

# DATA SMART



Building data literacies

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This resource was produced as part of a research project funded by the Australian Research Council (grant number DP190102286)

This version published: June 2021



# DATA SMART

**Building data literacies**



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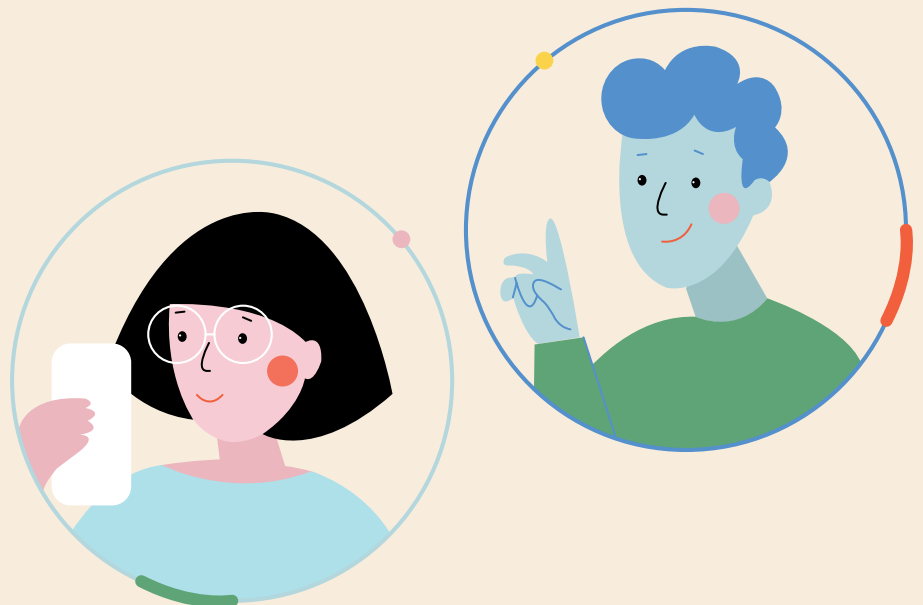
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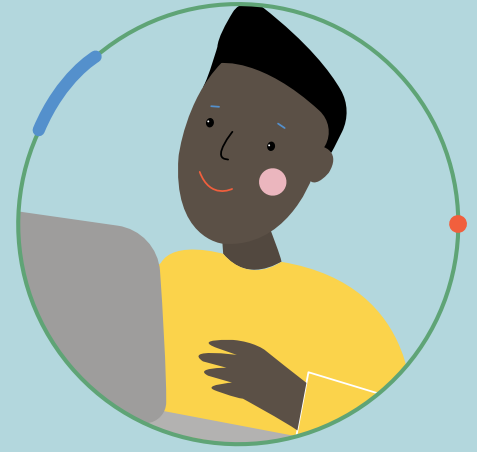
# WELCOME

Welcome to the Data Smart program! We are really pleased that you are joining us to explore how we can build understandings of digital data.

This program is broken up into five different sections that run for between 75-100 minutes. There is a lot to get through and some activities are optional, so there might be things to follow up on at home. The final lesson involves a data inquiry activity where you will choose a topic to 'dig deep' on. The program has been audited against the Victorian Curriculum and the Learning Outcomes it addresses are listed at the end of this online guide.

This program is part of an Australian Research Council Discovery Project called Data Smart Schools. We hope you enjoy participating in the activities and look forward to hearing your feedback.





# OUR APPROACH

Our social and educational lives are increasingly shaped by digital data. From social media platforms to school-based student profiles, data is used to make decisions that will shape your future opportunities and experiences. The Data Smart program is focused on fostering agency so you have the knowledge and skills to question, critique and reimagine the role of digital data in your life.

While we readily acknowledge that individuals alone cannot solve the complex issues associated with data, a basic understanding of the challenges and opportunities data offers is the foundation for action and change. After all, we need to identify how our privacy is being violated or the ways we are being manipulated if we are to lobby governments and organisations to change their processes.

This unit is designed to provide students with a basic understanding of what personal data is, how it is collected and what it is used for. It will also introduce you to ways they can better manage and protect their personal data. As this unit is critical in orientation, there are many activities and questions in which there is more than one correct answer. The important thing is for you to reflect on how data is experienced across the different domains of your life - from home to school and everywhere in between.

The final section of the program will encourage you to explore a particular facet of data and the data economy. You will choose an area of inquiry that will do one of three things: enhance their knowledge; better protect their data; or re-imagine data processes so that these are more just and ethical. The data inquiry is introduced at the beginning of the program so you can start thinking about an area you would like to investigate. Throughout the booklet the activities and information that will be relevant to the inquiry are in a yellow box. In some instances, these yellow boxes could be used as extension work if you finish quickly or want the extra challenge.

## Introducing the Unit

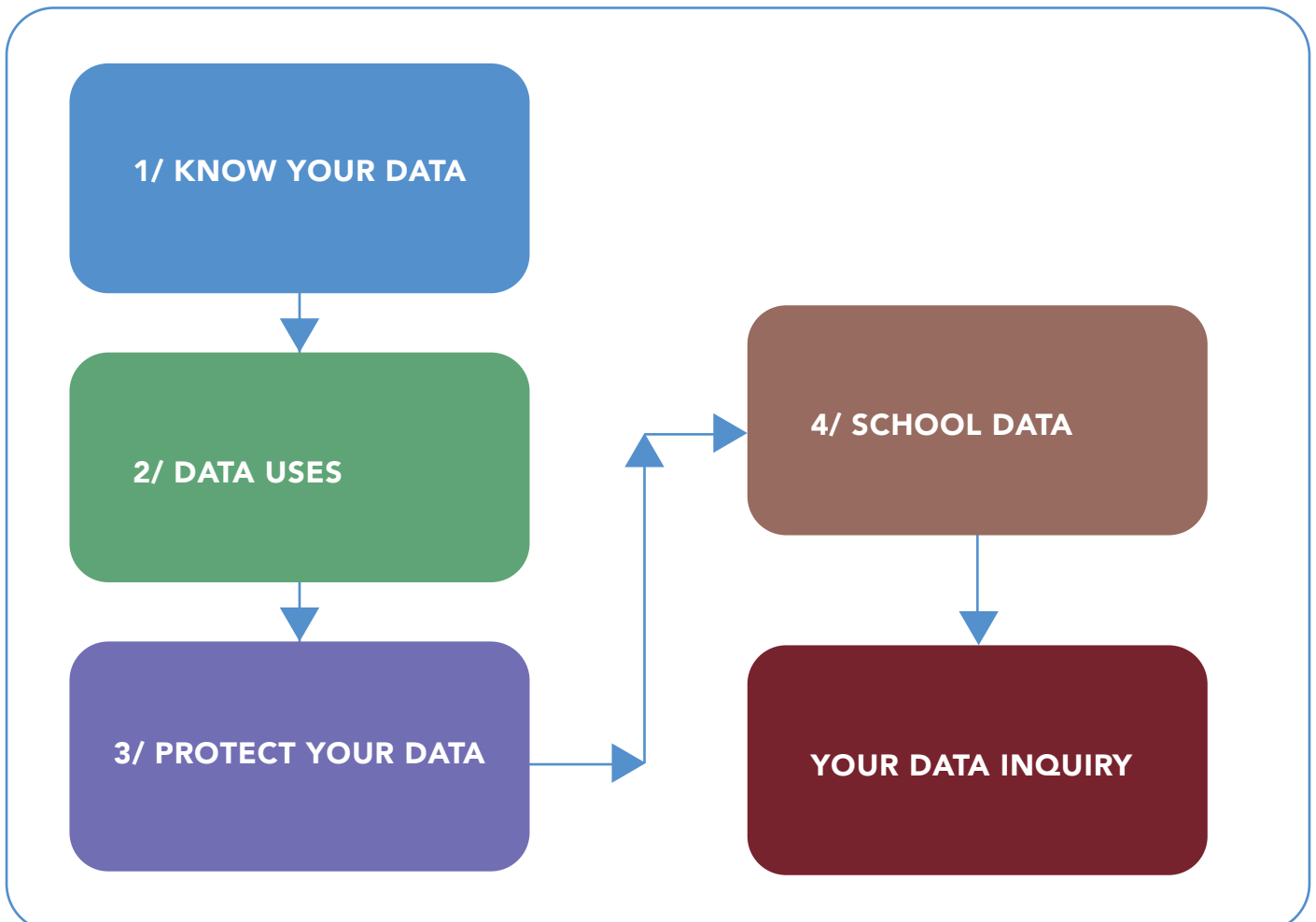
# BUILDING YOUR DATA LITERACIES

Data Smart is a five week course that is designed for Year 9 secondary school students. It uses real-world examples and controversies to engage you to critically reflect upon what it is like to live in a datafied world.

The aims of the course are to build student knowledge about the following areas:

- 1/ What is personal data + how is it collected?
- 2/ How is personal data used? For what purpose? Why does this matter?
- 3/ What can we do to improve our personal data practices?
- 4/ To apply this knowledge in school contexts.

### DATA SMART UNIT



# Preparing your own data inquiry

For the last part of this program you will be investigating an area that you are interested in. We have come up with four questions that relate to different aspects of the program, but you will need to choose just one of them to focus upon.

They are as follow:

- 1/ Why is personal data so valuable?
- 2/ What do we need to know about mainstream digital apps and platforms?
- 3/ How can we better manage and protect our personal data?
- 4/ How do digital profiles shape what we experience online?

Throughout the program activities and resources that will be helpful in addressing these questions are highlighted in a yellow 'Inquiry' box. This will give you a good start, but you may need to do a bit more research yourself. You will also need to work out a way to document your learning. Some options might be: a **powerpoint presentation**, a **voice memo**, a **video**, a **pamphlet**, a **role play**, a **creative written response**. There are lots of options, but just make sure the method of documentation suits what you are investigating.

You will need to answer some questions in the inquiry section of the booklet, to show that you have thought about and planned your response. These questions are based around the four stages of the inquiry process, which are as follows:

- 1/ What is the question you are interested in exploring?
- 2/ What information do you need to answer this question?
- 3/ How can you go about gathering this information?
- 4/ Do you have a 'hunch' about what you might find?
- 5/ How will you present what you have learnt?



During Parts 1-4 you can start thinking about what you're interested in and perhaps even collect some resources. You won't have too much time in the last lesson so the more you can do along the way the better!

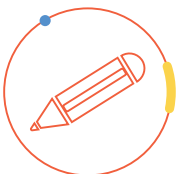


# KEY



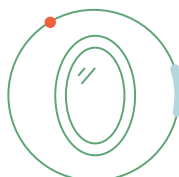
## LEARN

New information for you to read



## DO

Explore new ideas through activities



## REFLECT

Reflect on what we have learnt individually or in groups



## DISCUSS

Discuss new ideas within groups or as a class

## WATCH

Look out for these links to videos helping explain new concepts.

## NEW TERM

These breakout boxes help explain new terms in detail.

## DID YOU KNOW?

Keep an eye out for these activities for some helpful hints.





## Part One

# KNOW YOUR DATA

## PART ONE OVERVIEW

### FOCUS

In a very short space of time, data has become an important part of everyday life. Whether we are on social media or a school's learning management system, our online interactions create data that is used by companies and organisations to bring insights into who we are and what we do. But what exactly is personal data? And why is it important? In this introductory lesson we will explore what personal data is, how we generate it in our daily life and what different types of data can tell us about an individual. We will also ask you to reflect on your social media practices, given these are a key source of personal data generation.



### LEARNING OUTCOMES

- a/ Understand what personal data is
- b/ Identify different types of personal data and how it is generated
- c/ Reflect on how you use social media
- d/ Understand the importance of 'Terms and Conditions' when it comes to data collection
- e/ Identify the problematic aspects of the 'Terms and Conditions' of popular digital platforms
  - Facebook, Snapchat, Instagram and Google

### KEYWORDS

- Personal data
- Data types
- Social media
- Social media practices
- Terms and conditions
- Data collection

## Learning Outcome 1.1

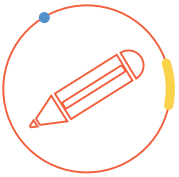
# WHAT IS PERSONAL DATA?



**PERSONAL DATA** is any information that relates to an identified or identifiable person.

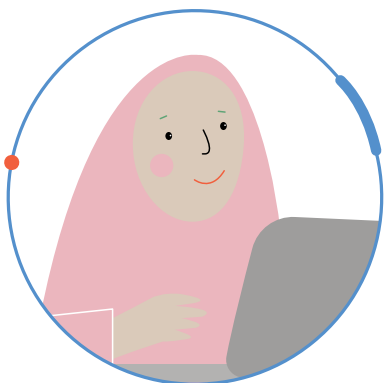
### DID YOU KNOW?

The collection of personal data has been carried out throughout the history of human civilisation. For example, in the 19th century personal data was collected by authorities in order to tax people and also to form countries and states. While collecting personal data is not new, how it is collected and what can be done with it has changed dramatically with digital technologies.

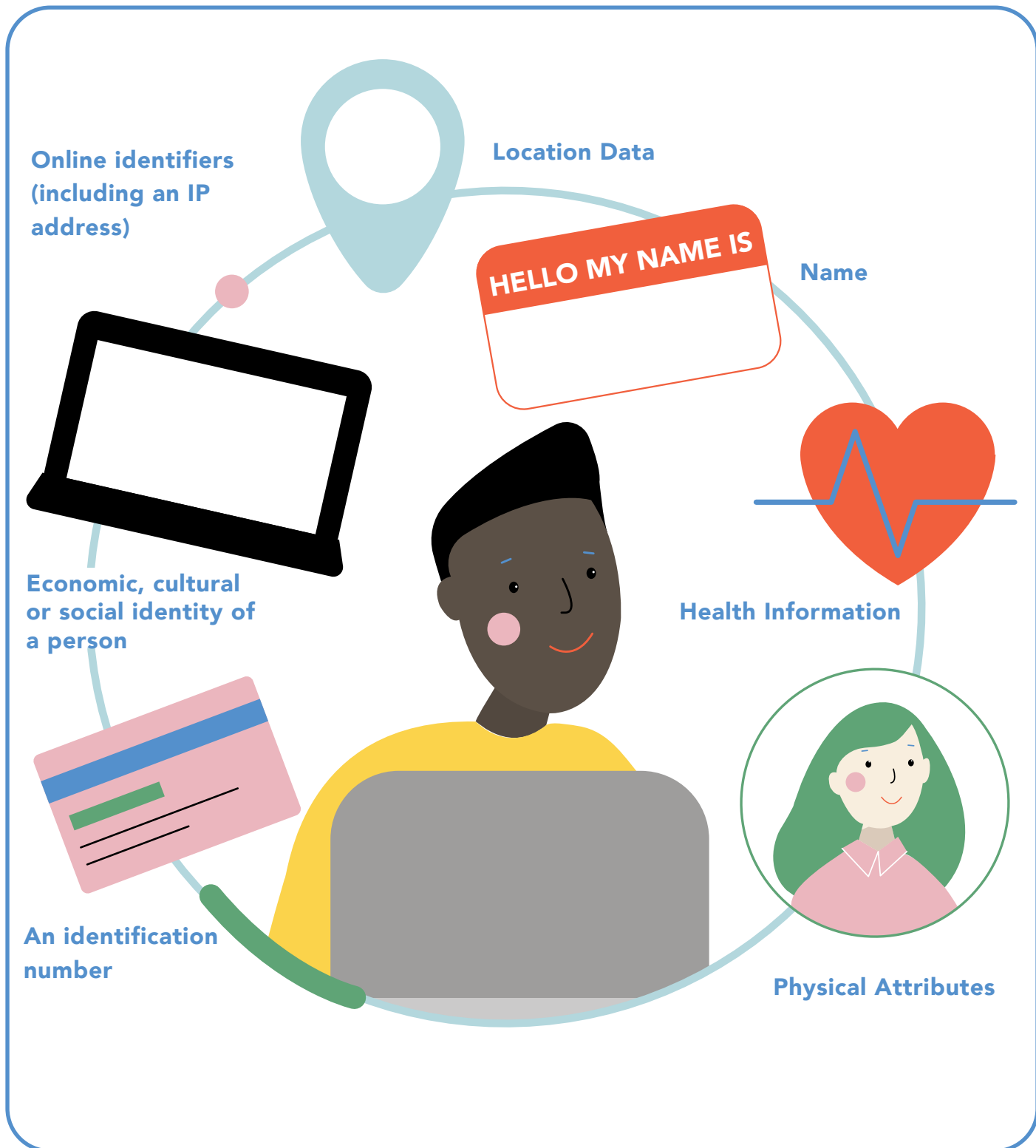


### DO - CLASS BRAINSTORM

1/ What is personal data?



## DIFFERENT TYPES OF PERSONAL DATA



2/ What types of personal data do you generate throughout a day? e.g. photos as visual data, location data.

## Learning Outcome 1.2

# PERSONAL DATA TYPES AND GENERATION



### DO - CARD ACTIVITY

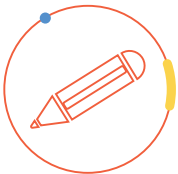
Take a look at the personal data card the teacher has provided you with. Explore the five data categories that have been placed around the room - Identity, Location, Health, Socio-Cultural, Consumption Habits and Habits. Match your card with one of the six data categories. Move to that category and stay in your group.

*Note: Your data card may fit into more than one category. Choose one category and justify why you made this choice.*

Your personal data card:

Selected data category:

Stay in your group for the next activity.



### DO - GROUPWORK

Show your personal data card to your group and explain why it belongs to this category.

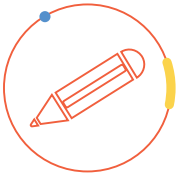
**1/** With your group, identify two additional examples of personal data that belong to this data category. After you have come up with some fill in the table on the following page.

**2/** Discuss these two questions:

- Who would want this information?
- And, why would they want this information?

Write your answers to these questions for your data category in the table below.





## PERSONAL DATA TYPES, WHO COLLECTS IS AND WHY?

	WHO OR WHAT WOULD BE INTERESTED IN THIS INFORMATION?	WHY WOULD THEY BE INTERESTED IN IT?
<b>IDENTITY</b>		Putting a face to a name so they know who you are. (They rely on you having one individual identity.) Reasons include compliance, capabilities, performance, criminal record.
<b>PHYSICAL ATTRIBUTES</b>	Companies - clothing, health and beauty, medical Security and compliance organisations (i.e. police, customs officers.	
<b>LOCATION</b>		
<b>SOCIO-CULTURAL</b>		
<b>CONSUMPTION HABITS</b>		
<b>HEALTH</b>		



## DISCUSS - WHOLE CLASS

Share your group discussion with the class and note down the responses of other groups in the following table.

1/ What do you notice about the different data types?

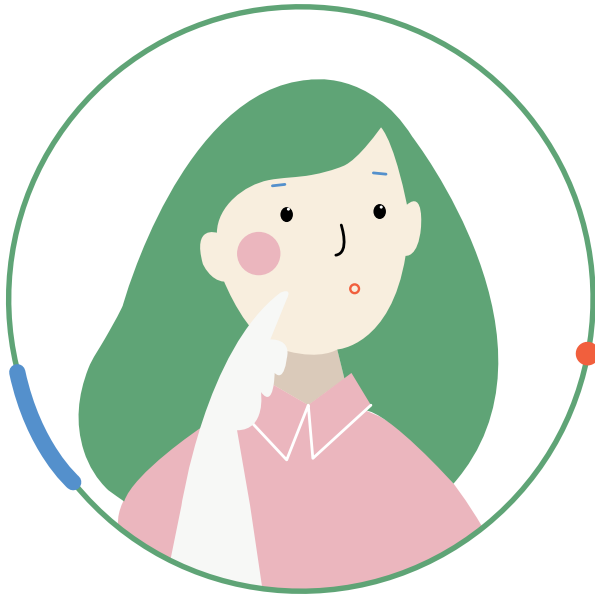
## Learning Outcome 1.3

# SOCIAL MEDIA USE



### DO - LIVE POLL

Your teacher will provide you with a link to a live poll about your social media use. You will not be identified through the poll. Please complete the poll as accurately as possible. We will be investigating the results of the poll next lesson.





## Learning Outcome 1.4

# TERMS AND CONDITIONS



### DO - THINK-PAIR-SHARE

Find a partner (preferably someone you haven't worked with today). In pairs, reflect on these questions:

- 1/ Do you think data privacy is a serious issue?
- 2/ Do you know what you agree to when you sign the terms and conditions?
- 3/ Do you think the terms and conditions of popular social media platforms (e.g. Instagram, YouTube) are problematic? Why / why not?

Watch this 2-min video on Terms and Conditions:  
<https://www.youtube.com/watch?v=ZcjtEKNP05c>



### DISCUSS - WHOLE CLASS

- 1/ Discuss in pairs. How have your responses to the earlier questions changed since watching the video? Why?

# Extension/ Inquiry

## A critical look at the terms and conditions of popular digital platforms



### DO - INVESTIGATE

Access the Terms of Service site <https://tosdr.org> on your device.

Search for a social media platform you use regularly (e.g. Snapchat, TikTok), and read the core terms and conditions associated with this site.

- 1/ What platform did you choose?
- 2/ What grade was it given?
- 3/ Were there any issues flagged as 'red'? What were they?
- 4/ Are these issues problematic to you? Why / Why not?
- 5/ Will you continue using this platform in the future after reading the terms and conditions? Why / Why not?



### DISCUSS - WHOLE CLASS

Share your responses to the class.

- 1/ Do you notice any similarities or differences across platforms?

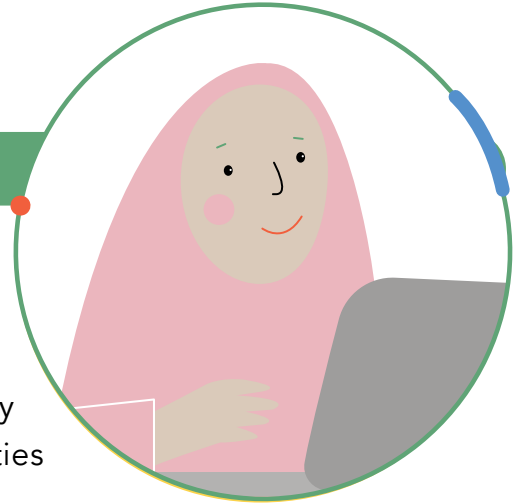
## Part Two

# DATA USES

### PART TWO OVERVIEW

#### FOCUS

Have you ever wondered why anyone would be interested in your personal data? Do you think you have nothing to hide, so why not share your personal data with companies and organisations? Think again! Personal data is used in many more ways than you realise and can change the opportunities you experience. Personal data profiles or 'data doubles' are different from the profiles you create on social media platforms in that they are created about you by someone or something else. You may never see this profile, but you will experience the consequences of it. In this lesson, we will investigate the difference between social media profiles and personal data profiles. We will look at the implications of profiling including predictive analytics and behavioural modification.



#### LEARNING OUTCOMES

- a/ Reflect on social media practices
- b/ Understand the differences between a social media profile and a personal data profile
- c/ Understand what personal data profiling is and how it can be used
- d/ Identify ways that personal data profiles can be used to modify behaviour
- e/ Critically reflect on the implications of personal data profiling

#### KEYWORDS

- Social media profile
- Personal data profiling
- Data doubles
- Psychological profiling
- Behavioural modification
- Incentives
- Punishments

## Learning Outcome 2.1

# SOCIAL MEDIA PRACTICES

The teacher will project the results of the social media practices survey taken last lesson for the class to see.



### DO - WRITE

Write your answers to the following questions below:

**1/** Which is the most popular social media platform in the class? Does this surprise you?

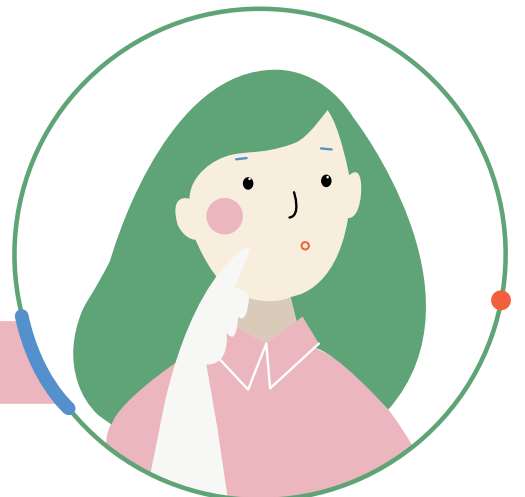
**2/** Do you think of YouTube as a social media platform? Why or why not?

**3/** Do you know who owns each of these platforms? If not, do some research...are any owned by the same company?

**4/** Now that you know which companies own each of these platforms, which do you think would collect the most personal data? Justify your answer.



### DISCUSS



As a class or in small groups share your answers.

## Learning Outcome 2.2

# USER PROFILES

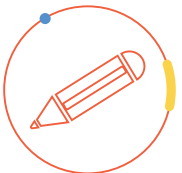
**A USER PROFILE** is the collection of information that is associated with a particular individual.



### LEARN

Some information on a user profile is uploaded by the individual themselves. For example, a profile photo is visual data that the individual uploads to the social media platform. But other information becomes associated with the individual without their knowledge. For example, a school's learning management system (LMS) like Compass or Moodle, will generate a student (or user) profile that includes information that the student themselves may never see, such as information on their socioeconomic status or how many times they logged into the LMS. In fact, social media companies have a lot more information associated with you than you might think.

But first, let's see how many user profiles you have...



### DO - THINK-PAIR-SHARE

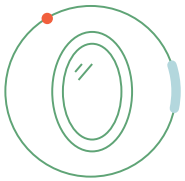
Using a think-pair-share routine discuss the following questions:

**1/** How many personal data profiles do you have? (think across the different domains in your life - i.e. school, social, sport, work). List them below.

**2/** How are your profiles different from each other?

**3/** What data is the most relevant to each? For example, how many points you have scored during the season might be important to your basketball profile or your attendance data might be important for your student profile.

**4/** What do people conclude about you from the information included in these profiles?



## REFLECT

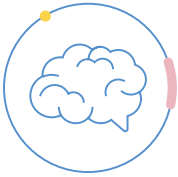
**1/** Which one of your profiles do you think most accurately represents you? Why?



## Learning Outcome 2.3

# PERSONAL DATA PROFILING

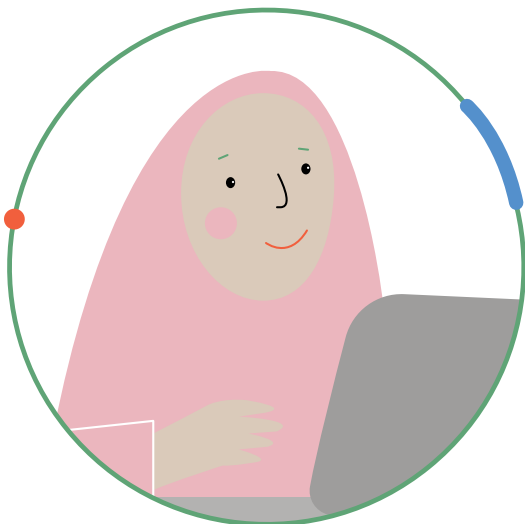
**PERSONAL DATA PROFILING** is more than just the collection of personal data; it is the use of that data to evaluate certain aspects related to the individual. The purpose is to predict the individual's behaviour and take decisions regarding it.



### LEARN

As we have seen, most people have more than one user profile. Some of the information on a user profile is added by the individual themselves, but a lot of information is added by other groups and organisations. Individuals can have physical, psychological or demographic profiles. The more data a company has on an individual the more accurate the predictions about their future behaviours can be. But how is personal data profiling used?

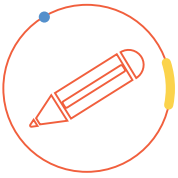
As we will see, there are a range of implications associated with personal data profiling. Once a company or organisation knows who you are, where you live and what you are interested in they can incentivise or punish particular behaviours. Just the slightest form of behavioural modification can make a company a lot of money. For example, if a company like Amazon can persuade 1% of their 300 million customers to spend just \$1 more each time they visit the website this will increase their revenue by \$3million.



**IMPLICATIONS** are the effects or consequences of something that happens in the future. It may be a suggestion or something that happens directly or indirectly to you. For example, you may see particular advertisements because of something that you searched on Google.

In this context, **PUNISHMENT** means to inflict some kind of penalty or additional cost for acting in a certain way. For example, many social media users are punished indirectly for not agreeing to particular terms and conditions, meaning their use of the platform is compromised.

**INCENTIVIZE** means to motivate or encourage someone to do something by providing them with a reward or treat.



## DO - DATA SLEUTHS INVESTIGATION

In this activity we will take a deeper look at how we can use data to create profiles of ourselves and others.

In your groups, take a look at the three profiles below. Each of these characters created these profiles themselves by selecting the images and data they wanted to share publicly.



### JILL

**40 - 50 YEARS**

**MOTHER WITH THREE CHILDREN**

**LIVES IN NORTH-WEST MELBOURNE**

**PASSIONATE ABOUT HUMAN RIGHTS**

### SELENE

**15 - 24 YEARS**

**LIVES IN PRAHRAN**

**GOES TO A MIDDLE CLASS SCHOOL**

**INTERESTED IN FASHION, HEALTH AND FITNESS**



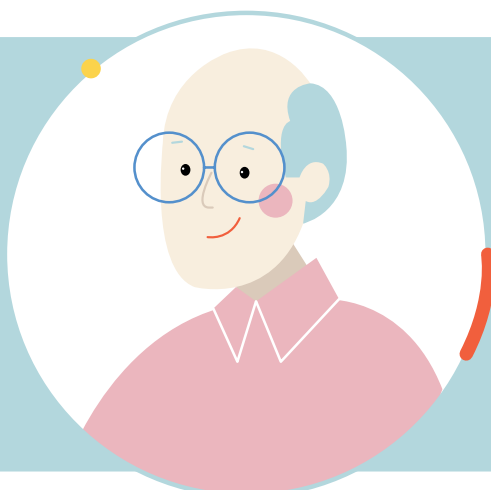
### RALF

**61 - 70 YEARS**

**RETIRED**

**LIVES IN KEW WITH HIS WIFE**

**ENJOYS GOING TO THE RACES, AND SEEING FRIENDS AT THE LOCAL PUB**

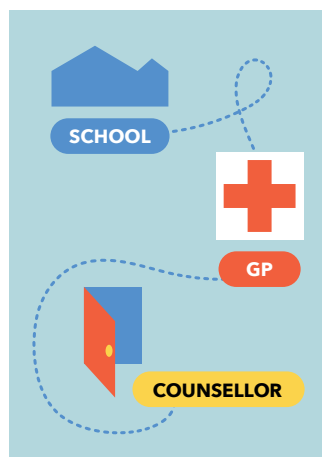
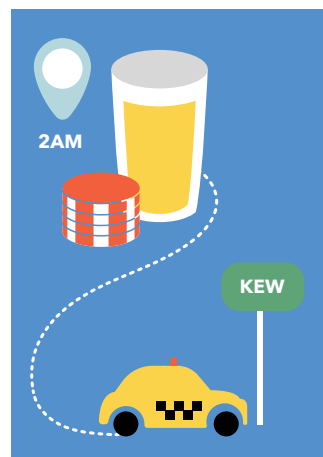
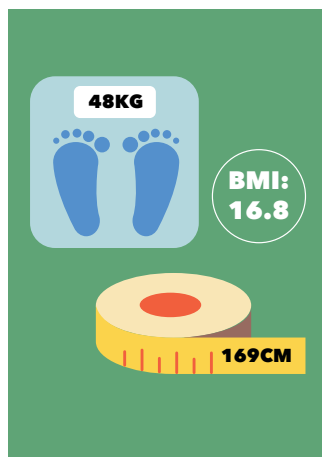
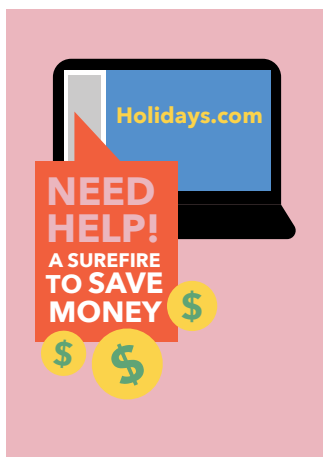
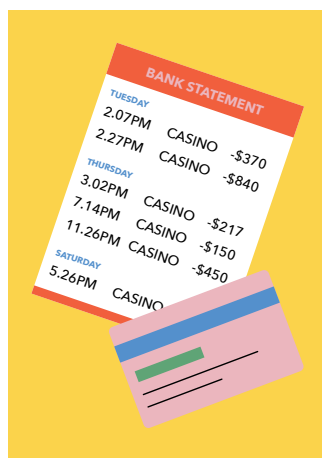
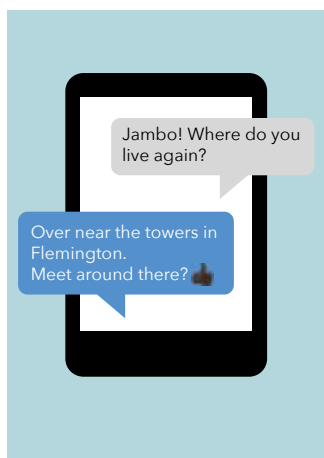


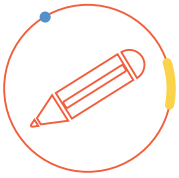


Now take a look at the 12 data cards your teacher has provided you with. Each data point is connected to one of these three characters, and was generated through daily digital activities. This data is not data that these characters had chosen to share, but it can be accessed by third parties, like data brokers or marketers.

A **DATA BROKER** is an individual or company that specializes in collecting personal data or data about companies, mostly from public records but sometimes sourced privately, and selling or licensing such information to third parties for a variety of uses.

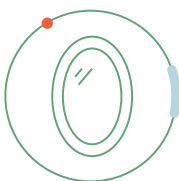
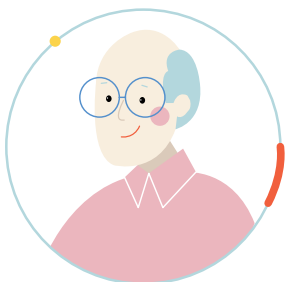
Your first task as 'Data Sleuths' is to connect four data points to each character. As you work through each data point, justify why you think a data card belongs to a particular character. Write your responses above each card below.





## DO - WRITE

Once you have connected four data points to each of the three characters, have another look at the new information about each character this data reveals. Using all the data available, write an alternative profile description of each character.



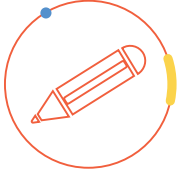
## REFLECT - IN PAIRS

Now that you have seen how data generated through our digital activities can be used to create alternative profiles to the ones we create for ourselves, reflect on the following questions:

- 1/ What types of advertisements would you send these three characters if you were an advertising company?
- 2/ An insurance company?
- 3/ What are some of the implications these data profiles may have for these characters?

## Learning Outcome 2.4

# BEHAVIOURAL MODIFICATION



### DO - WATCH AND WRITE

Your teacher will show you the HyperReality video: <https://vimeo.com/166807261>

Please watch carefully and answer the following questions. You may need to watch it twice.

**1/** What are the various ways that Juliana's behaviour is incentivised in the opening minutes of the clip?

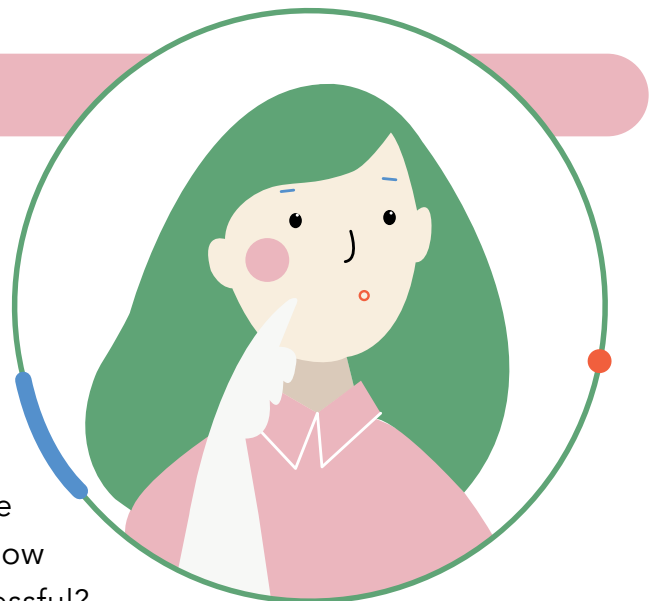
**2/** How is she punished?

**3/** How does Juliana know she is being hacked in the supermarket?



### DISCUSS - IN PAIRS

**1/** With a partner... Can you think of a time when someone or something tried to incentivise or punish your behaviour? For example, were you offered a discount on a purchase or were you denied access because you didn't have a subscription or account? Try to think of an offline example (i.e. parent, teacher or friend) and online example (i.e. targeted ad, social media request). How were these two instances different? Were they successful?



# Extension/ Inquiry

## Case studies into the implications of personal data profiling



### DO - READ

**1/** Should you care about what companies do with your data? Read one of the articles below to investigate some real life examples of what the implications of personal data profiling can be.

**ARTICLE 1:** Target revealed teenager's pregnancy to parents

<https://www.businessinsider.com.au/the-incredible-story-of-how-target-exposed-a-teen-girls-pregnancy-2012-2>

**ARTICLE 2:** Facebook targets teenagers when they are feeling down

<https://www.theguardian.com/technology/2017/may/01/facebook-advertising-data-insecure-teens>

**ARTICLE 3:** Gaggle surveillance software in schools

<https://www.the74million.org/article/dont-get-gaggled-minneapolis-school-district-spends-big-on-student-surveillance-tool-raising-ire-after-terminating-its-police-contract/>



### DO - WRITE

**1/** Do you think it is right that these companies are able to use teenager's data in this way? What regulations or checks and balances do you think should be implemented to protect the digital rights of individuals?



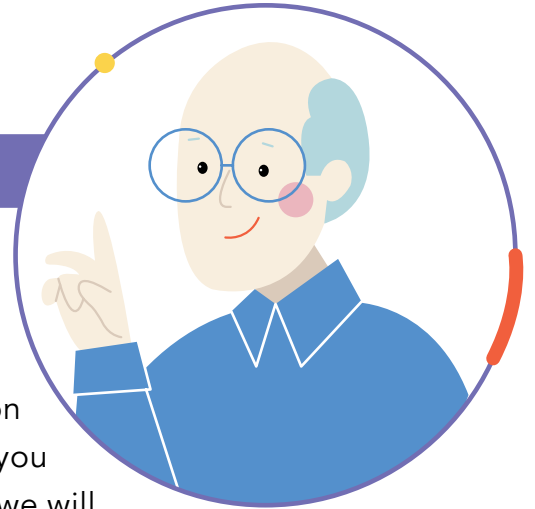
## Part Three

# DATA PRIVACY

### PART THREE OVERVIEW

#### FOCUS

Now that you have learnt a bit about what personal data is and how it can be used by companies and organisations, it is time to investigate how you can keep your personal data private. You may know how to adjust your privacy settings on various digital platforms, but there are other things that you can do to protect your personal data online. In this lesson, we will introduce you to a range of data strategies and tactics, ensuring you have a range of options to explore. We will also investigate the different types of apps and consider which strategy or tactic works best for each app. Not all of these strategies and tactics will work all the time, so in this part of the unit we want you to think about what works best and when. By the end of this lesson, you should know more about the different apps that we use everyday, as well as a handful of ways you can keep your data private while using them.



#### LEARNING OUTCOMES

- a/ Understand the difference between data protection and data privacy
- b/ Identify a range of strategies and tactics for protecting personal data
- c/ Critically examine the effectiveness of a selection of strategies and tactics for managing personal data

#### KEYWORDS

- Data protection
- Data privacy
- Strategies
- Tactics
- Obfuscation
- Blocking technologies
- Encryption

## Learning Outcome 3.1

# DATA PROTECTION VS DATA PRIVACY



You may have heard people talk about data protection and data privacy as if they are the same thing, but they actually refer to quite different approaches to managing your data.

**DATA PROTECTION** is about keeping your data safe from unauthorised or illegal use. Typically, it involves more technical strategies to keep your data safe and is often the responsibility of companies or organisations. For example, it is the responsibility of the school to keep student data safe from privacy breaches, in the same way as it is the social media companies responsibility to keep user data safe.

**DATA PRIVACY**, on the other hand, is about determining who has authorised access to your data. It is determined by the individual user and is therefore more socially determined. Data privacy is about who you have privacy from and when you want privacy from them. For example, you may not want your parents to be a part of your friends' WhatsApp group. Your data privacy is supported by legal regulation.

Remember back to Part 1 where we explored the Terms and Conditions of popular digital platforms? In these agreements, social media companies must declare which data they will share with third parties to ensure they have gained your informed consent. However, whether the length and complex legal language could be considered as 'informing' the average user is up for debate!

A **THIRD PARTY** is any entity other than the user and the platform which the agreement is with. Third parties might be data brokers or data scientists.



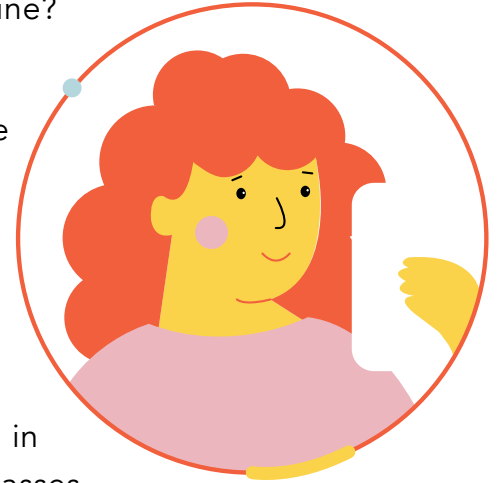
## Learning Outcome 3.2

# DATA STRATEGIES AND DATA TACTICS

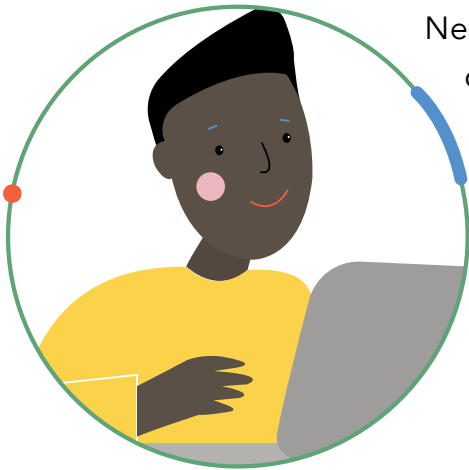


So how can we keep our data more private online?

As you probably know, it is not about being entirely invisible - after all you want your friends and family to be able to find you! The trick is to remain visible to those who you want to communicate with, yet hidden from other entities and individuals.



This has become known as **networked privacy** or privacy in terms of networks and relationships, rather than groups or classes of people.



Networked privacy means having enough agency to feel a sense of control over the information you produce, how it is spread and even how it is interpreted.

At this point, we want to introduce you to two ways of gaining data privacy - data strategies and data tactics. Looking at these two ways of managing data draws attention to the range of options available to you.

## BUT WHAT'S THE DIFFERENCE BETWEEN A DATA STRATEGY AND A DATA TACTIC?

### DATA STRATEGIES

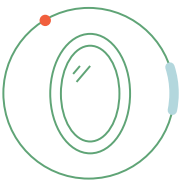
Are ways of working within a device or system. This might include things like:

- Reading the terms and conditions agreements;
- Adjusting privacy settings;
- Implementing ad block technologies;
- Setting performance targets and/or limitations to influence the generation of data.

## DATA TACTICS

Are a bit sneakier and involve deliberate use of false information to disrupt the connection between the personal data generated and the individual. Data tactics might include things like:

- Entering erroneous or inaccurate information;
- Obfuscation is a tactic used to disguise yourself or your image by using ambiguous, false or misleading information in order to avoid detection by facial recognition technology;
- Repurposing personal data to create visualizations and representations for particular purposes.



### REFLECT

**1/** Have a look at the list of strategies and tactics above. Have you ever used a strategy or tactic to protect your privacy online? How did you do it? Was it effective? Why or why not? Jot down your answers.

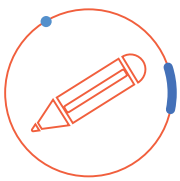


## Learning Outcome 3.3

# DOING YOUR DUE DILIGENCE

So let's start with a pretty straightforward data strategy that you have already been introduced to back in Part 1. Doing your due diligence just means that you know what you have got yourself involved in and have read and understood the terms and conditions you have agreed to. While this data strategy might sound straightforward when you consider how many different types of apps and platforms are around it takes a lot more time than one might think.

**Encryption** refers to converting information or data into a code in order to prevent unauthorized access.



### DO - GROUP RESEARCH

There are lots of different types of apps around. In groups of 4-5, you will be required to investigate a particular group of apps. Your teacher will allocate your group to an app.

The app groups we will be looking at are:

- Messenger apps (e.g. WhatsApp, iMessage and Signal)
- School apps (e.g. Compass, Google Classroom, Stile)
- Government apps (e.g. COVIDSafe, Myki app, QR Code App)
- Social media apps (e.g. Snapchat, Instagram and TikTok)
- Mapping apps (e.g. Google Maps, Apple Maps, Waze)
- Fitness apps (e.g. Runkeeper, Strava, Fitbit)

Try searching the app name + "default privacy settings" and "data protection" and "encryption." If nothing comes up try the website Terms of Service: Didn't Read (TS;DR): <https://tosdr.org>

In your group investigate the following questions:

- 1/** What is the purpose of the app?
- 2/** Who owns it
- 3/** What measures has the company put in place to protect users' privacy? (For example, some messaging apps have what is called 'end-to-end encryption,' which means only the sender and the receiver can read the message, not even the app company which is transmitting the information).

You will then need to make an assessment as a group on two questions:

- 4/** Would you use this app? (yes / no)
- 5/** Do you trust this app? (Score 1 - 5 where 1 = do not trust; 5 = trust completely)

Fill in your responses for your app group in the table below.

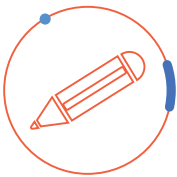
APP TYPE	APP NAME	PURPOSE	<b>DATA PROTECTION AND PRIVACY</b>  Rank 1-5 1 = very insecure 5 = very private.
MESSENGER APPS			
SCHOOL APPS			
SOCIAL MEDIA APPS			
GOVERNMENT APPS			
MAPPING APPS			
FITNESS APPS			



## Learning Outcome 3.4

# APPLYING DATA TACTICS AND STRATEGIES

There are a number of tactics that you can explore to ensure you have privacy online. While these are more effective at keeping your personal data private, they also take a bit more time and effort.



### DO - GROUP WORK

Return to the first group you were in to investigate the app types. In your group, read about four different data tactics below, including: privacy settings, obfuscation, the anonymiser, group accounts and blocking and protection strategies.

After you have done a bit of reading and research and had a chat in your group, think about how this tactic would work with the groups of apps you investigated. There is a space at the end of this section for you to make some notes. You may be called on by the teacher to report on your data tactic, so be prepared.

### CHANGING PRIVACY SETTINGS

Perhaps the easiest way to manage your data is to change your privacy settings. Have a look at the different privacy settings or features offered by the different apps in your group. If it is not immediately obvious you may need to do a little more investigation.



### OBFUSCATION

Obfuscation involves producing misleading, false, or ambiguous data with the intention of confusing profiling or simply adding to the time or cost of separating bad data from good. Obfuscation is like a type of camouflage that can be used to evade facial recognition technology. It has become a bit of a fashion statement in some parts of the world. **Here are some links to get you started:**



<https://ab.co/3aK767d>

<https://cvdazzle.com>

## THE ANONYMISER

The Anonymiser protects your identity by digitally manipulating a photo of you so that it will remind people of you, but will not be detected as you by facial recognition software. It is free and available for anyone to try.

To get you thinking...Which people and professions do you think would be most interested in using The Anonymiser?

**Read about it here:** <https://icons8.com/articles/anonymizer/>

**Try it out here:** <https://generated.photos/anonymizer>



## USING GROUP ACCOUNTS ON SOCIAL MEDIA PLATFORMS

Teenagers in the US are using a group account on Instagram to flood the social media platform with data that cannot be tied to a single person. This data tactic relies on a lot of trust between teenagers in the group, but has meant that they have stopped Instagram tracking them online.

**Read more about it here:** <https://www.cnet.com/news/teens-have-figured-out-how-to-mess-with-instagram-tracking-algorithm/><https://cvdazzle.com>

## BLOCKING AND PROTECTION TECHNOLOGIES

Blocking and protection strategies use technical filters to automatically protect your identity and information online. They normally involve downloading a browser add-on which ensures that third parties and other data brokers do not have access to your data.

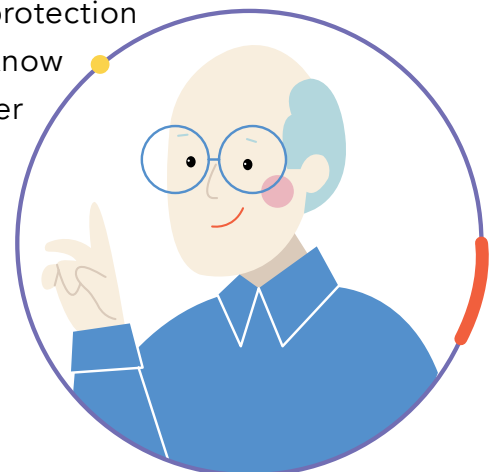
For next time...choose one of the following blocking or protection technologies to use on your device for the week. If you know of another blocking or protection program, let the teacher know and they'll add it to the list of strategies to try.

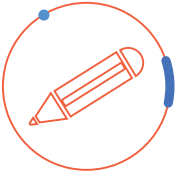
**Choose from:**

<https://www.ghostery.com>

<https://adblockplus.org>

<https://chrome.google.com/webstore/detail/disconnect/jeoacafpbcihiomhlakheieifhpjdfefo?hl=en>

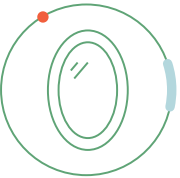




## DO - WRITE

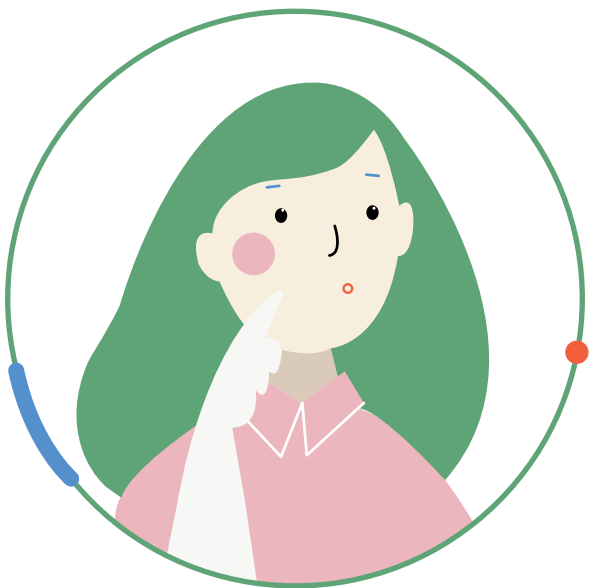
**1/** As a group decide, which strategy or tactic would work best for the group of apps that you investigated. Why is this the case?

**2/** Now have a think about which strategy or tactic would not work at all. Why wouldn't it work?



## REFLECT

**1/** What does this tell you about digital data and our capacity to keep it private?



# Extension/ Inquiry

## Can we do data differently?

As you can see from the last activity, it can be difficult to keep personal data private. But perhaps we just haven't thought about all the possible ways that we can do this.

Can you think of new and different ways to keep personal data private?

In this extension/ inquiry activity do one of the following:

**1/** Come up with a new data strategy or tactic.

**OR...**

**1/** Come up with a new way for these apps to operate that doesn't rely on the commodification (or selling) of users' personal data.

**2/** Present your findings as a prototype or plan that you will pitch to the class.



## Part Four

# SCHOOL DATA

## PART FOUR OVERVIEW

### FOCUS

In this unit so far we've talked a lot about what you are doing with data beyond school. But what about at school - have you ever thought about the data you generate at school? It may surprise you to know that the school has a lot of data about you - some that you probably did not know they were collecting. As school data is a form of personal data, it is probably time we thought critically about what it is and how it is being used. In this session, we will explore the types of data your school is collecting, how and why this data is being collected, as well as the implications it may have for you in the future.



### LEARNING OUTCOMES

- a/** Understand the different types of school data generated about students, and how and why this is collected.
- b/** Understand student profiles, how and why they are created, and the implications of profiling students.
- c/** Be able to critically look at some school data, and use this to profile an anonymous student.

### KEYWORDS

- School data
- Teacher-generated data
- Student-generated data
- System-generated data
- Student profile



## Learning Outcome 4.1

# TYPES OF SCHOOL DATA



### DO - CLASS BRAINSTORM

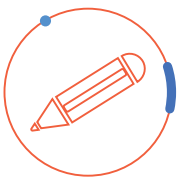
- 1/ What is school data?
- 2/ How is school data generated or collected ?
- 3/ What type of digital data do schools collect?
- 4/ Can you provide some examples of data generated by teachers? Students? The online platforms we use?

**SCHOOL DATA** refers to assessment feedback that is digitally stored, as well as attendance and pastoral care data that is generated and stored by the school.

**STUDENT-GENERATED DATA** refers to data that is uploaded by the student and includes uploaded docs, written comments or responses (e.g. likes), photos, voice recordings, videos.

**SYSTEM-GENERATED DATA** is data that is created automatically by the apps and platforms in the school. It includes data such as login and logoff times, duration on particular pages and even mouse clicks





## DO - GROUP DISCUSSION

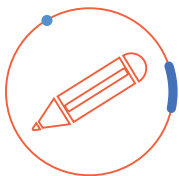
Form groups of 3-4 students. Your teacher will allocate a specific type of school data to each group.

Discuss the questions below, noting down your reflections in Table 4.1T below.

- 1/ Who collects or generates this data?
- 2/ Why do they generate this data?
- 3/ How often this data is collected?
- 4/ Where it is stored?
- 5/ Who can access it?

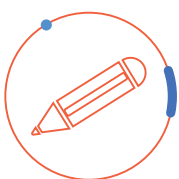
*Hint: Think about your everyday life at school and the points where data is collected by staff or your peers. Also think about the online platforms you use at school and the type of data these platforms are collecting about you. Try to answer these questions without looking them up online initially.*





## THE GENERATION OF SCHOOL DATA

TYPE OF SCHOOL DATA	WHO/WHAT GENERATES THIS DATA?	WHY IS THIS DATA COLLECTED?	WHEN AND HOW OFTEN IS THIS DATA COLLECTED/ GENERATED?	WHERE IS THIS DATE STORED?	WHO CAN ACCESS THIS DATE?
Attendance			Daily. Each class.		
Formal assessment	Teachers				
Teacher evaluation data					Department. Teachers. Administrative staff. Parents?
Personal data (name, address, parent contact).		To evaluate student performance and behaviour in class.			
Log-in times and duration on a platform.				Backend of Platform.	



### DO - JIGSAW ACTIVITY

In your group, fill in the table for the type of data you were investigating. After doing this, your teacher will organise you into a new group, so that you can learn from each other. Each person from the first group will need to share their findings with their new group, so others in the group can make notes in their table. By the end of this activity, you should have completed your table on all the different school data types.



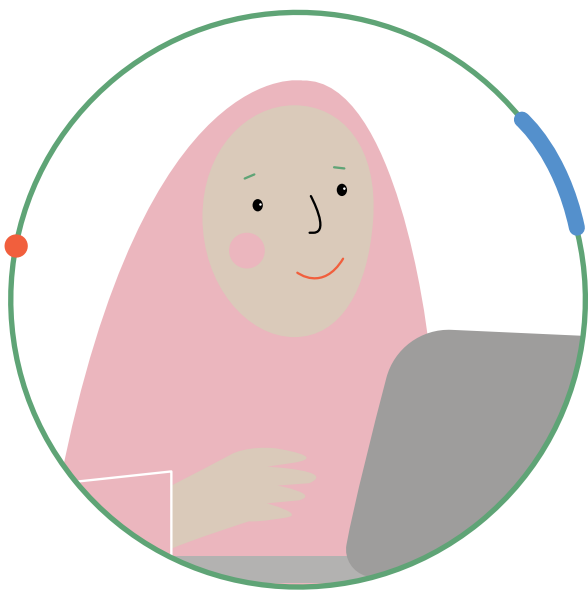
## DISCUSS - CLASS DISCUSSION

Look at the data table. As a class, consider the following questions, and note down responses.

**1/** Do you think that this data can impact you now, or in future? Why or Why not?

**2/** Can you think of an instance in which school-related data had a significant impact on you? Was it good or bad?

**3/** Do you trust that the school will do the right thing with your data? Why / Why not? What is the 'right thing' to do with data?



## Learning Outcome 4.2

# STUDENT PROFILES

You were introduced to Personal Data Profiles in Part 2. Here, we build on this concept by looking at how schools use data to profile you as a student, why they do this, and the potential implications of this profiling.

Below is an image of a student profile on their schools Learning Management System. Have a look at the different types of data about the student on this page, and think about the other types of data that may exist on the student on the other tabs (e.g. schedule, learning tasks, attendance etc).

Have you had a good look at your student profile?

**Student: Harry POTTER, 12A, Year 12**

Dashboard | Schedule | Learning Tasks | Attendance | Reports | Analytics | Assets | Insights

**Student: Harry POTTER**

Details: Male - 17 years, 4 months (01/01/1999)  
Groups: GRYFFINDOR, 12A, Year 12  
Students IDs: SM10036 POT0001

**Monday, 16 May 2016**

8am	
9am	8:50: 1 - HI133B - 20 - LMA
10am	9:51: 2 - HI133B - 20 - LMA
11am	11:12: 3 - STYAA - 25 - COL
12pm	12:14: 4 - PY033A - 18 - DUN
1pm	

**Student Chronicle**

Date Filter: This Year

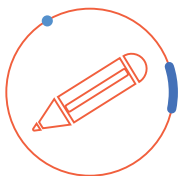
Displaying entries made between 1/1/2016 and 31/12/2016 for: All Categories

- Confiscation**  
Recorded by JDLF Admin - JDLF  
Item Type: Mobile Phone  
Confiscation  
Recorded May 12 at 11:26am
- Lunch-Time Out - please refer to email**  
Recorded by JDLF Admin - JDLF  
Lunch-Time Out Overview: Well behaved  
Attitude/Behaviour  
Recorded May 12 at 11:38am
- Student Leadership Role**  
Recorded by JDLF Admin - JDLF  
Role: School Vice Captain  
Programs  
Recorded May 6 at 09:18am, Occurred May 6 at 09:17am  
Pin Expired: Feb 13 at 11:59pm

### DID YOU KNOW

Most schools store your profile on the Learning Management System.

Figure 4.2F: Example of a student profile on the schools Learning Management System.



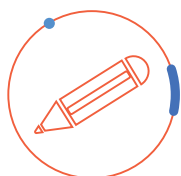
## DO - CLASS BRAINSTORM

1/ How is a student profile created?

A **STUDENT PROFILE** is an overview of a student using data generated by a student, teacher, institution or digital system. It commonly includes assessment, attendance and pastoral data, but can include other data sources.

## Learning Outcome 4.3

# PROFILING A STUDENT USING ATTENDANCE DATA



### DO - LOOK - CLASS BRAINSTORM

Have a brief look at the example of a student's attendance data in the image below. This data has been collected on this student over the course of one year.

SELECT STUDENT:		ABA0006 10 W				
		Student				
CODE	TYPE	DESCRIPTION	COUNTED	COUNT	%	LEVEL MEASUREMENT
100	Present	Present Year 10 Student	NO	238	70%	67.3%
500	Unapproved absence	Unexplained	YES	60	18%	8.2%
625	Health related	Remote learning	NO	20	6%	5.6%
200	Health related	Medical	YES	2	1%	4.5%
807	Parent choice	Parent choice school approved	YES			3.4%
300	Unapproved absence	Truancy	YES			4.4%
604	Educational	Excursion	NO	5	1%	0.8%
113	Late arrival/early departure	Late arrival unexplained	NO	12	4%	1.8%
612	Educational	Study leave	NO			0.2%
904	School decision	Staff meeting	NO	2	1%	0.6%
929	School decision	Pandemic	YES	2	1%	0.6%
111	Late arrival/early departure	Late arrival at school	NO	1	0%	1.1%
208	Unapproved absence	Refusal	YES			0.1%
600	Educational	Educational	NO			0.3%
804	Parent choice	Extended family holidays	YES			0.2%
802	Educational	Exempt	NO			0.5%
623	Educational	On-site program	NO			0.1%
211	Health related	Bereavement	YES			0.1%
701	Exit/transferred	Exit	NO			

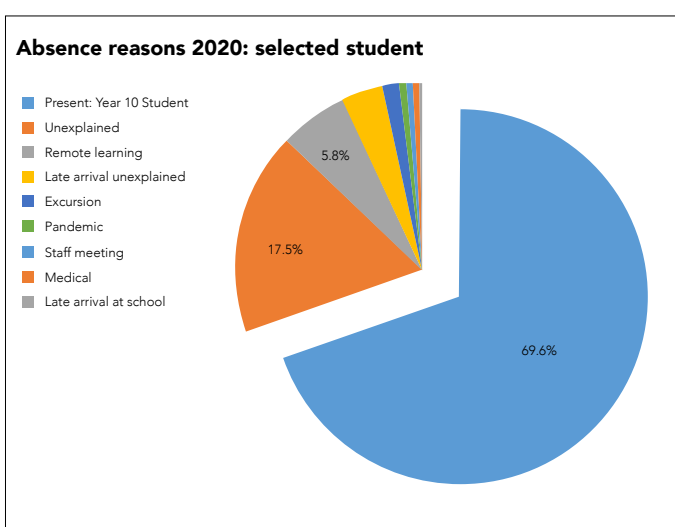


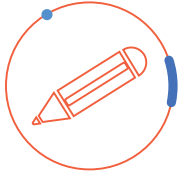
Figure 4.3F: A Year 10 student's attendance record for 2020

- 1/ What do you notice about this student's attendance?
- 2/ What are the different reasons a student can give for being away? Were you aware of how many categories there are? Are you surprised by the amount of data collected?
- 3/ Why do you think the school and the department of education needs to categorise the data in this way?
- 4/ Could you draw any judgments about this student based on the data? What information is not included here that could be important?
- 5/ Do you think attendance data is important? Why or why not?

# Learning Outcome 4.4

# DEEP DIVE - ASSESSMENT DATA

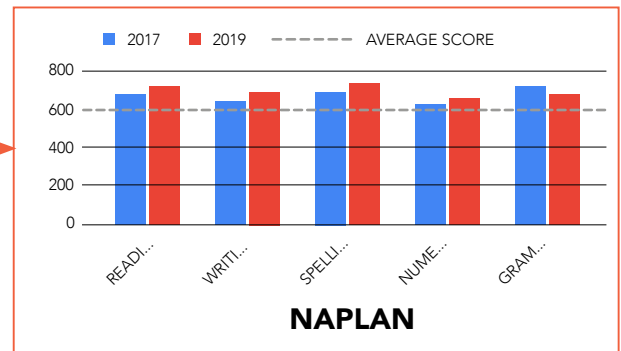
In this next activity, we are going to take a closer look at some assessment data of one student, and what this data can tell us about them.



## DO - GROUP TASK

### NAPLAN

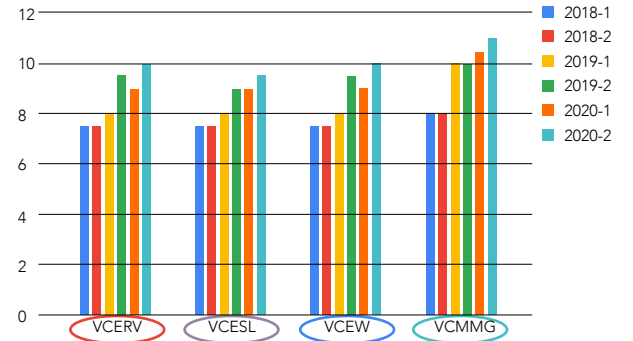
NAPLAN	READING_nb	WRITING_nb	SPELLING_nb	NUMERACY_nb	GRAMMAR & PUNCTUATION_nb	At NMS min score	At NMS max score
2017	674	640.1	728.7	629.1	725.4	426	478
2018							
2019	712.6	690.3	728.7	653.8	681.3	478	530
2020							



### TEACHER JUDGEMENT

Teacher Judgements - VICVELS		2018-1	2018-1	2018-1	2018-1	2018-1	2018-1
ESSREA	EAL Reading	2020	2020	2020	2020	2020	2020
ESSPL	EAL Spelling						
ESSWRI	EAL Writing						
VCADA	The Arts - Dance		6.5				
VCADR	The Arts - Drama		7.5				
VCAMA	The Arts - Media A	6.5			8		
VCAMU	The Arts - Music		8	7.5			
VCAVA	The Arts - Visual Arts						
VCAVCD	The Arts - Visual C	6.5					
VCCC	The Humanities - C						
VCCCT	Capabilities - Critical						
VCDS	Technologies -	6.5			8		
VCDT	Technologies -						
VCEB	The Humanities -				9		9.5
VCEC	Capabilities - Ethic						
VCERV	English - Reading	7.5	7.5	8	9.5	9	10
VCESL	English - Speaking	7.5	7.5	8	9	9	9.5
VCEW	English - Writing	7.5	7.5	8	9.5	9	10
VCG	The Humanities -		7		9		9.5
VCH	The Humanities -		8			9	9.5
VCHPEM	Health and Physical	6.5	7				
VCHPEP	Health and Physical						
VCIC	Capabilities -						
VCIT2	Languages - Italian		7	8	8.5	8.5	9
VCMMG	Mathematics Meas	8	8	10	10	10.5	11

### VICVELS TEACHER JUDGEMENTS

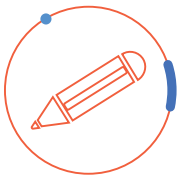


In groups of 3-4, have a look at the assessment data and discuss:

**1/** What does this data say about this student?

Write three statements describing this student. Identify the specific data from the figure you are drawing from to make this statement.

	STATEMENT	DATA SOURCE
<b>1/</b>		
<b>2/</b>		
<b>3/</b>		



## DO - CLASS DISCUSSION

**1/** What are some of the benefits and limitations of this student profiling?





# 4.5 Extension/ Inquiry

## Future implications of student profiling

Have you considered how the data your school generates about you may be used by others to make decisions about you? For example, how it may be used by a University admissions officer, a future employer, or a teacher or School Principal who does not know you personally?

In this extension / inquiry activity, we would like you to reflect on the future implications of using data to profile students.

### Look back at your responses to these questions:

- 1/ What does the assessment and attendance data say about this student?
- 2/ And, what are the potential benefits and costs of this student profile for this student?

### Now, as a group, or individually, consider:

- 3/ how this student's data profile may affect their future. (e.g. future employment, university admission)



Make sure you insert parts of the assessment or attendance data provided earlier to justify claims you make.

E.g. Role-play, podcast, interview, written letter or story. Whatever format works best for you.

Share your reflections with the class in a creative format. E.g. role-play, podcast, interview, written letter or story - whatever format works best.

## Part Five

# YOUR DATA INQUIRY

In this final part of the Data Smart program, you will be asked to explore one area of the program in greater detail. You will have noticed scattered throughout the program are yellow boxes with the title 'Extension/ Inquiry.' These will form the basis for your inquiry. Some of these activities are quite structured with question and answers, while some are quite open-ended encouraging you to explore and design different ways of thinking about and working with data.

To recap, there were four areas for you to choose from:

INQUIRY FOCUS	LEARNING OUTCOME	RESOURCE	ACTIVITY	TIMING
<b>1.5 A CRITICAL LOOK AT TERMS AND CONDITIONS</b>	Identify problematic aspects of the terms and conditions of popular digital platforms.	Terms of Service link: <a href="https://tosdr.org/">https://tosdr.org/</a>	Individual online activity, and think-pair-share.	20 mins
<b>2.5 UNDERSTANDING PERSONAL DATA PROFILING</b>	Critically reflect on the implications of personal data profiling.	Three online articles.	Written reflection in response to one or two articles and questions.	30-60 mins
<b>3.5 DESIGN NEW WAYS TO KEEP PERSONAL DATA PRIVATE</b>	Understand the nature of data profiling and what can be done to prevent it.	Booklet	Design either a new data strategy or tactic to keep personal data private, or a new business model for apps.	30-60 mins
<b>4.5 FUTURE IMPLICATIONS OF STUDENT PROFILING</b>	To reflect on the short and long-term implications of student profiling.	Data and reflections from 4.4	Reflect on future implications and present in a creative format (e.g. story, role-play)	20 mins

## Other topics you might like to investigate...

- Creating alternative social media or school profile
- How much is your data worth in the data economy?
- What is being done to regulate tech companies? Are there any recent cases involving any of the 'big four' (i.e. Google, Amazon, Facebook, Apple) that we should know about?
- Create a brochure 'Tips and Tricks for Protecting Your Data'.

If you have another area that you would particularly like to investigate, speak to your teacher and negotiate your inquiry with them.

After choosing your inquiry, complete the tasks in your workbook. If your inquiry needs investigation, use the questions below to guide your research. Not all inquiries will need to answer these questions, it depends what you are investigating:

- 1/** What is your question / problem of focus?
- 2/** What resources do you need to answer that question?
- 3/** How are you going to go about finding that out?
- 4/** How are you going to present it? (Role play, interpretive dance, video, podcast)
- 5/** Do you have a hunch about what you might find?



\*\*Your teacher will talk to the class about how you will present the findings of your inquiry

# GLOSSARY

## **A STUDENT PROFILE**

An overview of a student using data generated by a student, teacher, institution or digital system. It commonly includes assessment, attendance and pastoral data, but can include other data sources.

## **A THIRD PARTY**

Anyone other than the user and the platform which the agreement is with. Third parties might be data brokers or data scientists.

## **BEHAVIOURAL MODIFICATION**

A process in which undesirable behaviours are replaced or changed to more desirable ones.

## **BLOCKING AND PROTECTION STRATEGIES**

Often technical filters to automatically protect your identity and information online.

## **DATA DOUBLES**

Digital identities that are created by someone or something else often through automated personal data collection. They are different to the profiles you create about yourself, and are often composed of information that is collected without you knowing.

## **DATA PRIVACY**

Determining who has authorised access to your data. It is determined by the individual user and is therefore more socially determined.

## **DATA PROTECTION**

Keeping your data safe from unauthorised or illegal use. Typically, it involves more technical strategies to keep your data safe and is often the responsibility of companies or organisations.

## **DATA STRATEGIES**

Ways of working within a device or system to keep your data private.

## **DATA TACTICS**

Deliberate use of false information to disrupt the connection between the personal data generated and the individual.

## **ENCRYPTION**

Converting (information or data) into a code in order to prevent unauthorized access.

## **IMPLICATIONS**

The effects or consequences of something that happens in the future. It may be a suggestion or something that happens directly or indirectly to you. For example, you may see particular advertisements because of something that you searched on Google.

## **INCENTIVIZE**

To motivate or encourage someone to do something by rewarding them with a reward or treat.

# GLOSSARY

## **NETWORKED PRIVACY**

Having enough agency to feel a sense of control over the information you produce, how it is spread and even how it is interpreted.

## **OBFUSCATION**

A tactic used to disguise yourself or your image by using ambiguous, false or misleading information in order to avoid detection by facial recognition technology.

## **PERSONAL DATA**

Any information that relates to an identified or identifiable person.

## **PERSONAL DATA PROFILING**

More than just the collection of personal data; it is the use of that data to evaluate certain aspects related to the individual. The purpose is to predict the individual's behaviour and make decisions in response.

## **PROFILING**

Automated processing of personal data to evaluate certain things about an individual.

**PUNISHMENT** means to inflict some kind of penalty or additional cost for acting in a certain way. For example, many social media users are punished indirectly for not agreeing to particular terms and conditions, meaning their use of the platform is compromised.

## **SCHOOL DATA**

Assessment feedback that is digitally stored, as well as attendance and pastoral care data that is generated and stored by the school.

## **STUDENT-GENERATED DATA**

Data that is uploaded online by the student and includes uploaded docs, written comments or responses (e.g. likes), photos, voice recordings, videos.

## **SYSTEM-GENERATED DATA**

Data that is created automatically by the apps and platforms in the school. It includes data such as login and logoff times, duration on particular pages and even mouse clicks.

## **TERMS AND CONDITIONS OR TERMS OF SERVICE**

The legal agreements between a service provider and a person who wants to use that service.

## **USER PROFILE**

The collection of information that is associated with a particular individual.





