

TECH SAVVY SENIORS


The NSW **Tech Savvy Seniors** program is a key initiative of the NSW Ageing Strategy and the Telstra Digital Literacy Strategy.



'Victorian Tech Savvy Seniors' is a Seniors Card Age Friendly Partners program with Telstra delivering training through rural and remote libraries across Victoria.

INTRODUCTION TO CYBER SAFETY

How to stay safe online

BEGINNERS GUIDE

TOPIC	INTRODUCTION TO CYBER SAFETY	
HOW TO STAY SAFE ONLINE	The internet is just a part of life now, and there's so much you can do online. But should you trust the internet? The simple answer is yes. With the right tools and a few common sense precautions, you can protect yourself online. If you put security software on your computer and are careful about giving personal information to strangers, you should be just fine.	
WHO IS THIS WORKSHOP FOR?	You want to get onto the internet, but are worried that it's not safe. You want to understand and recognise the threats the internet might present, the measures you can take to avoid them, and the tools available to protect you and your computer	
WHAT YOU'LL NEED	An internet-connected laptop or desktop computer; either your own or supplied by the workshop organisers. You may need to share a computer with others in the workshop.	
WHAT YOU'LL LEARN	This workshop covers the basics of internet security: the things that can potentially go wrong and the simple steps you can take to avoid them.	
TIMETABLE The workshop will be broken into five topics, with a break in the middle. Feel free to ask questions at any time. 	SUBJECT	DURATION
	What can go wrong on the internet?	10 minutes
	The threats you might face	30 minutes
	What does security software do?	20 minutes
	Choosing security software	15 minutes
	Break	15 minutes
	Keeping yourself safe (security software is not enough)	40 minutes
	Summary	10 minutes
	TOTAL	140 minutes

SUBJECT	WHAT CAN GO WRONG ON THE INTERNET?
TIME 	10 minutes
OVERVIEW 	<ul style="list-style-type: none"> ▶ Has something bad happened to you or someone you know online? ▶ Are your computers and your wireless networks password-protected? ▶ Have you given private, compromising details to strangers online? ▶ Do you have security software installed? <p>This workshop is about making you aware of some of the risks that exist on the internet, and the precautions you can take to defend yourself against them. It's not really that hard to keep yourself safe, you just need to follow some simple rules.</p> <p>The first part of the workshop explains some of the dangers you may encounter online. There are really just a handful of key threats, and knowing what they are can help you to understand safe and unsafe actions when you're accessing the internet.</p> <p>A key element of keeping yourself safe online is the idea of trust, and we'll look at this quite a bit more as the workshop continues. On the internet, anybody can falsify their identity, so you need to know who you should accept emails from, where you shop, and who you give your personal details to.</p> <p>Just as important as your online behaviour are the tools that help protect your computer and personal information. The second part of the workshop covers the role that internet security software plays in keeping you safe from cyber crime.</p>

SUBJECT	THE THREATS YOU MIGHT FACE
TIME 	30 minutes
MALWARE 	<p>Let's look first at some of the bad things that can happen. For most people, there are three key dangers to be aware of: malware, hackers and identity theft.</p> <p>Malware (malicious software) is created with the intention of accessing your computer and gathering information, usually for the purpose of selling to other interested parties. The most commonly known type of malware is a virus (and the two terms are often used interchangeably) but others include spyware, adware, worms and Trojan horses. Malware can do a variety of things, including:</p> <ul style="list-style-type: none"> ▶ Spying on your activity (spyware) ▶ Letting someone remotely control your computer ▶ Actively damage your files and computer ▶ Spread infection to other files and computers (virus, worm) ▶ Force you to watch ads (adware). <div data-bbox="445 1146 1120 1500" data-label="Image"> <p>The image shows a grey dialog box titled 'Anti-Virus Automatic Alert'. On the left is a white triangle with a black exclamation mark. To the right of the triangle, the words 'VIRUS DETECTED' are written in large, bold, grey capital letters. At the bottom of the dialog box are three buttons: 'Repair', 'Delete', and 'Cancel', each in a grey rectangular box.</p> </div> <p>You'll nearly always get malware by running an infected program. The program itself will probably work exactly as normal; it just secretly installs a virus, spyware or adware when it's run.</p> <p>That's how the malware writers grab you: they take a program that's appealing to you and slip a virus, spyware or adware into it. That's why they are often called Trojan horses.</p> <p>This is why you need to be careful about which programs you download and run on your computer. If you download a program from a disreputable source, it may be infected.</p>

HACKERS



The term **hacker** is really something of a misnomer, since there will almost never be a person trying break into your computer system. But there are automated programs called **bots** that might try and test your computer's defences.

Even these are vanishingly rare now, since most computers have excellent defences against virtual intruders. It's highly unlikely that your computer is vulnerable out of the box unless it is very, very old.

What a hacker (or bot) does is try to exploit a vulnerability in your computer's security configuration.

As an example, do you know about Windows file sharing? This allows one computer to send documents to another computer over a network. But if it's not password protected, a hacker might detect that and use it to access your files – or implant a virus or other type of malware on your PC.

IDENTITY THEFT, PHISHING AND SCAMMERS



These are things that are not trying to exploit a technical vulnerability in your computer system – they're trying to take advantage of *you*.

There are no rules about who you can say you are on the internet, so people can try to pretend they're something or someone they're not in order to get you to give them money or reveal personal information like credit card numbers and online banking logins.

Essentially, con artists have taken their business online.

A common scam is the **phishing** attempt, where the scammer pretends to be a person or organisation that you have a relationship with, and gets you to give up private information, like your bank account details.

The next pages shows examples of phishing emails.

PHISHING, A CLASSIC EXAMPLE

An example of **phishing** is the online banking scam. In this case, the victim receives an email that looks like and purports to be from their bank. It often has some dire warning about their finances, and says they need to log on to their online banking service in order to fix it. A web link is embedded in the email.

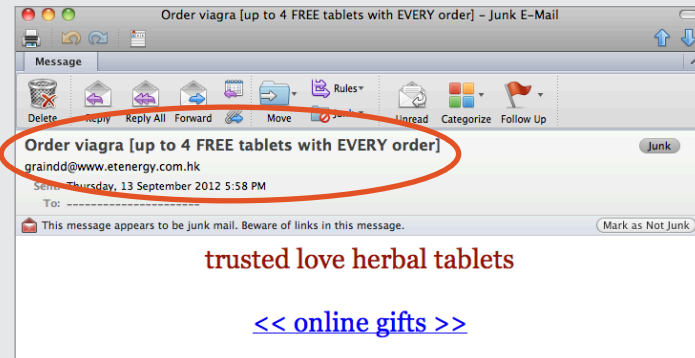
The link does not lead to the real bank's site, however, but to another site that's made to look exactly like that of the real bank. The person would only know if they looked at the web address in the browser Address bar. Then, when the victim logs in, their net banking password is harvested by the scammer.

HOW TO SPOT PHISHING EMAILS

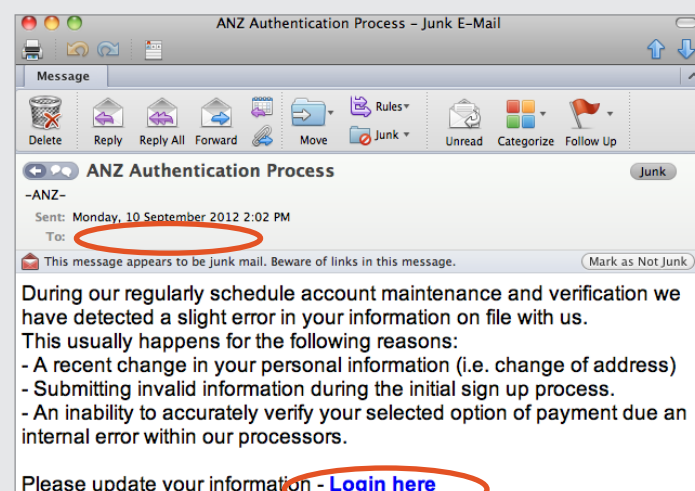
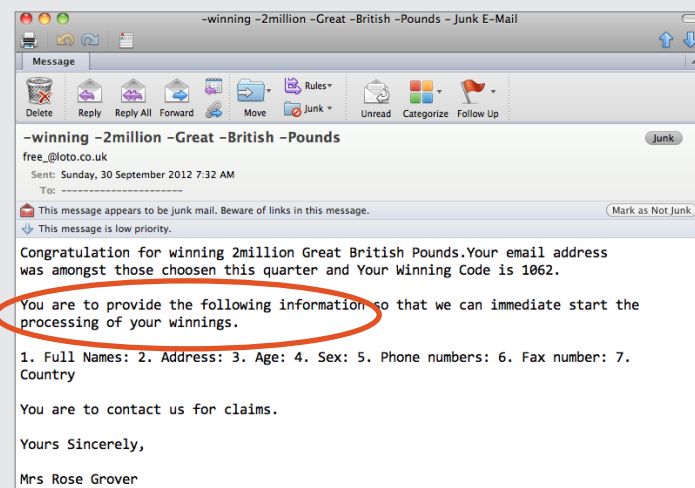


There are some simple ways to help identify spam and phishing scams, and avoid getting into trouble on the internet. Here are a few things to look out for.

Check the subject of the email and the sender. Is it from someone you know, and does it describe something you remember signing up for? If not, it's probably spam.



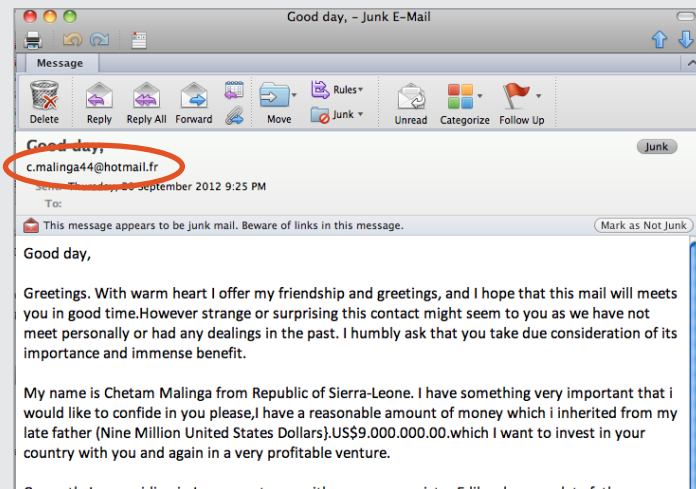
Is there an offer a free money in exchange for your personal information? Does it promise negative consequences if you don't respond with personal information, or by clicking on link? Does it have your name in the To field? This are all signs of a phishing scam.



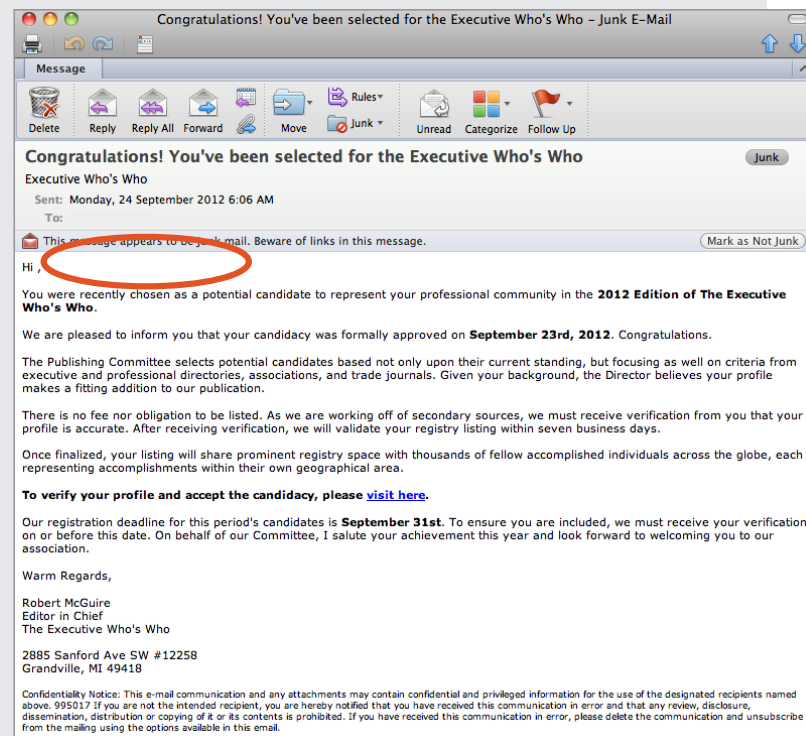
HOW TO SPOT PHISHING EMAILS



Does the email contain spelling and grammatical errors, and is it poorly presented? Is the email from a 'free' email account (hotmail.com, yahoo.com, Google.com)? If it is and the sender is not known to you, treat it with suspicion.



'Vanity scam' emails like the one below can be very appealing, and many look authentic. If you are tempted, be sure to question why you'd be receiving such an email, and then run a fact check on information in the email, such as names, addresses and websites.



SUBJECT	WHAT DOES SECURITY SOFTWARE DO?
TIME 	20 minutes
TYPES OF SECURITY SOFTWARE 	<p>The good news is that you can protect yourself from most attacks using security software. Your computer comes with some security software built-in, but you should add additional software on top of that. There are different types of security software you can get:</p> <ul style="list-style-type: none"> ▶ Anti-virus: Software that protects your computer from most types of malware (and relies on your computer's built-in defences for the rest). You can get antivirus software for free or a small charge. ▶ Internet security suites: A package of software that protects your computer from a whole range of threats, including malware, scammers, junk email, trick websites, hackers, and much more. Internet security suites have an annual fee (usually between \$60 and \$130).
PROTECTING YOUR COMPUTER 	<p>To break it down a little more, defending your computer from internet threats involves a number of elements:</p> <ul style="list-style-type: none"> ▶ A firewall acts like a security checkpoint for internet traffic – it only allows authorised traffic through. If somebody outside tries to talk to your computer without authorisation, they can't. If a program on your computer tries to talk to the internet, it will either be stopped, allowed, or a popup will appear asking you if you'd like to let the program communicate with the internet. On a Windows PC, the popup will look like this: <div data-bbox="443 1451 1165 1966">  </div> <p>Your computer comes with a firewall built in.</p>

A firewall blocks access to your computer

PROTECTING YOUR COMPUTER



- ▶ **Antivirus** software tracks down and removes any malware – including viruses, spyware, and adware – that comes onto your computer. Your computer likely *does not* come with anti-virus software, and you should install one.

Those are the key elements of security, but an internet security suite can offer an even broader range of protections, including:

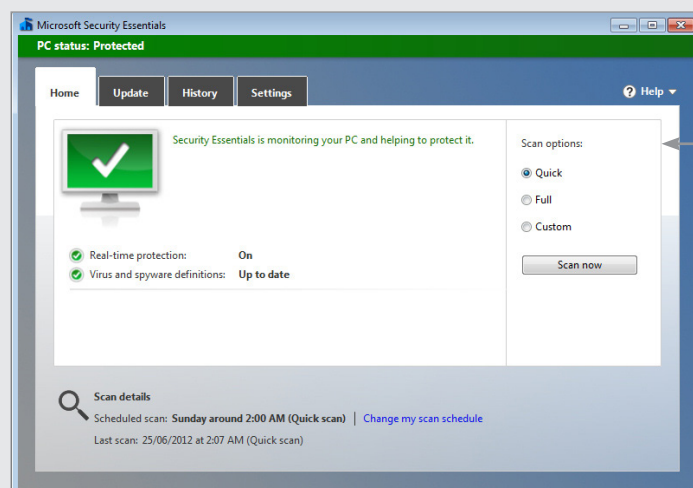
- ▶ **Parental controls**, which prevent websites with objectionable content (like offensive language and nudity) from loading on your computer
- ▶ **Backup**, which automates the backup of your important data to external storage devices
- ▶ **Spam filters**, which prevent scam and junk email from reaching your inbox
- ▶ **Web filters**, which prevent you from visiting the websites of known scammers
- ▶ **Identity theft protection**, which prevents personal data from being sent over the internet.

HOW TO USE PROTECTION



Mostly you don't have to do much to use either internet suites or standalone antivirus programs. They usually run in the background of your computer, and the only reason you'll know they're running at all is that there will be a small icon at the bottom of your screen.

If you double-click on that icon, you can see the full interface for the security software.



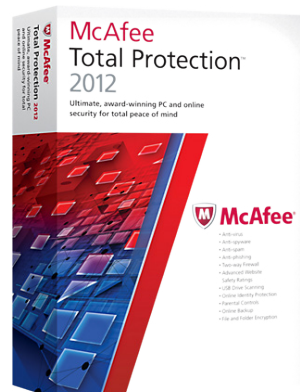
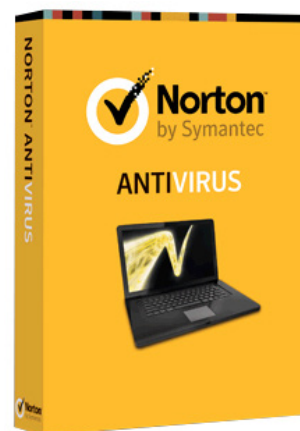
Home screen of a security software program



You probably won't have to do that very often (if ever) – security software is mostly automatic.

It's likely you'll only know that security software is running when something bad happens (for example, when it detects a virus), and a popup will appear asking you what you'd like to do about it.

If you have time, your presenter can show you a simple antivirus application (such as Microsoft Security Essentials) being installed.

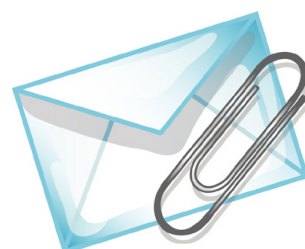
SUBJECT	CHOOSING SECURITY SOFTWARE
TIME 	15 minutes
OVERVIEW 	<p>It's recommended that any device you connect to the internet – your PC, tablet or smartphone – be protected with anti-virus software or, ideally, an internet security suite.</p> <p>If you are unable to afford the annual charge, you can get a free anti-virus application instead. It won't protect your system as well as a security suite, but it will offer you a baseline of protection.</p> <p>Some makers of internet security suites include:</p> <ul style="list-style-type: none"> ▶ Symantec/Norton: au.norton.com ▶ McAfee: www.mcafee.com.au ▶ BitDefender: www.bitdefender.com.au ▶ Trend Micro: www.trendmicro.com.au ▶ AVG: www.avg.com.au ▶ Kaspersky: www.kaspersky.com.au <p>Those software companies also sell cheaper, standalone anti-virus solutions.</p> <p>If you can't afford a security suite, then you can get a free anti-virus program from:</p> <ul style="list-style-type: none"> ▶ Microsoft: www.microsoft.com/securityessentials ▶ AVG: www.avgfree.com.au ▶ Avast!: www.avast.com ▶ Comodo: antivirus.comodo.com <p>If you check the websites of the suites and free anti-virus tools, you can see what features each has and how much they cost.</p> <p>If you're comparing suites, look at the features list and see if it has the things you need:</p> <ul style="list-style-type: none"> ▶ Does it have automated backup? ▶ Does it have online backup? (Which is storing your files on an online server) ▶ Does it have parental controls? ▶ Does it have a spam filter? ▶ Does it have a firewall? ▶ Does it tune up your PC and test for vulnerabilities?



SUBJECT	KEEPING YOURSELF SAFE
TIME 	40 minutes
SECURITY SOFTWARE IS NOT ENOUGH 	<p>Installing security software on your computer is a big and important step in protecting yourself online. Even a free anti-virus program improves the security of your computer dramatically.</p> <p>But that's not the whole solution: security software can't protect you from con artists and tricksters. There are, however, five simple things you can do to keep yourself safe:</p> <p>1. Don't post personal information on public sites</p> <p>Lots of sites would like you to give them your personal information: name, date of birth, address, email address and so on. In some cases, such as shopping sites, it's necessary and legitimate. On others, like Facebook, you don't need to (and should not) provide private information. It can be used to track and scam you.</p> <p>2. Don't open email attachments unless you're really sure</p> <p>One of the most common sources of malware infections is email attachments.</p> <p>Email attachments are files that come with emails on your computer.</p> <p>If you remember what we said earlier about you needing to run a program to get infected with malware, this is how you often get trapped: an email will come in with a program attached and some kind of exhortation to run it, like <i>Run this program, it's awesome!</i></p> <p>These can even come from people you know and trust. They might send you the malware not knowing it's adware or spyware, and there is virus malware which can actually hijack the email of infected computers and send out copies of themselves to everybody in the infected person's address book.</p> <p>The short of it is, if you're not sure, don't open the attachment.</p> <p>That's not to say don't use email attachments at all. If you receive a specific document or picture that you're expecting, it's fine to open it.</p>



Don't publish private information to social media sites



Be careful about opening email attachments

SECURITY SOFTWARE IS NOT ENOUGH



3. Be careful about what emails you respond to

Emails can be made to appear as if they come from anybody, kind of like letters with a fake sender address.

If an email asks you to give up private information, follow a web link to an external website or anything that seems shady, don't respond to it. Don't engage at all; delete it and move on.

If you're really worried – for example, if you get an email from your bank – you can always call them or manually go their website (don't follow the link from the email).

4. Be careful who you give credit card details to

One of the great things about the internet is that it's the world's largest shopping mall. Hundreds of thousands of stores around the world are a click away. But not all of them can be trusted.

If you're not sure about a given store, it's a good idea to do a Google search on the name of that store, which can give you background information on it. If it has a bad reputation, a Google search will likely reveal it.

Services like PayPal allow you to buy things without giving up credit card details to a store. We cover that more in our *Online Shopping and Banking* workshops.

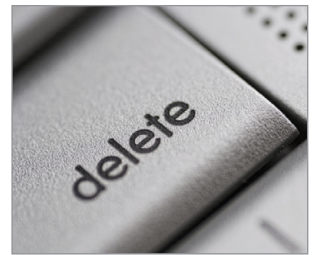
5. Don't install programs from untrustworthy sources

Malware generally comes attached to other (legitimate-looking) programs.

When you download a program from a shady source, which can include popular peer-to-peer download sites such as BitTorrent, you run the risk of downloading malware.

How do you know if a site or program is shady? One good way to find out is to run a Google search on the site name or file name to see if anybody else has had problems.

If the download site has user comments, you can also check those – if the program is infected, somebody might have noted it.



Do not click on links in suspect emails

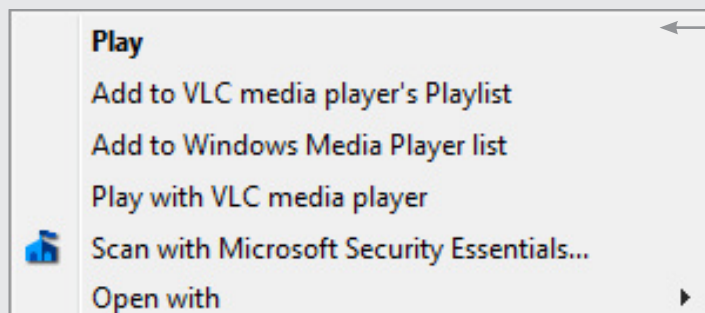
Use services that don't involve sharing credit card details

Research suspect programs or sites

SECURITY SOFTWARE IS NOT ENOUGH



- After downloading a program, you can run a virus scan on it immediately. Malware is not active until you actually run a program. If you use a Windows computer, go to the folder that you downloaded the program to. Right-click on it, and select **Scan with...**[name of antivirus program] from the drop-down list.

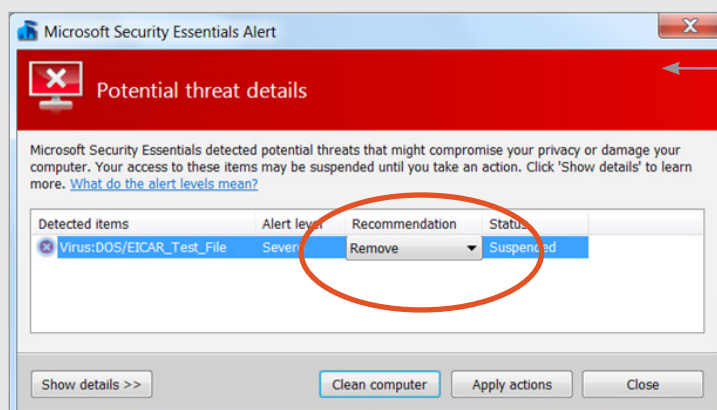


Run a virus scan when you download a program

WHAT HAPPENS IF I GET INFECTED?



If your security software does find malware, it will likely ask you what to do with it. A popup will appear on your computer looking something like this:



Delete or isolate potential threats

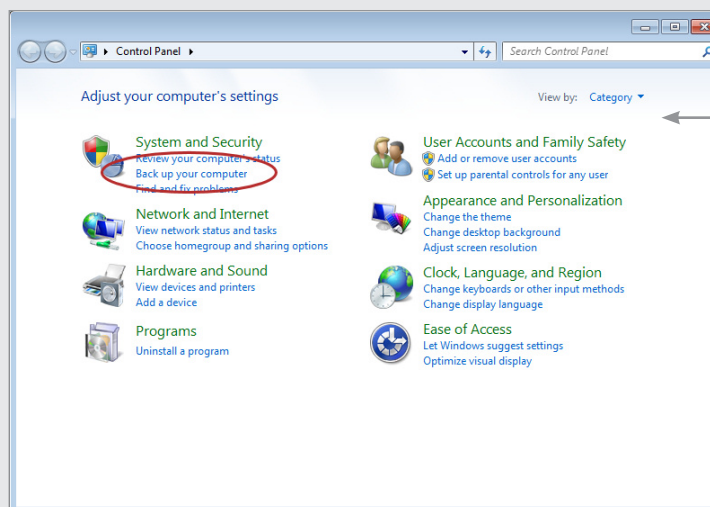
Don't panic – this is the security software working. Generally you want to remove or quarantine the malware. Choose the option to do so. That should remove the virus and the threat. Problem solved.

Even so, it's always a good idea to make copies (backups) of the files and photos you think are important! If you have a flash drive or an external hard drive, you can make a copy onto that. If you bought an internet security suite, it might have a backup tool built-in.

WHAT HAPPENS IF I GET INFECTED?



Alternatively, you can use your computer's built-in backup system. If you have a Windows computer, click on the Start button on the bottom left, then on **Control Panel**. Then select **Back up your Computer**. Windows will walk you through the backup process.



Many computers have built-in backup features

WHY ANNUAL FEES?

Internet security suites nearly always charge an annual fee, rather than a straight-up, buy-once price. That's because the software has to be continuously updated to protect your computer from new threats. You can think of it like a flu shot: just as we should be vaccinated each year against new strains of a virus that can make us sick, so should our computers.

SUMMARY

This was a tough workshop, and if you have any questions, feel free to ask!
Here's a summary of what you've learned in today's session:

TIME

10 minutes

RECAP



- ▶ What malware is
- ▶ What a hacker does
- ▶ What a phishing scam is
- ▶ What security software does
- ▶ The different elements of a security software suite
- ▶ The five commonsense things you should do to protect yourself online.

USEFUL WEBSITES



If you want more information on cyber security, be sure to check out:

Stay Smart Online: www.staysmartonline.gov.au.

A federal government initiative to help people keep protected.

Google Stay Safe Online guide: www.google.com.au/goodtoknow/online-safety/. An accessible guide to cyber security, with an especially good guide to phishing.

The US Cyber Security Alliance: staysafeonline.org.
A comprehensive guide to online safety.

GLOSSARY



TERM	EXPLANATION
ADWARE	A particular type of viral infection that forces you to watch ads.
ANTIVIRUS	A program that hunts down and removes viruses from your computer.
BACKUP	Making a copy of important files, in case the originals are lost.
BACKUP PROGRAM	A program that automates backup, performing a backup at fixed intervals.
BOT	An automated program. Most 'hackers' are actually bots – programs that automatically poll internet-connected computers for vulnerabilities.
EMAIL ATTACHMENT	An image, program, document or file that's embedded in an email message.
FIREWALL	A defensive program that blocks unauthorised internet traffic.
HACKER (OR CRACKER)	A person who tries to break into computer systems.
IDENTITY THEFT	Pretending to be someone else online in order to access personal details and financial services.
MALWARE	A catchall term for malicious programs that harm your computer. Often used interchangeably with virus.
PARENTAL CONTROLS	Filters that prevent users of a computer from accessing objectionable websites.
PHISHING	A particular type of scam, where an email or web message is used to try and trick people into giving up passwords and financial information.

GLOSSARY



TERM	EXPLANATION
POPUP	A small notification box that appears onscreen. Security software uses popups to let you know something has happened and ask what you'd like to do about it.
SECURITY SUITE	A comprehensive set of tools for protecting you online. They include anti-virus, malware, firewall, spam filters and more.
SPAM	Unwanted email.
SPAM FILTER	A program that stops spam from reaching your email inbox.
SPOOF	Pretending to be someone else or a different site. For example, an email spoof pretends to be from someone you know, but is really from a stranger.
SPYWARE	A type of malware that monitors your activity on your computer. It can be used to find out what your passwords are, for example.
VIRUS	A program that takes control of your computer without you knowing about it.

VICTORIAN TECH SAVVY SENIORS

Everyone can benefit from being connected and online irrespective of their age, income, ability or geographical location. The Victorian Tech Savvy Seniors Program is a Seniors Card Age Friendly Partners Program in partnership with Telstra.

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