



DSSI Training Course

MODULE 1 – DIGITAL LITERACY - INFORMATION DATA AND INTERNET USE



DIGITAL SERVICES &
SENIOR'S INCLUSION

Project Introduction

The DSSI project aims to foster the rights of individuals of older age to access information and lifelong learning and enjoy the right of participation in everyday society as independent citizens, through digitally active ageing. This is facilitated with the use of libraries networks together with Associate Partners, as their role is changing to a digital information and services hub, due to the accelerated digital transformation of the post COVID era.

Adult Education, Library and adult educators (formal or non-formal) will take part in training, to support them in providing online e-courses to senior learners in their areas. Through these courses, older people will be empowered to make full use of the fantastic range of library services available online and receive the full benefit of inclusion. In addition, senior learners will become confident to independently use a range of digital, public and commercial services.

DSSI also aims to develop an open platform for a curriculum of free online training on how to use the internet and access digital library and public services for remote users of an older age, that are digitally under skilled and feel left out. It will also develop a complete Educator's Tool kit. A Road Map for additional organizations related to adult education that may desire to set up the DSSI training and support program.

The purpose of this e-Book on the topic of *Digital literacy - Information Data and Internet use* is to facilitate face to face sessions where the material can be used as a guide to the training. In this way it promotes flexible learning in blended environments and makes it possible for a non-formal educator to train seniors in their area. This e-Book corresponds to the online Modules available on the DSSI Online Platform and DSSI Assessment tool developed by the DSSI project and facilitates blended training and learning in either online or face to face sessions.



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Module Summary & Learning Outcomes

Module Name	Digital literacy - Information Data and Internet use
No. of Units	5
Topics/Units	<ol style="list-style-type: none"> 1. Digital literacy and online services 2. Media and Information Literacy: Finding information that is accurate and reliable 3. Digital Citizenship: accessing services and supports online 4. Digital resilience and online wellbeing 5. Online rights and privacy in the online environment
EQF-Level / Education Level	3 or 4
Duration	120 min
Learning objectives	<p>This module will enable older adults to become familiar with Digital literacy and using online services and tools on the Internet. It will guide them in how to locate information on the internet that is both reliable and accurate. Older adults will learn how to build their digital literacy, for Digital Citizenship, to enable them to participate fully in this digital world and gain access to valuable opportunities available through the Internet.</p> <p>Many daily activities are taking place online. Through developing digital literacy skills, seniors can take advantage of tools to manage their finances, shop online, and communicate with people around the world via email and social media.</p> <p>The module will also help seniors build digital resilience. Going online can be incredibly informative and enjoyable but can involve both positive and negative experiences: respectful communication online. Finally, seniors will gain knowledge about their online rights and privacy in an online environment, to carefully consider the consequences of their Digital Footprint.</p>



<p>Knowledge</p>	<p>This module will enable older adults to become familiar with basic terminology concerning <i>Digital literacy - Information Data and Internet use</i>. She/he will be able to understand Digital Media, Information Literacy and the Internet, its benefits and challenges. She/he can find information that is authoritative and recognise false information on the Internet. She/he can understand the concept of Digital Citizenship, to enable them to participate fully in a digital world: for social connectivity, continued independence, and for access to benefits and services. She/he can also recognise the benefits as well as the potential impact of digital technologies for digital resilience and online well-being. She/he can understand Online Rights and Privacy in an Online Environment and the consequences of their Digital Footprint.</p>
<p>Skills</p>	<p>She/He can understand and has a knowledge of the range of services and tools available on the Internet including Internet and web browsers, search engines, best web search strategies and tactics.</p> <p>She/He can evaluate information online, to find accurate and reliable information on the Internet, by employing certain criteria to assess information they find online.</p> <p>She/He can understand and appreciate the benefits of Digital Citizenship, to gain access to valuable opportunities and public services available through the internet, enabling them to participate fully in their communities and make smart choices online and in life.</p> <p>She/He can understand and appreciate digital resilience and online wellbeing, respectful online communication, appropriate responses to inappropriate, offensive or sensitive material being shared online including dealing with digital stress.</p> <p>He/she can understand their online rights and privacy in an online environment including the consequences of their Digital Footprint, Types of digital footprint, Examples of digital footprint and ways to reduce their digital footprint</p>
<p>Competence</p>	<p>She/He has the capacity to use online tools and services on the Internet effectively.</p> <p>She/He feels confident that the information they find on the Internet is authoritative and reliable.</p> <p>She/He feels empowered to become digital citizens and feels</p>



	<p>digitally included in our tech-dependent world. She/He has the capacity to use public e-services, feel confident they can access essential services that have transitioned to the digital space, such as online banking, shopping, telehealth appointments, government services and others.</p> <p>She/He has the capacity to care for their online wellbeing, to be digitally resilient and be able to deal with digital stress.</p>
Further Information/Sources	All the relevant sources that have been used for this module and any further reading material/useful sources that you might think apply (books, articles, websites etc.).



Introduction

This module will enable older adults to become familiar with Digital literacy and using online services and tools on the Internet. It will guide them in how to locate information on the internet that is both reliable and accurate. Older adults will learn how to build their digital literacy, for Digital Citizenship, to enable them to participate fully in this digital world and gain access to valuable opportunities available through the Internet.

Many daily activities are taking place online. Through developing digital literacy skills, seniors can take advantage of tools to manage their finances, shop online, and communicate with people around the world via email and social media.

The module will also help seniors build digital resilience. Going online can be incredibly informative and enjoyable but can involve both positive and negative experiences: respectful communication online. Finally, seniors will gain knowledge about their online rights and privacy in an online environment, to carefully consider the consequences of their Digital Footprint.

General Overview and Objectives of the Module

The course is composed of five topics, featuring theoretical information together with some practical examples.

- Theory and practice concerning Digital Literacy and Online Services
- Engaging with and learning from numerous specific examples.
- Learning about best practice with regard to Media and Information Literacy
- Acquiring skills to access services and supports online for Digital Citizenship
- Learning about Digital resilience and Online Wellbeing in an online environment: with emphasis on preserving a positive and sensible connection with technology.
- Learning about Online Rights and Privacy in an Online Environment: what is a Digital Footprint?

Topics

- An introduction to Digital literacy and online services
- Media and Information Literacy: finding information that is accurate and reliable.
- Digital Citizenship: accessing services and supports online.



- Digital resilience and online wellbeing.
- Online rights and privacy in the online environment

Description of the learning outcomes

- Learners understand basic terminology concerning the topics
 - Understand Digital Media and Information Literacy and the Internet: benefits and challenges.
 - Enable learners to find information that is authoritative, and to recognize the problem of false information on the Internet.
 - Educate users about Digital Citizenship to enable them to participate fully in a digital world: for social connectivity, continued independence, access to benefits and services.
 - Help learners explore the benefits and potential impact of digital technologies: digital resilience and online well-being.
 - Digital footprint and online privacy
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CHAPTER 1: Digital literacy and online services

In this chapter, learners will be introduced to the concept of digital literacy and what new skills are needed to engage with the digital world responsibly and effectively.

1.1 Digital Literacy

Internet Communications technology (ICT) has become integral to daily life. However, millions of senior citizens struggle to navigate the internet. As technology advances, some older people are falling further and further behind when it comes to ICT competencies. Accessibility barriers, harmful misinformation, and increasingly sophisticated scams are only some of the issues that the elderly face online. In these situations, it is critical to build digital literacy for senior citizens and work toward a more equitable digital world.

1.2 What is Digital Literacy and why is it important?

Digital literacy refers to a particular set of competencies that allow you to function and participate fully in a digital world. The term 'Digital Literacy' is used as an overarching term for referring to 'digital skills' or 'digital capabilities'.

Digital Literacy is an umbrella term which refers to a person's knowledge, skills, and behaviors within a digital environment. People exercise these capabilities on an everyday basis using the Internet, social media and devices such as PCs, laptops, tablets and smartphones.

Digital Literacy is seen as crucial in the 21st century for employment, life-long learning and for academic study.

1.3 How can Digital Literacy help seniors?

Digital literacy can greatly benefit seniors by enabling them to stay connected with loved ones, access important information and services online, and engage in lifelong learning.

It can also provide opportunities for entertainment, creativity, and independence. Seniors can learn digital skills through community programs, senior centers, online courses, or with the help of family and friends.

1.4 Why Senior Citizens Need Digital Literacy

Although more people are using the internet every year, elderly people often face significant challenges when adopting new technology. In the EU28, 37% of 65–74-



year-olds have never been on the internet, and in Britain this is just 16%, compared to 55% in Ireland.

While the percentage of those aged 65-74 who have never used the internet has steadily fallen in the EU28 by 25 percentage points from 2009 to 2018, in Ireland this rate has fallen by only 4 percentage points at the same time.

Digital literacy is important for seniors as it empowers them to navigate technology confidently. This includes safely managing personal data, understanding online resources, and being proficient in digital tools, which are vital skills in today's tech-driven world.

A move to online services may make sense from a commercial point of view but it creates barriers for many older people who are unable to carry out their day-to-day business online or are wary of doing so. Hence, the need for Digital Literacy among seniors is of great importance.

1.5 What are the advantages of digital technology?

Social connectivity: Digital technology makes it easy to stay in touch with friends, family, and work remotely, even if you are in another part of the world. Seniors can communicate by words, video, audio, and exchange other media. Websites, apps, and software have all been created to help users to socialize.

Social media, messaging, texting, laptops, tablets, and mobile phones, mean that nobody need feel isolated in the digital world. Users can be regularly updated with news on local events and social happenings.

Communication Speeds: Internet speeds have increased exponentially since the early days of dial-up internet. Ever faster broadband enables the transfer of large amounts of information across the web almost instantaneously, making it possible to stream video and audio in real-time, send large data files, and access data from virtually anywhere in the world. Traditional media communication can take much longer

Versatile working: The nature of work has been transformed by digital technology. Increased connectivity options mean that many people now have far more opportunities for working from home, as remote working becomes increasingly common.

Many jobs can now be done from hundreds, or even thousands of miles away without difficulty. Without the need for all workers to be present in the same building, many



other flexible working practices are now possible.

Learning Opportunities: Anybody with access to the internet now has access to a huge proportion of the world's knowledge over the web. Lessons and courses can now be delivered virtually online. Communication advances mean that you can now easily communicate with most of the world's population and learn directly from sources. For example, if you are trying to understand foreign events, or learning a new language. Digital technology can also be easier to use for people with disabilities and can give them equal access.

Information storage: Digital technology enables the storage of massive amounts of information in relatively small spaces. Large amounts of media, such as photos, music, videos, contact information, and other documents can be carried around on small devices like mobile phones. As well as physical locations, data can also be stored online, enabling it to be accessed from any device which has internet access.

Reliable duplication: One of the great things about digital technology is that it enables the exact duplication of media. For instance, you can write a work report and email it to multiple recipients, or you can distribute multiple copies of photos to family and friends. Breakthroughs in technology are now happening in the field of 3D printing, which looks set to radically transform our world.

GPS and Mapping (e.g. Google Maps): Finding your way around used to involve referring to a paper map, but digital combined with satellite technology has transformed travel. GPS services can now pinpoint your position accurately, update you on traffic jams and road closures in real-time, and give you lots of up-to-date information such as time of arrival at your destination, as well as alternative routes.

Transportation: Many trains and airplanes already rely to an extent on digital technology. Road vehicles, such as cars and trucks, will become fully automated in the not-too-distant future. Accessing timetables, as well as booking planes and trains now often takes place online.

Low cost: Aside from paying for an internet service and the basics like a modem, much of what the digital world offers can be accessed for free. Sending an email, communicating via a video link-up with family, and surfing the internet generally cost nothing.

Entertainment: The entire entertainment industry and the way that people amuse themselves has been radically transformed since the start of the internet revolution.



Many people get their fun from online social media or playing computer games. Traditional media has evolved too, as television and broadcasting have become digitized, along with radio.

News: Increasing numbers of people get their news online, either via a website or social media. Even traditional news media, such as TV and radio, have been digitalized. People have more options for news sources than ever, and most of it is available 24 hours per day.

Banking and Finance: There's no doubt that digitalization has led to a revolution in financial matters. Online banking done either through a laptop, tablet, or phone app is now the norm. Bank users can now check their incoming and outgoing payments remotely, as well as arrange money transfers and bill payments.

1.6 Useful terms for seniors in the digital world.

The following are some useful terms and concepts for seniors to be aware of when working with technology:

Hardware: Computer Hardware is the physical parts of a computer, such as the central processing unit (CPU), random access memory (RAM), motherboard, computer data storage, graphics card, sound card, and computer case. It includes external devices such as a monitor, mouse, keyboard, and speakers.

Software: these are the instructions that tell a computer what to do. Software comprises the entire set of programs, procedures, and routines associated with the operation of a computer system. The term was coined to differentiate these instructions from hardware—i.e., the physical components of a computer system.

There are two main types of software: system software and application software. System software controls a computer's internal functioning, chiefly through an operating system, and controls such peripherals as monitors, printers, and storage devices. Application software, by contrast, directs the computer to execute commands given by the user and may be said to include any program that processes data for a user.

Application software thus includes word processors (e.g. Microsoft Word), spreadsheets (e.g. Microsoft Excel) database management, inventory and payroll programs, presentation applications (e.g. Microsoft PowerPoint) and many other "applications" such as Voice-over-IP (VoIP) applications like WhatsApp and Skype.

Operating system: An operating system (OS) is a program that oversees the processes



on a desktop, laptop, tablet or mobile device.

Digital Devices: Computer hardware encompasses digital devices that you can physically touch. This includes devices such as the following:

- Desktop computers (Sometimes referred to as a “Personal Computer- PC”).
- Laptop computers
- Mobile phones
- Tablet computers
- E-readers- handheld devices on which electronic versions of books, newspapers, magazines, etc. can be read.
- Storage devices, such as flash drives (sometimes referred to as a “Memory stick”)
- Input devices, such as keyboards, mice, and scanners
- Output devices such as printers and speakers.

File extensions: In computing, a file extension is a suffix added to the name of a file to indicate the file's layout, in terms of how the data within the file is organized. A file's data must be organized in the correct format to ensure that it can be accessed by the software program associated with the specific file type. Whatever the extension, an operating system must be able to recognize it in order to associate it with the correct program.

Types of File extensions:

- Text and word processing files. doc, docx, odt, pages, rtf, txt, wpd, wps.
- Spreadsheet files. csv, numbers, ods, xls, xlsx.
- Web-related files. asp, aspx, css, htm, html, jsp, php, xml.
- Image files. bmp, gif, ico, jpeg, jpg, png, raw, tif, tiff.
- Audio and video files. aif, mov, mp3, mp4, mpg, wav, wma, wmv.
- Draw program files. afdesign, ai, cad, cdr, drw, dwg, eps, odg, svg, vsdx.
- Page layout files. afpub, indd, pdf, pdfxml, pmd, pub, qxp.
- Programming files. c, cpp, cs, java, js, json, py, sql, swift, vb.
- Compression and archive files. 7z, rar, tar, tar.gz, zip.
- System files. bak, cfg, conf, ini, msi, sys, tmp.

1.7 What to look for in a computer for the elderly?

Deciding on the type of computer or tablet can get a little confusing and overwhelming. But it's an essential device for many people. The COVID-19 pandemic



brought an increased reliance on digital devices. It allowed people to continue with education, work, shop for groceries online, carry out medical appointments via video calls and more importantly, keep in contact with friends and family. Seniors can opt to purchase a Desktop Computer for example or alternatively a laptop or tablet, each have their advantages as follows:

Computer	Laptop	Tablet
<ul style="list-style-type: none"> Well equipped 	<ul style="list-style-type: none"> Lightweight 	<ul style="list-style-type: none"> Small in size
<ul style="list-style-type: none"> High storage 	<ul style="list-style-type: none"> Battery operated 	<ul style="list-style-type: none"> Compact
<ul style="list-style-type: none"> Cost-effective 	<ul style="list-style-type: none"> No need for a mouse 	<ul style="list-style-type: none"> Touchscreen
<ul style="list-style-type: none"> Best for... Storing music, pictures, work, playing games, making notes, home working and much more. 	<ul style="list-style-type: none"> Best for... A laptop is easy to travel with, great for mobility, staying in touch with family and friends, watching films and much more. 	<ul style="list-style-type: none"> Best for... Tablets tend to work best for video calls, watching videos, browsing, playing games, reading and researching.

What would you use it for?

Many people use a computer, laptop or tablet for work purposes, keeping in touch with family or for browsing the Internet. Here are a few ways seniors may use their device.



What would you use it for?

Many people use a computer, laptop or tablet for work purposes, keeping in touch with family or having a browse. Here are a few ways you may use your device.

- ✓ Browsing ✓ Emails ✓ Shopping ✓ Online banking
- ✓ Communicating ✓ Games ✓ Social media ✓ Music
- ✓ News and current affairs ✓ Taking pictures
- ✓ Writing notes ✓ Work ✓ Watching films

There are plenty of features for seniors to choose from; whether they are already skilled in IT or want something simple, there is something to suit everyone’s needs. Senior’s need to consider software and apps that they would benefit from using as well as physical features such as the size of the device.

<p>Personal assistant</p> <p>Personal assistants, like Siri and Google Assistant, are a feature that makes things a lot more accessible. There is no need to type; you simply say ‘Hey Google’ or ‘Hey Siri’ and ask to carry out tasks, such as replying to messages or emails, calling friends, adding events to your calendar or items to your shopping list, setting reminders, researching specific medical conditions and much more.</p>	<p>Simple interface</p> <p>You may prefer a device with a simple interface, without several apps floating around the screen.</p> <p>All devices have different interfaces, and you can also organise your apps into folders. So, you can have one dedicated to games and another to shopping.</p>	<p>Screen size and weight</p> <p>If you want something light, a laptop or tablet might be better for you. These are more compact and easy to travel with.</p> <p>However, individuals with poor vision may prefer a computer as they come with a bigger screen.</p>
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It’s about what seniors are comfortable with. A Personal computer (PC) may be better if they feel comfortable browsing and playing games at a desk. Or perhaps seniors may like to sit on their sofa with a cup of tea to video call their friend or a family member; then a tablet would be a better option. They tend to be lightweight, so they shouldn’t cause pain in their hands and arms.

- ✓ Do you prefer a handheld device? ✓ Do you want something light? ✓ Where would you want to sit with the device?
- ✓ Do you live with a specific condition that limits what device you can use? ✓ Do you prefer something familiar?



1.8 Internet connection

Internet connectivity refers to the range of ways people can be connected to the internet which includes, broadband connections, wireless devices and dial up telephone lines (now almost obsolete). It can also be understood as a global network of linked computers, servers, phones, and smart appliances that communicate with each other using a Transmission Control Protocol (TCP) standard to enable the fast exchange of information and files, along with other types of services.

1.8.1 What is Internet Speed and How is it Measured?

Internet speed refers to the speed at which data or content travels from the World Wide Web to your home computer, tablet, or smartphone. The speed of this data is measured in megabits per second (Mbps). One megabit is equal to 1,024 kilobits. This conversion means 1.0 Mbps is more than 1,000 times faster than 1.0 kilobits per second (Kbps).

High-speed Internet connection known as broadband (broad bandwidth) is defined by download speeds of at least 768 Kbps and upload speeds of at least 200 Kbps. The difference between download speeds and upload speeds can be explained in the following way: download speed refers to the rate that digital data is transferred from the Internet to your computer, while upload speed is the rate that online data is transferred from your computer to the Internet.

1.8.2 Understanding the Differences Between Internet Connections

When determining which type of Internet speed and Internet connection type is right for seniors, it's important to understand the distinction between each connection. In today's age, there are numerous ways to connect laptops, desktops, mobile phones, gaming consoles, e-readers and tablets to the Internet. Some of the most widely used Internet connections are described below.

- **Fiber:** Fiber internet uses its own network of fiber-optic cables, usually made of glass, and pulses of light to transmit data back and forth. Fiber Internet offers the fastest internet, with the most reliable connection. However, there can be limited availability depending on where seniors live with generally higher prices
- **Mobile:** Many cell phone and smartphone providers offer voice plans with Internet access. Mobile Internet connections provide good speeds and allow seniors access the Internet.



- **Wi-Fi Hotspots:** These are physical locations that offer Internet access over a Wireless Local Area Network (WLAN) by way of a router that then connects to an Internet service provider. Hotspots utilize Wi-Fi technology, which allows electronic devices to connect to the Internet or exchange data wirelessly through radio waves. Hotspots can be phone-based or free-standing, commercial or free to the public. A good example of a Wi-Fi Hotspot is the Wi-Fi access offered to customers in a coffee shop, a hotel or public library.
- **Dial-Up:** this requires users to link their phone line to a computer to access the Internet. This connection—also referred to as analog—does not permit users to make or receive phone calls through their home phone service while using the Internet. Now more outdated and becoming increasingly obsolete, a dial-up connection used to be among the most common Internet connection types
- **Broadband:** This high-speed Internet connection is provided through either cable or telephone companies. One of the fastest options available, broadband Internet uses multiple data channels to send large quantities of information. The term broadband is shorthand for broad bandwidth. Broadband Internet connections such as DSL and cable are considered high-bandwidth connections. Although many DSL connections can be considered broadband, not all broadband connections are DSL.
- **DSL:** which stands for Digital Subscriber Line, uses the existing 2-wire copper telephone line connected to one's home so service is delivered at the same time as landline telephone service. Customers can still place calls while surfing the Internet.
- **Cable:** this Internet connection is a form of broadband access. Using a cable modem, users can access the Internet over cable TV lines. Cable modems can provide extremely fast access to the Internet, making a cable connection a viable option for many. Cable Internet offers wide availability with Bundled TV/internet service packages, with frequent first-year discounts however there are generally price increases after first year
- **Satellite:** In certain areas where broadband connection is not yet offered, a satellite Internet option may be available. Like wireless access, satellite connection utilizes a modem.

When seniors are deciding what Internet connection is the best fit for their needs, they may wish to narrow down their selection based on their preferred download and upload speeds or based on deals and pricing options. Reliably fast speeds and comprehensive coverage make it easier than ever for seniors to stream their favorite



TV shows and movies, share photos, chat with friends and play games online.

1.8.3 What to consider when choosing an internet provider

Availability

Whether seniors are moving to a new location or are simply dissatisfied with the plan options their current provider offers, their search to choose a new internet provider should always begin by checking the availability in their area. Coverage can vary dramatically from one city, town or village to another—sometimes even between neighborhoods—so it's important for them to know what their options are before digging any deeper.

Connection type

The second factor to consider when selecting a new Internet Service Provider (ISP) is the internet connection type. Seniors should be encouraged to thoroughly research these two questions:

- What type of internet connection can your residence support?
- What type of internet connection do you need or prefer?

There's no point for example in opting for fiber internet if the infrastructure doesn't exist yet in the area. Likewise, seniors can save a lot of research time by first verifying that their house has been wired for a telephone landline before digging into local DSL providers.

Download and upload speed

As seniors start to look through each provider's plans, a major consideration should be internet speed. This is by far the most important part of a plan because inadequate bandwidth will cause all of their digital activities to come to an abrupt halt.

Upload speed measures how long it takes for a device such as a PC or laptop to send data to the internet. In simple terms, seniors should think of uploading as anytime they are sending something of theirs out into the larger digital world. This includes activities such as sending an email they have written, posting photos on social media, or using their webcam to share their video feed with another person.

Download speed measures how long it takes for data to move from the internet network to your device. Seniors should think of this as anytime they are watching,



reading, or enjoying something on the internet that was created by someone else. This includes activities like streaming a popular TV show, playing online video games, or receiving an email. Download speed is almost always faster than upload speed because most users tend to download data more than they upload.

If seniors don't already know how much speed they need to keep their online devices running smoothly, they can start by doing a speed test to find out what internet speed they are currently living with. Once they know their current speed, they will have a benchmark for what kind of speed they will need to meet their current internet needs. Is there frequent buffering for example?

When it comes to streaming online, the process of buffering assists the software to save a certain amount of data (audio or video) before the audio or video starts playing. Do seniors anticipate adding more internet devices than what they currently have in the near future? (i.e. replacing old devices with smart devices)?

If the answer is yes, then seniors might like to look at upgrading their plan to higher speeds. Speed requirements will vary based on the activity they are doing. Here are some of the most common minimum speed requirements:

- Streaming HD content: 5–25 Mbps
- Online gaming: 3–6 Mbps, but more competitive games often require more
- Downloading large files: 100–200 Mbps
- Video conferencing: at least 5 Mbps, but anything higher will provide better video quality

Plan costs and provider contracts

The next criteria for seniors to consider when choosing a new internet provider is plan costs, including whether it requires contracts. If seniors have used the previous criteria to screen companies (i.e. availability, connection type, upload and download speeds) they should now be left with a list of only the plans that can support their current internet habits from providers who service their area. This will make it much easier and faster to do a straight cost-to-cost comparison to see who offers the best rates.

As they compare costs, seniors should keep in mind that many internet providers require an annual contract with extra fees for early cancellations. It's also common



for providers to increase the monthly rate after their first year of service. Seniors should try to ensure they know which plans require a contract and if the advertised cost is a fixed rate or subject to regular price increases.

Reputation and reliability

As seniors begin to narrow down the list of viable internet providers, one of the best things they can do is check the reputation of the options on their list by doing these things:

- Browse online reviews about the provider
- Join a forum discussion about the provider such as [Redditt](#)
- Watch [YouTube](#) video reviews about other customers' experiences
- Read answers from the Internet provider's support team
- Ask their friends and followers on social media what they think about the provider

Equipment

As seniors compare potential internet providers, they should check what equipment is required for setup and whether the internet company provides it for them. Most Internet Service Providers (ISPs) require both a modem and router. The modem is the device that connects their home to the broader network. A router connects to the modem to enable wireless internet connection throughout their home. Alternatively, some providers offer a gateway, which combines the router and modem into one device.

Before making a final decision on an internet provider, seniors should know if the modem and router they currently have (if they already have internet) is compatible with its services. If they aren't, then that's a cost they need to plan for. Many companies will provide seniors with their own approved equipment to set up their internet service or offer to rent it to them for a small extra fee. Others might require seniors to purchase the equipment themselves.



CHAPTER 2: Media and Information Literacy: finding information that is accurate and reliable

2.1 What is the Internet?

The internet, sometimes simply called *the net*, is a worldwide system of interconnected computer networks and electronic devices that communicate with each other using an established set of protocols. The internet was conceived by the Advanced Research Projects Agency (ARPA) of the U.S. government in 1969. ARPA was later renamed the Defense Advanced Research Projects Agency (DARPA) in 1972. DARPA's first known packet-switching network was known as the Advanced Research Projects Agency Network (ARPANET).

Packet Switching transmits data across digital networks by breaking it down into blocks or packets for more efficient transfer using various network devices. Each time one device sends a file to another, it breaks the file down into packets so that it can determine the most efficient route for sending the data across the network at that time. The network devices can then route the packets to the destination where the receiving device reassembles them for use.

2.2 Brief history of the Internet

In 1983, the ARPANET began using the Transmission Control Protocol/Internet Protocol (TCP/IP) open networking protocol suite and in 1985, the National Science Foundation Network designed the network to connect university computer science departments around the U.S.

Communications over the internet greatly improved in 1989 when the Hypertext Transfer Protocol (HTTP) was created, enabling different computer platforms to connect to the same internet sites. In 1993, the Mosaic web browser was created.

The internet continues to grow and evolve. Internet Protocol Version 6, for example, was designed to anticipate enormous future expansion in the number of available IP addresses. In a related development, the Internet of Things (IoT) is the burgeoning environment in which almost any entity or object can be given a unique identifier (UID) and the ability to transfer data automatically over the internet. A helpful description of the [evolution of the internet](#) can be seen in the graphic below:

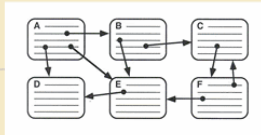


The evolution of the web

The internet was a clunky network for techies, academics and governments until hyperlinked World Wide Web browsers made its content easy to read and search.

1963

Computing pioneer and philosopher **Ted Nelson** coins the term **hypertext** to describe text pages linked by hyperlinks.



1989

Referencing hypertext, computer scientist **Tim Berners-Lee** proposes a "universally linked information system" he later calls the World Wide Web.



The first internet service providers offer **dial-up connections** to the internet.

1993

Marc Andreessen and Eric Bina release **Mosaic**, the first popular browser. Its graphical user-friendliness sparks the early-90s internet boom.



Jonathan Fletcher creates **JumpStation**, a software robot that crawls, indexes and searches web content, the three core capabilities of search engines.

1995

Microsoft introduces **Internet Explorer** and bundles it with Windows, starting a browser war with Netscape. It eventually achieves dominant market share.



Yahoo! Search debuts, soon followed by popular search engines AltaVista, Excite, InfoSeek, Lycos and Magellan.

Sun Microsystems releases James Gosling's **Java programming language**, which comes to dominate development of apps running in browsers.

1999

Web designer **Darcy DiNucci** introduces the term **Web 2.0** to describe a new way of connecting applications and sharing content. The existing approach of mostly static web pages is increasingly referred to as **Web 1.0**.



2003

Apple releases **Safari**, the dominant browser on Apple devices.

2006

Developed by Harvard dropout **Mark Zuckerberg** as a social network for collegians, **Facebook** opens to the public. By 2010 it has half a billion users.

Journalist John Markoff uses the term **Web 3.0** in a *New York Times* article to describe a semantic web guided by common sense.

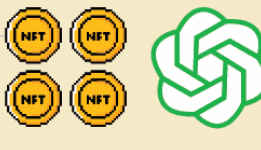
2014

Gavin Wood, co-founder of blockchain platform Ethereum, writes an influential blog post detailing Web 3.0.



2021

Blockchain cryptocurrencies and **NFTs** go mainstream, metaverse hype takes off and Web 3.0 gets new life as a catchall for futuristic internet technology.



1969

The U.S. Defense Department launches **ARPANET**, a decentralized, packet-switched network connecting military and research organizations. It uses TCP/IP, a key internet protocol.

1990

Berners-Lee writes the first web browser and server software and begins developing the **Hypertext Markup Language (HTML)**, the standard for describing the contents and appearance of pages.

ARPANET is decommissioned. The internet now crosses continents.

1994

Berners-Lee founds the **World Wide Web Consortium**, the web's main standards organization.

Andreessen and Jim Clark found **Netscape**, releasing a Mosaic-based browser soon renamed Navigator.

1998

Netscape founds the predecessor to the nonprofit Mozilla Foundation, which develops **Firefox**, a popular open source browser released in 2004.

Larry Page and **Sergey Brin** found **Google** to commercialize a search engine they wrote as Stanford Ph.D. students. Google goes public in 2004, and a decade later is a Web 2.0 behemoth, dominating web search and advertising.

2001

Berners-Lee co-authors a *Scientific American* article, "The Semantic Web," elaborating on his 1989 vision for connected data that is a distinguishing feature of Web 3.0.

2004

Publisher **Tim O'Reilly** helps popularize Web 2.0 by starting a conference to highlight the emerging generation of interactive apps.

2008

"**Satoshi Nakamoto**," a pseudonymous person or group, publishes a paper describing bitcoin, the first cryptocurrency, and blockchain, the distributed ledger technology it runs on. Both become foundational to Web 3.0. A bust of Nakamoto is displayed in a park in Budapest.

2015

At MIT, **Berners-Lee** begins work on Solid, an open source Semantic Web stack not built on blockchain. He later founds Inrupt to commercialize the technology.

2023

AI goes mainstream with the emergence of **generative AI tools**, including autonomous chatbots and image-generating tools such as **ChatGPT** and Dall-E.



2.3 How does the Internet work?

The process of transferring information over the internet from one device to another relies on packet switching. The internet is a packet-routing network that uses IP and Transmission Control Protocols (TCP's) for communication. When a person visits a website, their computer or mobile device sends a request to the server over one of these protocols. This short [YouTube video](#) explains more about how the Internet works

2.4 Web browsers

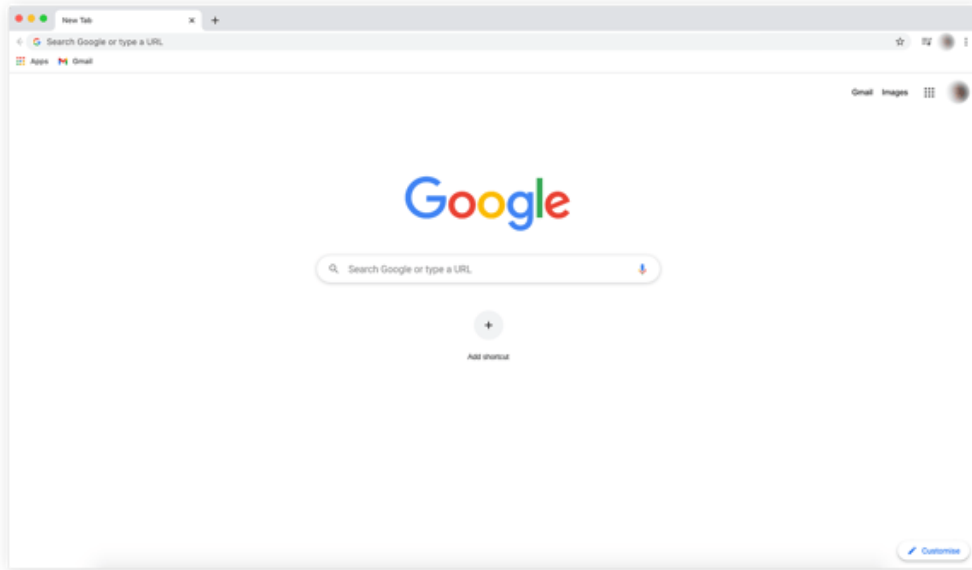
A web browser, also known as an internet browser or simply a browser, is a software application that lets people access the World Wide Web. It's a one-click window to the entirety of human knowledge — seniors can search for the answer to any question they might have. With a web browser, seniors can browse any website and easily navigate to other sites, similar to how you can browse stores at the shopping mall, lingering in those you like before moving on to visit new ones.

Web browser examples:

Here, we will examine the most popular examples of web browsers on the market to give seniors an idea of the different types of web browsers available.

Google Chrome

With 70% of the global market share, Google Chrome is the most popular web browser. Chrome's popularity can be partly explained by its fast-browsing speeds and easy integration with your personal Google account, making it the most convenient browser for many people. And with the largest library of extensions among the leading browsers, Chrome is also an extremely easy internet browser to modify and customize.

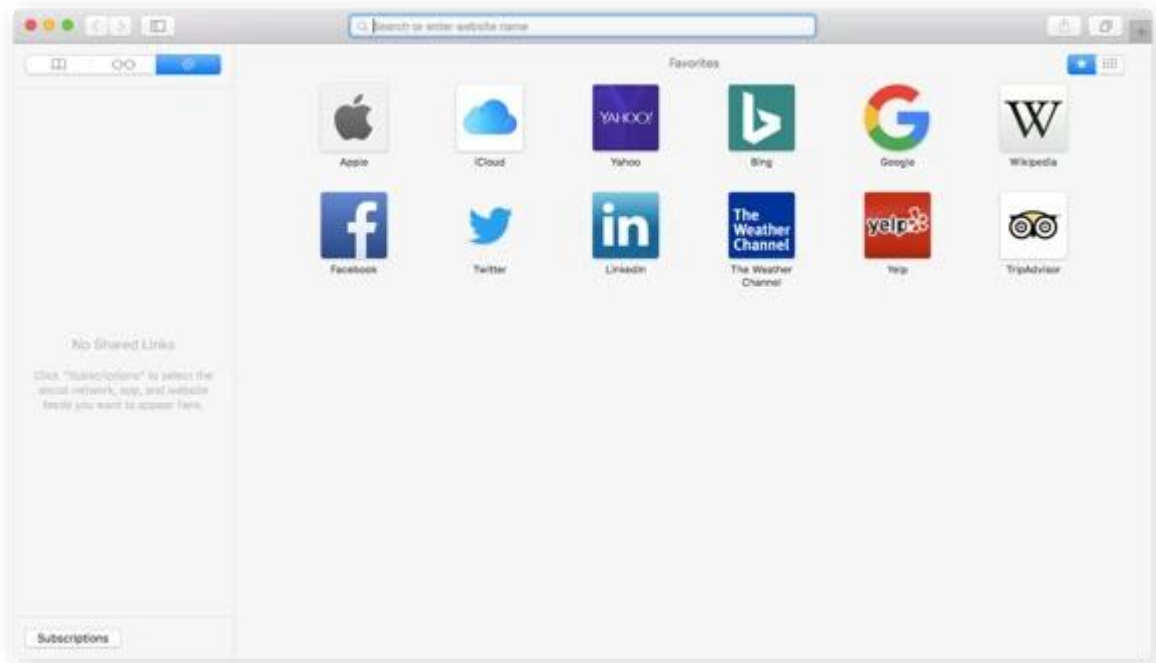


What is a Google Account?

A Google Account is an online account required to personalize results and sometimes access Google's services, including Google Search, Gmail, Google Maps, Google Chrome, YouTube and Google Assistant, among others. You also need a Google Account to install apps from the Play Store.

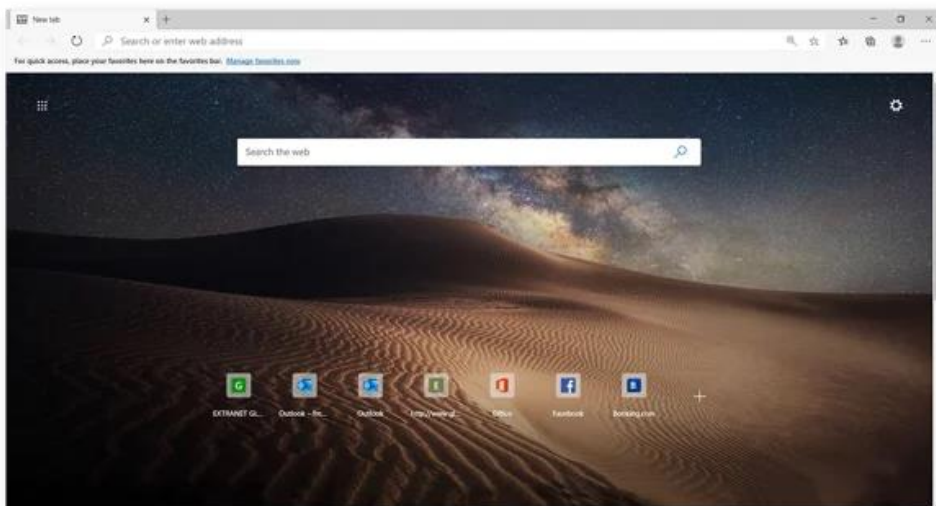
Safari

Safari is the default web browser for all Apple devices: Macs, iPads, and iPhones. While most people don't have Mac computers, many have iPhones and iPads. In fact, Safari is the most popular mobile web browser in the US. Safari's look and feel is consistent across Apple devices.



Microsoft Edge (previously Internet Explorer)

Microsoft Edge has replaced the old and outdated Internet Explorer as Microsoft's new flagship browser. This web browser comes standard with any device using Microsoft's Windows operating system. Microsoft Edge is built on the Chromium browser platform, which also underpins Chrome and other browsers as well.





2.5 Searching the Internet

Search engines

A search engine, like Google or Bing, is a website that indexes the contents of the web so seniors can search for information that matches their keywords.

How do search engines work?

Search engines use internet robots (bots), sometimes known as 'web crawlers' or 'spiders', to index websites. The indexed and searchable web represents a minority of the overall content on the web.

Site ranking

Complex algorithms are used by search engines to rank websites and determine what results to return to you. Different search engines use different algorithms, but some common methods used to rank websites include:

- How often a page is linked to from other sources.
- How often the content is updated.
- The trustworthiness of the domain.

Companies often use techniques such as Search Engine Optimization (SEO) to boost their place in search engine rankings by using these algorithms to their advantage. They can also pay to be listed at the top of a search as an advertisement. This is why oftentimes, the first few results you see may not be the most relevant to your search.

Issues around search algorithms:

Search algorithms can:

- be manipulated to artificially dictate search results
- be used to invade privacy via targeted advertisements
- return results that potentially damage a person's reputation.

In response to claims of bias in 2018, Google stated that "While we take great care to present the most authoritative information, there are many cases where users can and will find information that's not authoritative". So, it is important to evaluate the information you find.



2.6 How to use Google effectively

Use Exact phrases

To search for an exact phrase on Google, use quotation marks around the words you want to appear together. This helps narrow down the search results to only pages that include the exact phrase.

For example, searching for "best pizza in town" will show results that specifically mention that exact phrase. This is useful when you want to find specific information or quotes. Just remember to use this technique sparingly, as too many exact phrases can limit your search results too much.

Use Keywords

Using keywords is a fundamental aspect of conducting effective searches on Google. By incorporating specific words or phrases related to your topic, you can refine your search results and find the information you need more efficiently.

For example, if you're looking for information on healthy eating, using keywords like "nutritious recipes" or "balanced diet tips" will yield more relevant results. It's important to choose keywords that accurately reflect the information you're seeking to avoid getting overwhelmed with irrelevant content.

Additionally, using specific keywords can help you find niche or specialized information that may not appear in broader searches.

Excluding Words in Results

To exclude specific words from your Google search results, simply use the "-" symbol followed by the word you want to exclude. This can be handy when you want to narrow down your search by filtering out irrelevant information.

For example, if you're searching for information about dogs but don't want any results related to poodles, you can search "dogs -poodles." This will ensure that any search results mentioning poodles are excluded from the list. Be mindful of using this feature sparingly to avoid unintentionally excluding helpful information.

Searching within a Specific Website

To search within a specific website, use the "site:" operator in Google search. Simply type "site:example.com" before your search query to limit results to that website. This feature is useful when you want to find information on a particular site quickly or when



a site doesn't have its own search function.

For example, searching "site:nytimes.com covid-19" will display results only from The New York Times website related to COVID-19. It's a handy trick for efficient research and navigating large websites.

See here for [more advanced Google Search techniques](#):

2.7 Evaluating information

Before using any information, you have found on the internet, you must evaluate the information source. Learning how to determine the relevance and quality of information is one of the most important skills to have when searching the internet.

There are many different factors to consider when determining the quality of your information.

- Author: Is there an author? Is it a person or organization? What are their credentials and qualifications in the topic area?
- Date: Does the information source have a date? Is the date relevant to the type of information you are looking for i.e. recent/up-to-date breakthroughs or historical?
- Type of information and scope: Does the information tie in with other information you have found on the topic? Are conclusions well drawn? Is the level of the document suitable to your needs?
- Purpose: Who is the intended audience? Is it self-published? Does it support an official group?
- Writing style: Is it well written? Is the format and length appropriate?
- Language used: Is the language elementary, serious, sensational?
- Bibliography: Have references been used?

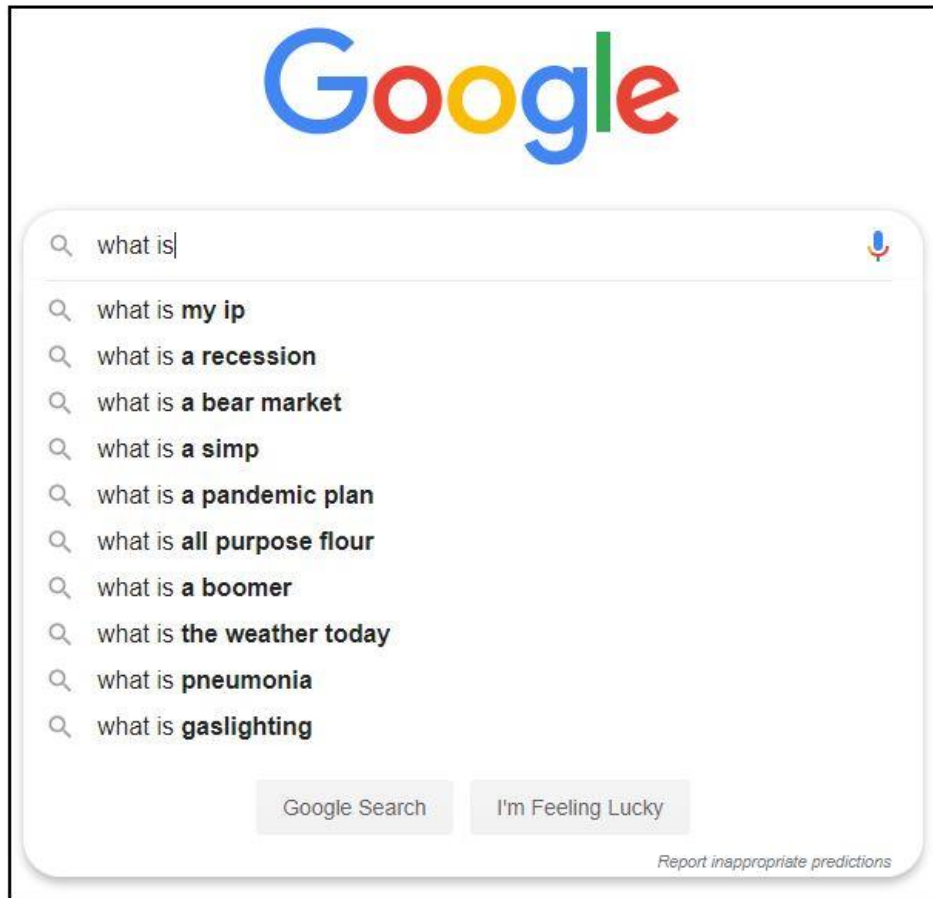
Check out this [useful video](#) for some further guidance about how to evaluate information you find on the Internet:

2.8 Filter bubbles

Have you ever noticed how search engines will suggest search terms to you as you are typing in the search bar? The fact that you may see different suggestions than someone else typing the same letters is an example of a "filter bubble". Eli Pariser coined the phrase "filter bubble" in 2011 to illustrate how the internet can give you a biased perspective of the world based on search engine algorithms, your past internet



searches and what hyperlinks you have clicked on.



Search engines' auto-suggestions are based on real searches that people have done, and results retrieved can vary from country to country. Someone searching for "Passport applications" will be directed to a different website depending on whether they are searching from the UK or Australia, and on their previous search history.

[Watch the video](#) in which Eli explains what a 'filter bubble' is, how search engines tailor their search results based on your search history, and how they can retrieve information that may not challenge or expand your perspective on the world.

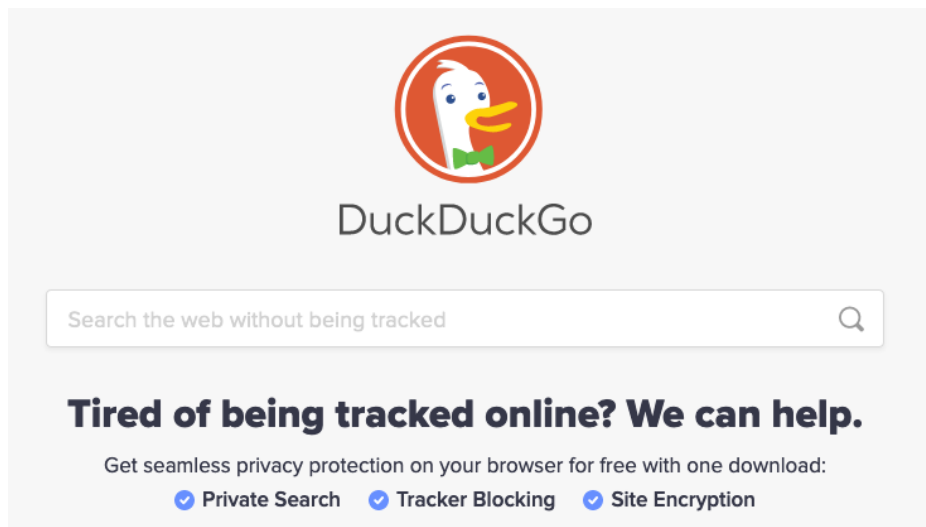


2.9 Privacy and search engines

The main way search engines make money is by selling information about your search habits to 3rd party advertisers. While search engines such as Google, Bing and Yahoo are good search engines to use when searching for information, they use cookies to track which websites you have visited.

You may have had a pop up when you have visited an internet page which tells you that cookies are being used to improve services.

Cookies are a small piece of data inserted by a web page into your browser. Cookies allow websites to remember you when you next visit the website. A cookie can be thought of as an internet user's identification card, which tell a website when the user has returned. One of the biggest issues is the significant collection of personal information facilitated by these cookies. By tracking users' browsing habits, third-party cookies contribute to the creation of detailed profiles, raising serious privacy concerns. The accumulation of such information allows for the targeted delivery of advertisements and content, often without users' explicit consent. Some search engines, do not use cookies to track users:



2.10 Domain names and URL's

Domain names:

A domain name is the address of your website that internet users type in the browser URL bar to visit your website. In simple terms, if your website was a house, then your domain name would be its address.

A more detailed explanation, though, is that the internet is a giant network of



computers connected to each other through a global network of cables. Each computer on this network can communicate with other computers. To identify them, each computer is assigned an Internet Protocol (IP) address. This is a series of numbers that identify a particular computer on the internet. A typical IP address looks like this:

66.249.66.1

An IP address like this is quite difficult to remember. Imagine if you had to use such numbers to visit your favorite websites. Domain names were invented to solve this problem. Now, if you want to visit a website, then you don't need to enter a long string of numbers. Instead, you can visit it by typing an easy-to-remember domain name in your browser's address bar. For example, twitter.com.

2.11 How Is Domain Name Different from a Website and Web Hosting?

The domain name is the web address of your website, then web hosting is the home where your website lives. This is the actual computer where your website's files are stored. Such computers are called servers, and they are offered as a service by hosting companies.

To create a website, seniors need both a domain name and web hosting. They need both of them to make any kind of website, whether it's a personal, small business website, or an eCommerce store. However, it's important for seniors to remember that they are two separate services, which can be purchased from two different companies.



CHAPTER 3: Digital Citizenship: accessing services and supports online

3.1 What can seniors use the Internet for?

- **Stay up to date with the latest**

Being online means seniors have access to news and current events. They can also stream television shows, movies and music for entertainment – creating a common interest to share with others on online forums or Facebook groups.

- **Effortless communication**

One of the biggest advantages of internet is communication. Through this network of networks, seniors can communicate with anyone remotely. Wireless systems or physical presence are unnecessary to communicate with people. Within seconds, seniors can connect with someone sitting thousands of miles away. This ensures that they do not lose touch due to increased distance.

- **Resources to learn:**

Seniors can learn about anything anytime through the internet. This is another advantage of internet. There are many resources to help them gain knowledge. This includes research papers, online courses, videos, tutorials, FAQs, case studies, etc.

- **Upgrading lifestyles**

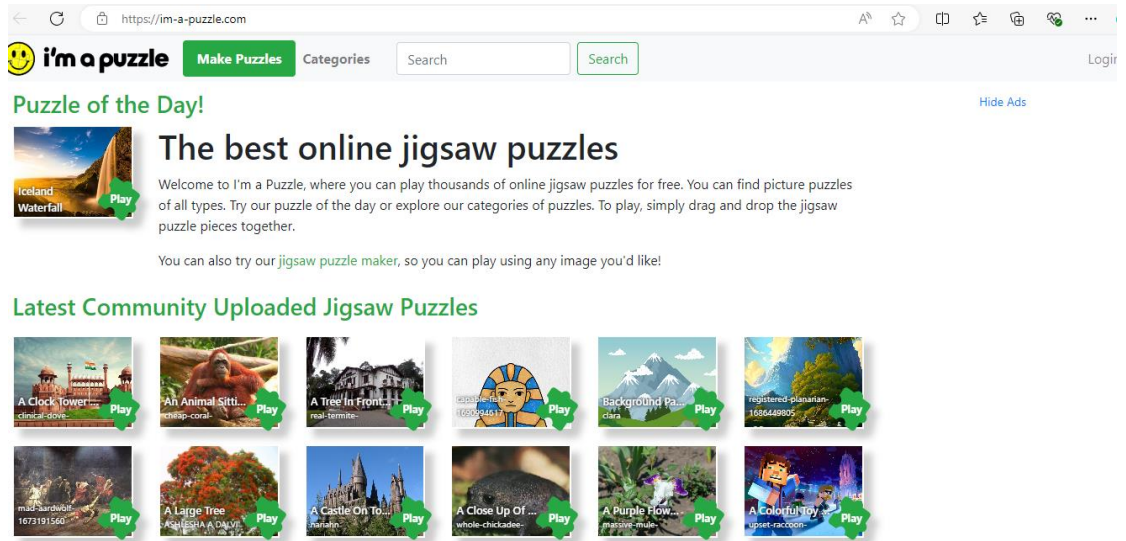
The Internet of Things (IoT) is one of the best innovations through which human lives have become easier and more efficient. The effort in manual labour has been minimized due to the availability of technological innovations. These days, people do not have to put effort into switching on and off lights or be at home to turn their central heating on, this can be done remotely from a device such as a mobile phone.

- **Maintain cognitive health.**

Studies show people who test their minds using mental games and puzzles can lower their chances of cognitive decline and neurological issues like dementia. Online 'brain games' like Tetris and Solitaire help to train memory and spatial recognition, while Sudoku and Chess involve forward planning and problem-solving skills. Other popular games to help sharpen your mind include Trivial Pursuit, Words with Friends, Mahjong and Candy Crush. Online puzzles – [like these](#) – also have cognitive benefits like



improved memory, and provide a mindful activity to reduce stress.



- **Socializing:**

One of the most recent advantages of the internet has been identified as social networking sites. Facebook, LinkedIn, Instagram, Snapchat, TikTok and others have helped build communities. Seniors having the same types of interests can connect with each other over these platforms. This is a new form of socializing through which people can share and express their opinions (See Chapter 2 for social media).

- **Protect mobility and fitness.**

Exercise is prescribed as a first line of defense for seniors to protect against falls, injuries and illness, and it is especially important to manage chronic conditions like arthritis. Exercise apps or videos on platforms like [YouTube](#) can guide seniors through basic exercises keeping them mobile during the day without leaving their home.

- **Manage medication**

Seniors can use an app to help them, or their carer track daily medications and leave the worry of missing a dose behind. They can choose one that works for them on the App Store for Apple devices or Google Play for Android. [Medisafe](#) is one example of an application available to seniors and carers to help manage medication.

- **Groceries are a click away.**

Supermarkets and most other retail providers have made it easy to shop for essentials online. Seniors can order their weekly shop and have it



delivered to their door in no time. This is especially useful if they have mobility issues, transportation challenges, or wish to avoid large crowds.

- **Hassle-free appointments.**

Whether seniors have trouble with transport, or a health condition preventing them from leaving home, being online allows seniors access their doctor via telehealth, and other legal, financial or professional consultations through video conferencing or email. They can also avoid long phone cues for banking or insurance by downloading and becoming acquainted with the institution’s app or saving time by paying bills online.



3.2 More on The Internet of Things (IoT).

Seniors likely use IoT devices already every day. The list below outlines a few IoT devices that seniors may be familiar with:

3.2.1 Smart home devices.

- **Smart TVs.**
- These TVs connect to the internet to access content through applications, such as on-demand video and music. Some smart TVs also include voice or gesture recognition.

- **Smart lighting systems**

In addition to being able to be controlled remotely and customized, smart lighting systems can detect when occupants are in the room and adjust lighting as needed. Smart lightbulbs can also regulate themselves based on daylight availability.

- **Smart thermostats.**



Smart thermostats, such as [Google Nest](#), come with integrated Wi-Fi, letting users schedule, monitor and remotely control home temperatures. These devices also learn homeowners' behaviors and automatically modify settings to provide them with maximum comfort and efficiency. Smart thermostats can also report energy use and remind users to change filters.

- **Smart door locks and garage door openers.**
- Homeowners can use smart locks and garage-door openers to grant or deny access to visitors. Smart locks can also detect when residents are near and unlock the doors for them.
- **Smart kitchen appliances.**

Brands such as Samsung offer [smart kitchen](#) appliances of all sorts. These appliances include smart coffee makers that can brew a fresh cup automatically at a programmed time; smart refrigerators that keep track of expiration dates, make shopping lists or even create recipes based on ingredients currently on hand; slow cookers and toasters; and, in the laundry room, washing machines and dryers.

- **Smart plugs.**

These connect to wall sockets to transform simple home devices, such as lamps and ceiling fans, so they can be controlled remotely via mobile apps and voice assistants such as Alexa.

3.3 Some disadvantages of the Internet

Cyber breach:

One of the biggest disadvantages of the internet is the risk of cyber breaches. Websites, applications, emails and software, everything on the internet is prone to breaches. Cyber attackers can find a loophole in the system and breach it to extract the information. Due to this reason, information over the internet is vulnerable to theft.

Losses of Privacy

Although governments have started making laws to regulate this, internet-based companies are still infamous for taking user information and giving it to marketers. This has historically been done without the consent of unwitting users and continues to be done so still to a lesser extent.



Social media (see Module 2) has also been a way that individuals' privacy has deteriorated.

Potential source of conflict

While the Internet is incredible for fostering wanted communications, it creates a very easy opportunity for unwanted communications. Before the internet, people had to look each other in the eyes to say what they thought. This meant there was both public pressure against it and a way to control it. But through the internet, this is not so. This is especially true when the social media user is anonymous, which means they have no direct disincentive.

Lack of socialization:

While the internet is helping in building communities through social networking sites, it limits real-life socialization. Due to this, people are unable to forge human bonds as strongly as decades before.

Identity theft:

Cyber criminals steal personal information and credentials to commit fraud. For identity theft, criminals access your information in an unauthorized and illegal manner. Once they steal your credentials, they misuse it to commit crimes to obtain goods and services. In the worst-case scenario, they may even try to ruin your reputation.

Addiction:

This is one of the biggest disadvantages of the internet. Over the course of time, people have become addicted to using the internet. This is evident in teenagers for example who spend more time playing games or using social media on the internet. They can sometimes value online lives more than real life. This makes virtual reality more addictive. Due to this, many become aggressive or even clinically depressed when they do not have internet availability.

Shortened attention span:

Due to the availability of excessive means of entertainment over the internet, the attention span of the average human brain has become less. People nowadays have an attention span of less than a minute, requiring changes within minutes.



Cyberbullying

Cyberbullying is an online form of harassment. It's most common in gaming and social media platforms. People make disparaging or hateful remarks about cyberbullying victims, humiliating them.

Fake News and Other Misinformation

Although the internet is regarded as the primary source of information, some websites include inaccurate and worthless information. Sometimes, users can have trouble distinguishing between what is correct and what is incorrect material.

Because the internet is largely decentralized, there is little to no quality control on what information is put on it (in other words, there is no gatekeeper). This means that with anyone able to say anything, information that is untrue, incomplete, or misrepresented can spread very quickly and very widely.

Today, we see people who have become highly radicalized, indoctrinated, and manipulated into believing nonsense and conspiracies spread online. To address this, we all need to ensure we have very good media literacy skills.

New Stratification of Society

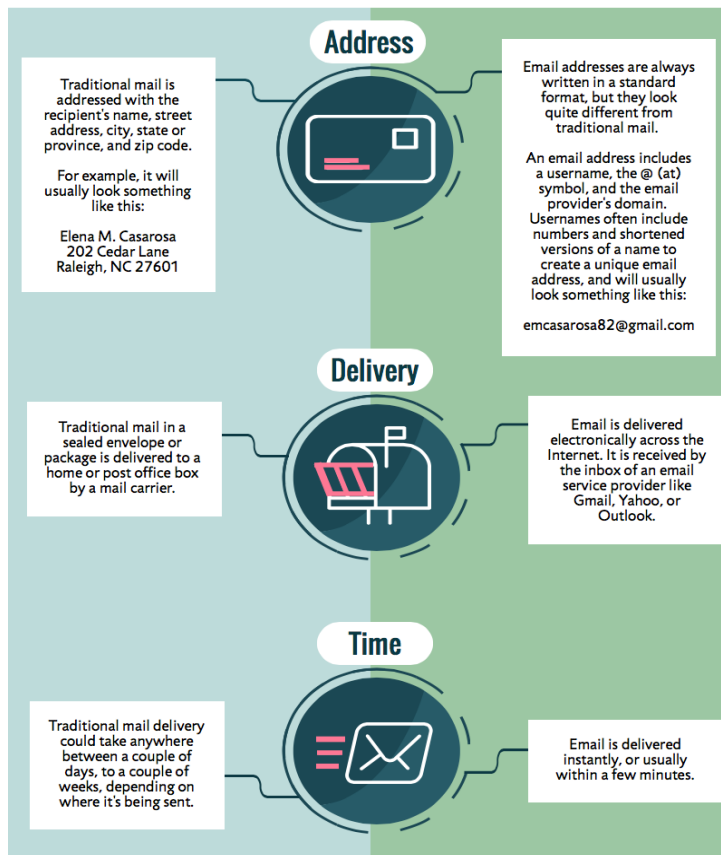
All the benefits that the internet brings can themselves create a negative effect when they are only possible for some people but not for others. This creates a new sort of stratification in society, dividing those that can use the internet well and those that can not. We call this the 'digital divide'.

3.4 Email

Email (electronic mail) is a way to send and receive messages across the Internet. It's like traditional mail, but it also has some key differences. To get a better idea of what email is all about, look at the [infographic](#) below and consider how seniors can benefit from using email:



Traditional Mail vs Email



3.4.1 Email advantages

- **Productivity tools:** Email is usually packaged with a calendar, address book, instant messaging, and more for convenience and productivity.
- **Access to web services:** If you want to sign up for an account like Facebook or order products from services like Amazon, you will need an email address so you can be safely identified and contacted.
- **Easy mail management:** Email service providers have tools that allow you to file, label, prioritize, find, group, and filter your emails for easy management. Seniors can even easily control spam, or junk email
- **Privacy:** Your email is delivered to your own personal and private account with a password required to access and view emails.
- **Communication with multiple people:** You can send an email to multiple people at once, giving you the option to include as few as or as many people as you want in a conversation
- **Accessible anywhere at any time:** You don't have to be at home to get your mail. You can access it from any computer or mobile device that has an Internet connection.



3.4.2 Understanding email addresses

To receive emails, you will need an email account and an email address. Also, if you want to send emails to other people, you will need to obtain their email addresses. It's important to learn how to write email addresses correctly because if you do not enter them exactly right, your emails will not be delivered or might be delivered to the wrong person.

Email addresses are always written in a standard format that includes a username, the @ (at) symbol, and the email provider's domain. e.g. Firstname.Lastname@tus.ie

3.4.3 About email providers

In the past, people usually received an email account from the same companies that provided their Internet access. For example, if AOL provided your Internet connection, you'd have an AOL email address. An Irish example would be @eircom.net. While this is still true for some people, today it's increasingly common to use a free web-based email service, also known as webmail. E.g. yahoo mail. Anyone can use these services, no matter who provides their Internet access.

3.4.4 Webmail providers

Popular webmail providers are Yahoo!, Microsoft's Outlook.com (previously Hotmail), and Google's Gmail. These providers are popular because they allow you to access your email account from anywhere with an Internet connection. You can also access webmail on your mobile device.





3.4.5 Other email providers and applications

Many people also have an email address hosted by their company, school, or organization. These email addresses are usually for professional purposes. If you are part of an organization that hosts your email, they'll show you how to access it.

Many hosted web domains end with a suffix other than .com. Depending on the organization, your provider's domain might end with a suffix like .gov (for government websites), .edu (education), .mil (for military branches), or .org (for nonprofit organizations).

3.5 Video conferencing and apps

3.5.1 What is video conferencing? (also known as video calling).

Video conferencing is a technology that enables two or more people in different locations to communicate in real-time through audio and video transmission. Instead of relying solely on traditional phone calls or emails, video conferencing allows participants to see and hear each other, fostering a more engaging and interactive experience.

3.5.2 The importance of video conferencing

The rise of remote work and distributed teams has made video conferencing indispensable for businesses of all sizes. With the ability to host virtual meetings, webinars, and presentations, video conferencing enhances collaboration and productivity while reducing the need for travel and face-to-face meetings.

Virtual socializing can be enormously beneficial for seniors because it helps to:

- Prevent **senior isolation**, which older people can be at greater risk for than other age groups
- Keep seniors with weakened or compromised immune systems safe and healthy
- Allow seniors with mobility challenges to socialize from the comfort and safety of home rather than having to navigate transportation and other logistics
- Promote brain health in seniors by helping them learn to use new technology
- Boost general mental health and overall wellbeing



3.5.3 Benefits of videoconferencing

- **Breaks down geographical barriers**

Video conferencing breaks down geographical barriers, enabling seniors to meet others seamlessly regardless of their location and have discussions with family and friends as if they were in the same room

- **Cost savings for seniors**

By replacing in-person meetings with virtual ones, seniors can save significant time and money on travel expenses, accommodation, and other associated costs.

- **Environmental benefits**

With concerns about climate change and carbon emissions on the rise, video conferencing offers a more sustainable alternative to traditional travel. By reducing the need for commuting and air travel, video conferencing helps lower carbon footprints and minimize environmental impact.

- **Sharing everyday life**

One of the problems with visiting an elderly person is that they don't share your everyday life. You can tell them about your week, and even show them photographs, but it's not the same as being there. However, video calling can change all that. With a laptop or tablet set up at the kitchen table, grandparents can join in with children's parties or enjoy the conversation at family mealtimes. Recipes or ideas can be shared during dinner preparation, and seniors can even help with homework. Without leaving home, a grandparent can feel included in everything, and it just takes a moment to set up.

- **Experiencing different places**

A screen can act like a window and allow seniors who are not mobile to see the world by video connection. From the comfort of home, elderly loved ones can see the kids' favourite animal at the zoo, the pool at your hotel or sunset over the beach. Even looking at the local park and how it has changed is interesting for seniors who don't get outside.

- **Joining groups**

These days there are online groups for just about everything. Some groups have virtual meetings where everyone connects via video apps. It could be a local group, a religious gathering, or a special interest that a senior might enjoy – the choices are endless. Online means that anyone can attend no matter how near or far they live. With a common interest, it's easy to chat and strike up friendships. Joining a group might seem unthinkable for those who can't get out, but when modern technology is embraced and explored, it's all possible.



3.5.4 Components of videoconferencing

Understanding the key components of video conferencing systems is crucial for ensuring seamless communication and collaboration.

- **Cameras and microphones**

High-definition cameras capture video images of meeting participants and surroundings. Audio quality is essential for effective communication. Built-in microphones in laptops or dedicated USB microphones pick up voices clearly, while advanced models use noise-canceling technology to minimize background noise and echo.

- **Displays and speakers**

Screens or monitors display video feeds of participants and shared content during meetings. Options range from built-in laptop screens to large TV displays or projectors. Clear audio output ensures that participants in the meeting hear each other without distortion.

- **Internet connection**

A stable internet connection is essential for uninterrupted video and audio transmission. Whether using Wi-Fi or Ethernet connections, sufficient bandwidth supports smooth communication without lag or buffering during meetings.

- **Video conferencing software**

Video conferencing tools and applications facilitate connection, scheduling, and management of virtual meetings. Popular platforms like Zoom, Microsoft Teams, Google Meet and Skype (now used to a lesser degree) offer features such as screen sharing, chat, and recording capabilities to enhance collaboration

3.6 Government online services

[MyWelfare](#) is the online home of welfare services in Ireland. It gives seniors access to a wide range of information and online services, including information about household benefits, fuel allowances, pensions, income supports, benefits for Carer's, supports for widows or widowers, housing, medical supports including medical and GP visit cards, community care including public health nursing, chiropody, hearing and dental services, home support services, tax credits and allowances, advice on retirement and social welfare benefits.



https://services.mywelfare.ie/en/topics/pensions-and-older-people/

Pensions and Older People

Fuel Allowance

Fuel Allowance is a payment to help with the cost of heating your home during the winter months

[Find out more](#)

Household Benefits

A package of allowances which help you with the costs of running your household

[Find out more](#)

Benefit Payment for 65 year olds

A payment for people aged between 65 and 66 who are not currently employed

[Find out more](#)

https://www.citizensinformation.ie/en/birth-family-relationships/older-people/checklist-entitlements-for-older-people/

Income supports

	Income supports for older people Working in retirement
Social insurance payments	State Pension (Contributory)
Means-tested payments	State Pension (Non Contributory) See also: Habitual residence
Widows and widowers	Widow's, Widower's or Surviving Civil Partner's (Contributory) Pension Widow's, Widower's or Surviving Civil Partner's (Non-Contributory) Pension Widowed or Surviving Civil Partner Grant
Carers	Carer's Benefit Carer's Allowance

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Health

Medical	Medical card GP visit card Long-Term Illness Scheme Drugs Payment Scheme Hospital charges Nursing Homes Support Scheme
Community care	Public health nursing Chiropody, hearing and dental services Home Support Service

Taxation

Credits and allowances	Older people's tax credits and reliefs Blind Person's Tax Credit Dependent Relative Tax Credit Deeds of Covenant Tax exemption and marginal relief DIRT
Housing	Rent relief (applies only to tenancies from before 8 December 2010) Renting out a room in your own house
Illness and medical expenses	Medical expenses Employing a carer Tax relief on nursing home fees



3.7 Online Entertainment for seniors

3.7.1 Audiobooks and eBooks:

Audiobooks and eBooks are a great way to pass the time. Reading can be relaxing and fun and can help seniors keep their minds active as they age. For some, reading can come with new challenges as we age such as difficulty reading the text, or limited transportation to go get new books. Fortunately, eBooks and audiobooks can help alleviate some of these challenges.

eBooks are simply books that are converted into a digital format that can be read on multiple devices. Most modern devices such as tablets, smartphones, and computers can be used to read eBooks. There are even devices specifically made for reading eBooks called eReaders.

eBooks can be purchased online or borrowed from your local library. If seniors enjoy reading but find that they are reading less in their older years, they may wish to consider trying eBooks. Here are some benefits that eBooks can offer:

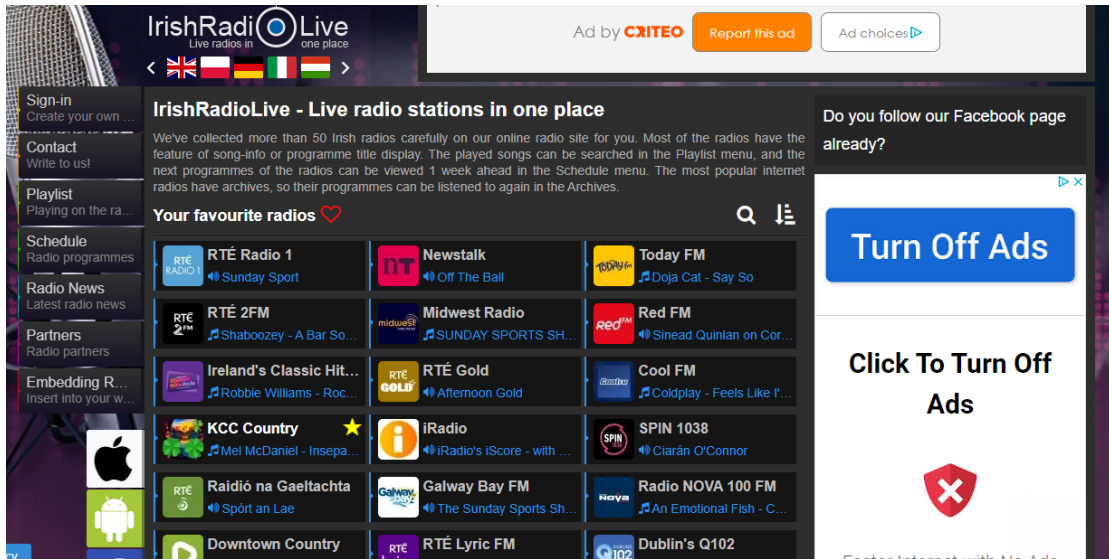
- Most devices that you can get eBooks on allow you to enlarge the font size, making eBooks easier to read.
- Seniors don't have to worry about finding space for physical books – even an entry-level eReader can store around 2,000 eBooks. Could you imagine finding space for 2,000 paper books in your home?
- eBooks are easy for seniors to take with them, especially if they have a lightweight tablet or eReader.

3.7.2 Music Streaming services

Music streaming services give seniors access to a variety of music. Even with all the advancements in technology, many people still listen to broadcast AM/FM radio. However, over the years, music streaming services have soared in popularity. Online music streaming can be broken down into two categories: online radio and interactive streaming.

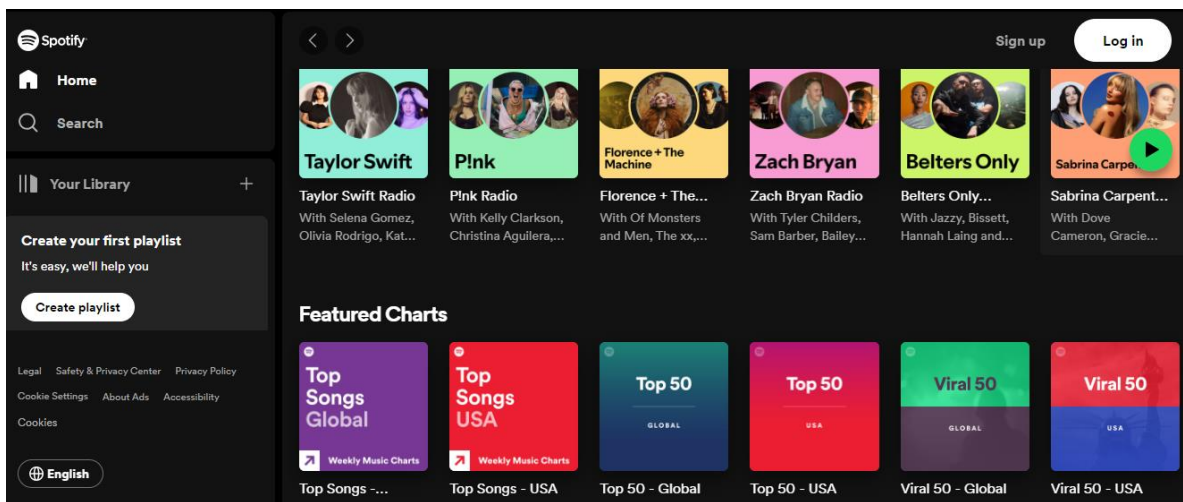
3.7.3 Online radio (or Internet Radio)

This acts similarly to AM/FM radio: you choose a station, and songs play on that station. Online radios generally have a vast selection of stations to choose from, often including local stations that you would find on your regular radio. Some online radio services also offer additional features, such as the ability to skip songs or listen to podcast.



3.7.4 Interactive music streaming

These services allow users to pick which songs or albums that they want to listen to. They typically allow a user to create playlists of their favorite songs or listen to playlists that other people have created. Music streaming services also utilize algorithms to make suggestions for new music based off the music you listen to. Some of the biggest names in interactive music streaming include Spotify, Apple Music, and Amazon Music Unlimited.



One of the biggest reasons people gravitate toward music streaming services is because they want to be able to listen to a variety of music without purchasing a bunch of albums. For seniors who enjoy music but don't like what's played on the radio today, music streaming services can help provide access to music that better suits their



taste.

An additional benefit of music streaming services, especially for seniors who are looking for additional forms of entertainment, is that many streaming services include access to podcasts or audiobooks.

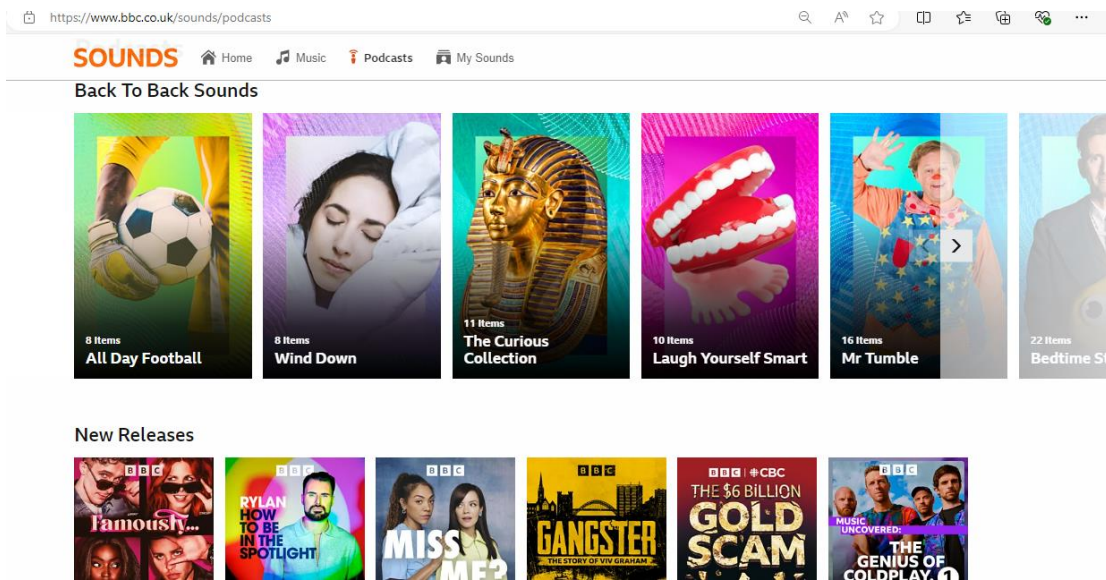
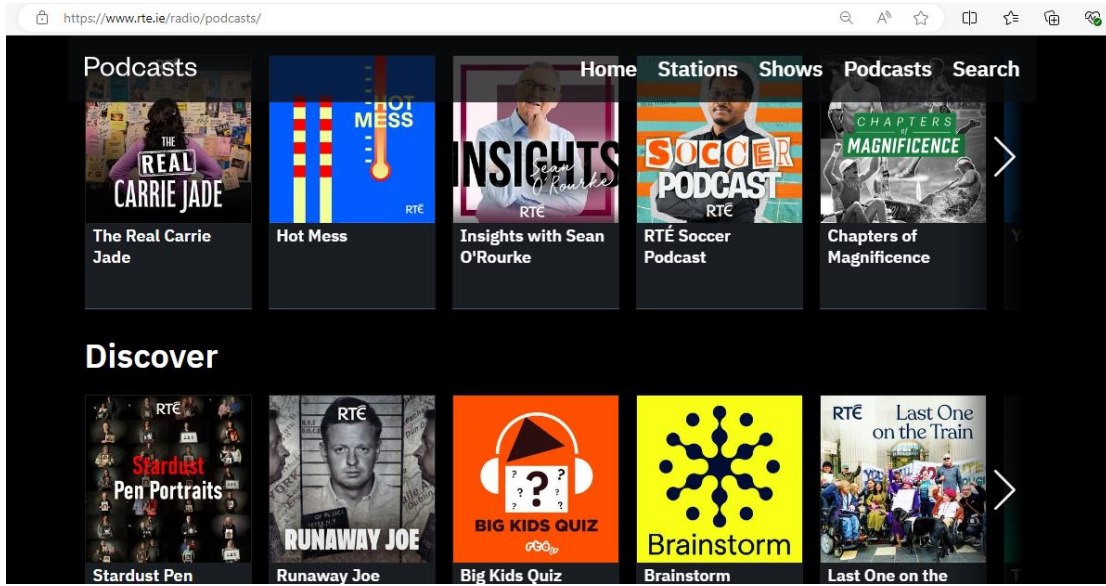
3.8 Podcasts

Podcasts can be entertaining and educational. Many music streaming services also include access to various podcasts. Podcasts are digital audio or video files made available on the internet for downloading, typically available as a series. With music and video streaming services making it easier for people to access podcasts, there has been a steady increase in the number of people who listen to podcasts on a regular basis.

If seniors are not very familiar with podcasts, they may be surprised with how many genres of podcasts there are. Podcast genres include comedy, music, technology, health and fitness, business, news, politics, education, documentaries, and more.

When seniors browse podcasts in whichever music streaming service they use, they can typically browse by genre. If they're unsure what genre they'd like to listen to, their app will typically show the most popular podcasts, or podcasts that are currently "trending". This can be a great place to start.

One of the best things about podcasts is that they are episodic. This means seniors can create a routine, which becomes important after they retire. For example, Saturday mornings can be spent mowing the lawn and listening to the newest episode of their favorite podcast.



3.9 Video streaming services

These services give seniors access to movies and TV shows.

- **Netflix**

One of the main positives of Netflix is its cross-platform support and streaming quality, as there is an app or stream from pretty much any device available. So, for seniors with mobility issues, instead of getting on their stairlift at home to get up or down their stairs to watch TV, they can watch it on their mobile phone or iPad.

- **Amazon Prime**

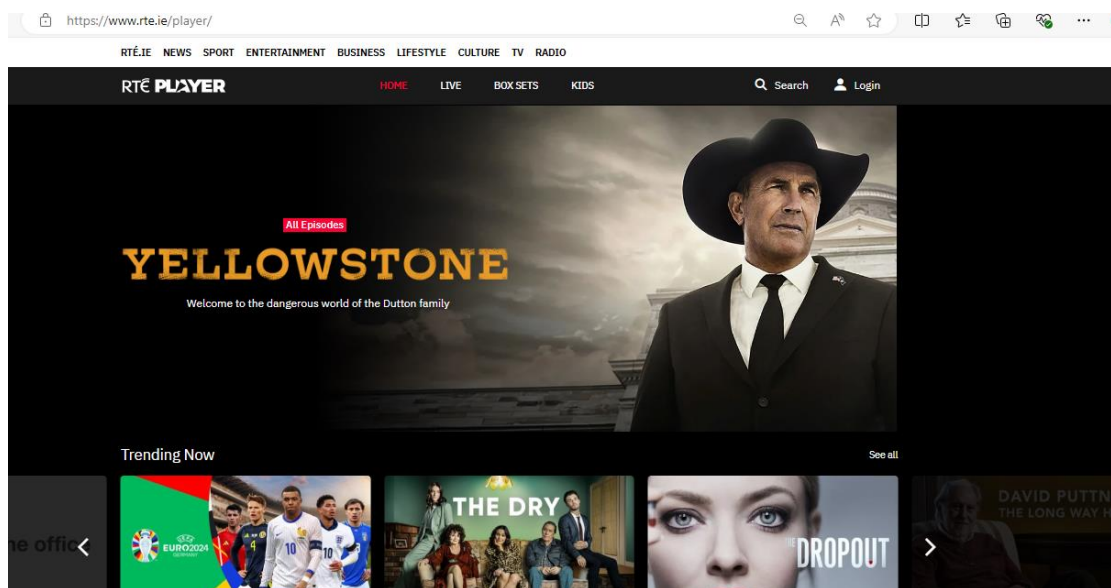


Amazon Prime’s video streaming service is different in the UK compared to the US, but like Netflix, it offers a subscription-based streaming service. As well as users being able to pay a monthly subscription for the video streaming service, seniors can get it as an extra with Amazon’s Prime service, which offers a host of Amazon-based incentives such as free next-day delivery.

- **Disney+**

This is the new kid on the block with regard to video streaming services and is now rivalling the well-established streaming services. It offers a whole library of Marvel Cinematic University (MCU), Disney Channel, Pixar and Fox content, but one of the main reasons it caught the attention of the wider public was its original Star Wars show The Mandalorian, which was a huge success when it debuted on the platform. This platform also has old classic shows such as The Simpsons as well as other favourite Disney films available to watch

Others- [BBC iPlayer](#), [NowTV](#), [Rakuten TV](#), [RTE Player](#)



3.10 Video games

Video Games aren’t just for kids – They’re fun for seniors too! Many people think of video games as a hobby for children or young adults, but playing video games can be fun for older adults as well. Video games are not only a source of entertainment for seniors but can also help keep their brain engaged. Video games can also help seniors



build social connections with other players and individuals in gaming communities.

Seniors can download games on their phone, play video games on their computer, or purchase a video game console such as a PlayStation, Xbox, or Nintendo Switch. If they have never played a video game before, seniors can consider what they might enjoy playing. Do they like solving puzzles? Do they want a game that's fast-paced and full of action? Many old video games have been re-released on newer devices/consoles. If there was a game they enjoyed years ago, chances are, that game is still available.

If seniors are at a total loss of where to start, they can consider looking up senior game players on YouTube or Google to see which video games other seniors are playing. They can ask their friends and family members if they like video games and if they have any recommendations for games that are easy to get started with. See here [The Top 20 Easy Video Games for Seniors](#)





1. Trivia Games

Trivia video games are excellent for keeping senior minds active. Researching answers to trivia questions is a great mental exercise that enhances cognitive abilities.

2. Candy Crush

One of the most played games of all time is Candy Crush, a popular puzzle game for seniors. Its conventional, unambiguous goal continues to become more interesting.

3. World of Warcraft

Seniors maintaining mental stimulation would love this game. Players take on a character and immerse themselves in their life, accomplishing quests and engaging with other players while battling monsters. They find a remarkable escape in the World of Warcraft.

4. Words with Friends

The goal of this multiplayer vocabulary game is similar to Scrabble. Players can swiftly respond with their moves in this real-time game. Additionally, players can quit and rejoin the game at any time, making it non-disruptive.

5. Super Mario 3D World

It is a fun open-world adventure game combined with a linear platform for a more realistic gaming experience. Players complete multiple objectives while overcoming obstacles, gathering power-ups, and more.

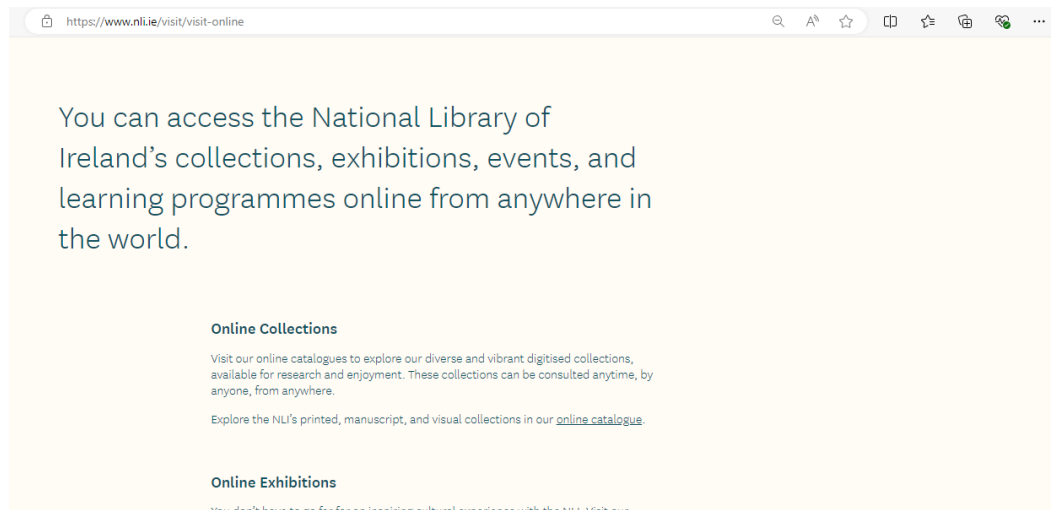


6. Super Mario Bros

This game develops problem-solving abilities while enhancing your memory. You will travel across vibrant landscapes throughout the entire game

3.11 Other Sources of Online Entertainment for Seniors

Seniors can visit their city museum or Library website to see if they have any online exhibitions or collections to view.





https://www.nli.ie/exhibitions-events?f%5B0%5D=event_category%3A9&f%5B1%5D=filters%3A14



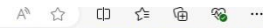
Exhibition



Online

Online Exhibition | Yeats: The Life and Works of William Butler Yeats

https://www.tipperystudiesdigital.ie



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WELCOME TO TIPPERARY STUDIES.
HOME OF LOCAL STUDIES RESEARCH FOR TIPPERARY COUNTY COUNCIL LIBRARY SERVICE.

The Local Studies Department is the primary resource for local history research in County Tipperary for historians and enthusiasts. It has a dedicated reading room with modern research facilities.



3.12 Shopping Online- Benefits for Seniors

From finding great deals and saving money to the ease of online grocery shopping, for seniors, the advantages of online shopping are significant, and include:

- **Convenience:** Seniors can avoid crowded stores and long lines. With online shopping, they can shop at leisure anytime day or night from the comfort and safety of their home. Whatever they order is delivered to their door, which is great for bulky items such as 12KG dog food for example
- **Save Money:** Online shopping is a great way to bargain hunt because seniors can visit several stores in just minutes. Prices can often be lower than in physical stores.
- **Comparison Shop:** Along with comparing prices, seniors online shopping can quickly compare colours, sizes, varieties and quality in a matter of minutes. They can simply type what they are looking for in the search bar of their Internet browser and reveal a huge range of choices
- **Customer Reviews:** Online reviews are a valuable tool to see what people are saying about the product and service. They are also a good way to determine if a company is trustworthy.
- **Hard to Find Items:** Online shopping for seniors lets them find items they want that aren't sold in their area.
- **Groceries:** Stores such e.g. [Tesco's](#) or [Dunnes Stores](#) make online grocery shopping for seniors fast and easy. They can fill out their shopping list online and have their groceries ready for pick up or deliver them to their door.
-



3.12.1 Some disadvantages of online shopping

- **'No-Touch' Frustration:** the inability to physically touch products tops the list of online shopping disadvantages
- **Quality Uncertainty:** A closely related issue is the ambiguity surrounding product quality, some consumers, are not always sure about the quality of their online purchases
- **Logistics:** there can be issues with shipping and returns which are not always so straightforward
- **The Threat of Digital Scams:** with the rise in ecommerce fraud, digital scams have become a major concern, with many shoppers seeing it as a disadvantage of online shopping.
- **Disappointing Experiences:** shoppers express disappointment with online shopping experiences, such as the absence of immediate sales assistance.

In summary, the major disadvantages of ecommerce can be categorized into three groups:

- **Physical Absence:** concerns related to the inability to physically interact with products
- **Logistical Challenges:** Concerns around returns and shipping
- **Social, Environmental, and Fraud Worries:** The remaining concerns span these diverse categories.

3.12.2 Online shopping: Dos and Don'ts to Manage Your Security Online

Keeping your data safe is of the utmost importance. Everyone needs to practice good online habits to protect themselves from fraud and identity theft. Here are some basic security tips for seniors that will help:

Create secure passwords:

Your password is your first line of defence against cybercriminals. That's why you should never use your birthday, name, initials or street address even if it makes remembering your password easy. And never use e.g. "password" or "123456".

Instead, try these methods:

Make it Strong. A password that's difficult to break is at least eight characters long and uses a combination of upper and lowercase letters, numbers and symbols such as #%@(+). Spread them out, too, instead of bunching them together.



Make It Unique to You. Try creating a password that only you would now, such as a phobia like “&iH8teSpyders!”

Use Different Passwords for Different Accounts. Using the same password for all of your online accounts gives cyberthieves access to them all.

Change Your Passwords Regularly. Changing your password every few months makes it harder to remember, but it keeps the hackers guessing. Also, anytime you hear of a data breach or suspect suspicious activity, change your password immediately.

Make Sure the Website is Secure: Only enter your payment information if the website’s address starts with https://. The “s” stands for secure.

Avoid Using Public WiFi Networks – Only buy online when using your home Wi-Fi . Free wireless on public networks at places like coffee shops and airports can be breached by cyberthieves.

Try to avoid shopping on Public Computers: Using a public computer somewhere such as a library or hotel to shop isn’t always such a good idea. You could forget to log out of your account and the next user will have access.

Keep Your Computer or Tablet Up to Date: Whether it’s a PC or a Mac, your information is safer when you keep your operating system up to date.

Check Your Statements: Look at your credit card and bank statements every month for any unauthorized purchases.

3.13 Online Banking

Online and mobile banking make managing your accounts easy and safe, wherever you are in the world. With instant access to your balance, payments and other features such as spending notifications, seniors can have the tools to stay in control of your finances and stop avoidable charges.

3.13.1 The uses of Online Banking

Online and mobile banking usually let you:

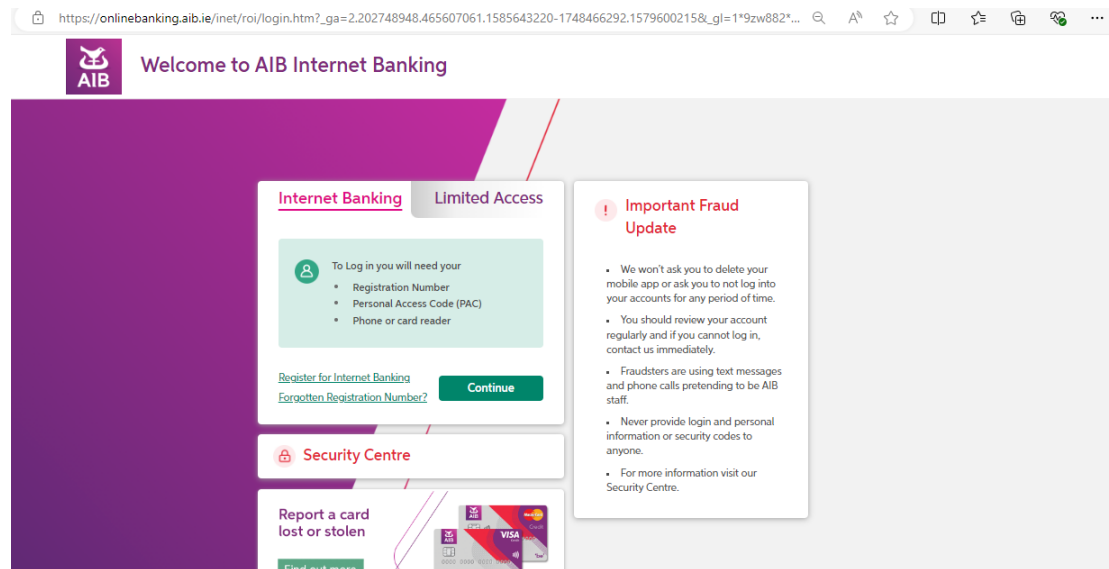
- View your accounts, including savings, credit cards, mortgages, loans and investments
- Pay bills and transfer money to other accounts

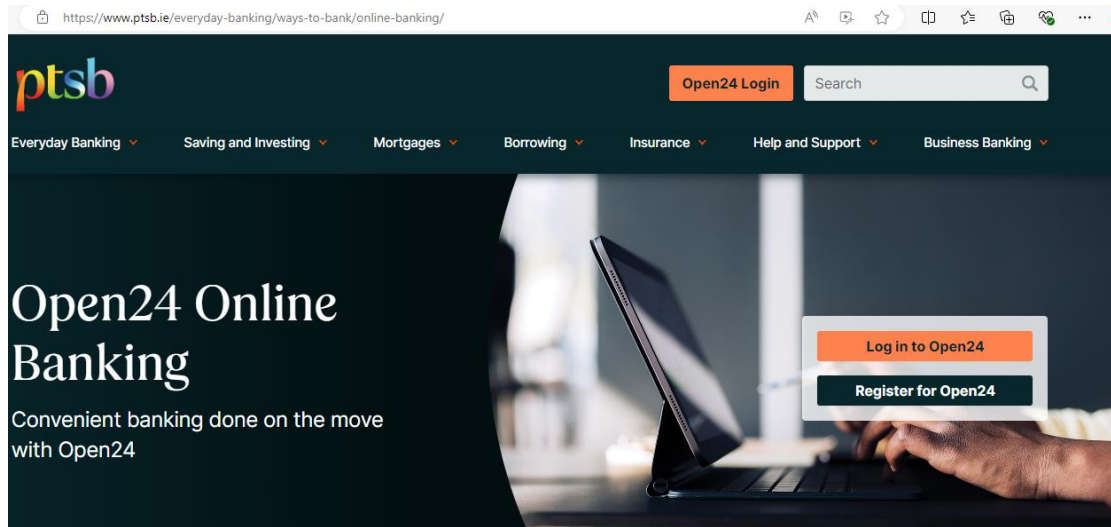


- Set up or cancel regular payments, such as Direct Debits and standing orders
- View transactions and bank statements
- Open and close accounts, or request changes – such as adjusting your overdraft or credit limit
- Set up instant spend notifications whenever your card is used
- Freeze and order new cards, plus set maximum spending and cash withdrawal limits.

3.13.2 How to set up online and mobile banking

Seniors need to register for access, which they can usually request online. The easiest way is to go to the bank's homepage and look for 'register', then follow the on-screen steps. For mobile banking, seniors can download their bank's app from the app store on their mobile phone.





The registration process varies per bank but usually involves completing several security steps. This could include:

- a set-up code sent to their mobile
- a password and registration number posted to them
- a card reader or security device sent to them, which they will need to log on.

Once they are registered, seniors will be able to login whenever they need to. If they are not confident doing this themselves, seniors can check if their bank can help them – many offer free digital lessons over the phone or via video call.



3.13.3 Keeping your online account safe

Banks take lots of precautions to make sure your online account is safe, including using



encrypted websites, timed logouts and multi-step verification processes. This works by using something you know, such as a password, and something you have, like your mobile phone and fingerprint.

For example, before allowing you to log in or make a payment, seniors could be asked to:

- enter their username and password
- confirm a code that's been sent to their device
- use facial recognition or a fingerprint reader.

Having instant access to their accounts can also help seniors spot any unusual activity quickly, especially if they have set up spending notifications that alert them whenever their card is used.

Many online banking platforms also allow customers to freeze their card – for example, if they realise it's lost or stolen – and set up daily spending and cash withdrawal limits.

3.13.4 How seniors can protect themselves from scams

While the technology has safeguards in place, there are many online and phone scams to watch out for. Run by fraudsters, the aim is to trick you into sharing your login details or other sensitive details so they can gain access.

Here are a few rules to follow to stay safe:

- Never give personal information, passwords or online banking login details to anyone – your bank will never call, email or text you asking for these.
- If you receive a phone call from someone claiming to be from your bank, check with your bank to see if the number is genuine
- Don't reply to emails that claim to be from your bank asking for personal details or passwords and never click on any links.
- If you receive a suspicious text message, don't respond, again, check with your bank first
- Check your statement often and report any unusual activity to your bank as soon as you can.
- If you notice a payment out of your account that you didn't authorise, contact your bank or building society as soon as possible to ask for a refund.



- Use a safe and secure wi-fi connection or mobile data when accessing your accounts – fraudsters can use public wi-fi to steal information.
- Always remember to log out of your online banking session.



Chapter 4: Digital Resilience and Online Wellbeing

4.1 Digital Resilience

Building Digital Resilience by making digital wellbeing and security accessible to all refers to the comprehensive effort aimed at empowering individuals, particularly adults, with the knowledge, skills, and best practices necessary to navigate the digital world safely and securely.

In the wake of the COVID-19 pandemic, the reliance on digital technologies has increased significantly, making it imperative for individuals to transact online without falling victim to cyber threats.

Digital wellbeing originates from the wellbeing concept, and it has to do with digital lives of individuals. The capacity of people to adapt, manage, and prosper in the digital world while successfully managing both their well-being and security is referred to as digital resilience, which is a mix of digital wellbeing and security.

The cornerstone of digital resilience is digital wellbeing, which emphasizes preserving a positive and sensible connection with technology. It entails limiting screen time, placing a high priority on mental and emotional health, creating supportive online communities, and learning digital literacy.

In the context of wellbeing, digital resilience helps people handle online difficulties like cyberbullying, online harassment, or exposure to dangerous content while preserving their general well-being.

Individuals may build a strong digital resilience that enables them to move through the digital world with assurance and responsibility by integrating digital wellbeing with digital security.

They are better able to manage the challenges of the digital world, adjust to changing dangers, make wise judgments, safeguard their personal information, and maintain their mental, emotional, and physical health while using the internet.

The use of cell phones, social media, and video games in excess or unhealthily can be detrimental to mental health. Anxiety, despair, loneliness, and poor self-esteem can all be exacerbated by excessive screen time, frequent comparisons to others on social media, or cyberbullying.

In this regard, digital wellbeing is the way to have control over our own life. It's crucial to have a healthy connection with technology to support good mental health and



digital wellbeing. Setting limits for gadget use, engaging in digital detoxes, participating in offline activities, and giving selfcare and face-to-face interactions top priority may all be part of this.

Digital wellbeing has become an essential human need in the digital age, particularly in the wake of the Covid-19 pandemic. Our reliance on digital platforms has grown as technology continues to invade every part of our everyday lives, from communication and education to employment and entertainment

4.2 What is Digital Wellbeing?

Digital wellbeing encompasses the impact of digital technology on our overall health, happiness, and productivity. It refers to managing the influence of digital devices and platforms on our mental and physical wellness. In relation to productivity, digital wellbeing involves optimizing our interaction with technology to minimize distractions and enhance our ability to focus and achieve our goals. Striking the right balance can lead to improved efficiency and reduced stress in our personal and professional lives.

4.3 The Origin of Digital Wellbeing

The concept of digital wellbeing gained prominence with the rise of digital technology and its pervasive influence on daily life. As smartphones, social media, and digital entertainment became integral parts of modern existence, concerns about their impact on mental health, sleep patterns, and overall happiness grew. Tech giants and health professionals began addressing these issues, leading to the development of digital wellbeing as a holistic approach to mitigate the potential negative effects of technology.

4.4 Who is Digital Wellbeing for?

Digital wellbeing is relevant to individuals of all ages and backgrounds who engage with digital devices and online platforms. It holds particular significance for students, professionals, parents, and anyone who spends a significant amount of time using digital technology. Furthermore, organizations and institutions are increasingly recognizing the importance of promoting digital wellbeing among their members to foster a healthier and more productive environment.

4.5 How can Digital Technology affect wellbeing?

Technology, and our interaction with it, impacts our wellbeing. It can affect how we feel, our thoughts, our behaviour and our physical and mental health. Social media and mobile devices may lead to psychological and physical issues, such as eye strain,



difficulty focusing on important tasks, and even how well we sleep at night.

Digital wellbeing may also contribute to more serious health conditions, such as depression and anxiety. The overuse of technology can potentially have a more significant impact on developing children and teenagers, as it's important for them to get a good night's sleep while they are growing. On top of this, teenagers are more prone to low self-esteem and self-doubt, which can be affected by spending too much time on social media, comparing themselves to others, cyberbullying, and false information.

There are lots of ways that we can monitor our digital wellbeing and prioritise our physical and mental health while using technology. For example, if you're experiencing eye strain when using any form of digital screen for longer periods of time, the American Optometric Association recommend using 'the 20-20-20 rule'.

To use the rule, after every 20 minutes of screen time, you should take a 20-second break to look at something at least 20 feet away. Doing this can help reduce the strain on the eyes from staring at a screen for a continuous period.

We can always make choices which positively impact our digital wellbeing. Some good choices might include:

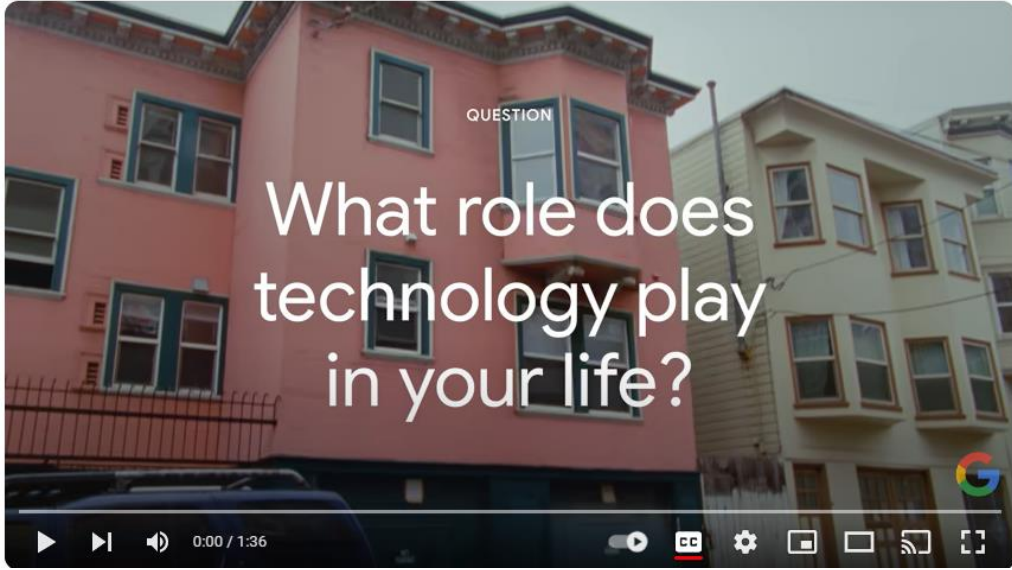
- how much time we spend using digital technology
- how we interact with others online
- material we watch and engage with
- how we portray ourselves online.

Negative online experiences can affect how we feel about ourselves, our relationships with others, our thoughts and opinions and our perspective of the world in which we live. It's important we use digital technology in a way which enhances our wellbeing, and being aware of the potential threats it poses.

See this [useful video](#) giving views about the advantages and disadvantages of digital technology in the context of digital wellbeing.



digital wellbeing





CHAPTER 5: Online rights and privacy in the online environment

5.1 What are the consequences of a Digital Footprint?

Digital footprints are visible to a variety of entities, including the following:

- [Data brokers](#)
- Advertisers
- Phone carriers
- Internet providers
- Employers
- Cybercriminals
- Hackers
- Peers
- Co-workers

A digital footprint helps people online identify the person that it belongs to. There are several effects of having a visible online identity, including the following:

- **Access control:** Providing information online lets users gain access to different applications and services. For example, people can use their email address, name and other information about them to create social media accounts, log in to a banking application or subscribe to an online publication.
- **Online reputation.** The information a person posts, says or otherwise leaves online influences how others perceive them. Seeing someone's browsing history, likes on social media platforms or online shopping history provides information about their personality and interests. This is often a benign consequence of digital footprints, but a visible reputation can be bad if the digital traces reflect poorly on the person. For example, an employer might see a derisive social media post that somebody made and choose not to hire that person.
- **Targeted advertising.** Marketers can use someone's digital footprint to market to that person based on their [digital twin](#) or digital identity. An internet user leaves digital traces that provide preference insights. [Behavioral targeting](#) uses these inferences to feed the user advertisements.
- **Hacking.** A hacker could use information from a user's digital footprint to exploit them through identity theft or [attack other computer systems](#). Exposed usernames and passwords could give hackers access to user accounts, and visible email addresses could be used to construct spear phishing campaigns.



See this [video](#) to learn more about Cybercrime and Cyberattacks in the context of your Digital Footprint:



These negative consequences can affect entire companies, as well as individuals. Companies for example need to manage their digital footprint and be aware of how their employees represent themselves online by doing the following:

- identifying internet-facing infrastructure to determine the contents of the attack surface
- auditing the assets contained in internet-facing infrastructure; and
- performing standard security processes, such as vulnerability testing and patch management.



- Geolocation data
- IP addresses
- Passwords and login information
- Subscriptions
- Health information
- Fitness data
- Phone numbers
- License plate numbers
- Social posts
- Phone calls
- Email addresses
- Usernames
- Passwords
- Search history
- Sensor data
- Payment details
- Credit card numbers
- Downloads
- Purchase history
- Cookies
- Images from surveillance devices

Activities that can generate data that appears in a digital footprint include the following:

- Online banking
- Social media
- Reading the news
- Fitness trackers
- Health care apps

5.4 How to reduce your digital footprint

Oversharing online is the easiest way to create an unmanageable digital footprint. To reduce a digital footprint to a more manageable size and protect their information, seniors can do the following:

- **Check footprint online.** Users can search their own names on Google or another search engine to see what comes up. [Have I Been Pwned](#) is another service that tells users if their sensitive data is public.
- **Delete old accounts.** Old social media accounts hold information that may not reflect the user anymore.



- **Share only what is necessary.** Avoid oversharing on social media -- even in more private social media features, such as messenger apps. Think of posting anywhere on social as permanently publishing something. Even after deleting, there is still a record of the post somewhere.
- **Use a Virtual Private Network (VPN).** A VPN can help protect digital footprints by masking IP addresses and making online activity harder to trace.
- **Visit secure websites.** Websites with encryption add an extra layer of safety and online privacy while browsing. Users can tell a website is secure by looking at the URL to see if it begins with *https* rather than *http*.
- **Adjust application privacy settings.** Go through application privacy settings to opt out of settings that share more information than desired.
- **Compartmentalize business and personal accounts.** If possible, try and use separate accounts to limit visibility at work and control online perception.
- **Practice cyber hygiene.** Learn how to avoid common phishing or malware attacks that could proliferate personal data. Regularly clean up and back up data to avoid data breaches.

Phishing vs. spear phishing vs. whaling

Whaling is a specific type of spear phishing, and spear phishing is a specific type of phishing. Learn the differences below.

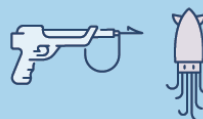
Phishing

A broader term that covers any type of attack that tries to fool a victim into taking some action. Does not have a specific target.



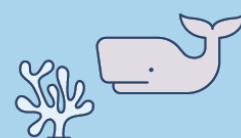
Spear phishing

A type of phishing that targets individuals.



Whaling

A form of spear phishing that targets high-ranking victims within a company.





Conclusion/Summary

This module has focused on the topic of Digital Literacy, Information, data and Internet use. Chapter 1 of this module focused on key components of Digital Literacy and Online Services, why digital literacy is important for seniors, including the advantages of digital technology, useful terms for seniors in the digital world and key factors seniors should consider when choosing digital devices, internet connections and internet providers. Chapter 2 delved into the important topic of Media and Information Literacy and how to find information that is reliable and accurate. It described the workings of the Internet in more detail, provided a brief history of the Internet and how it works, before describing key features of the Internet such as web browsers, search engines while also giving guidance on how to evaluate information found on the Internet.

Chapter 3 dealt with the important topic of Digital Citizenship : accessing services and support online. This chapter described how the internet can benefit seniors, how it enables them to stay up to date with the latest news and trends, how they can avail of effortless communication and maintain their cognitive health while also highlighting some of its disadvantages and hazards. Key services and supports offered by new internet technologies and the Internet of Things (IoT) were also highlighted in this chapter as were the uses of tools such as email and video-conferencing for communication. Important Government services available online for Digital Citizenship were also outlined in this chapter as was the vast array of online entertainment available to seniors through AudioBooks and eBooks, Music Streaming services, online radio, podcasts, video streaming, video games, online libraries and museums. Chapter 3 concluded by outlining the various commercial services available to seniors online including online shopping, online banking, and their advantages and disadvantages and how seniors can protect themselves from online scams and fraudsters.

The important topic of Digital Resilience and Online Wellbeing was dealt with in Chapter 4, how people can adapt, manage, and prosper in the digital world while successfully managing both their well-being and security. This chapter highlighted the importance of digital wellbeing, of preserving a positive and sensible connection with technology. The final chapter of this Module 1 covered Online rights and privacy in the online environment focusing particularly on the consequences of our Digital Footprint. This chapter concluded with some strategies and advice to help seniors reduce their Digital Footprint, highlighting for example that oversharing online is the



easiest way to create an unmanageable digital footprint.

The internet offers some immense possibilities and freedom for seniors while also presenting some significant challenges. Seniors need to have the skills not only to find information and services on the Internet that are trustworthy, reliable and accurate but to also manage their online security successfully to avoid scams and fraudsters. By taking this Module 1 of the DSSI Curriculum, seniors can be better informed about the Internet, to avail of its huge potential for lifelong learning and become confident to independently use a range of digital public and commercial services effectively.



Activities of Chapter 1

Questions and quizzes

THE DSSI SELF ASSESSMENT TOOL			
RELEVANT MODULE NUMBER	RELEVANT LEARNING OUTCOME (LO)	QUESTION	POSSIBLE ANSWERS/ Multiple Choice
1	Chapter 1	What is Digital Literacy?	<p>A) The ability to play video games</p> <p>B) an umbrella term which refers to a person's knowledge, skills, and behaviors within a digital environment</p> <p>C) The study of computer programming languages</p> <p>D) The ability to find a book on a shelf in a library</p>
1	Chapter 1	What is internet speed?	<p>A) the time it takes a provider to install the Internet in your home</p> <p>B) The speed at which you can type on a computer</p> <p>C) The time it takes you to purchase something online</p> <p>D) the speed at which data or content travels from the World Wide Web (WWW) to your home computer, tablet, or smartphone</p>



Activities of Chapter 2

Questions and quizzes

THE DSSI SELF ASSESSMENT TOOL			
RELEVANT MODULE NUMBER	RELEVANT LEARNING OUTCOME (LO)	QUESTION	POSSIBLE ANSWERS/ Multiple Choice
1	Chapter 2	What is a search engine?	<p>A) A website that indexes the contents of the World Wide Web (WWW) so people can search for information that matches their keywords</p> <p>B) A computer program for typing letters and documents</p> <p>C) A computer with a fast internet connection</p> <p>D) A type of electric car</p>
1	Chapter 2	Which of the following is NOT one of the main criteria for evaluating information found online?	<p>A) Author- does it have an author, is the author a person or an organization? What are their credentials and qualifications in the topic area?</p> <p>B) Date: Does the information source have a date? Is the date relevant to the type of information you are looking for? e.g. is it recent/up-to-date or historical?</p> <p>C) Type of information and scope: Does the information tie in with other information you have found on the topic?</p> <p>D) Writing style: Is it well written or are there</p>



			<p>problems with spelling and grammar?</p> <p>E) Entertaining: Is the information funny, does it make you laugh out loud?</p> <p>F) Purpose: What is the purpose of the Information? Is the information fact, opinion or propaganda? Does the point of view appear objective and impartial?</p>
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Activities of Chapter 3

Questions and quizzes

THE DSSI SELF ASSESSMENT TOOL			
RELEVANT MODULE NUMBER	RELEVANT LEARNING OUTCOME (LO)	QUESTION	POSSIBLE ANSWERS/ Multiple Choice
1	Chapter 3	What is the Internet of Things (IoT)?	<p>A) An Online shopping website</p> <p>B) A vast array of physical objects connected to the Internet such as phones, appliances, thermostats, lighting systems, security cameras and vehicles equipped with sensors and software that enable them to interact without human intervention</p> <p>C) A type of computer virus A type of Email (Electronic mail) for sending and receiving messages across the Internet</p>
1	Chapter 3	What is video-conferencing	<p>A) A type of conference where attendees can meet to discuss and exchange old videotapes</p> <p>B) A software that can be used for making short films</p> <p>C) A technology that enables two or more people in different locations to communicate in real-time through audio and video</p>



			<p>transmission such as Zoom, Teams and Skype</p> <p>D) An online shop where old video tapes can be bought and sold.</p>
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Activities of Chapter 4

Questions and quizzes

THE DSSI SELF ASSESSMENT TOOL			
RELEVANT MODULE NUMBER	RELEVANT LEARNING OUTCOME (LO)	QUESTION	POSSIBLE ANSWERS/ Multiple Choice
1	Chapter 4	What is Digital Wellbeing?	<p>A) An Online Doctor service providing face-to-face doctor consultations using video calls via a mobile phone or computer</p> <p>B) The ability to manage the influence of digital devices and platforms on our mental and physical wellness, centered around finding harmony in our digital lives.</p> <p>C) A fitness and activity tracker worn on your wrist and used to help you keep track of how many steps you have taken while walking or running</p> <p>D) A social media website such as Facebook or Twitter that enables us create and share content or participate in social networking with friends of colleagues</p>
1	Chapter 4	Which of the following is NOT a means of furthering your Digital Wellbeing:	<p>A) Reflecting on how much time we spend using digital technology</p> <p>B) Considering how we interact with others online</p>



			<p>C) Carefully analyzing and questioning the material we watch and engage with</p> <p>D) Spending 10 hours per day watching online videos on YouTube and using Facebook</p>
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Activities of Chapter 5

Questions and quizzes

THE DSSI SELF ASSESSMENT TOOL			
RELEVANT MODULE NUMBER	RELEVANT LEARNING OUTCOME (LO)	QUESTION	POSSIBLE ANSWERS/ Multiple Choice
1	Chapter 5	What is an "Active Digital Footprint"	<p>A) Data a user leaves behind unintentionally on the internet through Website visits and actions, searches and online purchases</p> <p>B) Where the user has deliberately shared information about themselves – for example, through posting or participating on social networking sites or online forums.</p> <p>C) The number of steps your Activity tracker records when you are walking or running</p> <p>D) An online shop for purchasing shoes and boots</p>
1	Chapter 5	Which of the following is NOT a means of reducing your Digital Footprint?	<p>A) Deleting Old social media accounts that hold information that may not reflect the user anymore.</p> <p>B) Avoiding oversharing on social media such as Facebook and Twitter and on messenger apps such as Whats ap</p> <p>C) Uploading a copy of your passport to a Social Media</p>



			<p>website or Messenger app such as Whats ap for everyone to see</p> <p>D) Only using websites with encryption- users can tell a website is secure by looking at the URL to see if it begins with <i>https</i> rather than <i>http</i></p>
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Teaching Guidelines- Trainer's guide

Recommended Time	Learning Activities/Advice for Trainer	Materials	Resource
10 min.	<ol style="list-style-type: none"> 1. Welcoming learners and introduce yourself- welcome and short introduction about yourself (e.g. name, occupation, experience etc). 2. Short activity to get to know participants- ask each participant in the training to introduce themselves. Ask them what is the first thing that comes to mind when they hear the phrases “Digital Literacy” “Media and Information Literacy” “Online Wellbeing” etc. 3. Present the learning objectives and competencies 4. Present the ground rules of the training session (i.e. Ask for suggestions from the group, have one person record the ground rules on training sheet), Set aside time for breaks, Asking Questions, Put mobile phones on vibrate or silent ring, Stress that its important for everyone to participate, and that participants can request clarification of instructions or content. 	<p>Video-projector: To display PowerPoint slides</p> <p>Handouts and Flipcharts as required</p>	Introduction – Learning Objectives
10 min.	<p>Introduction to the course content</p> <ol style="list-style-type: none"> 1. Present the General Overview and Objectives of the Module 2. Present the Learning topics and Description of the Learning Outcomes 3. Brief discussion with Partners to clarify any areas, invite participants to ask questions. 	<p>Video-projector and PowerPoint to display slides</p>	Introduction
20 min.	<p>Digital Literacy and Online services</p> <ol style="list-style-type: none"> 1. Explain what Digital Literacy is and why it is important for seniors, highlighting the advantages of digital technology and useful terms 2. Discuss what needs to be considered when seniors are choosing a computer i.e. type of computer, What will they use the Internet for? Internet connection and Internet 	<p>Video-projector: and PowerPoint to display slides</p> <p>Handouts and Flipcharts as required</p>	Chapter 1



	speed, Choosing an Internet provider, Download and upload speeds.		
20 min.	<p>Media and Information Literacy: finding information that is accurate and reliable</p> <ol style="list-style-type: none"> 1. Explain what the Internet is, how it works, including brief history and evolution of the Internet 2. Explain what Web browsers are, Searching the Internet, Privacy and search engines, Searching using Google, Evaluating information found on the Internet, Domain names and URL's. 	<p>Video-projector: To display PowerPoint slides</p> <p>Online video (YouTube)</p> <p>Handouts and Flipcharts as required</p>	Chapter 2
20 min	<p>Digital Citizenship: accessing services and supports online</p> <ol style="list-style-type: none"> 1. What can seniors use the Internet for? The Internet of Things (IoT) giving examples, Disadvantages of the Internet giving examples 2. Email: Advantages, Understanding email addresses, Email providers 3. Other online services and supports i.e. Videoconferencing, Government Online Services, Online Entertainment for seniors: Music Streaming services, Online radio, podcasts, video streaming services, video games, online exhibitions and museums, Online shopping, Online banking 	<p>Video-projector: To display relevant slides and multimedia content.</p> <p>Handouts and Flipcharts as required</p>	Chapter 3
15 min.	<p>Digital Resilience and Online Wellbeing</p> <ol style="list-style-type: none"> 1. Explain what is Digital Resilience seeking feedback from participants 2. Explain what is Digital Wellbeing giving examples 3. Explain how Digital Technology can affect wellbeing with examples 	<p>Video-projector: To display relevant slides and examples.</p> <p>Online video (YouTube)</p> <p>Handouts and Flipcharts as required</p>	Chapter 4
15 min	Online rights and privacy in the online environment	Video-projector: To display relevant	Chapter 5



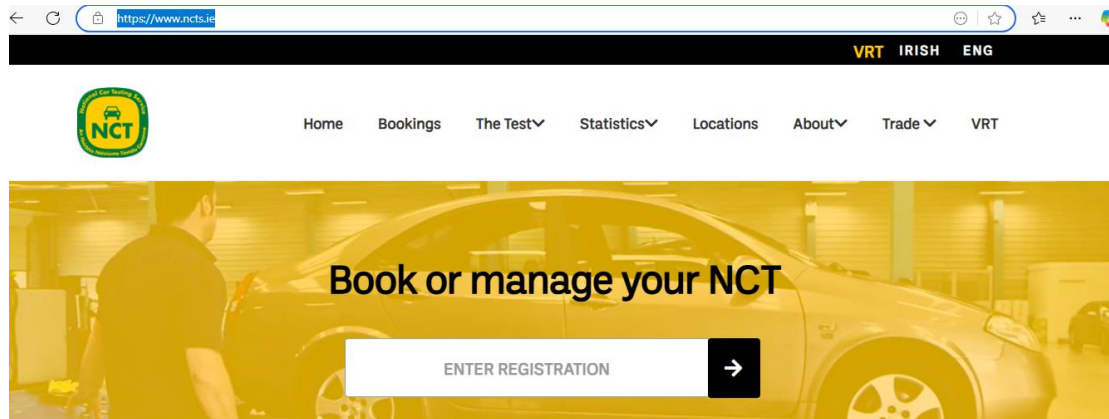
	<ol style="list-style-type: none"> 1. What are the consequences of a Digital Footprint? 2. Types and Examples of Digital Footprint 3. How to reduce your digital footprint 	<p>slides and examples.</p> <p>Online video (YouTube)</p> <p>Handouts and Flipcharts as required</p>	
10 min	<p>Conclusion / Summary</p> <ol style="list-style-type: none"> 1. Restate the main points of the training and summarise it 2. Examine the objectives and highlight how they were met 3. Summarize the advantages and disadvantages of Digital technology 4. Open the floor for questions and answers 5. Allow time for participants to develop action plans and set goals for applying the training topics. 6. Collect feedback from participants on the session. 7. Thank participants for their time and participation 	<p>Video-projector: To display relevant slides and examples.</p> <p>Flipcharts as required</p>	Conclusion/ Summary



E- Service Demonstration- example from Ireland

National Car Testing Service: booking your National Car Test:

Step 1: visit this website <https://www.ncts.ie/> and enter your Car Registration:



Step 2: After entering your Car Registration, review the vehicle details, make sure the details are correct, Agree to the Terms and Conditions and Confirm you have read the Privacy Policy:

Vehicle Details

Registration	██████████
Make	FORD
Model	MONDEO
Year	2008
Colour	RED
Next NCT Due Date	██████████
Service Type	Periodic Inspection
Registration	██████████
Make	FORD
Model	MONDEO
Colour	RED
Next NCT Due Date	██████████
Service Type	Periodic Inspection

Please note you need a credit/debit card to complete this booking.



Step 3: Select a Car Testing Centre and Date of Test, in the example below I selected Limerick on the 4th of June:

Step 4: Select a suitable time for your Test. In the example below I have selected to have my car tested at 08.45AM



Step 5: Enter your Email Details, Address and Telephone number and tick the box at the end if you would like to receive booking confirmation by sms:

Enter Email Details

Email *	Confirm Email *
<input type="text"/>	<input type="text"/>

The confirm email field is required.

Enter Address Details

Address 1 *	Address 2
<input type="text"/>	<input type="text"/>

Address 1 is required.

Address 3

Town *	Postal Code *
<input type="text" value="Nenagh"/>	<input type="text"/>

Enter Telephone Number

Prefix	Land Line Number	Prefix *	Mobile Number *
<input type="text" value="061"/>	<input type="text"/>	<input type="text" value="087"/>	<input type="text"/>

Land line number must be entered

Mobile number is required. Mobile number must be entered



I would like to receive confirmation via SMS.



Step 6: Review your booking once more and proceed to payment:

Booking Details

Registration	Service Type	NCT Centre	Date	Time	Fee
	Periodic Inspection	Limerick	Wednesday 4th June	08:45	€60.

GO BACK

PROCEED TO PAYMENT

Last Step: Enter your card details and pay. Confirmation will be received by Email and also by sms:

You must complete your payment in 14 minutes 46 seconds

Payment Details

Card Number VISA

Expiry MM/YY Security Code Security Code



Further resources

Name of source	Description	Link or contact	European/ National Service
eLibrary	A wide range of free online services including eBooks, eAudiobooks, eMagazines, online courses and online newspapers.	eLibrary	National
Open Research Library	Free Online Books	Open Research Library	International
Directory of Open Access (DOAB) Books	Community-driven discovery service that indexes and provides access to scholarly, peer-reviewed open access books and helps users to find trusted open access book publishers. All DOAB services are free of charge and all data is freely available.	Directory of Open Access (DOAB) Books	International
OAPEN	Online library of open access books	OAPEN	International
National Library of Ireland	Ireland's national library featuring various Free virtual exhibitions	National Library of Ireland	National
Limerick Local Studies (an initiative of Limerick City & County Council)	One of the most extensive collections of online resources in Ireland	Limerick Local Studies	National
OER Commons	A public digital library of open (free) educational resources	OER Commons	International
Tipperary Studies Digital Archive	Promoting and preserving Co. Tipperary's past	Tipperary Studies Digital Archive	National



University of Pittsburgh Open Educational Resources	A huge range of Open Educational Resources (OER's) freely available for teachers and students to use, adapt, share, and reuse.	University of Pittsburgh Open Educational Resources	International
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