# André Restivo



# CSS Exercises

## 1. Online Newspaper Design

- Unzip the following file into some folder: news.zip
- You should have now 4 files: **index.html** (the main page of an online newspaper), **item.html** (a page representing a single article with comments), **register.html** and **login.html** (pages for users to register and login).
- Analyze the structure of these files.
- As you might have noticed, all pages reference 5 css files: **style.css** (styling the main components), **layout.css** (positioning the main components), **responsive.css** (making the page responsive), **comments.css** (design for the comments section) and **register.css** (design for the login and register forms).
- **Without changing** the HTML files, try recreating a design by following these **five** steps:

### 1.1 Main Style

We will start by designing the main components of the main page without worrying about the positioning of any elements (**style.css**). The final result should be this.

**Take notice that**:

- The green background is **not** part of the design. The site should occupy the whole width of the browser.
- It's not noticeable on the screenshot, but section links should change their background color to #2A2F33 and their text color to white when the mouse is over them.

**Some helper values:**

- Main colors used: #2A2F33, #046DD5, and #F4655F.
- Section colors: #E1493E, #8ABA56, #5B4282, #FF8932, #19B6E9 and #E84C8B.
- Fonts used: Lora and Poppins.
- Most paddings and margins are *1em*.

**Info**: Lora and Poppins are not web-safe fonts; most people won't have them installed in their browsers. But we can still use them by adding this line into our CSS file thanks to Google Fonts

```
@import url('https://fonts.googleapis.com/css?family=Lora:400,700|Poppins:400,700');
```

**Info**: You may have noticed that the *nav* section contains an *input* and a *label*. These are just to be used in *exercise 1.3*. You can start by hiding them using CSS for now (with 'display: none').

**What did I learn:**

- How to use **CSS selectors** to select specific parts of an HTML file for styling.
- How to apply **basic styling** to HTML elements.
- How to **import fonts** so that we can use more than the web-safe fonts.
- How to use **pseudo-classes** to select elements based on an element state.
- How to **hide** elements using CSS.

## 1.2 Positioning

We will position the elements in their proper places (**layout.css**). The final result should be this.

**Some helper values**:

- The background color is #EDEFF0.
- The width of the page is *60em*.
- The sidebar occupies 1/5 of the total width.

**Tip:** Use a *flexbox* for the menu and a *grid* to position the elements on the page.

**What did I learn:**

- How to use **CSS grids** to position elements in a webpage.
- How to use **CSS flexboxes** to position elements in a container.

## 1.3 Responsive Design

Now we make the design responsive by establishing two breaking points (**responsive.css**):

- When the width of the window reaches **60em**, the sidebar should disappear and the page should occupy the full width (*100%*) of the window. The final result should be this.
- When the width of the window reaches **30em**, the menu should collapse into a pull-down menu, the subtitle should not be shown and each news item title should be moved to above the item image. The final result should be this.

**Some helper values**:

- Characters for the hamburger menu: *\2630* (☰) and *\2715* (✕).

**Tip:** Start by making the menu without any animations (using display to hide and show the menu items). After that, try using *transitions* to change the height of each menu item instead.

**What did I learn:**

- How to use **media queries** to specify CSS rules for specific screen widths.
- How to use a **hidden checkbox** to save state in CSS.
- How to **add content** to elements using the after pseudo-element.
- How to **transitions** to create smooth animations in CSS.

### 1.4 Comments Design

Add CSS rules (**comments.css**) to create the design for the comment section that can be seen on the **item.html** page. The final result should be this.

**Some helper values**:

- Quote character for each comment: *\201C* (“).

**Tip:** Use a *grid* for the comment *form* design.

**What did I learn:**

- How to use **grids** to design forms.

### 1.5 Register Design

Add CSS rules (**register.css**) to create the design for the register and login forms that can be seen in the **register.html** and **login.html** pages. The final result should be this.

Make sure that the form fills the content area in smaller screens like this.

**What did I learn:**

- How to use **grids** to design forms.
- How to use generic selectors to not repeat myself.

## 2. No Flexbox/Grid Design

**Without** using the *flexbox* and *grid* CSS layouts, try to recreate some designs.

- Unzip the following file into some folder: blocks.zip.
- Inside the *zip* you will find an *index.html* file and a *base.css* file. These have the structure of the website and some base design. You should not change these files.
- Try to recreate each one of the following designs, without using *flexbox* or *grid*, inside the *style.css* file:
  - Style 1
  - Style 2
  - Style 3

- Style 4

**Extra:** Now try the same exercises, this time **using** flexbox and grid layouts.

**What did I learn:**

- How to position, float and clear to create complex CSS designs.
- How much easier it is to use grid and flexbox.

# 3. Cascading

Consider the following HTML code:

```
<section id="foo">
  <ul class="bar">
    <li class="first"><a href="#">A</a></li>
    <li class="second"><a href="#">B</a></li>
    <li><a href="#">C</a></li>
    <li><a href="#">D</a></li>
  </ul>
</section>
```

And the following CSS rules:

```
section ul li                { color : green }    /*R1*/
.bar .second                 { color : red }      /*R2*/
li a                         { color : cyan }     /*R3*/
section li:first-child ~ li  { color : yellow }   /*R4*/
#foo .bar li :first-child    { color : inherit }  /*R5*/
.bar li                      { color : magenta }  /*R6*/
```

During this exercise, **don't try this code in the browser** until the end.

## 3.1 Specificity

[1] Without using a specificity calculator, calculate the specificity of each rule.
[2] **In the end**, verify if you got it right.

## 3.2 Rules

What rules apply to each of the elements:

[1] section with id foo:
[2] ul with class bar:
[3] each one of the four list items:
[4] each one of the four links:

### 3.3 Selected Rule

What is the rule with the highest specificity for each element:

[1] section with id foo:
[2] ul with class bar:
[3] each one of the four list items:
[4] each one of the four links:

### 3.4 Color Value

What is the color value (including inherit) assigned to each element:

[1] section with id foo:
[2] ul with class bar:
[3] each one of the four list items:
[4] each one of the four links:

### 3.5 Final Color

What is the **final color value** presented in the browser:

[1] first link:
[2] second link:
[3] third link:
[4] fourth link:

## 4. Form

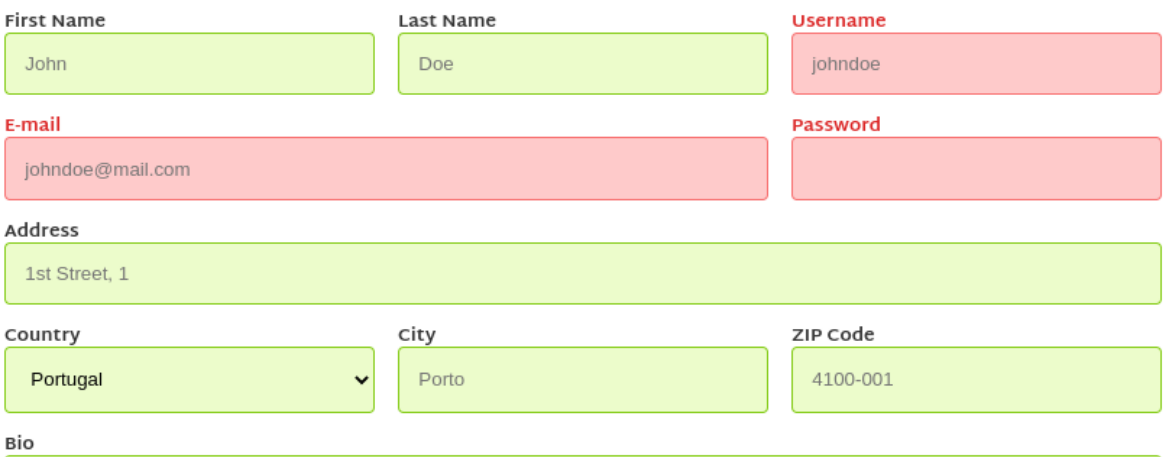
Consider the following HTML code that represents a register form:

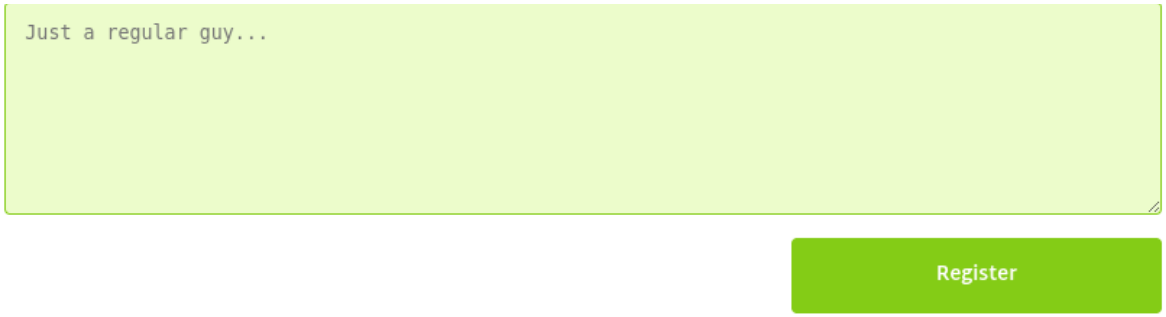
```
<!DOCTYPE html>
<html lang="en-US">
  <head>
    <title>Form Example</title>
    <link rel="stylesheet" href="style.css">
    <link rel="stylesheet" href="responsive.css">
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  </head>
  <body>
    <form>
      <label id="username" class="required">
        Username
        <input type="text" name="username" placeholder="johndoe" required>
      </label>
      <label id="password" class="required">
        Password
        <input type="password" name="password" required>
```

```
      </label>
      <label id="fname">
        First Name
        <input type="text" name="fname" placeholder="John">
      </label>
      <label id="lname">
        Last Name
        <input type="email" name="lname" placeholder="Doe">
      </label>
      <label id="email" class="required">
        E-mail
        <input type="email" name="email" placeholder="johndoe@mail.com" required>
      </label>
      <label id="address">
        Address
        <input type="text" name="address" placeholder="1st Street, 1">
      </label>
      <label id="country">Country
        <select>
          <option value="pt">Portugal</option>
          <option value="other">Other</option>
        </select>
      </label>
      <label id="city">
        City
        <input type="text" name="city" placeholder="Porto">
      </label>
      <label id="zipcode">
        ZIP Code
        <input type="text" name="zipcode" placeholder="4000-001">
      </label>
      <label id="bio">
        Bio
        <textarea name="bio" placeholder="Just a regular guy..."></textarea>
      </label>
      <button id="register" type="submit">Register</button>
    </form>
  </body>
</html>
```

## 4.1 Main Form Design

Try recreating the following design using CSS (style.css):

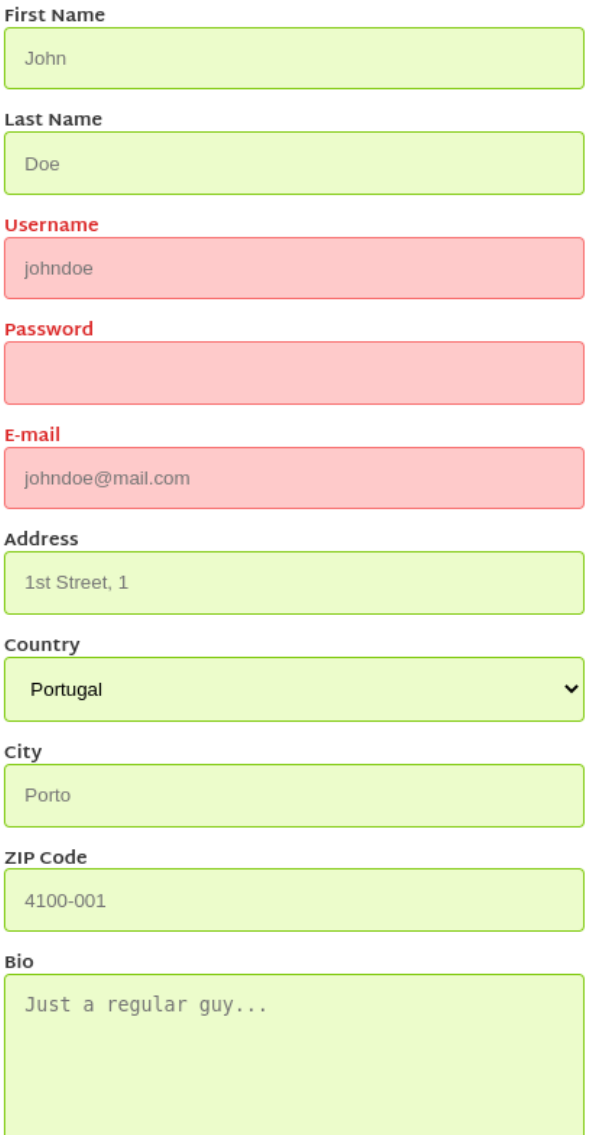


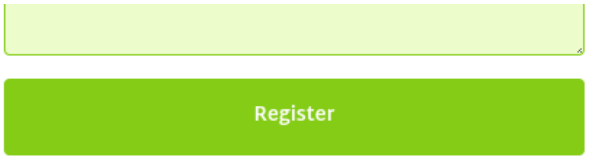



[1] Use `display: grid` on the form to simplify placing each input in the correct place.
[2] Colors used were: #DC2626 for required filed labels, #ECFCCB, #D9F99D, and #84CC16 for inputs, #FECACA and #F87171 for inputs with invalid errors, and #84CC16 for the button background.
[3] Try using CSS vars to define the colors so they can be easily changed.
[4] The font used is Martel Sans (normal and bold).

## 4.2 Responsive Form Design

Add some CSS rules to make the site responsive (responsive.css). The site should look like this in smaller screens:






## 5. Extra

Let's continue HTML exercise 5. Extra:

[1] Pick a page from a website you use a lot.
[2] Without looking at its HTML code, try writing your own version using good HTML semantics.
[3] Validate the HTML code.
[4] Using CSS, create a design for that page.
[5] Make sure the design works in devices of different sizes.
[6] Validate your CSS code.