

Computing II: Design, Build and Explain a Website

GAC011 public-outcome practice; follow the current centre brief.

A report website helps readers find evidence and limits

- Design for an intended reader and academic purpose.
- Connect planning, content, code and practical checks.
- Use the current centre brief for assessed work.

Plan the audience, structure and route through the site

Planning decision	Transport-page example
Audience	Classmates need an overview, methods and the approved full report.
Page structure	Title, introduction, section links, findings, method and footer.
Reader route	Find the result, inspect its limits, then reach the report.

HTML describes meaning and the browser's document structure

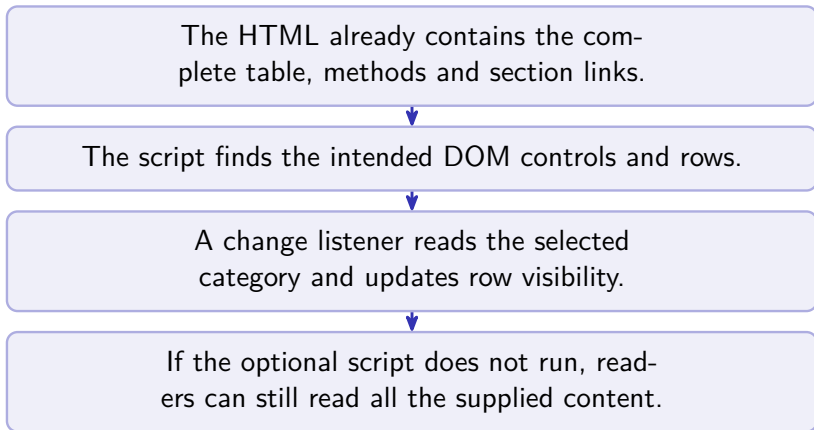
- Excerpt: semantic regions give the practice page a readable structure.
- The section link reaches the matching unique ID.

```
<header><h1>School transport</h1></header>
<nav aria-label="Report sections">
  <a href="#findings">Findings</a>
</nav>
<main>
  <section id="findings">
    <h2>Findings</h2>
  </section>
</main>
<footer>Invented practice counts</footer>
```

CSS controls layout, spacing and readable appearance

CSS choice	What it changes
Selector and declaration	nav chooses the navigation; flex-wrap: wrap lets links move onto another line.
Box model	Content, padding and border contribute to the displayed box; margin separates boxes.
Flexible layout	A reading-width maximum allows a narrower window; test before adding a breakpoint.

Browser events let code change a useful existing page



A launch needs delivered files and checks at the actual URL

Local preview

Opening `transport.html` shows the file on your device.

It provides practice evidence, but does not deliver the files to a public host.

Authorised launch

Hosting serves the delivered files; a domain provides an address.

After delivery, open the actual URL and check paths, controls and the intended version.

Promotion should connect an audience to a clear objective

An objective you can check

Objective: help classmates find the approved report during project week.

Prepare a permitted post with an accurate description and a meaningful destination.
Name its owner and planned timing.

Evaluate a measure related to finding the work. A display or click does not by itself establish that the report was read.

The practice page has a bounded academic job

Practice data	Responses
Walking	12
Bus	18
Cycling	6
Total	36

Use the evidence

All counts are invented. Bus has the largest count; these data do not explain choices, distance or the whole school's habits.

Clear labels make navigation understandable before a click

Unclear destination

“Click here” gives little information about where a link goes.

A correct-looking label can still point to the wrong ID.

Meaningful destination

“Method and limits” tells readers what to expect.

Its href="#method" must match the unique id="method" in the document.

The document head establishes encoding and a mobile viewport

- Save the complete example as transport.html.
- Use UTF-8, a descriptive title and the viewport setting.
- Open the file locally before considering publication.

```
<!doctype html>
<html lang="en">
<head>
<meta charset="utf-8">
<meta name="viewport"
      content="width=device-width, initial-scale=1">
<title>School transport: practice report</title>
```

A fragment link and its target ID must match

- The Method link targets the method section.
- Use unique IDs throughout the page.
- A correct-looking label does not fix a wrong target.

```
<a href="#method">Method and limits</a>
<section id="method">
  <h2>Method and limits</h2>
  <p>The counts are invented for practice.</p>
</section>
```

A table needs a caption and meaningful headers

- Label the table as invented practice counts.
- Identify column and row headings.
- The response counts sum to 36.

```
<caption>Practice counts, not research findings</caption>
<thead><tr>
  <th scope="col">Main mode</th>
  <th scope="col">Responses</th>
</tr></thead>
<tr data-mode="bus">
  <th scope="row">Bus</th><td>18</td>
</tr>
```

The script enhances content that HTML already provides

Before the script runs

The full table, method and section links are already in the HTML.

Optional controls start hidden.

After listeners are attached

The script makes the controls visible.

Filtering adds a useful view without replacing the underlying content or changing its limits.

Shared colour values keep both themes coherent

- Custom properties name page, text, border and link colours.
- The dark class changes the same set of values.
- Dark reading areas use the page background.

```
:root {  
  --page: #ffffff; --text: #172033;  
  --line: #637083; --link: #164db2;  
}  
body.dark {  
  --page: #080d17; --text: #e9eef7;  
  --line: #8392a8; --link: #a8d2ff;  
}
```

Flexible sizes and wrapping solve concrete layout needs

- Limit the reading width without forcing a wide phone layout.
- Let navigation wrap when it needs space.
- Include padding and borders in box sizing.

```
* { box-sizing: border-box; }
header, main, footer {
  max-width: 48rem; margin: auto; padding: 1rem;
}
nav { display: flex; flex-wrap: wrap; gap: 1rem; }
table { width: 100%; border-collapse: collapse; }
```

Readable content includes keyboard focus and appropriate alternatives

- Keep visible focus on interactive controls.
- Use underlined links and meaningful table headers.
- Describe informative images; decorative ones may have empty alt text.

```
:focus-visible {  
  outline: 3px solid var(--link);  
  outline-offset: 3px;  
}  
[hidden] { display: none !important; }
```

Find controls and rows before attaching their events

- Query selectors identify the intended DOM elements.
- The row collection contains the three category rows.
- The chosen select value will control the visible view.

```
const mode = document.querySelector("#mode");  
const rows = [...document.querySelectorAll("tbody tr")];  
const status = document.querySelector("#status");
```

The selection-change event recalculates visibility

- Reset the visible-category counter for each change.
- Hide a row only when a specific different mode is selected.
- Count each row that remains visible.

```
mode.addEventListener("change", () => {  
  let shown = 0;  
  rows.forEach(row => {  
    row.hidden = mode.value !== "all" &&  
      row.dataset.mode !== mode.value;  
    if (!row.hidden) shown += 1;  
  });  
  // The complete example then updates the status text.  
});
```

Your turn: trace the category filter

Your turn

The invented table contains Walking 12, Bus 18 and Cycling 6. Predict which rows and status message appear after selecting Bus, then All categories. Explain what the counter measures.

Attempt the complete task before advancing. Show the method and interpret the result.

Trace Bus and All without confusing categories with responses

Selection	Visible rows	Status
Bus	Bus: 18 responses	1 transport category shown
All categories	Walking 12, Bus 18, Cycling 6	3 transport categories shown

Use the evidence

The counter counts visible categories, not response totals. The original dataset still totals 36.

A status message reports the change as text

- Update the paragraph with `textContent`.
- Use singular `category` for one and plural `categories` otherwise.
- Check the status announcement with available assistive tools.

```
const noun = shown === 1 ? "category" : "categories";
status.textContent =
  `${shown} transport ${noun} shown.`;
```

The theme button toggles one class and describes its next action

- A click adds or removes the dark class.
- CSS then applies the corresponding shared values.
- The button label changes between light and dark actions.

```
theme.addEventListener("click", () => {  
  const dark = document.body.classList.toggle("dark");  
  theme.textContent = dark  
    ? "Use light theme" : "Use dark theme";  
});  
controls.hidden = false;
```

Basic information should survive the loss of optional enhancement

JavaScript available

The category filter changes visible rows.

The theme button changes shared colour values through a class.

JavaScript unavailable

Optional controls remain hidden.

Readers still have the full table, methods and section links. The invented data and limits stay the same.

Practical checks need results, not just a checklist title

Practical check	Record the actual result
Navigation / keyboard	Open every link and operate each control with the keyboard; inspect visible focus.
Layout / themes	Try a phone-width window, enlarged text and both themes.
Fallback / other device	Check the full content without the script and on another browser or device.

Use the evidence

Keep a result and any correction for each check. A checklist heading alone is not evidence that the checks happened.

A relative report link works only when the real file is delivered

- A same-folder link can refer to report.pdf.
- Use a meaningful label that identifies the PDF.
- Check the actual filename and host path.

```
<a href="report.pdf">Read the full report (PDF)</a>
```

Static files can still include browser interactivity

Host and domain

The host delivers stored HTML, CSS, scripts and images.

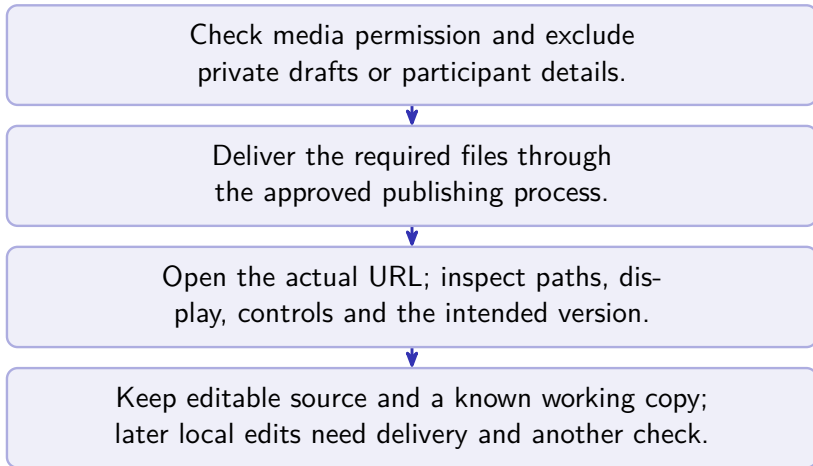
The domain is an address; it does not upload those files.

Browser behaviour

The browser can run interactive JavaScript from a static site.

Stored files can therefore provide a filter without a server-side application.

Publishing and later revision must deliver the intended version



The website, report and talk should support the same academic claim

Academic product	Job in the same project
Website	Give the question, one useful result and its limits.
Full report	Provide detailed methods, evidence and references.
Oral talk	Explain the work and direct listeners to the intended page or approved report.

Use the evidence

Use only an actual approved report link or QR destination. Practice counts remain clearly labelled as invented.

A promotion plan names who, what, when and why

Content-plan field	Practice plan to complete
Audience / objective	Classmates: find the approved report during project week.
Post / destination	Short accurate description and meaningful link to the intended version.
Timing / owner	Specify when, who prepares it and the required centre permissions.

Use the evidence

A planned post records an intention. Keep actual promotion evidence separately if the task requires it.

Displays, reach and link clicks describe different events

Measure	What it counts or establishes
Impressions	Displays under the platform's definition.
Reach	Usually distinct accounts under the platform's definition.
Link clicks	Clicks on a link; these do not establish successful loading or reading.

Your turn: compare promotion rates

Your turn

Post A has 400 impressions and 20 link clicks. Post B has 250 impressions and 25 clicks. Calculate both link click-through rates. Which has more clicks, and what can neither measure establish?

Attempt the complete task before advancing. Show the method and interpret the result.

A worked rate calculation needs a stated denominator

- 1 **Define the rate** Link click-through rate = link clicks $\div$ impressions $\times$ 100%.
- 2 **Post A** $\text{CTR}_A = \frac{20}{400} \times 100\% = 5\%$
- 3 **Post B** $\text{CTR}_B = \frac{25}{250} \times 100\% = 10\%$
- 4 **Interpret** B has 25 clicks versus A's 20, despite fewer impressions. Neither rate measures confirmed readership.

A better observed rate is not proof of a causal explanation

Observed comparison

Post B has a higher click rate in the invented data.

The counts describe the recorded clicks and impressions.

Causal explanation

Timing, audience and repeated clicks may differ.

Record context when changing one feature; the supplied numbers cannot isolate wording as the cause.

Check the fragment, filter and basic fallback

Explain the behaviour before running it

Which element does the Method link reach? Explain the relationship between its fragment and the target ID.

Predict Cycling's row, response count and visible-category status. Does the original total change?

Explain what a reader can still use if the optional script never runs.

Check yourself

- A domain needs hosting, delivery and actual-URL checks.
- C: 24 clicks from 600 impressions gives 4%.
- Show real files and required evidence of completed work.

$$\frac{24}{600} \times 100\% = 4\%$$