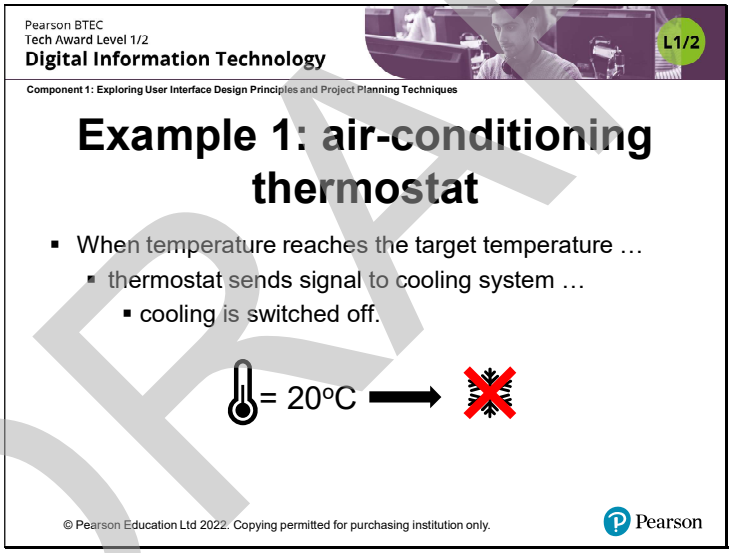
This slide presentation could be used during the lesson to help introduce sensor interfaces. There are transitions in the presentation when viewed in Slide Show mode on slides 3-6.

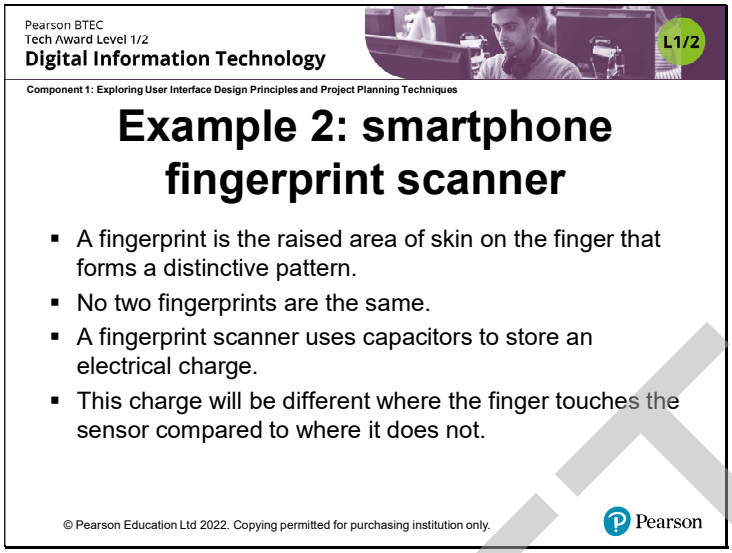




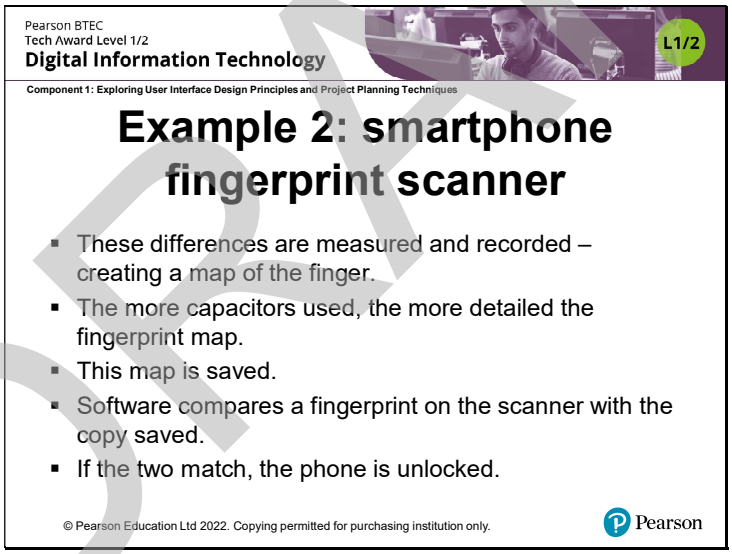








A capacitor is an electrical device that can hold an electrical charge – it is in effect a battery.



Software analyses the two images – the saved fingerprint and the one that has just been scanned. In effect it scrolls down through the two images checking that the ridges on both fingerprint images are the same. If they are then it declares them to be a match.

By being a match, it means that the person presenting their fingerprint is the same person that has previously declared the phone to be theirs. The phone concludes that it is in the hand of its true owner, so it is unlocked, allowing the person to use it.

Component 2

Learning outcome A: Understand how data is collected by organisations and its impact on individuals

Activity sheet 2.1: Giving structure and meaning to data

PowerPoint 2.1: Data and information

Activity sheet 2.1: Giving structure and meaning to data

Learning outcome A: Understand how data is collected by organisations and its impact on individuals

A1: Characteristics of data and information

Data – one of the ways you can give meaning to data is to structure it into **fields**. Fields divide data into groups such as names, addresses and postcodes. Usually, the data in a particular field is all of the same **type** or **data type**.

The most obvious types of data are **text** and **numbers**. However, there are many other data types, especially where numbers are concerned.

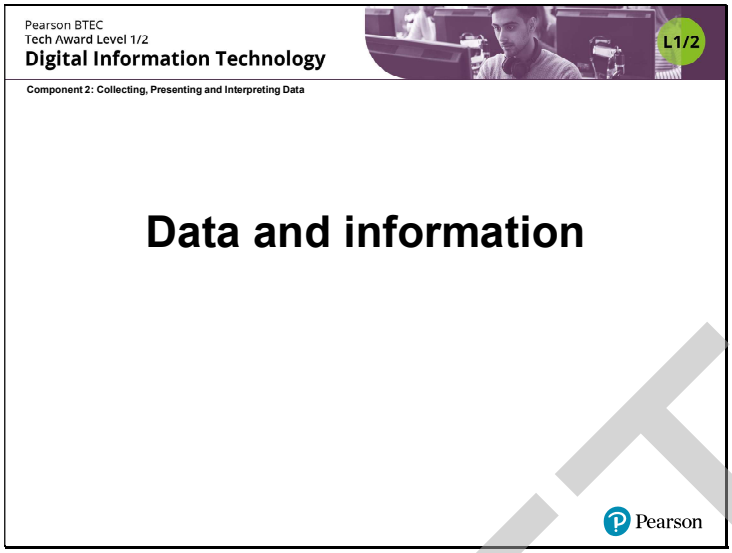
Look at the following example data, which could be part of a doctor's list of appointments.

Name	Postcode	Phone number	Date of birth	Appointment time	Heart rate (BPM)	Height (m)
J. Kirkwood	EF6 2TB	07988 221177	18/2/1981	12:30	65	1.85
S. Jones	AB5 6AT	0208 994 3219	4/11/1992	13:00	82	1.7
A. Mohammed	TQ9 3BD	07959 112234	15/9/1972	13:45	71	1.8

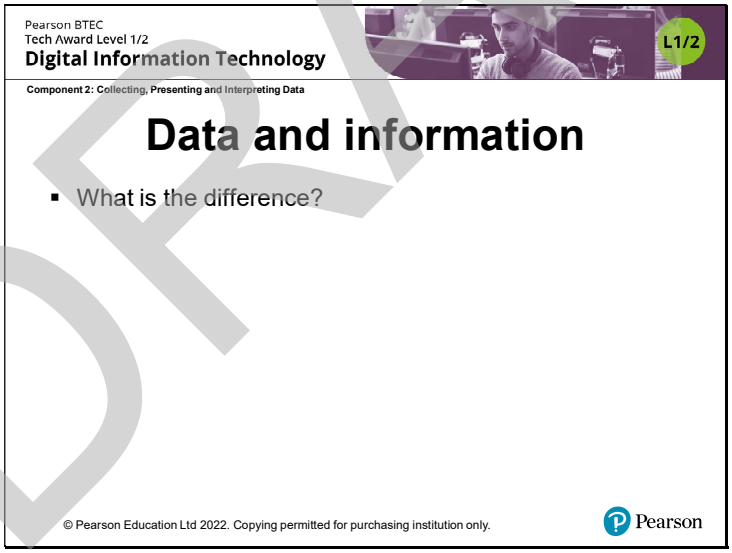
For each field in this table, identify its basic data type and as much detail about it as you can.
The 'Name' field has been completed for you.

Field	Data type	Features	Information it provides
Name	Text	Includes the person's first initial, followed by a full stop then the person's family name (it might be better to split these into separate fields). No fixed length, names could be up to about 25 characters long.	Helps to identify the person but might not be unique, so it may need to be combined with some other data (such as date of birth) to ensure the data applies to the right person.
Postcode			

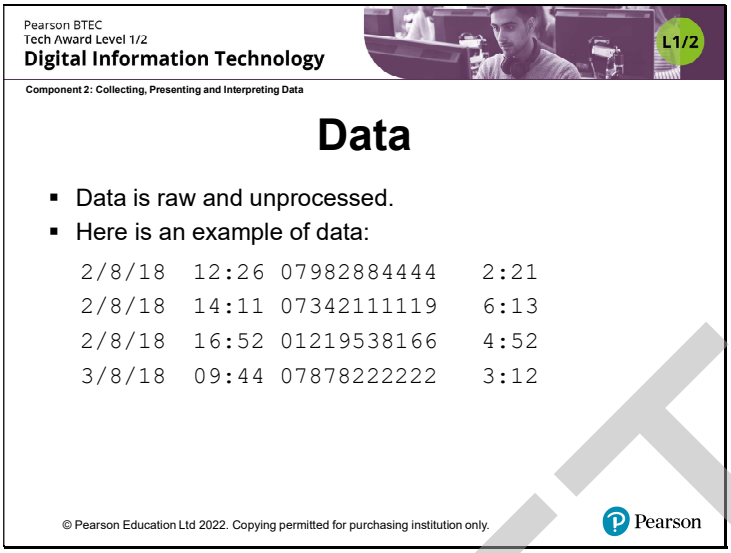
Field	Data type	Features	Information it provides
Phone number			
Date of birth			
Appointment time			
Heart rate (BPM)			
Height (m)			



This slide presentation could be used at the start of the lesson to help students understand the difference between data and information. There are some examples and questions that can be used as discussion starters. There are simple fade transitions and animations in the presentation when viewed in Slide Show mode.



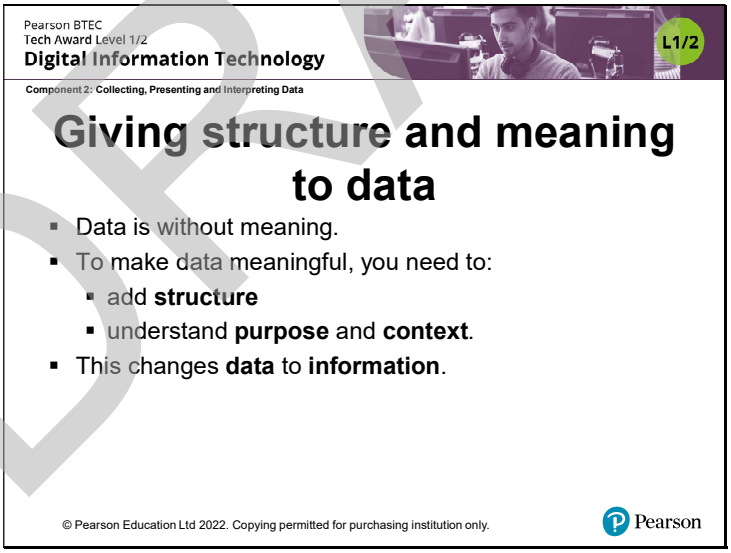
Ask students this question as a class exercise and brainstorm their responses.



Ask students what they think this data might represent (maybe telephone calls with dates, times, number called and duration).

Actually the data is not completely 'raw' as the dates and times have been formatted.

(You could use this slide to lead a class discussion about how computers store data as binary numbers, with no formatting added at all.)

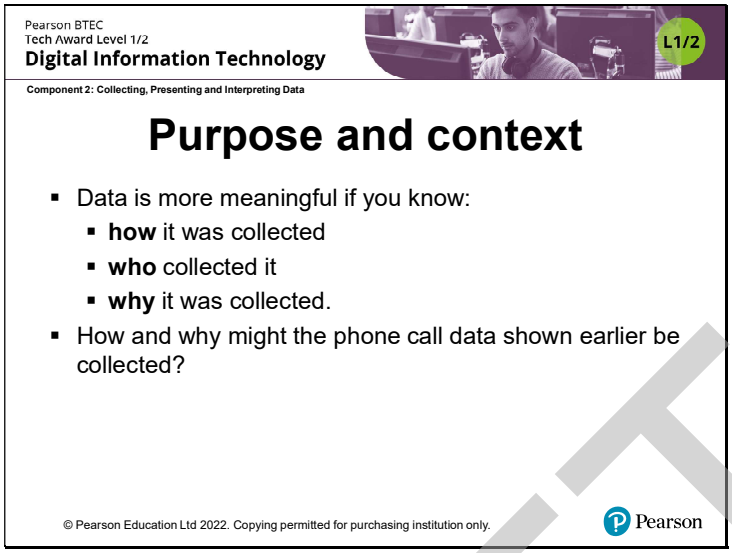


Some concepts here might need 'unpacking'.

Data by itself is not very useful because it may be difficult to make sense of it; it doesn't mean anything.

Data can become information by adding some kind of structure to it; dividing it up, for example (more about this in the following slides).

Understanding the purpose and context of the data also helps it become more meaningful. You might want to ask students what they understand by purpose and context. (This is expanded on the next slide.)

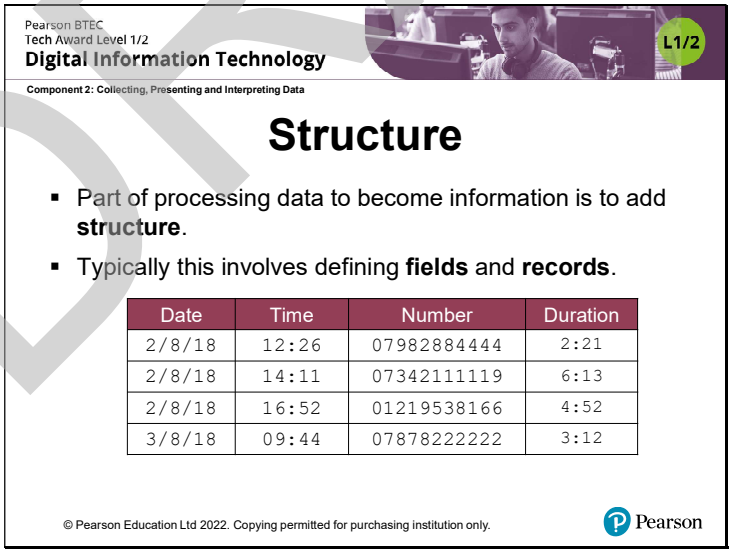


The phone call data shown on Slide 3 could have been collected from a mobile phone (as shown in the call history on your phone). It could also have been collected by the mobile phone service provider.

The purpose of these two is quite different.

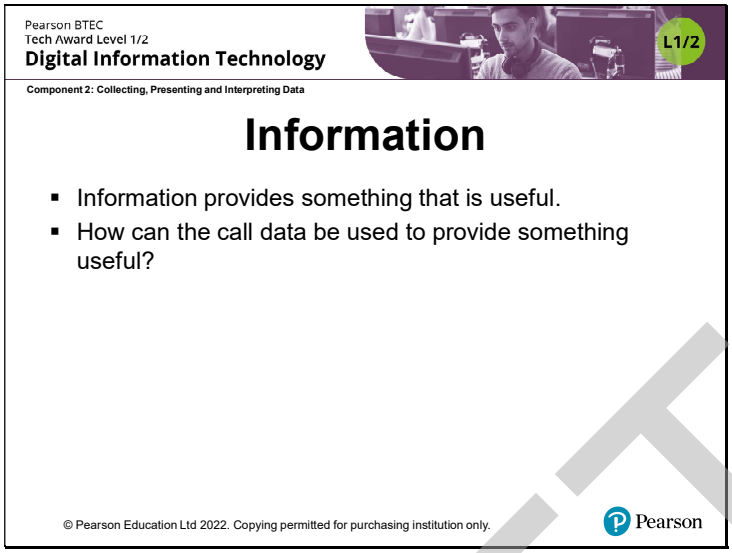
Your mobile phone collects call data simply to provide the user with information about who they have called and when; it will replace the phone number with a contact name if they are in your contacts.

The mobile phone service provider collects call data for billing purposes. The numbers that you call and the duration of the call are used to calculate how much to bill you (different mobile phone contracts have different rules about how this is calculated).



Check students understand that the fields are the columns in the table, and have field names; the rows are the records.

This is the structure used in spreadsheet and database applications, but it doesn't suit some kinds of data (large values of text that you might find in a book, for example). This is beyond the scope of this component but if you have students who are interested and need a 'stretch' activity, get them to research NoSQL databases.



See what your students can come up with, other than simply knowing who you have called and when. How else could this information be useful to the phone user? One way it could be used is to see if you are on the right mobile phone tariff.

For example, on a monthly contract you might be paying for many more minutes of calls than you ever use.

Also ask students who else, other than the phone user and the mobile service provider, might find call records useful. Mobile phone companies are required by law to keep call records for a year and provide them to the police on request under the Regulation of Investigatory Powers Act (RIPA) 2000 – relevant to section A7.

Component 3

A: Modern technologies

Activity sheet 3.1: How to use an ad hoc network

PowerPoint 3.4: Factors affecting the choice of computer platform

Activity sheet 3.1: How to use an ad hoc network

A: Modern technologies

A1: Modern technologies

A guide for new employees

You work as a digital information technology officer for Sokells Traffic Services. The business designs new roads, traffic junctions and signals to help traffic flow freely. The business employs consultants who are based in London but travel to different parts of the UK to work with clients.

The consultants need to connect to ad hoc networks when they're away from the office.

You need to produce a guide for new employees. To help you to prepare for this task, answer the following questions. Where applicable, respond to each question with reference to Sokells Traffic Services.

1. What is an ad hoc network?

2. What are the different types of ad hoc network?

3. Outline examples of places where a consultant from Sokells Traffic Services could connect to an ad hoc network.

4. How could a consultant from Sokells Traffic Services connect to a hotspot using either their portable computer or smartphone?

5. How can an ad hoc network be used to transfer files between the client and the consultant?

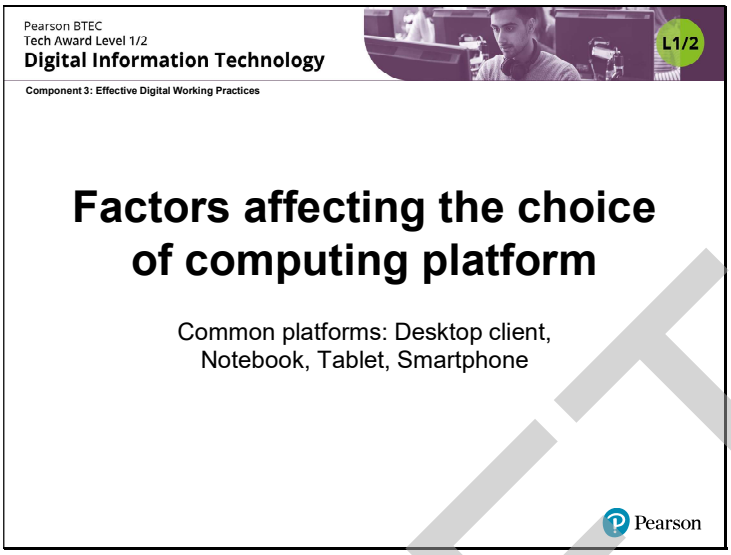
6. What are the benefits and drawbacks of Sokells Traffic Services using an ad hoc network?

7. Why might consultants sometimes not be able to send and receive data when connected to an ad hoc network?

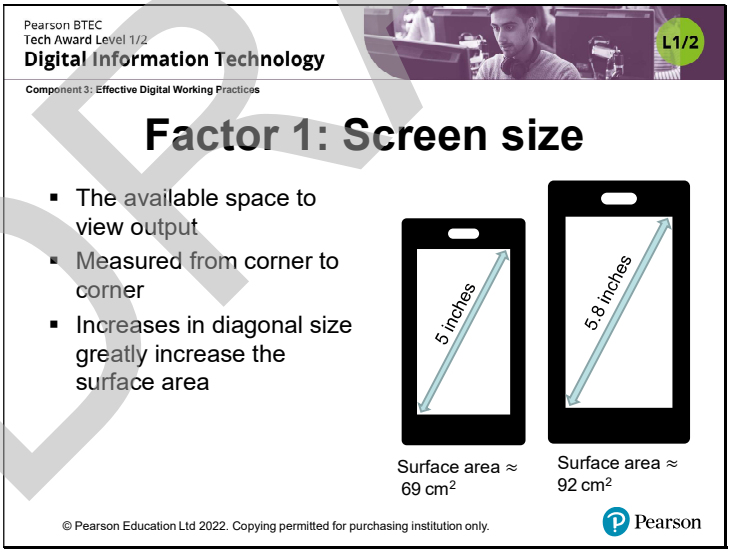
Take it further

The consultants have confidential data stored on their personal computers and smartphones. This data needs to be kept secure.

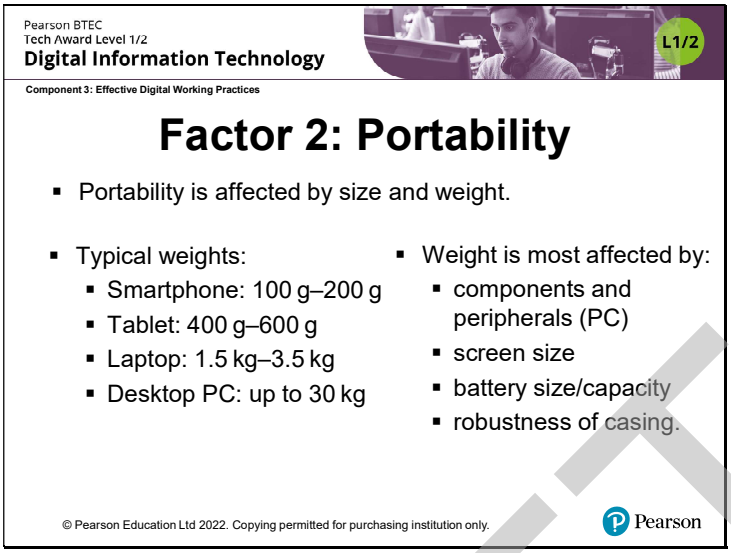
Your guide should also include a section advising consultants on how they should use ad hoc networks safely and why this is important. Write three paragraphs outlining what you might include in this part of the guide.



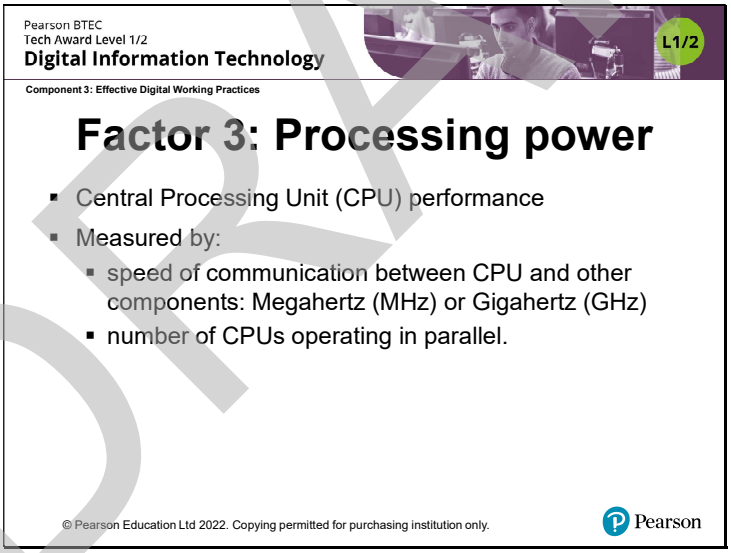
This slide presentation could be used during a lesson when introducing the factors affecting the choice of computing platform. There are transitions in the presentation when viewed in Slide Show mode.



Smaller devices have a much smaller screen size than larger devices – this is largely because the surface area is a multiple of height and width, so a device twice as tall and large will have four times the surface area.

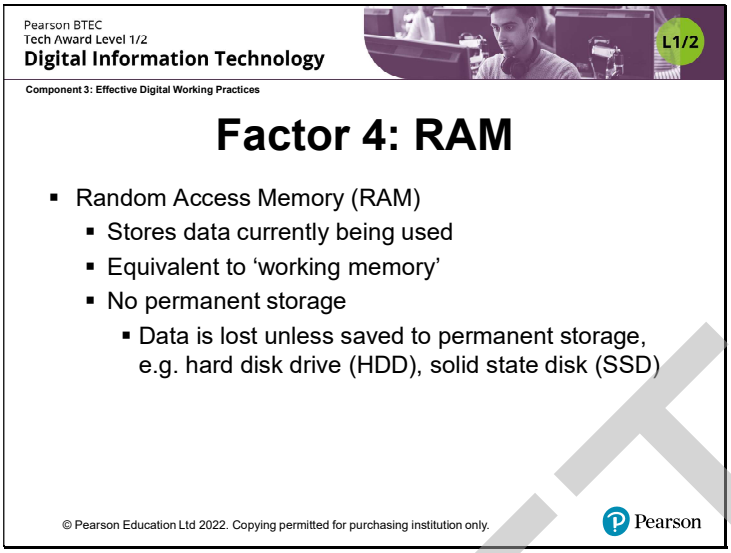


Ask students which devices on the left are portable – some might think laptops are but others won't.

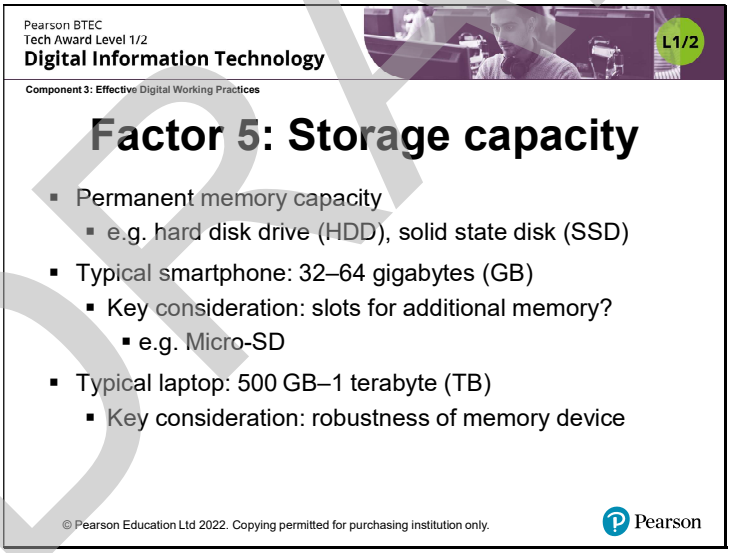


As a rule of thumb, larger or more expensive devices have greater processing power.

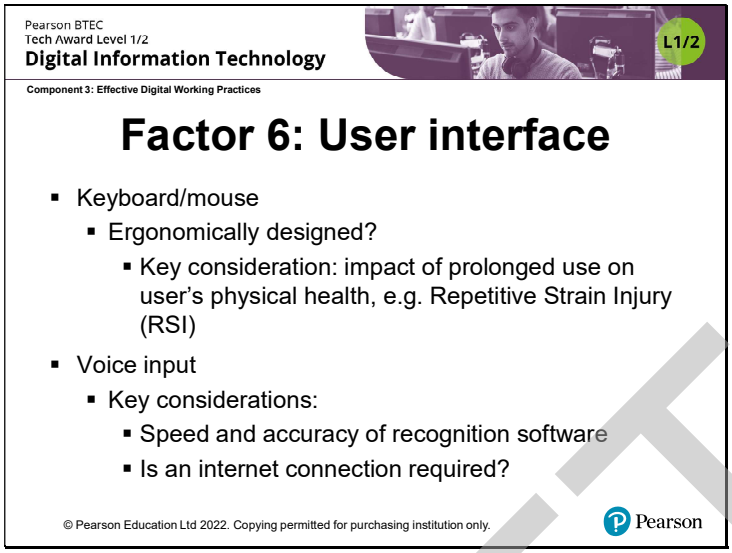
Processing power largely affects the ability to operate more than one program simultaneously, before the performance of the device 'slows down'.

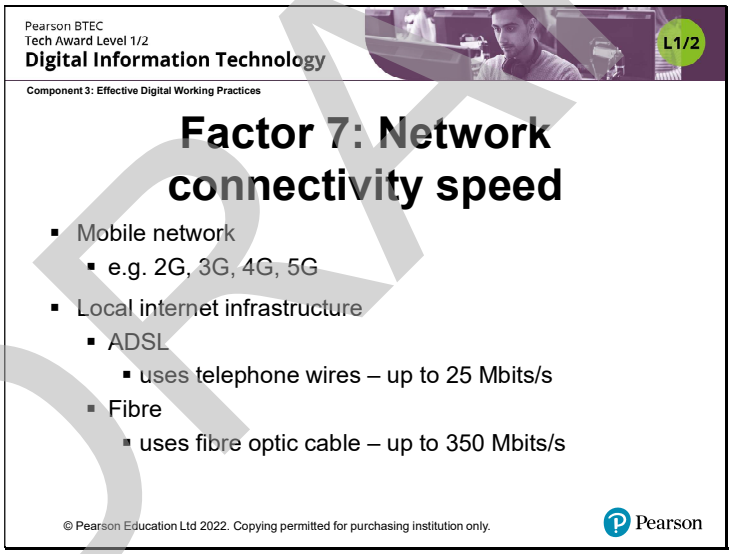


Devices with more RAM can perform more tasks simultaneously, e.g. having multiple programs or windows operating at the same time.

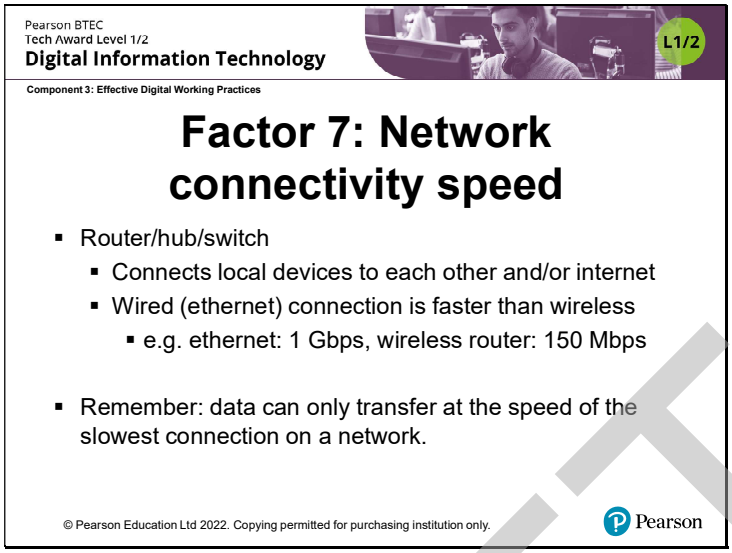


As a rule, larger/more expensive devices have greater storage capacity. Internet access is beginning to make the lack of storage capacity less of a problem for smaller devices.

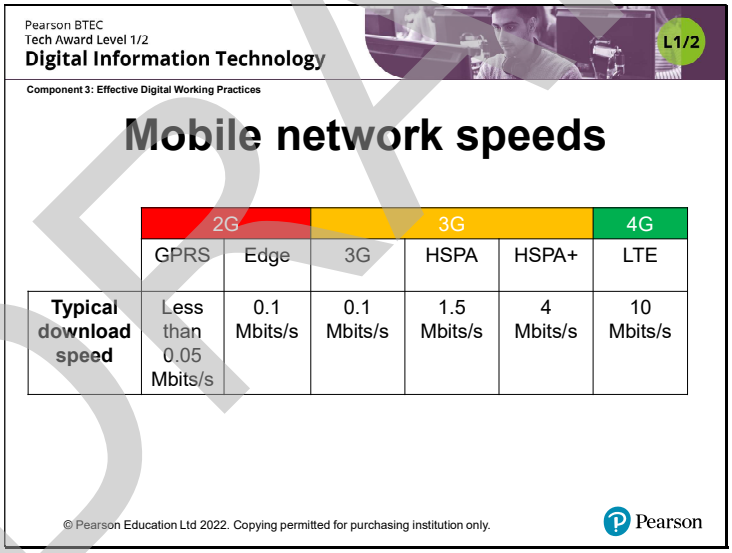


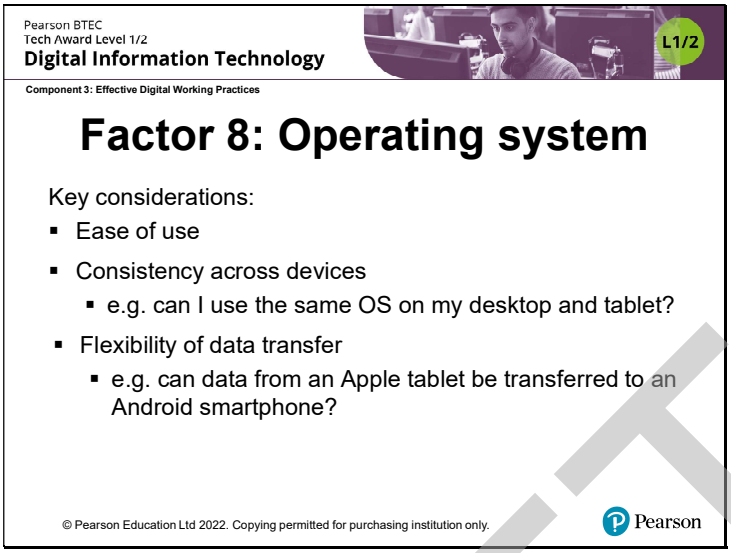


2G = 2nd generation mobile networks, 4G = mobile data at broadband speeds. See slide 10 for how this affects download times.



The speed of a router is generally faster than data can download from the internet.





Ask students: How many of you use an Android phone? How many Android phone users use a Microsoft Windows operating system on their desktop or laptop?

Do students prefer to use the same operating system across all their devices or are they happy to switch operating systems depending on the device?

Map of resources

Key:

- PPT = PowerPoint
- AS = Activity sheet
- VC = Video clip
- VAS = Video-related activity sheet
- T = Video transcript
- S = Spreadsheet
- SA = Spreadsheet answers

Component 1: Exploring user interface design principles and project planning techniques

Learning outcome A1: User interfaces

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT Intro	Introduction to Component 1	4 slides: students are introduced to the learning aims in Component 1 and start to think about user interfaces and project planning.	Component 1: Exploring User Interface Design Principles and Project Planning Techniques	Pages 2–3
PPT 1.1	Using user interfaces	7 slides: plenary activity asking students to identify a range of devices and describe tasks they can do using the different interfaces.	Introduction to user interfaces	Pages 4–5
AS 1.1	Using user interfaces	Introductory questions about user interfaces, how different factors affect user interfaces, how to use software features of user interfaces and example uses of user interfaces.	Introduction to user interfaces	Pages 4–5
PPT 1.2	Text interfaces	6 slides: students asked to memorise a list of commands to illustrate text interface.	Basic user interfaces	Pages 6–7

Resource	Resource title	Description	Student Book lesson title	Student Book page number
AS 1.2	Using basic user interfaces	Students list features of text, form and menu interfaces then answer a question on each type.	Basic user interfaces	Pages 6–7
VC 1.1	Using a text-based user interface: Windows command line	Video clip demonstrating a text-based user interface: Windows command line.	Basic user interfaces	Pages 6–7
T 1.1	Transcript for video clip 1.1	Transcript for video clip 1.1.	Basic user interfaces	Pages 6–7
VAS 1.1	Using a text-based user interface: Windows command line	Students answer questions about text-based user interfaces.	Basic user interfaces	Pages 6–7
VC 1.2	Using a menu-based user interface: digital camera	Video clip demonstrating the use of a menu-based user interface: a digital camera.	Basic user interfaces	Pages 6–7
T 1.2	Transcript for video clip 1.2	Transcript for video clip 1.2.	Basic user interfaces	Pages 6–7
VAS 1.2	Using a menu-based user interface: digital camera	Students answer questions about menu-based user interfaces, looking at the example of a digital camera.	Basic user interfaces	Pages 6–7
VC 1.3	Using a menu-based user interface: entertainment and navigation system interface	Video clip demonstrating the use of a menu-based user interface: an entertainment and navigation system interface in a car.	Basic user interfaces	Pages 6–7
T 1.3	Transcript for video clip 1.3	Transcript for video clip 1.3.	Basic user interfaces	Pages 6–7
VAS 1.3	Using a menu-based user interface: entertainment and navigation system	Students answer questions about menu-based user interfaces, looking at the example of a car's entertainment and navigation system.	Basic user interfaces	Pages 6–7
VC 1.4	Using a forms-based user interface: IT support system	Video clip demonstrating the use of a forms-based user interface: an IT support system.	Basic user interfaces	Pages 6–7

Resource	Resource title	Description	Student Book lesson title	Student Book page number
T 1.4	Transcript for video clip 1.4	Transcript for video clip 1.4.	Basic user interfaces	Pages 6–7
VAS 1.4	Using a forms-based user interface: IT support system	Students answer questions about forms-based user interfaces, looking at the example of an IT support system database.	Basic user interfaces	Pages 6–7
PPT 1.3	Sensor interfaces	8 slides: focus on sensor interfaces, looking at two examples: air-conditioning thermostat and smartphone fingerprint scanner.	Complex user interfaces	Pages 8–9
AS 1.3	Using complex user interfaces	Students list features of graphical user, sensor and speech interfaces then answer a question on each type.	Complex user interfaces	Pages 8–9
PPT 1.4	GCSE revision apps	4 slides: students asked to choose their preferred app from three choices, based on feedback from users.	Choosing a user interface	Pages 10–11
AS 1.4	Choosing a user interface	Students asked to rank the most important factors to consider when choosing two user interfaces.	Choosing a user interface	Pages 10–11
PPT 1.5	Hardware and software specifications	4 slides: students asked to comment on how a range of components (making up specs for a high-end smartphone, mid-to-high end smartwatch and mid-price laptop) will impact a user interface.	How hardware and software affect user interfaces	Pages 12–13
AS 1.5	How hardware and software affect the choice of user interface	Students asked recall questions then complete a table about the hardware and software available on three chosen devices, and how the hardware and software affect the type of user interface on each device.	How hardware and software affect user interfaces	Pages 12–13
VAS 1.5	Other types of user interfaces	Students are asked to compare different kinds of user interfaces.	How hardware and software affect user interfaces	Pages 12–13

Component 1: Exploring User Interface Design Principles and Project Planning Techniques

Learning outcome A2: Audience needs

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 1.6	Adapting a user interface	4 slides: students given example of an online form and asked how best to adapt it (to address visual, hearing and motor needs).	User accessibility needs	Pages 14–15
AS 1.6	Developing inclusive user interfaces	Students asked to read case studies of people with specific accessibility needs and answer questions about the issues this might cause and how to address them.	User accessibility needs	Pages 14–15
PPT 1.7	Different types of user	8 slides: students asked to identify what type of user they are for a range of computer programs/devices (i.e. novice, occasional, regular or expert).	User skills and demographics	Pages 16–17
AS 1.7	How age affects user interface design	Students asked to create two versions of a program to encourage people to visit museums and art galleries: one for young people aged 13–19 and one for people aged 60+.	User skills and demographics	Pages 16–17

Component 1: Exploring User Interface Design Principles and Project Planning Techniques

Learning outcome A3: Design principles

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 1.8	Design principles	4 slides: detailed focus on colour wheel.	Design principles: visible elements	Pages 18–19
AS 1.8	Designing a user interface for a leisure centre	Students asked to design a user interface for an online booking form for a local leisure centre (one poor design and one effective design).	Design principles: visible elements	Pages 18–19
PPT 1.9	Design principles	6 slides: students asked how many words they can memorise correctly in one minute.	Design principles: text elements	Pages 20–21

Resource	Resource title	Description	Student Book lesson title	Student Book page number
AS 1.9	Writing and following instructions	Students asked to write instructions for a user who has never created appointments using a calendar program. Opportunity for peer feedback on instructions.	Design principles: text elements	Pages 20–21
PPT 1.10	Design principles	5 slides: students shown three examples of a user interface with poor layout and asked how they would improve it.	Design principles: layout	Pages 22–23
AS 1.10	Good use of layout	Students asked to annotate screenshots from a program that makes effective use of layout.	Design principles: layout	Pages 22–23
PPT 1.11	User expectations	5 slides: students asked to comment on symbols, sounds and combinations.	Design principles: user expectations	Pages 24–25
AS 1.11	Designing user interfaces that meet user expectations	Students asked what they think of when they hear sounds and see colours and symbols. They then have to describe three other ways that a user interface could signal to a user that an action was successful and unsuccessful.	Design principles: user expectations	Pages 24–25
PPT 1.12	Grabbing the viewer's attention	5 slides: shows examples of how to grab attention, i.e. pop-up messages, flashing graphics, sounds and animations.	Design principles: keeping the user engaged	Pages 26–27
AS 1.12	Are you paying attention?	Students asked to describe how a program or website grabs the attention of the user, makes it easy for users to read and understand what to do, uses tip text, labels and forms, and makes use of autofill.	Design principles: keeping the user engaged	Pages 26–27
PPT 1.13	Intuitive design	11 slides: students asked to identify/work out what a range of icons mean.	Design principles: intuitive design	Pages 28–29
AS 1.13	Intuitive design	Students asked recall questions about intuitive design. Then to describe three features that should be in an intuitive user interface and to explain why intuitive design is important.	Design principles: intuitive design	Pages 28–29

Component 1: Exploring User Interface Design Principles and Project Planning Techniques

Learning outcome A4: Designing an efficient user interface

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 1.14	Improving the speed of user interfaces	7 slides: students asked to comment on which version of two user interfaces they prefer.	Improving the speed of user interfaces	Pages 30–31
AS 1.14	How to improve the speed of user interface	Students asked recall questions about keyboard shortcuts. Then asked to identify five operating system shortcuts and five shortcuts within a specific program.	Improving the speed of user interfaces	Pages 30–31
PPT 1.15	Reducing the user selection time	7 slides: focus on object emphasis and size.	Reducing the user selection time	Pages 32–33
AS 1.15	Improving user selection time	Students asked recall questions then about the impact on a user interface of objects being too small or large. They then need to describe how to group related objects and use appropriate object sizes and object emphasis to keep user selection time to a minimum.	Reducing the user selection time	Pages 32–33

Component 1: Exploring User Interface Design Principles and Project Planning Techniques

Learning outcome B1: Project planning techniques

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 1.16	Project methodologies	10 slides: outlining and explaining waterfall and iterative project methodologies.	Project methodologies	Pages 36–37
AS 1.16	Choosing a project methodology	Students name and describe the five stages of waterfall project methodology – and explain how iterative methodology differs from it. Students are given three scenarios and asked to suggest a suitable project methodology for each one.	Project methodologies	Pages 36–37

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 1.17	Co-ordinating project tasks	4 slides: explaining Gantt charts and demonstrating how to create one.	Basic project planning tools	Pages 40–41
AS 1.17	Co-ordinating a project	Students use a given list of tasks to create a project Gantt chart.	Basic project planning tools	Pages 40–41
PPT 1.18	Constructing a mind map	2 slides: demonstrating the use of a mind map when planning a project.	Basic project planning tools	Pages 40–41
AS 1.18	Sowerby Biscuits – planning a project	Students are introduced to the project for Sowerby Biscuits – a client who has commissioned them to develop the user interface for an online store. From the information, students describe the requirements for the first screen, the product page, assessing the benefits of using both written and graphical descriptions in planning.	Basic project planning tools	Pages 40–41

Component 1: Exploring User Interface Design Principles and Project Planning Techniques

Learning outcome B2: Creating a project proposal and plan

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 1.19	Aims and objectives	3 slides: giving definitions of aims and objectives and explaining what SMART means in relation to objectives.	Defining the project requirements	Pages 44–45
AS 1.19	Sowerby Biscuits – defining the project requirements	Students are asked to define the user, output, input and accessibility requirements for the Sowerby Biscuits project.	Defining the project requirements	Pages 44–45
PPT 1.20	Defining the project requirements	5 slides: explaining project requirements to consider, including: user, output, input, accessibility requirements.	Defining the project requirements	Pages 44–45

Resource	Resource title	Description	Student Book lesson title	Student Book page number
AS 1.20	Sowerby Biscuits – project constraints	Students consider the constraints that are placed on the Sowerby Biscuits project. They use them to identify the main risks to the project, the likelihood of them happening and to outline any possible contingency plans.	Project constraints	Pages 46–47
PPT 1.21	Planning project timescales	4 slides: considering project tasks and subtasks, and the nature of project milestones.	Planning project timescales	Pages 48–49
AS 1.21	Sowerby Biscuits – planning project timescales	Students draw up a Gantt chart or PERT chart so they can plan the timescale for the Sowerby Biscuits project.	Planning project timescales	Pages 48–49

Component 1: Exploring User Interface Design Principles and Project Planning Techniques

Learning outcome B3: Creating an initial design

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 1.22	The design specification: user interface	5 slides: exploring the nature and purpose of design specifications for both new and existing products.	What is a design specification?	Pages 50–51
AS 1.22	Sowerby Biscuits – design specification	Students consider a series of prompts to help them think about how the project requirements for Sowerby Biscuits will affect their design specification.	What is a design specification?	Pages 50–51
PPT 1.23	Creating sketches and storyboards	6 slides: explaining the purpose of sketches and storyboards during project planning and showing examples.	Creating sketches and storyboards	Pages 52–53
AS 1.23	Sowerby Biscuits – creating a storyboard	Students write a storyboard for their home page for the Sowerby Biscuits project.	Creating sketches and storyboards	Pages 52–53
AS 1.24	Sowerby Biscuits – hardware and software	Students consider which software and hardware they will use to create webpages for the Sowerby Biscuits project. They then complete a test strategy for the project.	Defining the hardware and software requirements	Pages 54–55

Resource	Resource title	Description	Student Book lesson title	Student Book page number
AS 1.25	Building skills for assessment activity	Students answer questions based on a theoretical project to test their understanding of all aspects of Learning outcome A and B.	Learning outcomes A and B: assessment practice	Pages 56–57

Component 1: Exploring User Interface Design Principles and Project Planning Techniques

Learning outcome B4: Developing a user interface

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 1.24	Interface design	3 slides: students are asked to consider interface designs for different devices.	Defining the hardware and software requirements	Pages 54–55
AS 1.26	Developing a user interface	Students consider ways to improver user interface design, sketch a design for the Sowerby Biscuits project and then create the user interface, using an appropriate piece of software.	Creating sketches and storyboards	Pages 52–53

Component 1: Exploring User Interface Design Principles and Project Planning Techniques

Learning outcome C1: Review

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 1.25	Reviewing a user interface	4 slides: an outline of what a review should cover, the dos and don’ts, and the types of target users.	Reviewing the user interface	Pages 64–65
AS 1.27	Reviewing the user interface	Students use checklists to review the user interface they have created.	Reviewing the user interface	Pages 64–65

Resource	Resource title	Description	Student Book lesson title	Student Book page number
AS 1.28	Building skills for assessment activity	Students practise for their assignment for Learning outcome C by answering questions about developing and reviewing a user interface for an online shopping system for a bakery.	Learning outcome C: assessment practice	Pages 68–69
AS answers	Activity sheet answers	Answers to the activity sheet questions.	N/A	N/A
VAS answers	Video activity sheet answers	Answers to the video activity sheet questions	N/A	N/A

Component 2: Collecting, Presenting and Interpreting Data

Learning outcome A1: Characteristics of data and information

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 2.1	Introduction to Component 2	5 slides: introduction to Component 2.	Collecting, presenting and interpreting data	Pages 70–71
PPT 2.1	Data and information	7 slides: the difference between data and information, and an overview of how to give structure and meaning to data.	Data and information	Pages 72–73
AS 2.1	Giving structure and meaning to data	Students identify the basic types of different fields and give as much detail as they can about features and the information provided by each.	Data and information	Pages 72–73

Component 2: Collecting, Presenting and Interpreting Data

Learning outcome A2: Representing information

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 2.2	Presenting information	7 slides: an overview of the different ways of presenting information.	How to present information	Pages 74–75
AS 2.2	How to present information – infographics	Students research infographics, create a design for an infographic then present the designs to each other in small groups.	How to present information	Pages 74–75

Component 2: Collecting, Presenting and Interpreting Data

Learning outcome A3: Ensuring data is suitable for processing

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 2.3	Preparing data for processing	7 slides: an outline of validation and verification methods.	Making data suitable for processing	Pages 76–77
AS 2.3	Validation and verification methods	Using a banking scenario, students list the validation and verification methods needed for a range of data input fields.	Making data suitable for processing	Pages 76–77

Component 2: Collecting, Presenting and Interpreting Data

Learning outcome A4: Data collection

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 2.4	Collecting data	6 slides: an outline of data collection methods and features, and big data.	Collecting data	Pages 78–79

Resource	Resource title	Description	Student Book lesson title	Student Book page number
AS 2.4	Data collection methods	Students are given four different scenarios and asked to identify and discuss the data collection methods that could be used.	Collecting data	Pages 78–79
AS 2.5	Data collection features	Students are asked to create a design for a survey, taking into account the features of data collection.	Collecting data	Pages 78–79

Component 2: Collecting, Presenting and Interpreting Data

Learning outcome A5: Quality of information

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 2.5	Data quality	4 slides: an overview of the factors that determine the quality of information and a scenario about a traffic volumes survey, to stimulate discussion.	Why quality is important	Pages 80–81

Component 2: Collecting, Presenting and Interpreting Data

Learning outcome A6: Sectors that use data modelling

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 2.6	Who uses data modelling?	5 slides: an outline of just-in-time manufacturing and some examples of how data modelling can make a real difference.	Who uses data modelling?	Pages 82–83

Component 2: Collecting, Presenting and Interpreting Data

Learning outcome A7: Threats to individuals

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 2.7	Data security	4 slides: outline and discussion about data privacy and data protection, then a scenario involving a tracking app to stimulate discussion.	Data security for individuals	Pages 84–85
AS 2.6	Data privacy	Students complete a table with the different data that is collected about people that could affect their privacy. Then they create a poster about the dangers of sharing too much personal information on social media and giving advice about how to avoid potential problems.	Data security for individuals	Pages 84–85
AS 2.7	Building skills for assessment activity	Students practise for their assignment by finding out as much as they can about their two chosen sectors. Students complete information about different data types and answer questions about data collection, data features and factors that might affect the quality of data.	Learning outcome A: assessment practice	Pages 86–87

Component 2: Collecting, Presenting and Interpreting Data

Learning outcome B1: Data processing methods

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 2.9	Importing data	6 slides: an outline of why a dashboard needs data to work and examples of how it can be imported.	Importing data	Pages 90–91
AS 2.8	Importing data	Students use the =importhtml function and look at different ways to download and import data into a spreadsheet program.	Importing data	Pages 90–91
PPT 2.10	Spreadsheet formulae	5 slides: an overview of the main spreadsheet formulae.	Spreadsheet formulae	Pages 92–93

Resource	Resource title	Description	Student Book lesson title	Student Book page number
AS 2.9	Formulae	Using the accompanying spreadsheet, students use formulae to work out a holiday budget.	Spreadsheet formulae	Pages 92–93
S 2.9	Formulae	Holiday budget information copied into a spreadsheet to help students with AS 2.9.	Spreadsheet formulae	Pages 92–93
SA 2.9	Formulae answers	Spreadsheet answers to the AS 2.9 activity.	Spreadsheet formulae	Pages 92–93
AS 2.10	Copying formulae	Using the accompanying spreadsheet, students work on two scenarios and practise copying formulae.	Spreadsheet formulae	Pages 92–93
S 2.10	Copying formulae	Sales record and survey results information copied into a spreadsheet to help students with AS 2.10.	Spreadsheet formulae	Pages 92–93
SA 2.10	Copying formulae answers	Spreadsheet answers to the AS 2.10 activity.	Spreadsheet formulae	Pages 92–93
PPT 2.11	Cell referencing	7 slides: an outline of relative and absolute addressing, and named ranges	Cell referencing	Pages 94–95
AS 2.19	SUM, AVERAGE, MIN and MAX functions	Using the accompanying spreadsheet, students practise using spreadsheet functions.	Spreadsheet functions	Pages 96–97
S 2.19	SUM, AVERAGE, MIN and MAX functions	Totals of items sold copied into a spreadsheet to help students with AS 2.19.	Spreadsheet functions	Pages 96–97
SA 2.19	SUM, AVERAGE, MIN and MAX functions answers	Spreadsheet answers to the AS 2.19 activity.	Spreadsheet functions	Pages 96–97
PPT 2.12	Decision-making functions	7 slides: an outline of IF and SUMIF functions, with examples.	Decision-making functions	Pages 98–99
AS 2.11	IF and SUMIF functions	Using the accompanying spreadsheet, students work on three scenarios and practise using the IF and SUMIF functions.	Decision-making functions	Pages 98–99
S 2.11	IF and SUMIF functions	Pay calculator, invoice summary and invoices information copied into a spreadsheet to help students with AS 2.11.	Decision-making functions	Pages 98–99

Resource	Resource title	Description	Student Book lesson title	Student Book page number
SA 2.11	IF and SUMIF functions answers	Spreadsheet answers to the AS 2.11 activity.	Decision-making functions	Pages 98–99
VC 2.1	How to use the IF function in a dashboard	Video clip demonstrating how to use the IF function in a dashboard.	Decision-making functions	Pages 98–99
T 2.1	Transcript for video clip 2.1	Transcript for video clip 2.1.	Decision-making functions	Pages 98–99
VAS 2.1	How to use the IF function in a dashboard	Students are asked to analyse supermarket data collected in a spreadsheet, using the IF function	Decision-making functions	Pages 98–99
PPT 2.13	Lookup functions	5 slides: an overview of lookup functions, including VLOOKUP and HLOOKUP.	Lookup functions	Pages 100–101
AS 2.12	Lookup functions	Using the accompanying spreadsheet, students practise using the VLOOKUP and HLOOKUP functions.	Lookup functions	Pages 100–101
S 2.12	Lookup functions	Customer details and hospital ward record information copied into a spreadsheet to help students with AS 2.12.	Lookup functions	Pages 100–101
SA 2.12	Lookup functions answers	Spreadsheet answers to the AS 2.12 activity.	Lookup functions	Pages 100–101
VC 2.2	How to use the VLOOKUP function in a dashboard	Video clip demonstrating how to use the VLOOKUP function in a dashboard.	Lookup functions	Pages 100–101
T 2.2	Transcript for video clip 2.2	Transcript for video clip 2.2.	Lookup functions	Pages 100–101
VAS 2.2	How to use the VLOOKUP function in a dashboard	Students are asked to calculate sales made at different times of day using the VLOOKUP function.	Lookup functions	Pages 100–101

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 2.14	Count functions	6 slides: an overview of count functions, including the COUNT function, the COUNTIF function and the COUNTBLANK function.	Count functions	Pages 102–103
AS 2.13	Count functions	Using the accompanying spreadsheet, students practise using the count functions.	Count functions	Pages 102–103
S 2.13	Count functions	Customer details and hospital ward record information copied into a spreadsheet to help students with AS 2.13.	Count functions	Pages 102–103
SA 2.13	Count functions answers	Spreadsheet answers to the AS 2.13 activity.	Count functions	Pages 102–103
PPT 2.15	Logical operators	5 slides: an overview of the AND, OR and NOT logical operators.	Logical operators	Pages 104–105
AS 2.14	Using AND and OR	Using the accompanying spreadsheet, students practise using the AND and OR operators.	Logical operators	Pages 104–105
S 2.14	Using AND and OR	Garage data and discounted items information copied into a spreadsheet to help students with AS 2.14.	Logical operators	Pages 104–105
SA 2.14	Using AND and OR answers	Spreadsheet answers to the AS 2.14 activity.	Logical operators	Pages 104–105
PPT 2.16	Sorting	6 slides: an overview of sorting, including an example and a look at multiple sort criteria.	Sorting	Pages 106–107
AS 2.15	Sorting	Using the Met Office data spreadsheet, students practise sorting data.	Sorting	Pages 106–107
S 2.15	Sorting	Met Office data spreadsheet used with AS 2.15 and AS 2.16.	Sorting	Pages 106–107
PPT 2.17	Filtering	6 slides: an overview of filtering, including an example and a look at multiple filter/sort.	Filtering data	Pages 108–109
AS 2.16	Filtering data	Using the Met Office data spreadsheet, students practise filtering data.	Filtering data	Pages 108–109

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 2.18	Using outlines	10 slides: an overview of text editing, including the RIGHT function, LEFT function, LEN function and FIND function, and of outlines, including examples.	Using outlines and subtotals	Pages 110–111
AS 2.17	Using outline	Using the accompanying spreadsheet, students practise manipulating text and using outlines.	Using outlines and subtotals	Pages 110–111
S 2.17	Using outline	Customer emails copied into a spreadsheet to help students with AS 2.17.	Using outlines and subtotals	Pages 110–111
SA 2.17	Using outline answers	Spreadsheet answers to the AS 2.17 activity.	Using outlines and subtotals	Pages 110–111
PPT 2.19	Macros	5 slides: an overview of macros, with a focus on how to record them and how to assign macros to buttons.	Macros	Pages 112–113
AS 2.18	Macros	Using the accompanying spreadsheet, students practise using macros.	Macros	Pages 112–113
S 2.18	Macros	Cycle race information copied into a spreadsheet to help students with AS 2.18.	Macros	Pages 112–113
SA 2.18	Macros answers	Spreadsheet answers to the AS 2.18 activity.	Macros	Pages 112–113
VC 2.3	How to use macros in a dashboard	Video clip demonstrating how to use macros in a dashboard.	Macros	Pages 112–113
T 2.3	Transcript for video clip 2.3	Transcript for video clip 2.3.	Macros	Pages 112–113
VAS 2.3	How to use macros	Students are asked to consider the data they have collected and how they can extract and format that data on the dashboard.	Macros	Pages 112–113
PPT 2.20	Linking sheets	5 slides: an overview of data validation, looking at list validation, data type validation and length validation.	Linking spreadsheets and views	Pages 114–115
PPT 2.21	Conditional formatting	4 slides: an overview of conditional formatting.	Conditional formatting	Pages 116–117

Resource	Resource title	Description	Student Book lesson title	Student Book page number
AS 2.21	Conditional formatting	Students apply conditional formatting to dashboards and spreadsheets.	Conditional formatting	Pages 116–117

Component 2: Collecting, Presenting and Interpreting Data

Learning outcome B2: Producing a dashboard

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 2.8	What is a dashboard?	4 slides: overview of a dashboard with some examples.	What is a dashboard?	Pages 88–89
AS 2.20	A simple dashboard	Students develop a simple dashboard, and practise using formulae, and creating and recording macros. They also create a spreadsheet with a dashboard for a cycling road race, entering formulae to identify specific information.	Linking spreadsheets and views	Pages 114–115
PPT 2.22	Data summaries	5 slides: an overview of data summaries – totals, percentages and averages.	Showing data summaries	Pages 118–119
AS 2.22	Data summaries	Students practise showing data summaries.	Showing data summaries	Pages 118–119
PPT 2.23	Information summaries	5 slides: a look at different ways of summarising data (totals, percentages, averages and counts).	Showing information summaries	Pages 120–121
PPT 2.24	Presentation methods 1	5 slides: an overview of form controls, graphs and charts.	Presentation methods 1	Pages 122–123
AS 2.23	Presentation – charts and graphs	Students create bar charts and pie charts from spreadsheet data.	Graphs and charts	Pages 124–125
PPT 2.25	Presentation methods 2	5 slides: an overview of pivot tables, with examples.	Presentation methods 2	Pages 126–127
AS 2.24	Pivot tables	Students use the accompanying spreadsheet to create two pivot tables.	Presentation methods 2	Pages 126–127

Resource	Resource title	Description	Student Book lesson title	Student Book page number
S 2.24	Pivot tables	Bike retailer information copied into a spreadsheet to help students with AS 2.24.	Presentation methods 2	Pages 126–127
SA 2.24	Pivot tables answers	Spreadsheet answers to the AS 2.24 activity.	Presentation methods 2	Pages 126–127
PPT 2.26	Presentation features	6 slides: an overview of text size, style and colour, cell borders and colours, and formatting – what works and what doesn't.	Presentation features	Pages 128–129
AS 2.25	Presentation features – formatting	Students are asked to apply text colour and style, cell border and colour to improve the presentation of various spreadsheets.	Presentation features	Pages 128–129
AS 2.26	Building skills for assessment activity	Students practise for their assignment by completing a task-led table, including deadline dates and by creating a design for a dashboard.	Learning outcome B: assessment practice	Pages 130–131

Component 2: Collecting, Presenting and Interpreting Data

Learning outcome C1: Drawing conclusions based on findings in the data

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 2.27	Drawing conclusions	8 slides: an overview of trends, patterns, errors and anomalies.	Findings	Pages 132–133
AS 2.27	Trends and patterns	Students define trends and patterns, with examples, then use data to look at trends and anomalies.	Findings	Pages 132–133
AS 2.28	Drawing conclusions	Students use dashboards and data to consider how future decisions could be made.	Findings	Pages 132–133
PPT 2.28	Making recommendations	5 slides: examples of how data is used by organisations and of the importance of long-term planning.	Findings	Pages 132–133

Component 2: Collecting, Presenting and Interpreting Data

Learning outcome C2: How presentation affects understanding

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 2.29	Presentation and understanding	5 slides: a look at how the way information is presented can have an impact on how it is interpreted.	How presentation affects understanding	Pages 134–135
AS 2.29	Building skills for assessment activity	Students practise for their assignment by writing definitions of a trend, pattern and error, and completing a table about the charts/graphs in their dashboard.	Learning outcome C: assessment practice	Pages 136–137
AS answers	Activity sheet answers	Answers to the activity sheet questions.	N/A	N/A
VAS answers	Video activity sheet answers	Answers to the video activity sheet questions.	N/A	N/A

Component 3: Effective Digital Working Practices

A1: Modern technologies

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 3	Introduction to Component 3	4 slides: introduction to Component 3	Effective digital working practices	Pages 138–139
PPT 3.1	Ad hoc networks	6 slides: what an ad hoc network is, how you can connect to it, and how you can create it.	Communication technologies	Pages 140–141
AS 3.1	How to use an ad hoc network	Students take the role of a digital information technology officer – they answer questions on how to use an ad hoc network to prepare them for producing a guide for new employees.	Communication technologies	Pages 140–141

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 3.2	Cloud storage	8 slides: seven 'true' or 'false' questions about cloud storage to help discuss any misunderstandings.	Cloud storage	Pages 142–143
AS 3.2	Using cloud storage	Students take the role of two workers and answer questions about how they might use cloud storage during their working lives.	Cloud storage	Pages 142–143
PPT 3.3	How does cloud computing work?	3 slides: overview of how cloud computing works using illustrations.	Cloud computing	Pages 144–145
AS 3.3	Working with cloud computing	Students answer questions about how to work with cloud computing and the benefits and drawbacks of using it.	Cloud computing	Pages 144–145
PPT 3.4	Factors affecting the choice of computing platform	11 slides: overview of the eight main factors affecting the choice of computing platform: screen size, portability, processing power, RAM, storage capacity, user interface, network connectivity speed, operating system.	Selection of platforms and services	Pages 146–147
AS 3.4	The paperless school	Students are asked to recommend the most suitable computing device to use for four scenarios within a school context.	Selection of platforms and services	Pages 146–147
PPT 3.5	Using cloud and traditional systems together	3 slides: useful animation showing full synchronisation step by step.	Using cloud and traditional systems together	Pages 148–149
AS 3.5	Using cloud and traditional computing together	Using the example of an architect who is both office- and home-based, students answer questions about using cloud and traditional systems together.	Using cloud and traditional systems together	Pages 148–149
PPT 3.6	Choosing a cloud service provider	5 slides: overview of factors to consider when choosing a cloud service provider.	Choosing cloud technologies	Pages 150–151
AS 3.6	Choosing a cloud service	Students undertake research and then recommend cloud computing and cloud storage services that a personal fitness trainer could use, for herself and her clients. Students should present their recommendations as a formal report.	Choosing cloud technologies	Pages 150–151

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 3.7	Virtual machines	5 slides: what a virtual machine is and the benefits of it.	Maintenance, set up and performance considerations	Pages 152–153
AS 3.7	Should we use a cloud-based provider?	Students take the role of an advisor to the owner of a travel agency to provide advice on whether to use a cloud-based provider.	Maintenance, set up and performance considerations	Pages 152–153

Component 3: Effective Digital Working Practices

A2: Impact of modern technologies

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 3.8	Collaborative working on a document	4 slides: an overview of the benefits and possible drawbacks of collaborative working on a document.	Collaborative technologies	Pages 154–155
AS 3.8	Collaborative working at Jackson and Jackson	Students are asked to recommend collaborative working solutions for two brothers who are property agents, one based in England and the other in Australia.	Collaborative technologies	Pages 154–155
PPT 3.9	Collaborative working tools	5 slides: an overview of different collaborative working tools.	Using modern technology when managing teams: communication and collaboration	Pages 156–157
AS 3.9	Review of collaborative working activity	Students answer a series of questions designed to encourage them to reflect on collaborative working.	Using modern technology when managing teams: communication and collaboration	Pages 156–157
PPT 3.10	Using diary management software	4 slides: some of the meeting/appointment functionality used by Microsoft Outlook.	Using modern technology when managing teams: scheduling and planning	Pages 158–159

Resource	Resource title	Description	Student Book lesson title	Student Book page number
AS 3.10	Using diary management software	Students are given three scenarios relating to organising meetings and appointments. For each one, they have to either describe how they would use diary management software to organise the event or use diary management software to help to organise the event.	Using modern technology when managing teams: scheduling and planning	Pages 158–159
PPT 3.11	Communication	4 slides: an overview of one-way and two-way communication, including drawbacks of one-way communication and a discussion about the benefits of two-way communication.	Communication with stakeholders	Pages 160–161
AS 3.11	Choosing communication channels and technologies	Using a museum as the focus, students are asked a series of questions about different communication channels and the types of information that are suitable for public versus private communication channels.	Communication with stakeholders	Pages 160–161
PPT 3.12	How good is your ALT text?	6 slides: students play a game in pairs – the purpose is to show them the importance of accuracy when creating ALT text, and how this can be difficult to achieve.	Accessibility and inclusivity	Pages 162–163
AS 3.12	How can we make our website accessible and inclusive?	Students are asked to make a section of website text more inclusive. They then research a range of websites, find sites that are inclusive and others that could be improved, and compare the features of both.	Accessibility and inclusivity	Pages 162–163
PPT 3.13	Distributed and dispersed data	6 slides: an overview of distributed and dispersed data, and an opportunity for students to think about which method should be used in different scenarios.	How modern technologies impact on an organisation	Pages 164–165
AS 3.13	ZZ Game Developers – the impact of new technology	Students are asked to consider the impact on an organisation of issuing employees with laptops and smartphones. They then consider the benefits to the organisation of having an online store.	How modern technologies impact on an organisation	Pages 164–165
PPT 3.14	Different ways of working	4 slides: students consider home-based working, group collaboration and virtual meetings.	How technologies impact the way organisations operate	Pages 166–167

Resource	Resource title	Description	Student Book lesson title	Student Book page number
AS 3.14	ZZ Game Developers – how technology impacts business activities	Using the same organisation as an example, students are asked to consider the benefits and drawbacks of using videoconferencing and online chat systems, how technology has helped the organisation become more inclusive, and the benefits and drawbacks of employees being able to work remotely.	How technologies impact the way organisations operate	Pages 166–167
PPT 3.15	Technology and wellbeing	5 slides: an overview of practical, emancipatory and technical wellbeing and the different factors that can influence each type; the last slide asks students to consider the impact on the different types of wellbeing if their school/college gave all students a Wi-Fi-enabled tablet.	How technology impacts individuals	Pages 168–169
AS 3.15	Could you cope with working remotely with technology?	Students complete a short quiz to help them to decide how easy they would find it to work remotely.	How technology impacts individuals	Pages 168–169
AS 3.16	Building skills for assessment activity	Students practise for their assessment activity by answering questions on using cloud systems, collaborative working and the impact of technologies.	A: assessment practice	Pages 170–171

Component 3: Effective Digital Working Practices

B1: Threats to data

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 3.16	Denial-of-service (DoS) attacks	6 slides: useful overview of how denial-of-service attacks work and what a distributed denial-of-service attack is.	Why systems are attacked	Pages 172–173
AS 3.17	What happens after an attack?	Students answer questions relating to a range of scenarios on the possible consequences of attacks on digital systems.	Why systems are attacked	Pages 172–173

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 3.17	Man-in-the-middle attacks	3 slides: visual representation of how man-in-the-middle attacks work.	External threats to digital systems and data security	Pages 174–175
AS 3.18	Is this a threat?	Students answer questions relating to three examples of external threats to digital systems and data security.	External threats to digital systems and data security	Pages 174–175
PPT 3.18	The threat from USB devices	3 slides: a look at one specific threat – from USB drives.	Internal threats to digital systems and data security	Pages 176–177
AS 3.19	Dealing with internal threats	Using a personal finance business as the focus, students are given three scenarios relating to internal threats. They are asked to explain what threats to systems and data might occur, and what action the organisation can take to reduce the chances of the threat taking place.	Internal threats to digital systems and data security	Pages 176–177

Component 3: Effective Digital Working Practices

B2: Presentation and management of threats to data

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 3.19	Two-factor authentication	6 slides: a detailed look at two-factor authentication and how it differs from one-factor authentication and multi-factor authentication.	User access restriction	Pages 178–179
AS 3.20	Improving security at StreamSongs	Using an online music service as the focus, students are asked to consider a range of security measures and, for each one, describe the types of threat that could be reduced, explain how the security measure will help to reduce the chance of this threat occurring, and explain one limitation of the security measure.	User access restriction	Pages 178–179
PPT 3.20	How a firewall works	3 slides: visual representation of how a firewall works.	Data level protection: firewalls and anti-virus software	Pages 180–181

Resource	Resource title	Description	Student Book lesson title	Student Book page number
AS 3.21	Using a firewall and anti-virus software	Students answer a series of questions designed to test their understanding of firewalls and anti-virus software.	Data level protection: firewalls and anti-virus software	Pages 180–181
PPT 3.21	Data encryption	3 slides: visual representation of how data encryption works.	Data level protection: device hardening and encryption	Pages 182–183
AS 3.22	Device hardening at Jackson's Solicitors	Students are given a range of possible IT scenarios for a firm of solicitors. For each one, they are asked to state one way in which the computer system is vulnerable, describe what action could be taken to correct the situation, and explain how the action will help make the business and its data less vulnerable to attack.	Data level protection: device hardening and encryption	Pages 182–183
PPT 3.22	Why are we being hacked?	5 slides: plenary activity asking students to consider three scenarios – is each one unethical or ethical (white or grey hat)?	Finding weaknesses and improving system security	Pages 184–185
AS 3.23	Penetration testing	Students answer a series of questions on penetration testing and then apply their knowledge to the firm of solicitors introduced in the previous activity sheet.	Finding weaknesses and improving system security	Pages 184–185

Component 3: Effective Digital Working Practices

B3: Policy

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 3.23	How good is our disaster recovery policy?	7 slides: students are asked to consider five extracts from a fictitious disaster recovery policy. In each case, they have to decide how good the policy is and how it could be improved.	Security policies	Pages 186–187
AS 3.24	Producing a disaster recovery plan	Students help to prepare a disaster recovery plan for a virtual fitness coach by answering a series of questions.	Security policies	Pages 186–187

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 3.24	How good is your password use?	4 slides: a range of statistics relating to password use.	Defining security parameters: passwords	Pages 188–189
AS 3.25	How secure are your passwords?	Students answer a series of questions designed to help them to reflect on how secure their passwords are and to consider examples of good and bad practice when choosing passwords.	Defining security parameters: passwords	Pages 188–189
PPT 3.25	Software audits	5 slides: an overview of what a software audit is, why it is important and how to perform a software audit.	Defining security parameters: policies	Pages 190–191
AS 3.26	Is the policy acceptable?	Students help to review an acceptable software policy by considering whether specific statements from it are acceptable and, if not, to draft an improved version.	Defining security parameters: policies	Pages 190–191
PPT 3.26	Data Protection Controller	3 slides: an overview of the responsibilities of the Data Protection Controller.	Actions to take after an attack	Pages 192–193
AS 3.27	What to do after an attack	Students take on the role of an employee at a marketing agency. They are given a range of scenarios and, for each one, have to identify the type and severity of the attack, which services or processes will be affected, which stakeholders should be informed, and what action the agency should take to recover from the attack.	Actions to take after an attack	Pages 192–193
AS 3.28	Building skills for assessment activity	Students practise for their assessment activity by answering questions on threats to data, how to prevent and manage threats to data, and the need for security policies in organisations.	B: assessment practice	Pages 194–195

Component 3: Effective Digital Working Practices

C1: Responsible use

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 3.27	Data exchange	8 slides: visual representation of how data can be transformed into a different formats/configurations when it needs to be shared between different services.	Sharing data	Pages 196–197
AS 3.29	Sharing data at Banstall Buses	Using a bus company as the focus, students answer questions relating to accessing and using shared data.	Sharing data	Pages 196–197
PPT 3.28	WEEE Regulations	5 slides: overview of the WEEE regulations – what they cover and why they are needed.	The impact of technology on the environment	Pages 198–199
AS 3.30	How green is your school or college?	Students answer questions about their school's/college's approach to disposing of older computers and about reducing the impact of technology for computers currently being used.	The impact of technology on the environment	Pages 198–199

Component 3: Effective Digital Working Practices

C2: Legal and ethical

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 3.29	Equal access to information and services?	3 slides: statistics relating to the varying internet connection speeds in different countries and to different download times for a 2 GB film.	Equal access to information and services	Pages 200–201
AS 3.31	Equal access to information and services	Students are asked to consider the benefits for themselves, businesses and society of having equal access to the internet, and to consider potential drawbacks of having limited access to the internet compared to others.	Equal access to information and services	Pages 200–201

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 3.30	Web Content Accessibility Guidelines	10 slides: a detailed look at the Web Content Accessibility Guidelines.	Legal requirements and professional guidelines	Pages 202–203
AS 3.32	Is it legal?	Students are given three scenarios – for each one they have to state which type of legislation has been broken and how the organisation could comply with the legislation.	Legal requirements and professional guidelines	Pages 202–203
PPT 3.31	Net neutrality	5 slides: an overview of net neutrality, with useful examples of how it can be broken.	Net neutrality	Pages 204–205
AS 3.33	Is the net neutral?	Students are given three scenarios – for each one they have to decide whether net neutrality has been broken and explain the benefits and drawbacks to users of the situation.	Net neutrality	Pages 204–205
PPT 3.32	Advertising on social media	6 slides: an outline of the methods used by Facebook in 2018 to enable organisations to buy advertising space on their pages; there is an activity at the end of the presentation.	Acceptable use policies	Pages 206–207
AS 3.34	Is it acceptable use?	Students have to explain whether four statements from an acceptable use policy are acceptable; if they aren't, they have to draft an improved version.	Acceptable use policies	Pages 206–207
PPT 3.33	The General Data Protection Regulations (GDPR)	11 slides: a detailed overview of the rights of data subjects under the GDPR.	Data protection principles	Pages 208–209
AS 3.35	Does it comply with GDPR?	Students are given four scenarios – for each one they have to state which data protection principle is most relevant, whether the principle is being followed, and, for any situations where the principle is not being followed, explain what would need to happen for the principle to be met.	Data protection principles	Pages 208–209
PPT 3.34	How cookies work	4 slides: an overview of what cookies are and how they work.	Data and the use of the internet	Pages 210–211
AS 3.36	Who sees your digital footprint?	Students answer questions about first-party and third-party cookies.	Data and the use of the internet	Pages 210–211

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 3.35	Copyright law	8 slides: an overview of what copyright is, how long it lasts and what it can prevent/cannot prevent.	Intellectual property	Pages 212–213
AS 3.37	How well do you understand intellectual property?	Students are asked to identify the copyright and trademark symbols and then to apply their knowledge of copyright to questions about a new logo for Moov2together.	Intellectual property	Pages 212–213
PPT 3.36	The criminal use of computer systems	6 slides: an overview of the three main offences in The Computer Misuse Act 1990.	The criminal use of computer systems	Pages 214–215
AS 3.38	Computer misuse at Trenshaw Media	Using a media-based organisation as the focus, students apply their knowledge of technology crimes to a series of questions. These relate to how employees' actions may have been exploited and how the organisation can reduce the risk of its systems being exploited for criminal use.	The criminal use of computer systems	Pages 214–215
AS 3.39	Building skills for assessment activity	Students practise for their assessment activity by answering questions on sharing data, the impact of technology on the environment, intellectual property, and data and the use of the internet.	C: assessment practice	Pages 216–217

Component 3: Effective Digital Working Practices

D1: Forms of notation

Resource	Resource title	Description	Student Book lesson title	Student Book page number
PPT 3.37	Information flow diagrams	5 slides: an overview of information flow diagrams and an example of how one works.	Forms of notation	Pages 218–219
AS 3.40	Information flow in a travel agency	Students answer general questions about IFDs and then specific questions about an IFD relating to working practices in a travel agency.	Forms of notation	Pages 218–219

Resource	Resource title	Description	Student Book lesson title	Student Book page number
VC 3.3	Reading and constructing an information flow diagram	Video clip demonstrating how to read and construct an information flow diagram.	Forms of notation	Pages 218–219
T 3.3	Reading and constructing an information flow diagram	Transcript for video clip 3.3	Forms of notation	Pages 218–219
VAS 3.3	Reading and constructing an information flow diagram	Students are asked to create an information flow diagram for a student assignment marking process, and ordering food in a restaurant.	Forms of notation	Pages 218–219
PPT 3.38	Data flow diagrams	4 slides: an overview of data flow diagrams and an example of how one works.	Interpreting data flow diagrams	Pages 220–221
AS 3.41	Data flow in a travel agency	Students answer general questions about DFDs and then specific questions about a DFD relating to working practices in a travel agency.	Interpreting data flow diagrams	Pages 220–221
PPT 3.39	Flow charts	4 slides: an overview of flow charts and a detailed example of how one works.	Interpreting flow charts	Pages 222–223
AS 3.42	Flow charts for a new online store	Students answer general questions about flow chart symbols then draw part of a flow chart for a password management system.	Interpreting flow charts	Pages 222–223
PPT 3.40	System diagrams	3 slides: an overview of system diagrams.	Interpreting system diagrams	Pages 224–225
AS 3.43	Interpreting system diagrams	Students answer questions about three system diagram scenarios.	Interpreting system diagrams	Pages 224–225
PPT 3.41	Creating charts	6 slides: the benefits and drawbacks of charts and an overview of column and pie charts.	Tables and written information	Pages 226–227

Resource	Resource title	Description	Student Book lesson title	Student Book page number
AS 3.44	Using tables and written information	Students interpret information presented in a table and are then asked to create a chart to display the information.	Tables and written information	Pages 226–227
PPT 3.42	Creating a data flow diagram	6 slides: a reminder of the symbols required to create a data flow diagram.	Creating data flow diagrams	Pages 228–229
AS 3.45	Creating a data flow diagram for a cinema	Students use the description of a cinema ticketing system to draw a data flow diagram.	Creating data flow diagrams	Pages 228–229
VC 3.1	Reading and constructing a data flow diagram	Video clip demonstrating how to read and construct a data flow diagram.	Creating data flow diagrams	Pages 228–229
T 3.1	Reading and constructing a data flow diagram	Transcript for video clip 3.1.	Creating data flow diagrams	Pages 228–229
VAS 3.1	Reading and constructing a data flow diagram	Students are asked to create a data flow diagram for an exam marking system.	Creating data flow diagrams	Pages 228–229
PPT 3.43	Flow chart symbols	6 slides: a reminder of the symbols required to create a flow chart.	Creating flow charts	Pages 230–231
AS 3.46	Creating a flow chart for a cinema	Students use the description of a cinema ticketing system to draw a flow chart.	Creating flow charts	Pages 230–231
VC 3.2	Reading and constructing a flow chart	Video clip demonstrating how to read and construct a flowchart.	Creating flow charts	Pages 230–231
T 3.2	Reading and constructing a flow chart	Transcript for video clip 3.2.	Creating flow charts	Pages 230–231

Resource	Resource title	Description	Student Book lesson title	Student Book page number
VAS 3.2	Reading and constructing a flow chart	Students are asked to create a flowchart from a choice of three scenarios.	Creating flow charts	Pages 230–231
AS 3.47	Building skills for assessment activity	Students practise for their assessment activity by answering questions on data flow diagrams, flow charts and system diagrams, tables and written information.	D: assessment practice	Pages 232–233
AS answers	Activity sheet answers	Answers to the activity sheet questions	N/A	N/A
VAS answers	Video activity sheet answers	Answers to the video activity sheet questions	N/A	N/A