G.C.E. O/L Grade 11 ICT · Lesson 5

5.3 Web Development Tools: Authoring Tools, Static and Dynamic Websites, CMS

Syllabus 14.3. You do not have to type every tag by hand. In this note you will meet **web authoring tools** – text editors, **WYSIWYG** editors, website builders and a **Content Management System (CMS)** like WordPress. You will learn how they help with **text, layout, multimedia and links**, the difference between **static and dynamic** websites, and how a team of **Creators, Editors, Publishers, Administrators and Users** works together on a CMS.

1. What is a web authoring tool?

A **web authoring tool** is software used to **create and edit web pages**. Some let you type the code; others let you design visually and write the code for you. All of them save pages as HTML (with CSS and pictures) that a browser can show.

Type	Examples	How it works
Text editor	Notepad, Notepad++, VS Code	You type the HTML code yourself
WYSIWYG editor	Dreamweaver, BlueGriffon, Google Sites	Design like a word processor; code is made for you
CMS	WordPress, Joomla, Drupal	Add content in a dashboard; many people can work together
Website builder (AI)	Wix, Google Sites, WordPress AI	Drag and drop; AI can draft pages from a prompt

2. Text editor or WYSIWYG?

WYSIWYG means **What You See Is What You Get**. You type, add pictures and drag boxes like in a word processor, and the tool writes the HTML. Most WYSIWYG tools have a **Design view**, a **Code view** and a **Split view** (both). A **text editor** gives full control and teaches you HTML, but is slower for beginners.

	Text editor	WYSIWYG editor
Skill needed	Must know HTML	Little or no HTML
Speed	Slower to build	Fast to build
Control of code	Full, clean code	Extra code may be added
Examples	Notepad, VS Code	Dreamweaver, BlueGriffon

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3. What the tools help you do

Text formatting පෙළ හැඩගැන්වීම	**Page layout** පිටු පිරිසැලසුම
Multimedia බහුමාධ්‍ය	**Hyperlinks** අධිසබැඳි
Preview පෙරදසුන	**Upload** Upload

4. Page layout with HTML5 and CSS

HTML5 has **meaning (semantic) tags** for the parts of a page: **<header>, <nav>, <main>, <aside>** and **<footer>** – the same boxes as the wireframe in note 5.1. **CSS** then places them. The example below puts main and aside **side by side on a computer**, and the @media rule puts them **one under the other on a phone**. This is called **responsive design**.

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HTML: A page layout that works on phones (HTML5 + CSS)

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <title>ICT Club</title>
  <style>
    body { margin: 0; font-family: Arial, sans-serif; }
    header, footer { background: #0B1D3F; color: white; padding: 10px; }
    nav a { margin-right: 12px; }
    .box { display: flex; gap: 10px; padding: 10px; }
    main { flex: 3; }
    aside { flex: 1; background: #F2F4F8; padding: 8px; }
    @media (max-width: 600px) { .box { flex-direction: column; } }
  </style>
</head>
<body>
  <header><h1>ICT Club</h1></header>
  <nav><a href="#">Home</a> <a href="#">Events</a> <a href="#">Contact</a></nav>
  <div class="box">
    <main><p>Welcome to the ICT Club page.</p></main>
    <aside><p>Next event: Web Day</p></aside>
  </div>
  <footer>Sunrise College 2026</footer>
</body>
</html>
```

▶ **Result in the browser**



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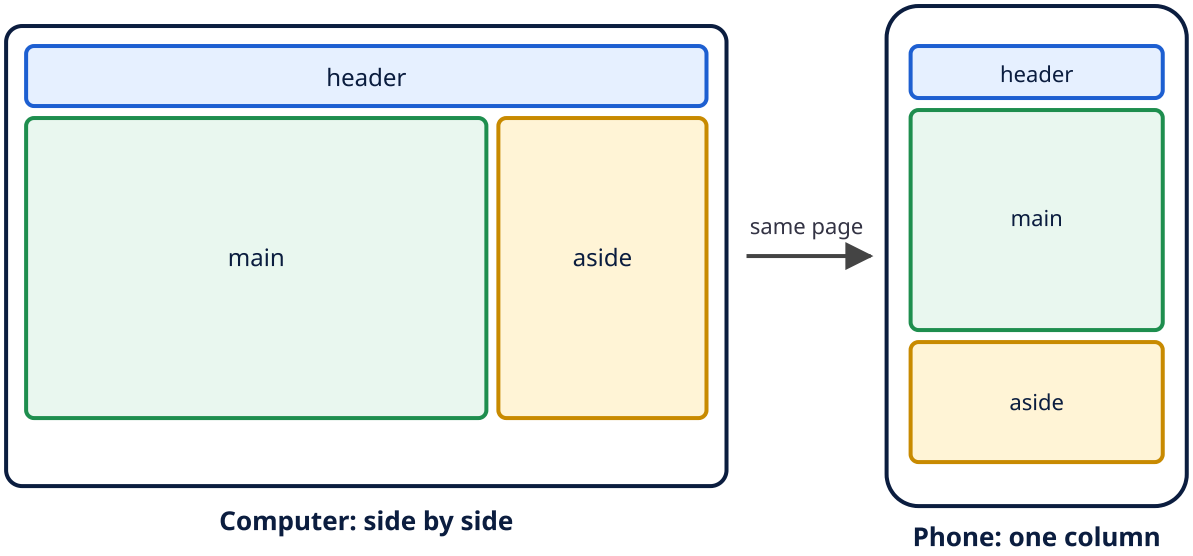


Figure 5.8 – Responsive design: the same page shows two columns on a computer and one column on a phone.

5. Multimedia building blocks

HTML5 can play sound and video **without plug-ins** (Flash is gone). **<audio controls>** shows a play bar for MP3 files and **<video controls>** shows a video player for MP4 files. You can also **embed** a YouTube video or a Google Map using the code the site gives you (an <iframe>).

HTML: Audio and video in HTML5

```
<h3>School song</h3>
<audio controls src="song.mp3"></audio>
<h3>Sports meet 2026</h3>
<video controls width="320" src="sports.mp4"></video>
```

▶ **Result in the browser**

School song

0:00 / 0:00

Sports meet 2026

0:00

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> 💡 Keep big videos on **YouTube** and embed them. This saves space on your own web host and plays smoothly on phones.

6. Static and dynamic websites

A **static website** sends the **same HTML file** to every visitor. To change it you edit the file and upload it again. A **dynamic website** builds the page **when someone asks for it**, using a **server program** (PHP, Python, Node.js) and a **database**. That is how the exam results site shows **your** result, or a shop shows **your** cart.

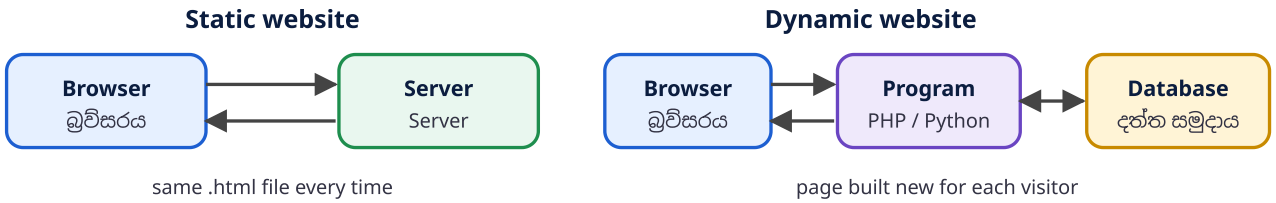


Figure 5.9 – A static site sends a ready file; a dynamic site builds the page from a program and a database.

	Static	Dynamic
Content	Same for every visitor	Can change for each visitor or time
Made with	HTML and CSS files	HTML + server program (PHP, Python) + database
Updating	Edit the file and upload again	Change content in the database / dashboard
Speed and cost	Fast, cheap hosting	Needs a server program and database
Example	A one-page club poster site	Exam results, online shop, Facebook

7. Content Management System (CMS)

A **CMS** is software on the web server that lets people **create, edit and publish content without writing HTML**. You log in to a **dashboard**, write a post like an e-mail, add photos and click **Publish**. The **design (theme)** is kept separate from the **content**, so the whole site can get a new look in minutes. Popular CMSs: **WordPress** (used by about 4 in 10 websites), **Joomla** and **Drupal**. A CMS site is a **dynamic** site.

- Many people can work on the site at the same time, each with their own login.
- **Themes** change the look; **plugins** add features (contact form, gallery, Sinhala and English).
- Content is stored in a **database**, so search and menus update by themselves.

8. Workflow – create, edit, publish, use

In a CMS, content moves through a **workflow**. A post starts as a **draft**, is checked, approved and then goes **live** for everyone to read. Later it is updated or removed.

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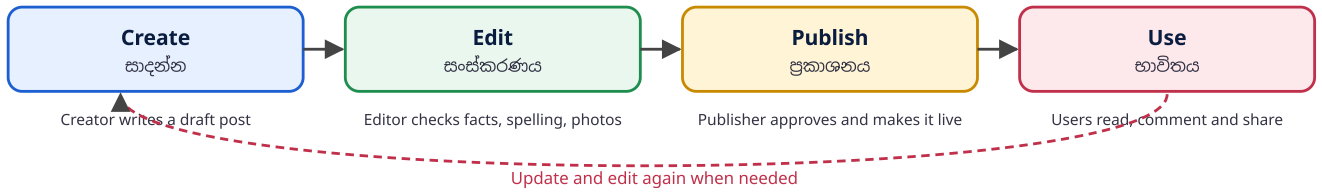


Figure 5.10 – Content workflow in a CMS: create, edit, publish and use, then update.

9. Roles and permissions

Each person gets a **role**. The role decides what they are **allowed** to do. This keeps the site safe – a student reporter cannot delete the whole site. In the school site: the **ICT club members** are Creators, the **ICT teacher** is the Editor, the **deputy principal** is the Publisher, the **web master** is the Administrator, and **students and parents** are Users.

Role	Create	Edit others	Publish	Manage site	Read
Creator	✔	–	–	–	✔
Editor	✔	✔	–	–	✔
Publisher	✔	✔	✔	–	✔
Administrator	✔	✔	✔	✔	✔
User	–	–	–	–	✔

💡 Exam tip: **Administrator** has **all** powers (users, themes, plugins, settings). **User** (visitor) can only **read** and comment. In WordPress the roles are called Contributor, Author, Editor and Administrator.

10. Website builders and AI

NEW 2026 **2026: Website builders** such as **Wix, Google Sites and Squarespace** let you build a site with drag and drop and host it for you. Many now have **AI**: you type “a website for our school ICT club with events and a gallery” and the AI drafts pages, text and colours in a minute. WordPress also has AI writing and image tools. AI is a good **start**, but a person must **check facts, spelling, photos and accessibility** before publishing.

Key Words

Web authoring tool – Software used to create and edit web pages.

WYSIWYG – What You See Is What You Get: design visually, code made for you.

Text editor – A program where you type HTML code yourself (Notepad).

Semantic tag – An HTML5 tag that names a page part, e.g. <nav>.

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Responsive design – A layout that changes to fit phones, tablets and computers.	**Static website** – Shows the same fixed pages to every visitor.
Dynamic website – Builds pages using a server program and a database.	**CMS** – Content Management System: manage site content without HTML.
Theme – A ready design that controls the look of a CMS site.	**Plugin** – An add-on that gives a CMS a new feature.
Workflow – The steps content goes through: create, edit, publish, use.	**Administrator** – The CMS role with full control of the site and users.

Sample Q&A

1. What does WYSIWYG mean?

> **Answer:** What You See Is What You Get.

2. Give one advantage of a text editor over a WYSIWYG editor.

> **Answer:** Full control and clean code (and you learn HTML).

3. What is the difference between a static and a dynamic website?

> **Answer:** Static shows the same files to all; dynamic builds pages from a program and database.

4. Name two CMS programs.

> **Answer:** WordPress, Joomla (or Drupal).

5. List the four workflow steps in a CMS.

> **Answer:** Create, edit, publish, use.

6. Which role can add new users and plugins?

> **Answer:** The Administrator.

MCQ

1. Software used to create and edit web pages is a

A. web authoring tool
B. web browser
C. web server
D. search engine

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2. WYSIWYG stands for

A. Write Your Site In Web Graphics
B. What You Save Is What You Give
C. What You See Is What You Get
D. Web Years Site In Your Group

3. Which is a text editor, not a WYSIWYG tool?

A. Notepad
B. Dreamweaver Design view
C. Google Sites
D. Wix

4. Which HTML5 tag is for the site menu?

A. <footer>
B. <nav>
C. <menu-bar>
D. <aside>

5. A layout that changes to fit a phone screen is

A. encrypted
B. linear
C. responsive
D. static

6. The meta tag needed for a page to fit phones is

A. <meta charset="utf-8">
B. <meta name="author" ...>
C. <meta name="phone" ...>
D. <meta name="viewport" ...>

7. To show a video player in HTML5 use

A. <embed flash>
B. <movie>
C. <video controls>
D. <img src="film.mp4">

8. A website that shows each student their own exam result is

A. offline
B. linear
C. static
D. dynamic

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9. A static website is best when

A. you sell products online
B. the content rarely changes
C. you need a database
D. users log in

10. Which is a Content Management System?

A. WordPress
B. Google Chrome
C. FileZilla
D. Notepad

11. In a CMS the look of the site is changed with a

A. database
B. theme
C. domain
D. plugin only

12. The correct CMS workflow order is

A. Edit → Use → Create → Publish
B. Use → Publish → Edit → Create
C. Create → Edit → Publish → Use
D. Publish → Create → Edit → Use

13. Who approves content and makes it live?

A. Publisher
B. Visitor counter
C. Creator
D. User

14. Which role can only read the content?

A. Editor
B. Publisher
C. Administrator
D. User

15. An AI website builder should be used

A. to replace the web host
B. as a start, then checked by a person
C. without checking anything
D. only for passwords

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Structured Questions

1. Compare a text editor and a WYSIWYG editor (two points) and name one example of each. *(2 marks)*

> Text editor: you type HTML, full control, slower (Notepad). WYSIWYG: design visually, code made for you, faster (Dreamweaver).

2. Give two differences between static and dynamic websites with an example of each. *(2 marks)*

> Static: same content for all, plain HTML files (club poster site). Dynamic: content changes per visitor, uses a server program and database (exam results, online shop).

3. What is a CMS? Give two advantages for a school. *(3 marks)*

> Software to create, edit and publish web content without HTML. Advantages: teachers can post news easily; many users with roles; themes change the look quickly.

4. Describe the jobs of the Creator, Editor, Publisher, Administrator and User in a CMS. *(4 marks)*

> Creator writes drafts; Editor checks and edits content; Publisher approves and publishes; Administrator manages users, themes, plugins and settings; User reads and comments.

5. Name the five HTML5 semantic tags for page parts and say what each holds. *(4 marks)*

> <header> logo and title; <nav> menu links; <main> main content; <aside> side box; <footer> contact and copyright.

Summary

- Authoring tools: text editor, WYSIWYG, CMS, website builder.
- WYSIWYG = What You See Is What You Get (Design, Code, Split views).
- Tools help with text, layout, multimedia, links, preview, upload.
- HTML5 layout: <header>, <nav>, <main>, <aside>, <footer> + CSS; responsive with @media.
- <audio controls> and <video controls> play media without plug-ins.
- Static = same files for all; dynamic = program + database.
- CMS (WordPress, Joomla, Drupal): themes, plugins, dashboard.
- Workflow: create → edit → publish → use; roles: Creator, Editor, Publisher, Administrator, User.

MCQ answer key – 5.3

1. **A** – Authoring tools make pages; browsers only show them.

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2. **C** – You design and see the result as you work.
3. **A** – In Notepad you type the code yourself.
4. **B** – nav = navigation links.
5. **C** – Responsive design uses CSS media queries.
6. **D** – viewport sets the page width to the device width.
7. **C** – The video element with controls shows play, pause and volume.
8. **D** – It builds the page from a database for each visitor.
9. **B** – Fixed content suits simple HTML files.
10. **A** – WordPress manages content from a dashboard.
11. **B** – Themes control design; content stays the same.
12. **C** – Write, check, make live, read.
13. **A** – The Publisher can publish.
14. **D** – Users (visitors) only read and comment.
15. **B** – AI drafts can have wrong facts or poor accessibility.

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