



# Technologies: Digital Technologies

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Teaching, learning and assessment exemplar

**Year 10**

**Representing documents online**



## **Acknowledgement of Country**

Kaya. The School Curriculum and Standards Authority (the Authority) acknowledges that our offices are on Whadjuk Noongar boodjar and that we deliver our services on the country of many traditional custodians and language groups throughout Western Australia. The Authority acknowledges the traditional custodians throughout Western Australia and their continuing connection to land, waters and community. We offer our respect to Elders past and present.

## **Background**

This teaching, learning and assessment exemplar (the exemplar) has been developed by the School Curriculum and Standards Authority (the Authority) as part of the *School Education Act Employees (Teachers and Administrators) General Agreement 2017* (Clause 61.1–61.3).

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## **Disclaimer**

Any resources such as texts, websites and so on that may be referred to in this document are provided as examples of resources that teachers can use to support their learning programs. Their inclusion does not imply that they are mandatory or that they are the only resources relevant to the course. Teachers must exercise their professional judgement as to the appropriateness of any they may wish to use.

This resource utilises electronic web-based resources, such as videos and image galleries. Teachers should be present while an electronic resource is in use and close links immediately after a resource, such as a video has played to prevent default ‘auto play’ of additional videos. Where resources are referred for home study, they should be uploaded through Connect, or an equivalent system, that filters advertising content.

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## The Western Australian Curriculum

The *Western Australian Curriculum and Assessment Outline* (the *Outline* – <https://k10outline.scsa.wa.edu.au/>) sets out the mandated curriculum, guiding principles for teaching, learning and assessment, and support for teachers in their assessment and reporting of student achievement. The *Outline* recognises that all students in Australian schools, or international schools implementing the Western Australian Curriculum, are entitled to be given access to the eight learning areas described in the *Alice Springs (Mparntwe) Education Declaration*, December 2019.

### The Technologies curriculum

The mandated curriculum is presented in the year level syllabus documents.

The Technologies curriculum delivers a sequential and age-appropriate progression of learning with the following key elements:

- a year level description that provides an overview of the context for teaching and learning in the year
- a series of content descriptions, populated through strands and sub-strands, that sets out the knowledge, understanding and skills that teachers are expected to teach and students are expected to learn
- an achievement standard that describes an expected level that the majority of students are achieving by the end of a given year of schooling. An achievement standard describes the quality of learning (e.g. the depth of conceptual understanding and the sophistication of skills) that would indicate the student is well placed to commence the learning required in the next year.



## **This exemplar**

This Technologies exemplar articulates the content in the *Outline* and approaches to teaching, learning and assessment reflective of the Principles of Teaching, Learning and Assessment. This exemplar demonstrates a sequence of teaching and learning, including suggested assessment points, for 14 lessons.

## **Catering for diversity**

This exemplar provides a suggested approach for the delivery of the curriculum and reflects the rationale, aims and content structure of the learning area. When planning the learning experiences, consideration has been given to ensuring that they are inclusive and can be used in, or adapted for, individual circumstances. It is the classroom teacher who is best placed to consider and respond to (accommodate) the diversity of their students. Reflecting on the learning experiences offered in this exemplar will enable teachers to make appropriate adjustments (where applicable) to better cater for students' gender, personal interests, achievement levels, socio-economic, cultural and language backgrounds, experiences and local area contexts.



### **Using this exemplar**

This teaching, learning and assessment exemplar provides suggestions to support the delivery of the mandated curriculum content. The exemplar provides:

- a teaching and learning sequence
- the mandated curriculum content to be taught at each point of the teaching and learning sequence, suggested resources, sample assessment tasks and marking keys
- the number of lessons to deliver the teaching and learning experiences
- learning intentions and support notes that may provide focus questions and additional information and/or examples to assist with the interpretation of curriculum content
- support notes to assist teachers to unpack the content and support teaching and learning experiences
- teaching and learning experiences that outline the structure of the lesson. These explicitly state each activity that the lesson will progress through and the key focus area for that activity.

### **Links to electronic resources**

This sequence of lessons may utilise electronic web-based resources, such as videos and image galleries. Teachers should be present while an electronic resource is in use and close links immediately after a resource, such as a video, has played to prevent default 'auto play' of additional videos. Where resources are referred for home study, they should be uploaded through Connect, or an equivalent system, that filters advertising content.



## Best practice

### Teaching and learning

The teaching and learning opportunities offered in this exemplar are not exhaustive. Thus, teachers are encouraged to make professional decisions about which learning experiences, and the sequence in which they are delivered, are best suited to their classroom context, taking into account the availability of resources and student ability.

This sample may prove a useful starting point for amplifying creativity in the classroom, while presenting the embedded expectations of the Western Australian Curriculum: Technologies.

Teachers may find opportunities to incorporate the General Capabilities and the Cross-curriculum Priorities into the teaching and learning program.

**Ways of teaching** – teachers can locate additional information on the Ways of teaching from the School Curriculum and Standards Authority (the Authority) website

<https://k10outline.scsa.wa.edu.au/home/wa-curriculum/learning-areas/technologies/digital-technologies/p-10-digital-technologies-teaching/digital-technologies-ways-of-teaching>.

### Assessing

Assessment, both formative and summative, is an integral part of teaching and learning. Assessment should arise naturally out of the learning experiences provided to students. In addition, assessment should provide regular opportunities for teachers to reflect on student achievement and progress.

As part of the support it provides for teachers, this exemplar includes suggested assessment points. It is the teacher's role to consider the contexts of their classroom and students, the range of assessments required, and the sampling of content descriptions selected to allow their students the opportunity to demonstrate achievement in relation to the year level achievement standard.

Teachers are best placed to make decisions about whether the suggested assessment/s are used as formative or summative assessment and/or for moderation purposes.

**Ways of assessing** – a range of assessment strategies that can enable teachers to understand where students are in their learning is available on the Authority website

<https://k10outline.scsa.wa.edu.au/home/wa-curriculum/learning-areas/technologies/digital-technologies/p-10-digital-technologies-assessing/digital-technologies-ways-of-assessing>.

### Reflecting

Reflective practice involves a cyclic process during which teachers continually review the effects of their teaching and make appropriate adjustments to their planning. The cycle involves planning, teaching, observing, reflecting and replanning.

This exemplar supports reflective practice and provides flexibility for teachers in their planning. The exemplar shows how content can be combined and revisited throughout the year. Teachers will choose to expand or contract the amount of time spent on developing the required understandings and skills according to their reflective processes and professional judgements about their students' evolving learning needs.



## **Representing documents online**

Educating through design: students work collaboratively in groups to design and develop a website that educates users about digital footprints, data representation, and privacy and security. Using HTML and CSS, students apply their technical skills to build a site that not only demonstrates their understanding of key syllabus content, but also communicates it effectively to a real audience. The project integrates design thinking principles, requiring students to consider the needs of a client and respond to feedback throughout the development process.

The focus is on transforming theoretical knowledge into an engaging, educational website. The website is intended to teach others. Students deepen their own understanding of the content while gaining practical experience in web design, communication, and digital literacy. The end result is a functional, user-friendly website that promotes awareness of responsible digital behaviour and the importance of data privacy in the online world.



## Year level description

In the middle adolescence phase of schooling, teaching and learning programs encourage students to develop an open and questioning view of themselves as active participants in their society and the world.

Digital Technologies further develops student understanding and skills in computational thinking, such as precisely and accurately describing problems, and the use of modular approaches to solutions. Students increase their understanding of the complexity of the natural environment, society and technology. They investigate the potential and problems of increased knowledge and choice of technologies; and an understanding of the relationship between knowledge, technologies and consumer and/or producer values.

In Year 10, students consider how human interaction with networked systems introduces complexities surrounding access to, and the security and privacy of, data of various types. They interrogate security practices and techniques used to compress data. Students explore the role of hardware and software in managing, controlling and securing access to data, in networked digital systems focusing on user or software supply chain vulnerabilities.

Students apply design thinking by using divergent techniques to generate design ideas for user experiences and solutions. They develop and represent documents online as content (text), structure (mark-up) and presentation (styling). Students analyse problems and design, and implement and evaluate a range of solutions, such as database-driven websites, artificial intelligence engines and simulations. They design and implement algorithms involving functions and logical operators and, where appropriate, represent them as flow charts. Students further develop project management skills through developing detailed plans that are considerate of time, production processes, social, ethical, economic and sustainability factors, and legal responsibilities.



## Achievement standard

By the end of the year:

Students describe the role of hardware and software when used to manage, control and secure access to data, in networked digital systems with a focus on software supply chain vulnerabilities. They represent documents online as content (text), structure (mark-up) and presentation (styling) and explain the purpose of these distinctions. Students analyse and visualise data interactively using a range of software, including spreadsheets and relational databases, to draw conclusions and make predictions based on identifying trends and explain outliers. They model and query entities and relationships using structured data. Students apply the Australian Privacy Principles to critique systems and manage the digital footprint of individuals.

Students define and decompose real-world problems and use data gathering techniques to create user experiences and user interface. They design and prototype the user experience of a digital system and algorithms involving functions, modules and logical operators, and represent them as flow charts and/or pseudocode. Students validate algorithms and programs by comparing their output against a range of test cases. They implement, modify and debug modular programs, applying algorithms and data structures, in a programming language.

In Digital Technologies, students identify the needs of the client/stakeholder to determine the basis for a solution. They develop and critique design briefs for a designed solution. Students investigate components/resources to develop increasingly sophisticated solutions, identifying and considering associated constraints. They apply design thinking, creativity, enterprise skills and innovation to develop, modify and communicate detailed design ideas. Students design possible solutions, analysing designs against criteria, including functionality, accessibility, usability and aesthetics, using appropriate technical terms and technologies. They select, justify, implement and test appropriate technologies and processes to produce designed solutions. Students provide an analysis of design processes and solutions against student-developed criteria. They manage projects, using digital technologies with an agile and collaborative approach, while considering time, production processes, social, ethical, economic and sustainable factors, and legal responsibilities.





## Lessons 1–14

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Representing documents online

## Lesson 1: What makes a webpage?

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The Western Australian Curriculum content addressed in this lesson is below.

### Data representation

- Represent documents online as content (text), structure (mark-up) and presentation (styling) and the purpose of these distinctions

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### Lesson outline

Learning intentions
<p>Students will:</p> <ul style="list-style-type: none"><li>• Describe the three layers of web development.</li><li>• Explain the purpose of each layer within a web page and website.</li><li>• Outline the advantages of separation.</li><li>• Identify the layers in familiar websites.</li><li>• Introduce coding languages of HTML and CSS.</li></ul>



### Preparation for the lesson

- Activate prior knowledge: select a website that students are likely to be familiar with. For example, the website of a fast-food chain or the school website.
- Presentation: prepare a presentation using Support notes.
- Presentation: find a video that explains the layered structure of a website, such as [How Do Websites Actually Work](#) or [What is HTML, CSS and JavaScript?](#).
- Web Page Analysis 1: source a web page that has a simple structure with mostly text and images. For example, [BBC Bitesize](#) or [W3Schools](#).
- Lesson conclusion: source a website that demonstrates the functionality of CSS in web design, such as [CSS Zen Garden](#) and [Style Stage](#), for the exit ticket activity. Create an online discussion group (or class discussion) for the exit ticket activity.

### Support notes

- A website is a collection of web pages that are connected under a single domain name.
- Websites are accessed via the internet using a software application called a browser. For example, Chrome, MS Edge or Safari. The website data is downloaded from the server on which it is stored then **rendered** on the screen.
- Rendering is the process of converting the code into the interactive page that the user expects to see on the screen.
- Website data consists of three layers, each with a different purpose: content (such as text and images), structure (e.g. using Hypertext Markup Language or HTML), and presentation (e.g. using Cascading Style Sheets or CSS). The layers work together in the most efficient way to create what is seen or experienced on the screen.
- Note: HTML and CSS are not general-purpose programming languages but languages that are specific to web development.

Advantages of separating into layers include:

- **Sharing:** a shared file (e.g. CSS) to style the website can be shared among multiple HTML files so that any updates can be applied with one change. This assists with branding and visual identity.
- **Faster downloads:** less data and complexity which improves performance.
- **Teamwork:** website development is easier when different teams work on a website layer.

**Activate prior knowledge**

- Ask students to put on the hat of a ‘web developer’ then navigate to the pre-selected website. Students will examine the website then make notes on their observations, including: listing the web pages that belong to the website; describing how the website has been designed to attract the target audience; and outlining the layout of the home page.
- Ask students to share their observations in small groups.

**Presentation**

- Give prepared presentation and follow with sourced video to consolidate learning.

**Web page analysis**

- Ask students to change some text in an element of the web page used for analysis in the previous activity then press Enter. Pose the question: What did you observe happen when pressing Enter?
- Ask students to refresh the screen and check what happens. Select a few students to offer an explanation as to why the web page goes back to the original version when refreshed. Request that students use appropriate terminology when giving reasons (e.g. server, IP address).

**Instructions to students**

- Students open one of the example web pages as prepared or a suitable example of their own. To see the detail in elements (e.g. text or image), right-click on the element on the screen and click on Inspect in MS Edge (or Inspect Element in Chrome).
- Students make notes on the content, structure and style of the web page in the table below:

<b>Webpage URL:</b> e.g. <a href="https://www.w3schools.com/html/">https://www.w3schools.com/html/</a>	<b>Element 1</b> e.g. ‘HTML Tutorial’	<b>Element 2</b>	<b>Element 3</b>	<b>Element 4</b>
Content	<b>Text</b>			
Structure	<b>Heading H1, span</b>			
Style	<b>Font size 42px, Font family Segoe UI, etc.</b>			
What this looks like ...	<b>Title of the web page</b>			

Table 1: Template for content, structure and style of a web page activity

- Share observations and thoughts in a class discussion.

**Lesson conclusion**

Teacher to demonstrate selected website that shows functionality of CSS in web design. Allow students time to explore. As an exit ticket activity, students will then post a response on the online discussion board to the question ‘Describe the function of CSS in web development?’

## Lessons 2–3: HTML and CSS

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The Western Australian Curriculum content addressed in these lessons is below.

### Data representation

- Represent documents online as content (text), structure (mark-up) and presentation (styling) and the purpose of these distinctions

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### Lesson outline

#### Learning intentions

Students will:

- Develop application skills in HTML and CSS coding.
- Consolidate and deepen understanding of roles of content (text), structure (mark-up) and presentation (styling) in representing documents online, and how these can be achieved using HTML and CSS.

### Preparation for the lesson

- Source a tutorial that develops skills in HTML and CSS coding. Examples can range from Notepad (offline) tutorials to those on the [W3Schools](#) website.

### Support notes for teacher

- HTML can be described as the building blocks or frame of a webpage, as is the frame when constructing a house.
- An HTML file or document contains elements, such as a paragraph or image, that is surrounded by a tag to mark the beginning and a tag to mark the end with content in between. For example, `<p> This is a paragraph.</p>`, where the end tag contains a forward slash and the beginning tag does not.
- Generally, one HTML file represents one web page.
- CSS is a stylesheet language that can change the way HTML elements look on a web page. It is like adding design features to a house, such as painting, to improve presentation, increase appeal and maintain consistency.
- CSS is written in rulesets that apply to a part of the HTML to change appearance. For example, the code below will change the font colour of a paragraph to blue, for all content in `<p>` tags:

```
p {
  color: blue;
}
```

- Note that CSS code uses curly brackets when defining rulesets
  - The Notepad text editor can be used offline to develop web pages in HTML and CSS. This process to create and view these file types is:
    - create HTML and CSS files then *File > Save*, type in *File Name* including file extension (.html or .css), *Save as type* "All files (\*.\*)", then *Save*
    - save ALL files in the same folder, including images
    - to view the web page, right-click on the *.html* file then select *Open with* and choose a browser to view or Notepad to edit
    - to see changes when editing in Notepad, save the file then refresh the browser.

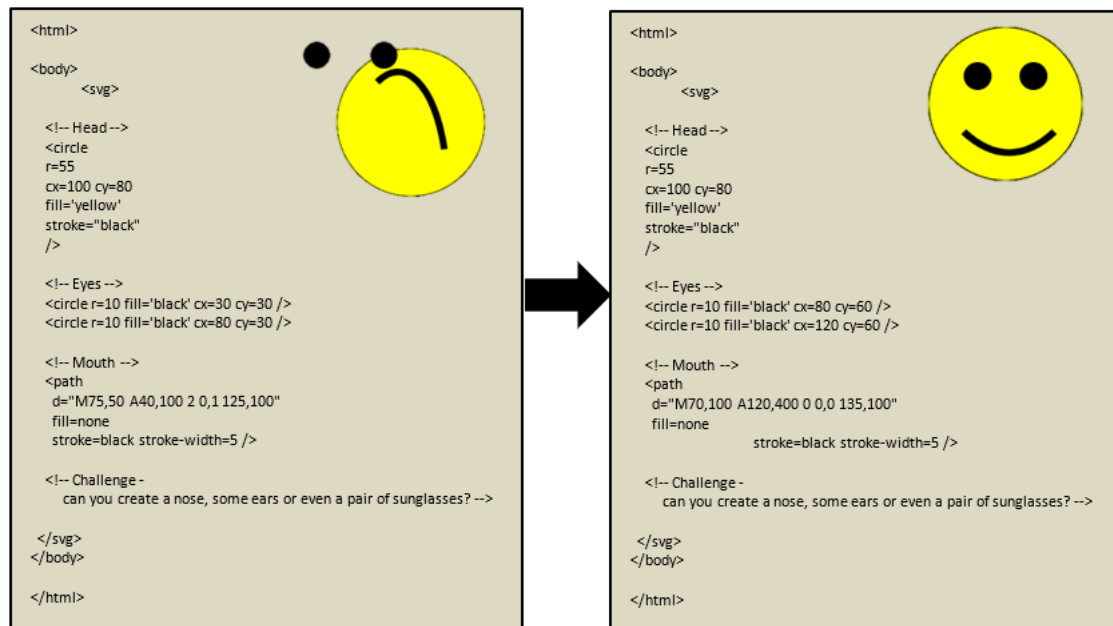
## Students

- Allow students time to individually explore the selected HTML and CSS tutorials.

## Teacher

Strategies to assess and consolidate learning:

- Incomplete or incorrect HTML code activity: provide students with a copy of an incomplete or incorrect code example to resolve. The example below is a smiley face emoji that needs to be fixed in HTML with a sample solution on the right. Starter code can also be accessed in [Trinket](#).



- CSS styling: give students an HTML file that is fixed so cannot be changed in any way. Students must create a CSS file that is referenced by the HTML file to provide styling to the web page.
- Masterclass: identify concepts in the coding tutorials that pose a challenge for most students. Gather students around a projector or whiteboard and work through code as a group to identify gaps in learning. If there are students who are experts then allow them to host the masterclass, as appropriate. This strategy also works well for a group of students that are struggling to make progress by coaching small groups in the fundamentals, which can include paper-based supplementary activities.
- Generative artificial intelligence (AI): use a compliant generative AI application to enter requirements for HTML and CSS code then view results. Students can copy and paste output into a platform, such as Notepad, [Codepen](#) or [Replit](#) to view the web page generated from the code. Some recommendations:
  - guide students in use of generative AI according to your employer's policies and procedures
  - educate students in the advantages and disadvantages of the use of generative AI, such as using the technology as a starting point for inspiration but checking that the results meet your requirements
  - ensure that assessment includes items, such as planning documents, verbal questioning and evaluation, to provide evidence of understanding.

## Lesson 4: Web pages for all

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The Western Australian Curriculum content addressed in this lesson is below.

### Design thinking skills

#### Designing

- Design alternative solutions considering available technologies, functionality, accessibility, usability and aesthetics, using appropriate technical terms.

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### Lesson outline

Learning intentions
<p>Students will:</p> <ul style="list-style-type: none"><li>• Understand the issues that contribute to a limited experience for internet users on websites.</li><li>• Appreciate the importance of equitable access to the World Wide Web.</li><li>• Explore accessibility standards, tools and features commonly used in web design to support audiences with accessibility needs.</li></ul>



### Preparation for the lesson

- Activate prior knowledge: develop a multi-choice quiz that covers HTML and CSS code and concepts from Lessons 2–3.
- Introduction Activity 1: source an online video that relies mostly on voice to convey information (e.g. a person talking with limited background for context). Ensure that the video has Closed Captions available.
- Introduction Activity 2: retrieve a video that comprehensively explains types of accessibility issues and available web design solutions, such as [Web Accessibility Perspectives](#) or [POUR: The 4 principles of accessibility](#)
- Accessible web design: find an example of a well-designed web page (e.g. search ‘accessible web design examples for students’) and an example of a poorly designed web page (e.g. search ‘bad web design’) for accessibility analysis.

### Support notes

- There is an expectation of web designers and developers to recognise diversity and incorporate accessibility when creating web pages to meet the needs of all users
- Circumstances that might provide barriers to access, operate or understand web pages can include issues regarding hardware (e.g. old technology), software (e.g. different browsers), networks (e.g. limited bandwidth), disability or impairment (e.g. low vision), or environmental (e.g. operating in a loud environment).
- The [Web Content Accessibility Guidelines \(WCAG\)](#) is an internationally recognised standard created by the World Wide Web Consortium (W3C). The guidelines refer to Design Principles (Perceivable, Operable, Understandable, Robust), Guidelines and Success Criteria.



### Activate prior knowledge

- Instruct students to complete the quiz on HTML and CSS code structures and concepts.

### Introduction

#### Activity 1

- Show students prepared video; however, ensure that audio is switched off. Run video for around 30 seconds then pause. Ask students to guess what the video is about. Continue playing video for another 30 seconds with closed captions activated. Ask students again if it is now easier to understand what the video is about. Pose the hypothetical scenario for students to imagine life as a user of the internet with hearing impairment. Consider the obstacles to performing everyday tasks in this situation.

#### Activity 2

- Play selected video that explains types of accessibility issues and available solutions.

### Instructions to students

#### Research

- Students research accessibility issues that arise from disability or impairment then list accessibility standards, tools and features available to assist. Strategies could include graphic organisers (e.g. concept map), small group work (e.g. jigsaw strategy), and either online or offline resources (e.g. using a collaborative space).

#### Accessible web design

- Students are provided with two examples of web pages: one well-designed and one poorly designed in terms of accessibility. Students analyse the two examples and comment on accessibility requirements demonstrated or not demonstrated in each design.

Website analysis activity			
Web page	Elements that enable accessibility	Elements with limited accessibility	Changes needed?
Example 1			
Example 2			

Table 2: Template for website analysis activity

### Lesson conclusion – tag team debate

Select students to form two teams to represent two sides in a debate. One speaker from each team takes the floor and has no more than one minute to speak. The next speaker is tagged in, then takes the floor. All team members must speak and only speak once. Students not participating in a team will make up the judges who will decide which team has won the debate. The judges should be encouraged to take notes and record observations on each speaker.

A relevant question could be: ‘Should web developers prioritise accessibility features even if it means higher costs and extended development time?’

## Lessons 5–6: Digital footprint and the APPs

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The Western Australian Curriculum content addressed in these lessons is below.

### Privacy and security

- Australian Privacy Principles (APPs) are used to critique systems and manage the digital footprint of individuals.

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### Lesson outline

#### Learning intentions

Students will:

- Outline the purpose and structure of the Australian Privacy Principles (APPs).
- Identify private information online and determine when it is vulnerable to online risks.
- Explain how the APPs can be used to evaluate how well private information is protected and manage an individual's digital footprint.

### Preparation for lessons

- Activate prior knowledge: source images for an example of colour-blindness in web design. The original design and examples of the same design from the point of view of a person with colour-blindness to be collected.
- Introduction: locate the [Privacy in Practice](#) online course. If not available, then prepare a presentation on the APPs that covers important points in support notes as well as:
  - an introduction to the *Privacy Act*, personal information and consent
  - handling of personal information including reasons for handling, when it can be collected, notifying individuals, using and disclosing personal information, storing and disposing of personal information
  - privacy in the workplace, such as privacy responsibilities, key personnel (privacy officer), important privacy documents, privacy impact assessments and breaches.
- Research activity: locate websites that contain information on use of personal data by apps commonly used by a teenage audience. For example, the [eSafety Guide](#) or the Privacy Policy (or Terms and Conditions) web page of specific apps.
- Cybersecurity threat model: prepare two scenarios where teenagers show vulnerability in the management of their digital footprint. Suggest including use of social media in at least one scenario.
- Privacy audit toolkit: a template for the type of format selected could be prepared or, alternatively, an online tool such as [draw.io](#) can be sourced.

### Support notes

- A digital footprint is the unique trail of data created by an individual's online activities that can be regarded as permanent.
- The Australian Privacy Principles are a set of principles designed to protect the privacy of individuals by guiding the collection, use and disclosure of personal data. The principles are founded on the *Privacy Act 1988*.

- It is recommended that users of online applications be familiar with the app's privacy policy before consenting to the terms and conditions of use. For example, the [Snapchat Privacy Policy](#).
- Threat modelling is a reliable process developed to gain insights into risks linked to cyber threats from the perspective of the attacker. By doing so, individuals and organisations can implement preventative strategies to protect assets. Key components of this process are:
  - assets: anything of value in a system, such as data or hardware
  - threats: a person or process that can intentionally or unintentionally cause harm to assets, such as a malicious insider or ransomware
  - vulnerabilities: weakness in a system, such as design flaws or user operation, that can be exploited by an attacker
  - mitigation strategies: strategies, including the development of policies and procedures, or setting a secure password, that can reduce the risk or impact of a cyber threat.

### Activate prior knowledge

- Show the class the images of the original web design without the effects of colour-blindness. Ask students to guess how an affected person might see the web page. Show the subsequent images then ask students to Think-Pair-Share strategies for web design that could assist accessibility in this scenario.
- Some appropriate strategies could include:
  - Avoid certain colour combinations such as green and black or blue and purple
  - Use high contrast colours
  - Use both colours and symbols.

### Introduction

- Students to complete modules in the [Australian Privacy Principles: Privacy in Practice](#) course. If access is not available to the course, then deliver the prepared presentation on the Australian Privacy Principles.

### Instructions to students

#### Research activity

- Students will select an online app to research in terms of Privacy. Guide students on relevant websites as per preparation notes.
- Students may structure their findings in the table below:

Privacy research activity	
Name of app	
Minimum age to use app	
Tasks or functionality of the app	
Block or report options available	
Ways to protect personal information	
Strategies for seeking help	

Table 3: Privacy research activity



### Pop art poster activity

- Students form groups of four. Assign each student a component of the Cybersecurity Threat Model, to gather essential information.
- Suggestions for time management when researching online:
  - scan at least the first two pages of records returned by the search engine
  - take note of information that is consistent with most websites to form the essential points
  - go to the websites that are reliable and state the information that appears most relevant to the topic
  - locate and expand on the essential points in the selected websites (there should only be two to three)
  - In groups, students each contribute a section to a collaborative poster designed in 1960s Pop Art style, featuring bold colours and repetition. Divide the poster into four quadrants, each containing a template for students to add their research information. Each quadrant will be themed with a distinct, vibrant colour.

### Cybersecurity threat model

- Students are given scenarios to identify:
  - assets (personal information)
  - threats (e.g. phishing)
  - vulnerabilities (e.g. weak passwords)
  - mitigation (protection) strategies (e.g. multifactor authentication).
- Students create a mind map to organise their responses using each bullet point above as a supporting idea (branch) of the central topic.

### Privacy audit toolkit

- Students design a Privacy Audit Toolkit, inspired by the APPs, to assist users with understanding how their private data is handled and suggest ways to improve. The app selected in the Research activity may be used for this task. Appropriate formats for the toolkit can include a quiz, flow chart or decision tree.
- Examples of relevant questions could be:
  - Is the app collecting personal data?
  - If yes, then:
    - What data is the app collecting?
    - How is the app using data?
    - Is app sharing data with third parties?
  - If no, then no further action.

### Lesson conclusion – conversation

- Ask students to consider the question: ‘How do social media companies make money if they are free to use?’
- Use the conversation strategy to provoke discussion by placing students into groups of four to six students. After a minute or two, one or two students from each group rotate to a different group and the conversation continues with newcomers to a group sharing ideas from the previous conversation. For the next rotation, students that have not moved before will now rotate until all students have completed a rotation.



## Lesson 7: Project management

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The Western Australian Curriculum content addressed in this lesson is below.

### Design thinking skills

#### Project management

- Manage projects, using suitable technologies, with an agile and collaborative approach. Use project management processes to consider time, production processes, social, ethical, economic and sustainable factors, and legal responsibilities.

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### Lesson outline

Learning intentions
<p>Students will:</p> <ul style="list-style-type: none"><li>• Explore an agile and collaborative approach to managing projects.</li><li>• Develop skills in digital tools that support a collaborative project.</li><li>• Apply project management processes to consider factors, such as time, production process, social factors and legal responsibilities.</li></ul>



### Preparation for lesson

- Activate prior knowledge: find a video (or infographic) to explain the Agile approach to project management, such as [Project Management That ACTUALLY Works](#) and [Agile project management methodology explained \(with burgers?!\)](#)
- Compare and contrast; source an online collaborative whiteboard or canvas application, such as MS Whiteboard.

### Support notes

- Projects involving groups of people benefit from effective project management.
- Agile is the term used to describe a set of values and principles to create solutions.
- The Agile approach was developed to overcome shortcomings of traditional software development methodologies, such as 'waterfall'. It is a dynamic and iterative process that involves continuous reflection to adapt a product until it has maximum appeal for the target audience. Each iteration is called a sprint. Projects are broken down into smaller tasks that can be prioritised and assigned. Agile projects are team-focused, and their success is reliant on commitment by team members.
- In project management, consideration must be given to factors, such as time, economics, and resourcing as they will impact the quality of the final product.
- Online collaboration tools, such as whiteboards, schedulers and planners, are valuable for efficiency and success.

### Activate prior knowledge

- Introduce the topic of project management and the Agile approach by viewing the video.



## Instructions to students

### Compare and contrast

- In pairs, students compare and contrast the Agile approach with the traditional waterfall methodology using the chosen online collaborative whiteboard or canvas application. Instruct students to use a template, as available, such as a table or Venn diagram.

### Paper plane Agile activity

- Students divide into small groups with sheets of paper. The goal of this project is to create several prototype paper planes that must fly a predetermined distance. Team members can only make one fold before passing on their prototype to another team member. If a paper plane prototype is successful in flying the set distance, then the team will score points.
- The activity is composed of 9-minute sprints based on the following format:
  - Planning phase (3 minutes): teams discuss strategies and folding techniques as well as deciding on individual roles
  - Building and flying phase (3 minutes): teams construct and test their paper planes
  - Reflection phase (3 minutes): teams reflect on the success of their strategies as well as any gaps in the process. What must be done to improve the next prototype version?
- A number of sprints can be performed in the available time.
- Teams can consider referring to the following factors of project management in their reflections:
  - effective use of time
  - efficient processes
  - minimising the use of paper as a resource
  - incorporating legal responsibilities, such as safety, in their designs and practices.

### Lesson conclusion – Teams meeting

Teams have two minutes each to give a reflection on the Agile project management process experienced in the paper plane activity.



## Lessons 8–9: Data gathering

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The Western Australian Curriculum content addressed in these lessons is below.

### Digital implementation

- Define and decompose real-world problems by using data gathering techniques to create the client needs.

### Design thinking skills

#### Investigating and defining

- Ideate a problem and define the needs of the client/stakeholder through anecdotal evidence and/or data gathering techniques

---

### Lesson outline

Learning intentions
Students will: <ul style="list-style-type: none"><li>• Empathise with clients to understand and support client needs when developing digital solutions.</li><li>• Gather data using appropriate strategies to provide evidence of client needs.</li><li>• Use strategies to gather data from younger students to prepare for and plan a website project.</li></ul>



### Preparation for lesson

- Introduction: Identify a group of younger students (e.g. Year 7 class) who will become the clients for the Digital footprint website (Appendix C). Find an example of a website design that demonstrates a lack of empathy with the clients as the target audience.
- Develop user interview: gather a set of blank sticky notes.
- Gather data: arrange time for students to conduct user interviews with clients.

### Support notes

- The most effective solutions to a problem come from a deep understanding of, and empathy with the user.
- Effective designers avoid making assumptions and instead use techniques, such as interviews, surveys and observations to accurately gain an understanding of the needs of a client.
- Analysis of the data gathered from clients will enable designers to pinpoint specific problems that can be solved by a digital solution and thus inform the design.

### Introduction

- Show students the example of a poorly designed web page and ask them to list reasons for the web page not meeting the audience's needs.
- Explain to the students they will be developing a User interview in preparation for the Digital footprint website (Appendix C) to understand the clients' needs regarding privacy and online activity.



## Instructions to students

### Develop user interview

- Students form small groups of two to three to gather data that will be used to make informed decisions about the design of the Digital footprint website.
- Below are steps that outline a simple process for User interviews:
  - Each student to brainstorm questions for the survey and write one question on a sticky note.
  - Group members come together to share their questions, provide feedback and fine-tune to develop a list of meaningful questions.
  - Sort questions into common themes and remove duplicates or similar questions.
  - As a group, decide on a final list and choose the best five to 10 questions.
  - Decide on the order of questions so that the survey will flow naturally.
  - Preliminary questions should gather data about the clients as the target audience (e.g. age, interests, gender, etc.).
  - Questions on the clients' online behaviour are essential.
  - Make sure that a few questions are open questions and provide space for user feedback. For example, 'Can you explain why ...?' or, 'How do you feel about ...?'

### Gather data

- Students will conduct the User interview with the clients at the arranged time.

### Analyse results

- After the User interview is complete, data must be analysed to discover any patterns to develop a website that will have the greatest impact. Start by identifying and listing problems that occur with the clients' online activity, why they are a problem and how the problem can be resolved through the design of the website. If data reveals expectations or ideas from interviewees that can enhance the website design be sure to include these as well.

### Lesson conclusion – debrief session

Host a debrief session with the class to allow students to provide feedback on the User interview process and share ideas on how to resolve issues.



## Lessons 10–11: Designing and prototyping

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The Western Australian Curriculum content addressed in these lessons is below.

### Digital implementation

- Design and prototype the user experience and user interface (UX/UI) of a digital system based on client needs.

### Design thinking skills

#### Designing

- Design alternative solutions considering available technologies, functionality, accessibility, usability and aesthetics, using appropriate technical terms

---

### Lesson outline

Learning intentions
Students will: <ul style="list-style-type: none"><li>• Demonstrate the skills required in website design to complete the formative assessment task (Appendix B).</li></ul>



### Preparation for lesson

- Familiarise yourself with Appendix B, 'Designing and prototyping a website' task.
- Students should have completed Lessons 1–9 prior to attempting this assessment.
- Students can choose the software tools that they are most familiar with to complete the task.
- Arrange a time for students to meet with their clients to gather feedback on storyboard alternatives to inform their final design.
- Prepare a presentation using the Support notes or become familiar with software to produce a sitemap and storyboard (if using a digital tool).

### Support notes

- Key components of a website design plan include sitemaps and storyboards.

- A sitemap is a hierarchical, visual representation of the structure of a website, including its pages and content, showing how each page is connected. See the sitemap example below for a business called 'Crafty Cupcakes'.

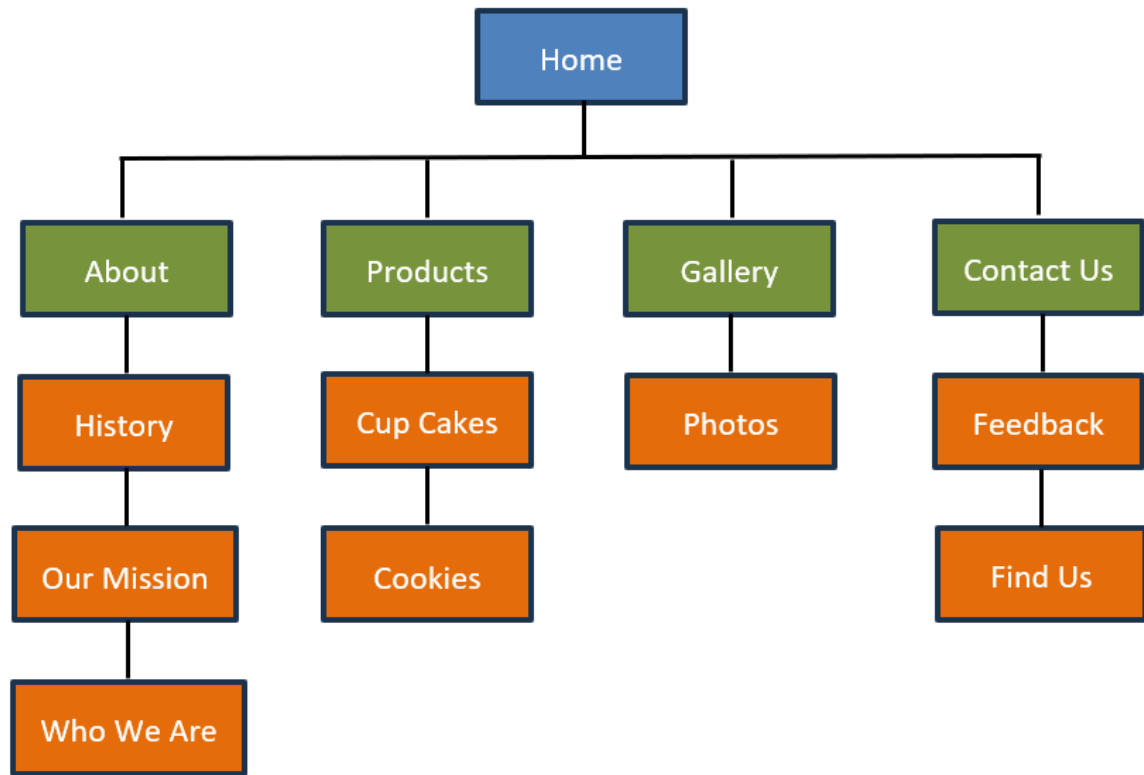


Image 2: Sitemap for Crafty Cupcakes website

- A storyboard is a planning tool to visualise content, structure and styling in User Interface (UI) and User Experience (UX) design. The navigation or flow of the website is also indicated on the storyboard, mapping out how users might interact with or experience a product. Storyboards can be created by hand, using pencil and paper, or digital tools that allow collaboration.
- See example storyboard below for the 'Crafty Cupcakes' business.

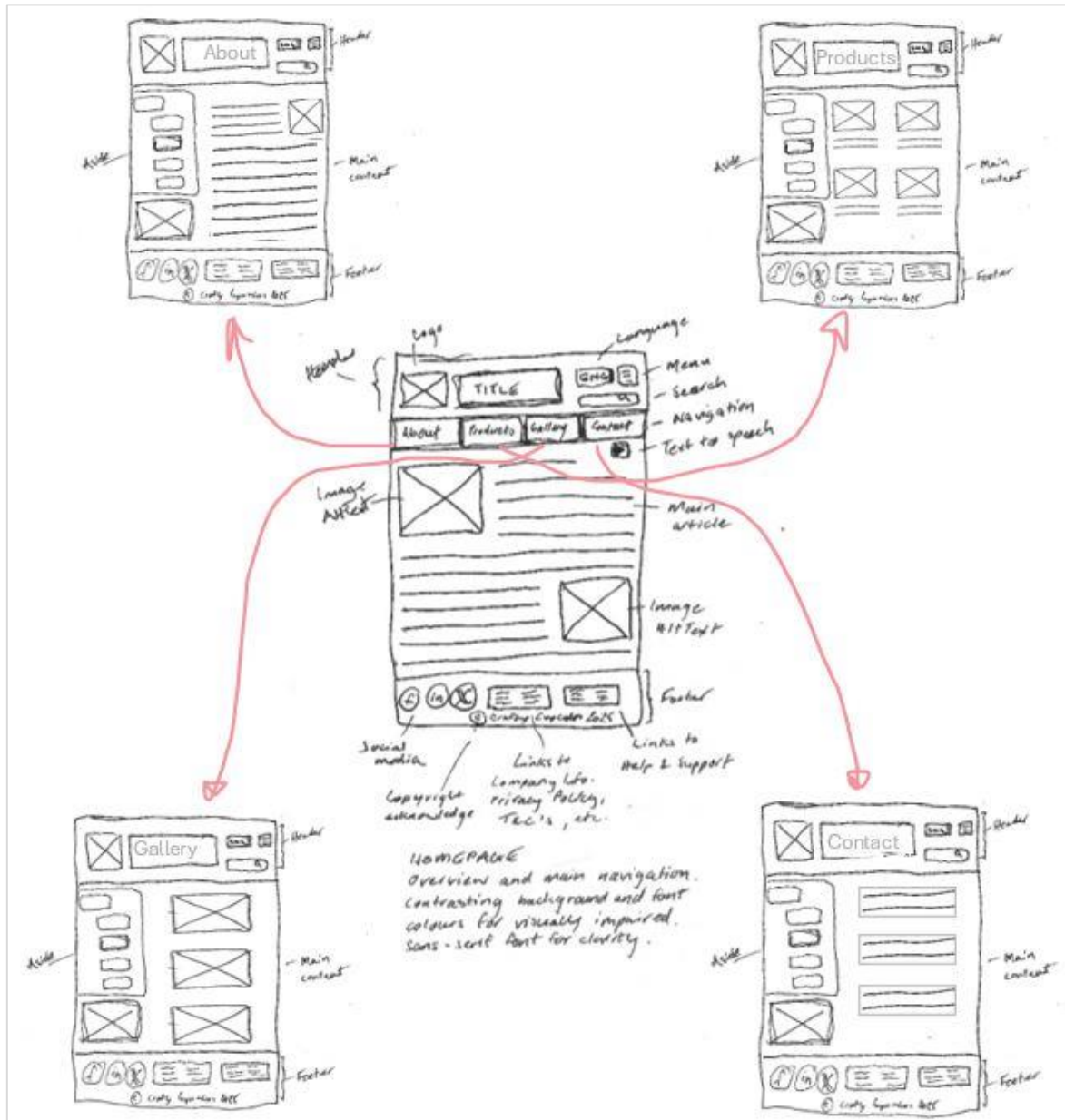


Image 3: Storyboard for Crafty Cupcakes website

### Presentation/Demonstration

Provide students with a presentation and/or demonstration of sitemaps and storyboards.



## Lessons 12–14: Digital footprint website

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The Western Australian Curriculum content addressed in these lessons is below.

### Data representation

- Represent documents online as content (text), structure (mark-up) and presentation (styling) and the purpose of these distinctions

### Privacy and security

- Australian Privacy Principles (APPs) are used to critique systems and manage the digital footprint of individuals

### Digital implementation

- Define and decompose real-world problems by using data gathering techniques to create the client needs
- Design and prototype the user experience and user interface (UX/UI) of a digital system based on client needs

### Design thinking skills

#### Project management

- Manage projects, using suitable technologies, with an agile and collaborative approach. Use project management processes to consider time, production processes, social, ethical, economic and sustainable factors, and legal responsibilities

#### Investigating and defining

- Ideate a problem and define the needs of the client/stakeholder through anecdotal evidence and/or data gathering techniques

#### Designing

- Design alternative solutions considering available technologies, functionality, accessibility, usability and aesthetics, using appropriate technical terms

#### Producing and implementing

- Select, justify, implement and test a range of technologies, techniques and processes to produce solutions and/or prototypes

#### Evaluating

- Evaluate design processes and solutions against student-developed criteria

---

### Lesson outline

Learning intentions
Students will: <ul style="list-style-type: none"><li>• Complete the 'Digital footprint website' task to the best of their ability.</li></ul>

## Preparation for lesson

- Familiarise yourself with Appendix C, 'Digital footprint website' task.
- Create a presentation on the Gantt chart as a project management tool and develop your skillset in a relevant application as needed.
- Students should have the content and skills required to complete the task to the best of their ability.
- Students should choose the software tools they are most familiar with to complete the task.

## Support notes

- Website to be completed as a collaborative project to demonstrate the skills of an effective team.
- Teams to agree on clear roles and responsibilities for each team member.
- A Gantt chart is an example of an online collaborative tool used in project management for planning, scheduling, and monitoring a project. It represents tasks and timelines as a bar chart. Major tasks are broken down into smaller, more manageable tasks, which are then assigned to team members. Dependencies between tasks are also displayed. As the project progresses, the status of each task is updated accordingly. Below is an example of a simple Gantt chart. Note that colour-coding of bars can be broken down to show expected versus actual progress.

GANTT CHART: BIRTHDAY PARTY PROJECT							
TASK	DELEGATE	JAN	FEB	MAR	APR	MAY	JUN
Create guest list	John	█					
Send out invitations	John		█				
Receive RSVP's	John		█	█	█	█	
Find party decorations	Jane			█	█		
Create menu	Jane				█	█	
Purchase party food and drink	Jane						█
Decorate house	John						█
Prepare food and drink	Jane						█
Welcome guests	Jane						█

Image 4: Example of a simple Gantt chart

- Deliver presentation and demonstration of a simple Gantt chart
- Outline the requirements of the task, including:
  - each aspect of the task
  - timeline for completion of the task
  - opportunities for feedback.

## Instructions to students

- Complete the 'Digital footprint website' task (Appendix C).

## Lesson conclusion

On completion of this task, groups should view each other's website. Provide opportunity for clients to experience the websites.





# Appendix A

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Resources  
Lessons 1–9

## Appendix A: Resources

Lesson	Resource	Link/information
1	How Do Websites Actually Work	<ul style="list-style-type: none"> <li>Cyber Elias Academy. <i>How Do Websites Actually Work</i>. <a href="https://youtu.be/IXCymwLW1zo?si=qiUfXzboLv7D1HKb">https://youtu.be/IXCymwLW1zo?si=qiUfXzboLv7D1HKb</a></li> </ul>
	What is HTML, CSS and Javascript?	<ul style="list-style-type: none"> <li>Tiff in Tech. <i>What is HTML, CSS and Javascript?</i> <a href="https://youtu.be/DHGhFJZLKMs?si=stClRoOZAaVl3Scu">https://youtu.be/DHGhFJZLKMs?si=stClRoOZAaVl3Scu</a></li> </ul>
	Implementation (HTML)	<ul style="list-style-type: none"> <li>BBC Bitesize. <i>Implementation (HTML)</i>. <a href="https://www.bbc.co.uk/bitesize/guides/zrpqy9q/revision/1">https://www.bbc.co.uk/bitesize/guides/zrpqy9q/revision/1</a></li> </ul>
	HTML Tutorial	<ul style="list-style-type: none"> <li>W3Schools. <i>HTML Tutorial</i> <a href="https://www.w3schools.com/html/default.asp">https://www.w3schools.com/html/default.asp</a></li> </ul>
	CSS Zen Garden	<ul style="list-style-type: none"> <li>Shea, D. <i>CSS Zen Garden</i>. <a href="https://csszengarden.com/">https://csszengarden.com/</a></li> </ul>
	Style Stage	<ul style="list-style-type: none"> <li>Eccles, S. <i>Style Stage</i>. <a href="https://stylestage.dev/styles/">https://stylestage.dev/styles/</a></li> </ul>
2–3	W3Schools	<ul style="list-style-type: none"> <li>W3Schools. <i>W3Schools</i>. <a href="https://www.w3schools.com/">https://www.w3schools.com/</a></li> </ul>
	Teach hands-on HTML	<ul style="list-style-type: none"> <li>trinket. <i>Teach hands-on HTML</i>. <a href="https://trinket.io/html/e92e48586d">https://trinket.io/html/e92e48586d</a></li> </ul>
	Codepen	<ul style="list-style-type: none"> <li>Codepen. <i>Codepen: Online Code Editor and Front End Web Developer Community</i>. <a href="https://codepen.io/">https://codepen.io/</a></li> </ul>
	Replit	<ul style="list-style-type: none"> <li>Replit. <i>Replit – Build apps and sites with AI</i>. <a href="https://replit.com/">https://replit.com/</a></li> </ul>
4	Webpage design	<ul style="list-style-type: none"> <li>Digital Technologies Hub. <i>Webpage design</i>. <a href="https://www.digitaltechnologieshub.edu.au/plan-and-prepare/scope-and-sequence-f-10/years-9-10/?topic=c1-1&amp;unit=unit_3ad16ef5-705a-4f52-8541-b082399ce5cc_card">https://www.digitaltechnologieshub.edu.au/plan-and-prepare/scope-and-sequence-f-10/years-9-10/?topic=c1-1&amp;unit=unit_3ad16ef5-705a-4f52-8541-b082399ce5cc_card</a></li> </ul>
	Web Accessibility Perspectives	<ul style="list-style-type: none"> <li>W3C Web Accessibility Initiative. <i>Web Accessibility Perspectives</i>. <a href="https://youtu.be/3f31oufqFSM?si=SPNeJg-8KNxY1YQQ">https://youtu.be/3f31oufqFSM?si=SPNeJg-8KNxY1YQQ</a></li> </ul>
	POUR: The 4 principles of accessibility	<ul style="list-style-type: none"> <li>Government Digital Service. <i>POUR: The 4 principles of accessibility</i>. <a href="https://youtu.be/hs8sykCaf3E?si=Ub3PwnX3kg-l-57p">https://youtu.be/hs8sykCaf3E?si=Ub3PwnX3kg-l-57p</a></li> </ul>
	What is the WCAG Standard?	<ul style="list-style-type: none"> <li>Centre for Accessibility Australia. <i>What is the WCAG Standard?</i> <a href="https://www.accessibility.org.au/guides/what-is-the-wcag-standard/">https://www.accessibility.org.au/guides/what-is-the-wcag-standard/</a></li> </ul>

Lesson	Resource	Link/information
5–6	Welcome to Privacy in Practice	<ul style="list-style-type: none"> <li>Office of the Australian Information Commissioner. <i>Welcome to Privacy in Practice</i>. <a href="https://education.oaic.gov.au/elearning/privacy-in-practice/welcome.html#top">https://education.oaic.gov.au/elearning/privacy-in-practice/welcome.html#top</a></li> </ul>
	The eSafety Guide	<ul style="list-style-type: none"> <li>eSafetyCommissioner. <i>The eSafety Guide</i>. <a href="https://www.esafety.gov.au/key-topics/esafety-guide">https://www.esafety.gov.au/key-topics/esafety-guide</a></li> </ul>
	draw.io	<ul style="list-style-type: none"> <li>draw.io. <i>draw.io</i>. <a href="https://draw.io">draw.io</a></li> </ul>
	Privacy, Safety, and Policy Hub	<ul style="list-style-type: none"> <li>Snap Inc. <i>Privacy, Safety, and Policy Hub</i>. <a href="https://values.snap.com/privacy/privacy-policy?lang=en-GB">https://values.snap.com/privacy/privacy-policy?lang=en-GB</a></li> </ul>
	Privacy and security	<ul style="list-style-type: none"> <li>Digital Technologies Hub. <i>Privacy and security</i>. <a href="https://www.digitaltechnologieshub.edu.au/media/t2mhoiw2/privacy-security_a3_web_3-6.pdf">https://www.digitaltechnologieshub.edu.au/media/t2mhoiw2/privacy-security_a3_web_3-6.pdf</a></li> </ul>
7	Project Management That ACTUALLY Works	<ul style="list-style-type: none"> <li>Spencer, J. <i>Project Management That ACTUALLY Works</i>. <a href="https://youtu.be/o7yZutiwRso">https://youtu.be/o7yZutiwRso</a></li> </ul>
	Agile project management methodology explained (with burgers?!)	<ul style="list-style-type: none"> <li>The Digital Project Manager. <i>Agile project management methodology explained (with burgers?!)</i>. <a href="https://youtu.be/zi7uGg6FVM4">https://youtu.be/zi7uGg6FVM4</a></li> </ul>
	8 Agile Games to Enhance Team Performance	<ul style="list-style-type: none"> <li>Cluster, L. <i>8 Agile Games to Enhance Team Performance</i>. <a href="https://www.invensislearning.com/blog/best-agile-games/">https://www.invensislearning.com/blog/best-agile-games/</a></li> </ul>
8–9	Design Thinking Mix-in	<ul style="list-style-type: none"> <li>Grok Academy. <i>Design Thinking Mix-in</i>. <a href="https://groklearning-cdn.com/flatpages/RnUuwAgFTQA3xB8wDB8yXh/DTApliedDesignThinkingWorkbook_r4-compressed.pdf">https://groklearning-cdn.com/flatpages/RnUuwAgFTQA3xB8wDB8yXh/DTApliedDesignThinkingWorkbook_r4-compressed.pdf</a></li> </ul>





## **Appendix B**

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Assessment task (Formative)

Designing and prototyping a website



## Task details

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<b>Title</b>	Designing and prototyping a website
<b>Description</b>	Students design and prototype ideas for a website to demonstrate curriculum knowledge of the Data representation strand.
<b>Ways of assessing</b>	Practical evidence, observations, graphic organiser
<b>Evidence to be collected</b>	sitemap storyboards self-evaluation
<b>Suggested time</b>	Two one-hour lessons
<b>Differentiation</b>	Teachers should differentiate their teaching and assessment to meet the specific learning needs of their students, based on their level of readiness to learn and their need to be challenged. Where appropriate, teachers may either scaffold or extend the scope of the assessment tasks.

## Content descriptions

---

### Data representation

- Represent documents online as content (text), structure (mark-up) and presentation (styling) and the purpose of these distinctions

### Digital implementation

- Design and prototype the user experience and user interface (UX/UI) of a digital system based on client needs

### Design thinking skills

#### Designing

- Design alternative solutions considering available technologies, functionality, accessibility, usability and aesthetics, using appropriate technical terms

## Resources

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- pencils (including coloured) and paper, and/or
- design and prototyping software
- results of the User interviews that were completed in Lessons 8–9, for each group

## Student workbook

### Task description: Designing and prototyping a website

Name: \_\_\_\_\_

For this task, you will plan a website aimed at providing younger students with valuable information about managing their digital footprints while online, using the Australian Privacy Principles as a guide.

To showcase your skills, you will create designs and prototypes that address the needs of your target audience as defined by the user interviews.

#### Instructions

- In your groups, locate the results of the User interviews that were completed in Lessons 8–9.
- Review the patterns and themes identified by the User interview responses.
- Each group member will contribute a sitemap and storyboard that will provide alternative solutions for client feedback.
- Clients will select a preferred design that will become the basis for a website project.

(Total 12 marks)

#### Sitemap (individual)

Develop a sitemap that will represent the needs of the clients and provide the framework of your website solution.

(3 marks)



Sitemap

Image 5: Sitemap placeholder



**Storyboard (individual)**

Complete the storyboard template (sample below) to reflect the sitemap design.

(5 marks)

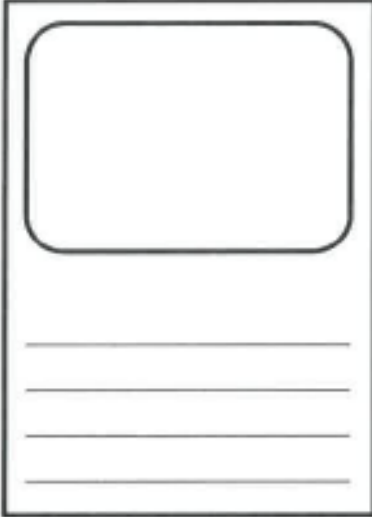
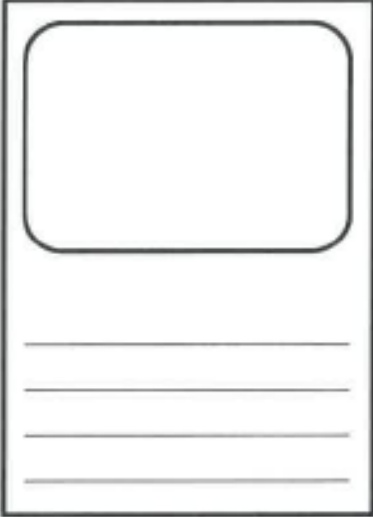
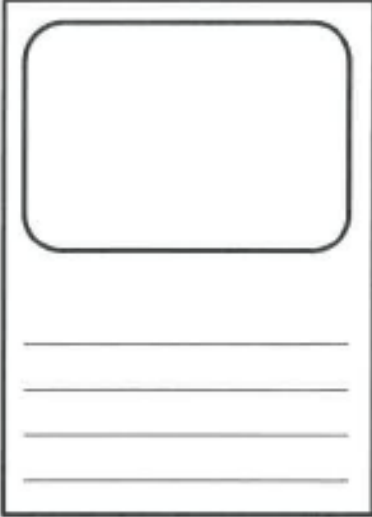
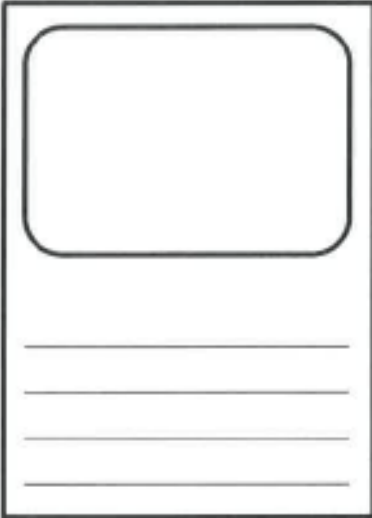
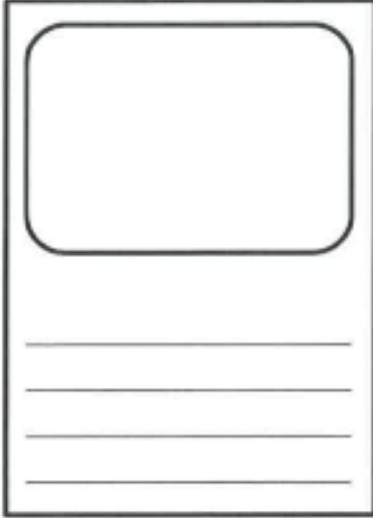
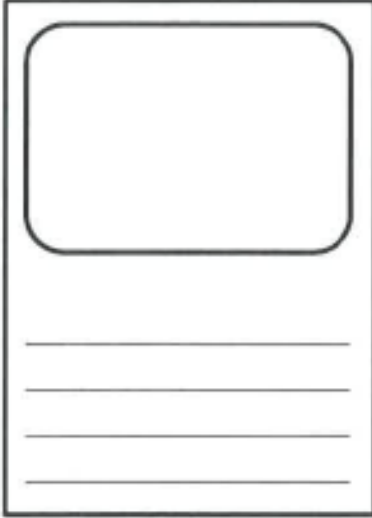
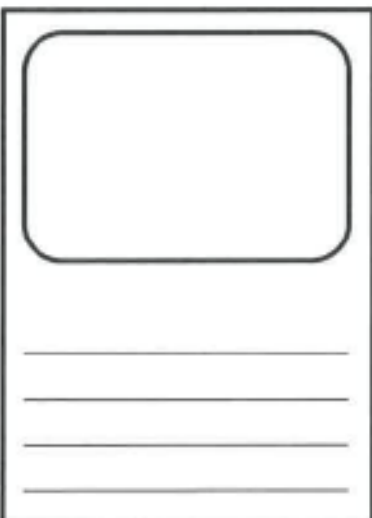
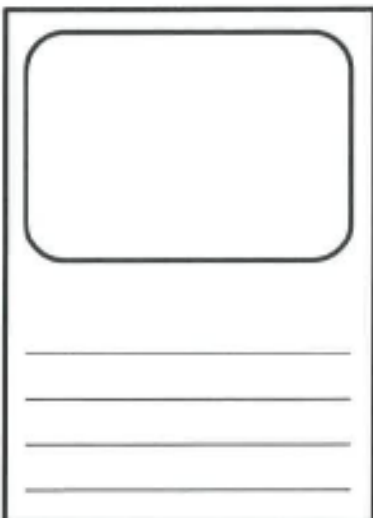
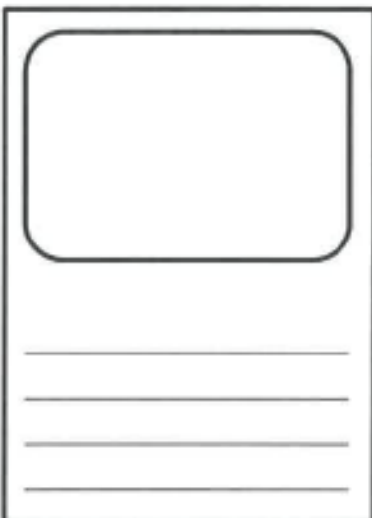
		
		
		

Image 6: Storyboard template



## Marking key

Description	Marks
<b>Designing (sitemap)</b>	
Constructs a detailed sitemap that meets the needs of the clients to determine the basis for a solution.	3
Constructs a sitemap that addresses the needs of the clients to determine the basis for a solution.	2
Constructs an incomplete sitemap that does not address needs of the clients.	1
<b>Subtotal</b>	<b>/3</b>
<b>Designing (storyboard)</b>	
Develops a comprehensive storyboard design with full annotations that meets the clients' needs and clearly indicates the flow of the user experience (UX).	5
Develops an extensive storyboard design with descriptive annotations that references the clients' needs and indicates the flow of the user experience (UX).	4
Develops a detailed storyboard design with informative annotations.	3
Develops a basic storyboard design with limited annotations.	2
Develops an incomplete storyboard.	1
<b>Subtotal</b>	<b>/5</b>
<b>Self-evaluation</b>	
Self-evaluation comprehensively analyses feedback received from clients, including a reflection of the design process. Justifies changes that could be made based on feedback.	4
Self-evaluation analyses feedback received from clients including some reflection of the design process. Describes changes that could be made based on feedback.	3
Self-evaluation considers feedback received from clients and provides some reflections on the design process.	2
Provides minimal details in the self-evaluation.	1
<b>Subtotal</b>	<b>/4</b>
<b>Total</b>	<b>/12</b>



## Appendix C

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Assessment task (Summative)

Digital footprint website



## Task details

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<b>Title</b>	Digital footprint website
<b>Description</b>	In groups, students develop a Digital footprint website to demonstrate curriculum knowledge of Data representation and Privacy and security
<b>Ways of assessing</b>	Practical evidence, observations, graphic organiser
<b>Evidence to be collected</b>	Website data files in HTML and CSS languages, and content (e.g. images) Student workbook
<b>Suggested time</b>	Five one-hour lessons
<b>Differentiation</b>	Teachers should differentiate their teaching and assessment to meet the specific learning needs of their students, based on their level of readiness to learn and their need to be challenged. Where appropriate, teachers may either scaffold or extend the scope of the assessment tasks.

## Content descriptions

---

### Data representation

- Represent documents online as content (text), structure (mark-up) and presentation (styling) and the purpose of these distinctions

### Privacy and security

- Australian Privacy Principles (APPs) are used to critique systems and manage the digital footprint of individuals

### Digital implementation

- Define and decompose real-world problems by using data gathering techniques to create the client needs
- Design and prototype the user experience and user interface (UX/UI) of a digital system based on client needs

### Design thinking skills

#### Project management

- Manage projects, using suitable technologies, with an agile and collaborative approach. Use project management processes to consider time, production processes, social, ethical, economic and sustainable factors, and legal responsibilities

#### Investigating and defining

- Ideate a problem and define the needs of the client/stakeholder through anecdotal evidence and/or data gathering techniques



### **Designing**

- Design alternative solutions considering available technologies, functionality, accessibility, usability and aesthetics, using appropriate technical terms

### **Producing and implementing**

- Select, justify, implement and test a range of technologies, techniques and processes to produce solutions and/or prototypes

### **Evaluating**

- Evaluate design processes and solutions against student-developed criteria

### **Resources**

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- collaborative, online tool for scheduling (or offline alternative), such as Gantt chart or to-do list
- web development software

### **Instructions to teachers**

- Inform students they will work both independently and collaboratively on this task (check instructions in the Student Workbook).
- Groups will need the User interview data from Lessons 8–9 as well as the storyboard feedback data from the ‘Designing and prototyping a website’ task (Appendix B).
- Guide students in terms of timing and number of sprints to be performed within allocated class time this task.
- On completion of the task, ask students to share their final product with their peers and clients.
- Adjust the following Student Workbook to meet the needs of the students.



## Digital footprint website

Name: \_\_\_\_\_

### Investigating and defining, and designing

#### Questions 1–3 support Question 13 (writing the evaluation)

(Total 33 marks)

1. Based on the user interviews, outline the needs of your clients or target audience.

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2. Suggest reasons for gathering data from clients *before* designing a digital solution.

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3. Groups will use the client feedback from the ‘Designing and prototyping a website’ task (Appendix B) to adjust and refine the preferred storyboard alternative, as required.

Insert a copy of your group’s final website storyboard below.

Storyboard

Image 7: Storyboard placeholder



4.

(a). Describe how the storyboard design meets the needs of your clients or target audience.

(2 marks)

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(b) Outline aspects of three designs that address accessibility requirements.

(3 marks)

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5. Explain the role of layers when representing documents online, providing detailed reasoning for the need of separation.

(4 marks)

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6. Describe the Australian Privacy Principles and explain how they guide us when managing an individual's digital footprint.

(4 marks)

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7. Complete the following table to clarify each team member's role in this project.

Team member	Role	Tasks	Reason(s) for selection

8. Insert a screenshot of a collaborative online tool (or offline alternative) that demonstrates how your group will address the consideration of time as a factor in this project.

Screenshot

9. Software chosen for this project and reason for selection.

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10. Identify resources we will need and who will provide them.

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11. Conduct a team meeting after each sprint and record notes in the table below.  
Complete several sprints during the production phase of this project, as per the Agile approach.

Sprint number	Successes	Gaps	Actions	Person(s) responsible

Table 5: Record of team meetings after each sprint.

Note: the mark for the students' project management includes role clarity, sprint details, collaborating well, completing each milestone/deliverables on time.

### Producing and implementing

12. Create your CSS/HTML website that is engaging with the user experience identified. (10 marks)



**Evaluation (Sample only – students need to create their own evaluation criteria)**

13. Apply your experience in this project to illustrate any benefits or shortcomings of the Agile approach to project management. (5 marks)

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State three success criteria for this project.

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Evaluate your group's performance in terms of the success of this project.

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Evaluate your performance in terms of the success of this project.

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## Marking key

Description	Marks
<b>4. (a) &amp; 4. (b) Investigating and defining</b>	
Describes how the storyboard design meets the needs of their clients or target audience	2
Makes a general statement of how the storyboard design meets the needs of their clients or target audience	1
<b>Subtotal</b>	<b>/2</b>
One mark for each:	
Outlines aspects of three designs that address accessibility requirements.	1–3
<b>Subtotal</b>	<b>/3</b>
<b>5. Data representation</b>	
Explains the role of layers when representing documents online, providing detailed reasoning for the need of separation.	4
Describes the role of layers when representing documents online, providing some reasoning for the need of separation.	3
Identifies the role of layers when representing documents online, with reference to the need of separation.	2
Lists the role of layers when representing documents online.	1
<b>Subtotal</b>	<b>/4</b>
<b>6. Privacy and security</b>	
Describes the core ideas of the Australian Privacy Principles and clearly explains their importance in managing a digital footprint to ensure online privacy.	4
Outlines the main ideas of the Australian Privacy Principles and describes their importance in managing a digital footprint to assist online privacy.	3
Identifies some ideas of the Australian Privacy Principles and relates them to managing a digital footprint.	2
Lists a few general ideas that relate to the Australian Privacy Principles.	1
<b>Subtotal</b>	<b>/4</b>

Description	Marks
<b>7–11. Project management</b>	
Consistently works individually and collaboratively, successfully implementing the Agile approach, to develop and effectively communicate detailed and logical ideas and information, with consideration of time and production processes.	5
Regularly works individually and collaboratively, implementing an Agile approach, to develop and effectively communicate ideas and information, with consideration of time and production processes.	4
Works mostly individually, often in collaboration with others, using a somewhat Agile approach, to develop and communicate ideas and information, with some consideration of time and production processes.	3
Works individually, with occasional collaboration, using some elements of an Agile approach, to share ideas and information.	2
Works individually with limited collaboration to share ideas and information.	1
<b>Subtotal</b>	<b>/5</b>
<b>12. Producing and implementing (images/style)</b>	
Uses a range of techniques, software and hardware safely to create a website that meets the clients' needs. Develops and refines an effective digital solution creating an engaging user experience with clear consideration to accessibility.	9–10
Uses a range of techniques, software and hardware safely to create a website that addresses the clients' needs. Creates effective digital solutions with consideration to the user experience and accessibility.	7–8
Uses some techniques, software and hardware safely to create a website that addresses some of the clients' needs. Creates digital solutions with consideration to the user experience and accessibility.	5–6
Uses some techniques, software and hardware safely to create part of a website with some consideration of the clients' needs.	3–4
Uses limited techniques, software and hardware to create an incomplete or inappropriate product with limited consideration of the clients' needs.	1–2
<b>Subtotal</b>	<b>/10</b>

Description	Marks
<b>1. 2. 3. &amp; 13. Evaluation</b>	
Comprehensively analyses feedback received from others, including a detailed reflection of all stages of the design process, against student-developed criteria. Justifies well-considered changes, with thorough reasoning, that could be made based on feedback.	5
Analyses feedback received from others, including a detailed reflection of most stages of the design process, against student-developed criteria. Justifies considered changes, with substantial reasoning, that could be made based on feedback.	4
Considers feedback received from others against student-developed criteria and provides detailed reflections of several stages of the design process. It identifies some questions, leading to improvement.	3
Simple evaluation focuses on some stages of the design process and areas for improvement. Identifies some relevant changes.	2
Provides minimal details in the evaluation.	1
<b>Subtotal</b>	<b>/5</b>
<b>Total</b>	<b>/33</b>



