



COMP1710/6780

Web Development and Design

Course review and Final exam hints and tips

Upon successful completion of the course, you will be able to:

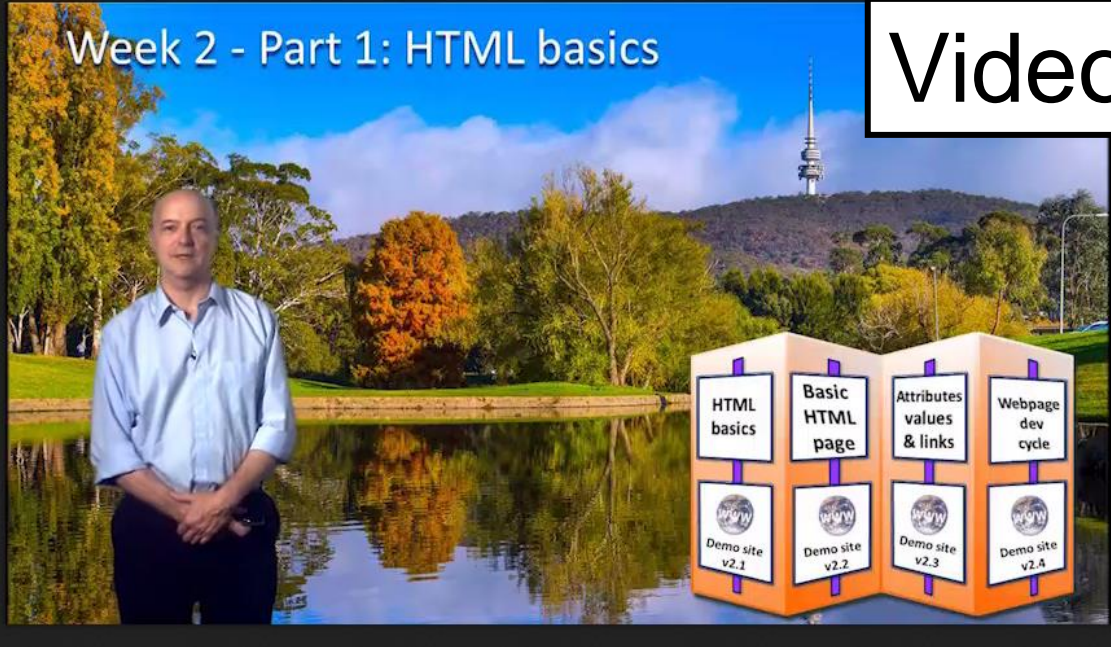
- Understand and be able to **develop and design interactive web sites** including multimedia content by applying current web design principles, guidelines and user-centered heuristics.
- Apply a **user-centred focus** to the design and development of web sites.
- Demonstrate **knowledge of accessibility**, compliance with standards, privacy concerns and personalisation for web sites.
- Understand and **be able to separately control the content, the appearance and the behaviour** of web sites.
- Understand and report on the **nature and practice of human-computer interaction research** in an ethical environment.

[illegible]

software engineering entrepreneur AI specialist
Money-earner Cybersecurity specialist
 Data analysit Developer AI engineer
 Data scientist Freelance translator ML engineer
 full stack dev Well rounded worker
 Project Manager Data analyst AI developer
 Researcher Bus Analytics and Quant finance Programmer
 No idea Website developer Engineer
 Front-end engineer
 IT consultant Entrepreneur Electronic engineer
 i dont know detective
Software developer
 Software engineering Front-end designer
 Amazing web developer make money Blockchain developer
 Don't know cyber security
 Game developer UX R&D Researcher Banker
 Entrepreneur
Comp scientist
 Quant trader Frontend developer
 Full-stack developer
 human-centred designer Backend developer

Your career aspirations Week 1

Week 2 - Part 1: HTML basics



Video lessons

HTML and CSS

Associated lab activities

Lab activity (id:1.3)

Lab activity:

- 1 JS Bin
- 2 Text editor

If you have never registered for JS Bin before, register now. Login and open the demo website for this part. Review the text editors discussed in the video lesson for this part, or others in which you may be interested, and choose your preferred text editor. Don't worry, you can change at any time. Familiarise yourself with the layout and functionality of your text editor



Week 2 - Part 1: HTML basics

HTML and CSS

JS Bin

The screenshot shows the JS Bin online code editor interface. The top navigation bar includes links for JS Bin features, Pro features, Blog, Help, and a Donate button. The main workspace is divided into three panes: HTML, CSS, and Output. The HTML pane contains the following code:

```
<!DOCTYPE html>

<html>

<!-- This is the HEADER section..... -->

<head>
  <!-- This statement tells browsers how to understand our cha
  <meta charset="utf-8">
  <!-- This is our title. It is mandatory. -->
  <title>Using images in your website</title>
  <!-- this meta name is to identify website version in JSBin
  <meta name="description" content="5.1.2 of Introduction to H
</head>

<!-- This is the body section -->
<body>

<!-- This is our heading for our title at the top of the page
<h1> Using images in your website </h1>

<!-- This is our menu, using anchor tag links. -->
<div id="menu">
  <ul>
    <li><a href="#why">Why use images</a></li>
    <li><a href="#choose">Choosing images</a></li>
    <li><a href="#use">Using images</a></li>
  </ul>
</div>

<!-- This is our anchor tag for our "Why use images" menu item
<a id="why"></a>

<!-- This is our subheading for my main content -->
<h2>Why use images?</h2>
```

The CSS pane contains the following code:

```
/* This is my style sheet */

/* Example of CSS replacing the HTML style sheet we used in th

body {background-color: white}

h1 {color: black;
    font-weight: bold;
    font-size: 36px}

h2 {color:blue;
    font-weight: bold;
    font-size: 30px}

/* 4 groups of CSS rules to format the menu division. */
/* Menu division: format the menu generally including backgrou

#menu {
  width: 680px;
  height: 35px;
  font-size: 15px;
  font-family: Tahoma, Geneva, sans-serif;
  font-weight: bold;
  text-align: center;
  background-color: #66CC33;
  border-radius: 6px;
}

/* Menu division: format the unordered list so that it appears
#menu ul {
  height: auto;
  padding: 8px 0px;
  margin: 0px;
}

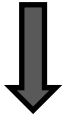
/* Menu division: format the list items so that they display a
#menu li {
  display: inline;
  padding: 2px 10px;
```

The Output pane displays the rendered HTML, showing a green navigation bar with three links: "Why use images", "Choosing images", and "Using images". Below the navigation bar is a section titled "Why use images?" with a paragraph of text and a bulleted list of questions. The list includes:

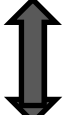
- Where would a website about hybrid roses be without photos of roses?
- Can you imagine an online art gallery without images?
- Would you try a recipe from a cooking website without a picture of how the dish should look?

The bottom of the screenshot shows the footer of the JS Bin interface, including a "Supporter" badge and a "Rollbar" link.

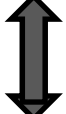
Planning



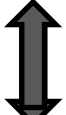
Designing



Building

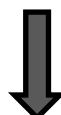


Installing



Maintaining

Discovery



Adoption



Steady state



Retirement



But... evergreen content, long tail



Life of a website on the internet

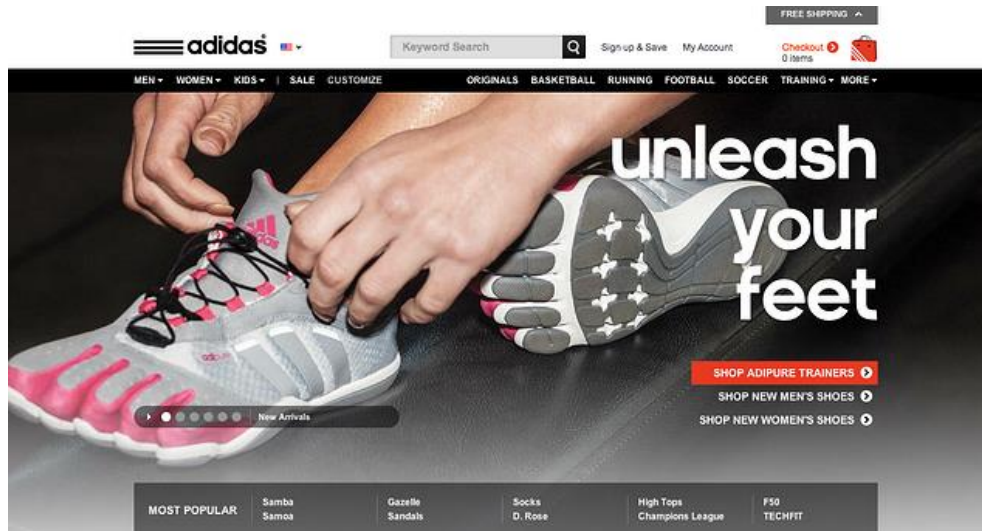
The well designed website

1. Lets the users accomplish their goals
2. Makes its purpose clear
3. Follows conventions
4. Loads and updates quickly
5. Displays well in different environments
6. Has some style

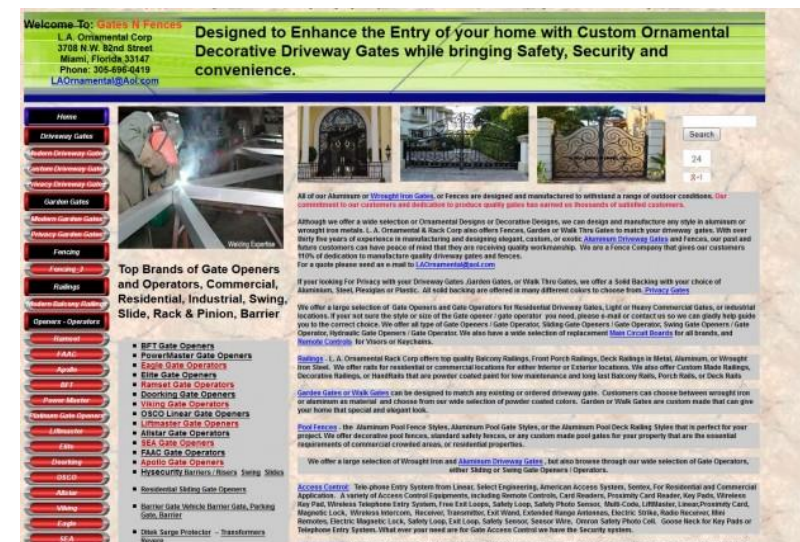


Web design is about how your content is presented. It is about the 'look and feel', which is created by your design choices: colour palette, fonts, backgrounds, etc. It also about how your visitor can interact with your website, and their WIFM (What's in it for me?)

Gates N Fences website



Adidas— instantly recognisable in both brand and product



How long would you spend on this website?

Content Types

Text

Images

Audio

Video

Animations

Icons

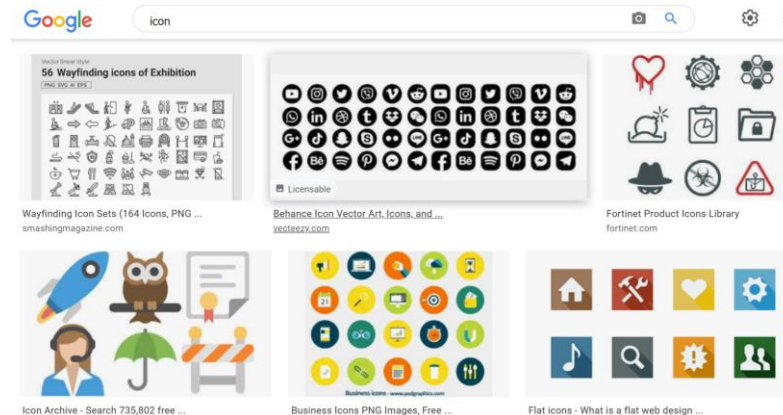
Decorative detail

Backgrounds



50%

100%



Text

A background can create ambiance
on your site

A background can create ambiance
on your site

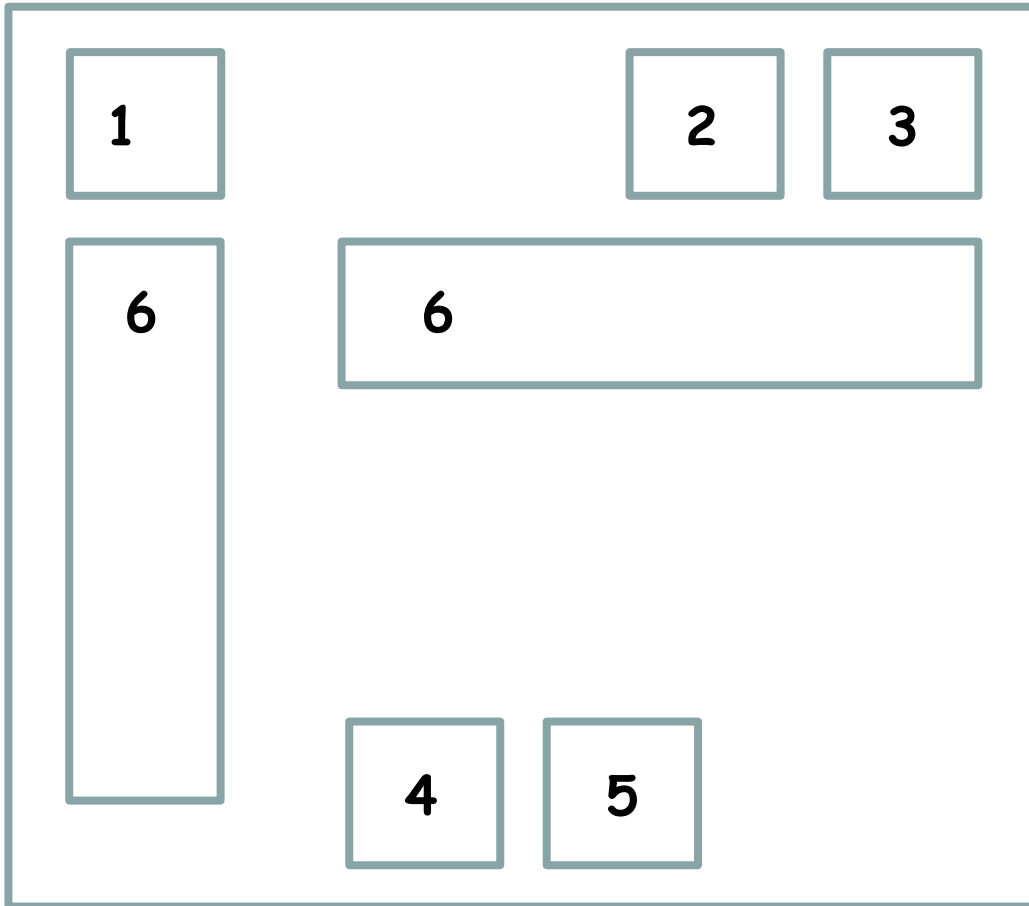
White texture backgrounds

But beware; they can
have implications for
your other content!

But beware; they can
have implications for
your other content!

Purple texture backgrounds

For example: where visitors to your site expect things to be



1. Logo, leading back to front door
2. Shopping cart, leading to check-out
3. Help
4. About us
5. Contact us
6. Site navigation bars

V Visual

A Aural/auditory

R Read/write

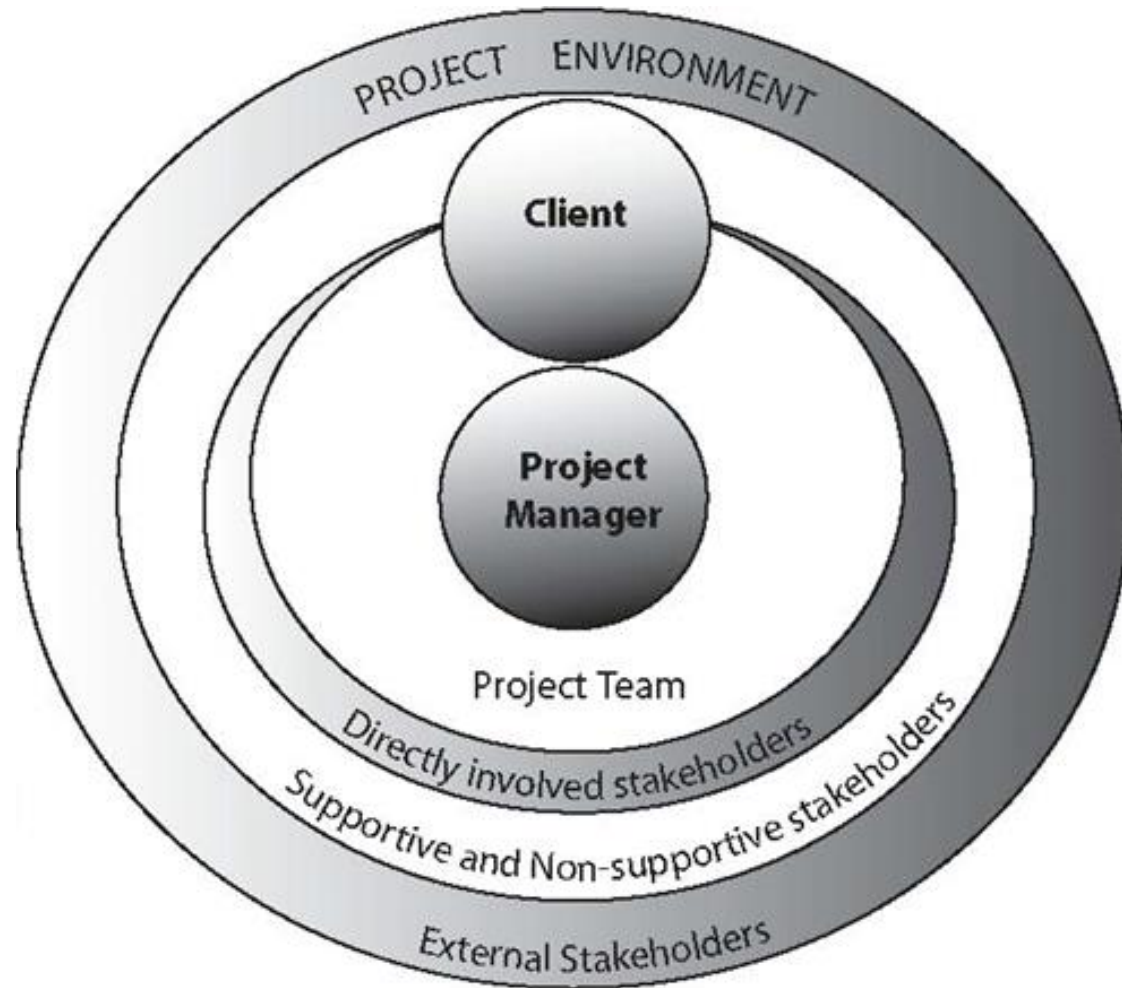
K Kinesthetic

.... and multi-modal

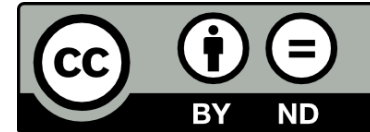
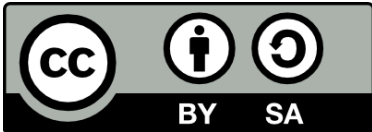
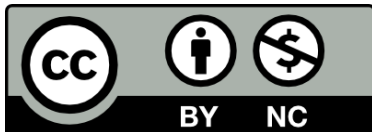
Q: What does the term 'stakeholder' mean?

Directly involved:

- Originator
- Owner
- Sponsor
- Functional managers
- Contracts
- Suppliers
- Support companies
- Users
- Customers





**CC-BY****CC-BY-ND****CC-BY-SA****CC-BY-NC-SA****CC-BY-NC****CC-BY-NC-ND****CC0 - Public Domain – all rights waived**

Well and not-so-well designed media

A useless (?) website: <http://www.superbad.com/>

Gates N Fences website

[illegible]

Penny Juice website

Who is Penny Juice?

People have alot to say about Penny Juice!

THE CHILDREN AT KID KOLLEGE LOVE THE TASTS OF PENNY JUICE AND DRINK IT WITHOUT ENCOURAGEMENT FROM OUR TEACHERS. I LIKE PENNY JUICE FOR THAT REASON AND BECAUSE IT IS 100% JUICE FROM CONCENTRATE REQUIRING NO REFRIGERATION PRIOR TO MIXING. THE HANDY MIX PITCHER TAKE THE GROSS WORK OUT OF PREPARATION

CASSIE PENCE KID KOLLEGE-BILLINGS, MT

"THANK YOU FOR THE OPPORTUNITY TO LET EVERYONE KNOW ABOUT YOUR TERRIFIC COMPANY! IT'S EASY TO STORE AND MIX AND WE RECEIVE GREAT SERVICE!"

MARY CELLA - BLISS ACADEMY EARLY LEARNING CENTER-GREENWOOD VILLAGE, CO

I LOVE THE PROMPTNESS OF SERVICE. "EASY MIXING BOY"

KID'S WORLD LEARNING CENTER- BROOKING, SD

I HAVE BEEN USING PENNY JUICE AT MY CHILDCARE CENTER FOR 3 YEARS. THE CHILDREN LOVE ALL THE FUN COLORS. I HAVE RECOMMENDED PENNY JUICE TO OTHER CHILDCARE DIRECTORS IN THE AREA.

DANA HOENIGSCHMIDT - KIDS COUNTRY CHILDCARE ST FRANCIS, MN

THEY OFFER A GREAT PRODUCT AT A REASONABLE PRICE. THEIR CUSTOMER SERVICE IS EXCEPTIONAL. WE HAVE ENJOYED OUR EXPERIENCE WITH PENNYJUICE AND LOOK FORWARD TO MANY MORE YEARS OF DOING BUSINESS TOGETHER.

LISA E. INGRAM - ANGELS' NEST, INC. COLORADO SPRINGS, CO

THANK YOU! WE ARE SO GRATEFUL TO HAVE FOUND PENNYJUICE. I AM 100% PLEASED WITH PENNY JUICE. KEEP UP THE GOOD WORK.

ROSEMARY - LARAMIE COUNTY HEAD START-CHENEYNE, WY

I LOVE THE VARIETY OF THE FLAVORS AND THE FACT THAT OUR AUTOMATIC SHIPMENTS ARRIVE IN A TIMELY MANNER. THANKS SO MUCH! GOD BLESS!

DEBBIE MOORE, DIRECTOR - CHILDREN'S LEARNING CENTER, BOSSIER CITY, LA

AS THE DIRECTOR OF A UNIVERSITY AFFILIATED, BUT PRIVATELY OWNED CHILD CARE FACILITY, THE QUALITY PRODUCTS ARE ESSENTIAL. I ESPECIALLY LIKE THE EASE OF ORDERING ON LINE OR BY PHONE, KNOWING THAT THE JUICE WILL BE PROMPTLY DELIVERED DIRECTLY TO THE CENTER. SO MANY HAILING AND SHIPPING CARTS FULL OF FROZEN JUICE CONCENTRATES FROM THE GROCERY STORE!

THANKS, PENNYJUICE FOR SAVING ME TIME AND MONEY!

KATE DAVIS, DIRECTOR/OWNER - UNIVERSITY CHILDREN'S CENTER-SUPERIOR, WI

"PENNY JUICE HAS CERTAINLY BEEN AN ASSET TO OUR FOOD PROGRAM. I AM VERY HAPPY WITH SWITCHING TO PENNY JUICE AND WOULD RECOMMEND YOU IN A HEARTBEAT. YOU PROVIDE AN EXCELLENT PRODUCT, HASSLE FREE. IT DOESN'T GET ANY BETTER THAN THAT."

BABE WALTON - CHILDREN'S ENRICHMENT CENTER-N. LITTLE ROCK, AR

JavaScript

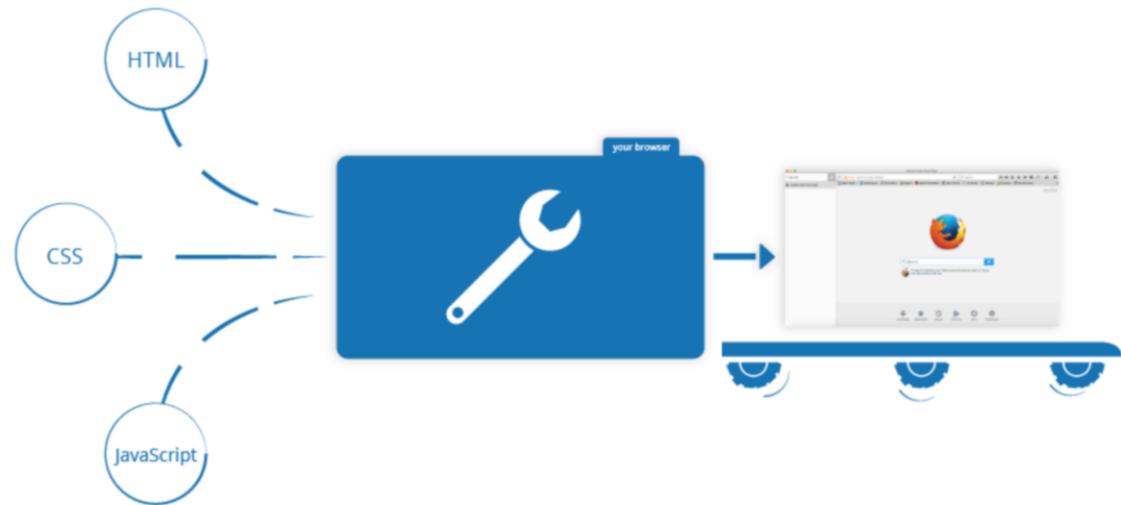
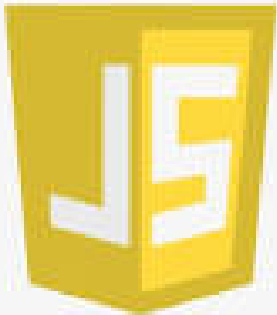


Image from Mozilla Developer Docs

How it works:

- Web page loads in your browser
- Code runs (HTML, CSS and JavaScript) inside environment
- Code is executed in the order it appears on the page -
JavaScript should be the final code loaded

Why would storyboarding be important for video projects?

Improves narrative flow and storytelling

Facilitates organisation

Decreases costs

Helps avoid failure of project

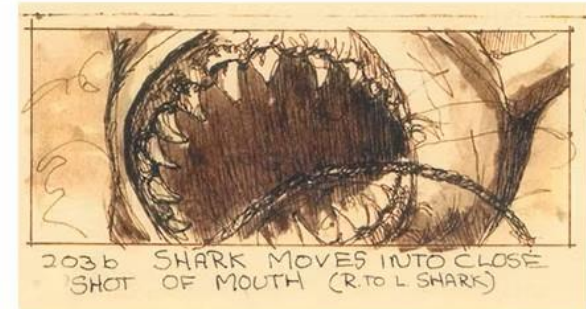
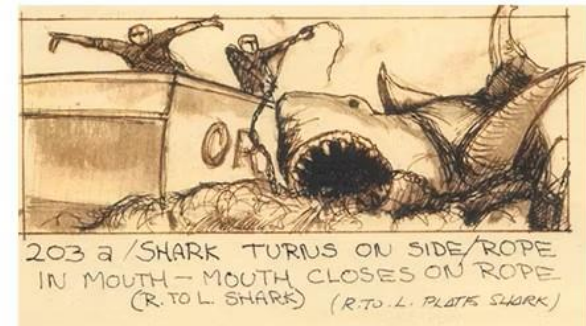
Easy to refine ideas

Enables resourcing and supply

Decreases time needed

Identify and solve problems in advance

Jaws





Search



How to Tie Your Shoes

Length: 1:05

Tip: Look online for videos on your topic and check how long they are.

How long should online videos be?

Search



#DrOctaviaCox #UnfamiliarReadings #CloseReadingClassicLiterature

Jane Austen novel SENSE AND SENSIBILITY analysis | Elinor and Marianne Dashwood (Engagements & Hair)

Length: 14:26

Human Computer Interaction

‘Computer’

- Large scale computing systems
- Tablets,
- PCs,
- Smart phone
- Embedded computers

Interaction

- Mission: transactions, information searches
- Technique: interface devices (mouse, electronic pencil, fingerprint, voice commands, hand gestures)
- ... and much much more!

Human

- Individuals
- Groups (In-person, virtual, hybrid)

Human Computer Interaction

Usability as seen through the HCI lens:

- Easy to learn to use
- Easy to remember how to use
- Effective to use
- Efficient to use
- Safe to use
- Enjoyable to use

If your website doesn't meet these usability criteria, your visitors may be few and seldom.

‘Evaluation’ in its broadest sense refers to any systematic process to judge merit, worth or significance by combining evidence and values.

You are only one person, with your own pre-existing assumptions.

To learn if your website works for others, you need to evaluate it.

- When you gather requirements you can summarise what you think the requirements are and present them back to your target users, using words, pictures, storyboards, mockups, early-stage prototypes.
- You can build simple prototypes of parts of those requirements and let your target users experience what they had said they wanted.

I can't tell you
how valuable
your program is



Researcher

I can



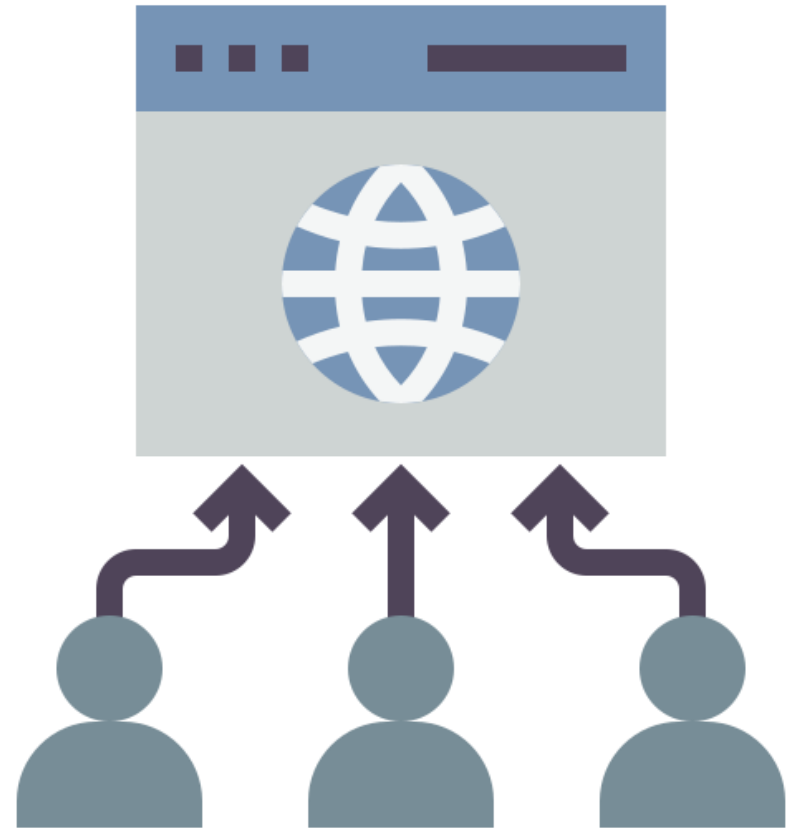
Evaluator

freshspectrum.com

WEBDEVELOPMENT STATS

Traffic sources

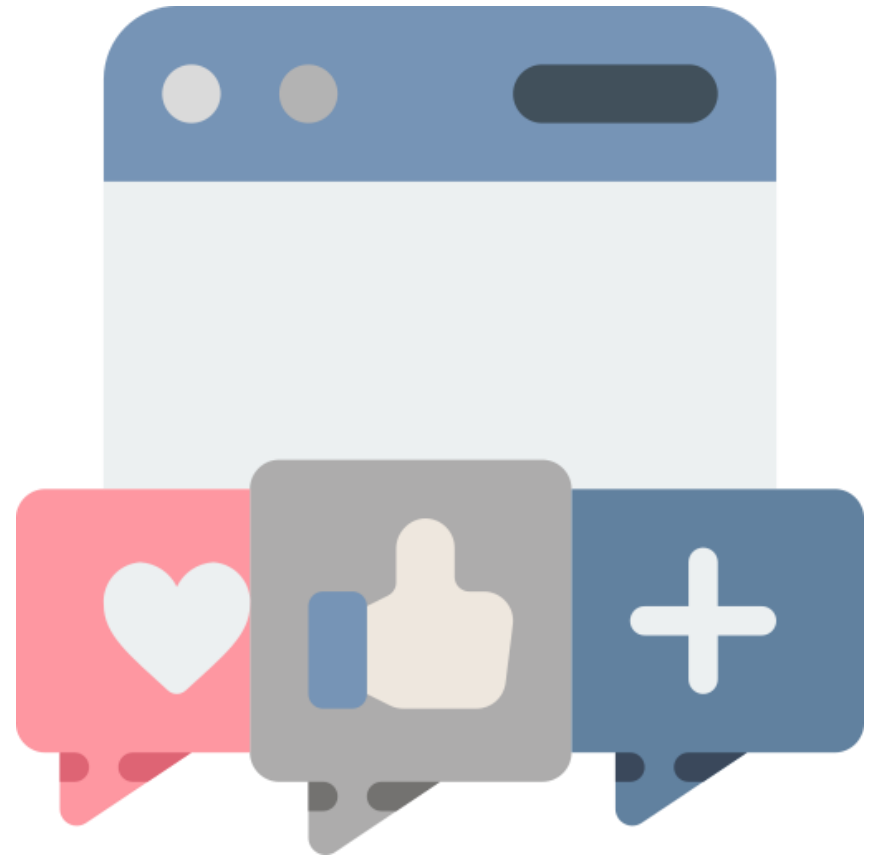
- Search
- Websites
- Social media
- Direct link



WEBDEVELOPMENT STATS

Engagement

- Returning visits
- Visit length
- Downloads
- Clicks
- Page-scrolls



Commercial sites need to pay attention to colour

- Research shows that the visual representations on a website may play a factor in up to 96% of purchase decision.

- Colour plays a significant role in helping customer to navigate the site – where to visit next, buttons to push, attention focus.

- Branding – companies have logos and colour design standards; these need to be used to help visitors orient themselves in online spaces

Other aspects of colour to consider:

Contrast – emphasizes key point

Warm vs Cool – creates moods. Warm is comforting / happy but can be too energetic in reds especially. Cool is peaceful but can become too formal or cold. Colours can be *shaded* by adding black and *lightened* by adding white but remain within your colour palette.





Hearing



Vision



Cognitive
processing



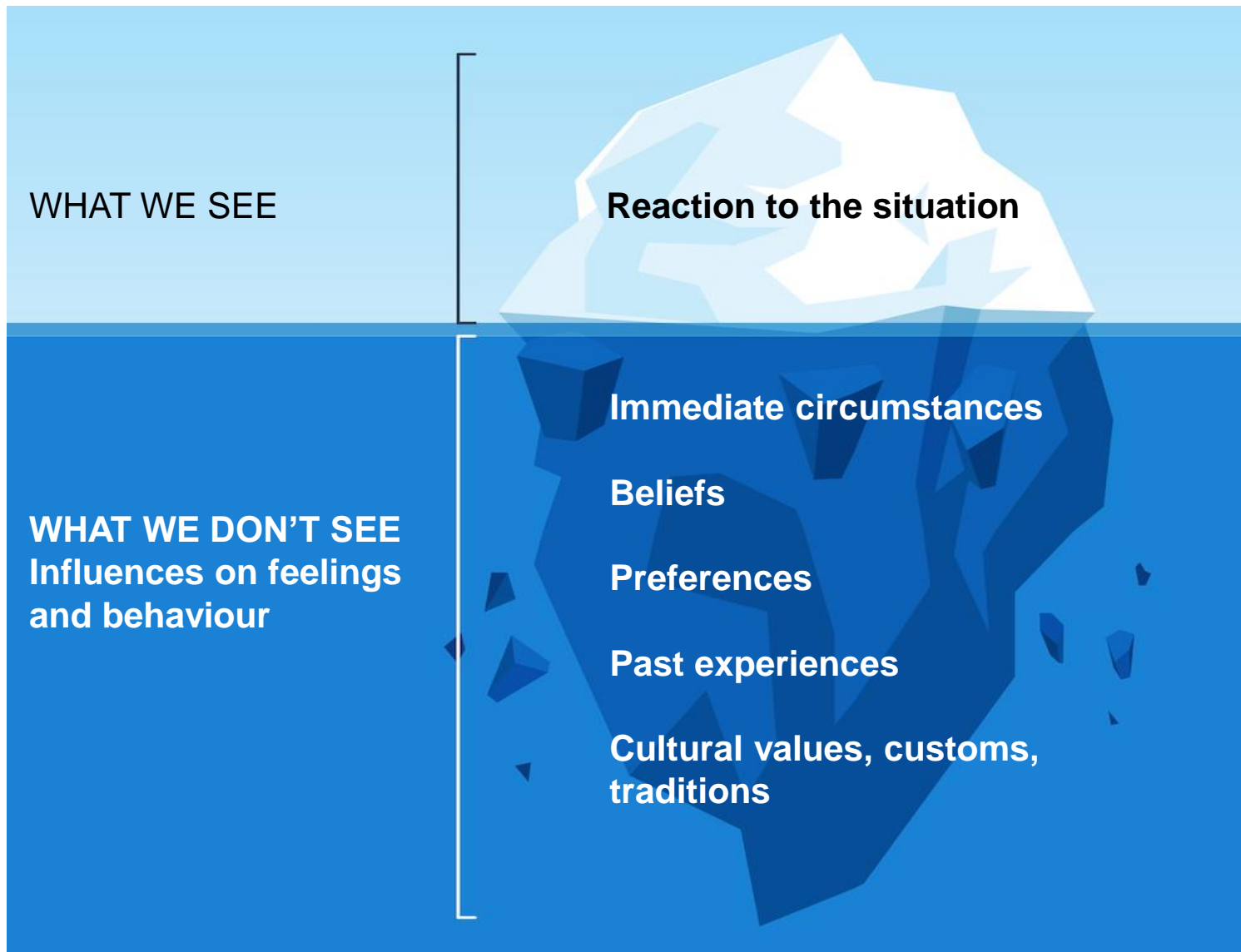
Manual
dexterity

What is perspective taking?

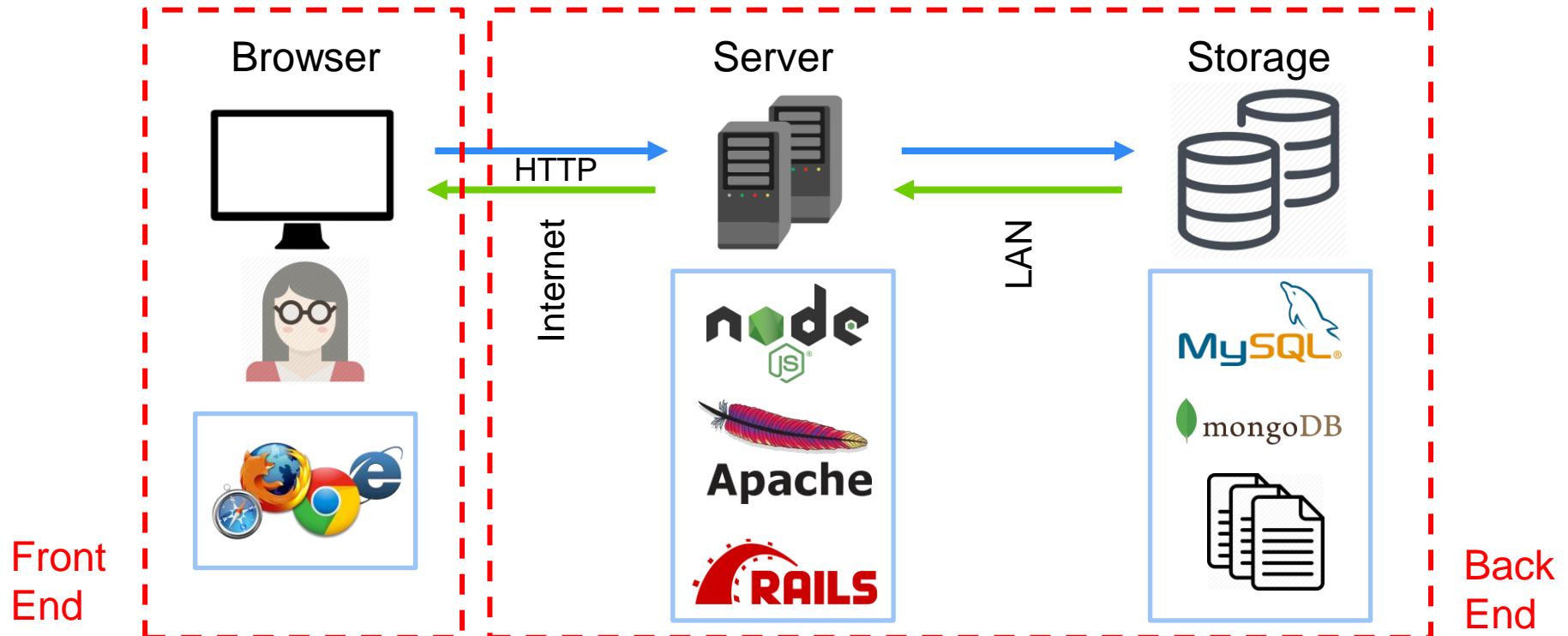
Broadly speaking, perspective taking is understanding and accommodating the perspectives of others, not just ourselves.

“The ability to understand how a situation appears to another person and how that person is reacting cognitively and emotionally to the situation.”

– Gehlbach, 2004

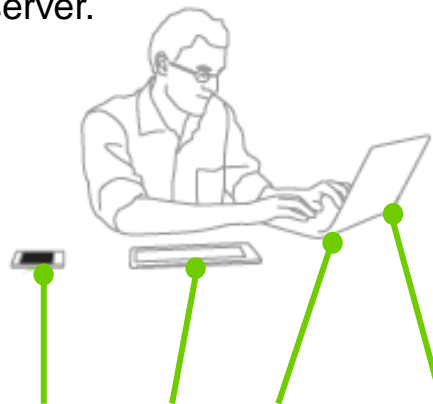


Full Stack Web Application Architecture



Front End Development

- 1** A site is loaded in a browser from the server.



Responsive design allows a site to adapt to different devices.

- 2 Client-site scripts**
Run in the browser and process requests without call-backs to the server

Everything a user sees in the browser is a mix of **HTML, CSS, and Javascript**.

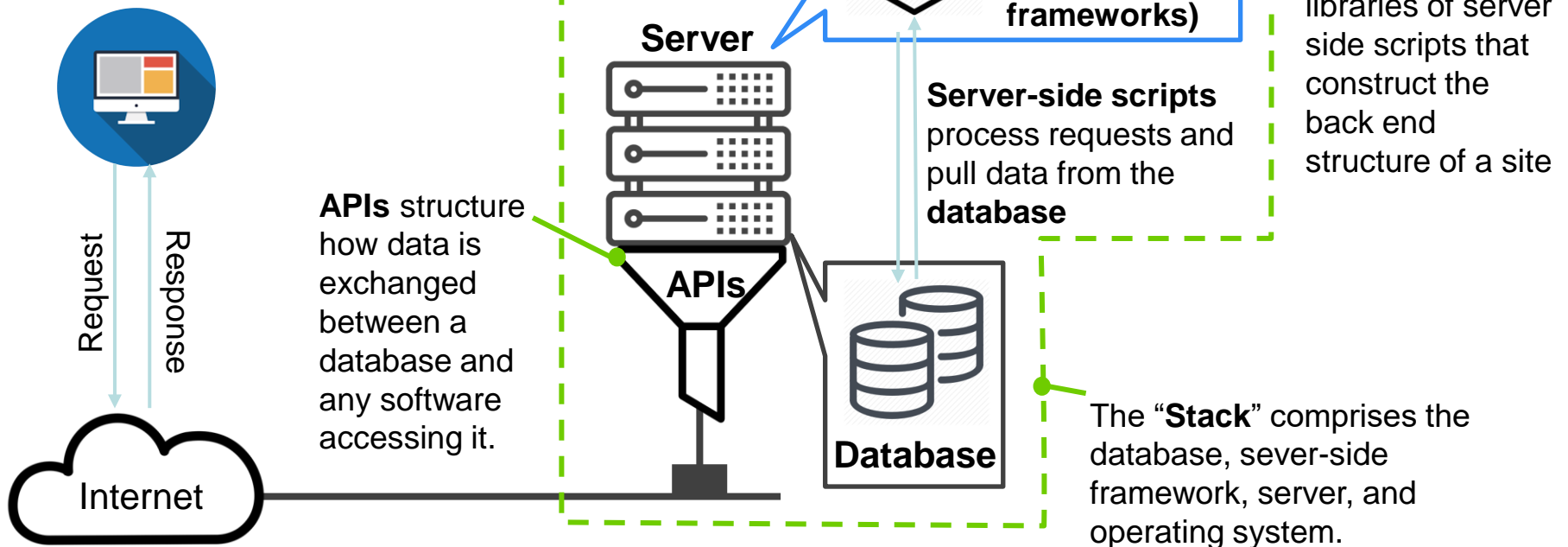
- 3** When a call to database is required, scripts send requests to the back end.



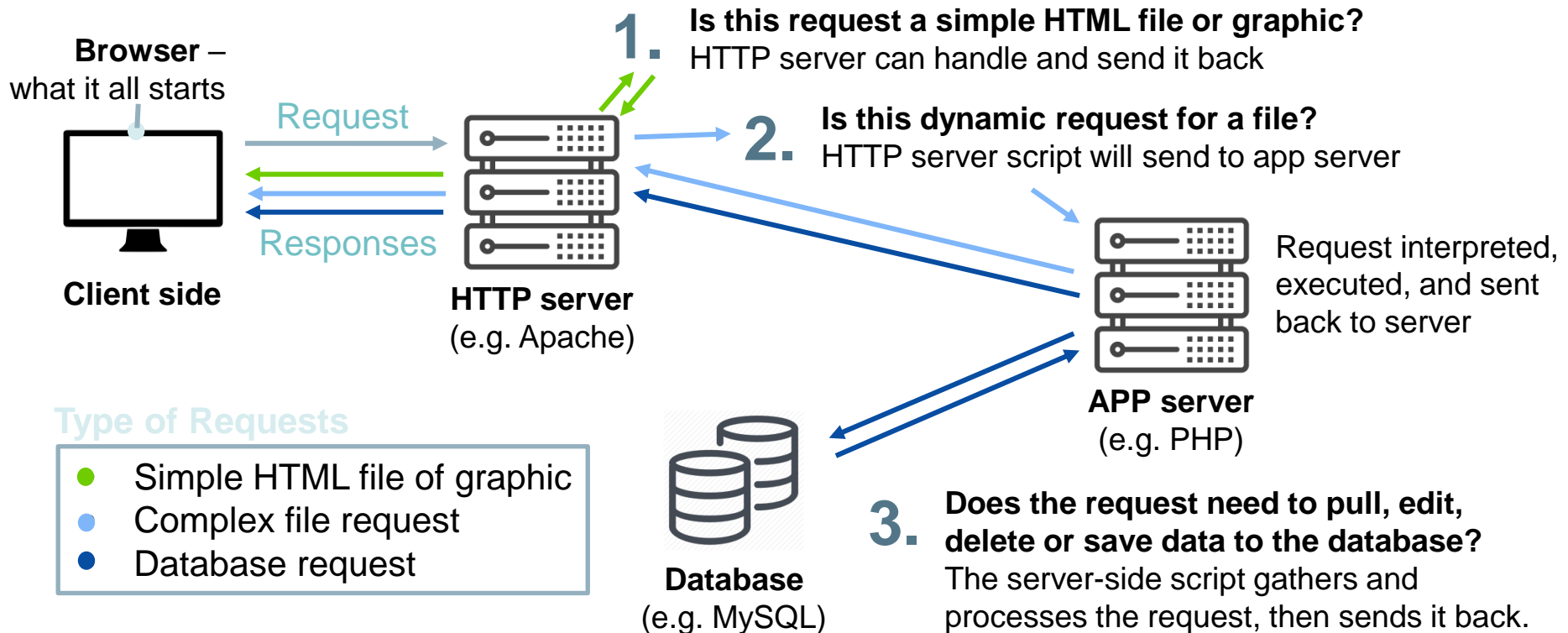
- 4** The **back-end server-side scripts** process the request, pull out data from database and send it back.

Back End Development

The front end



Server: Behind the Scenes



EPUB

Container

Multiple files/different file types

Open standard for e-books

Semantics

Structure

Containerisation

Media overlays

■ **epub file**

Electronic **P**ublication

XML Extensible Markup Language

XML transfers data



Webdevelopment Perspective

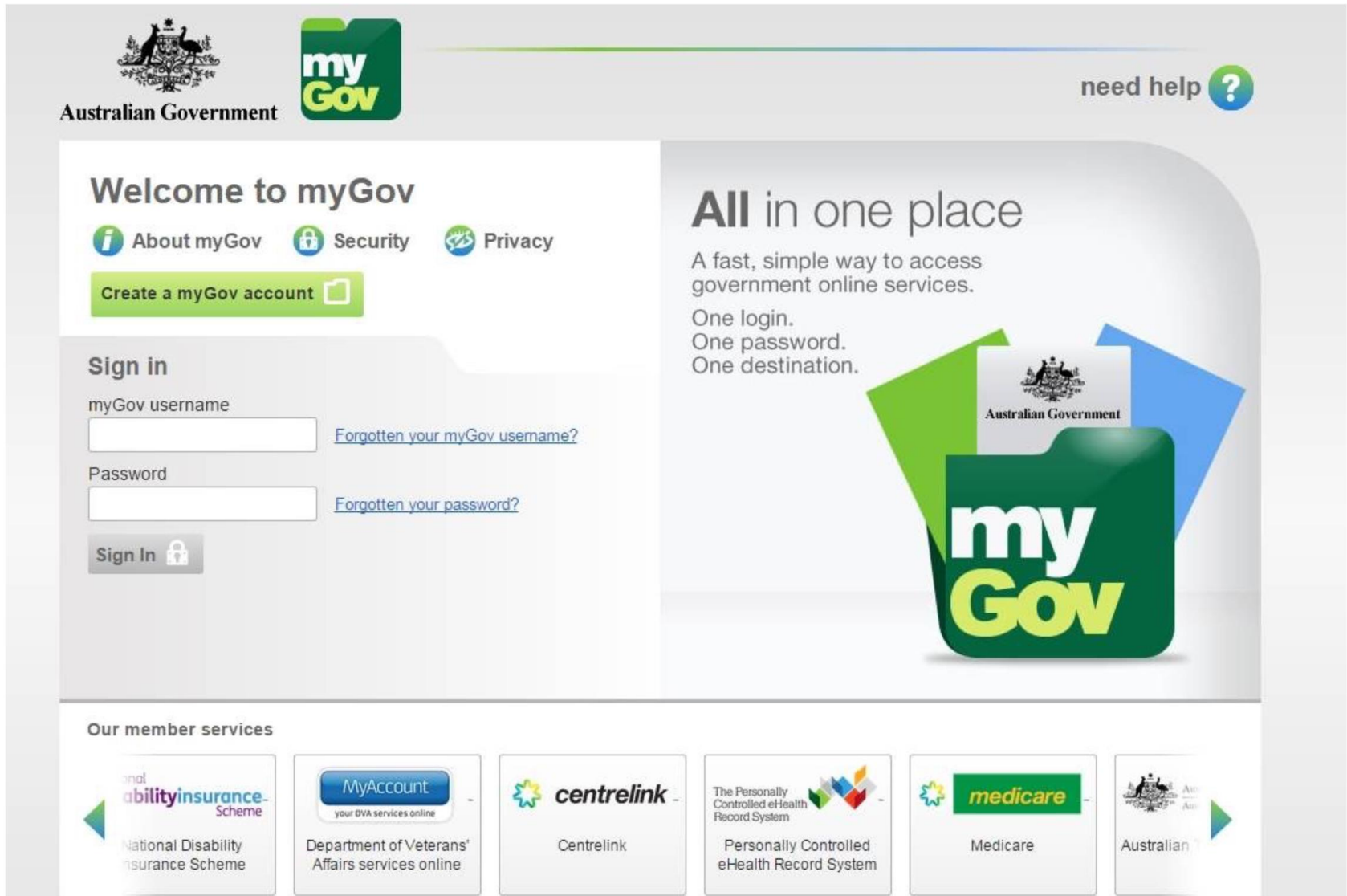
A podcast is a series of audio recordings about a specific topic that users can subscribe to.



These audio files are called episodes.

Developing for CMS





The screenshot shows the myGov Australian Government website. At the top left is the Australian Government crest and the text "Australian Government". Next to it is the "myGov" logo. On the top right, there is a "need help ?" link. The main content area is divided into two sections. The left section is titled "Welcome to myGov" and includes links for "About myGov", "Security", and "Privacy". Below these links is a green button that says "Create a myGov account". The right section is titled "All in one place" and describes myGov as "A fast, simple way to access government online services." It lists "One login.", "One password.", and "One destination." Below this text is a graphic of a green folder with the "myGov" logo and the Australian Government crest. The bottom section is titled "Our member services" and features a row of service tiles: "National Disability Insurance Scheme", "MyAccount" (Department of Veterans' Affairs services online), "centrelink", "The Personally Controlled eHealth Record System", "medicare", and "Australian".

Australian Government

myGov

need help ?

Welcome to myGov

[About myGov](#) [Security](#) [Privacy](#)

[Create a myGov account](#)

Sign in

myGov username
 [Forgotten your myGov username?](#)

Password
 [Forgotten your password?](#)

[Sign In](#)

All in one place

A fast, simple way to access government online services.

One login.
One password.
One destination.

Our member services

- [National Disability Insurance Scheme](#)
- [MyAccount](#)
your DVA services online
Department of Veterans' Affairs services online
- [centrelink](#)
Centrelink
- [The Personally Controlled eHealth Record System](#)
Personally Controlled eHealth Record System
- [medicare](#)
Medicare
- [Australian](#)

Lecture on Cybersecurity by ANU CISO Suthagar Seevaratnam

BY THE END OF THIS
LECTURE, YOU SHOULD
BE ABLE TO:

- 01 Understand the importance of a security mindset
- 02 Apply a security mindset to the software development life cycle
- 03 Understand different classes of threat actor
- 04 Understand the importance of threat modelling
- 05 Follow the basics of modelling threats using STRIDE
- 06 Understand the importance of the OWASP 10 framework to mitigate vulnerabilities

What is Phishing?

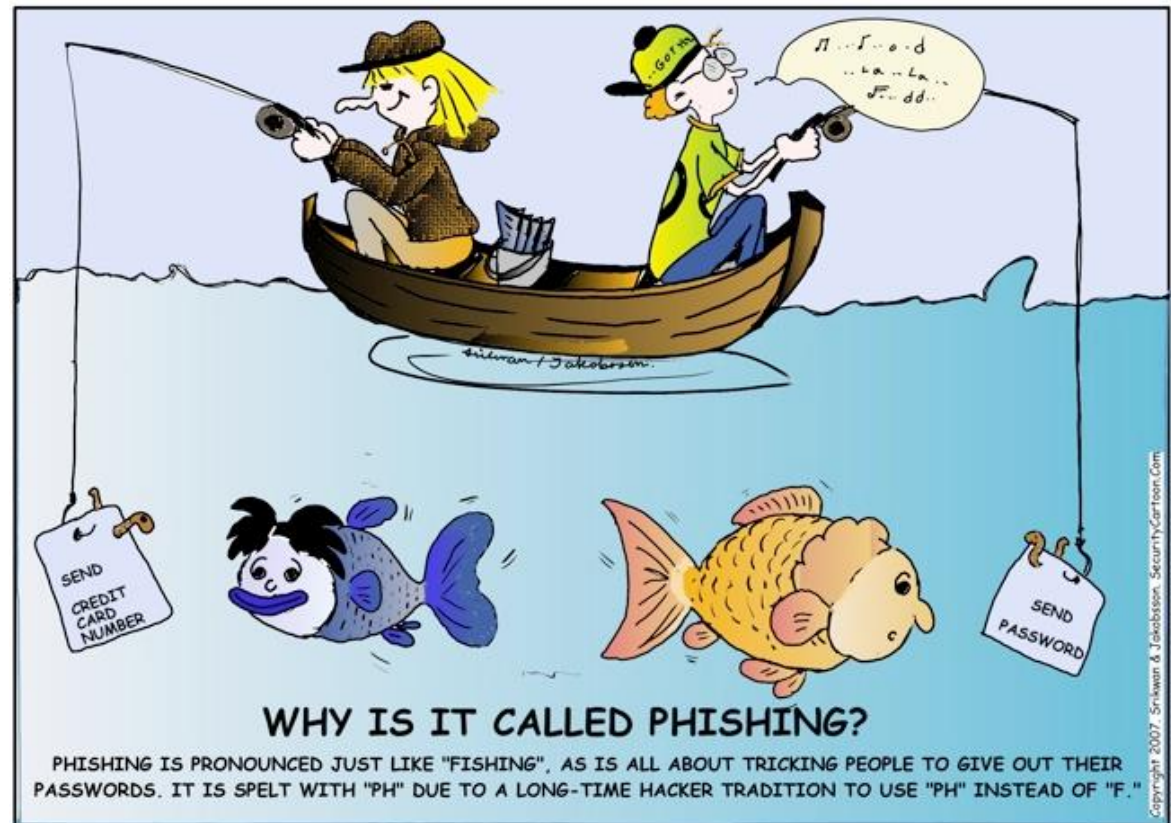
Phishing attacks use both social engineering and technical subterfuge to steal consumers' personal identity data and financial account credentials

Anti-phishing Working Group

The total number of phishing attacks in **2016** was **1,220,523**, a 65% increase over 2015.

In **2019** phishing in social media **doubled**.

In the second quarter of 2022, there were 1,097,811 attacks observed, so est. **~4 million** phishing attacks for **2022**



Spear Phishing



- Highly sophisticated
- Very targeted at certain people / organisations
- Much more difficult to spot

Example:

Phisher gets an e-mail address of an administrator or colleague

Spoofed e-mail asks employees to log on to a corporate network

A key-logger application records passwords
Phisher can access corporate information!

COMP1710/6780

Exam hints and tips



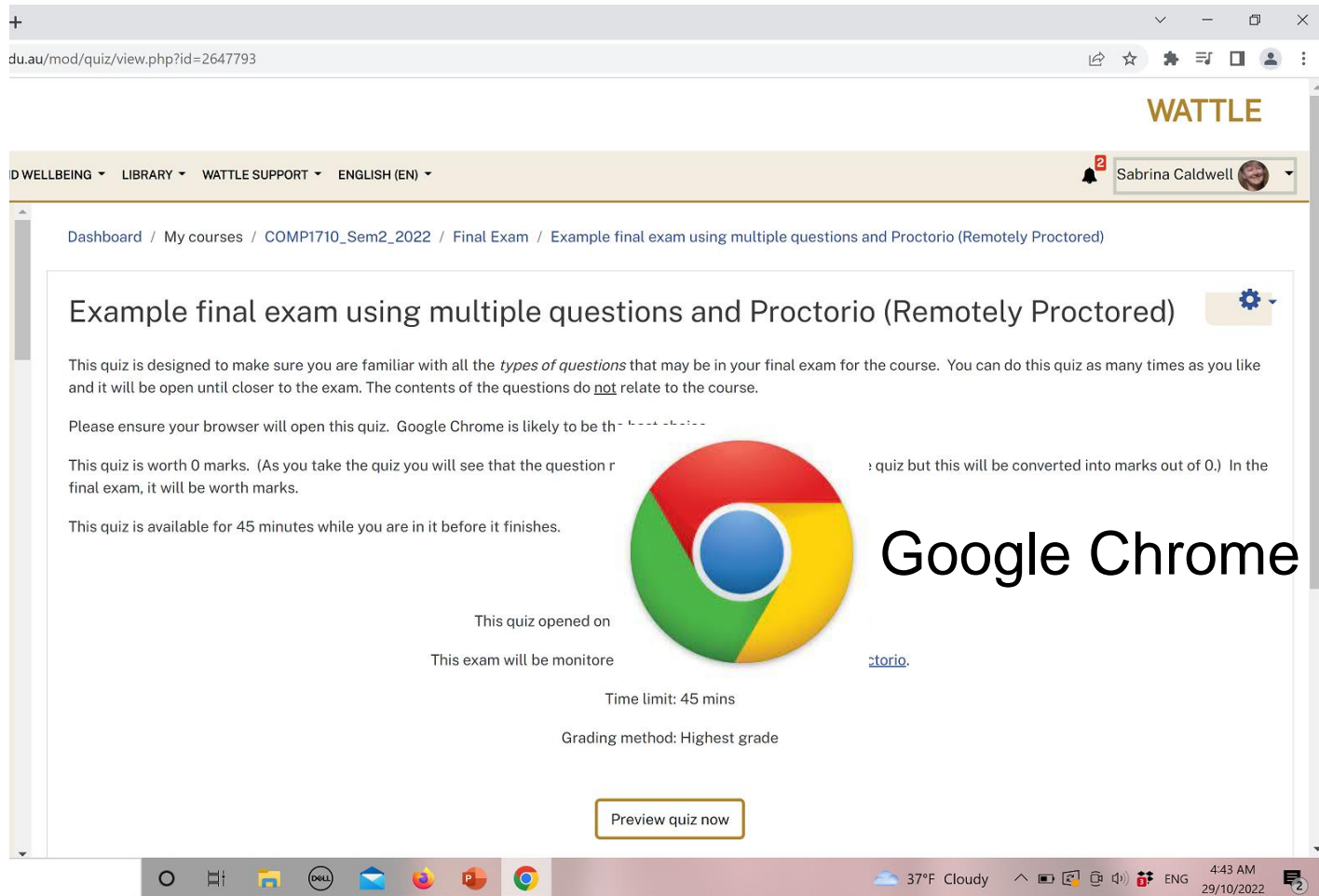
Final exam preparation



Wattle offers online approaches for all the types of questions that we will ask in the midterm quiz.

We will be using Wattle to deliver our final exam, with Proctorio Secure Exam Proctor

Try Proctorio with example quiz...



du.au/mod/quiz/view.php?id=2647793

WATTLE

WELLBEING ▾ LIBRARY ▾ WATTLE SUPPORT ▾ ENGLISH (EN) ▾

Sabrina Caldwell

Dashboard / My courses / COMP1710_Sem2_2022 / Final Exam / Example final exam using multiple questions and Proctorio (Remotely Proctored)

Example final exam using multiple questions and Proctorio (Remotely Proctored)

This quiz is designed to make sure you are familiar with all the *types of questions* that may be in your final exam for the course. You can do this quiz as many times as you like and it will be open until closer to the exam. The contents of the questions do not relate to the course.

Please ensure your browser will open this quiz. Google Chrome is likely to be the best choice.

This quiz is worth 0 marks. (As you take the quiz you will see that the question is worth 0 marks, but this will be converted into marks out of 10.) In the final exam, it will be worth marks.

This quiz is available for 45 minutes while you are in it before it finishes.

This quiz opened on [date]

This exam will be monitored by Proctorio.

Time limit: 45 mins

Grading method: Highest grade

[Preview quiz now](#)

Google Chrome

You can find this quiz near the top of our Wattle page

Browser: Google Chrome is the only browser ANU supports for Proctorio at present

Connection type: We do not recommend using a mobile hotspot/unreliable Wi-Fi connection while attempting the Proctorio exam. During the exam, we encourage students to use a high-speed Internet connection (preferably a wired connection) to have a smooth experience.

Proctorio password is automatic!: For any student queries about needing a password to attempt their Proctorio assessment, please be informed that this is because the student didn't wait for Proctorio to load all its settings before they click the "Attempt Quiz" button. Students should wait until they see the message "This exam will be monitored by Proctorio. Learn more about Proctorio." Once this message appears on the screen, then they can click the "Attempt Quiz" button to start their assessment. If the message won't appear after waiting for a long time, this is often caused by the slowness of their internet speed, or bad browser cache. Students should check their internet connection and clear their browser cache.

Technical difficulties: If you are experiencing any technical difficulties with Proctorio exams, you can seek help via the Proctorio agent in the exam (Available 24/7), call the ITS Service Desk 6125 2222, or log a ticket via the ITS Service Desk or email Wattle.support@anu.edu.au.

ANU Timetabling has our final scheduled for:

Currently (as of 23 May 2023) the final exam is scheduled for
Wednesday 14 June 2023

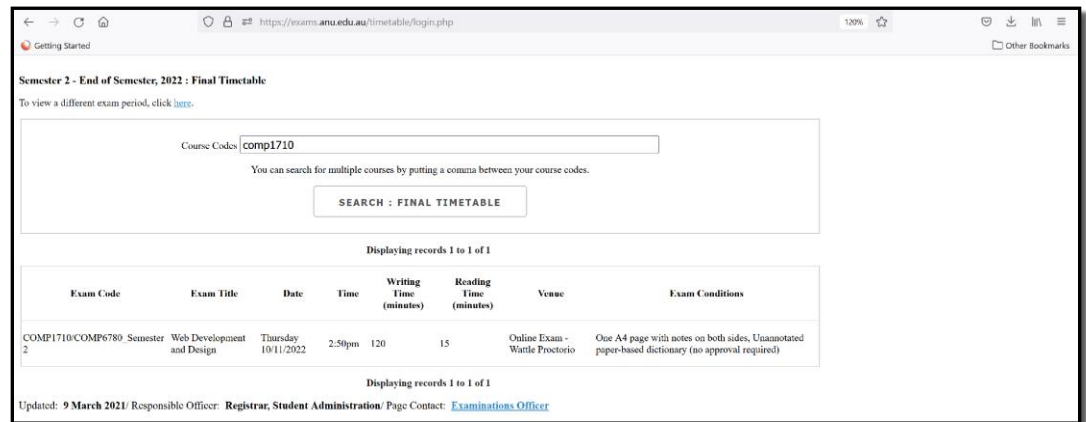
15 minutes reading, 120 minutes writing time. You can write during your reading time, but **we recommend you don't** – you will do better if you read your exam through before you begin.

Allowed to bring:

- A4 page with notes on both sides

- Unannotated paper based dictionary

Please remember it is **YOUR** responsibility to ensure you check the details in the ANU examinations schedule website (though we'll definitely try to help)



Getting Started

https://exams.anu.edu.au/timetable/login.php

Semester 2 - End of Semester, 2022 : Final Timetable

To view a different exam period, click [here](#).

Course Codes:

You can search for multiple courses by putting a comma between your course codes.

SEARCH : FINAL TIMETABLE

Displaying records 1 to 1 of 1

Exam Code	Exam Title	Date	Time	Writing Time (minutes)	Reading Time (minutes)	Venue	Exam Conditions
COMP1710/COMP6780-2	Semester Web Development and Design	Thursday 10/11/2022	2:50pm	120	15	Online Exam - Wattle Proctorio	One A4 page with notes on both sides, Unannotated paper-based dictionary (no approval required)

Displaying records 1 to 1 of 1

Updated: 9 March 2021/ Responsible Officer: Registrar, Student Administration/ Page Contact: [Examinations Officer](#)

Formative vs Summative Assessment

Formative – enables you to learn by you testing your knowledge multiple times until you get it right. Our **quizzes** were **formative** assessments.

Summative – enables us to understand how much you have learned. One try only. Our **final exam** is **summative**.

Other helpful links

Relevant contacts: <https://services.anu.edu.au/information-technology/software-systems/proctorio>

The [Proctorio User Guide for Students](#)

Proctorio FAQs: <https://www.anu.edu.au/covid-19-advice/student-life/academic-adjustments/proctorio-faqs>

ANU Exams Conduct page: <https://www.anu.edu.au/students/program-administration/assessments-exams/examination-conduct>

Special consideration: <https://www.anu.edu.au/students/program-administration/assessments-exams/special-assessment-consideration>

Deferred examinations: <https://www.anu.edu.au/students/program-administration/assessments-exams/deferred-examinations>

Proctorio practice Wattle course: <https://wattlecourses.anu.edu.au/course/view.php?id=32488>

Overall timing and marking

- **There will not be enough time to be getting all your answers out of your notes.**
- Be careful of overuse of your notes. Irrelevant statements taken from your notes to pad answers will detract from your good answers.
- Some marks are auto-marked by Wattle, but all written answer questions (including short answer) will be marked by your tutors and I together.

Just a note: We sometimes find that some students will borrow someone else's 2-sided A4 exam notes. We often find they get the same answers wrong in the same pattern – this is how we know.

The preparation of the notes helps you learn; that is the goal. For that reason, we recommend you prepare your own notes!

Important to remember!

- We **MUST** be able to read your writing (in this case – typing)
- For written responses, your English expression should be:
 - Coherent, fluent and appropriate for academic purpose, as well as grammatically correct
 - Appropriately and **logically structured**
- Your answers should be **concise**
- Stick to the facts - long, rambling answers are more likely to lose marks than to gain them

The difference between **Comp1710** and **Comp6780** exams

Some questions will be different.

and

We will hold Comp6780 students
to a higher standard



While we will not focus on obscure content or try to trick you,

we reserve the right to draw on ALL course content for the exam questions.

Web development and design is a multi-skilled task! Please consider how these different aspects interact

Your users: User requirements, stakeholders
The Media: Content types, purpose of materials



HCI, Accessibility, Artefacts
(for example ePubs, reports)

Your Creativity: Good and bad web design, Colour theory

Integrity: Giving credit for other people's work (referencing, licensing such as creative commons), Image/information credibility

Security: cybersecurity

Basic technical knowledge: HTML, CSS, linking between pages

More advanced technical knowledge: Frontend/backend, Javascript*, Integrating (or starting with!) webdev tools



We know you can all do very well on this exam!



Our Course Representatives

**Laiken Tuadles Jun Cheng Zhang Zhen Wang
Yuxiang Man Si Chen Yisuan Zhan**

Thank you!