

Lab 1

A Basic Static Page

CSCI2720 Building Web Applications

Agenda

- A good text editor
- A no-frill HTML5 file
- Bootstrap
 - Basic components
 - Special nav, table, lists
 - Float and flex
 - Responsive columns
- Responsive web design

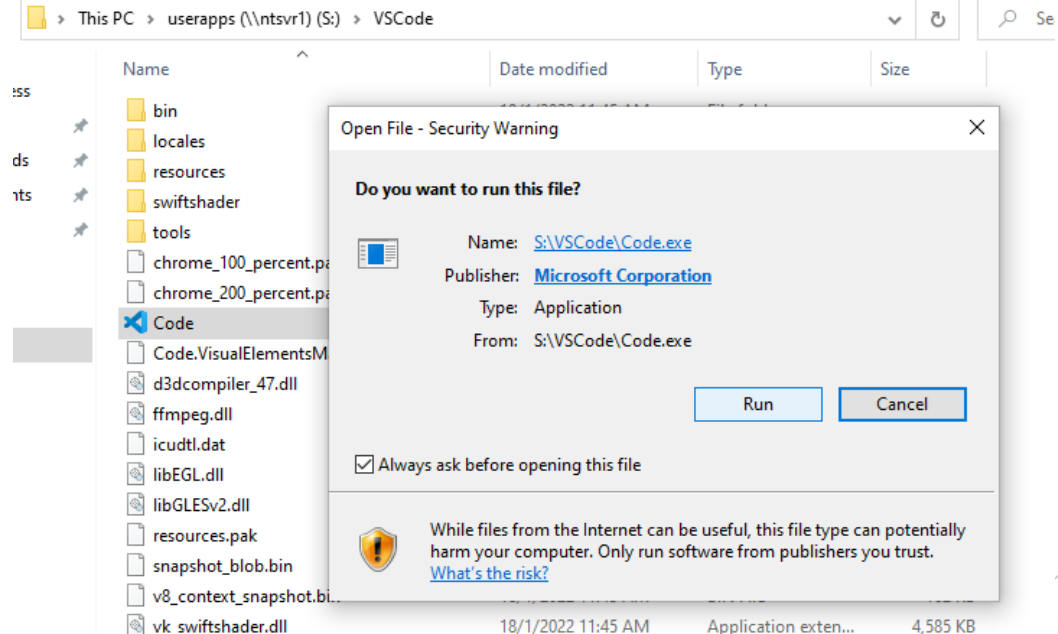


A good
text editor

- Too many to choose from!
- Check:
 - Syntax highlighting?
 - Tooltips?
 - Version control?
- One popular choice:
Visual Studio Code
- Other possibilities
 - *E.g. Vim, NotePad++, Atom, ...*
 - For CSE lab, try **Portable Version** of NotePad++ or Sublime Text etc.

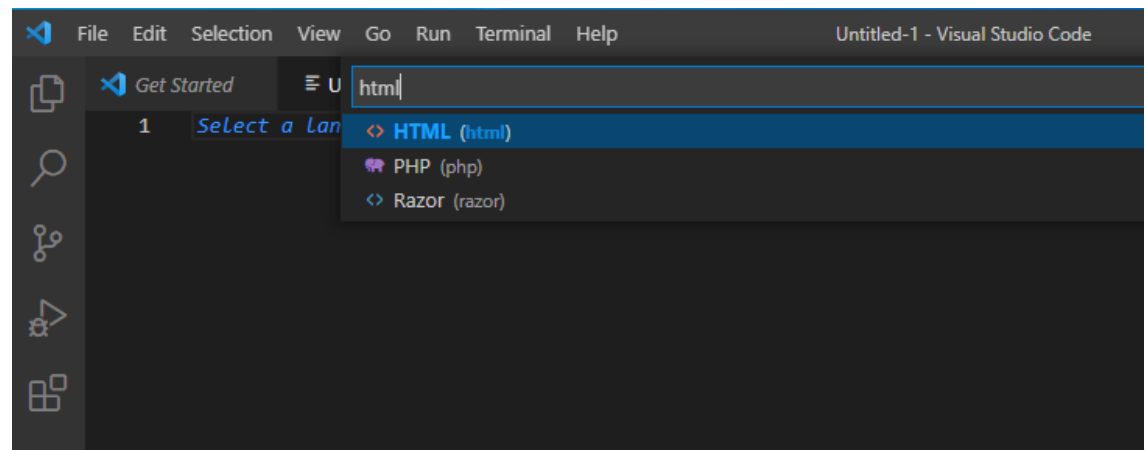
Running VSCode on CSE computers

- For your own computer, you can download and install at <https://code.visualstudio.com>
- On CSE lab computers, you can find it at ***S:\VSCode\Code***
 - You can create a shortcut on desktop for easy access



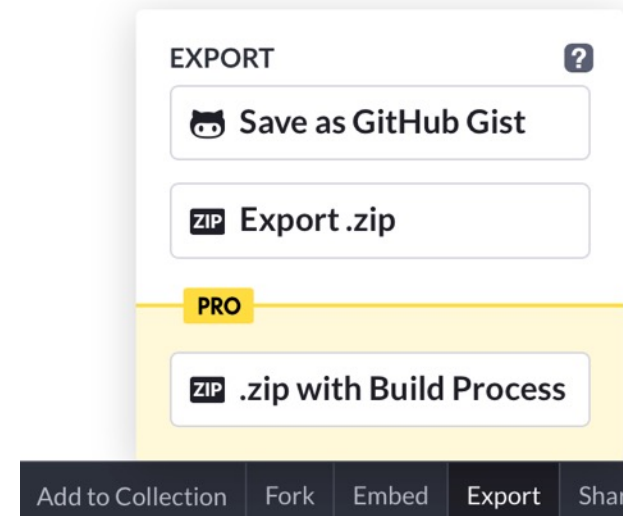
Using VSCode

- It works similarly to usual editors, where you can find the ***File*** or ***Edit*** menu most useful for now
- Pick the language so that it shows ***syntax highlighting***!



May I use
Codepen?

- Codepen.io is a useful platform for coding and testing
- We won't forbid you to be lazy and use this instead of a proper text editor (like a developer...)
- To get the HTML/CSS files, save your pen and you can see "Export" at the bottom to download *as .zip*
 - Your files are inside the "dist" folder in the zip



A no-frill HTML₅ file

- Create an HTML file to describe yourself, using...
 - Heading
 - Paragraph
 - List
 - Table
 - Image
 - *Others (e.g., `<time>`, `©`, ...)*

Viewing your HTML page

- Use **Google Chrome** to view your page rendered
 - Drag your HTML file in to open
- Right click on the page and choose **Inspect**
 - The HTML code is shown in the **Elements** tab
- Every time you change the HTML/CSS contents, you need to refresh in the browser to see the outcome

For
example...

I'm Chuck-jee Chau

Computer Science & Engineering

- [About](#)
- [Courses](#)
- [Links](#)
- [Response Web](#)

About Me



Hi there! I'm a lecturer in the Department of Computer Science and Engineering, CUHK. A few (!) years ago, I was graduated from here as well! It's very nice to meet you all.

My hobbies

Piano
Computer Music
Web Design?!
Hiking

My Courses

Course code	Contents
AIST2010	Intro to Computer Music
CSCI2720	Building Web Apps
CSCI3250/3251	Computers and Society / Engineering Practicum

Interesting Links

- [Blackboard](#)
- [CSE Dept](#)
- [CUHK](#)

This website was updated on 2022-01-19. © **Chuck-jee Chau**

Check out my sample page:

<http://www.cse.cuhk.edu.hk/~chuckjee/2720lab1/index-nocss.html>

View the source code, but don't just copy!

HTML5 semantics

- Use semantic elements
 - `<article>`
 - `<header>`
 - `<main>`
 - `<nav>`
 - `<section>`
 - `<footer>`

By now, you should already have...

Header/sections/footer

Navbar

Lists

Image/Picture

Paragraph

Table

Adding Bootstrap for CSS

- Now add this to the **<head>** section of the HTML file

```
<link  
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.1/dist/css/  
bootstrap.min.css" rel="stylesheet" integrity="sha384-  
iYQeCzEYFbKjA/T2uDLTpkwGzCiq6soy8tYaI1GyVh/UjpbCx/TYkiZhlZB6  
+fzT" crossorigin="anonymous"> </head>
```

- <https://getbootstrap.com/docs/5.2/getting-started/introduction>

If you are not able to copy the text, use *Chrome* to open this PDF!

Basic components

- Bootstrap applies all styles using **class**
- Try and apply some of these classes to your header/nav/section/footer/...
 - ***Text/background color:***
`text-dark` / `text-secondary` / `bg-primary` / `bg-info` / ...
 - ***Margin/padding:***
`m-2` / `m1-3` / `p-2` / `py-5` / ...
 - ***Text alignment/decoration:***
`text-center` / `text-end` / `font-italic` / ...
 - https://www.w3schools.com/bootstrap5/bootstrap_utilities.php

■ *Navbar*

```
<nav class="navbar navbar-expand">
  <ul class="navbar-nav">
    <li class="nav-item"><a ... class="nav-link">...</a></li>
    <li class="nav-item"><a ... class="nav-link">...</a></li>
  </ul>
</nav>
```

Special components

■ You can always add more styling classes

■ <https://getbootstrap.com/docs/5.2/components/navbar>

■ *Table*

```
<table class="table">
  <thead><tr>
    <th scope="col">...</th>
    <th scope="col">...</th>
  </tr></thead>
  <tr>
    ...
  </tr>
</table>
```

■ Add more styles!

■ <https://getbootstrap.com/docs/5.2/content/tables>

■ *List*

■ <https://getbootstrap.com/docs/5.2/components/list-group>

Float and flex

- Your image may originally be floating using CSS

```
<img style="float:right">
```

- You can do the same using Bootstrap classes

```
<img class="float-end">
```

- <https://getbootstrap.com/docs/5.2/utilities/float>

- Similarly, the **d-flex** class represents **display:flex** in CSS

- <https://getbootstrap.com/docs/5.2/utilities/flex>

- For **consistency** and **convenience**

- *Everything about styling is applied with classes*

Responsive columns

- In Bootstrap, a container is always divided into **12 columns**



- This can be done by introducing a **container** div, and apply the **col-*** class to the contents

```
<div class="container">
  <div class="row">
    <section ... class="col-3"></section>
    <section ... class="col-6"></section>
    <section ... class="col-3"></section>
  </div>
</div>
```

- <https://getbootstrap.com/docs/5.2/layout/grid>

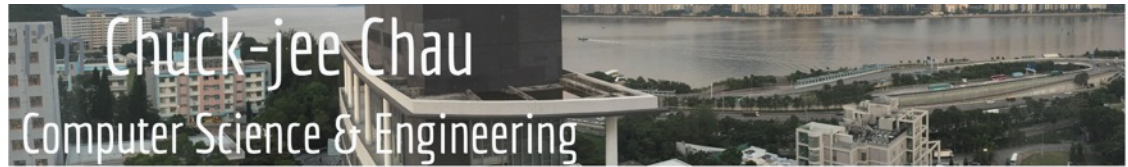
Responsive columns

- You can then adjust the proportion for the columns depending on screen width, e.g.
 - Phone in portrait: stacked up (*no columns, auto!*)
 - Phone in landscape: **4+4+4**
 - Tablet: **3+6+3**
 - Very large screen: **2+8+2**

```
<div class="row">
  <section ... class="col-sm-4 col-md-3 col-xl-2"></section>
  <section ... class="col-sm-4 col-md-6 col-xl-8"></section>
  <section ... class="col-sm-4 col-md-3 col-xl-2"></section>
</div>
```

- <https://getbootstrap.com/docs/5.2/layout/breakpoints>
- These **breakpoint** settings can also be applied on many other classes, e.g., *p-sm-2*, *float-md-left*, *shadow-lg*

For
example...



About Courses Links Response Web

About Me



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Web Design?

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Response Web Design New!

I devote myself to responsive web design. You can see in this page, when the screen width is adjusted, all the elements are resized accordingly for a smooth experience for the user. It is also displayed differently according to the device to view this page. Here are some points to note:

- Auto fit header image
- Different image depending on screen width
- Flexbox with the "hobbies" auto reflow
- Different margin for sections with screen width

This website was updated on 2022-01-19. © Chuck-jee Chau

Check out my sample page and resize the browser window:
<http://www.cse.cuhk.edu.hk/~chuckjee/2720lab1/index2.html>
View the source code, but don't just copy!

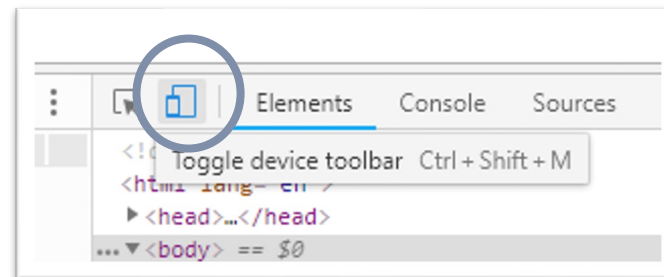
CSCI2720 Lab 1

Responsive Web Design

- Try and implement a few of these RWD elements
 - Choose image based on screen width
 - Different CSS rules with media queries for screen size
 - Auto-fit background image
 - ... *and more!*

Testing RWD

- For consistency, use **Google Chrome** for the labs
- Utilize the ***Chrome DevTools*** for details of the source code and various diagnostics
- Preview rendering results on smaller screens:



Publishing your page

- If you want to share a page with HTML code, you need to host it on a web server, e.g.,
 - CSE server (see Appendix)
 - Outside services
 - GitHub Pages
 - AWS: Amazon S3
 - Netlify
 - *and many more possibilities...*

Submission

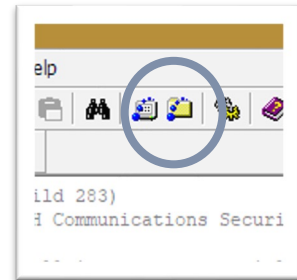
- No submission is needed for labs
- What you have done for this lab will be useful, including:
 - Basic page with Bootstrap
 - Bootstrap margin/padding
 - Responsive columns
- **Please keep your own files safely**
- *P.S. For CSE account issues, please contact admin @SHB1001, or email techteam@cse.cuhk.edu.hk using your @cse or @link account*

Appendix: Using Netlify

- You may try publishing your *static* personal page using **Netlify**
 1. Open an account at www.netlify.com (choose the free account!)
 2. Read this if you know GitHub:
<https://www.netlify.com/blog/2016/10/27/a-step-by-step-guide-deploying-a-static-site-or-single-page-app/>
 3. If you are not sure about GitHub, simply upload your files to
<https://app.netlify.com/drop>
- You can now access your site using **[https://\(sitename\).netlify.app](https://(sitename).netlify.app)**, e.g.
 - <https://chuckjee.netlify.app>
- Note: We have no affiliation with the company, and this step of publishing is optional for your reference only

Appendix: Personal accounts

- You may try the CSE account if you are a **CS/CE student**
- SSH/SFTP to CSE server
 1. SSH Client in lab
(S:\SSH3.2.9\SshClient.exe)
 2. Connect to
linux2.cse.cuhk.edu.hk
 - If outside CUHK network, connect to **gw.cse.cuhk.edu.hk**, then type **ssh linux2**
 3. New File Transfer Window
- SSH clients for your own computer:
 - E.g. MobaXterm, WinSCP, FileZilla, CyberDuck, ...



Appendix:
Uploading
for CSE
account

- You can put your personal page onto the CSE web server!
 1. (Save your own work as **index.html**)
 2. On server, create a folder **www** under your home
 3. Check properties of **www** to set mode as **711** or **755**
 4. Upload your html file into the **www** folder
 5. Check properties of **index.html** to set mode as **644**
 6. Access it at
<http://www.cse.cuhk.edu.hk/~username/index.html>
 - Of course, type your own **username**!
- See: <https://i.cse.cuhk.edu.hk/home-page-authoring/>