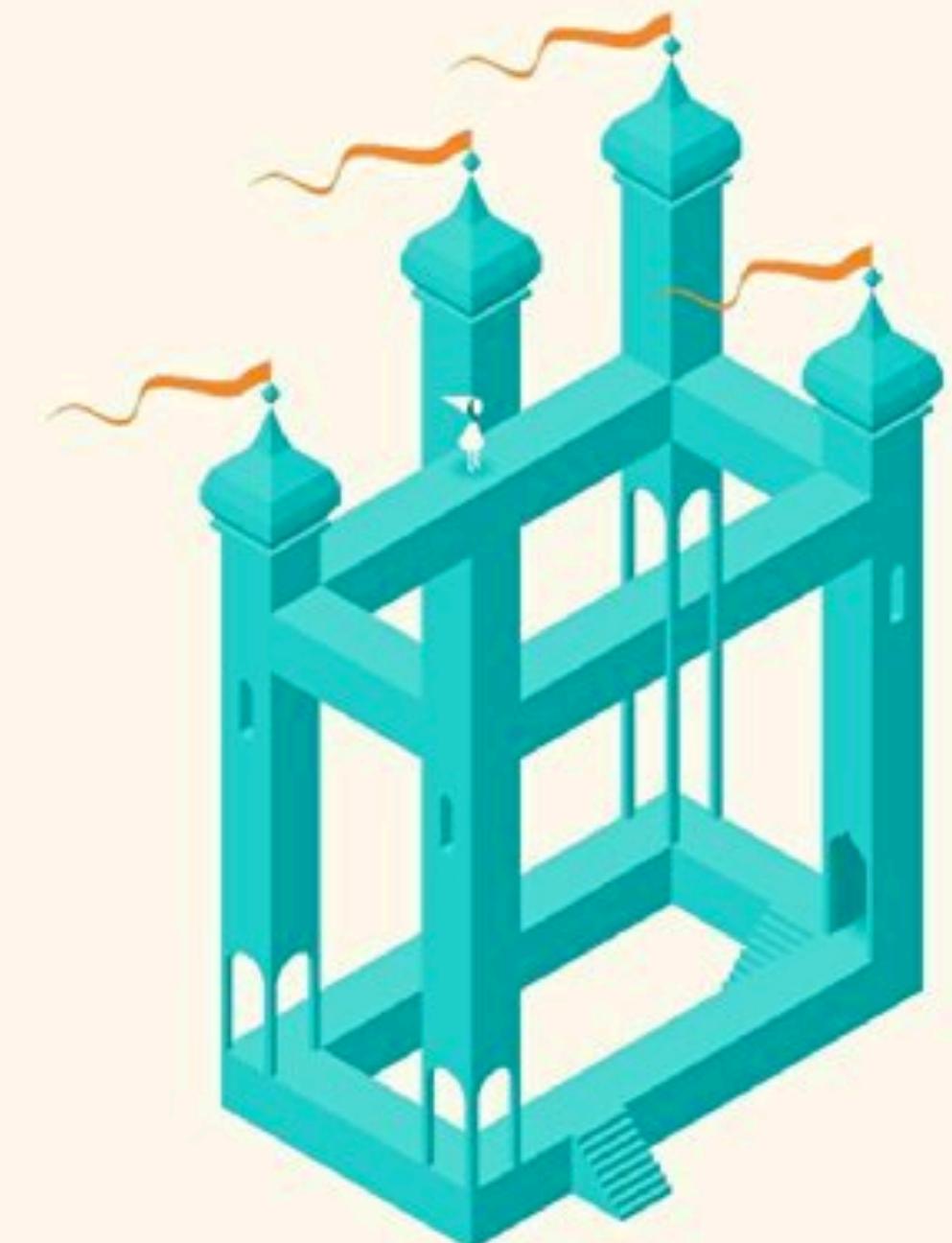


Mobile & Responsive Design, Forms, Data Validation

Frameworks and Architectures of the Web

Spring 2018



Today's Program

Responsive Design: A Brief History

Examples of Responsive Web Design

The Mechanics of Responsive Web Design

Bootstrap and its Grid System

Form Controls and Inputs

Exercises



The Garden
Monument Valley OST
Stafford Bawler, Obfusc, Grigori

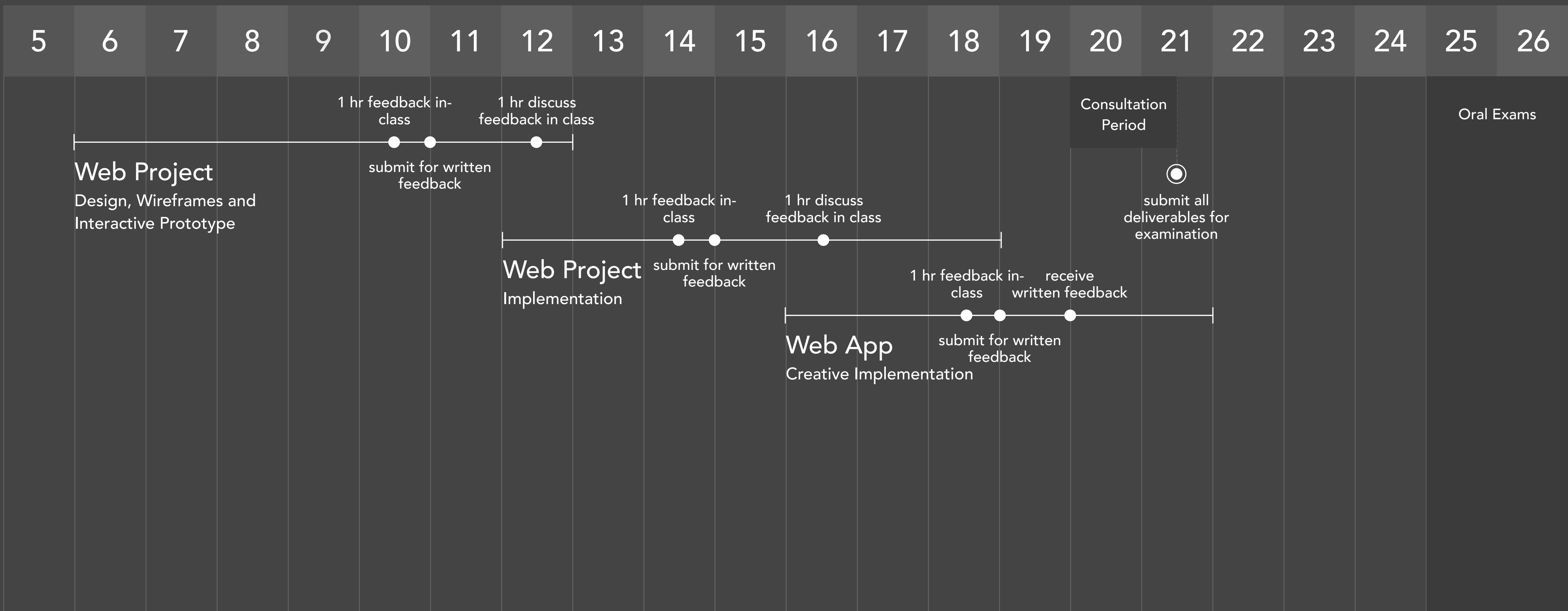
Course Outline

Foundation

Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Introduction, HTML Syntax, Structure and Semantics	Interface Principles, Design Patterns and Aesthetics	HTML and CSS Preliminaries	CSS Layout & Positioning	Mobile and Responsive Design, Forms and Data Validation	Introduction to JavaScript	Document Object Model and Events in JavaScript	CSS3, Graphics and Media and Advanced JavaScript
Web Project - Design, Wireframes and Interactive Prototype							
				Web Project - Implementation			

Timing and Feedback Cycle for Deliverables

Week #



Internet on your Phone



In the beginning, there was WAP.



WAP: Wireless Access Protocol

Used WML, a HTML-like markup language specifically designed for mobile devices.

Much hyped technology in the late 90's / early 2000's.

Proved to be a disappointment due to lack of content, differentiation from HTML, and (initially) poor network performance.

WAP Proof - UNREGISTERED

File Edit View Tools Bookmarks Device Window Help

Address: file:///C/Program%20Files/WAP%20Proof/Softpedia.wml

HTTP 60

Nokia 6600

Welcome

Welcome to
Softpedial
WAP Proof 2007 Professional is a latest tool assisting you in the development of mobile web sites. New mobile terminals and features are available!

Options Back

Source

```
<?xml version="1.0"?>
<!DOCTYPE wml PUBLIC "-//WAPFORUM//DTD WML 1.1//EN" "http://www.wapforum.org/DTD/wml_1.1.xml">
<wml>
<card title="Welcome">
<p align="center">
    Welcome to<br/><strong>Softpedial</strong>!<br/>
    WAP Proof 2007 Professional is a latest tool assisting
    you in the development of mobile web sites.
    New mobile terminals and features are available!
</p>
</card>
</wml>
```

Messages

Traffic

```
[14:00:17.328] Local file loaded: C:\Program Files\WAP Proof\welcome.wml
[14:01:24.095] Local file loaded: C:\Program Files\WAP Proof\Softpedia.wml
```

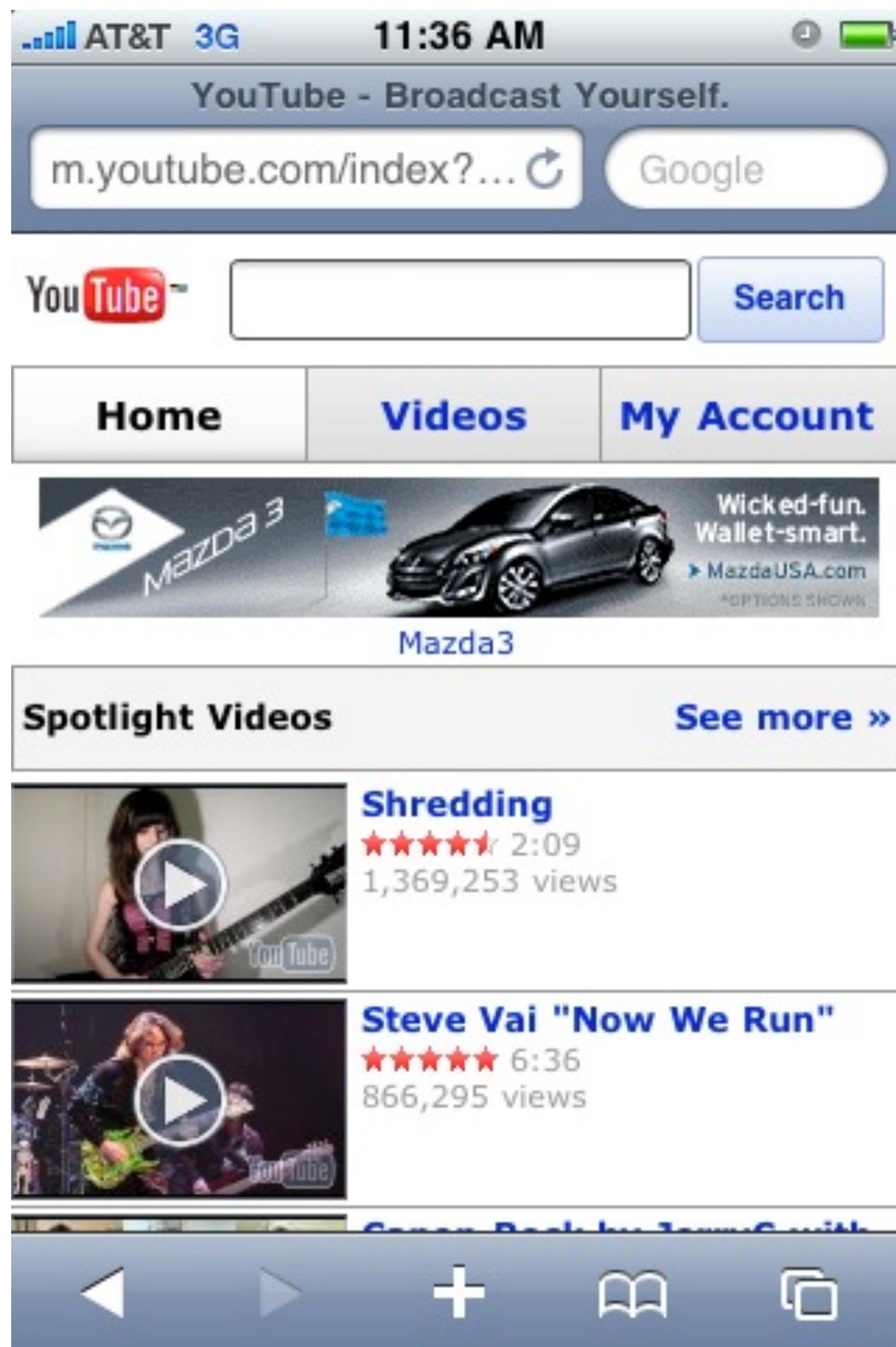
Done

“Just Double Tap”

<https://www.youtube.com/watch?v=9hUlxyE2Ns8#t=41m12s>



m. sites



A need for “mobile-specific” UX.

Often accomplished by serving a desktop site and a mobile site on two different domains, aka: www.smh.com.au and m.smh.com.au.

Accomplished via the use of UA / browser sniffing.

Problem: Two different codebases. Difficult to maintain or update.

Problem: Sharing links between devices = poor UX.

An aerial photograph of St. Paul's Cathedral in London, showing its iconic dome and classical architecture against a backdrop of modern city buildings.

“... Architecture
aims at Eternity.”

Christopher Wren

Ethan Marcotte's Manifesto

<https://alistapart.com/article/responsive-web-design>



Illustration by [Kevin Cornell](#)

Responsive Web Design

by [Ethan Marcotte](#) · May 25, 2010

Published in [CSS](#), [Layout & Grids](#), [Mobile/Multidevice](#), [Responsive Design](#), [Interaction Design](#)

“The control which designers know in the print medium, and often desire in the web medium, is simply a function of the limitation of the printed page. We should embrace the fact that the web doesn’t have the same constraints, and design for this flexibility. But first, we must ‘accept the ebb and flow of things.’”

—*John Allsopp, “A Dao of Web Design”*

The English architect Christopher Wren once quipped that his chosen field “aims for Eternity,” and there’s something appealing about that formula: Unlike the web, which often feels like aiming for next week, architecture is a discipline very much defined by its permanence.

A building’s foundation defines its footprint, which defines its frame, which shapes the

100 comments

Rijksmuseum

www.rijksmuseum.nl/en

Plan your visit



Language



Riksstudio: dive into the collection

About the museum

MUSEUM



Make your own Masterpiece

Riksstudio >

Founder

Main Sponsors

Ministry of Education, Culture

ING ING PwC PwC

Plan your visit

Riksstudio: dive into the collection

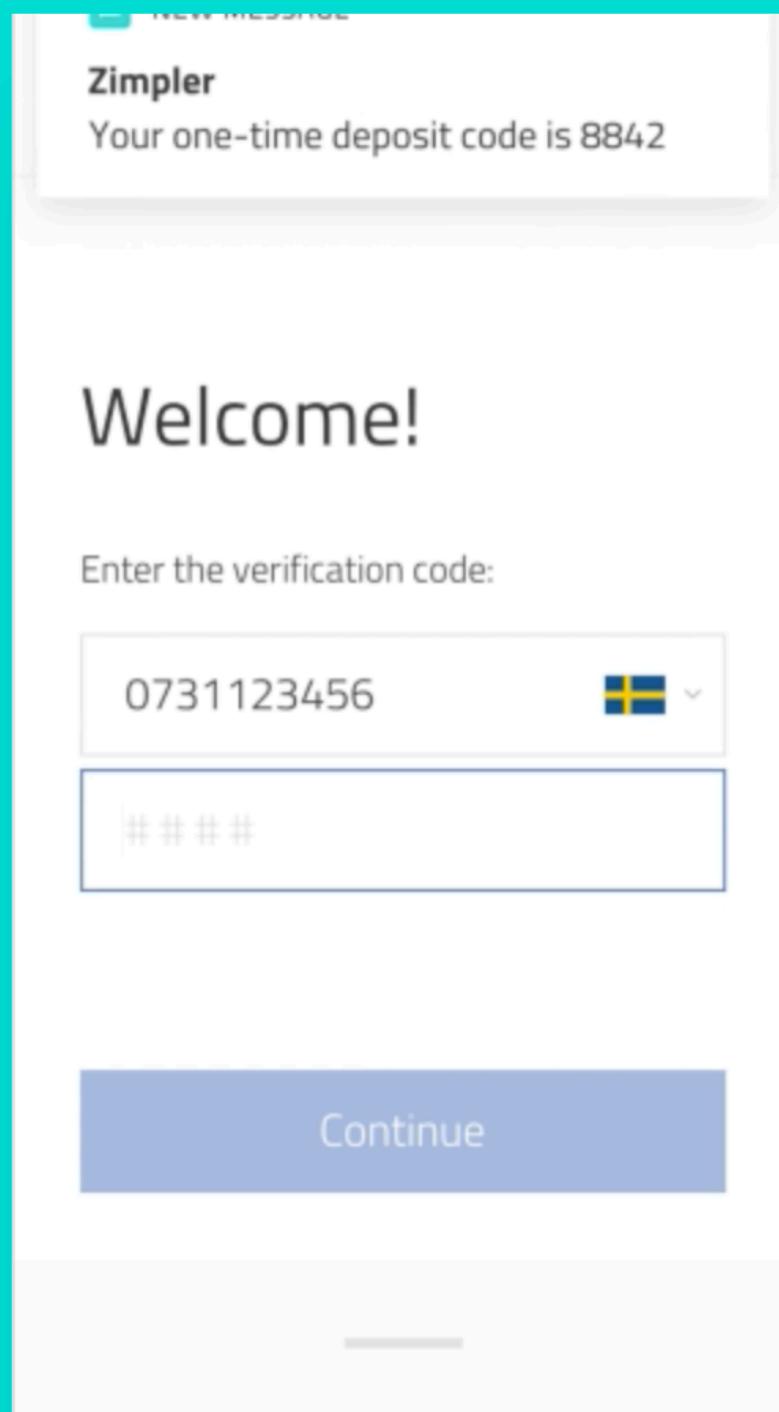
About the museum

MUSEUM



Good Hope. South Africa and The Netherlands from 1600

Now on view >



A simpler way to pay

All you need is your mobile phone. Leave the wallet where you can't find it and get back to doing whatever you just paid for.

zimpler

A simpler way to pay

All you need is your mobile phone. Leave the wallet where you can't find it and get back to doing whatever you just paid for.

[Watch how it works ▶](#)

Katrina Stumbos — Interior Designer

katrinastumbos.com



WORK

ABOUT

STELLA

CONTACT

BLOG



DWELL IN STYLE

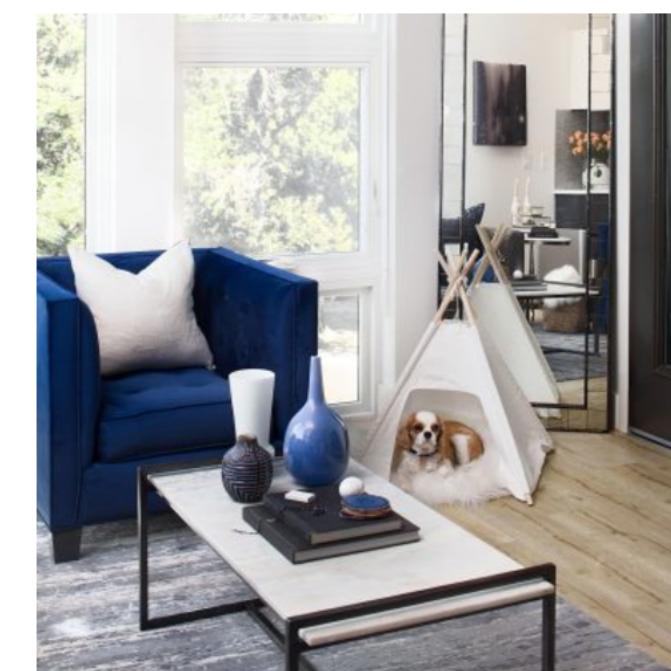
My design style is both timeless and modern.

Creatively filling a space with neutral colors and playing with textures and scale, there is a softness and approachability to my design even in the most contemporary of dwellings.

Your home should be a reflection of your personal style, and I design with my client in mind, meticulously crafting a room or home that makes them feel comfortable, proud, and inspired.

I bring an understated chicness, personalized design, and a spark of humor to every project.

Yours in style,



Dogs and Design

[February 23rd, 2017](#)

My love for dogs is well-documented in my life and work... [Read More](#)



A Very Happy and Thankful New Year

[January 9th, 2017](#)

Now that the holidays are officially over, I want to extend... [Read More](#)



DWELL IN STYLE

My design style is both timeless and modern. Creatively filling a space with neutral colors and playing with textures and scale, there is a softness and approachability to my design even in the most contemporary of dwellings.

Your home should be a reflection of your personal style, and I design with my client in mind, meticulously crafting a room or home that makes them feel comfortable, proud, and inspired.

I bring an understated chicness, personalized design, and a spark of humor to every project.

Yours in style,





DIGITAL.

An overview of your digital strategy.

A key component of your transformation, your digital strategy requires special attention. We provide you with the support you need all during your project. Through regular workshops, brainstormings and idea sharing, we help grow your initial idea into a cutting-edge digital solution.

Our values



MENU



Design

- Web design
- Art direction
- Logo & branding
- UI & UX

Digital & Mobile

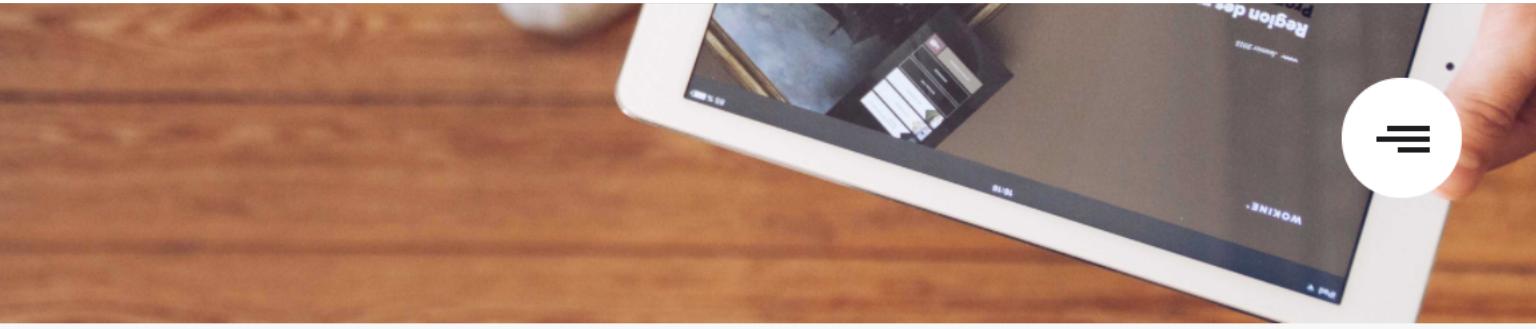
- Websites
- Responsive design
- Mobile & Tablet
- Mobile apps (iOS, Android)

Web Development

- Front end & Back end
- Interaction design
- Magento, Wordpress
- Symfony, Laravel

Social Media & Webmarketing

- Social Media Strategy
- Community Management
- Bloggers & influencers
- Reporting, live events
- Mailing & competition



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Design

Digital & Mobile

Websites

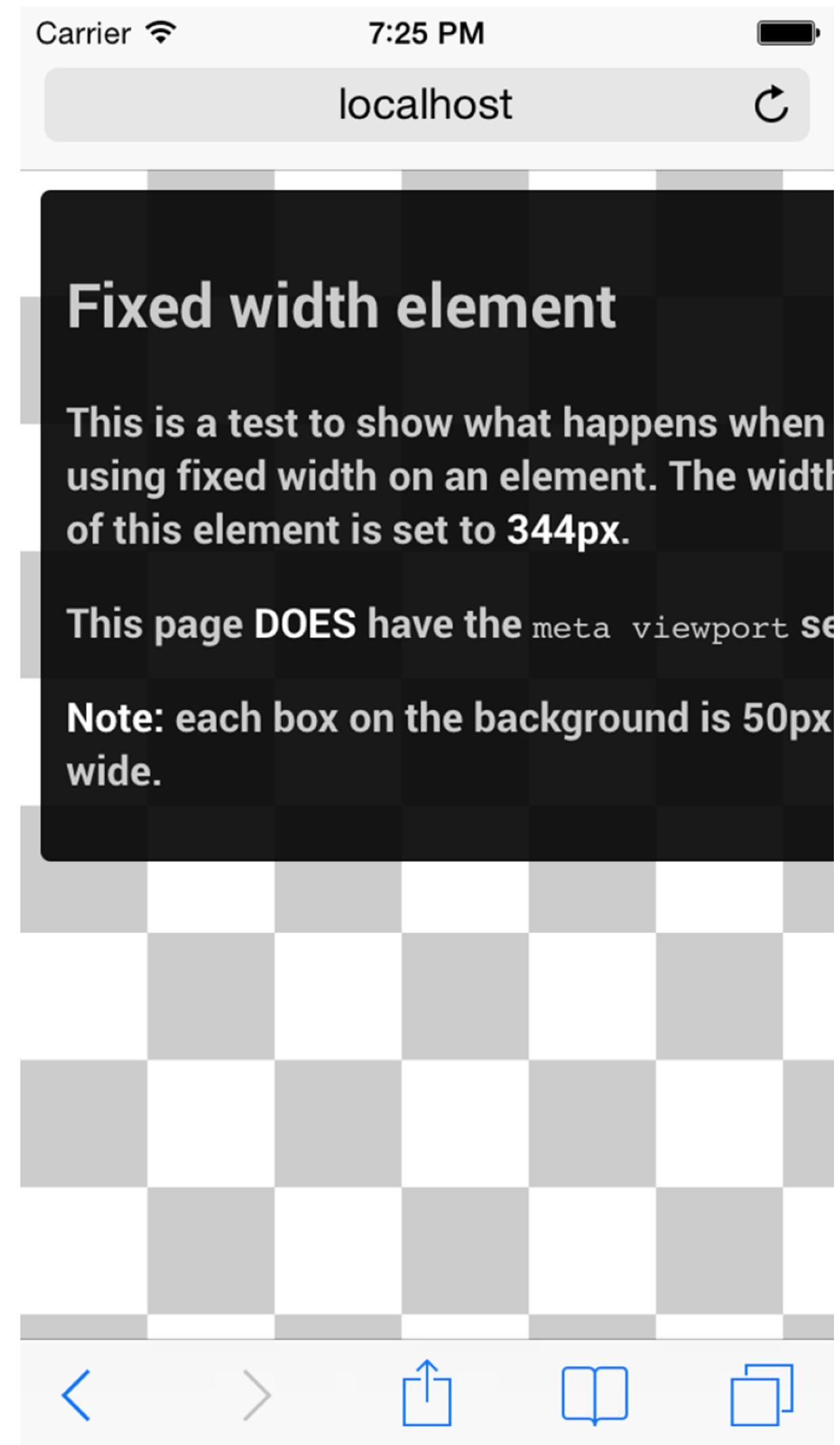
The Mechanics of Responsive Web Design

```
<meta name="viewport" content="width=device-width, initial-scale=1">
```

The <meta> Viewport Tag

The <meta> viewport tag controls the width and scaling of the browser's viewport. It instructs mobile devices on where the 'edges' of the document are, and whether you can scale (zoom) the pages.

The **width=device-width** attribute value dictates that the page should match the width of the device's screen.



Use Relative Units

For large elements that layout your document, such as `<section>`s or large `<div>`s, you should not use fixed width units (e.g. `width: 1120px`)

Rather, you should use relative units where possible, so that the width of your elements scales to the width of the device (e.g `width: 100%`).

Do not assume that the dimensions of your document are fixed, use `CSS @media queries` to scale your layout for different screens. Alternatively, use a `CSS` framework such as `Bootstrap`.

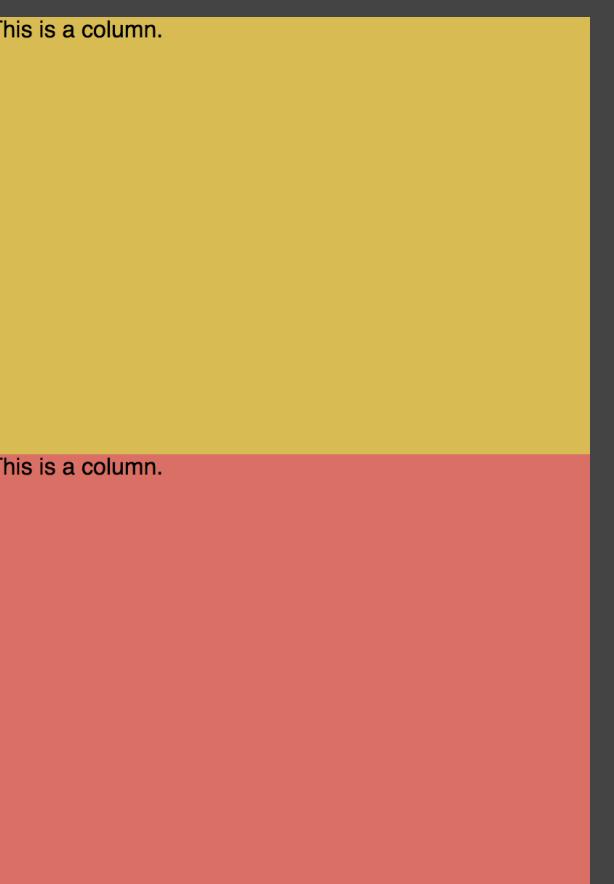
Media Queries

Media Queries, or @media queries, are used to apply or “switch on” certain CSS rules when a specific set of conditions are met.

In Responsive Web Design, they are commonly used to adjust layout and typography, and/or to hide and show elements when you’re viewing the page at a certain width.

You can specify, for example, that if a width of device is less than 500px wide, you can reduce the font size and/or collapse two columns into a single layout.

```
<div class="container">
  <div class="col">
    This is a column.
  </div>
  <div class="col">
    This is a column.
  </div>
</div>
```



```
.container {
  width: 100%;
  overflow: auto;
  font-family: Helvetica, Arial, sans-serif;
  font-size: 16pt;
}

.col {
  float: left;
  width: 50%;
  height: 300px;
}

.col:nth-child(1) {
  background-color: #D9B959;
}

.col:nth-child(2) {
  background-color: #D96F66;
}

@media screen and (max-width: 500px) {
  .container {
    font-size: 12pt;
  }
  .col {
    float: none;
    width: 100%;
  }
}
```

Design Pattern: Mostly Fluid

Your layout elements are centered in a container.

At large device widths (e.g. desktop sizes) the container stays centered.

At smaller / medium device widths (e.g. tablet devices), the container becomes fluid, and the columns also become fluid.

HTML

```
<div class="container">
  <div class="row">
    <div class="col col-1">
      This is a column.
    </div>
  </div>
  <div class="row">
    <div class="col col-2">
      This is a column.
    </div>
    <div class="col col-2">
      This is a column.
    </div>
  </div>
  <div class="row">
    <div class="col col-3">
      This is a column.
    </div>
    <div class="col col-3">
      This is a column.
    </div>
    <div class="col col-3">
      This is a column.
    </div>
  </div>
</div>
```


Design Pattern: Column Drop

When the window becomes too narrow to support multiple columns, the columns “drop” and stack on top of one another.

Design Pattern: Adjustments

Make small adjustments to the layout in correspondence to specific breakpoints / viewport changes - for example, to move, hide or show elements at certain device widths, or to adjust typography.

Groupwork Exercise

Form groups, then identify a site that implements Responsive Web Design to display its content on desktop, tablet and mobile devices.

For your chosen site, identify the three design patterns of **mostly fluid**, **column drops** and **adjustments**, and then present your findings to the class.



Bootstrap

What is Bootstrap?

Bootstrap is a CSS framework that makes it easy to create grid-based, responsive layouts via the use of CSS classes.

It is based on a 12 column grid system.

lg > 1200px width

12 COLUMNS 30 PX GUTTER 15 PX MARGIN

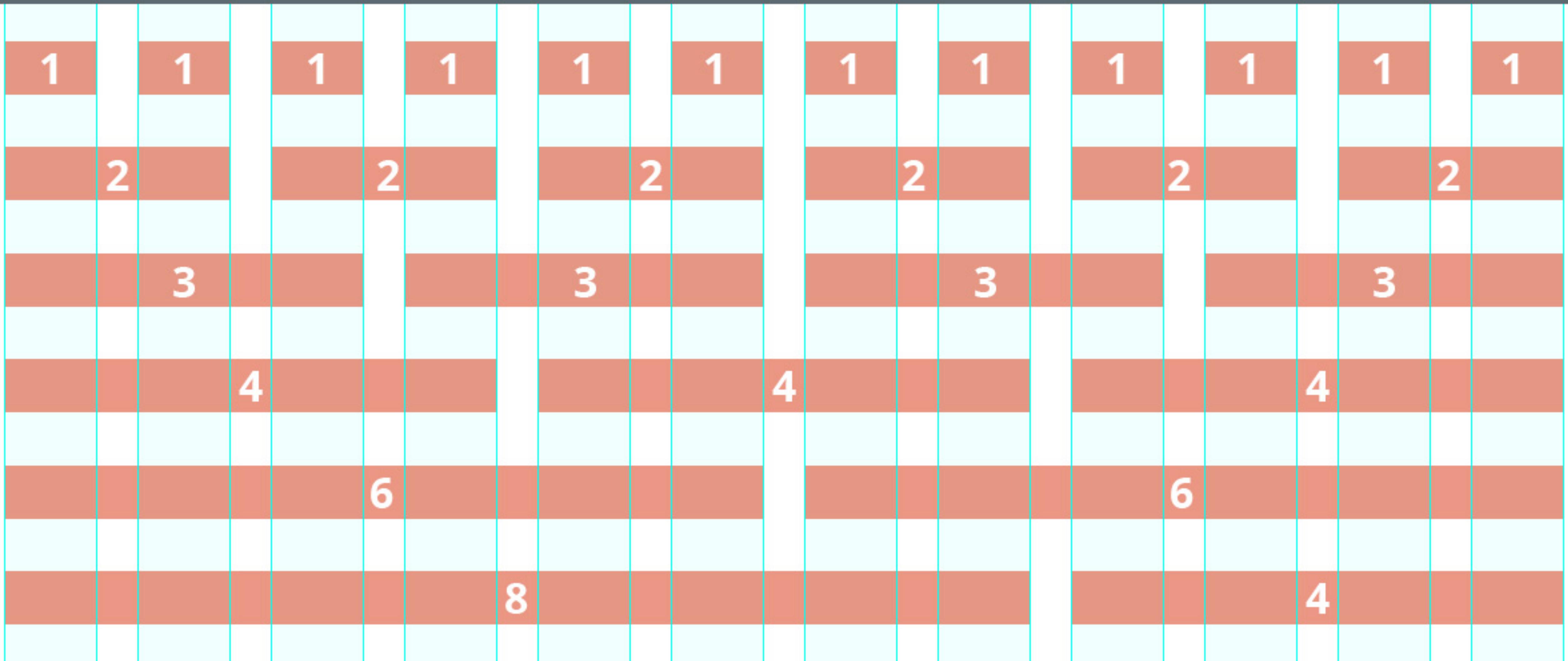


Image Source: http://bootstrap-sass.happyfuncorp.com/bootstrap-sass/layout/images/lg_grid.jpg

```
<div class="container">
  <div class="row">
    <div class="col-sm-4">
      <p>This is a column.</p>
    </div>
    <div class="col-sm-8">
      <p>This is a column.</p>
    </div>
  </div>
  <div class="row">
    <div class="col-md-6">
      <p>This is a column.</p>
    </div>
    <div class="col-md-3">
      <p>This is a column.</p>
    </div>
    <div class="col-md-3">
      <p>This is a column.</p>
    </div>
  </div>
</div>
```

Column Widths

Column widths and offsets are specified based on a 12 point scale: e.g. a column width of 6 indicates that it occupies half of its row width. A column width of 4 indicates that it occupies a third, etc.

For each column, you can indicate that it can "collapse" at a specific break point.

```
p {
  background-color: #EEEEEE;
  padding-top: 15px;
  padding-bottom: 15px;
}
```

BOOTSTRAP 4

Device	Ems	Pixels	Class
Extra Small	Less than 34em	Less than 544px	col-xs
Small	34em and up	544px and up	col-sm
Medium	48em and up	768px and up	col-md
Large	62em and up	992px and up	col-lg
Extra-Large	75em and up	1200px and up	col-xl

Image Source: <https://designmodo.com/wp-content/uploads/2015/10/Grid-System-e1444291529140.png>

```
<div class="container">
  <div class="row">
    <div class="offset-sm-4 col-sm-4">
      <p>This is a column.</p>
    </div>
  </div>
  <div class="row">
    <div class="offset-sm-5 col-sm-2">
      <p>This is a column.</p>
    </div>
    <div class="col-sm-5">
      <p>This is a column.</p>
    </div>
  </div>
</div>
```

Offsetting Columns

You can also use the same system to offset columns.

Like columns, you use the values xs, sm, md, lg or xs to indicate when the offsets collapse.

```
p {
  background-color: #EEEEEE;
  padding-top: 15px;
  padding-bottom: 15px;
}
```

Media Queries - Graceful Degradation

```
/* Largest Desktop Design
 * No @media query for XL is necessary
 */

/* Large. Below 75em (1200px) */
@media screen and (max-width: 75em) {

}

/* Medium. Below 62em (992px) */
@media screen and (max-width: 62em) {

}

/* Small. Below 48em (768px) */
@media screen and (max-width: 48em) {

}

/* Extra Small. Below 34em (544px) */
@media screen and (max-width: 34em) {
```

Media Queries - Mobile First Progressive Enhancement

```
/* Default
 * No @media query for XS is necessary
 */

/* Small. Above 34em (544px) */
@media screen and (min-width: 34em) {

}

/* Medium. Above 48em (768px) */
@media screen and (min-width: 48em) {

}

/* Large. Above 62em (992px) */
@media screen and (min-width: 62em) {

}

/* Extra large. Above 75em (1200px) */
@media screen and (min-width: 75em) {
```

How do forms work?

Entrée demandée

Deux entrées demandées

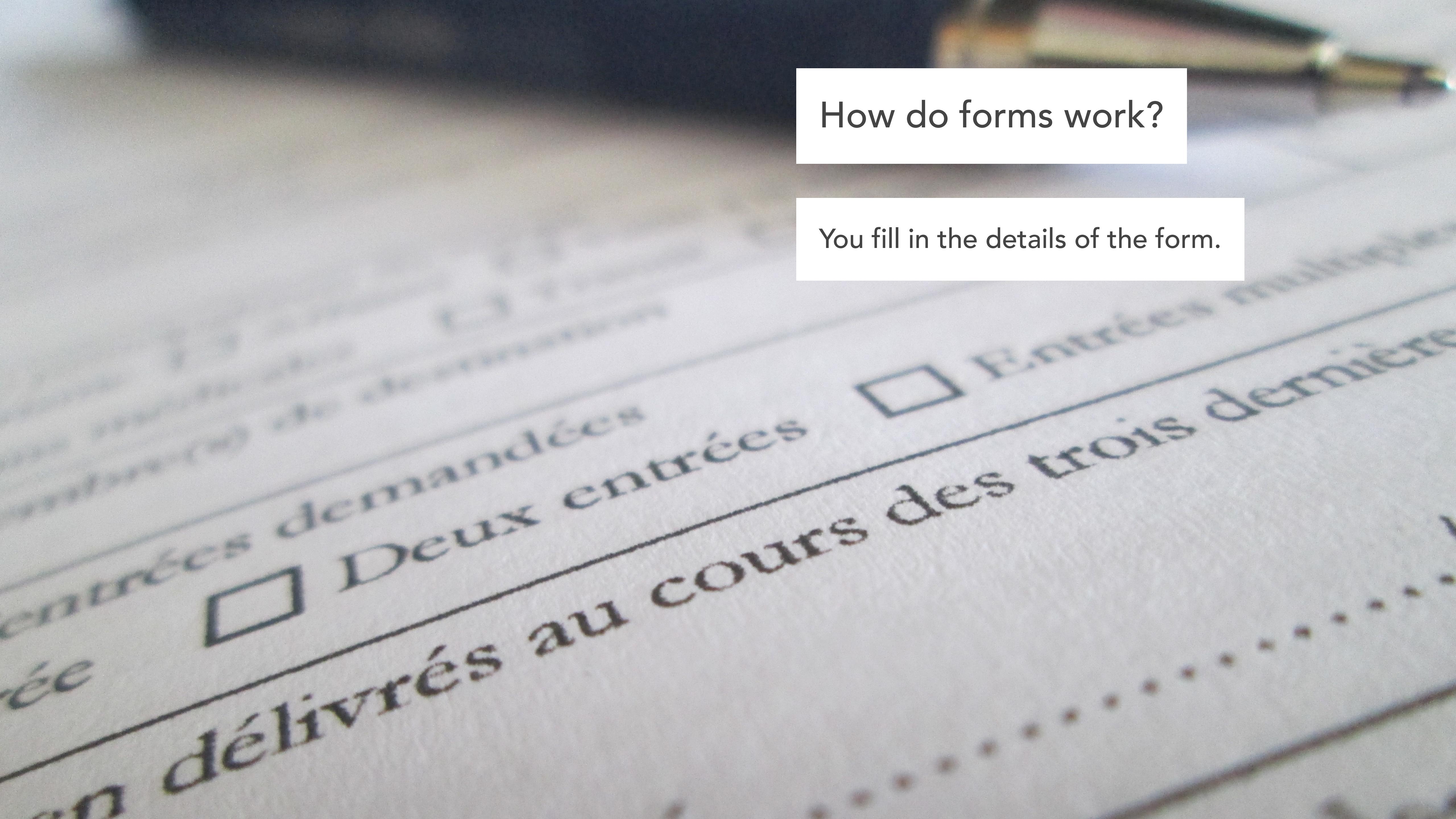
Deux entrées

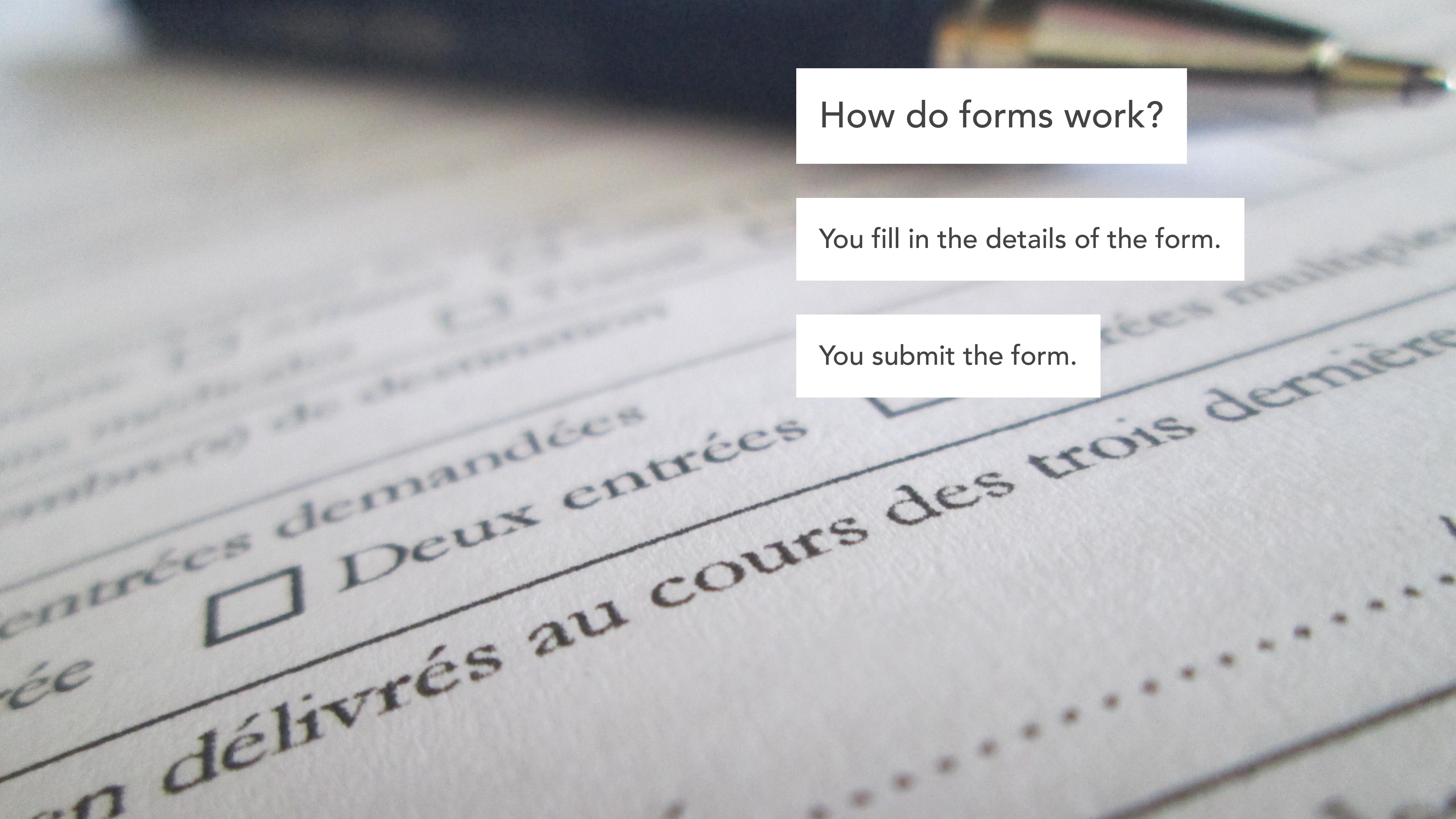
Entrées multiples

... et d'autres options

How do forms work?

You fill in the details of the form.





How do forms work?

You fill in the details of the form.

You submit the form.

How do forms work?

You fill in the details of the form.

You submit the form.

It gets processed, followed with a response:

"Thank you for your submission."

"Your application was successful."

"You will receive an order within the next 5 days."

How do Web forms work?

Name:

Who won the 2016 Eurovision song contest?

- Jamala from Ukraine
- Dami Im from Australia
- Sergey Lazarev from Russia

Submit

Name: Anders

Who won the 2016 Eurovision song contest?

- Jamala from Ukraine
- Dami Im from Australia
- Sergey Lazarev from Russia

Submit

How do Web forms work?

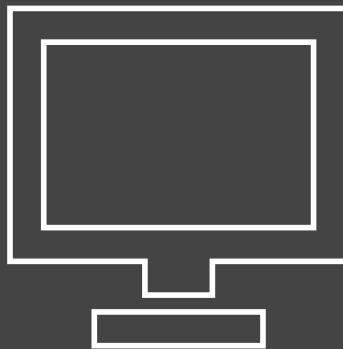
You fill in the details of the form.

Name: Anders

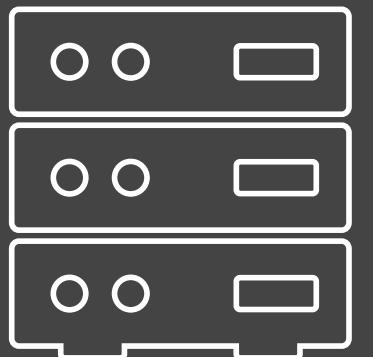
Who won the 2016 Eurovision song contest?

- Jamala from Ukraine
- Dami Im from Australia
- Sergey Lazarev from Russia

Submit



name: Anders winner: dami-im



How do Web forms work?

You fill in the details of the form.

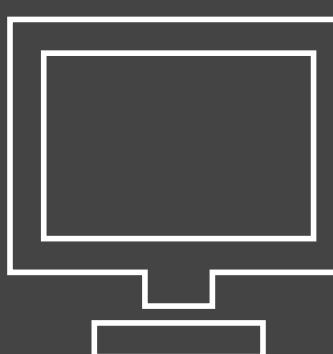
You submit the form.

Name: Anders

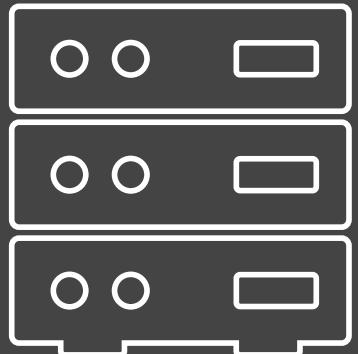
Who won the 2016 Eurovision song contest?

- Jamala from Ukraine
- Dami Im from Australia
- Sergey Lazarev from Russia

Submit



name: Anders winner: dami-im
HTTP Response



How do Web forms work?

You fill in the details of the form.

You submit the form.

It gets processed, followed with a response:
"Thank you for your submission."
"Your application was successful."
"You will receive an order within the next 5 days."

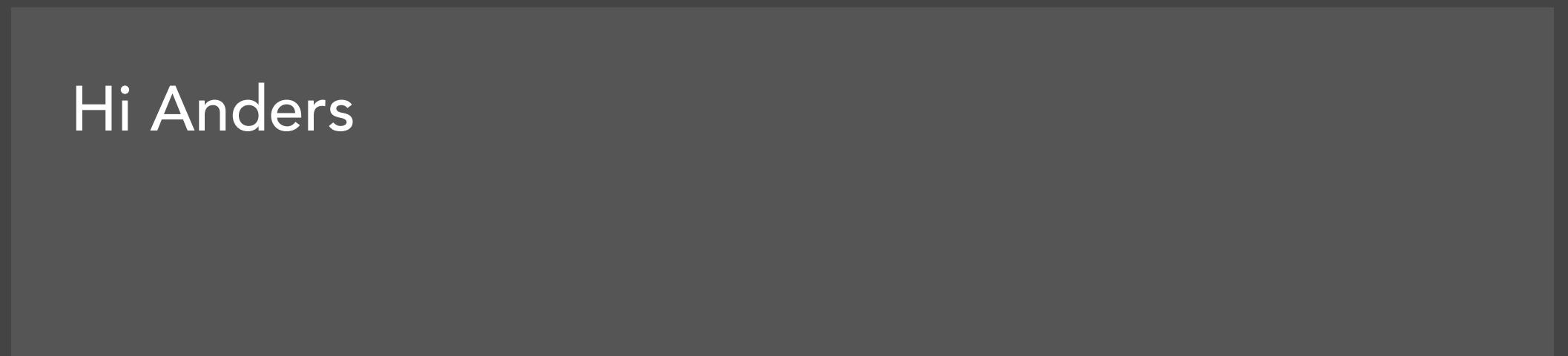
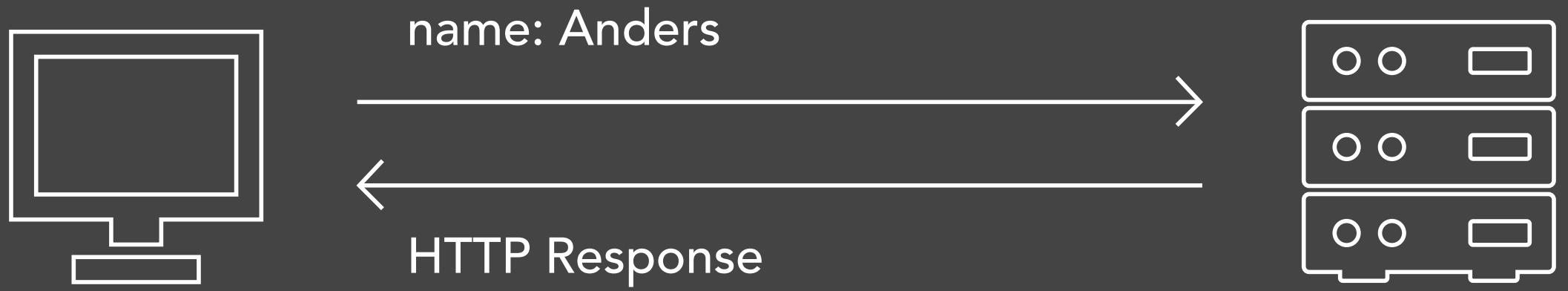
Hi Anders, thank you for your submission.

Your answer is correct.

Name:

```
<form action="submit.php" method="POST">
  <div>
    <label for="name">Your name: </label>
    <input type="text" id="name" name="name" />
  </div>
  <div>
    <input type="submit" value="Submit Answer" />
  </div>
</form>
```

Name:



submit.php

```
<?php  
$name = $_POST['name'];  
echo "Hi ".$name;
```

?>

Name:

Who won the 2016 Eurovision song contest?

- Jamala from Ukraine
- Dami Im from Australia
- Sergey Lazarev from Russia

Submit

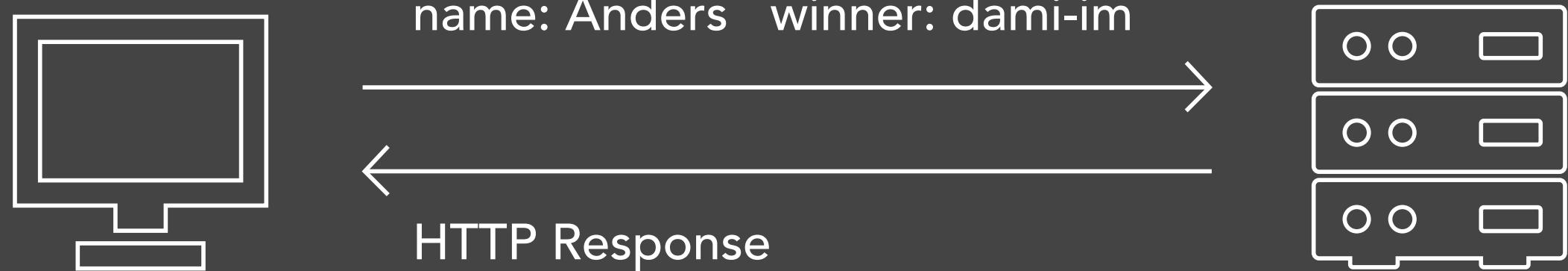
```
<form action="submit.php" method="POST">
  <div>
    <label for="name">Your name: </label>
    <input type="text" id="name" name="name" />
  </div>
  <p>
    Who won the 2016 Eurovision song contest?
  </p>
  <div>
    <input type="radio" id="winner-jamala" name="winner"
    value="jamala" checked />
    <label for="winner-jamala">Jamala from Ukraine</label>
  </div>
  <div>
    <input type="radio" id="winner-dami-im" name="winner"
    value="dami-im" />
    <label for="winner-dami-im">Dami Im from Australia</label>
  </div>
  <div>
    <input type="radio" id="winner-sergey-lazarev"
    name="winner" value="sergey-lazarev" />
    <label for="winner-sergey-lazarev">Sergey Lazarev from
    Russia</label>
  </div>
  <br />
  <div>
    <input type="submit" value="Submit Answer" />
  </div>
</form>
```

Name: Anders

Who won the 2016 Eurovision song contest?

- Jamala from Ukraine
- Dami Im from Australia
- Sergey Lazarev from Russia

Submit



Hi Anders, thank you for your submission.

Your answer is correct.

submit.php

```
<?php  
  
$name = $_POST['name'];  
$winner = $_POST['winner'];  
  
if ($winner === "dami-im") {  
    $response = "Your answer is correct.";  
} else {  
    $response = "Your answer is not correct.";  
}  
  
echo "Hi ".$name.", thank you for your submission.<br />";  
echo $response;
```

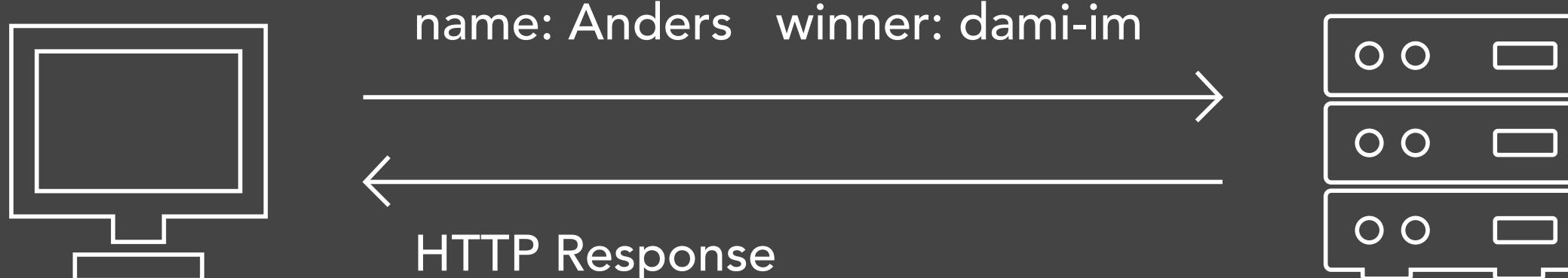
?>

Name: Anders

Who won the 2016 Eurovision song contest?

- Jamala from Ukraine
- Dami Im from Australia
- Sergey Lazarev from Russia

Submit



Hi Anders, thank you for your submission.

Your answer is correct.

submit.php

```
<?php  
  
$name = $_POST['name'];  
$winner = $_POST['winner'];  
  
if ($winner === "dami-im") {  
    $response = "Your answer is correct.";  
} else {  
    $response = "Your answer is not correct."  
}  
  
?>
```

```
<html>  
  <head>  
    <title>2016 Eurovision Song Contest Online Poll</title>  
  </head>  
  <body>  
    <p>Hi <?php echo $name; ?>, thank you for your  
    submission.</p>  
    <p><?php echo $response; ?></p>  
  </body>  
</html>
```

Form Controls and Inputs

Username:

Text Input

```
<form action="login.php">
  <div>
    <label for="username">Username: </label>
    <input type="text" id="username" name="username" />
  </div>
  <br />
  <div>
    <input type="submit" value="Log In" />
  </div>
</form>
```

Username: Anders
Password:

Log In

Password Input

```
<form action="login.php">
  <div>
    <label for="username">Username: </label>
    <input type="text" id="username" name="username" />
  </div>
  <div>
    <label for="password">Password: </label>
    <input type="password" id="password" name="password" />
  </div>
  <br />
  <div>
    <input type="submit" value="Log In" />
  </div>
</form>
```

Write your comment ...

Add Comment

Text Area

```
<form action="submit.php">
  <div>
    <label for="comment">
      Write your comment ...
    </label>
    <br />
    <textarea id="comment" name="comment" rows="5">
    </textarea>
  </div>
  <br />
  <div>
    <input type="submit" value="Add Comment" />
  </div>
</form>
```

- I accept the terms and conditions
- Subscribe to our news and latest updates.

Checkboxes

```
<form action="submit.php" method="POST">
    <label for="terms">
        <input type="checkbox" id="terms" name="terms" />
        I accept the terms and conditions
    </label>
    <br />
    <label for="subscribe">
        <input type="checkbox" id="subscribe" name="subscribe" />
        Subscribe to our news and latest updates
    </label>
    <br />
    <div>
        <input type="submit" value="Submit" />
    </div>
</form>
```

Radio Buttons

What is your favourite color?

Red Green Purple

```
<form action="submit.php" method="POST">
    <p>What is your favourite color?</p>
    <label for="color-red">
        <input type="radio" id="color-red" name="color"
value="red" />
        Red
    </label>
    <label for="color-green">
        <input type="radio" id="color-green" name="color"
value="green" checked />
        Green
    </label>
    <label for="color-purple">
        <input type="radio" id="color-purple" name="color"
value="purple" />
        Purple
    </label>
    <br /><br />
    <div>
        <input type="submit" value="Submit" />
    </div>
</form>
```

Which area of Copenhagen do you live?

Indre By

Submit

List Dropdowns

```
<form action="submit.php" method="POST">
  <label for="fav-area">
    Which area of Copenhagen do you live?
  </label>
  <br /><br />
  <select id="fav-area" name="fav-area">
    <option value="indre-by">Indre By</option>
    <option value="vesterbro">Vesterbro</option>
    <option value="nørrebro">Nørrebro</option>
    <option value="østerbro">Østerbro</option>
    <option value="amager">Amager</option>
  </select>
  <br /><br />
  <div>
    <input type="submit" value="Submit" />
  </div>
</form>
```

Which area of Copenhagen do you live?

✓ Select from the following ...

Indre By
Vesterbro
Nørrebro
Østerbro
Amager

List Dropdowns - No Defaults

```
<form action="submit.php" method="POST">
  <label for="fav-area">
    Which area of Copenhagen do you live?
  </label>
  <br /><br />
  <select id="fav-area" name="fav-area">
    <option value="" disabled selected>
      Select from the following ...
    </option>
    <option value="indre-by">Indre By</option>
    <option value="vesterbro">Vesterbro</option>
    <option value="nørrebro">Nørrebro</option>
    <option value="østerbro">Østerbro</option>
    <option value="amager">Amager</option>
  </select>
  <br /><br />
  <div>
    <input type="submit" value="Submit" />
  </div>
</form>
```

Multiple Select Box

What areas of Copenhagen have you lived in?

Use Ctrl / Cmd to select more than one option.

- Indre By
- Vesterbro
- Nørrebro
- Østerbro
- Amager

```
<form action="submit.php" method="POST">
  <label for="areas-lived-in">
    <p>
      What areas of Copenhagen have you lived in?
    </p>
    <small>
      Use Ctrl / Cmd to select more than one option.
    </small>
  </label>
  <br /><br />
  <select id="areas-lived-in" name="areas-lived-in" multiple size="5">
    <option value="indre-by">Indre By</option>
    <option value="vesterbro">Vesterbro</option>
    <option value="nørrebro">Nørrebro</option>
    <option value="østerbro">Østerbro</option>
    <option value="amager">Amager</option>
  </select>
  <br /><br />
  <div>
    <input type="submit" value="Submit" />
  </div>
</form>
```

Enter a username ...

Upload a profile picture ...

Choose File No file chosen

[Go Back](#) [Reset Fields](#) [Upload File](#) [Continue without Uploading](#)

File Input & Buttons

```
<form action="submit.php" method="POST">
  <div>
    <label for="username">
      Enter a username ...
    </label><br />
    <input type="text" id="username" name="username" />
  </div>
  <br />
  <div>
    <label for="upload-profile-picture">
      Upload a profile picture ...
    </label><br />
    <input type="file" id="upload-profile-picture"
      name="profile-picture" />
  </div>
  <br />
  <div>
    <button type="button">
      Go Back
    </button>
    <input type="reset" value="Reset Fields" />
    <input type="submit" value="Upload File" />
    <input type="button" value="Continue without
      Uploading" />
  </div>
</form>
```

Your details:

Name:

Email:

Gender:

Male Female

```
<form action="submit.php" method="POST">
  <fieldset>
    <legend>Your details:</legend>
    <div>
      <label for="name">Name:</label><br />
      <input type="text" id="name" name="name" />
    </div>
    <div>
      <label for="email">Email:</label><br />
      <input type="text" id="email" name="email" />
    </div>
  </fieldset>
  <fieldset>
    <legend>Gender:</legend>
    <label for="gender-male">
      <input type="radio" id="gender-male" name="gender"
value="male" />
      Male
    </label>
    <label for="gender-female">
      <input type="radio" id="gender-female" name="gender"
value="female" />
      Female
    </label>
  </fieldset>
  <br />
  <div>
    <input type="submit" value="Submit" />
  </div>
</form>
```

Your details:

Name:

Email:

Please fill out this field.

Gender:

Male Female

```
<form action="submit.php" method="POST">
  <fieldset>
    <legend>Your details:</legend>
    <div>
      <label for="name">Name:</label><br />
      <input type="text" id="name" name="name" required />
    </div>
    <div>
      <label for="email">Email:</label><br />
      <input type="email" id="email" name="email" />
    </div>
  </fieldset>
  <fieldset>
    <legend>Gender:</legend>
    <label for="gender-male">
      <input type="radio" id="gender-male" name="gender" value="male" required />
      Male
    </label>
    <label for="gender-female">
      <input type="radio" id="gender-female" name="gender" value="female" required />
      Female
    </label>
  </fieldset>
  <br />
  <div>
    <input type="submit" value="Submit" />
  </div>
</form>
```

Your details:

Name:

Email:

Gender: Male Female

Please include an '@' in the email address. 'oops' is missing an '@'.

```
<form action="submit.php" method="POST">
  <fieldset>
    <legend>Your details:</legend>
    <div>
      <label for="name">Name:</label><br />
      <input type="text" id="name" name="name" required />
    </div>
    <div>
      <label for="email">Email:</label><br />
      <input type="email" id="email" name="email" required />
    </div>
  </fieldset>
  <fieldset>
    <legend>Gender:</legend>
    <label for="gender-male">
      <input type="radio" id="gender-male" name="gender" value="male" required />
      Male
    </label>
    <label for="gender-female">
      <input type="radio" id="gender-female" name="gender" value="female" required />
      Female
    </label>
  </fieldset>
  <br />
  <div>
    <input type="submit" value="Submit" />
  </div>
</form>
```

Validation: Pattern Matching

Name:
Anders

Email:
someone@somewhere.c

URL:
http://www.google.dk/

Password:
...

Submit

! Please match the requested format.
At least 6 characters

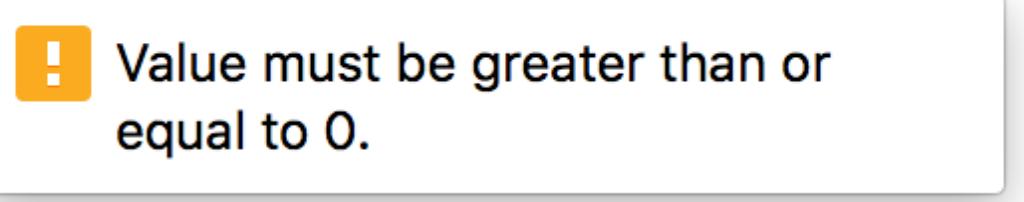
```
<form action="submit.php" method="POST">
  <div>
    <label for="name">Name:</label><br />
    <input type="text" id="name" name="name" required
pattern=".{5,10}" title="5 to 10 characters" />
  </div>
  <div>
    <label for="email">Email:</label><br />
    <input type="email" id="email" name="email" required />
  </div>
  <div>
    <label for="url">URL:</label><br />
    <input type="url" id="url" name="url" required />
  </div>
  <div>
    <label for="password">Password:</label><br />
    <input type="password" id="password" name="password"
required pattern=".{6,}" title="At least 6 characters" />
  </div>
  <br />
  <div>
    <input type="submit" value="Submit" />
  </div>
</form>
```

HTML5 Inputs + Validation

URL:

Search:

Number of copies:
 -5

 ! Value must be greater than or equal to 0.

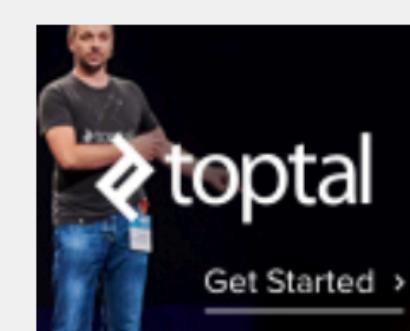
```
<form action="submit.php" method="POST">
  <div>
    <label for="url">URL:</label><br />
    <input type="url" id="url" name="url"
placeholder="http://www.google.dk/" required />
  </div>
  <div>
    <label for="search">Search:</label><br />
    <input type="search" id="search" name="search"
placeholder="Search artists ..." />
  </div>
  <div>
    <label for="copies">Number of copies:</label><br />
    <input type="number" id="copies" name="copies" min="0"
max="10" />
  </div>
  <br />
  <div>
    <input type="submit" value="Submit" />
  </div>
</form>
```

Bootstrap Forms

<https://getbootstrap.com/docs/4.0/components/forms/>

Forms

Examples and usage guidelines for form control styles, layout options, and custom components for creating a wide variety of forms.



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Overview

Bootstrap's form controls expand on [our Rebooted form styles](#) with classes. Use these classes to opt into their customized displays for a more consistent rendering across browsers and devices.

Be sure to use an appropriate `type` attribute on all inputs (e.g., `email` for email address or `number` for numerical information) to take advantage of newer input controls like email verification, number selection, and more.

Here's a quick example to demonstrate Bootstrap's form styles. Keep reading for documentation on required classes, form layout, and more.

Email address

Enter email

- Overview
- Form controls
 - Sizing
 - Readonly
 - Readonly plain text
- Checkboxes and radios
 - Default (stacked)
 - Inline
 - Without labels
- Layout
 - Form groups
 - Form grid
 - Inline forms
- Help text
- Disabled forms
 - Cross-browser compatibility
- Validation
 - How it works
 - Custom styles
 - Browser defaults
 - Server side
 - Supported elements
 - Tooltips
- Custom forms
- Checkboxes and radios
- Select menu
- File browser