



# BTEC DIT

Digital Information  
Technology

ICT





# GCSE Equivalent



Qualification Grade	L2D*	L2D	L2M	L2P	L1D	L1M	L1P
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# COMPONENT S

This qualification has been designed to be a new, exciting and forward-thinking qualification that will prepare students for the modern digital world where they will live and work.

It has three components

**Component 1** ( Exam style coursework)

**Component 2** ( Exam style coursework)

**Component 3** (Written exam)





In this component you will create a User Interface for a given scenario.

You will get hands on experience of the project life-cycle – seeing it through from start to finish

# Component 1

Assessed via coursework

You will learn how to design an interface to interact with a range of users





## Purpose and audience of the project

My purpose of my project is to make a digital information point that will take 11 weeks to complete. The Design stage should take 3 weeks, the Development stage should take 7 weeks and the Review stage should take 1 week. The digital information point should be installed for the summer and the language used on the screen should be clear and easy to use with the audience of the information point will be adults, families with young children and visitors with accessibility needs. There will be 4 screens: home (different options to take them to other screens), attractions (what different rides and information about height limit and all that), facilities (cafes, toilets, restaurants, a theme park centre and a map) and special events (any special events with dates with information about age and pricing) The information point will be accessed using touch screens positioned around the park. Throughout the project, I will also need to schedule meetings with the client.

## Project requirements

I have 11 weeks to complete this project and I have to complete it for the summer holidays. I have to design a digital information point and it has 3 design phases: the design stage which will take 3 weeks, the Development stage should take 7 weeks and the Review stage should take 1 week. The user has asked us that the language used on the screen should be clear and easy to use. The audience is adults, families with young children and visitors with accessibility needs. The skill level of the users will be relatively low so it should be as simple and extremely easy navigation and maybe has bread crumbs to help users remember which pages they have been on. Must be consistent with a colour that are complementary to each other so the user can easily see what they are reading e.g. green, blue and purple. scheme I stick to and icons that represent the text (user perception). I will need a touch screen so there will need to be a speaker option where it gets read out for visually impaired users and a text option for deaf people. There should be a click sound or highlight around the border when clicked, the screen should load no longer than 3 seconds, and the text should be around 24-30 and is sans serif so it can be easily seen and understood by all ages. Throughout the project, you will also need to schedule meetings with the client. Preferably after each stage so the client is happy before we continue with the project.

## User accessibility requirements

For Visually impaired users there needs to be larger text with contrasting text with the colour scheme so it is easier to read with a sans serif font.

For Hearing impaired users having a volume up and down button with subtitles would benefit them greatly with clear English so they can read it and understand it as well.

For Motor impaired users we will need larger buttons and a more sensitive touch screen.

For Cognitive impaired users we will use white space so it spaces out the text and is less crowded, also use simplified wording with one colour scheme to not confuse them.

For speech impaired users we will need alternative methods such as keyboards or a built-in tablet touch screen keyboard.

## Constraints

Time - We have 11 weeks to complete, 3 weeks in designing that means that the design phase should be completed within 3 weeks, 7 weeks developing stage which means we have to complete the stage in 7 weeks. Then the review stage takes 1 week which means it should take 1 week to complete. Everything needs to be done within the plan otherwise the user interface would not be completed within 11 weeks. Done by summer.

Constraints + Resources - My project must include a touch screen component and the software that I use must match with the graphics of the tablets etc and the size of the screen. We will need a speaker to hear or talk into the device. We also need a text to speech option so any speech problems can be either turned on or off.

Task dependencies - Some tasks will be dependent on each other so if any constraints arise the whole project will extend because we need to design and just when we finish that we can go onto the development stage when we meet with the client and be reassured and improved to move onto the next stage. So throughout the project we need to be on time every single time in each stage.

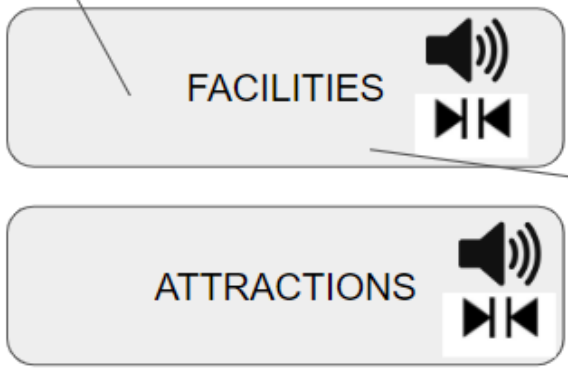
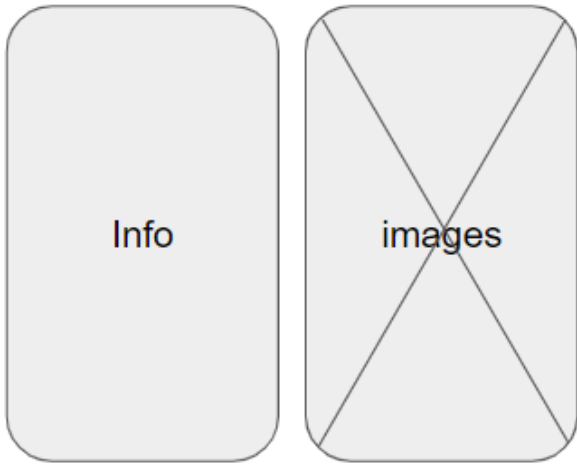
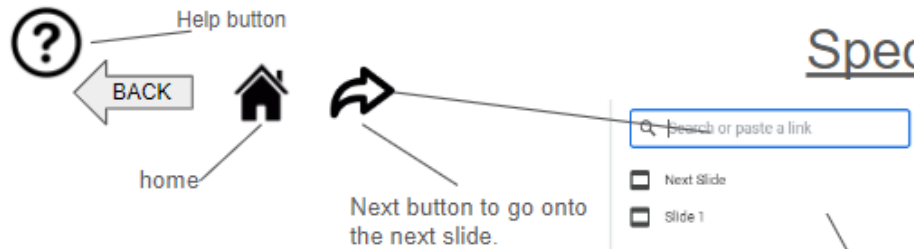
Security - We will make sure that the user's data is kept safe. For this reason we will store email addresses and names etc but we will discharge any personal information recorded like date of birth, passwords and address.

**Project name: Theme Park Project**

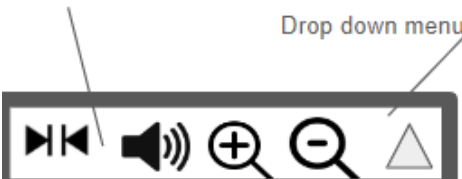
Project Start date: 15/11/23		Design stage			Development stage							Review Stage
Task no	Task name	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11
1	Project required meeting											
2	Research existing UI											
3	Prjoect proposal											
4.1	Home screen design											
4.2	Attraction screen design											
5	Design meeting to check designs											
6.1	Facilities screen design											
6.2	Special Events screen design											
7	End of Design stage meeting											
8.1	Home screen prototype											
8.2	Home screen testing											
9.1	Attraction screen protype											
9.2	Attraction screen testing											
10.1	Facilities screen prototype											
10.2	Facilites screen testing											
11.1	Special Events screen prototype											
11.2	Special events screen testing											
12	Full UI testing (4 screens)											
13	Implementatation											
14	End of development stage meeting											
15	UI Review											

KEY	
Meetings with client	
Design stage	
Development stage	
Review stage	
Milestones	
Dependencies	

# Special events



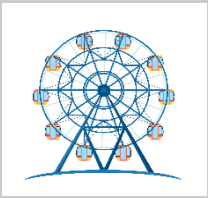
Buttons are large and easy to use, san serif font e.g georgia and calibri will be used with simple language to make it easy to read for all audiences, we also need to use white space with simple retaining important information only to not make the reader confused. Size 20 font with relatively high contrast colour to the background colour. Back arrow and all the other buttons are self explanatory so my interface will be easy to use and will be consistent as it will be in the same place throughout my design, user perception. Also they find stuff like social media where you would normally find it e.g the bottom. There will be an accessibility drop down menu where you can pick what mode you want it, e.g the text gets read out to you or you can zoom in/out etc, this will be found at the same place every slide.







# Home Page



SPECIAL EVENTS

ATTRACTIONS

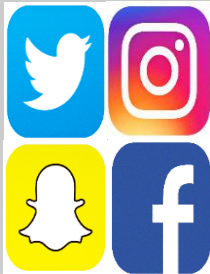
FACILITIES

## Opening times

We're open 10 am–4:30 pm

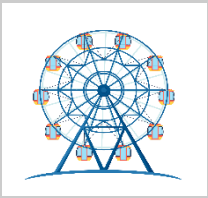
## Entrance fees

- Family £40.00
- Adult (16+ years) £13.00
- Child (3–15 years) £ 9.00
- Senior (60+ years) £12.00
- Disabled £0.00
- Children aged 2 and under are free





# Special Events



ATTRACTIONS

FACILITIES

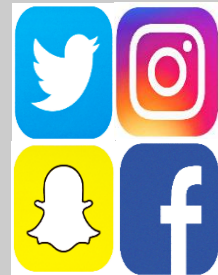
Be the first to ride the GLOBULAR!

It's the highest ride in Europe

This white-knuckle ride opens Sunday  
1pm

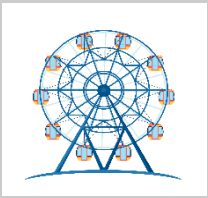
Adrenalin junkies only

First ride free





# Help Page



SPECIAL EVENTS

ATTRACTIONS

FACILITIES

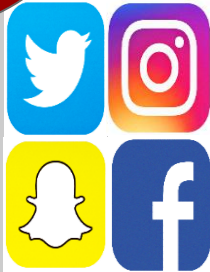
Send tour  
guide

Write any questions here here  
We will return to you shortly

HELP

Click here for  
accessibility features.

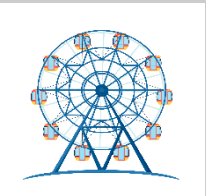
Click here for a  
life threatening  
situations.







# Attraction Page



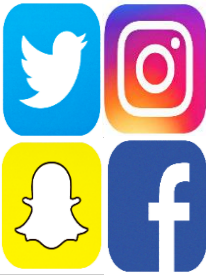
The map area contains the following elements:

- Top navigation bar:** Icons for baby changing, food/drink, first aid, ice cream, restrooms, and baby changing.
- Map features:** Restroom icons, a roller coaster, a red race car, a cafe, a 'YOU ARE HERE' location pin, a first aid icon, and a wheelchair accessibility icon.
- Accessibility grid:** A grid of icons indicating wheelchair accessibility (&P) for various areas.
- Map controls:** A magnifying glass icon in the bottom right corner of the map area.

SPECIAL EVENTS

FACILITIES

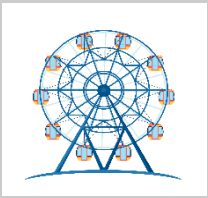
Info about facilities







# Facility information



ATTRACTIONS

SPECIAL EVENTS

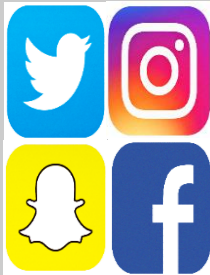
## Food and drink kiosks

Food and drink kiosks have a large selection of hot and cold drinks and snacks. Come and try our world famous milkshake and cupcakes!

## Lion Food Court

Lion Food Court offers delicious food from 10 am–3.30 pm.

Children under 2 eat free of charge.





## Project requirements

The requirements are that it should be easy to use and take up to 11 weeks to complete this project and should be completed for the summer holidays. I have to design a digital information point and it has 3 design phases: the design stage which will take 3 weeks, the Development stage should take 7 weeks and the Review stage should take 1 week. I have met this user requirement because I planned my project using a gantt chart and met all the date lines. My design is easy to use for all people as I took into consideration the disabled and made the buttons large and text large with sans serif font and easy to understand language paired with a contrasting background which stayed consistent throughout the project to not confuse the user, I also used lots of white space to make my prototype stand out and look professional. The user has asked us that the language used on the screen should be clear and easy to use. I have thought about the language and used sans serif font and have met the user requirements. I was supposed to make an easy to navigate interface which I partly achieved but could not complete the bread crumbs because I had a lack of software to complete it so I didn't meet these requirements yet as I didn't have the software to do it. My user interface was also supposed to have a speaker option where it gets read out for visually impaired users and a text option for deaf people. There should be a click sound or highlight around the border when clicked, the screen should load no longer than 3 seconds, and the text should be around 24-30 and is sans serif so it can be easily seen and understood by all ages and all of these requirements have been met successfully by making a drop down menu accessibility place which is easily accessible and consistently at the same place. My user interface was supposed to have 4 screens: home, attraction, special events, facilities which I have paired up nicely with hyperlinks and used the images that I got provided with at the same place to show consistency. I included all the things that are listed in the appendix and I added all the features where I could with the software and time I had.

## User accessibility requirements

I have included the accessibility requirements set by the theme park owner, for e.g. I placed a maximise magnifying glass and minimise magnifying glass to zoom in and out, and linked these to different pages. I also had an option where it can read the text out and can input data through speech through a built-in speaker for visually impaired users, and all pages were in easy to read font and size with easy to understand language so kids - old people can read. I improved my designs by creating the accessibility buttons relatively larger than usual to draw attention and got a drop down menu. We could improve the speaker by making it not work by button but by an initiation feature like 'hey siri' for 'hey kiosk'. I have met all the

requirements and created a volume up and down button, larger buttons and a more sensitive touch screen for motor need users, used white space so it spaces out the text and is less crowded, also use simplified wording with one colour scheme to not confuse users with Cognitive impairment and finally for speech impaired user we will need alternative methods such as keyboards or a built-in tablet touch screen keyboard.

## **Input+output requirements**

I have met most my requirements e.g a touch screen with built in keyboard and mouse,a speaker option where it gets read out for visually impaired users and a text option for deaf people.However I didn't meet one requirement due to poor software, it was that there should be a click sound or highlighting around the border of the button clicked.I met the requirement where the screen should load no longer than 3 seconds due to high quality equipment used with high RAM.

## **Design principle**

I met almost all my requirements.I used a limited range of colours and used an organisational house style ensuring that colours do not clash.I ensured that text style/size is readable and I used sans serif fonts for screen reading and i avoided decorative fonts.I used appropriate language for user needs, I included age-appropriate language and used language that is appropriate for user skill level which all met my requirements.I provided appropriate amount of information for the task and added appropriate white space so it looks professional and gets laid out good and makes the screen look less cluttered and less confusing.consistency throughout the whole interface I also kept a consistent layout as close as possible to user expectations, placing important items in prominent positions and grouped related tasks together.However I couldn't make navigational components to include search fields, breadcrumbs as I had poor software.

In this component you will create a dashboard in Microsoft Excel to present and manipulate data to its users.

# Component 2

Assessed via coursework

You will learn:

- How to handle large data files
- How to ensure the data is presented in a useable format
- How to present this data to a range of users





I am working for a Holiday Company, who wants to know the suitability of the data collection methods they used to collect the data belonging to their customers to find out how they can embellish on and improve their business overall. They want me to produce a report on the suitability of the methods used.

With a paper questionnaire, anybody with or without a computer can answer the questions, which makes it easily accessible to those less fluent in the use of technology, or for those who don't have any access to it. This could be important as sometimes holiday-goers report that they have a lack of signal to their mobile phone and no wifi to connect to, making a paper questionnaire an ideal solution for this specific situation. However, people might not return the questionnaire as it was left before the customers' departure - they might accidentally pack it up with them and bring it home, or be too focused on the task of packing itself to notice the questionnaire, which, either way, means that the company wouldn't have the responses they need. Plus, a physical form can easily get lost, damaged, or stained. The form itself is also not available to be completed whilst talking to whoever is collecting the data, meaning that the customers cannot have face-to-face communication with them to clarify any kind of mistake they could possibly make. This could lead to them answering questions incorrectly based on personal opinion, and other similar errors. The holiday company recorded that only 60% of their customers responded to the survey, which validates my previous enquiries.

The online booking system is useful as it collects the customers data whilst they're purchasing the holiday, and since the input is by the customer themselves, it is directly from the customer to the company, making it primary data. If they have repeat customers, then the database can be improved upon and corrected overtime if any of the information is possibly outdated. However, the online booking system might also bring up the same problems, with the holiday company employees being unable to be reached about any enquiries regarding the form. But, on the more positive side, most people nowadays regularly use their devices, which could mean that they'd be more likely to use an online booking system to book for their holiday.

## Doctor Ratings over 3 Years

Name of patient	Gender of patient	Doctor	Rating 2018	Rating 2019	Rating 2020	Would the patient	Would the patient	Check in method	Check in method score 2020	Check in method feedback
						recommend their doctor in 2018?	recommend their doctor in 2020?			
Deborah Beechcraft	F	Hughes	7	7	7	Yes	Yes	Digital	5	Excellent
Catie Morris	F	Hughes	8	8	8	Yes	Yes	Digital	5	Excellent
Avanka Shulter	F	Hughes	10	8	10	Yes	No	Receptionist	4	Very Good
Galina Chenko	F	Hughes	10	9	11	Yes	Yes	Digital	5	Excellent
Bridie Foretti	F	Hughes	9	7	9	Yes	Yes	Receptionist	1	Poor
Gunita Mateja	F	Hughes	8	8	10	Yes	No	Receptionist	1	Poor
Teresa Humbatch	F	Hughes	8	6	8	Yes	Yes	Text message	4	Very Good
Ceri Vanyush	F	Hughes	8	8	8	Yes	Yes	Digital	1	Poor
Andrew Mitchley	M	Hughes	8	6	8	Yes	Yes	Digital	2	Average
Celia Wegener	F	Hughes	7	7	7	Yes	Yes			
Joanna Richmond	F	Hughes	9	7	9	Yes	Yes			
Kevin Whitehorn	M	Hughes	10	10	10	Yes	No			
Karen Ward	F	Hughes	8	7	9	Yes	Yes			
Yvon Pirost	F	Hughes	5	7	10	Yes	Yes			
Mikey Forstall	M	Roberts	10	10	7	Yes	No			
Paul Pidgin	M	Roberts	10	10	6	Yes	No	Receptionist	2	Average
Belinda Larchier	F	Roberts	10	10	8	Yes	Yes	Text message	4	Very Good
Phillipa Brannoh	F	Roberts	10	10	7	Yes	Yes	Digital	4	Very Good
Ajay Lowey	M	Roberts	10	10	8	Yes	Yes	Receptionist	4	Very Good
Felicity Harper	F	Roberts	10	10	10	Yes	Yes	Text message	2	Average
Miriam Taylor	F	Roberts	10	10	8	Yes	Yes	Digital	4	Very Good
Samantha Nassau	F	Roberts	10	10	8	Yes	Yes	Digital	5	Excellent
Carole Colly	F	Roberts	10	10	8	Yes	Yes	Text message	3	Good
Archie Toobla	M	Roberts	10	10	10	Yes	Yes	Digital	2	Average
Gabrielle McGlone	F	Roberts	10	10	10	Yes	Yes	Receptionist	5	Excellent
Barrie Stemp	M	Roberts	10	10	8	Yes	Yes	Digital	5	Excellent
Brien Sivern	M	Williams	4	7	9	No	No	Text message	1	Poor
Hollie Huckle	F	Williams	5	7	10	No	Yes	Receptionist	1	Poor
Sarah Coines	F	Williams	5	7	9	No	Yes	Digital	3	Good
Martha Haydene	F	Williams	4	6	8	No	Yes	Digital	2	Average
Rhiannon Castle	F	Williams	4	7	12	No	Yes	Receptionist	3	Good

=VLOOKUP(J6,Analysis!A\$11:B\$15,2,0)

C

D

E



# Pivot tables

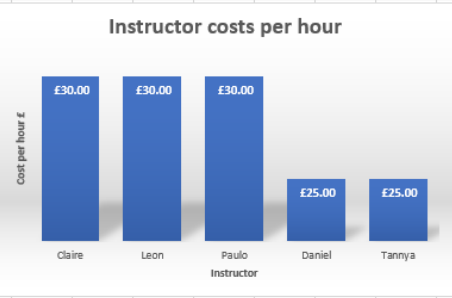
# Pivot charts

# Sliders

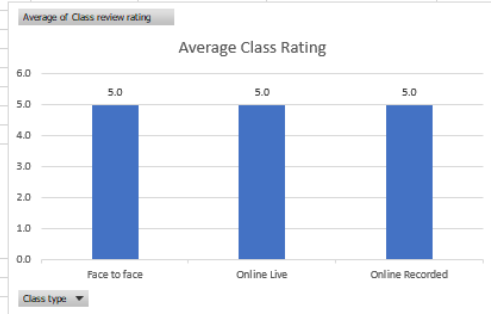
Instructor costs per hour	
Instructor	Cost of ses
Claire	£ 30.00
Leon	£ 30.00
Paulo	£ 30.00
Daniel	£ 25.00
Tannya	£ 25.00

Number of classes	
Class type	Number of
Cardio	13
Core	10
Endurance	12
Strength	15



Average of Class review rating	
Row Labels	review rating
Face to face	5.0
Online Live	5.0
Online Recorder	5.0
<b>Grand Total</b>	<b>5.0</b>



Class review rating

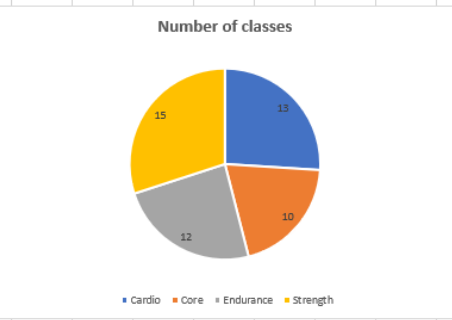



Instructor Name






Total income for classes with a class income of £260.00 or more	Total income for all Online Recorded classes	Total income for all classes	% of Online Recorded classes
£ 5,420.00	£ 2,300.00	£ 10,167.50	10%



Sum of Class income	
Row Labels	Sum of Class income
Online Recorder	£ 2,300.00
<b>Grand Total</b>	<b>£ 2,300.00</b>

Class level




Exercise type





Row Labels	Sum of Cost (£)
Cardio	64.5
Core	53.5
Endurance	61.5
Strength	79

# Tables

# Graphs & charts

## Effectiveness of the dashboard report

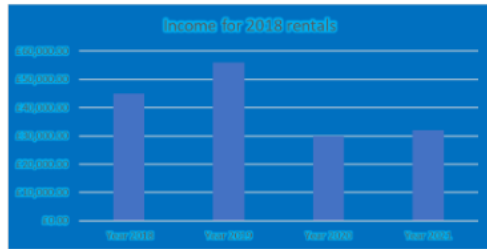
This is based on the holiday accommodation dataset. I have been asked to use the dataset and dashboard to find:

- .Trends
- .Patterns
- .Errors

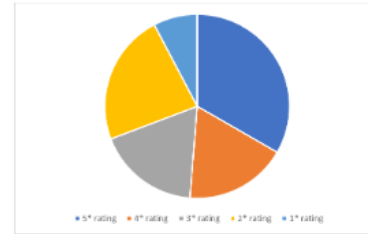
And to conclude any conclusions based on these findings.

### Trends

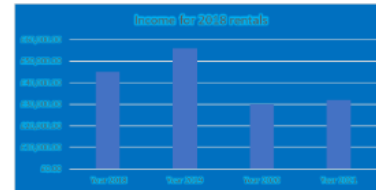
In chart 1 The accommodation in Devon and Cornwall are very high at 14 however in the Lake district the accommodation number is 10 and even lower in Cotswolds it can be seen decreasing as the number is 6, and in Yorkshire Dales it is at 9 so may not be decreasing or increasing. However in Chart 3 In the year 2018 the income is increasing at around £45000 and in the year 2019 the Rate of income is increasing a lot compared to 2020 and 2021 where it is decreasing as years go along however there was a short increase from years 2020 and 2021 maybe 2000. Overall The pattern is that generally as the years increase the income has tended to decrease by little numbers each year however we can see a slow increase starting to happen which may get bigger. And that the highest number of rentals per year was in 2018 and the lowest was in 2020.



In this pie chart here we can see that the different colours represent the number of stars rated by the customer, however this graph is almost useless as we can not see the percent of each section, this would help as when the user is reading this graph they will have a accurate understanding of the percent of the different rating however the user will have to take a guess which may lead to information being inaccurate. This can be improved by adding percentages into each segment.



In this bar chart here you can see that the bars are the same colour to the background, this is not good as it makes it hard to read and the information may be misunderstood and the company will be affected, also the numbers on the side are the same colour to the background and may be hard to read or even impossible to read for some. This can be improved by making the background a clean colour that doesn't clash with the font or the bars so it can be read easier.





Impact of modern technologies

How to prevent threats to data

Cloud storage

Cyber Security

Legal framework & Policies

# Component 3

Assessed via exam

Ethical hacking

Different types of malware

Communication technologies



## A1 Modern technologies

Understand how and why modern technologies are used by organisations and stakeholders to access and manipulate data, and to provide access to systems and tools in order to complete tasks. Learners should understand the implications of these tools and technologies for organisations and stakeholders.

- Communication technologies:
  - setting up ad hoc networks (open Wi-Fi, tethering/personal hotspot)
  - security issues with open networks
  - performance issues with ad hoc networks
  - issues affecting network availability (rural versus city locations, developed versus developing countries, available infrastructure, mobile network coverage, blackspots).
- Features and uses of cloud storage:
  - setting and sharing of access rights
  - synchronisation of cloud and individual devices
  - availability (24/7)
  - scalability (getting more by renting/freeing to save money).
- Features and uses of cloud computing:
  - online applications
  - consistency of version between users (features, file types)
  - single shared instance of a file
  - collaboration tools/features.
- How the selection of platforms and services impacts on the use of cloud technologies:
  - number and complexity of features
  - paid for versus free
  - interface design (layout, accessibility, mobile versus desktop)
  - available devices.
- How cloud and 'traditional' systems are used together:
  - device synchronisation
  - online/offline working
  - notifications.
- Implications for organisations when choosing cloud technologies:
  - consideration of disaster recovery policies (service provider's, organisation's)
  - security of data (location, service provider's security procedures and features)
  - compatibility

## A2 Modern technologies

Learners should understand how modern technologies impact on the way organisations perform tasks. Learners should understand how technologies are used to manage teams, to enable stakeholders to access tools and services, and to communicate effectively. Learners should understand the positive and negative impact that the use of modern technologies has on organisations and stakeholders.

- Changes to modern teams facilitated by modern technologies:
  - world teams (not bound by geographical restrictions, diversity)
  - multicultural
  - inclusivity (facilitation of member's needs)
  - 24/7/365 (no set work hours, team members in different time zones)
  - flexibility (remote working versus office based, permanent versus casual staff).
- How modern technologies can be used to manage modern teams:
  - collaboration tools
  - communication tools
  - scheduling and planning tools.
- How organisations use modern technologies to communicate with stakeholders:
  - communication platforms (website, social media, email, voice communication)
  - selection of appropriate communication channels (private/direct message, public status update) for sharing information, data and media.
- How modern technologies aid inclusivity and accessibility:
  - interface design (layout, font and colour selection)
  - accessibility features (screen reader support, alt text, adjustable typeface/font size, text to speech/'listen to this page')
  - flexibility of work hours and locations.
- Positive and negative impacts of modern technologies on organisations in terms of:
  - required infrastructure (communication technologies, devices, local and web-based platforms)
  - demand on infrastructure of chosen tools/platforms
  - availability of infrastructure
  - 24/7 access or security of distributed/dispersed data
  - collaboration or inclusivity (age, health, additional needs, multicultural)
  - accessibility (meeting legal obligations, provision requirements)
  - remote working.
- Positive and negative impacts of modern technologies on individuals:
  - flexibility (home/remote working)
  - working styles (choice of time, device, location)
  - impact on individual's mental wellbeing (depression, loneliness, self-confidence, separation from stressful environment, feel in control of own schedule, schedule adjusted to meet needs of family, less time commuting)

## B Cyber security

Learners must understand how the increased reliance of organisations on digital systems to hold data and perform vital functions presents a range of challenges and dangers. They should understand the nature of threats to digital systems and ways that they can be mitigated through organisation policy, procedures and the actions of individuals. They should be able to apply knowledge of cyber security to a range of vocational contexts.

### B1 Threats to data

Learners should understand why systems are attacked, the nature of attacks and how they occur, and the potential impact of breaches in security on the organisation and stakeholders.

- Why systems are attacked:
  - fun/challenge
  - industrial espionage or financial gain
  - personal attack
  - disruption
  - data/information theft.
- External threats (threats outside the organisation) to digital systems and data security:
  - unauthorised access/hacking (black hat)
  - malware (virus, worms, botnet, rootkit, Trojan, ransomware, spyware)
  - denial of service attacks or phishing (emails, texts, phone calls)
  - pharming
  - social engineering
  - shoulder surfing
  - 'man-in-the-middle' attacks.
- Internal threats (threats within the organisation) to digital systems and data security:
  - unintentional disclosure of data
  - intentional stealing or leaking of information
  - users overriding security controls
  - use of portable storage devices
  - downloads from internet
  - visiting untrustworthy websites.
- Impact of security breach:
  - data loss
  - damage to public image
  - financial loss
  - reduction in productivity
  - downtime

## B2 Prevention and management of threats to data

Learners should understand how different measures can be implemented to protect digital systems. They should understand the purpose of different systems and how their features and functionality protect digital systems. Learners should understand how one or more systems or procedures can be used to reduce the nature and/or impact of threats.

- User access restriction:
  - physical security measures (locks)
  - passwords
  - using correct settings and levels of permitted access
  - biometrics
  - two-factor authentication (who you are, what you know, what you have).
- Data level protection:
  - firewall (hardware and software)
  - software/interface design (obscuring data entry, autocomplete, 'stay logged in')
  - anti-virus software
  - device hardening
  - procedures for backing up and recovering data
  - encryption of stored data (individual files, drive)
  - encryption of transmitted data.
- Finding weaknesses and improving system security:
  - ethical hacking (white hat, grey hat)
  - penetration testing
  - analyse system data/behaviours to identify potential risks.



### B3 Policy

Learners should understand the need for and nature of security policies in organisations. They should understand the content that constitutes a good security policy and how it is communicated to individuals in an organisation. To ensure that potential threats and the impact of security breaches are minimised, learners should understand how procedures in security policies are implemented in organisations.

- Defining responsibilities:
  - who is responsible for what
  - how to report concerns
  - reporting to staff/employees.
- Defining security parameters:
  - password policy
  - acceptable software/installation/usage policy
  - parameters for device hardening.
- Disaster recovery policy:
  - who is responsible for what
  - dos and don'ts for staff
  - defining the backup process (what is backed up, scheduling, media)
  - timeline for data recovery
  - location alternative provision (hardware, software, personnel).

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## BTEC LEVEL 1/LEVEL 2 TECH AWARD

### COMPONENT 3: EFFECTIVE DIGITAL WORKING PRACTICES

- Actions to take after an attack:
  - investigate (establish severity and nature)
  - respond (inform/update stakeholders and appropriate authorities)
  - manage (containment, procedures appropriate to nature and severity)
  - recover (implement disaster recovery plan, remedial action)
  - analyse (update policy and procedures).

### C The wider implications of digital systems

Learners should understand the wider implications of digital systems and their use. Learners should understand how legislation covering data protection, computer crimes and intellectual property has an impact on the way that organisations and individuals use digital systems and data. Learners should understand the procedures that organisations must follow in order to conform to legal requirements and professional guidelines.

#### C1 Responsible use

Learners should consider the responsible use of digital systems, including how systems and services share and exchange data as well as the environmental considerations of increased use.

- Shared data (location-based data, transactional data, cookies, data exchange between services):
  - benefits of using shared data
  - drawbacks of using shared data
  - responsible use (legal considerations, privacy, ethical use).
- Environmental:
  - impact of manufacturing, use, and disposal of IT systems (energy, waste, rare materials)
  - considerations when upgrading or replacing digital systems
  - usage and settings policies (auto power off, power-saving settings, hard copy versus electronic distribution).

#### C2 Legal and ethical

Learners should understand the scope and purpose of legislation (valid at time of delivery) that governs the use of digital systems and data, and how it has an impact on the ways in which organisations use and implement digital systems. Learners should understand the wider ethical considerations of use of technologies, data and information, and organisations' responsibilities to ensure that they behave in an ethical manner.

- Importance of providing equal access to services and information:
  - benefits to organisations, individuals and society
  - legal requirements
  - professional guidelines/accepted standards.
- Net neutrality and how it impacts on organisations.

- The purpose and use of acceptable use policies:
  - scope – who the document applies to
  - assets – the equipment, documents, and knowledge covered by the policy
  - acceptable – behaviours that are expected/required by an organisation
  - unacceptable – behaviours that are not allowed by an organisation
  - monitoring – description of how behaviour is monitored by an organisation
  - sanctions – defining the processes and potential sanctions if unacceptable behaviour occurs
  - agreement – acknowledge (sign, click) that an individual agrees to abide by the policy.
- Blurring of social and business boundaries:
  - use of social media for business purposes
  - impact of personal use of digital systems (social media, web) on professional life.
- Data protection principles:
  - lawful processing
  - collected only for specific purpose
  - only needed information is collected
  - should be accurate
  - kept only as long as is necessary
  - data subject rights
  - protected
  - data subject rights not transferred to countries with less protection.
- Data and the use of the internet:
  - the right to be forgotten
  - appropriate and legal use of cookies and other transactional data.
- Dealing with intellectual property:
  - the importance of intellectual property in organisations
  - methods of identifying/protecting intellectual property (trademarks, patents, copyright)
  - legal and ethical use of intellectual property (permissions, licensing, attribution).
- The criminal use of computer systems:
  - unauthorised access
  - unauthorised modification of materials
  - creation of malware
  - intentional spreading of malware.

## D Planning and communication in digital systems

Learners should be able to interpret and use standard conventions to combine diagrammatical and written information to express an understanding of concepts.

### D1 Forms of notation

- Understand how organisations use different forms of notation to explain systems, data and information:
  - data flow diagrams
  - flowcharts
  - system diagrams
  - tables
  - written information.
- Be able to interpret information presented using different forms of notation in a range of contexts.
- Be able to present knowledge and understanding using different forms of notations:
  - data flow diagrams
  - information flow diagrams
  - flowcharts.





*“The focus of the course is on creativity and technical skills”*



# SUMMARY

## Students will learn

How to create interactive user interfaces which can be used using a touch screen.

How to organise and manipulate data using a variety of data manipulation tools in Microsoft Excel.

This course requires a lot of independence and organisational skills.





# Lots of careers in IT

Software developer

Ethical Hacking – working for GCHQ

Multimedia designer

Web designer

Graphic artist

Network consultant

Cyber Security

IT Technician / Teacher

