



Maydm

Web Development

Day 2: More About CSS

Fonts & Layout

Icebreaker!

Today's Schedule

Morning:

- Recap of HTML & CSS
- Hex color codes
- Google Fonts
- Project: Build your own Mondrian

Afternoon:

- Rockwell Mentors Visit
- Layouts with CSS
- Flexbox Froggy
- Grid Garden
- Wireframes
- Project: Create a Poster

Recap of HTML

Key Points:

- The “skeleton” of a web page
- HTML elements use angle brackets < >
- Most elements have opening and closing tags
 - `<p>Your text here</p>`
 - `<u>Text to be underlined</u>`
- Some elements take attributes inside the brackets
 - Image element needs a source: ``
 - Link element needs a URL: `Link text`

Recap of CSS

CSS lets us add style to our pages using **selectors**, **properties**, and **attributes**.

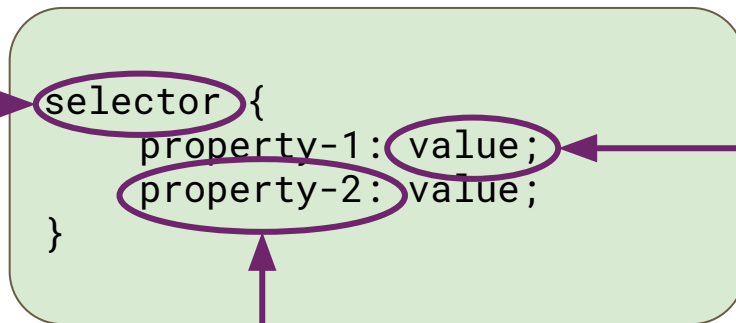
Styles can include:

- Color -- text, background, borders
- Font type and size
- Position and layout

Remember, our HTML gave us the content. CSS is what gives it the style!

Anatomy of a CSS statement

The **selector** is WHERE the CSS will change the HTML.



The **value** is HOW CSS will change the element.

The **property** is WHAT the CSS will change, like background color or font type.

Hex Color Codes

Colors can be added by using a named color or by using the hexadecimal code. Hex codes are represented by numbers 0-9 and letters a-f.

```
p {  
  color: red;  
}
```

```
p {  
  color: #ff0000;  
}
```

These are the same color!

Hex Color Codes

- Our regular numbering system is decimal (base 10) and uses 10 symbols: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9
- The hexadecimal system uses 16 symbols: 0-9 plus A, B, C, D, E, F
- Hex color codes combine to make 16,777,216 different colors
- Each hex color code is 6 digits and is specified like #RRGGBB
 - Digits 1-2 represent red. #FF0000 = red
 - Digits 3-4 represent green. #00FF00 = lime green
 - Digits 5-6 represent blue. #0000FF = blue
 - #000000 = black
 - #FFFFFF = white

Font Types

Fonts are a quick and fun way to customize a web page.

Customary practices for fonts:

- Use only 1-3 fonts to keep page load time down
- Use one font for Headings or special call outs
- Use a “plain” font for the majority of the text so it's easy for users to read

Font Types

Serif fonts are font types that have little lines at the end of larger strokes. Here are some examples of serif fonts:

EB Garamond

Georgia

Merriweather

Playfair Display

Times New Roman

Font Types

Sans-serif fonts are font types that do not have the little lines at the end of larger strokes. Here are some examples of sans-serif fonts:

Calibri

Montserrat

Nunito

Roboto

Verdana

Font Types

Handwriting fonts replicate handwritten text and are good for accent. Types include:

AMATIC SC

Caveat

Comic Sans

Pacifico

Sacramento

Monospaced fonts have letters that take up the same width. They aren't used often in web development. They are good for writing out code examples, however.

Courier New

Roboto Mono

Source Code Pro

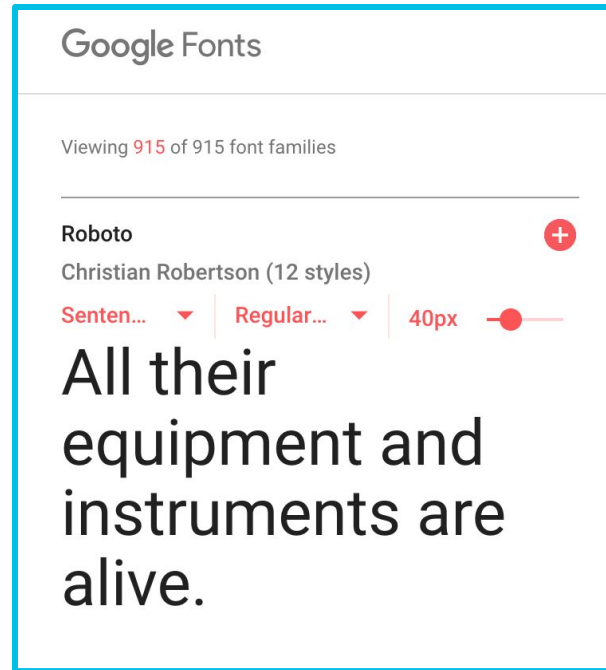
Google Fonts

Google Fonts (fonts.google.com) is a good source for free fonts.

Click on the example text and you can change it to your own text.

Click on the orange plus to add the font to your selection.

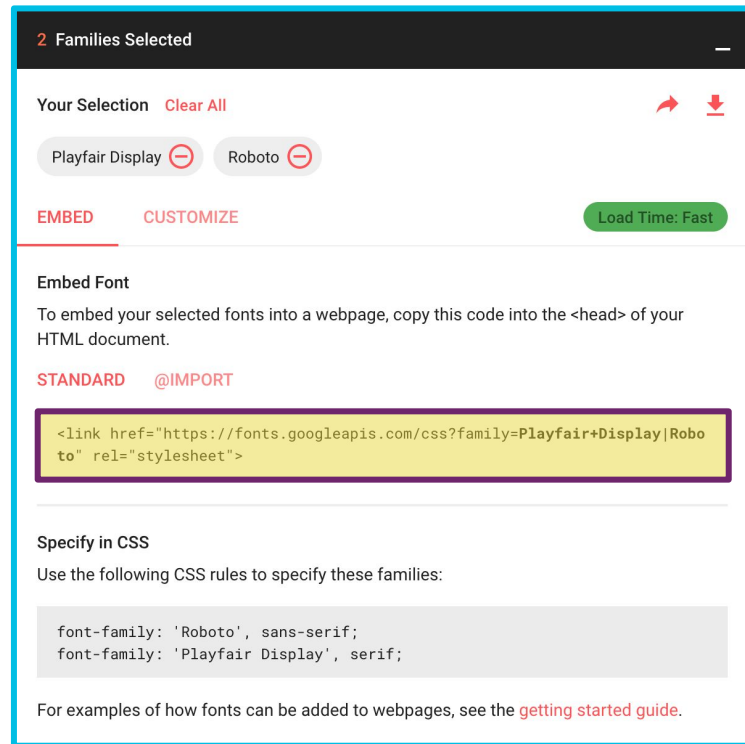
Click on the font name to see more about the font.



Add Google Fonts to CodePen

Once you have selected a font (or two), click on the “Families Selected” drawer at the bottom of the page.

Copy only the URL from the `<link>` href attribute under STANDARD.



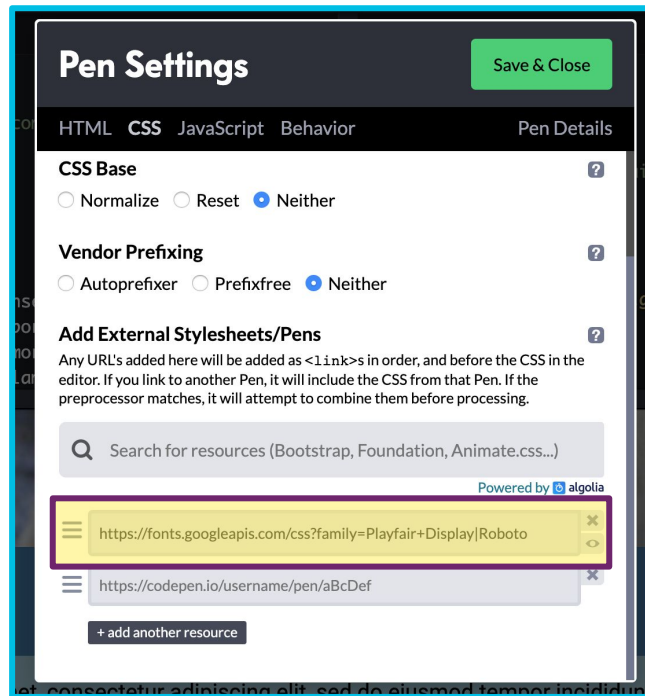
The screenshot shows the 'Families Selected' drawer in CodePen. At the top, it says '2 Families Selected'. Below that, 'Your Selection' shows 'Playfair Display' and 'Roboto' with minus buttons. There are 'EMBED' and 'CUSTOMIZE' tabs, with 'EMBED' selected. A green button indicates 'Load Time: Fast'. Under 'Embed Font', instructions say to copy code into the <head> of an HTML document. The 'STANDARD' tab is active, showing a code block with the link href: `<link href="https://fonts.googleapis.com/css?family=Playfair+Display|Roboto" rel="stylesheet">`. The '@IMPORT' tab is also visible. Under 'Specify in CSS', instructions say to use the following CSS rules to specify these families: `font-family: 'Roboto', sans-serif;` and `font-family: 'Playfair Display', serif;`. At the bottom, it says 'For examples of how fonts can be added to webpages, see the [getting started guide](#).'

Add Google Fonts to CodePen

On CodePen, click the Settings button at the top of the Pen.

On Pen Settings, click CSS at the top.

Under “Add External Stylesheets/Pens,” paste in the Google Fonts URL.

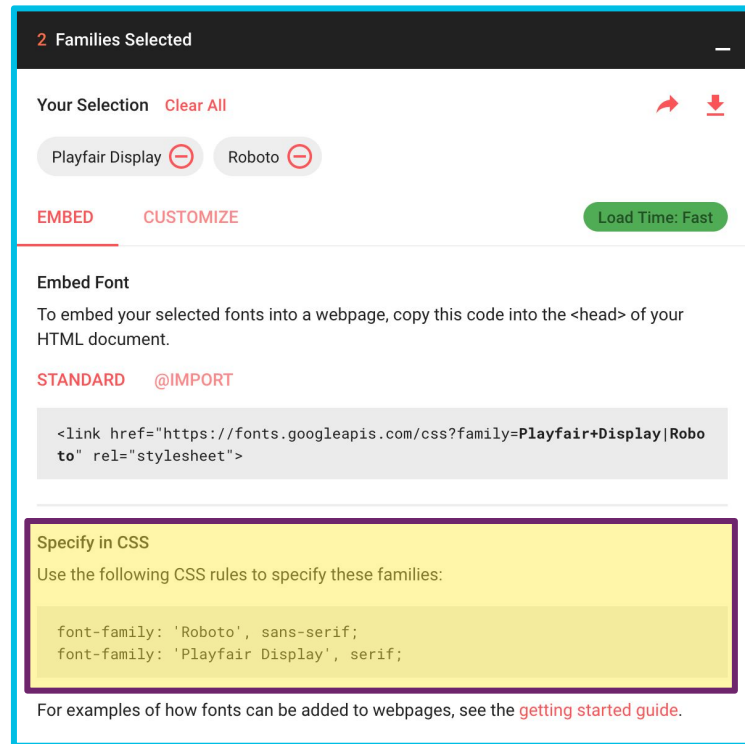


Add Google Fonts to CodePen

Now you can use the fonts!

Google Fonts shows you how to use them. Choose the element you want to style and apply the appropriate font-family.

You can also specify a backup font, in case the font doesn't load, but it's not required.



2 Families Selected

Your Selection [Clear All](#)

Playfair Display Roboto

EMBED CUSTOMIZE Load Time: Fast

Embed Font

To embed your selected fonts into a webpage, copy this code into the <head> of your HTML document.

STANDARD @IMPORT

```
<link href="https://fonts.googleapis.com/css?family=Playfair+Display|Roboto" rel="stylesheet">
```

Specify in CSS

Use the following CSS rules to specify these families:

```
font-family: 'Roboto', sans-serif;
font-family: 'Playfair Display', serif;
```

For examples of how fonts can be added to webpages, see the [getting started guide](#).

Worktime

With hex color codes and Google Fonts, you can add more customization to your Fan Page.

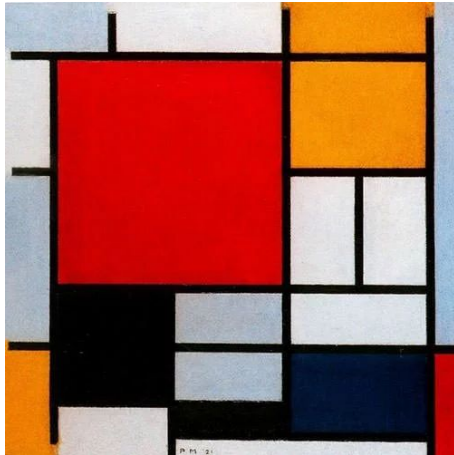
Add a font (or two) and apply them to your page. Try changing some of the colors using hex codes.

Other color resources:

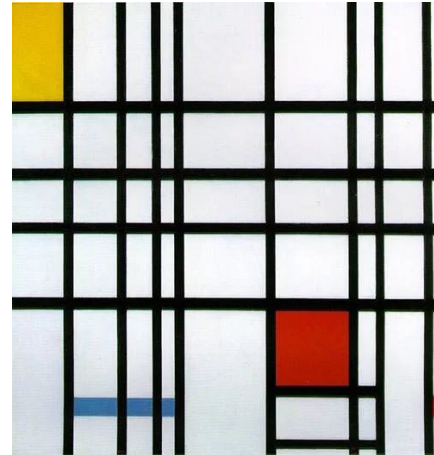
www.w3schools.com/colors/colors_picker.asp

Project: Make Your Own Mondrian

Piet Mondrian was a Dutch painter who is known for his abstract pieces that use straight lines and solid colors.



Composition with Large Red Plane,
Yellow, Black, Gray and Blue



Composition II in Red, Blue, and
Yellow

Project: Make Your Own Mondrian

- Using color names or hex codes, add color to make a unique Mondrian-style image.
- Each section has a unique ID and text so you can see where it is on the page.
- Delete the text when you're done.

Joy, the Poet of Code



Joy, the Poet of Code

- Why is bias in algorithms troubling?
- What can engineers do to create accurate representation in machine learning programs?
- What steps should our society take to ensure algorithms and other technology create accurate outputs?

CSS Layout

There are two main ways to create a layout with CSS: Flexbox and Grid

Flexbox

- Good for single dimensional content (rows or columns)
- Works on almost all modern browsers (98%)

Grid

- Good for two dimensional content (rows and columns)
- Works on most modern browsers (92%)

Flexbox

flexboxfroggy.com

Flexbox Froggy is a game that teaches how to use Flexbox.

Work through the exercises at your own pace.

Grid

cssgridgarden.com

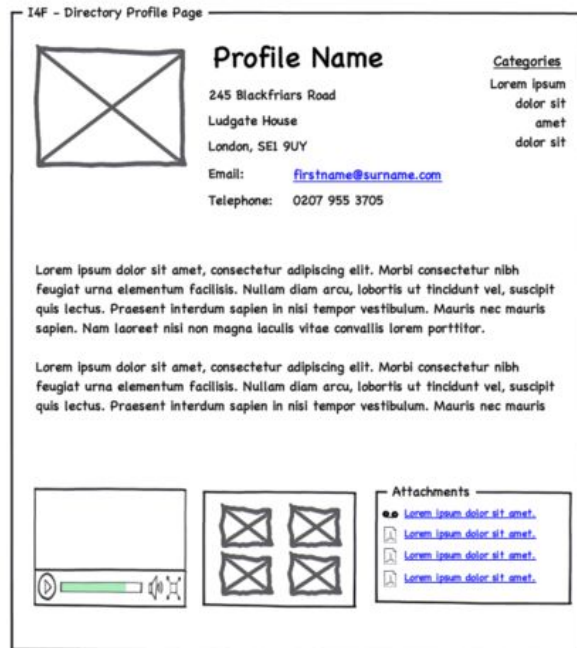
Grid Garden is a game that teaches how to use Grid.

Work through the exercises at your own pace.

Wireframes

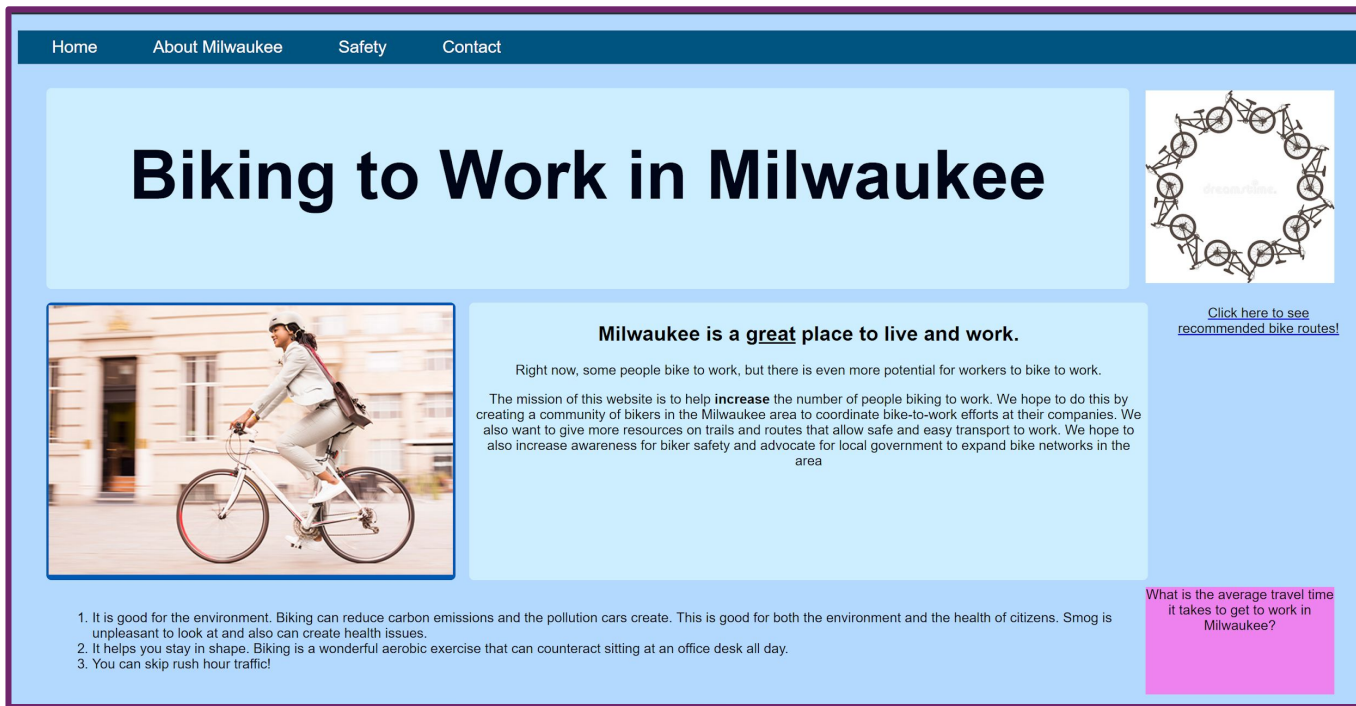
A rough drawing of what the website should look like:

- No colors
- Borders of main content areas
- Emphasizes the structure of the page, but not what it will look like



created with Balsamiq Mockups - www.balsamiq.com

Starting from the top, what do you see?



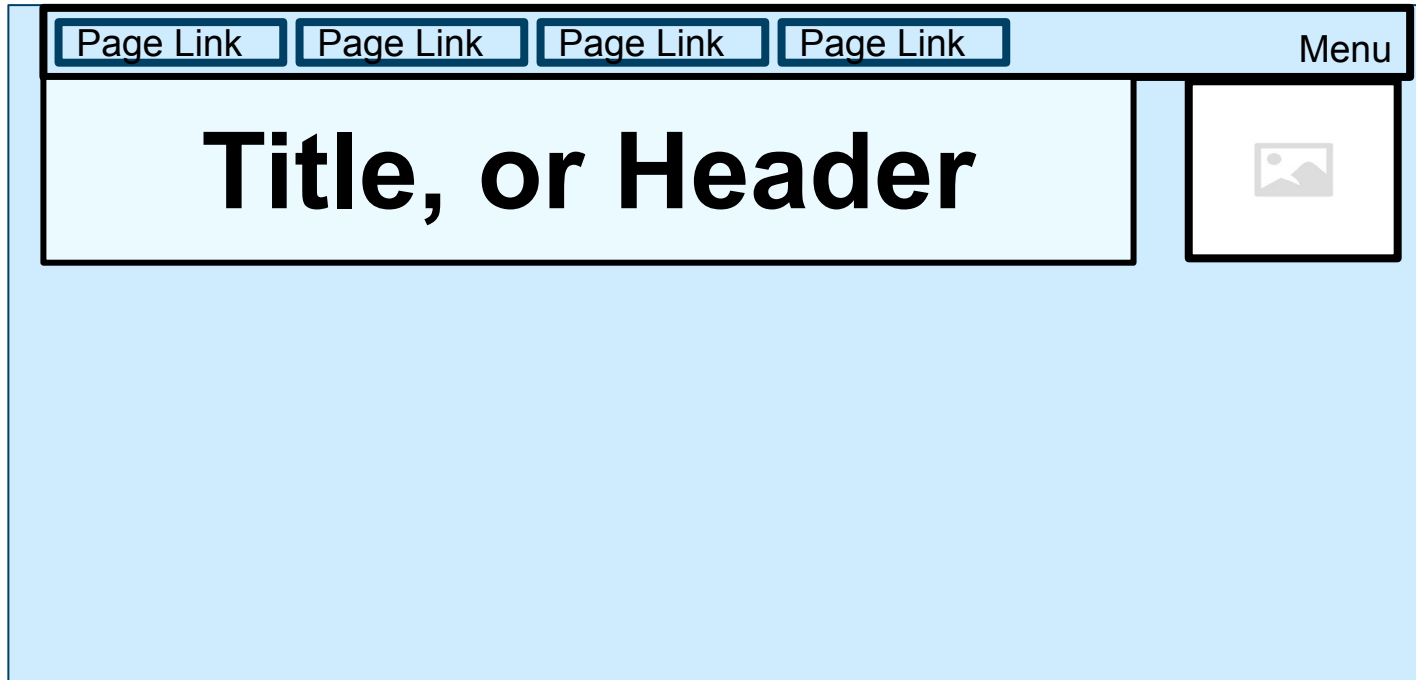
Starting from the top, what do you see?



Starting from the top, what do you see?



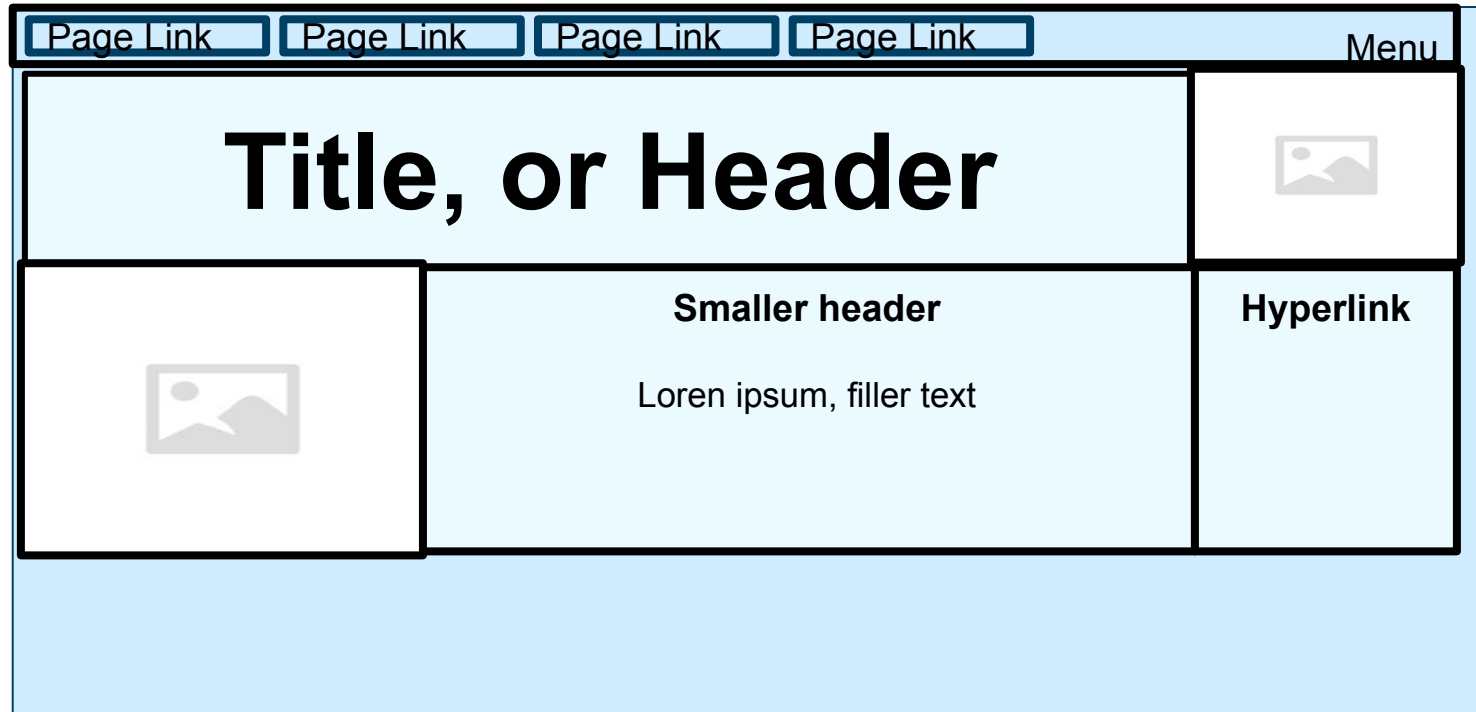
Starting from the top, what do you see?



Starting from the top, what do you see?



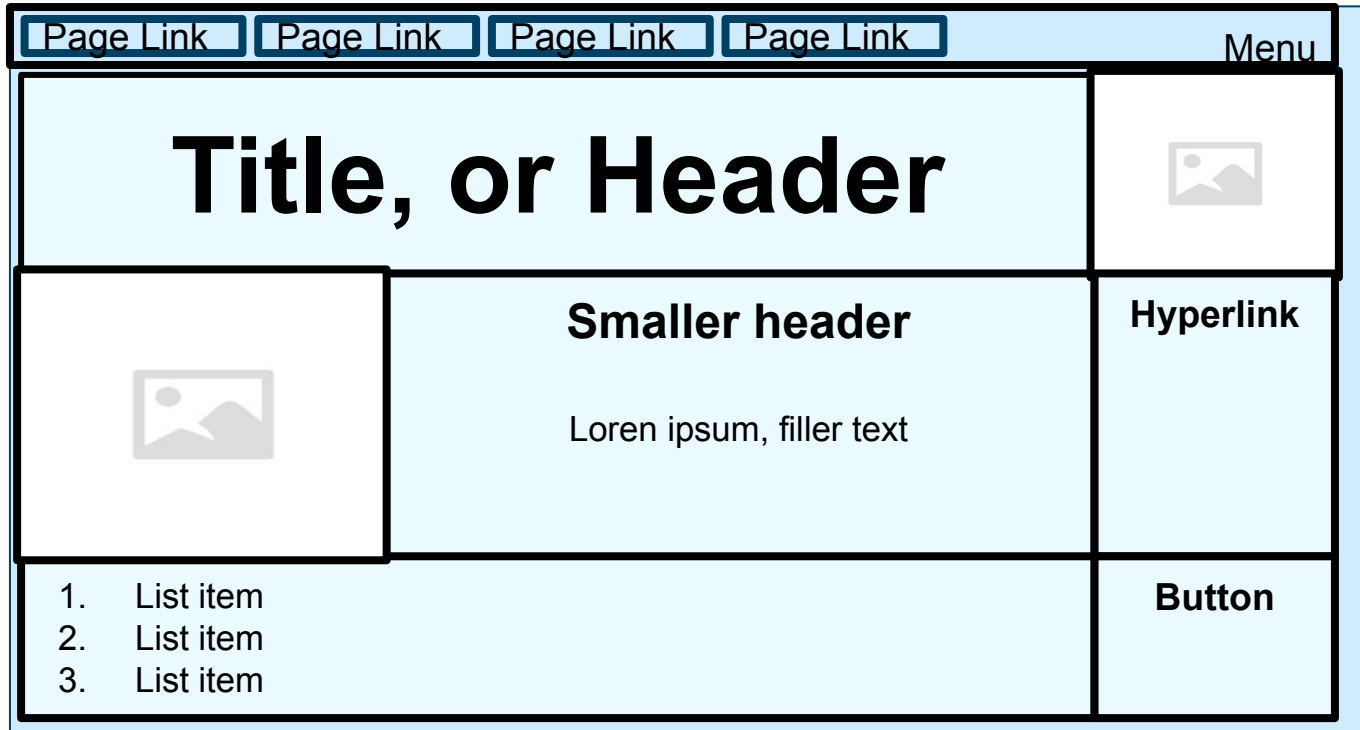
Starting from the top, what do you see?



Starting from the top, what do you see?



Starting from the top, what do you see?



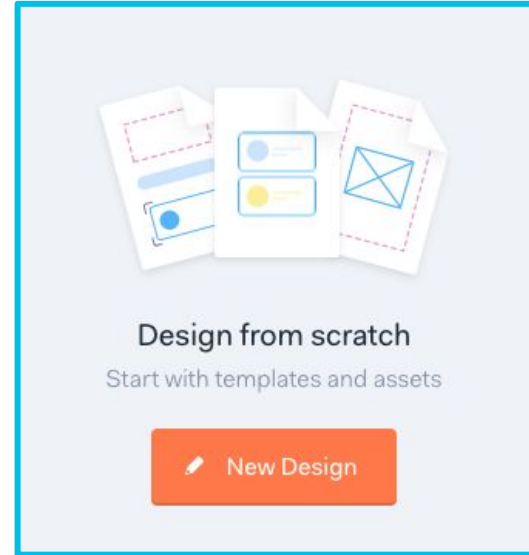
Wireframing Tools

Wireframes can be as simple as paper and pencil, or can be created with an online tool that can be shared with others.

We're going to look at Marvel as an online wireframing tool.

Marvel

- Head to <https://marvelapp.com> and sign up for an account
- Create a new website project and give it a name
- Choose “Design from scratch” to start the project

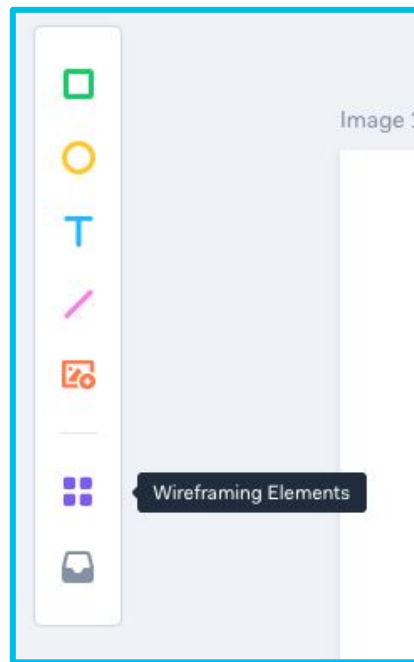


Marvel

The wireframing toolbox is in the top left of the screen. You have these tools available:

- Rectangle
- Ellipse
- Text
- Line
- Stock photos & icons
- Wireframing elements

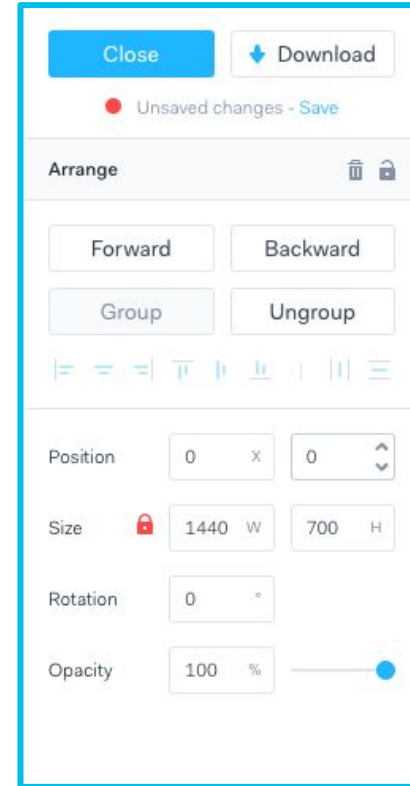
We'll be focusing on the wireframing elements.



Marvel

The tools on the right side of the screen allow you to:

- Save & close the project
- Download the project
- Change the order of the items
- Group items so they move together
- Change size, position, rotation or opacity of items



Marvel

Spend a few minutes creating a basic web page using Marvel.

Since you can only have one project on the free account, you will need to archive or delete this project so you can create another one later.

Project: Make a Poster

- The poster can be anything you want!
 - Your favorite movie, book, TV show, video game...
 - A fake movie that YOU would watch
- Check out the example poster on CodePen
- Make your layout with either paper & pencil or Marvel
- Once your layout is complete, review the example CSS Grid layout
- Make your own grid layout (or use the example if you'd rather)
- Complete the poster!

Reflection

Write in your journal about how you feel or what you learned today.

Prompts:

- Between CSS and HTML, which do you like better? Why?
- CSS selectors can be challenging to understand. Is there something that helped you get the difference between elements, classes, and IDs?
- Do you prefer making wireframes on paper or computer? Why?