

CYBER SECURITY WITH PROF SHUJUN LI AND DR JASON NURSE

TALKING POINTS

1. How would you describe the following words: cyber security, cyber ecosystem, internet scam, phishing, cyber harassment?
2. Now look at (or listen to) your peers' definitions of the same words. Do your definitions differ from theirs?
3. How does the UK's National Cyber Security Centre (NCSC) define these same words: <https://www.ncsc.gov.uk/>? Do you think NCSC's definition is broad enough to cover everything, including activities that may/will happen in future?
4. In 2019, Facebook had 2.45 billion monthly active users, according to Statista. (See Introduction to the article). What types of information could people be sharing online (e.g., on Facebook, Snapchat, Instagram, Tiktok) that might be useful to cyber criminals? What about the information you share – could this be useful to cyber criminals?
5. Can you think of situations where it is appropriate to share sensitive information?
6. According to a report by IBM, 95% of security incidents involved "human errors". (See About Cyber Security). What do you think these human errors (or human mistakes) are?
7. Take a look at the section entitled: There are a range of things young people can – and should – do to keep themselves safe online. How many of these things do you do? What is stopping you from carrying out some of these actions? How do your answers differ to those of your friends?

ACTIVITIES YOU CAN DO AT HOME OR IN THE CLASSROOM

WHAT'S MORE IMPORTANT?

Here is a list of ten different things you can do to keep yourself safe:

- Keep all software up to date
- Use strong passwords
- Don't write down your passwords
- Don't reuse the same password across different websites
- Use a password manager and machine generated random passwords if possible
- Never click on a link in a suspicious (often unsolicited) email. Always go direct to a website
- Use encryption wherever possible
- Don't enter passwords or personal details on an unsecure website
- Don't open attachments unless you know it is from a reliable source
- Turn off email preview and delete spam email without opening it

Take the ten statements and rank them from most to least important. Explain the reasoning behind your choices. More activities like this can be found on the STEM Learning website: <https://www.stem.org.uk/resources/elibrary/resource/401803/cyber-security-starter-activities>.

WATCH OUT FOR MIND READERS!

Watch this YouTube video of Dave, a so-called clairvoyant who manages to reveal sensitive information about his clients: <https://www.youtube.com/watch?v=F7pYHN9iC9I>. What do you think these people were doing to enable Dave to find this information?

HOW STRONG ARE YOUR PASSWORDS?

Many people think their passwords are strong, when in fact they really aren't. What typical mistakes were people in this YouTube clip making with their passwords? <https://www.youtube.com/watch?v=opRMrEFAIil>

Now think about the passwords you use. Could they be stronger? (Remember, don't reveal your passwords to anyone or write them down. Don't type your password into a website claiming to check the strength of your password, either. Instead, use some leaked passwords used by other people that have been already widely reported out some. <https://www.ncsc.gov.uk/news/most-hacked-passwords-revealed-as-uk-cyber-survey-exposes-gaps-in-online-security>)

Did you know that the most popular 4-digit PIN is 1234? Data Genetics has some great activities that will make you think twice about using birthdays and other dates for your PIN: <http://datagenetics.com/blog/september32012/index.html>

ARE YOU OR HAVE YOU BEEN A VICTIM OF DATA BREACHES? YOU CAN FIND OUT NOW!

According to NCSC, a data breach is "an incident in which data, computer systems or networks are accessed or affected in a non-authorized way". Did you know that there are online services that can help you check whether you have been a victim of past data breaches? They can even tell you if you are a victim of new data breaches? Shujun and Jason recommend the following website: <https://www.havebeenpwned.com/>