

# Responsive Web Design

Ths. Trần Thị Bích Hạnh



KHOA CÔNG NGHỆ THÔNG TIN  
TRƯỜNG ĐẠI HỌC KHOA HỌC TỰ NHIÊN

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**Responsive Web Design**

# 1



Responsive Web Design

# TÀI LIỆU THAM KHẢO





## ☐ Bootstrap

- ☐ <http://getbootstrap.com/>

- ☐ <http://bootsnipp.com/>

## ☐ Testing Responsive Web

- ☐ <http://mattkersley.com/responsive/>

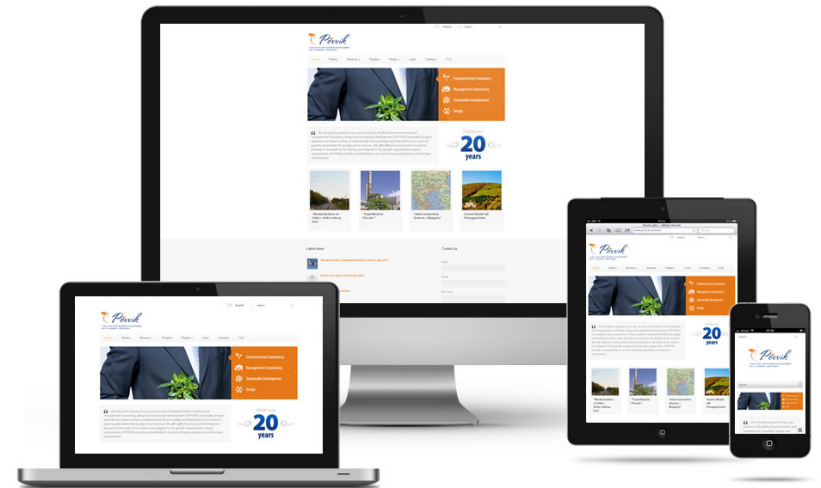
- ☐ <http://protofluid.com>



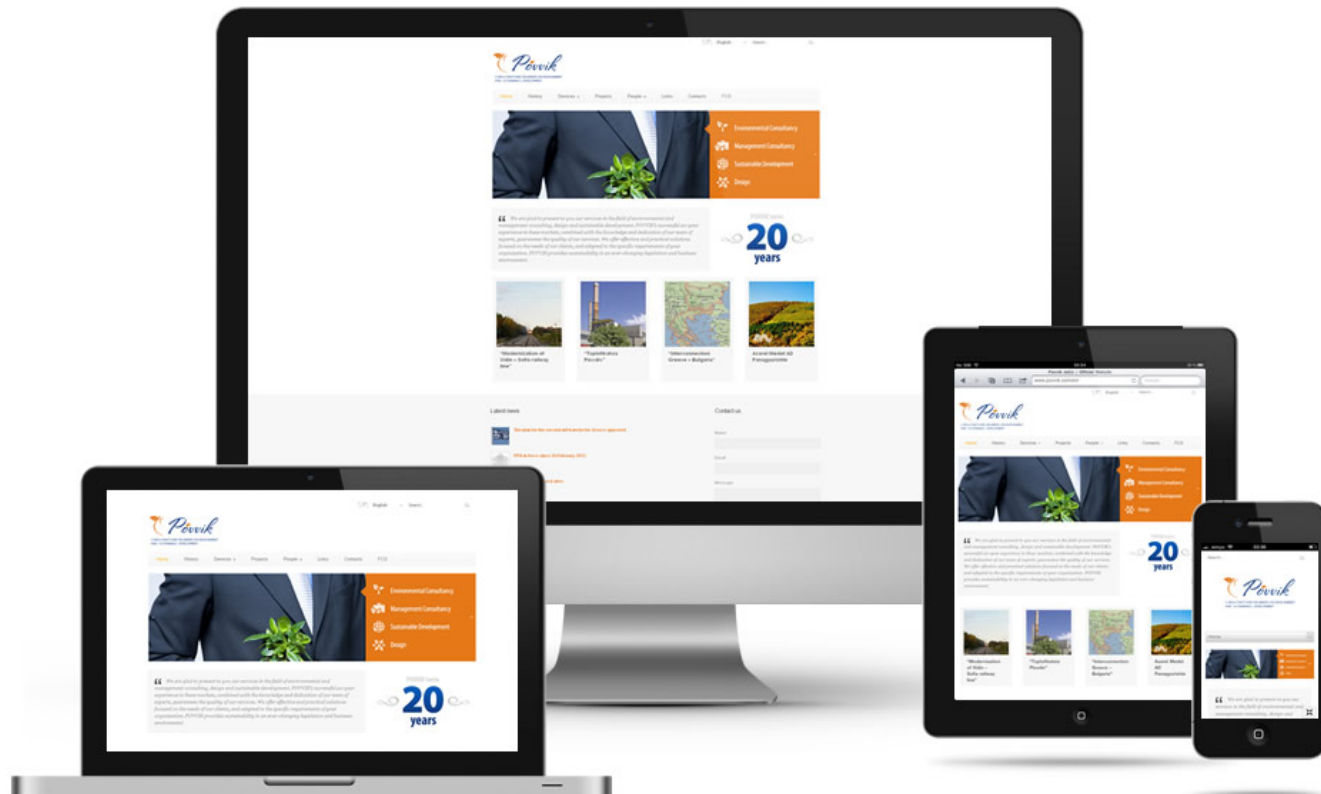
# 2

Responsive Web Design

## KHÁI NIỆM



- Kỹ thuật thiết kế giao diện trang web thích hợp với nhiều loại thiết bị khác nhau



# 3

Responsive Web Design

## STRATEGIES





## 1. Fluid & Flexible Layout

- ❑ Sử dụng tỉ lệ % cho width
- ❑ Cho phép các element tự động thay đổi kích thước

## 2. Flexible Image

- ❑ Cho phép image tự động thay đổi kích thước

## 3. CSS3 Media Queries

- ❑ Chỉ định style cụ thể cho từng loại kích thước màn hình







## ☐ Qui định kích thước toàn trang

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

## ☐ Định nghĩa chiều rộng width theo tỉ lệ %

```
1 .menu {  
2     width: 25%;  
3     float: left;  
4 }  
5 img {  
6     width: 75%;  
7     float: left;  
8 }
```



## □ Cách 1: Sử dụng media attribute

```
1 <link rel="stylesheet" media="screen" href="style.css" />
2
3 <link rel="stylesheet" media="only screen and
4     (min-width:320px) and (max-width:568px)" href="mobile.css" />
5
6 <link rel="stylesheet" media="only screen and
7     (min-width:768px) and (max-width:980px)" href="tablet.css" />
```

## □ Cách 2: Sử dụng media query

```
1 @media(max-width: 600px) {  
2     /* Styles go here */  
3 }  
4  
5 @media(min-width: 700px) {  
6     /* Styles go here */  
7 }  
8  
9 @media only screen and (min-width: 320px) and (max-width: 568px) {  
10     /* Styles go here */  
11 }  
12  
13 @media only screen and (min-width: 768px) and (max-width: 980px) {  
14     /* Styles go here */  
15 }
```

# 4

Responsive Web Design

# BOOTSTRAP





- ☐ HTML, CSS và JavaScript Framework cho phép thiết kế phát triển Responsive Web Design
  - ☐ Nhanh chóng
  - ☐ Dễ dàng
  - ☐ Tương thích trình duyệt

# Bootstrap Components



- ☐ Alerts
- ☐ Badge
- ☐ Breadcrumb
- ☐ Buttons
- ☐ Card
- ☐ Carousel
- ☐ Collapse
- ☐ Dropdowns
- ☐ Forms
- ☐ Jumbotron
- ☐ Modal
- ☐ Navbar
- ☐ Pagination
- ☐ Progress
- ☐ Scrollspy
- ☐ ...



# Sử dụng Bootstrap



```
<!doctype html>
<html lang="en">
  <head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1,
shrink-to-fit=no">

    <!-- Bootstrap CSS -->
    <link rel="stylesheet" href="css/bootstrap.min.css" >

    <title>Hello, world!</title>
  </head>
  <body>
    <h1>Hello, world!</h1>

    <!-- Optional JavaScript -->
    <!-- jQuery first, then Popper.js, then Bootstrap JS -->
    <script src=js/jquery-3.2.1.min.js" ></script>
    <script src=js/popper.min.js" ></script>
    <script src=js/bootstrap.min.js" ></script>
  </body>
</html>
```



```
// Extra small devices (portrait phones, less than 576px)
// No media query since this is the default in Bootstrap

// Small devices (landscape phones, 576px and up)
@media (min-width: 576px) { ... }

// Medium devices (tablets, 768px and up)
@media (min-width: 768px) { ... }

// Large devices (desktops, 992px and up)
@media (min-width: 992px) { ... }

// Extra large devices (large desktops, 1200px and up)
@media (min-width: 1200px) { ... }
```



# 12 Column Grid



.container or .container-fluid

.row

.col-\*-12

.col-\*-6

.col-\*-6

.col-\*-4

.col-\*-4

.col-\*-4

.col-\*-6

.col-\*-3

.col-\*-3

.col-\*-2

.col-\*-2

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**After School and Holiday Clubs**




**Life Long Learning**



**Training For Work**




**Help for Young People and Parents**



**Community Access to Schools**

## DLP Latest News




### Little Dolphin Swim Awards

28th February, 2010

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut molestie libero enim, in accumsan sem. In mi purus, dapibus id imperdiet sit amet, vehicula nec dolor. Pellentesque in.

[Read More >>](#)



### New Pool for Dawlish Community College


28th February, 2010

[Read More >>](#)

## Teachers Blog

### New CPD Video

27th February 2010



Cras pharetra pharetra ipsum, sit amet semper purus venenatis nec. Sed eros neque, faucibus ut dictum ac, congue ac velit. Mauris et molestie quam. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut molestie libero enim.

[Read More >>](#)



```
<div class="container">  
  <!-- Content here -->  
</div>
```

Copy



# Fluid Container



```
<div class="container-fluid">  
  ...  
</div>
```

Copy



# Bootstrap Grid System



	<b>Extra small</b> <576px	<b>Small</b> ≥576px	<b>Medium</b> ≥768px	<b>Large</b> ≥992px	<b>Extra large</b> ≥1200px
<b>Max container width</b>	None (auto)	540px	720px	960px	1140px
<b>Class prefix</b>	.col-	.col-sm-	.col-md-	.col-lg-	.col-xl-
<b># of columns</b>	12				
<b>Gutter width</b>	30px (15px on each side of a column)				





## About us

Lorem ipsum dolor, sit amet  
consectetur adipisicing elit. Illo  
officiis facilis deleniti mollitia.



## Working Place

Lorem ipsum dolor sit amet,  
consectetur adipisicing elit.  
Reiciendis iste dolore quia esse  
eaque



## Work and paid

Lorem ipsum dolor sit amet,  
consectetur adipisicing elit.  
Officia, ad a! Saepe atque autem  
doloremque,

```
<div class="row equal">
  <div class="col">...</div>
  <div class="col">...</div>
  <div class="col">...</div>

</div>
```

# Vertical Align

<code>.align-items-start</code>	<code>.align-items-start</code>	<code>.align-items-start</code>
<code>.align-items-center</code>	<code>.align-items-center</code>	<code>.align-items-center</code>
<code>.align-items-end</code>	<code>.align-items-end</code>	<code>.align-items-end</code>

# Vertical Align



`.align-self-start`

`.align-self-center`

`.align-self-end`



# Horizontal Align



`.justify-content-start`

`.justify-content-start`

`.justify-content-center`

`.justify-content-center`

`.justify-content-end`

`.justify-content-end`

`.justify-content-around`

`.justify-content-around`

`.justify-content-between`

`.justify-content-between`



Navbar Home Features Pricing Disabled

Copy

```
<nav class="navbar navbar-expand-lg navbar-light bg-light">
  <a class="navbar-brand" href="#">Navbar</a>
  <button class="navbar-toggler" type="button" data-toggle="collapse"
data-target="#navbarNavAltMarkup" aria-controls="navbarNavAltMarkup"
aria-expanded="false" aria-label="Toggle navigation">
    <span class="navbar-toggler-icon"></span>
  </button>
  <div class="collapse navbar-collapse" id="navbarNavAltMarkup">
    <div class="navbar-nav">
      <a class="nav-item nav-link active" href="#">Home
<span class="sr-only">(current)</span></a>
      <a class="nav-item nav-link" href="#">Features</a>
      <a class="nav-item nav-link" href="#">Pricing</a>
      <a class="nav-item nav-link disabled" href="#">Disabled</a>
    </div>
  </div>
</nav>
```

## Navbar



Home

Features

Pricing

Disabled

# Responsive Image



769x250

```

```

Copy

# Thumbnail



```

```

# Colors



`.text-primary`

`.text-secondary`

`.text-success`

`.text-danger`

`.text-warning`

`.text-info`

`.text-light`

`.text-dark`

`.text-muted`

`.text-white`

`.bg-primary`

`.bg-secondary`

`.bg-success`

`.bg-danger`

`.bg-warning`

`.bg-info`

`.bg-light`

`.bg-dark`

`.bg-white`



# Buttons



```
<button type="button" class="btn btn-primary">Primary</button>
<button type="button" class="btn btn-secondary">Secondary</button>
<button type="button" class="btn btn-success">Success</button>
<button type="button" class="btn btn-danger">Danger</button>
<button type="button" class="btn btn-warning">Warning</button>
<button type="button" class="btn btn-info">Info</button>
<button type="button" class="btn btn-light">Light</button>
<button type="button" class="btn btn-dark">Dark</button>

<button type="button" class="btn btn-link">Link</button>
```

[Copy](#)

# Spacing



The classes are named using the format `{property}{sides}-{size}` for `xs` and `{property}{sides}-{breakpoint}-{size}` for `sm`, `md`, `lg`, and `xl`.

Where *property* is one of:

- `m` - for classes that set `margin`
- `p` - for classes that set `padding`

Where *sides* is one of:

- `t` - for classes that set `margin-top` or `padding-top`
- `b` - for classes that set `margin-bottom` or `padding-bottom`
- `l` - for classes that set `margin-left` or `padding-left`
- `r` - for classes that set `margin-right` or `padding-right`
- `x` - for classes that set both `*-left` and `*-right`
- `y` - for classes that set both `*-top` and `*-bottom`
- blank - for classes that set a `margin` or `padding` on all 4 sides of the element





Where *size* is one of:

- **0** - for classes that eliminate the **margin** or **padding** by setting it to **0**
- **1** - (by default) for classes that set the **margin** or **padding** to **\$spacer \* .25**
- **2** - (by default) for classes that set the **margin** or **padding** to **\$spacer \* .5**
- **3** - (by default) for classes that set the **margin** or **padding** to **\$spacer**
- **4** - (by default) for classes that set the **margin** or **padding** to **\$spacer \* 1.5**
- **5** - (by default) for classes that set the **margin** or **padding** to **\$spacer \* 3**
- **auto** - for classes that set the **margin** to **auto**

# Spacing



Centered element

```
<div class="mx-auto" style="width: 200px;">  
  Centered element  
</div>
```

Copy



## 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](#)

Featured

## Special title treatment

With supporting text below as a natural lead-in to additional content.

[Go somewhere](#)

2 days ago



## ☐ Responsive Web Design

### ☐ Khái niệm

### ☐ Phương pháp

- Fluid & Flexible Layout
- Flexible Image
- CSS3 Queries

### ☐ Bootstrap

- 12 Column Grid
- Components

