

# CMPS 350 Web Development Fundamentals

## Lab 4 – CSS Fundamentals 2

### Responsive Layout

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#### Objective

Practice using CSS grid, flexbox and media queries to develop responsive page layouts.

At the end of the Lab, complete the testing document then sync your repo to push your work to GitHub.

#### Part A - Page Layout using Grid and Flexbox

1. Get the **Lab4-CSS** repo from <https://github.com/cmeps350s2023/Lab> repo and copy it to your private repository.
2. Open the **Lab4-CSS-Tutorial** folder available under the **Lab4-CSS** in **WebStorm**. The project has two HTML pages: **index.html** and **registration.html**.
3. Complete the following four exercises to practice page layout using grid and flexbox.

#### Exercise 1 – Page Layout using CSS Grid

- First review the Grid basic concepts using the lecture slides. Summary of grid properties is available at <http://grid.malven.co>  
Then visit this [https://www.w3schools.com/css/css\\_grid.asp](https://www.w3schools.com/css/css_grid.asp) and go through the tutorials to understand how the grid works.
- Create the following layout shown in Figure 1 using a grid and media queries. You should use the **index.html** file provided in the lab folder Base Code / Exercise 1





Figure 1 : Layout Design using CSS Grid

## Exercise 2 – Responsive layout design using Flexbox and Grid

Open exercise 2 project and style the **index.html** file. Your task is to combine flexbox and grid, to achieve the following webpage shown in figure 3.

1. Use grid for the overall structure of the page by using a single column for mobile and two columns for larger screens that are more than 60rem.
2. Style the navigation layout using flexbox and make it responsive with same break point.
3. For the cards inside the main, use flexbox to style them.
4. Use grid and the **RAM pattern** to add auto-created grid columns and automatically-placed children (as shown in Figure 3) main section. The cards automatically move up, as they get screen width increases.



Smaller Screen



Larger screen

Figure 2 : Responsive menu

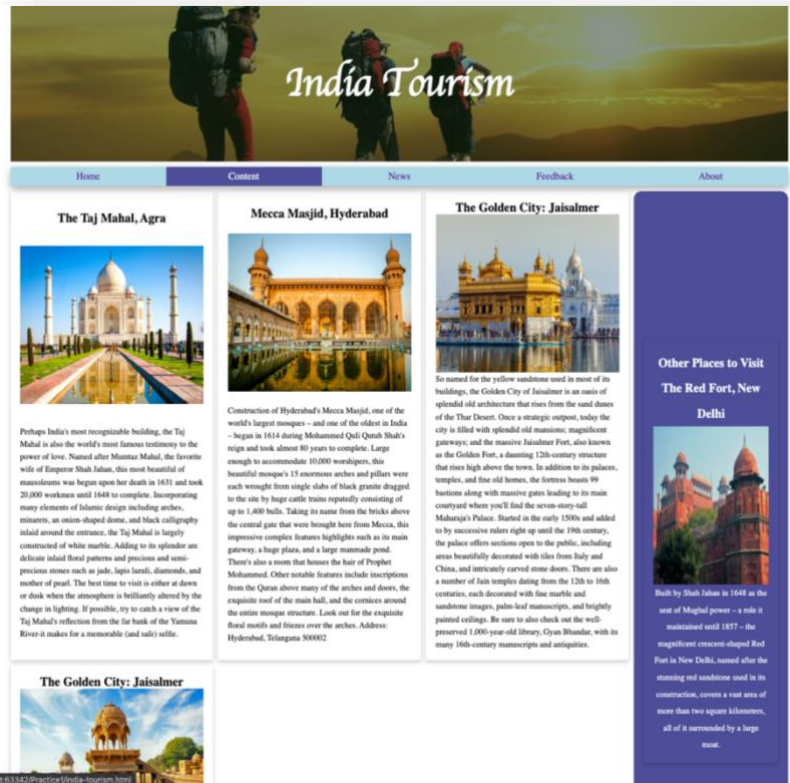
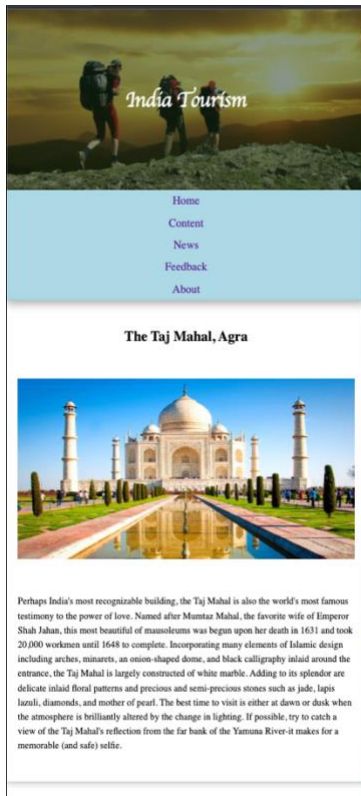


Figure 3 Responsive Layout – Tourism Wesbite Layout in Small (<60rem) and Large Screens >= 60rem

### Exercise 3 – Form Layout using a Grid

Style **contact.html** form using a grid to deliver a responsible form as shown in Figure 3 (notice the input labels placed above the inputs for a small screen).

<div>First Name</div> <input type="text"/>	<div>First Name</div> <input type="text"/>
<div>Last Name</div> <input type="text"/>	<div>Last Name</div> <input type="text"/>
<div>Job</div> <input type="text"/>	<div>Job</div> <input type="text"/>
<div>Age</div> <input type="text"/>	<div>Age</div> <input type="text"/>
<div>Email</div> <input type="text"/>	<div>Email</div> <input type="text"/>
<div>Submit</div>	<div>Submit</div>

Figure 3 : Responsive form

## PART B – Practice Responsive Web Design

### Practice 1

The below is a challenge from [frontend-mentor](https://frontendmentor.com) for you to practice. The user should be able to view the optimal layout for the site depending on their device's screen size. All the files needed for the exercise are provided to you in **Lab4-CSS** from the Lab repo, including the design files and a read me file that explains the type of fonts used and the colors.

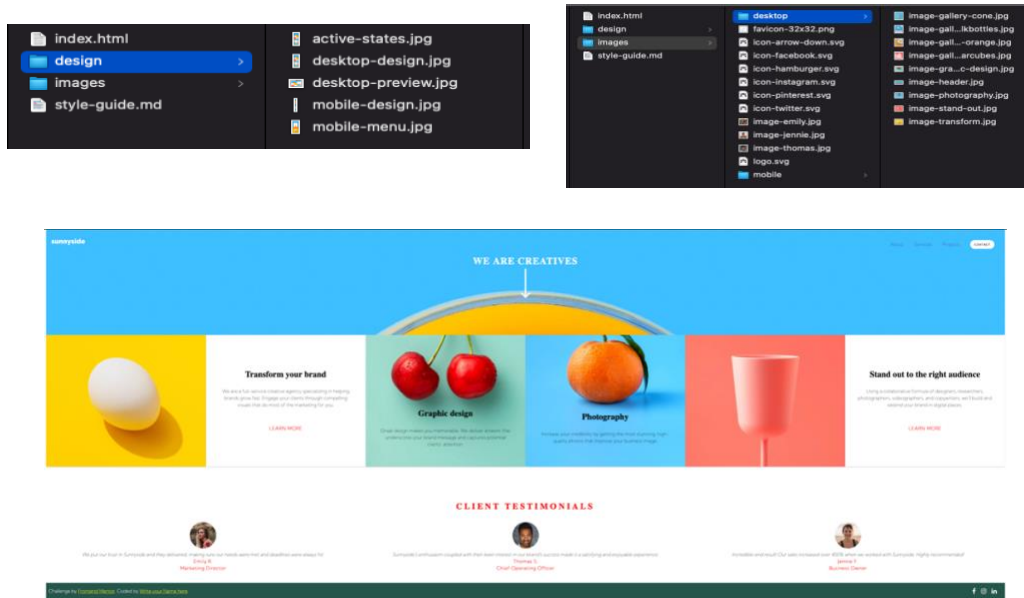


Figure 1 Large Screen – Very wide

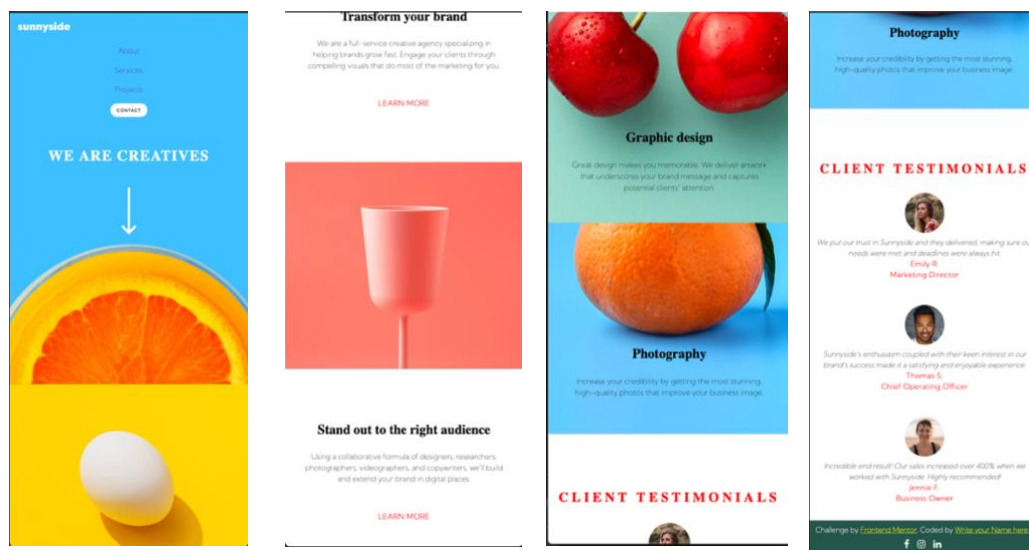


Figure 2 On Smaller devices < 60rem

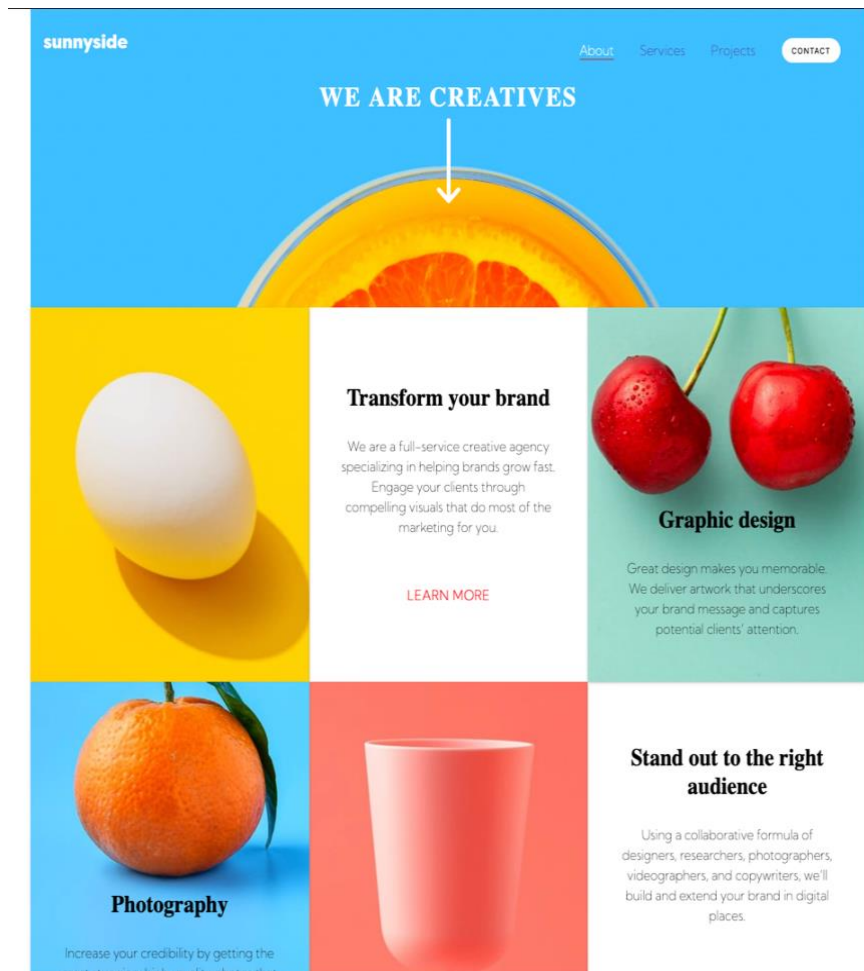


Figure 3 Desktop

## Practice Exercise 2

To replicate the College journey website shown below, utilize grid layout instead of Flexbox. The code for the Flexbox solution is already provided, so run the application and recreate it using grid.





## Welcome to Zahra's College Journey at Qatar University



### My Major

I am currently pursuing a degree in Computer Science at Qatar University. I chose this major because I have always been fascinated by technology and the potential it has to solve problems and make a positive impact on the world.



Fig 1. College of Engineering building at Qatar University

### Campus Involvement

I am actively involved in a number of clubs and organizations at Qatar University. Some of the clubs I am a member of include the Computer Science Club, the Robotics Club, and the Gaming Club.

1. Computer Science Club
2. Robotics Club
3. Gaming Club

[Register here for QU Teams](#)

### Internship Experience

I have had the opportunity to gain valuable work experience through a number of internships while in college at Qatar University. Some of the internships I have had include:

Summary of My Internships		
Internship	Company	Duration
Software Developer	Qatar IT Solutions	Summer 2020
Data Analyst	Qatar Data Systems	Fall 2021
Full Stack Developer	Qatar Tech Innovations	Spring 2022

### Study Abroad

I had the opportunity to study abroad in Tokyo, Japan for a semester. It was an amazing experience that allowed me to learn about a different culture and improve my language skills.



### Future Plans

After graduation, I plan to pursue a career in software development. I am particularly interested in working on projects related to artificial intelligence and machine learning.

#### Resources

[Career Center](#)

[Job Search](#)

[Internship Match](#)