



**MIT Art, Design and Technology University
MIT School of Computing, Pune**

Department of Information Technology

**SUBJECT – FULL STACK FRONT END DEVELOPMENT
COURSE CODE – 23IT3001**

Class – T.Y. SMAD

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Assignment 1 : Bootstrap Homepage

Aim :

The aim of this assignment is to design and develop a **responsive static Artist Portfolio website homepage** using the **Bootstrap framework**. The goal is to understand how Bootstrap simplifies front-end design through pre-defined classes, grid systems, and responsive utilities. The layout showcases the artist's profile and featured artworks while demonstrating the use of major Bootstrap components such as **containers, headers, buttons, navigation bars, cards, and the grid system** to create a visually engaging and adaptive interface that adjusts seamlessly across different screen sizes and devices.

Theory :

1. All About Bootstrap (For Artist Portfolio Website)

Bootstrap is one of the most powerful and widely used front-end frameworks for building **responsive, mobile-first web applications** efficiently. It allows developers to design complex layouts with minimal effort using a predefined structure of CSS classes and responsive utilities. In this project, Bootstrap is used to construct a **responsive artist portfolio website** that remains elegant and functional across all devices—from large desktop monitors to compact mobile screens.

An artist portfolio website acts as the **digital identity** of an artist, representing their creative journey, showcasing artworks, and enabling interaction with potential audiences. Bootstrap's **12-column grid system** forms the backbone of the design, ensuring each section—such as the hero banner, about section, gallery, contact form, and footer—is perfectly aligned and adapts automatically to any screen size. For instance, a four-column gallery layout on a desktop seamlessly converts into a single column on a smartphone without requiring manual CSS changes.

The homepage begins with a **container** that maintains uniform alignment and spacing throughout the page. Within the container, the **header section** includes the website's brand name and navigation bar, designed using Bootstrap's **navbar component**. The navbar links to other key pages such as *Home*, *About*, *Gallery*, *Contact*, *Register*, and *Login*. It automatically collapses into a toggleable hamburger menu on smaller screens using the navbar-toggler class, enhancing usability on mobile devices.

The **hero section** at the top of the homepage creates a strong visual impact with a background image overlay and call-to-action buttons like *"View Gallery"* or *"Contact Me."* This is implemented using Bootstrap's **utility classes** such as `bg-gradient`, `py-5`, and `text-center`, combined with a custom CSS overlay to highlight the main message. Buttons use predefined Bootstrap classes like `btn` and `btn-accent`, providing consistent design and accessibility.

Below the hero section, the **main content** utilizes the **Bootstrap grid system** to organize elements such as artwork highlights and artist information. Cards are used to display artworks with images, titles, and descriptions, styled using Bootstrap's card component. The hover animation applied via custom CSS (`.gallery-card:hover`) adds interactivity, giving a professional and engaging user experience. The grid classes like `col-sm-6`, `col-md-4`, and `col-lg-3` ensure the layout dynamically adjusts from four columns on desktops to a single column on smaller devices.

The **About page** expands on the artist's journey, achievements, and exhibitions using a structured timeline layout.

Bootstrap's spacing utilities and text alignment classes are used to maintain a clean and readable design. CSS animations such as fade-in effects (.fade-in) make the content visually appealing without requiring JavaScript.

The **Contact page** demonstrates Bootstrap's powerful form utilities. It includes text inputs, textareas, checkboxes, and buttons designed using classes like form-control, form-label, and btn. The form is placed alongside a contact card containing the artist's address, email, and embedded Google Map—arranged side-by-side using the **grid system**. Bootstrap's responsiveness ensures these columns stack neatly on smaller devices.

The **Register** and **Login** pages highlight Bootstrap's ability to create user-friendly forms and layouts with minimal code. The Register page uses stacked form controls and a select dropdown for art style preferences, while the Login page centers the form vertically using Bootstrap's **flexbox utilities** (d-flex, justify-content-center, align-items-center). Both forms are styled using consistent button and input themes for professional coherence.

The **footer section** completes the website with contact details, quick navigation links, and social media icons. It uses Bootstrap's **color utilities** like bg-dark, text-white, and p-3 to maintain contrast and readability. Icons from Bootstrap Icons enhance interactivity, while the grid layout ensures the footer remains well-structured and responsive across all devices.

An important aspect of Bootstrap's philosophy is its **mobile-first approach**, meaning layouts are designed primarily for mobile devices and then scaled up for larger screens. This ensures every page—from Gallery to Contact—remains accessible and visually balanced. Bootstrap handles media queries internally, so the website automatically adapts without requiring separate CSS for each screen size.

The overall styling of the portfolio is enhanced using **Bootstrap's predefined color palette, spacing utilities, and typography settings**, along with a custom stylesheet (style.css) that adds personalized animations and a **Lenskart-inspired color scheme** (navy blue, green, and aqua). This combination of framework and customization results in a visually professional and cohesive design.

In conclusion, this project demonstrates the effective use of Bootstrap's components—**containers, navbars, grid systems, forms, cards, and utility classes**—to create a fully responsive, visually appealing, and functional artist portfolio website. The integration of Bootstrap's responsive features with custom CSS ensures that the website not only meets academic requirements but also reflects a modern, real-world web design standard.

Code:

```
<!doctype html>
<html lang="en">
<head>
  <meta charset="utf-8" />
  <meta name="viewport"
content="width=device-width,initial-scale=1" />
  <title>Artist Portfolio — Home</title>

  <!-- Bootstrap CSS -->
  <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css
/bootstrap.min.css" rel="stylesheet">

  <!-- Bootstrap Icons (used in footer) -->
  <link
href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.10.5/
font/bootstrap-icons.css" rel="stylesheet">

  <!-- Google Font -->
  <link
```

```
href="https://fonts.googleapis.com/css2?family=Inter:wght
@400;600;700&display=swap" rel="stylesheet">

  <!-- Custom CSS -->
  <link rel="stylesheet" href="style.css">
</head>
<body>

  <!-- ===== NAVBAR (container + header +
responsive navbar) ===== -->
  <nav class="navbar navbar-expand-lg navbar-custom
sticky-top">
    <div class="container">
      <a class="navbar-brand fw-bold text-white"
href="index.html">Artist Portfolio</a>

      <button class="navbar-toggler" type="button"
data-bs-toggle="collapse" data-bs-target="#navMenu"
aria-controls="navMenu" aria-expanded="false"
aria-label="Toggle navigation">
```

```
<span class="navbar-toggler-icon"></span>
</button>

<div class="collapse navbar-collapse" id="navMenu">
  <ul class="navbar-nav ms-auto
align-items-lg-center">
    <li class="nav-item"><a class="nav-link text-white"
href="index.html">Home</a></li>
    <li class="nav-item"><a class="nav-link text-white"
href="about.html">About</a></li>
    <li class="nav-item"><a class="nav-link text-white"
href="gallery.html">Gallery</a></li>
    <li class="nav-item"><a class="nav-link text-white"
href="contact.html">Contact</a></li>
    <li class="nav-item"><a class="nav-link text-white"
href="register.html">Register</a></li>
    <li class="nav-item"><a class="nav-link text-white"
href="login.html">Login</a></li>
  </ul>
</div>
</nav>
```

```
<!-- ===== HERO (jumbotron equivalent) =====
-->
<header class="hero text-center d-flex
align-items-center">
  <div class="container">
    <h1 class="display-5 fw-bold">Welcome to My Art
World</h1>
    <p class="lead mb-4">Paintings, drawings and stories
— curated for collectors and enthusiasts.</p>
    <div class="d-flex justify-content-center gap-3
flex-wrap">
      <a href="gallery.html" class="btn btn-accent
btn-lg">View Gallery</a>
      <a href="about.html" class="btn btn-outline-light
btn-lg">About the Artist</a>
    </div>
  </div>
</header>
```

```
<!-- ===== FEATURED WORKS (grid system +
cards) ===== -->
<main class="container my-5">
  <section aria-labelledby="featured-heading">
    <h2 id="featured-heading" class="mb-4
text-primary">Featured Works</h2>
```

```
<!-- responsive grid: 1 col xs, 2 cols md, 3 cols lg
(Bootstrap row-cols) -->
<div class="row row-cols-1 row-cols-md-2
row-cols-lg-3 g-4">
  <!-- Card 1 -->
  <article class="col">
    <div class="card gallery-card card-custom h-100">
      
      <div class="card-body d-flex flex-column">
```

```
<h5 class="card-title">Morning Glory</h5>
<p class="card-text text-muted small">Oil on
canvas — 2024</p>
<p class="mt-auto"><a href="gallery.html"
class="stretched-link">View details</a></p>
</div>
</article>
```

```
<!-- Card 2 -->
<article class="col">
  <div class="card gallery-card card-custom h-100">
    
    <div class="card-body d-flex flex-column">
      <h5 class="card-title">Silent Forest</h5>
      <p class="card-text text-muted small">Watercolor
— 2023</p>
      <p class="mt-auto"><a href="gallery.html"
class="stretched-link">View details</a></p>
    </div>
  </div>
</article>
```

```
<!-- Card 3 -->
<article class="col">
  <div class="card gallery-card card-custom h-100">
    
    <div class="card-body d-flex flex-column">
      <h5 class="card-title">City at Dusk</h5>
      <p class="card-text text-muted small">Mixed
Media — 2022</p>
      <p class="mt-auto"><a href="gallery.html"
class="stretched-link">View details</a></p>
    </div>
  </div>
</article>
</div>
</section>
```

```
<!-- ===== QUICK INFO ROW (grid with
icons/text) ===== -->
<section class="mt-5" aria-labelledby="info-heading">
  <h3 id="info-heading" class="mb-3">Quick Info</h3>
  <div class="row g-3">
    <div class="col-sm-6 col-lg-4">
      <div class="p-3 border rounded h-100 d-flex
flex-column">
        <h5 class="mb-2">Exhibitions</h5>
        <p class="mb-0 text-muted small">National &
international solo/group exhibitions.</p>
      </div>
    <div class="col-sm-6 col-lg-4">
      <div class="p-3 border rounded h-100 d-flex
flex-column">
        <h5 class="mb-2">Commissions</h5>
```

```
<p class="mb-0 text-muted small">Available for
private commissions and collaborations.</p>
</div>
</div>
<div class="col-sm-12 col-lg-4">
  <div class="p-3 border rounded h-100 d-flex
flex-column">
    <h5 class="mb-2">Workshops</h5>
    <p class="mb-0 text-muted small">Periodically
held painting & sketching workshops.</p>
  </div>
</div>
</div>
</section>
</main>

<!-- ===== FOOTER (detailed with social links)
===== -->
<footer class="footer mt-5">
  <div class="container">
    <div class="row gy-4">
      <div class="col-md-4">
        <h5 class="text-white">Artist Portfolio</h5>
        <p class="text-light small mb-0">Showcasing
selected works, exhibitions, and contact information.</p>
      </div>

      <div class="col-md-4">
        <h6 class="text-white">Quick Links</h6>
        <ul class="list-unstyled">
          <li><a href="index.html">Home</a></li>
          <li><a href="gallery.html">Gallery</a></li>
          <li><a href="about.html">About</a></li>
          <li><a href="contact.html">Contact</a></li>
        </ul>
      </div>
    </div>
  </div>
</footer>
```

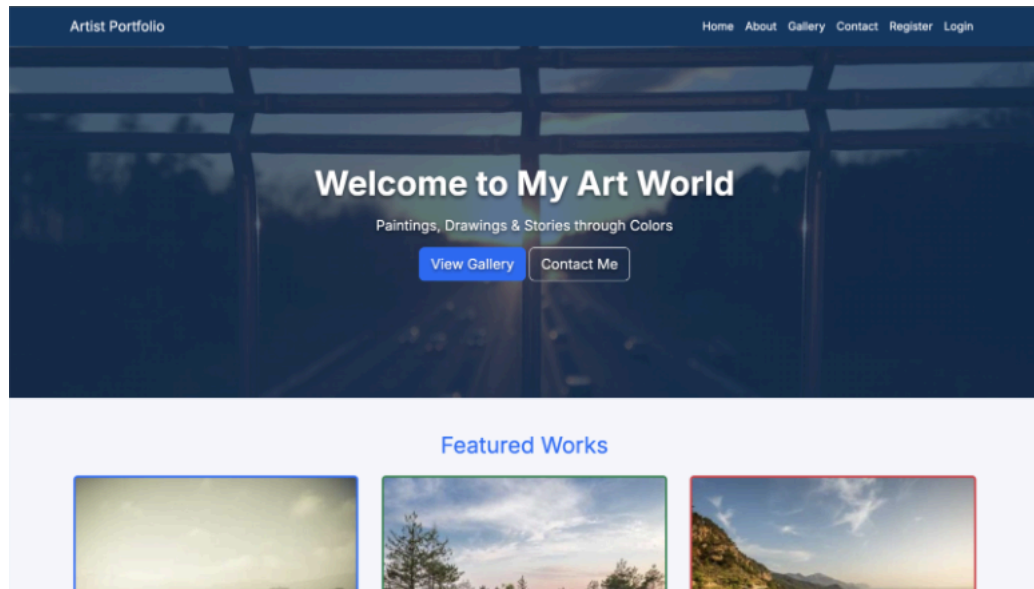
```
</div>

<div class="col-md-4">
  <h6 class="text-white">Contact & Social</h6>
  <p class="text-light small mb-2">Email:
artist@example.com<br>Phone: +91 98765 43210</p>
  <ul class="footer-social list-unstyled d-flex gap-3">
    <li><a href="#" aria-label="Instagram"
class="text-light"><i class="bi bi-instagram"></i>
Instagram</a></li>
    <li><a href="#" aria-label="Facebook"
class="text-light"><i class="bi bi-facebook"></i>
Facebook</a></li>
    <li><a href="#" aria-label="Twitter"
class="text-light"><i class="bi bi-twitter"></i>
Twitter</a></li>
    <li><a href="#" aria-label="LinkedIn"
class="text-light"><i class="bi bi-linkedin"></i>
LinkedIn</a></li>
  </ul>
</div>

<div class="text-center mt-4 small text-muted">
  &copy; 2025 Artist Portfolio — All rights reserved.
</div>
</div>
</footer>

<!-- Bootstrap JS (optional for navbar toggle) -->
<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/b
ootstrap.bundle.min.js"></script>
</body>
</html>
```

Output :



Conclusion :

We successfully created a Home page with bootstrap.

Assignment 2 : Bootstrap Grid

Aim :

The aim of this assignment is to design a **responsive, multi-column gallery and information page** for an artist portfolio using Bootstrap's 12-column grid system. The page will arrange repeating content blocks — such as artwork cards, exhibit previews, and news/updates — in a clean, consistent layout. The objective is to demonstrate uniform alignment, consistent gutters and spacing, and visual balance across breakpoints by leveraging Bootstrap's container, row, and col-* classes together with utility helpers for spacing, typography, shadows, and responsive visibility.

The layout will adapt from **single-column stacks on small screens** to **multi-column cards on medium and large screens** (using classes like row-cols-1 row-cols-md-2 row-cols-lg-4 or col-sm-6 col-md-4), showcasing how Bootstrap's mobile-first grid enables scalable, maintainable structures without heavy custom media queries. In addition to standard Bootstrap utilities, the page will include subtle CSS enhancements (hover scale & shadow on artwork images, accessible focus outlines, and a professional color palette) to improve visual hierarchy and interactivity while remaining front-end only (no JavaScript required for layout behavior).

This design demonstrates how Bootstrap simplifies building a responsive, content-rich portfolio that remains readable, aesthetically cohesive, and easy to maintain across devices.

Theory :

Responsive Multi-Column Layout for the Artist Portfolio Website

Bootstrap's **12-column grid system** serves as the foundation for designing flexible, responsive layouts that automatically adjust to any device size. In this project, the grid system is utilized to build a **multi-column gallery and information layout** for an artist portfolio website, where repeating elements such as **artwork cards, exhibition previews, and featured highlights** are displayed in an evenly spaced and visually balanced manner.

The goal of this assignment is to implement a **mobile-first, multi-column responsive design** that demonstrates Bootstrap's ability to handle alignment, spacing, and scaling without requiring custom media queries or complex CSS. The artist's portfolio homepage and gallery are prime examples of this approach, showcasing paintings and sketches using **repeating content blocks (cards)** organized inside containers, rows, and columns.

Each artwork is presented within a **Bootstrap card component**, which combines images, titles, and text within a consistent visual block. Cards are placed inside a parent row and assigned **column breakpoints** such as col-sm-6 col-md-4 col-lg-3, allowing them to automatically rearrange based on screen size:

- On small screens, each card spans the full width, forming a **single-column stack** for better readability.
- On medium screens, two cards appear per row.
- On large desktops, up to four cards fit side by side, maintaining a **grid-like aesthetic** ideal for showcasing multiple artworks.

Bootstrap's **container** class is used to provide central alignment and maintain consistent margins and gutters throughout the page. Within this container, **rows** act as horizontal wrappers, while **columns** define how much horizontal space each element occupies. The framework's built-in responsive breakpoints — sm, md, lg, and xl — automatically apply the correct layout structure for different viewports, making the grid system the backbone of the portfolio's responsiveness.

Spacing and alignment are fine-tuned using **Bootstrap utility helpers** such as g-4 (gutters), my-5 (vertical margins), and

text-center (typography alignment). These utility classes remove the need for redundant custom CSS while ensuring visual consistency and clean separation between sections like the hero banner, gallery grid, and footer. The d-flex, justify-content-center, and align-items-center classes further enhance layout control using **flexbox**, ensuring that elements such as buttons and text remain perfectly aligned both horizontally and vertically.

The project also integrates **custom CSS enhancements** to complement Bootstrap's predefined structure. Hover effects on gallery images (.gallery-card:hover) use smooth transitions and subtle scaling to make the interface interactive and modern without JavaScript. Similarly, a consistent **Lenskart-inspired color scheme** of navy, green, and aqua tones is applied using CSS variables, giving the site a professional and cohesive visual identity.

Another key aspect of the design is Bootstrap's **mobile-first approach**, which builds the smallest screen layout first and then scales upward using media queries built into the framework. This ensures optimal loading performance and accessibility for users accessing the site from smartphones or tablets. The adaptive design eliminates horizontal scrolling and maintains image proportions and text readability across all devices.

The **footer section** demonstrates additional Bootstrap utilities such as bg-dark, text-white, and the grid layout for quick links, social icons, and contact details. By combining utility classes and consistent typography, the footer maintains symmetry and contrast while ensuring responsiveness.

Overall, this project illustrates how Bootstrap's **grid system, card components, and utility classes** can be combined to create a responsive, visually balanced, and maintainable layout for a professional artist portfolio. The multi-column design successfully adapts to various screen widths, aligning with the principles of **mobile-first responsive design** and fulfilling the objective of creating a clean, scalable structure without the need for heavy custom CSS or external libraries.

Code:

```
<!doctype html>
<html lang="en">
<head>
  <meta charset="utf-8" />
  <meta name="viewport"
content="width=device-width,initial-scale=1" />
  <title>Gallery — Artist Portfolio</title>

  <!-- Bootstrap CSS -->
  <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css
/bootstrap.min.css" rel="stylesheet">

  <!-- Bootstrap Icons (optional) -->
  <link
href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.10.5/
font/bootstrap-icons.css" rel="stylesheet">

  <!-- Google Font (Inter) -->
  <link
href="https://fonts.googleapis.com/css2?family=Inter:wght
@400;600;700&display=swap" rel="stylesheet">

  <!-- Custom CSS (place the rules below into your
style.css) -->
  <link rel="stylesheet" href="style.css">
</head>
<body>

  <!-- Header / Navbar (minimal) -->
  <nav class="navbar navbar-expand-lg navbar-custom">
    <div class="container">
      <a class="navbar-brand text-white fw-bold"
href="index.html">Artist Portfolio</a>
```

```
      <button class="navbar-toggler" type="button"
data-bs-toggle="collapse" data-bs-target="#navMenu">
        <span class="navbar-toggler-icon"></span>
      </button>
      <div class="collapse navbar-collapse" id="navMenu">
        <ul class="navbar-nav ms-auto">
          <li class="nav-item"><a class="nav-link text-white"
href="index.html">Home</a></li>
          <li class="nav-item"><a class="nav-link text-white
active" href="gallery.html">Gallery</a></li>
          <li class="nav-item"><a class="nav-link text-white"
href="about.html">About</a></li>
          <li class="nav-item"><a class="nav-link text-white"
href="contact.html">Contact</a></li>
        </ul>
      </div>
    </div>
  </nav>

  <!-- Page container -->
  <main class="container my-5">
    <header class="mb-4 text-center">
      <h1 class="h2 fw-bold">Art Gallery</h1>
      <p class="text-muted mb-0">A curated selection of
paintings, sketches and mixed-media works.</p>
    </header>

    <!-- Gallery grid:
      row-cols-1 -> 1 column on xs
      row-cols-md-2 -> 2 columns on md (~768px)
      row-cols-lg-4 -> 4 columns on lg (~992px)
      g-4 -> uniform gutters between cards
    -->
    <section aria-labelledby="gallery-heading">
```



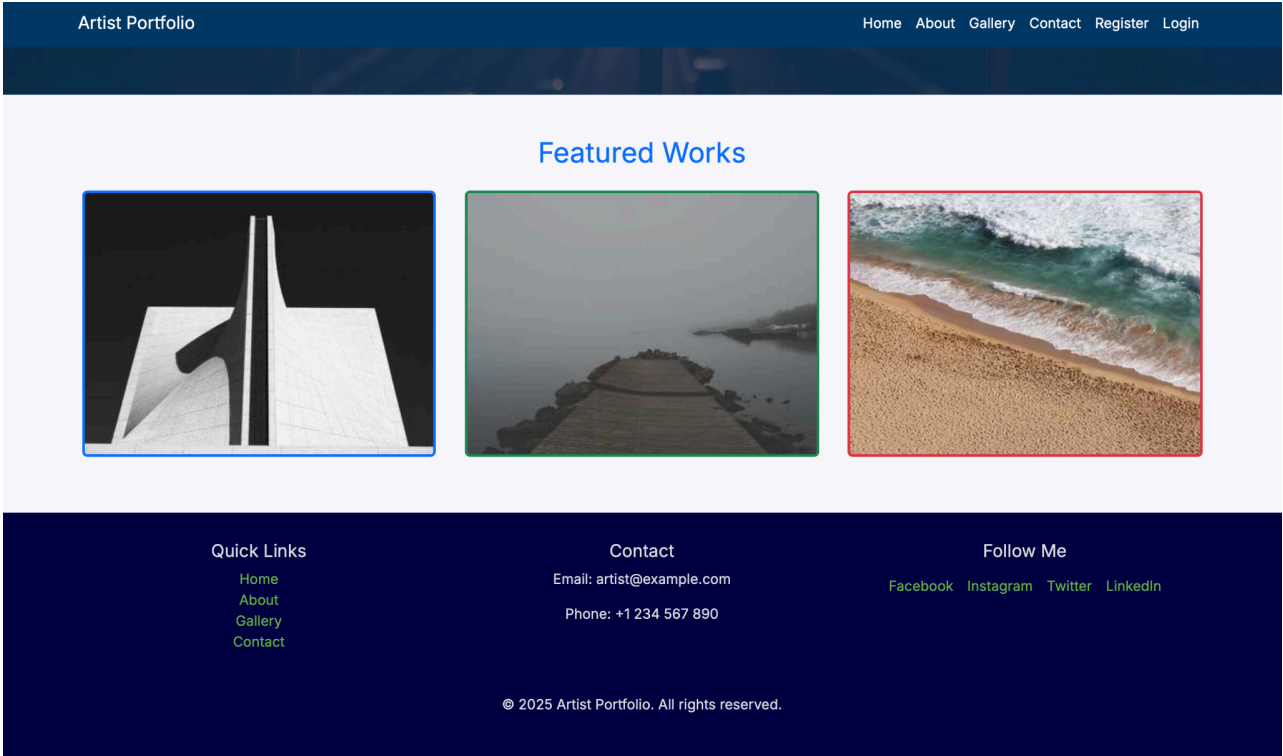
```
<div id="gallery-grid" class="row row-cols-1
row-cols-md-2 row-cols-lg-4 g-4">
  <!-- Card template (repeat) -->
  <article class="col">
    <div class="card card-custom h-100">
      <div class="gallery-card">
        
      </div>
      <div class="card-body d-flex flex-column">
        <h5 class="card-title mb-1">Morning Glory</h5>
        <p class="card-text small text-muted mb-3">Oil
on canvas — 2024</p>
        <div class="mt-auto d-flex
justify-content-between align-items-center">
          <span class="small text-muted">Size: 60 × 40
cm</span>
          <a href="#" class="btn btn-sm
btn-accent">Enquire</a>
        </div>
      </div>
    </div>
  </div>
  <!-- Repeat with different seeds for visual variety -->
  <article class="col">
    <div class="card card-custom h-100">
      <div class="gallery-card">
        
      </div>
      <div class="card-body d-flex flex-column">
        <h5 class="card-title mb-1">Silent Forest</h5>
        <p class="card-text small text-muted
mb-3">Watercolor — 2023</p>
        <div class="mt-auto d-flex
justify-content-between align-items-center">
          <span class="small text-muted">Framed</span>
          <a href="#" class="btn btn-sm
btn-accent">Enquire</a>
        </div>
      </div>
    </div>
  </div>
  <!-- Repeat with different seeds for visual variety -->
  <article class="col">
    <div class="card card-custom h-100">
      <div class="gallery-card">
        
      </div>
      <div class="card-body d-flex flex-column">
        <h5 class="card-title mb-1">City at Dusk</h5>
        <p class="card-text small text-muted
mb-3">Mixed Media — 2022</p>
        <div class="mt-auto d-flex
```

```
justify-content-between align-items-center">
          <span class="small text-muted">Edition:
1/10</span>
          <a href="#" class="btn btn-sm
btn-accent">Enquire</a>
        </div>
      </div>
    </div>
  </div>
  <!-- Repeat with different seeds for visual variety -->
  <article class="col">
    <div class="card card-custom h-100">
      <div class="gallery-card">
        
      </div>
      <div class="card-body d-flex flex-column">
        <h5 class="card-title mb-1">Abstract Lines</h5>
        <p class="card-text small text-muted
mb-3">Mixed Media — 2024</p>
        <div class="mt-auto d-flex
justify-content-between align-items-center">
          <span class="small
text-muted">Available</span>
          <a href="#" class="btn btn-sm
btn-accent">Enquire</a>
        </div>
      </div>
    </div>
  </div>
  <!-- add more cards as needed -->
</div>
</section>
</main>

<!-- Footer (concise) -->
<footer class="footer py-4">
  <div class="container text-center">
    <p class="mb-1 text-light">Artist Portfolio —
Exhibitions & Contact</p>
    <small class="text-muted">© 2025 Artist
Name</small>
  </div>
</footer>

<!-- Optional Bootstrap JS for navbar toggle -->
<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/b
ootstrap.bundle.min.js"></script>
</body>
</html>
```

Output :



Conclusion :

We successfully implemented Bootstrap grid.

Assignment 3 : Bootstrap form and table

Aim :

The aim of this assignment is to integrate **Bootstrap's form and table components** into the Artist Portfolio Website to create **professional, user-friendly interfaces** for contact, registration, and artwork selection sections. The objective is to apply Bootstrap classes such as form-group, form-control, form-check, and validation utilities to ensure properly structured, accessible, and responsive form layouts.

Additionally, **Bootstrap tables** are used to display selected artworks or exhibition details with features like **striped rows, bordered layouts, and responsive tables**, ensuring that data such as artwork titles, medium, and year are clearly presented across devices. This integration demonstrates how Bootstrap's responsive utilities unify **form-based inputs** (used in the Contact and Register pages) with **data presentation components** (used in the Gallery or Cart sections), achieving a cohesive and consistent front-end design without custom CSS complexity.

Theory — Integration of Bootstrap Forms and Tables in the Artist Portfolio Website

Bootstrap provides a comprehensive set of **form and table components** that enable developers to design structured, responsive, and visually consistent interfaces for collecting and displaying information. In the context of the **Artist Portfolio Website**, these components are used to build **contact and registration forms**, as well as **tabular layouts** that display selected artworks or exhibition details. The integration of these Bootstrap features ensures that every form and data section on the website maintains a professional, accessible, and device-friendly appearance.

1. Bootstrap Forms in the Portfolio Website

Forms play a critical role in user interaction, allowing visitors to reach out to the artist, register for newsletters, or book exhibitions. In this project, Bootstrap's **form system** is implemented using classes like form-group, form-control, and form-check to structure input fields, labels, and checkboxes uniformly.

Each form is wrapped inside a responsive container (`<div class="container">`) and aligned using Bootstrap's **grid and flex utilities**. The form-control class standardizes the appearance of text inputs, email fields, and textareas, ensuring consistent width, padding, and border styles across all browsers. For example, the **Contact page** form uses text inputs for *Name* and *Email*, a textarea for messages, and a submit button styled with btn and btn-accent classes for clear visual hierarchy.

The **Register page** demonstrates the use of additional form elements such as **dropdowns, password fields, and stacked input groups**. The form-select class is used for selecting preferred art styles (like *Watercolor*, *Oil Painting*, or *Sketches*), and input validation ensures that users enter complete information. Bootstrap's **validation utilities** provide visual feedback by applying contextual classes such as is-valid or is-invalid based on input state, thereby enhancing usability and accessibility.

To maintain a professional look, Bootstrap's **form layout variations**—such as inline forms, stacked fields, and responsive alignment—are applied where appropriate. For instance, in the registration form, fields are aligned using d-flex and gap-3 to achieve a clean, modern layout. Additionally, spacing utilities like mb-3 and py-3 are used to create balanced vertical gaps between elements, ensuring readability and consistent rhythm across screen sizes.

Code :

Contact . html:

```
<section class="section-light fade-in">

  <div class="container">

    <h2 class="text-center text-danger mb-4">Get in Touch</h2>

    <div class="row g-4">

      <div class="col-md-6">

        <div class="contact-card">

          <h4>Contact Form</h4>

          <form>

            <div class="mb-3">

              <label class="form-label">Name</label>

              <input type="text" class="form-control">

            </div>

            <div class="mb-3">

              <label class="form-label">Email</label>

              <input type="email" class="form-control">

            </div>

            <div class="mb-3">

              <label class="form-label">Message</label>

              <textarea class="form-control" rows="4"></textarea>

            </div>
```

```
        <button class="btn btn-dark btn-accent">Send Message</button>

      </div>

    </div>

    <div class="col-md-6">

      <div class="contact-card text-center">

        <h4>Find Me</h4>

        <p><i class="bi bi-geo-alt-fill"></i> Pune, Maharashtra, India</p>

        <p><i class="bi bi-envelope-fill"></i> artist@example.com</p>

        <p><i class="bi bi-phone-fill"></i> +91 98765 43210</p>

        <div class="ratio ratio-16x9 mt-3">

          <iframe src="https://maps.google.com/maps?q=Mumbai&t=&z=13&ie=UTF8&iwloc=&output=embed" allowfullscreen></iframe>

        </div>

      </div>

    </div>

  </div>

</section>
```

Cart . html

```
<!-- MAIN -->

<main class="container my-5">
```

```
<h1 class="h4 mb-3">Selected Artworks</h1>
```

```

    <!-- Responsive table for cart / order
history -->

    <div class="table-responsive shadow-sm
rounded">

        <table class="table table-striped
table-bordered align-middle mb-0">

            <thead class="table-dark">

                <tr>

                    <th>Artwork</th>

                    <th>Medium</th>

                    <th class="text-center">Year</th>

                    <th class="text-end">Price
(INR)</th>

                    <th class="text-center">Status</th>

                </tr>

            </thead>

            <tbody>

                <tr>

                    <td>

                        <div class="d-flex
align-items-center gap-3">

                            <div>

                                <div
class="fw-semibold">Sunset Dreams</div>

                                <small
class="text-muted">Size: 60 × 40 cm</small>

                            </div>

                        </div>

                    </td>

```

```

                        <td>Oil on Canvas</td>

                        <td class="text-center">2024</td>

                        <td class="text-end">₹45,000</td>

                        <td class="text-center"><span
class="badge bg-success">Available</span></td>

                    </tr>

                <tr>

                    <td>

                        <div class="d-flex
align-items-center gap-3">

                            <div>

                                <div class="fw-semibold">City
Reflections</div>

                                <small
class="text-muted">Framed</small>

                            </div>

                        </div>

                    </td>

                    <td>Watercolor</td>

                    <td class="text-center">2023</td>

                    <td class="text-end">₹28,000</td>

                    <td class="text-center"><span
class="badge bg-warning text-dark">On
Hold</span></td>

                </tr>

                <tr>

                    <td colspan="3" class="text-end
fw-bold">Total</td>

```

```
        <td class="text-end fw-bold">₹73,000</td>

        <td></td>

    </tr>

</tbody>

</table>

</div>
```

```
    <!-- Checkout actions (just UI; no backend)
-->

    <div class="d-flex justify-content-end gap-2 mt-4">

        <a href="gallery.html" class="btn btn-outline-secondary">Continue Browsing</a>

        <button class="btn btn-accent">Proceed to Enquiry</button>

    </div>



</main>
```

Output :

Artist Portfolio

HomeAboutGalleryContactRegisterLoginCart

Selected Artworks

Artwork	Medium	Year	Price (INR)	Status
 <div>Sunset Dreams Size: 60 × 40 cm</div>	Oil on Canvas	2024	₹45,000	Available
 <div>City Reflections Framed</div>	Watercolor	2023	₹28,000	On Hold
Total			₹73,000	

Continue Browsing

Proceed to Enquiry

© 2023 Artist Portfolio

Artist Portfolio

HomeAboutGalleryContactRegisterLoginCart

Get in Touch

Contact Form

Name

Email

Message

Send Message

Find Me

Pune, Maharashtra, India

artist@example.com

+91 98765 43210

Mumbai

Maharashtra

View larger map

Directions

Course

SEWRI

BYCULLA

MUMBAI CENTRAL

मुंबई सेंट्रल

Mumbai

मुंबई

Amarsons Garden

Chhri Walkeshwar temple, Mumbai

Google

Keyboard shortcuts

Map data ©2025

Terms

Report a map error

Quick Links

Contact

Follow Me

Conclusion :

We successfully implemented Bootstrap form and table.

Assignment 4 : Responsive Design Using Bootstrap

Aim :

Apply Bootstrap's grid system and utility classes consistently across all pages of the Artist Portfolio Website to ensure a cohesive, responsive layout and polished alignment behavior.

Theory :

1. Introduction to Responsive Web Design

Responsive Web Design (RWD) is an approach to web development where a website's layout, images, and interactive elements automatically adjust to fit various screen sizes and devices. The core idea is to provide an optimal viewing and interaction experience easy reading, minimal resizing, and smooth navigation across a wide range of devices, from mobile phones to desktop monitors.

The term was popularized by Ethan Marcotte in 2010 and has since become a web development standard due to the increasing diversity of devices and screen resolutions.

2. Key Principles of Responsive Design

- Fluid Grids

Instead of fixed pixel-based layouts, fluid grids use relative units (percentages, ems, rems) so that elements adapt proportionally to the screen size.

- Flexible Images

Images scale or crop according to the viewport to avoid overflow or distortion.

- Media Queries

CSS rules that apply different styles depending on the device's characteristics, such as screen width, height, orientation, or resolution.

- Mobile-First Approach

Designing for smaller screens first, then progressively enhancing the layout for larger screens.

- Viewport Meta Tag

Ensures that the browser renders the page according to the device's width.

3. Importance of Responsive Design

- **User Experience (UX):** Ensures consistency and ease of navigation.
- **Accessibility:** Improves usability for users on different devices.

- **SEO Benefits:** Google prioritizes mobile-friendly websites in search rankings.
- **Cost Efficiency:** A single website adapts to all devices, eliminating the need for multiple versions.
- **Future-Proofing:** Adaptable design can handle new device dimensions without a complete redesign.

4. Case Study: Dribbble.com

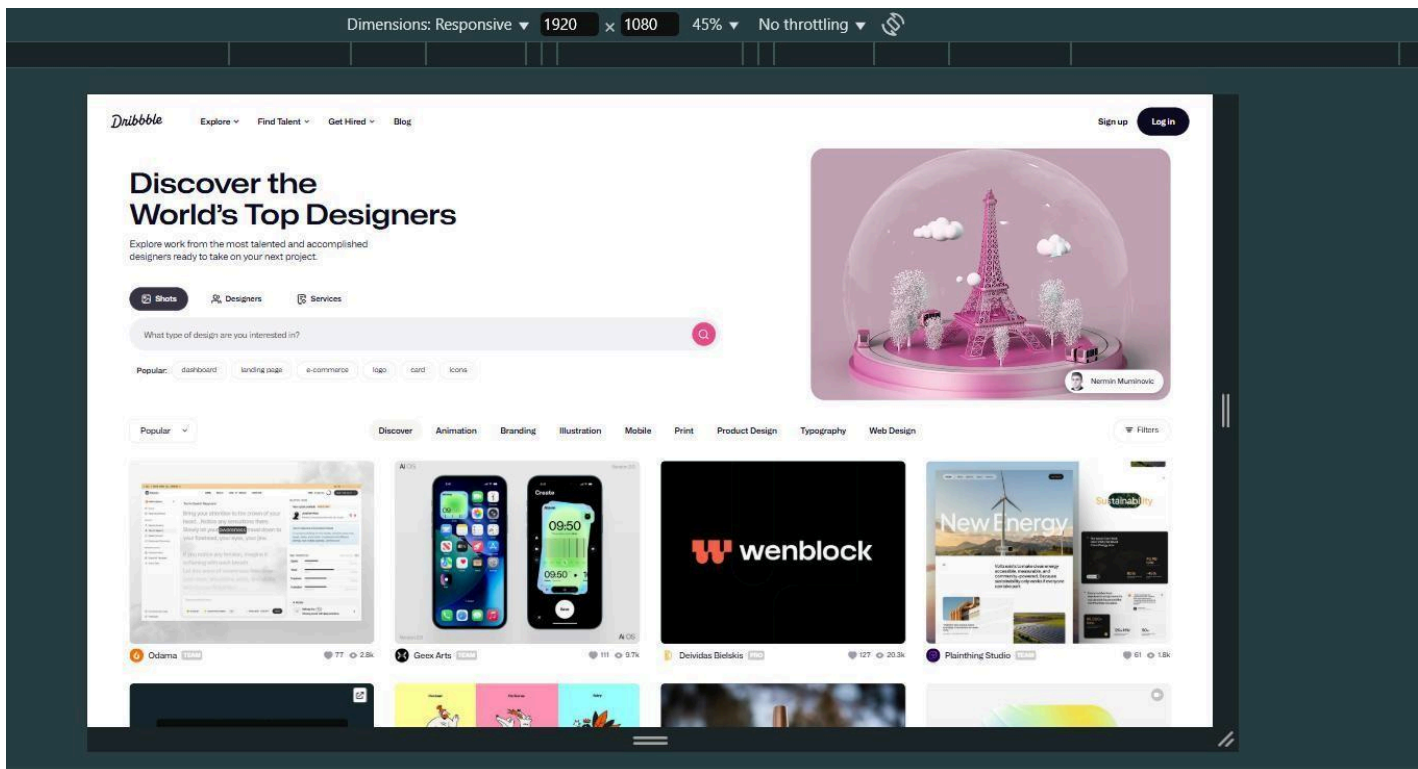
- **Website Chosen:** <https://dribbble.com>
- **Purpose:** A platform for designers to showcase creative work, find inspiration, and connect with others.

4.1 Testing Methodology

I tested Dribbble.com on various screen sizes and devices using Chrome DevTools (responsive mode) .

4.2 Observations

Desktop (1920×1080)



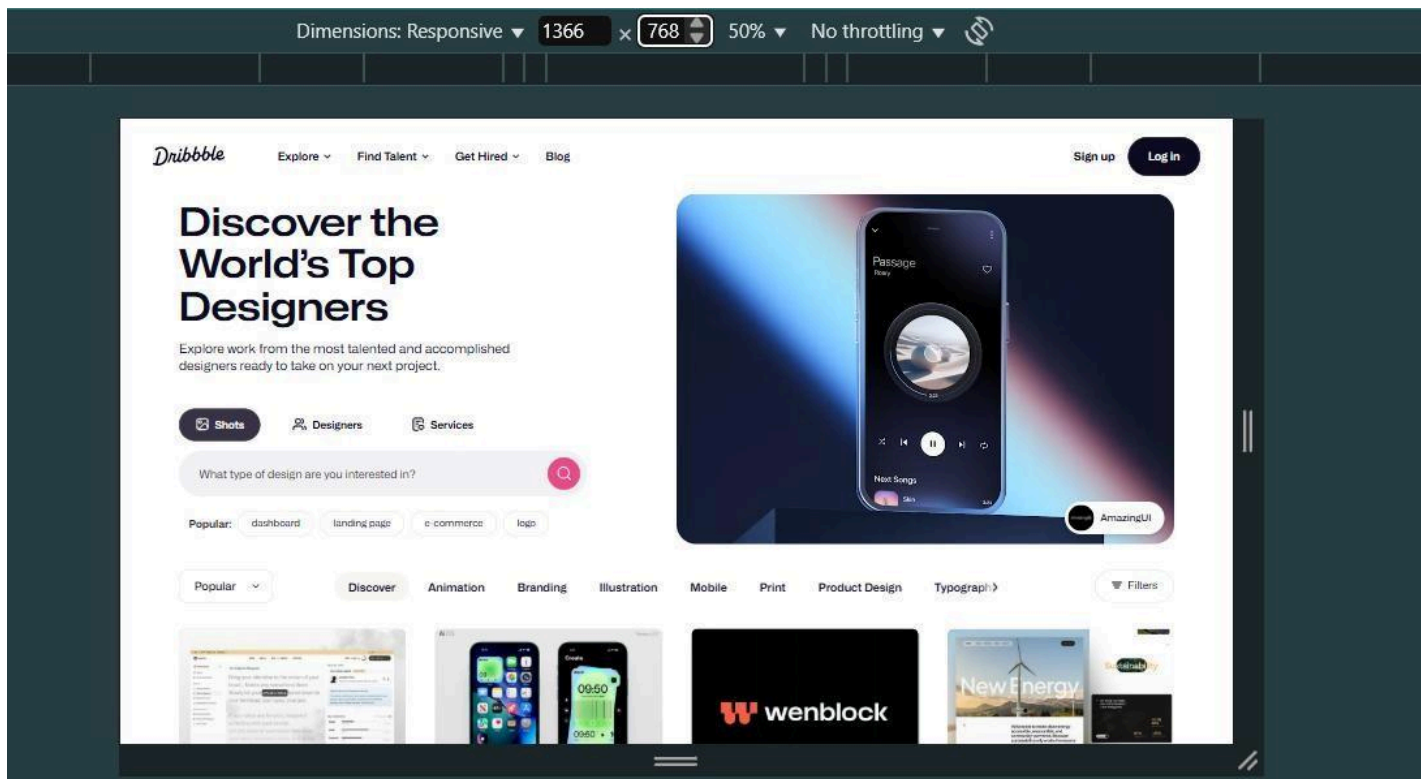
Layout: Full-width grid with multiple design cards per row, providing a spacious and visually rich display.

Navigation: Top navigation bar displays all menu items without collapsing, ensuring instant access to all sections.

Images & Media: High-resolution images load quickly and maintain clarity even on large displays.

Overall Experience: Excellent & the layout feels professional, easy to navigate, and visually appealing.

Laptop (1366×768)



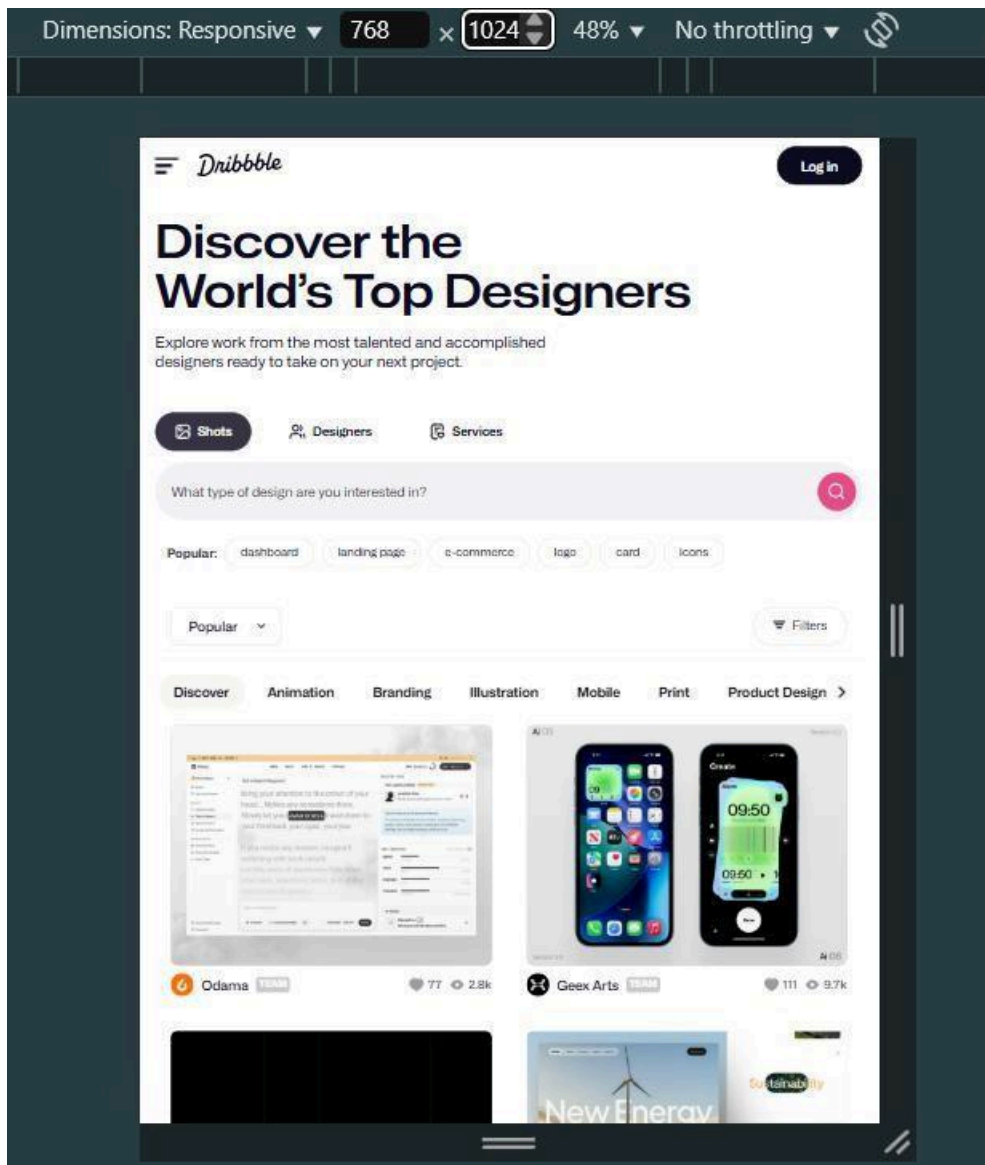
Layout: Slightly reduced card sizes compared to desktop, but still displays multiple items per row for a balanced look.

Navigation: Navigation bar remains fully visible with no need for a hamburger menu.

Images & Media: Images adjust proportionally to the smaller screen without losing quality.

Overall Experience: Very good & compact yet retains desktop-like usability.

Tablet (768×1024)



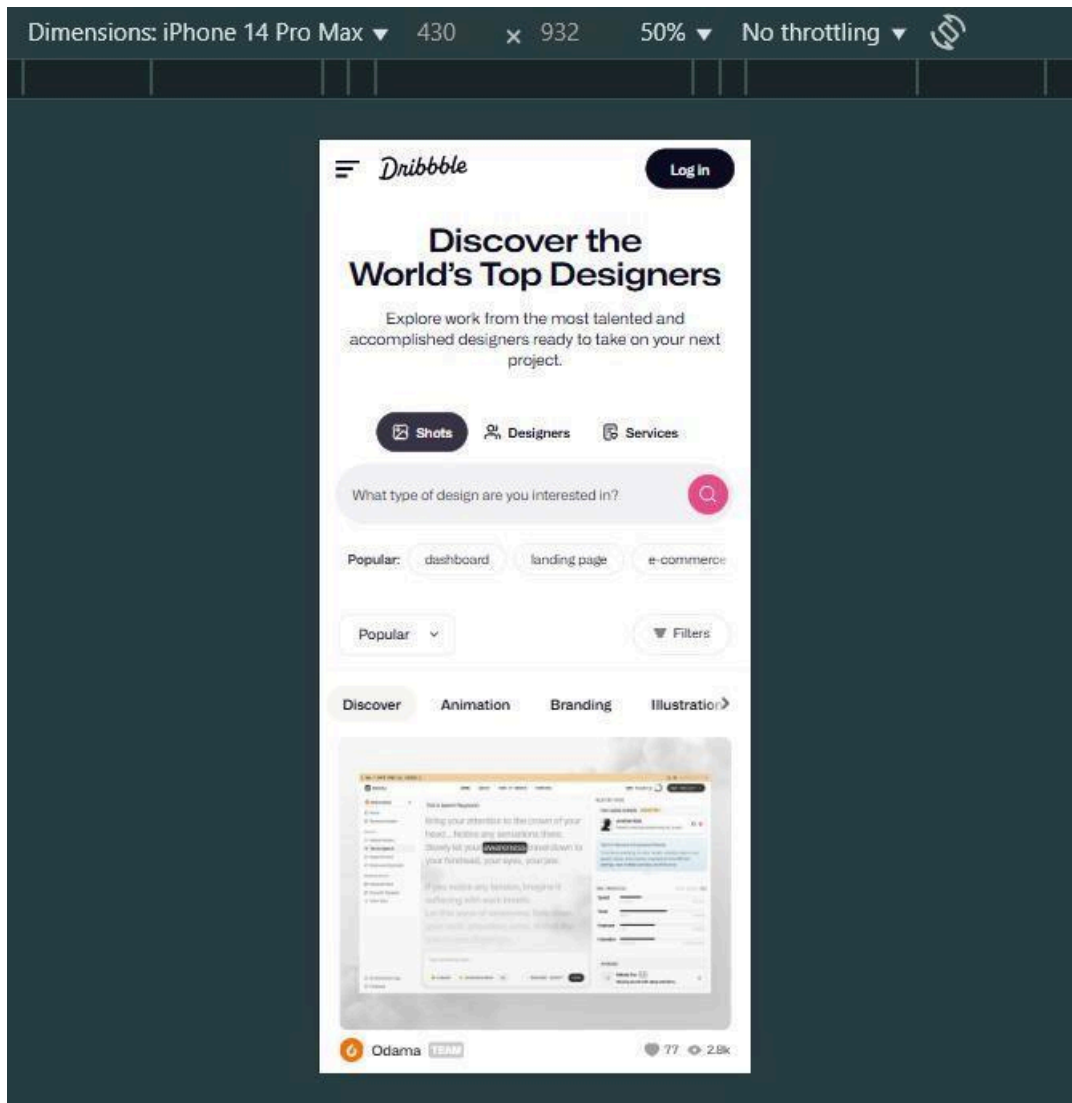
Layout: Switches to a two-column grid layout, improving readability on medium-sized screens.

Navigation: Top navigation bar partially collapses, reducing clutter while maintaining functionality.

Images & Media: Images resize smoothly and fit well without overflow or distortion.

Overall Experience: Good & comfortable viewing and easy navigation with touch controls.

Mobile – iPhone 14 Pro Max (430x932)



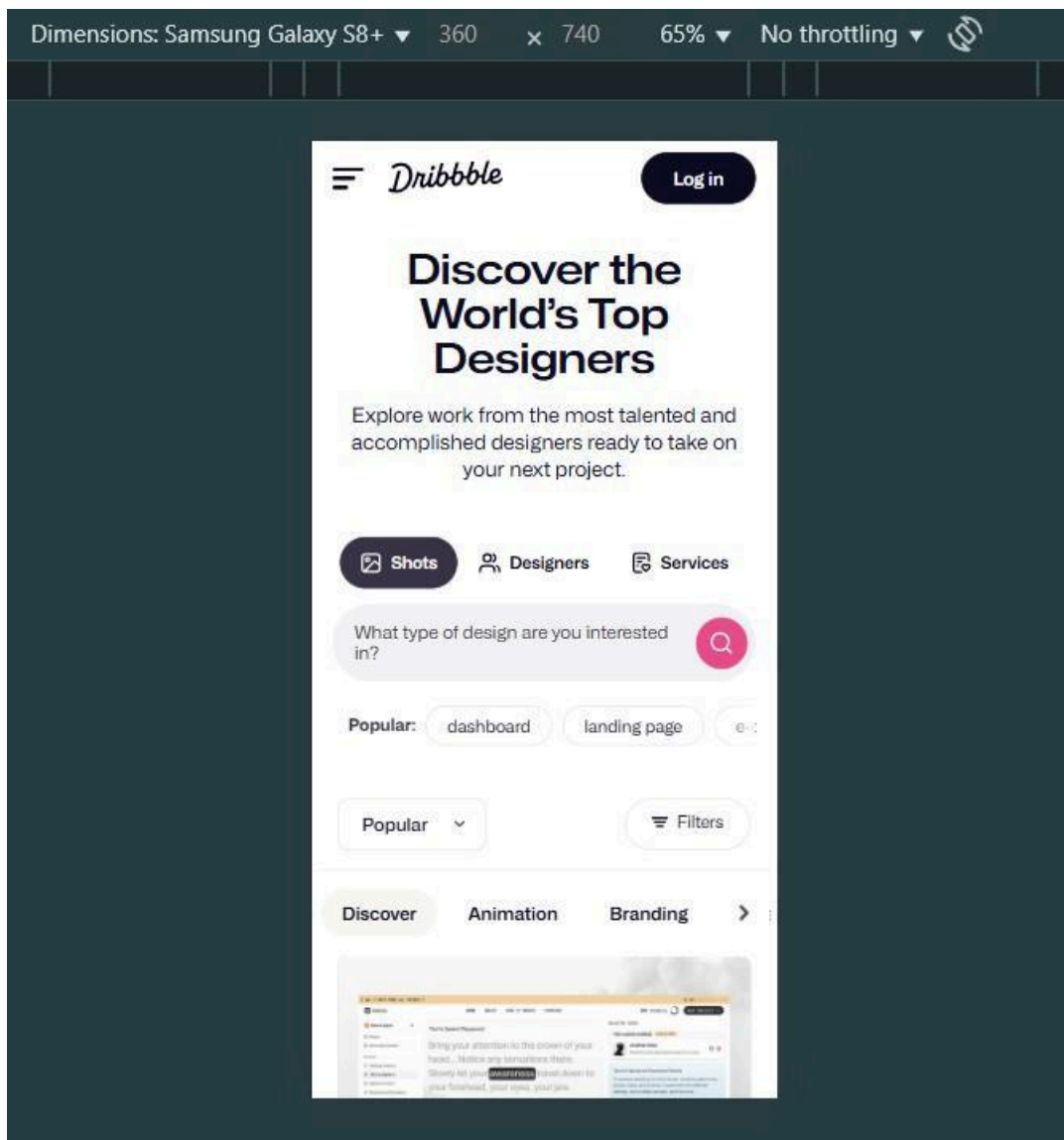
Layout: Adapts to a single-column feed for better vertical scrolling on mobile.

Navigation: Top navigation replaced by a hamburger menu to save space and improve usability.

Images & Media: Images span full width and scale perfectly for mobile viewing.

Overall Experience: Excellent & optimized for mobile with intuitive navigation.

Mobile – Samsung Galaxy S8+ (360x740)



Layout: Maintains single-column format but with larger touch targets to enhance tap accuracy.

Navigation: Fully collapsed into a hamburger menu for a cleaner interface.

Images & Media: Optimized for small displays, loading without horizontal scroll issues.

Overall Experience: Smooth & performs well, though page loading may feel slightly heavy on slower networks.

5. Breakpoint Description

Breakpoint	Description
1920 px – 1080 px	Desktop Screen
1366 px – 768 px	Laptop Screen
768 px – 1024 px	Tablet Screen
430 px – 932 px	iPhone Screen (Large)
360 px – 740 px	Samsung S8 + Screen (Normal)

Code:

Index-

```
<header class="hero text-center d-flex align-items-center">
  <div class="container">
    <div class="row">
      <div class="col-12">
        <h1 class="display-5 fw-bold text-white mb-2">Welcome
to My Art World</h1>
        <p class="lead text-white-50 mb-4">Paintings, drawings
and stories — curated for collectors and enthusiasts.</p>

        <!-- CTA row: flex utilities + gap + responsive wrap -->
        <div class="d-flex justify-content-center gap-3 flex-wrap">
          <a href="gallery.html" class="btn btn-accent btn-lg
px-4">View Gallery</a>
          <a href="about.html" class="btn btn-outline-light btn-lg
px-4">About the Artist</a>
        </div>
      </div>
    </div>
  </div>
</header>
```

About-

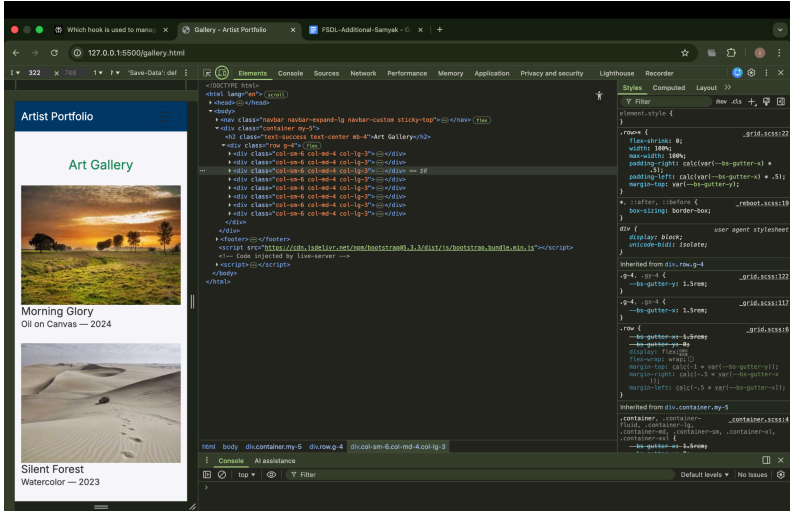
```
<section class="section-light fade-in">
  <div class="container">
    <h2 class="text-primary mb-4">Artistic Journey</h2>
    <div class="timeline">
      <div class="timeline-item">
        <h5>2018</h5>
        <p>First group exhibition in Mumbai showcasing
watercolor works.</p>
      </div>
      <div class="timeline-item">
        <h5>2020</h5>
        <p>Solo exhibition "Urban Silence" focusing on
```

```
cityscapes.</p>
    </div>
    <div class="timeline-item">
      <h5>2023</h5>
      <p>International art residency in Paris exploring abstract
techniques.</p>
    </div>
  </div>
</div>
</section>
```

Gallery-

```
<!-- Multi-column gallery: 1 col (xs) -> 2 cols (md) -> 4 cols (lg)
-->
<div class="row row-cols-1 row-cols-md-2 row-cols-lg-4 g-4">
  <div class="col">
    <div class="card card-custom h-100">
      <div class="gallery-card">
        
      </div>
      <div class="card-body d-flex flex-column">
        <h5 class="card-title">Morning Glory</h5>
        <p class="text-muted small mb-3">Oil on canvas —
2024</p>
        <div class="mt-auto d-flex justify-content-between
align-items-center">
          <span class="small text-muted">Size: 60 × 40 cm</span>
          <a href="#" class="btn btn-sm btn-accent">Enquire</a>
        </div>
      </div>
    </div>
  </div>
  <!-- repeat cards -->
</div>
```

Output:



Conclusion:

We successfully implemented and tested Responsive Design Using Bootstrap.

Conclusion:

We successfully implemented and tested Responsive Design Using Bootstrap.
