Bootstrap

Shan-Hung Wu CS, NTHU



Landing Page

- HTML/CSS taught so far
- <u>Bootstrap 4</u> (alpha 6) for the responsive grid layout and components
- <u>Font Awesome</u> for vector icons
- <u>Balsamiq Mockups</u> for UI mockups
- <u>Google Forms</u> for user survey
- <u>Google Analytics</u> for page visit tracking

Outline

- Bootstrap Overview
- Layout
 - Flexbox
 - Media Queries
 - Containers and Grid System
- Components

Outline

- Bootstrap Overview
- Layout
 - Flexbox
 - Media Queries
 - Containers and Grid System
- Components

Bootstrap

- One of the most popular web frameworks
- Helps fast prototype a responsive website

- You learn how to *reuse predefined CSS classes in HTML*
- Rather than write CSS/JS of your own

Bootstrap 4

- Mobile first
- Leverages modern HTML5 and CSS3

 CSS compiled from <u>Sass</u> (just ignore it in docs)
- Consistent behavior across supported browsers
 - Chrome, Firefox, IE 10+, iOS 7+, and Android 5+

Using Bootstrap

- Load CSS and Javascript files using <u>CDN</u>
- Include the responsive meta tag:

<meta name="viewport" content="width=devicewidth, initial-scale=1, shrink-to-fit=no">

Typography

h1. Bootstrap heading h2. Bootstrap heading h3. Bootstrap heading h4. Bootstrap heading h5. Bootstrap heading h6. Bootstrap heading

• See more examples

Responsive Images



• See <u>more examples</u>

Buttons and Colors

<button class="btn btn-primary">Primary</button>

Primary

Primary Secondary	Success	Info	Warning	Danger
-------------------	---------	------	---------	--------

```
btn-secondary
btn-success
btn-info
btn-warning
btn-danger
```



Fundamentals

Uses border-box in box-sizing

- Width & height *include* borders and paddings

- Uses rem as default metrics
 - Root font size: 16px
- Native font stack

Outline

- Bootstrap Overview
- Layout
 - Flexbox
 - Media queries
 - Containers and grid system
- Components

Sizing

Width 25%		
Width 50%		
Width 75%		
Width 100%		

<div class="w-25">

w-50, w-75, w-100

h-25, h-50, h-75, h-100

Spacing

Centered element

<div class="mx-auto">Centered</div>

- Margin/padding: m, p
- Side: t, l, b, r, x, y
- Size: auto, 0, 1, ..., 5 (* 0.25rem)

Outline

- Bootstrap Overview
- Layout
 - Flexbox
 - Media queries
 - Containers and grid system
- Components

Flexboxes

- A new layout mode in CSS3
 Not box model
- *Flex container* (a block):

```
div {
   display: flex;
}
```

- Direct children are called *flex items*
- Everything outside container and inside flex items is rendered as usual

Flexboxes in Bootstrap

Flex item 1	Flex item 2	Flex item 3			
			Flex item 3	Flex item 2	Flex item 1

<div class="d-flex flex-row"> flex-row-reverse

flex-column, flex-column-reverse

Flex item 1	
Flex item 2	
Flex item 3	

Justification



<div class="d-flex justify-content-center">

justify-content-between
justify-content-around

Alignment

Flex item	Flex item	Flex item

Flex item Flex item	Flex item

<div class="d-flex align-items-center">

```
align-items-start
align-items-end
Align-items-stretch
```

Align Self



<div class="d-flex align-items-stretch">
 <div>
 <div>
 class="align-self-center">
 <div>

Outline

- Bootstrap Overview
- Layout
 - Flexbox
 - Media queries
 - Containers and grid system
- Components

Media Queries

- Introduced in CSS3
- Define style rules only for specific devices
- E.g.,

```
@media (min-width: 480px) {
   body {
    background-color: yellow;
  }
}
```

Breakpoints in Bootstrap

• Based on width of device viewports

Class	Default (xs)	sm	md	lg	xl
Width	<576px	>=576px	>=768px	>=992px	>=1200px
Devices	Portrait phones	Landscape phones	Portrait tablets	Landscape tablets, desktops	Desktops

• Stay consistent when using @media

Responsive Utilities

- Many layout classes have responsive variants
- E.g., <div class="mx-auto">...</div>

Centered element

mx-sm-auto /* sm and up */
mx-md-auto /* md and up */
mx-lg-auto /* lg and up */
mx-xl-auto /* xl */

More <u>responsive utilities</u>

Outline

- Bootstrap Overview
- Layout
 - Flexbox
 - Media queries
 - Containers and grid system
- Components

Containers

- The most basic layout element in Bootstrap
 - Fixed-width in each breakpoint: container

<div class="container">...</div>

- Always 100%: container-fluid

Grid System

- 12 columns in a container
- By default, each column occupies as much space as possible

1 of 3	1 of 3	1 of 3

```
<div class="container">
  <div class="row">
    <div class="col">
    <div class="col">
    <div class="col">
    <div class="col">
    </div class="col">
  </div>
</div><//div>
```

Setting Column Width

Set col-{breakpoint}-{width} in a column

Content-Based Column Width

Justification

Based on Flexbox

1 of 3	Variable width content	3 of 3	

```
<div class="row justify-content-md-center">
    <div class="col-md-2">
    <div class="col-md-auto">
    <div class="col-md-2">
```

Alignment

One of three columns		
	One of three columns	
		One of three columns

```
<div class="row align-items-center">
   <div class="col align-self-start ">
   <div class="col">
   <div class="col align-self-end">
```

Read <u>more about grid system</u>

Outline

- Bootstrap Overview
- Layout
 - Flexbox
 - Media Queries
 - Containers and Grid System
- Components

Jumbotrom

Hello, world!

This is a simple hero unit, a simple jumbotron-style component for calling extra attention to featured content or information.

It uses utility classes for typography and spacing to space content out within the larger container.

Learn more

Navbar and Scrollspy

Navbar Home Link Disabled

Search

Search

Cards and Card Layout

256x180	256x180	256x180
Card title This is a wider card with supporting text below as a natural lead-in to additional content. This content is a little bit longer. Last updated 3 mins ago	Card title This card has supporting text below as a natural lead- in to additional content. Last updated 3 mins ago	Card title This is a wider card with supporting text below as a natural lead-in to additional content. This card has even longer content than the first to show that equal height action.

and HTML data-* attributes (possibly via jQuery) to vary the contents of the modal

button was clicked.	Now massage to @mde		
followed by example	New message to windo	~	ts
elatedTarget.	Recipient:		
@mdo Open mo	@mdo		
	Message:		
utton" class="btn utton" class="btn utton" class="btn		1	
al fade" <mark>id=</mark> "examp odal-dialog" <mark>role</mark> = 'modal-content">	Close Send mess	age	
s="modal-header"> ss="modal-title" id type="button" clas aria-hidden="true"	d="exampleModalLabel">New message ss="close" data-dismiss="modal" aria-label="Close": ">×	>	
1>		\mathbb{N}	Iodal

s="modal-body">

```
class="form-group">
pel for="recipient-name" class="form-control-label">Recipient:</label>
put type="text" class="form-control" id="recipient-name">
```

To Learn More...

- **Documentation**
- Use Chrome Inspector!

- <u>Start Bootstrap</u>
 - Themes & Templates
 - Version 3 only (currently)



Landing Page

- HTML/CSS taught so far
- <u>Bootstrap 4</u> (alpha 6) for the responsive grid layout and components
- <u>Font Awesome</u> for vector icons
- <u>Balsamiq Mockups</u> for UI mockups
- <u>Google Forms</u> for user survey
- <u>Google Analytics</u> for page visit tracking

lcons

• Font Awesome: vector icons as font

Ok, I'd Like to Help

<button><i class="fa fa-thumbs-up"></i>...</button>

Mockup Tools



• Alternatives: <u>Sketch</u>, <u>Adobe XD</u>, etc.

Google Forms



Google Analytics











Visits and Pageviews by Mobile				
Mobile (Including Tablet)	Visits	Pageviews		
No	16,284	25,786		
Yes	2,158	2,886		



You Can Do Better!

- Animations
- "Chat with Founders" button via <u>Facebook</u> <u>Page's Messenger</u>