

Fundamentals of Web Design

Experiment – 04

Advanced CSS Implementation on Personal Portfolio Website

Aim

To enhance the previously developed Personal Portfolio Website by implementing advanced CSS properties including layout techniques, selectors, positioning, form styling, pagination, custom properties, and responsive design.

Learning Outcomes

After completing this experiment, students will be able to:

- Apply different display properties (inline, block, inline-block)
- Use float and overflow properties
- Apply combinator, attribute, pseudo-class and pseudo-element selectors
- Implement navigation bar styling
- Use Flexbox for layout alignment
- Style forms professionally
- Implement pagination design
- Use CSS custom properties
- Apply responsive design using media queries

Problem Statement

Continue developing the same Personal Portfolio Website from previous experiments and implement the following CSS concepts sequentially. Each feature must be clearly visible in the output and demonstrable during evaluation.

Implementation Tasks (Sequential Order)

Part 1 – Display and Box Model

1. Display Property

- Convert navigation list items to inline-block.
- Demonstrate block, inline, and inline-block differences.

2. Margin and Padding

- Apply proper spacing to all sections.
- Add internal spacing to cards.

Part 2 – Float and Overflow

3. Float Property

- Float the profile image to the left.
- Allow text to wrap around the image.
- Use clear property where necessary.

4. Overflow Property

- Create a fixed-size content box.
- Demonstrate overflow: hidden, scroll, and auto.

Part 3 – Navigation Bar

- Remove list bullets.
- Add hover effects.
- Highlight active link.
- Apply background color transitions.

Part 4 – Advanced Selectors

5. Combinator Selectors

- Descendant selector (A B)
- Child selector (A ; B)

- Adjacent sibling selector (A + B)
- General sibling selector (A ~B)

6. Attribute Selectors

- Style input[type="text"]
- Style input[type="email"]
- Style links with target="_blank"

7. Pseudo-Class Selectors

- :hover
- :focus
- :nth-child()
- :first-child
- :last-child

8. Pseudo-Element Selectors

- ::before
- ::after
- ::first-letter
- ::first-line

Part 5 – Flexbox Layout

- Use display: flex
- Implement flex-direction
- Use justify-content and align-items
- Apply flex-wrap and gap
- Arrange skills and project cards using Flexbox

Part 6 – Form Styling

- Style input fields with padding and border-radius
- Change border on focus
- Style submit button with hover transition

Part 7 – Pagination Component

- Create numeric pagination (1 2 3 Next)
- Display inline
- Highlight active page
- Add hover effects

Part 8 – CSS Custom Properties

- Define CSS variables in :root
- Use variables for colors and font sizes
- Demonstrate basic use of @property rule

Part 9 – Responsive Design

- Use at least two media queries
- Stack navigation vertically on small screens
- Stack About section content
- Convert project cards to single column on mobile

Restrictions

- No Bootstrap or CSS frameworks
- No copied templates
- Must use own portfolio from previous experiment
- No JavaScript required

Result

Thus, advanced CSS properties were successfully implemented on the Personal Portfolio Website.