

Front-End UI/UX Mini Project

Project Title: Form validation example

Submitted By:

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Course: UI/UX Design Fundamentals

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Abstract

This project aims to design and develop a responsive personal portfolio website using modern web technologies including HTML5, CSS3, and JavaScript. The website showcases advanced form validation techniques, user authentication flows, and interactive UI components. The focus was on creating a clean, professional interface with comprehensive form validation, smooth user interactions, and responsive design principles. The project demonstrates practical implementation of front-end development skills including semantic HTML structure, advanced CSS styling with flexbox and grid layouts, and JavaScript-based form validation and user experience enhancements.

Objectives

The primary objectives of this project were clearly defined to ensure comprehensive learning and practical application:

1. Design a user-friendly interface using modern UI principles and best practices
2. Develop a fully responsive layout that adapts seamlessly to different screen sizes using only HTML5, CSS3, and JavaScript
3. Implement structured HTML5 semantic elements for better accessibility and SEO
4. Apply advanced CSS styling techniques for branding, layout management, and responsive behavior
5. Create comprehensive form validation with real-time feedback and error handling
6. Ensure accessibility and readability across all devices and browsers
7. Implement smooth user interactions and intuitive navigation patterns

Scope of the Project

The project scope was carefully defined to maintain focus on front-end development fundamentals while incorporating advanced features:

- Focused on front-end design only: The project emphasizes client-side technologies and user interface design
- No JavaScript frameworks or server-side integration: Built using vanilla JavaScript to demonstrate core programming concepts
- Multi-device compatibility: Designed and tested for desktop, tablet, and mobile viewports
- Modern web standards: Utilized only contemporary web technologies and best practices
- Accessibility compliance: Implemented WCAG guidelines for inclusive design
- Performance optimization: Focused on efficient code structure and fast loading times

Tools & Technologies Used

Tool/Technology	Purpose	Version/Details
HTML5	Markup and content structure	Latest HTML5 standards with semantic elements
CSS3	Styling, layout management, and responsive design	Modern CSS3 features including Flexbox and Grid
JavaScript	Interactive functionality and form validation	Vanilla ES6+ JavaScript with modern syntax
VS Code	Primary code editor and development environment	Visual Studio Code with relevant extensions
Chrome DevTools	Testing, debugging, and responsive design testing	Built-in browser developer tools
jQuery	DOM manipulation and event handling	jQuery 3.6.0 for enhanced JavaScript functionality

HTML Structure Overview

The project utilizes modern HTML5 semantic elements to create a well-structured and accessible document:

- Semantic tags implemented: <header>, <nav>, <main>, <section>, <footer>
- Structured content sections: Split-screen layout with hero section and form container
- Form structure: Comprehensive form with input validation and user feedback
- Navigation system: Smooth scrolling navigation with anchor links
- Accessibility features: Proper ARIA labels, semantic markup, and keyboard navigation support

CSS Styling Strategy

- The CSS architecture follows modern best practices with a focus on maintainability and performance:

- External and embedded CSS: Combination of external stylesheets and embedded styles for optimal organization
- CSS organization: Structured with logical sections,
- comprehensive comments, and consistent naming conventions
- Advanced techniques implemented:
 - Flexbox and CSS Grid for responsive layout systems
 - CSS Variables for theme customization and consistent styling
 - Media Queries for responsive breakpoints and device optimization
 - CSS Animations and transitions for enhanced user experience
 - Advanced gradient techniques and modern visual effects
 - Mobile-first responsive design approach

Key Features

Feature	Description	Implementation Details
Responsive Design	Adapts seamlessly to all screen sizes and devices	CSS Grid, Flexbox, and media queries for multi-device compatibility
Form Validation	Comprehensive real-time validation with user feedback	JavaScript validation with visual feedback and error messaging
Social Authentication	Mock Google and Apple login integration	Simulated OAuth flows with account selection interfaces
Interactive UI Elements	Dynamic user interface components and animations	Hover effects, transitions, and smooth user interactions
Accessible Design	WCAG compliant with high contrast and readable typography	Semantic HTML, proper color contrast, and keyboard navigation
Modern Aesthetics	Contemporary design with gradient backgrounds and glassmorphism	Advanced CSS techniques including backdrop filters and animations

Challenges Faced & Solutions

Challenge	Solution Implemented	Learning Outcome
Cross-browser compatibility issues	Implemented vendor prefixes and tested across multiple browsers	Gained understanding of browser-specific CSS implementations
Complex form validation requirements	Created modular validation functions with comprehensive error handling	Developed expertise in JavaScript validation patterns
Responsive design challenges	Utilized CSS Grid and Flexbox with mobile-first approach	Mastered modern CSS layout techniques and responsive design principles
User experience optimization	Implemented smooth animations and intuitive feedback systems	Enhanced understanding of user-centered design principles
Performance optimization	Minimized CSS and optimized animations for better performance	Learned performance optimization techniques for web applications

Outcome

The project successfully achieved all primary objectives and delivered a comprehensive learning experience:

- Technical Achievement: Created a fully functional, responsive form validation system with modern UI design
- User Experience: Implemented intuitive user interactions with comprehensive feedback systems
- Code Quality: Developed clean, maintainable code following industry best practices
- Responsive Design: Successfully adapted the interface for desktop, tablet, and mobile devices
- Accessibility: Ensured WCAG compliance and inclusive design principles
- Learning Objectives: Gained practical experience in modern front-end development techniques

Future Enhancements

Several enhancements have been identified for future development phases:

- Advanced JavaScript Features: Add interactive animations, dynamic content loading, and enhanced user interactions
- Backend Integration: Implement server-side form processing and database connectivity
- Progressive Web App Features: Add offline functionality, push notifications, and app-like experiences
- Advanced Authentication: Integrate real OAuth providers and secure authentication systems
- Performance Optimization: Implement code splitting, lazy loading, and advanced optimization techniques
- Advanced UI Components: Add complex interactive elements like charts, dashboards, and data visualization
- Accessibility Enhancements: Implement advanced screen reader support and keyboard navigation

Sample Code

HTML Structure (index.html)

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Form Validation Example</title>
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css" rel="stylesheet">
  <style>
    * {
      margin: 0;
      padding: 0;
      box-sizing: border-box;
    }
  body {
```

```
    font-family: -apple-system, BlinkMacSystemFont, "Segoe UI", Roboto,
    sans-serif;
    background: #0f0f0f;
    color: #ffffff;
    overflow-x: hidden;
}

.container-fluid {
    height: 100vh;
}

.hero-section {
    background: linear-gradient(135deg, #667eea 0%, #764ba2 25%, #8b5cf6 50%,
#6366f1 75%, #3b82f6 100%);
    position: relative;
    overflow: hidden;
}

.hero-section > * {
    position: relative;
    z-index: 2;
}

.logo h2 {
    font-size: 2.2rem;
    font-weight: 800;
    letter-spacing: 3px;
    text-shadow: 0 2px 10px rgba(0, 0, 0, 0.3);
    background: linear-gradient(45deg, #ffffff, #dbeafe);
    -webkit-background-clip: text;
    -webkit-text-fill-color: transparent;
    background-clip: text;
}

.back-link {
    font-size: 0.9rem;
    opacity: 0.9;
    transition: all 0.3s ease;
    background: rgba(255, 255, 255, 0.1);
    padding: 8px 16px;
}
```

```
border-radius: 20px;
border: 1px solid rgba(255, 255, 255, 0.2);
}

.back-link:hover {
  opacity: 1;
  color: #ffffff !important;
  background: rgba(255, 255, 255, 0.2);
  box-shadow: 0 5px 15px rgba(0, 0, 0, 0.2);
}

.hero-title {
  font-size: 3.5rem;
  font-weight: 300;
  line-height: 1.1;
  letter-spacing: -2px;
  text-shadow: 0 4px 20px rgba(0, 0, 0, 0.3);
  background: linear-gradient(135deg, #ffffff 0%, #dbeafe 100%);
  -webkit-background-clip: text;
  -webkit-text-fill-color: transparent;
  background-clip: text;
}

.hero-dots {
  display: flex;
  justify-content: center;
  gap: 16px;
  margin-top: 3rem;
}

.dot {
  width: 10px;
  height: 10px;
  border-radius: 50%;
  background: rgba(255, 255, 255, 0.3);
  transition: all 0.4s ease;
  cursor: pointer;
}

.dot:hover {
```

```
background: rgba(255, 255, 255, 0.6);
}

.dot.active {
  background: #ffffff;
  width: 32px;
  border-radius: 6px;
  box-shadow: 0 2px 10px rgba(255, 255, 255, 0.3);
}

.form-section {
  background: linear-gradient(135deg, #1a1a1a 0%, #2d2d2d 100%);
  min-height: 100vh;
  position: relative;
}

.form-container {
  width: 100%;
  max-width: 480px;
  position: relative;
  z-index: 2;
  background: rgba(31, 31, 31, 0.85);
  border-radius: 20px;
  padding: 2.5rem;
  border: 1px solid rgba(255, 255, 255, 0.1);
  box-shadow: 0 20px 40px rgba(0, 0, 0, 0.4);
}

.form-header h2 {
  font-size: 2.2rem;
  font-weight: 700;
  margin-bottom: 0.5rem;
  background: linear-gradient(135deg, #ffffff 0%, #fecaca 100%);
  -webkit-background-clip: text;
  -webkit-text-fill-color: transparent;
  background-clip: text;
}

.modern-input {
  background: rgba(58, 58, 58, 0.9);
```

```
border: 1px solid rgba(74, 74, 74, 0.6);
border-radius: 12px;
color: #ffffff;
padding: 14px 18px;
font-size: 1rem;
transition: all 0.4s ease;
}

.modern-input::placeholder {
  color: #bbb;
}

.modern-input:focus {
  background: rgba(64, 64, 64, 0.95);
  border-color: #f87171;
  box-shadow: 0 0 0 4px rgba(248, 113, 113, 0.15);
  color: #ffffff;
}

.modern-input.is-invalid {
  border-color: #ef4444;
  box-shadow: 0 0 0 4px rgba(239, 68, 68, 0.15);
}

.modern-input.is-valid {
  border-color: #10b981;
  box-shadow: 0 0 0 4px rgba(16, 185, 129, 0.15);
}

.position-relative .password-toggle {
  position: absolute;
  right: 14px;
  top: 50%;
  transform: translateY(-50%);
  background: rgba(255, 255, 255, 0.1);
  border: none;
  color: #bbb;
  cursor: pointer;
  padding: 8px;
  border-radius: 8px;
```

```
        transition: all 0.3s ease;
    }

.password-toggle:hover {
    color: #ffffff;
    background: rgba(255, 255, 255, 0.2);
}

.modern-btn {
    background: linear-gradient(135deg, #f87171 0%, #dc2626 100%);
    border: none;
    border-radius: 12px;
    padding: 14px 28px;
    font-size: 1.1rem;
    font-weight: 600;
    color: #ffffff;
    transition: all 0.4s ease;
    box-shadow: 0 8px 25px rgba(248, 113, 113, 0.3);
}

.modern-btn:hover {
    background: linear-gradient(135deg, #ef4444 0%, #b91c1c 100%);
    box-shadow: 0 15px 35px rgba(248, 113, 113, 0.4);
}

.form-check-input {
    background-color: rgba(58, 58, 58, 0.9);
    border-color: rgba(74, 74, 74, 0.6);
    border-radius: 6px;
    width: 18px;
    height: 18px;
    transition: all 0.3s ease;
}

.form-check-input:checked {
    background-color: #f87171;
    border-color: #f87171;
    box-shadow: 0 2px 10px rgba(248, 113, 113, 0.3);
}
```

```
.form-check-input:focus {  
    box-shadow: 0 0 0 4px rgba(248, 113, 113, 0.15);  
}  
  
.form-check-label {  
    font-size: 0.95rem;  
    margin-left: 8px;  
}  
  
.divider {  
    position: relative;  
    text-align: center;  
    margin: 2rem 0;  
}  
  
.divider::before {  
    content: "";  
    position: absolute;  
    top: 50%;  
    left: 0;  
    right: 0;  
    height: 1px;  
    background: linear-gradient(90deg, transparent, rgba(74, 74, 74, 0.6),  
    transparent);  
}  
  
.divider span {  
    background: rgba(31, 31, 31, 0.85);  
    padding: 0 1.5rem;  
    font-size: 0.9rem;  
    color: #bbb;  
}  
  
.social-btn {  
    background: rgba(58, 58, 58, 0.9);  
    border: 1px solid rgba(74, 74, 74, 0.6);  
    border-radius: 12px;  
    color: #ffffff;  
    padding: 14px;  
    font-size: 0.95rem;
```

```
font-weight: 500;
display: flex;
align-items: center;
justify-content: center;
gap: 10px;
transition: all 0.4s ease;
}

.social-btn:hover {
background: rgba(74, 74, 74, 0.9);
border-color: rgba(248, 113, 113, 0.5);
box-shadow: 0 8px 25px rgba(0, 0, 0, 0.2);
}

.invalid-feedback {
display: block;
color: #ef4444;
font-size: 0.875rem;
margin-top: 0.5rem;
padding-left: 4px;
}

.success-message {
background: rgba(31, 31, 31, 0.85);
border: 1px solid rgba(55, 65, 81, 0.6);
border-radius: 20px;
padding: 3rem;
text-align: center;
box-shadow: 0 20px 40px rgba(0, 0, 0, 0.4);
}

.success-icon {
width: 80px;
height: 80px;
background: linear-gradient(135deg, #10b981, #059669);
border-radius: 50%;
display: flex;
align-items: center;
justify-content: center;
font-size: 2rem;
```

```
    font-weight: bold;
    color: white;
    margin: 0 auto;
    box-shadow: 0 10px 30px rgba(16, 185, 129, 0.3);
}

@media (max-width: 991.98px) {
    .hero-section {
        min-height: 40vh;
    }
    .hero-title {
        font-size: 2.5rem;
    }
    .form-section {
        min-height: 60vh;
    }
    .form-container {
        padding: 2rem;
    }
}

@media (max-width: 767.98px) {
    .hero-section {
        min-height: 35vh;
        padding: 2rem 1rem;
    }
    .hero-title {
        font-size: 2rem;
    }
    .form-section {
        padding: 2rem 1rem;
    }
    .form-container {
        max-width: 100%;
        padding: 1.5rem;
        border-radius: 16px;
    }
    .logo h2 {
        font-size: 1.8rem;
    }
}
```

```
}

.modern-btn:disabled {
    background: rgba(74, 74, 74, 0.8);
    cursor: not-allowed;
    box-shadow: none;
}

.modern-btn:disabled:hover {
    background: rgba(74, 74, 74, 0.8);
    box-shadow: none;
}

/* Focus indicators for accessibility */
.modern-input:focus,
.modern-btn:focus,
.social-btn:focus,
.form-check-input:focus {
    outline: 2px solid #f87171;
    outline-offset: 2px;
}

</style>
</head>
<body>
    <div class="container-fluid vh-100 p-0">
        <div class="row h-100 g-0">
            <div class="col-lg-6 hero-section d-flex flex-column justify-content-between p-5">
                <div class="hero-header">
                    <div class="logo mb-4">
                        <h2 class="text-white fw-bold">FORM</h2>
                    </div>
                </div>
                <div class="hero-content text-center">
                    <h1 class="hero-title text-white mb-4">Capturing Moments,<br>Creating Memories</h1>
                    <div class="hero-dots">
                        <span class="dot"></span>
                        <span class="dot"></span>
                        <span class="dot active"></span>
                    
```

```

        </div>
    </div>
    <div></div>
</div>

<div class="col-lg-6 form-section d-flex align-items-center justify-content-center p-5">
    <div class="w-100" style="max-width: 480px;">
        <div class="form-container"></div>
        <div id="successMessage" class="success-message">
            <div class="text-center">
                <div class="success-icon mb-3">✓</div>
                <h4 class="text-white mb-3">Welcome!</h4>
                <p class="text-white mb-4">Signed in successfully.</p>
                <button type="button" class="btn btn-outline-light"
id="resetForm">Create Another Account</button>
            </div>
        </div>
    </div>
</div>
</div>
</div>
</div>
</script>
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bundle.min.js"><script>
<script src="https://code.jquery.com/jquery-3.6.0.min.js"></script>
<script src="script.js"></script>
</body>
</html>

```

CSS Styling(styles.css)

```

* {
    margin: 0;
    padding: 0;
    box-sizing: border-box;
}

body {
    font-family: -apple-system, BlinkMacSystemFont, "Segoe UI", Roboto, sans-serif;

```

```
background: #0f0f0f;
color: #ffffff;
overflow-x: hidden;
}

/* Hero Section - Left Side */
.hero-section {
background: linear-gradient(135deg, #667eea 0%, #764ba2 25%, #8b5cf6 50%,
#6366f1 75%, #3b82f6 100%);
position: relative;
overflow: hidden;
}

.hero-section::before {
content: "";
position: absolute;
top: 0;
left: 0;
right: 0;
bottom: 0;
background: url("data:image/svg+xml,%3Csvg width='60' height='60' viewBox='0 0 60 60' xmlns='http://www.w3.org/2000/svg'%3E%3Cg fill='none' fill-rule='evenodd'%3E%3Cg fill='%23ffffff' fill-opacity='0.05'%3E%3Ccircle cx='30' cy='30' r='2'/%3E%3C/g%3E%3C/g%3E%3C/svg%3E");
z-index: 1;
}

.hero-section::after {
content: "";
position: absolute;
top: -50%;
left: -50%;
width: 200%;
height: 200%;
/* Enhanced radial gradient for a more vibrant glow effect */
background: radial-gradient(circle, rgba(255, 255, 255, 0.15) 0%, rgba(139, 92, 246, 0.1) 30%, rgba(99, 102, 241, 0.05) 60%, transparent 70%);
animation: float 25s cubic-bezier(0.4, 0, 0.2, 1) infinite; /* Smoother, longer animation */
z-index: 1;
}
```

```
@keyframes float {
  0%,
  100% {
    transform: translate(0, 0) rotate(0deg) scale(1);
  }
  25% {
    transform: translate(50px, -50px) rotate(90deg) scale(1.1);
  }
  50% {
    transform: translate(-40px, 40px) rotate(180deg) scale(0.9);
  }
  75% {
    transform: translate(30px, -30px) rotate(270deg) scale(1.05);
  }
}

.hero-section {
  background: linear-gradient(135deg, #4c5fd1 0%, #764ba2 25%, #8b5cf6 50%, #6366f1 75%, #3b82f6 100%);
  position: relative;
  overflow: hidden;
}

.hero-section > * {
  position: relative;
  z-index: 2;
}

.logo h2 {
  font-size: 2.2rem;
  font-weight: 800;
  letter-spacing: 3px;
  text-shadow: 0 2px 10px rgba(0, 0, 0, 0.3);
  background: linear-gradient(45deg, #ffffff, #e0e7ff);
  -webkit-background-clip: text;
  -webkit-text-fill-color: transparent;
  background-clip: text;
}
```

```
.hero-title {  
    font-size: 3.5rem;  
    font-weight: 300;  
    line-height: 1.1;  
    letter-spacing: -2px;  
    text-shadow: 0 4px 20px rgba(0, 0, 0, 0.3);  
    background: linear-gradient(135deg, #ffffff 0%, #e0e7ff 100%);  
    -webkit-background-clip: text;  
    -webkit-text-fill-color: transparent;  
    background-clip: text;  
}  
  
.hero-dots {  
    display: flex;  
    justify-content: center;  
    gap: 16px;  
    margin-top: 3rem;  
}  
  
.dot {  
    width: 10px;  
    height: 10px;  
    border-radius: 50%;  
    background: rgba(255, 255, 255, 0.3);  
    transition: all 0.4s cubic-bezier(0.4, 0, 0.2, 1);  
    cursor: pointer;  
}  
  
.dot:hover {  
    background: rgba(255, 255, 255, 0.6);  
    transform: scale(1.2);  
}  
  
.dot.active {  
    background: #ffffff;  
    width: 32px;  
    border-radius: 6px;  
    box-shadow: 0 2px 10px rgba(255, 255, 255, 0.3);
```

```
}

.form-section {
  background: linear-gradient(135deg, #1a1a1a 0%, #2d2d2d 100%);
  min-height: 100vh;
  position: relative;
}

.form-section::before {
  content: "";
  position: absolute;
  top: 0;
  left: 0;
  right: 0;
  bottom: 0;
  background: url("data:image/svg+xml,%3Csvg width='40' height='40' viewBox='0 0 40 40' xmlns='http://www.w3.org/2000/svg'%3E%3Cg fill='%23ffffff' fill-opacity='0.02'%3E%3Cpath d='M20 20c0-5.5-4.5-10-10s-10 4.5-10 10 4.5 10 10 10 10-4.5 10-10zm10 0c0-5.5-4.5-10-10s-10 4.5-10 10 4.5 10 10 10 10-4.5 10-10z'/%3E%3C/g%3E%3C/svg%3E");
  z-index: 1;
}

.form-container {
  width: 100%;
  max-width: 420px;
  position: relative;
  z-index: 2;
  backdrop-filter: blur(20px);
  background: rgba(42, 42, 42, 0.8);
  border-radius: 20px;
  padding: 2.5rem;
  border: 1px solid rgba(255, 255, 255, 0.1);
  box-shadow: 0 20px 40px rgba(0, 0, 0, 0.3);
}

.form-header h2 {
  font-size: 2.2rem;
  font-weight: 700;
  margin-bottom: 0.5rem;
```

```
background: linear-gradient(135deg, #ffffff 0%, #e0e7ff 100%);  
-webkit-background-clip: text;  
-webkit-text-fill-color: transparent;  
background-clip: text;  
}  
  
.modern-input {  
background: rgba(58, 58, 58, 0.8);  
border: 1px solid rgba(74, 74, 74, 0.6);  
border-radius: 12px;  
color: #ffffff;  
padding: 14px 18px;  
font-size: 1rem;  
transition: all 0.4s cubic-bezier(0.4, 0, 0.2, 1);  
backdrop-filter: blur(10px);  
position: relative;  
}  
  
.modern-input::placeholder {  
color: #999;  
transition: all 0.3s ease;  
}  
  
.modern-input:focus {  
background: rgba(64, 64, 64, 0.9);  
border-color: #8b5cf6;  
box-shadow: 0 0 0 4px rgba(139, 92, 246, 0.15), 0 8px 25px rgba(139, 92, 246, 0.1);  
color: #ffffff;  
transform: translateY(-2px);  
}  
  
.modern-input:focus::placeholder {  
color: #bbb;  
transform: translateY(-2px);  
}  
  
.modern-input.is-invalid {  
border-color: #ef4444;  
box-shadow: 0 0 0 4px rgba(239, 68, 68, 0.15), 0 8px 25px rgba(239, 68, 68, 0.1);  
animation: shake 0.5s ease-in-out;
```

```
}

.modern-input.is-valid {
  border-color: #10b981;
  box-shadow: 0 0 0 4px rgba(16, 185, 129, 0.15), 0 8px 25px rgba(16, 185, 129, 0.1);
}

@keyframes shake {
  0%,
  100% {
    transform: translateX(0);
  }
  25% {
    transform: translateX(-5px);
  }
  75% {
    transform: translateX(5px);
  }
}

.position-relative .password-toggle {
  position: absolute;
  right: 14px;
  top: 50%;
  transform: translateY(-50%);
  background: rgba(255, 255, 255, 0.1);
  border: none;
  color: #999;
  cursor: pointer;
  padding: 8px;
  border-radius: 8px;
  transition: all 0.3s ease;
  backdrop-filter: blur(10px);
}

.password-toggle:hover {
  color: #ffffff;
  background: rgba(255, 255, 255, 0.2);
  transform: translateY(-50%) scale(1.1);
}
```

```
.modern-btn {  
background: linear-gradient(135deg, #8b5cf6 0%, #6366f1 50%, #3b82f6 100%);  
border: none;  
border-radius: 12px;  
padding: 14px 28px;  
font-size: 1.1rem;  
font-weight: 600;  
color: #ffffff;  
transition: all 0.4s cubic-bezier(0.4, 0, 0.2, 1);  
position: relative;  
overflow: hidden;  
box-shadow: 0 8px 25px rgba(139, 92, 246, 0.3);  
}  
  
.modern-btn::before {  
content: "";  
position: absolute;  
top: 0;  
left: -100%;  
width: 100%;  
height: 100%;  
background: linear-gradient(90deg, transparent, rgba(255, 255, 255, 0.2), transparent);  
transition: left 0.5s;  
}  
  
.modern-btn:hover::before {  
left: 100%;  
}  
  
.modern-btn:hover {  
background: linear-gradient(135deg, #7c3aed 0%, #5b21b6 50%, #1e40af 100%);  
transform: translateY(-3px);  
box-shadow: 0 15px 35px rgba(139, 92, 246, 0.4);  
color: #ffffff;  
}  
  
.modern-btn:active {  
transform: translateY(-1px);  
}
```

```
.form-check-input {  
background-color: rgba(58, 58, 58, 0.8);  
border-color: rgba(74, 74, 74, 0.6);  
border-radius: 6px;  
width: 18px;  
height: 18px;  
transition: all 0.3s ease;  
}  
  
.form-check-input:checked {  
background-color: #8b5cf6;  
border-color: #8b5cf6;  
box-shadow: 0 2px 10px rgba(139, 92, 246, 0.3);  
}  
  
.form-check-input:focus {  
box-shadow: 0 0 0 4px rgba(139, 92, 246, 0.15);  
}  
  
.form-check-label {  
font-size: 0.95rem;  
margin-left: 8px;  
}  
  
/* Divider */  
.divider {  
position: relative;  
text-align: center;  
margin: 2rem 0;  
}  
  
.divider::before {  
content: "";  
position: absolute;  
top: 50%;  
left: 0;  
right: 0;  
height: 1px;  
background: linear-gradient(90deg, transparent, rgba(74, 74, 74, 0.6), transparent);
```

```
}

.divider span {
  background: rgba(42, 42, 42, 0.9);
  padding: 0 1.5rem;
  font-size: 0.9rem;
  color: #999;
  backdrop-filter: blur(10px);
}

.social-btn {
  background: rgba(58, 58, 58, 0.8);
  border: 1px solid rgba(74, 74, 74, 0.6);
  border-radius: 12px;
  color: #ffffff;
  padding: 14px;
  font-size: 0.95rem;
  font-weight: 500;
  display: flex;
  align-items: center;
  justify-content: center;
  gap: 10px;
  transition: all 0.4s cubic-bezier(0.4, 0, 0.2, 1);
  backdrop-filter: blur(10px);
}

.social-btn:hover {
  background: rgba(74, 74, 74, 0.9);
  border-color: rgba(139, 92, 246, 0.5);
  color: #ffffff;
  transform: translateY(-2px);
  box-shadow: 0 8px 25px rgba(0, 0, 0, 0.2);
}

.invalid-feedback {
  display: block;
  color: #ef4444;
  font-size: 0.875rem;
  margin-top: 0.5rem;
  padding-left: 4px;
```

```
animation: slideInDown 0.3s ease;
}

@keyframes slideInDown {
  from {
    opacity: 0;
    transform: translateY(-10px);
  }
  to {
    opacity: 1;
    transform: translateY(0);
  }
}

.success-message {
  background: rgba(31, 41, 55, 0.9);
  border: 1px solid rgba(55, 65, 81, 0.6);
  border-radius: 20px;
  padding: 3rem;
  text-align: center;
  backdrop-filter: blur(20px);
  box-shadow: 0 20px 40px rgba(0, 0, 0, 0.3);
}

.success-icon {
  width: 80px;
  height: 80px;
  background: linear-gradient(135deg, #10b981, #059669);
  border-radius: 50%;
  display: flex;
  align-items: center;
  justify-content: center;
  font-size: 2rem;
  font-weight: bold;
  color: white;
  margin: 0 auto;
  box-shadow: 0 10px 30px rgba(16, 185, 129, 0.3);
  animation: pulse 2s infinite;
}
```

```
@keyframes pulse {
  0% {
    transform: scale(1);
  }
  50% {
    transform: scale(1.05);
  }
  100% {
    transform: scale(1);
  }
}

@media (max-width: 991.98px) {
  .hero-section {
    min-height: 40vh;
  }

  .hero-title {
    font-size: 2.5rem;
  }

  .form-section {
    min-height: 60vh;
  }

  .form-container {
    padding: 2rem;
  }
}

@media (max-width: 767.98px) {
  .hero-section {
    min-height: 35vh;
    padding: 2rem 1rem;
  }

  .hero-title {
    font-size: 2rem;
  }
}
```

```
.form-section {  
    padding: 2rem 1rem;  
}  
  
.form-container {  
    max-width: 100%;  
    padding: 1.5rem;  
    border-radius: 16px;  
}  
  
.logo h2 {  
    font-size: 1.8rem;  
}  
}  
  
.modern-btn:disabled {  
    background: rgba(74, 74, 74, 0.8);  
    cursor: not-allowed;  
    transform: none;  
    box-shadow: none;  
}  
  
.modern-btn:disabled:hover {  
    background: rgba(74, 74, 74, 0.8);  
    transform: none;  
    box-shadow: none;  
}  
  
@keyframes fadeInUp {  
    from {  
        opacity: 0;  
        transform: translateY(30px);  
    }  
    to {  
        opacity: 1;  
        transform: translateY(0);  
    }  
}  
  
@keyframes fadeInLeft {
```

```

from {
  opacity: 0;
  transform: translateX(-30px);
}
to {
  opacity: 1;
  transform: translateX(0);
}
}

.form-container {
  animation: fadeInUp 0.8s cubic-bezier(0.4, 0, 0.2, 1);
}

.success-message {
  animation: fadeInUp 0.8s cubic-bezier(0.4, 0, 0.2, 1);
}

.hero-section > * {
  animation: fadeInLeft 0.8s cubic-bezier(0.4, 0, 0.2, 1);
}

.modern-input:focus,
.modern-btn:focus,
.social-btn:focus,
.form-check-input:focus {
  outline: 2px solid #8b5cf6;
  outline-offset: 2px;
}

```

JavaScript Functionality(script.js)

```

$(function () {
  const $formContainer = $('.form-container');
  const $successMessage = $('#successMessage');

  const accounts = {
    Google: [
      { id: 'g1', name: 'Alice Smith', email: 'alice.smith@gmail.com' },

```

```

        { id: 'g2', name: 'Bob Johnson', email: 'bob.johnson@gmail.com' },
        { id: 'g3', name: 'Charlie Brown', email: 'charlie.b@gmail.com' }
    ],
    Apple: [
        { id: 'a1', name: 'Diana Prince', email: 'diana.p@icloud.com' },
        { id: 'a2', name: 'Ethan Hunt', email: 'ethan.h@icloud.com' }
    ]
};

let currentProvider = "";

$formContainer.on('submit', '#validationForm', function (e) {
    e.preventDefault();
    if (validateFormFields()) {
        simulateApiCall(() => {
            $formContainer.empty().hide();
            $successMessage.css({
                'display': 'block',
                'opacity': 1,
                'visibility': 'visible'
            });
            $('#successMessage h4').text('Welcome!');
            $('#successMessage p').text('Account created successfully!');
        });
    } else {
        const $firstError = $('.is-invalid').first();
        if ($firstError.length) {
            $('html, body').animate({ scrollTop: $firstError.offset().top - 80 }, 500);
        }
    }
});

$formContainer.on('click keypress', '#passwordToggle', function (e) {
    if (e.type === 'click' || e.key === 'Enter' || e.key === ' ') {
        const pwd = $('#password');
        pwd.attr('type', pwd.attr('type') === 'password' ? 'text' : 'password');
    }
});

$formContainer.on('focus input', 'input', function () {

```

```

$(this).removeClass('is-invalid is-valid');
$(this).siblings('.invalid-feedback').text("");
});

$formContainer.on('click', '#google-btn', () => displayAccountSelection('Google'));
$formContainer.on('click', '#apple-btn', () => displayAccountSelection('Apple'));

$formContainer.on('click', '.account-list-item', function() {
  const selectedAccount = {
    id: $(this).data('accountId'),
    name: $(this).data('accountName'),
    email: $(this).data('accountEmail')
  };
  handleAccountSelection(selectedAccount, currentProvider);
});

$formContainer.on('click', '#cancel-login', function() {
  resetFormAndShowMainForm();
});

$('#resetForm').on('click', resetFormAndShowMainForm);

function toggleFormState(isEnabled) {
  $formContainer.find('input, button').prop('disabled', !isEnabled);
  $('.account-list-item').prop('disabled', !isEnabled);
}

function simulateApiCall(callback) {
  toggleFormState(false);
  const $submitButton = $formContainer.find('button[type="submit"]');
  $submitButton.html('<span class="spinner-border spinner-border-sm"></span>
Submitting...');

  setTimeout(() => {
    toggleFormState(true);
    $submitButton.html('Create account');
    callback();
  }, 1800);
}

function displayAccountSelection(provider) {

```

```

currentProvider = provider;
toggleFormState(false);
$formContainer.hide();
$successMessage.hide();

let accountListHtml = `<div class="account-selection-container">
    <h3 class="text-white mb-3 text-center">Select your ${provider} account</h3>
    <ul class="list-group list-group-flush">`;

accounts[provider].forEach(account => {
    accountListHtml += `<li class="list-group-item account-list-item" data-account-id="${account.id}" data-account-name="${account.name}" data-account-email="${account.email}" style="cursor: pointer; background: rgba(58, 58, 58, 0.8); border: 1px solid rgba(74, 74, 74, 0.6); border-radius: 12px; margin-bottom: 8px; padding: 14px 18px; color: #ffffff;">
        <div class="d-flex w-100 justify-content-between">
            <h5 class="mb-1">${account.name}</h5>
            <small>${account.email}</small>
        </div>
    </li>`;
});

accountListHtml += `</ul>
    <button type="button" class="btn btn-outline-light mt-4 w-100" id="cancel-login">Cancel</button>
</div>`;

$formContainer.html(accountListHtml).show();
toggleFormState(true);
}

function handleAccountSelection(account, provider) {
if ($successMessage.length === 0) {
    console.error('Success message div not found in DOM');
    return;
}
$formContainer.hide();
$successMessage.css({
    'display': 'block',

```

```

        'opacity': 1,
        'visibility': 'visible'
    });
    $('#successMessage h4').text('Welcome!');
    $('#successMessage p').text(`Successfully logged in as ${account.name}
${account.email} with ${provider}.`);
}

function resetFormAndShowMainForm() {
    $successMessage.hide();
    $formContainer.html(`
        <div class="form-header text-center mb-4">
            <h2 class="text-white mb-3">Create an account</h2>
            <p class="text-muted">Already have an account? <a href="#" class="text-white
text-decoration-none">Log in</a></p>
        </div>
        <form id="validationForm" novalidate>
            <div class="row mb-3">
                <div class="col-6">
                    <input type="text" class="form-control modern-input" id="firstName"
name="firstName" placeholder="First name" required>
                    <div class="invalid-feedback"></div>
                </div>
                <div class="col-6">
                    <input type="text" class="form-control modern-input" id="lastName"
name="lastName" placeholder="Last name" required>
                    <div class="invalid-feedback"></div>
                </div>
            </div>
            <div class="mb-3">
                <input type="email" class="form-control modern-input" id="email"
name="email" placeholder="Email" required>
                <div class="invalid-feedback"></div>
            </div>
            <div class="mb-3">
                <input type="tel" class="form-control modern-input" id="phone"
name="phone" placeholder="Phone number" required>
                <div class="invalid-feedback"></div>
            </div>
            <div class="mb-4 position-relative">

```

```
<input type="password" class="form-control modern-input" id="password" name="password" placeholder="Enter your password" required>
    <button type="button" class="password-toggle" id="passwordToggle">
        <svg width="20" height="20" viewBox="0 0 24 24" fill="none" stroke="currentColor" stroke-width="2">
            <path d="M1 12s4-8 11-8 11 8 11 8-4 8-11 8-11-8z"></path>
            <circle cx="12" cy="12" r="3"></circle>
        </svg>
    </button>
    <div class="invalid-feedback"></div>
</div>
<div class="mb-4">
    <input type="password" class="form-control modern-input" id="confirmPassword" name="confirmPassword" placeholder="Confirm password" required>
        <div class="invalid-feedback"></div>
    </div>
    <div class="mb-4">
        <div class="form-check">
            <input class="form-check-input" type="checkbox" id="terms" required>
            <label class="form-check-label text-muted" for="terms">
                I agree to the <a href="#" class="text-white text-decoration-none">Terms & Conditions</a>
            </label>
        </div>
        <div class="invalid-feedback"></div>
    </div>
    <div class="d-grid mb-4">
        <button type="submit" class="btn btn-primary modern-btn">Create account</button>
    </div>
    <div class="divider mb-4">
        <span class="text-white">Or register with</span>
    </div>
    <div class="row g-3">
        <div class="col-6">
            <button type="button" class="btn social-btn w-100" id="google-btn">
                <svg width="18" height="18" viewBox="0 0 24 24">
```

```

        <path fill="#4285F4" d="M22.56
12.25c0-.78-.07-1.53-.2-2.25H12v4.26h5.92c-.26 1.37-1.04 2.53-2.21
3.31v2.77h3.57c2.08-1.92 3.28-4.74 3.28-8.09z"/>
        <path fill="#34A853" d="M12 23c2.97 0 5.46-.98
7.28-2.66l-3.57-2.77c-.98.66-2.23 1.06-3.71 1.06-2.86
0-5.29-1.93-6.16-4.53H2.18v2.84C3.99 20.53 7.7 23 12 23z"/>
        <path fill="#FBBC05" d="M5.84
14.09c-.22-.66-.35-1.36-.35-2.09s.13-1.43.35-2.09V7.07H2.18C1.43 8.55 1 10.22 1
12s.43 3.45 1.18 4.93l2.85-2.22.81-.62z"/>
        <path fill="#EA4335" d="M12 5.38c1.62 0 3.06.56 4.21
1.64l3.15-3.15C17.45 2.09 14.97 1 12 1 7.7 1 3.99 3.47 2.18 7.07l3.66 2.84c.87-2.6
3.3-4.53 6.16-4.53z"/>
    </svg>
    Google
</button>
</div>
<div class="col-6">
    <button type="button" class="btn social-btn w-100" id="apple-btn">
        <svg width="18" height="18" viewBox="0 0 24 24" fill="currentColor">
            <path d="M18.71 19.5c-.83 1.24-1.71 2.45-3.05
2.47-1.34.03-1.77-.79-3.29-.79-1.53 0-2 .77-3.27.82-1.31.05-2.3-1.32-3.14-2.53C4.25
17 2.94 12.45 4.7 9.39c.87-1.52 2.43-2.48 4.12-2.51 1.28-.02 2.5.87 3.29.87.78 0
2.26-1.07 3.81-.91.65.03 2.47.26 3.64 1.98-.09.06-2.17 1.28-2.15 3.81.03 3.02 2.65
4.03 2.68 4.04-.03.07-.42 1.44-1.38 2.83M13 3.5c.73-.83 1.94-1.46 2.94-1.5.13 1.17-.34
2.35-1.04 3.19-.69.85-1.83 1.51-2.95 1.42-.15-1.15.41-2.35 1.05-3.11z"/>
        </svg>
        Apple
    </button>
</div>
</div>
</form>
`).show();
toggleFormState(true);
}

function validateFormFields() {
    let valid = true;
    const firstName = $('#firstName');
    const lastName = $('#lastName');
    const email = $('#email');
}

```

```
const phone = $('#phone');
const password = $('#password');
const confirmPassword = $('#confirmPassword');
const terms = $('#terms');

if (!firstName.val().trim() || firstName.val().trim().length < 2) {
    showError(firstName, 'First name must be at least 2 characters');
    valid = false;
} else showSuccess(firstName);

if (!lastName.val().trim() || lastName.val().trim().length < 2) {
    showError(lastName, 'Last name must be at least 2 characters');
    valid = false;
} else showSuccess(lastName);

const emailPattern = /^[^@\s]+@[^\s@]+\.[a-z]{2,}$/i;
if (!email.val().trim()) {
    showError(email, 'Email is required');
    valid = false;
} else if (!emailPattern.test(email.val().trim())) {
    showError(email, 'Invalid email address');
    valid = false;
} else showSuccess(email);

const phonePattern = /^[+]?[0-9\s\-\(\)]{7,}$/;
if (!phone.val().trim()) {
    showError(phone, 'Phone number is required');
    valid = false;
} else if (!phonePattern.test(phone.val().trim())) {
    showError(phone, 'Invalid phone number');
    valid = false;
} else showSuccess(phone);

const passwordVal = password.val();
if (passwordVal.length < 6) {
    showError(password, 'Password must be at least 6 characters');
    valid = false;
} else if (!/[A-Z]/.test(passwordVal) || !/\d/.test(passwordVal)) {
    showError(password, 'Password requires uppercase letter and number');
    valid = false;
```

```

} else showSuccess(password);

if (confirmPassword.val() !== passwordVal) {
    showError(confirmPassword, 'Passwords do not match');
    valid = false;
} else {
    if (confirmPassword.val()) showSuccess(confirmPassword);
    else confirmPassword.removeClass('is-invalid is-valid');
}

if (!terms.is(':checked')) {
    terms.addClass('is-invalid');
    terms.siblings('.invalid-feedback').text('You must accept the Terms & Conditions');
    valid = false;
} else {
    terms.removeClass('is-invalid').addClass('is-valid');
    terms.siblings('.invalid-feedback').text("");
}

return valid;
}

function showError($field, message) {
    $field.addClass('is-invalid').removeClass('is-valid');
    $field.siblings('.invalid-feedback').text(message);
}
function showSuccess($field) {
    $field.removeClass('is-invalid').addClass('is-valid');
    $field.siblings('.invalid-feedback').text("");
}

$successMessage.hide();
resetFormAndShowMainForm();
});

```

Screenshots of Final Output

With incorrect login credentials:

FORM

Capturing Moments,
Creating Memories

Create an account

Log in

First name (i)

Last name (i)

First name must be at least 2 characters
Last name must be at least 2 characters

Email (i)

Email is required

Phone number (i)

Phone number is required

Enter your password (i)

Password must be at least 6 characters

Confirm password

Terms & Conditions
You must accept the Terms & Conditions

Create account

Capturing Moments,
Creating Memories

Phone number is required

Enter your password (i)

Password must be at least 6 characters

Confirm password

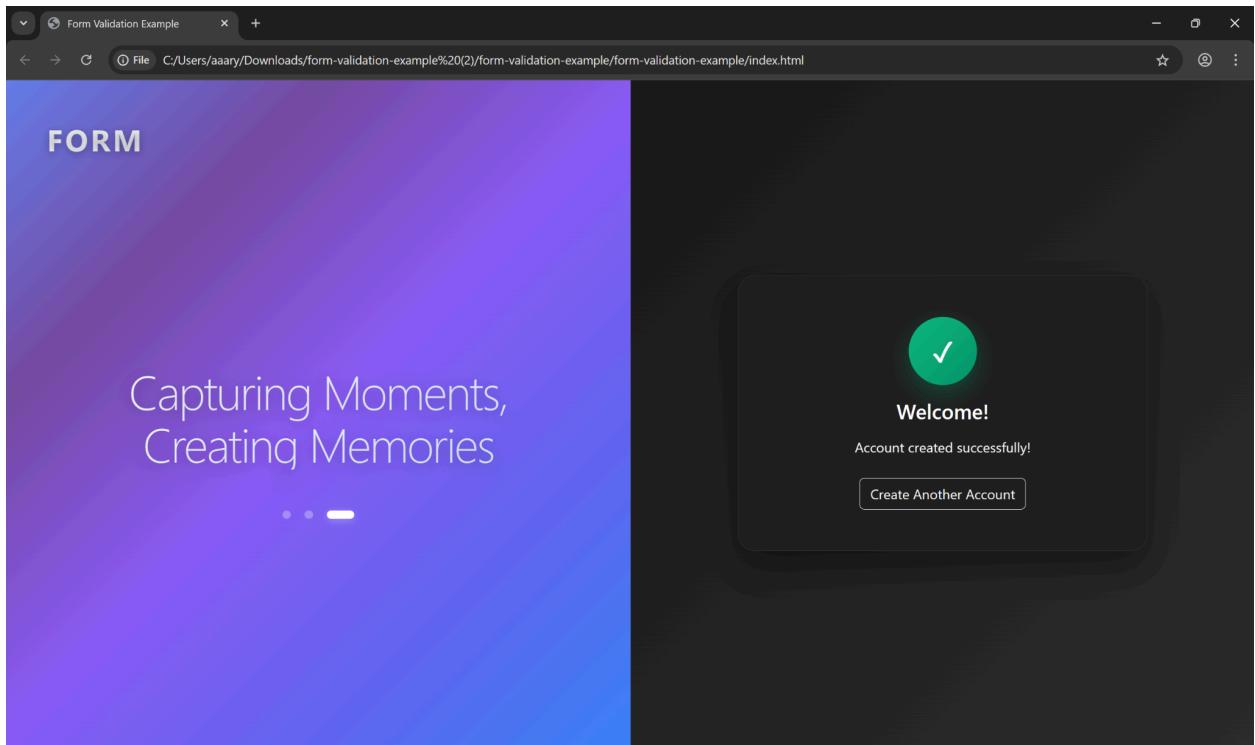
Terms & Conditions
You must accept the Terms & Conditions

Create account

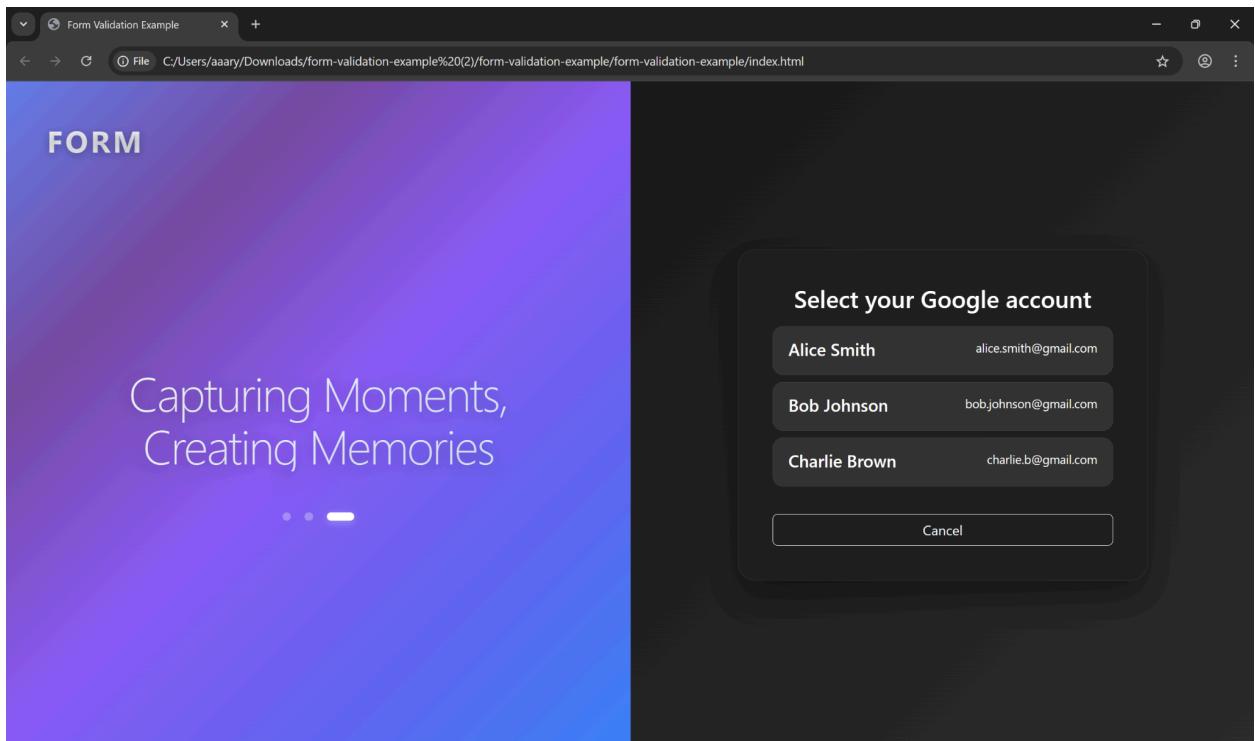
Or register with

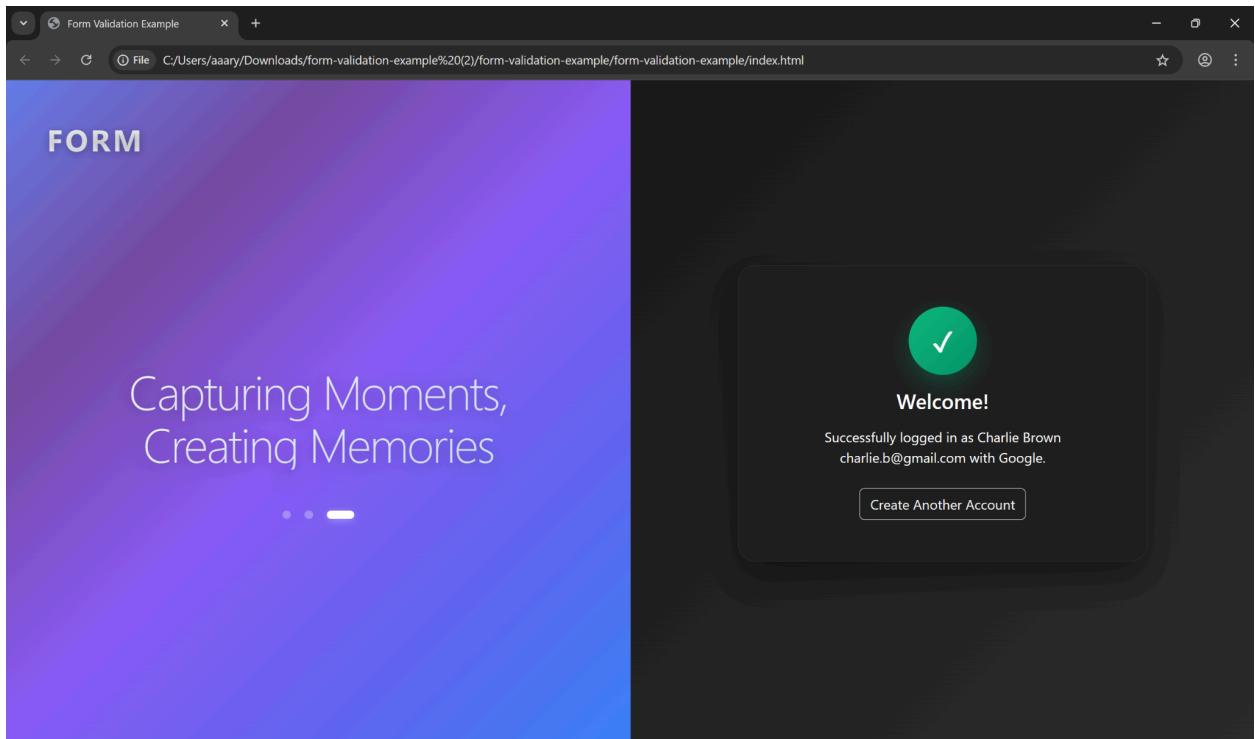
Google Apple

With correct login credentials:

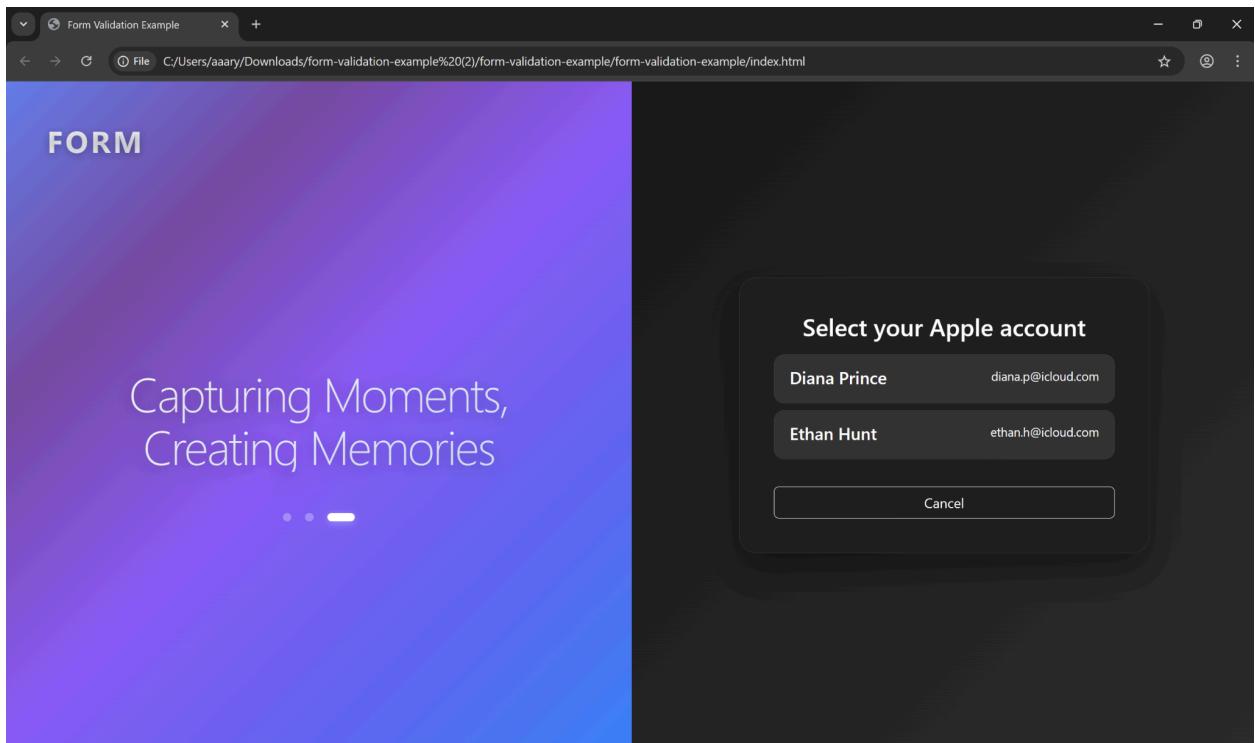


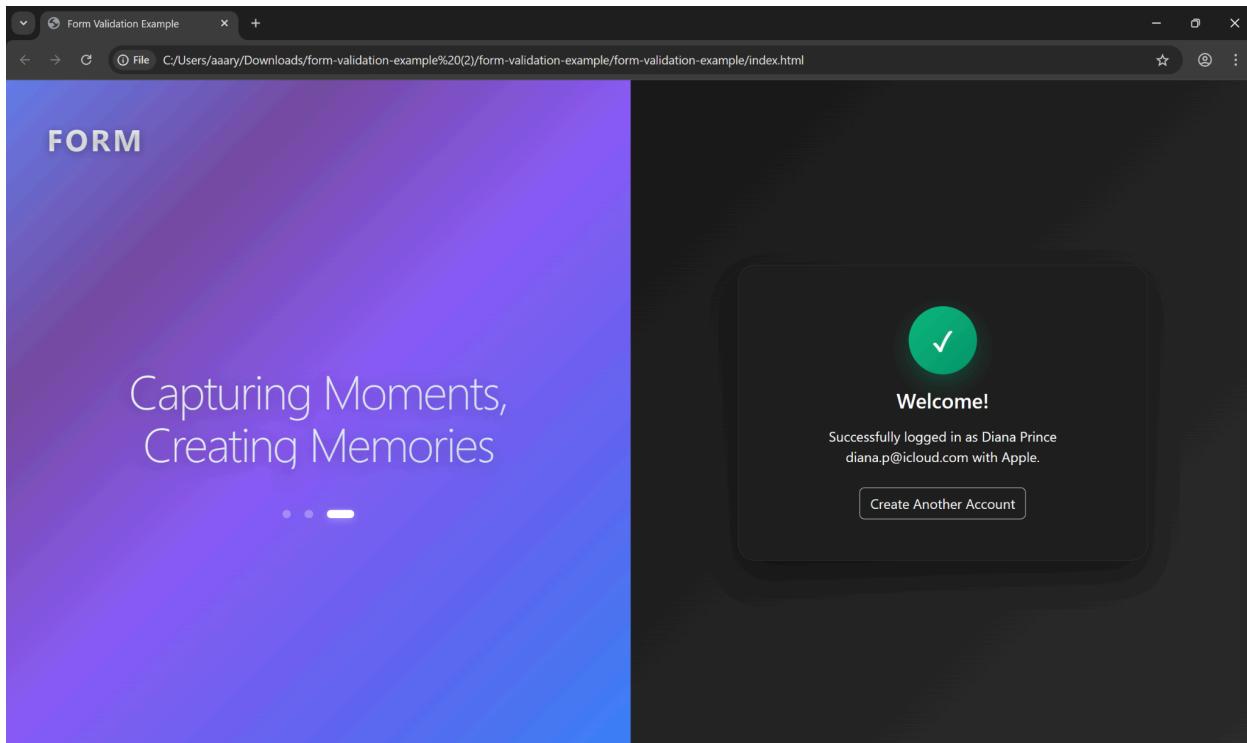
Using google login(Simulation using JS):





With apple login(Simulation using JS):





Conclusion

This Front-End UI/UX mini project successfully demonstrated the practical application of modern web development technologies and design principles. The project showcased a comprehensive understanding of HTML5 semantic structure, advanced CSS styling techniques, and interactive JavaScript functionality.

The development process provided valuable hands-on experience with responsive design implementation, comprehensive form validation, and user experience optimization. Key technical achievements include the successful implementation of a split-screen responsive layout, real-time form validation with visual feedback, and modern UI design patterns using advanced CSS techniques.

The project enhanced understanding of user-centered design principles, accessibility compliance, and cross-browser compatibility considerations. The practical implementation of design principles, including visual hierarchy, color theory, and interactive feedback systems, contributed to a deeper comprehension of professional front-end development practices.

This mini project serves as a solid foundation for future web development endeavors and demonstrates readiness for more advanced front-end development challenges and real-world application development.

References

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