

Product Specification Document (PRD)

Fusion Media IT - Company Website

Version: 1.0

Date: November 2024

Project: Fusion Media IT Corporate Website

Status: Production

1. Executive Summary

1.1 Product Overview

Fusion Media IT is a modern, responsive corporate website designed to showcase the company's technology services and solutions. The platform serves as a digital business card, providing information about services, company values, and contact methods for potential clients.

1.2 Business Objectives

- **Primary Goal:** Establish a professional online presence for Fusion Media IT
- **Secondary Goals:**
 - Showcase company services and expertise
 - Generate leads through contact form
 - Build brand credibility with modern, interactive design
 - Provide easy access to company information

1.3 Target Audience

- **Primary:** Business decision-makers seeking IT solutions
 - **Secondary:** Potential partners, investors, and job seekers
 - **Tertiary:** Existing clients looking for support information
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2. Product Scope

2.1 In Scope

- Single-page application with smooth scrolling navigation
- Service showcase section
- Company information and values
- Contact form and contact information
- Responsive design for all device types
- Interactive 3D visualizations
- Modern UI with animations

2.2 Out of Scope

- User authentication system
- Client portal or dashboard
- E-commerce functionality
- Blog or content management system
- Multi-language support (initial version)
- Backend API integration for form submissions

3. Technical Architecture

3.1 Technology Stack

Frontend Framework

- **React 18.3.1** - UI library
- **TypeScript 5.8.3** - Type-safe development
- **Vite 5.4.19** - Build tool and dev server

Routing

- **React Router DOM 6.30.1** - Client-side routing with HashRouter

Styling & UI

- **Tailwind CSS 3.4.17** - Utility-first CSS framework
- **shadcn/ui** - Component library built on Radix UI
- **Radix UI** - Accessible component primitives
- **Framer Motion 12.23.24** - Animation library

3D Graphics

- **Three.js 0.160.1** - 3D graphics library
- **React Three Fiber 8.18.0** - React renderer for Three.js
- **@react-three/drei 9.122.0** - Useful helpers for R3F

State Management & Data

- **TanStack Query 5.83.0** - Server state management
- **React Hook Form 7.61.1** - Form state management
- **Zod 3.25.76** - Schema validation

Additional Libraries

- **Lucide React** - Icon library
- **date-fns** - Date utility functions
- **class-variance-authority** - Component variant management
- **clsx & tailwind-merge** - Class name utilities

3.2 Project Structure

```
src/
├── components/           # React components
│   ├── ui/              # Reusable UI components (shadcn/ui)
│   ├── Hero.tsx         # Hero section
│   ├── Navigation.tsx   # Navigation bar
│   ├── Services.tsx     # Services showcase
│   ├── About.tsx        # About section
│   ├── Contact.tsx      # Contact form
│   ├── Footer.tsx       # Footer
│   ├── Scene3D.tsx      # 3D visualization
│   └── ...
├── pages/               # Page components
│   ├── Index.tsx        # Main page
│   └── NotFound.tsx     # 404 page
└── hooks/               # Custom React hooks
```

```
|— lib/                # Utility functions
|— main.tsx           # Application entry point
```

3.3 Build Configuration

- **Development Server:** Port 8080
 - **Base Path:** /fusion-media-it/
 - **Build Tool:** Vite with SWC plugin for fast compilation
 - **Code Splitting:** Manual chunks for React, UI vendors, and carousel
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4. Functional Requirements

4.1 Navigation System

FR-1: Main Navigation

- **Description:** Fixed navigation bar at the top of the page
- **Requirements:**
 - Display company logo and name
 - Show navigation links: Home, Services, About, Contact
 - Include "Get Started" call-to-action button
 - Smooth scroll to sections on link click
 - Hide on scroll down (mobile/tablet only)
 - Show on scroll up (mobile/tablet only)
 - Always visible on desktop ($\geq 1024\text{px}$)

FR-2: Mobile Navigation

- **Description:** Hamburger menu for mobile devices
- **Requirements:**
 - Toggle menu button visible on screens $< 768\text{px}$
 - Animated slide-down menu
 - All navigation links accessible
 - Menu closes on link click
 - Smooth animations using Framer Motion

FR-3: Bottom Navigation

- **Description:** Mobile-friendly bottom navigation bar
- **Requirements:**
 - Visible on mobile devices only
 - Quick access to main sections
 - Fixed position at bottom of viewport

4.2 Hero Section

FR-4: Hero Content

- **Description:** Main landing section with company messaging
- **Requirements:**
 - Large, animated headline: "Innovation Meets Technology"
 - Descriptive subheading about company services
 - "Get in Touch" call-to-action button
 - Smooth scroll to contact section on button click

- Animated entrance using Framer Motion
- Responsive typography scaling

FR-5: 3D Visualization

- **Description:** Interactive 3D scene in hero section
- **Requirements:**
 - Rotating wireframe icosahedron
 - Floating particle effects
 - Auto-rotating camera with orbit controls
 - Disabled zoom and pan for better UX
 - Responsive sizing for all screen sizes
 - Performance optimized rendering

4.3 Services Section

FR-6: Services Display

- **Description:** Showcase of company services
- **Requirements:**
 - Grid layout: 1 column (mobile), 2 columns (tablet), 3 columns (desktop)
 - Six service cards:
 1. ERP Systems
 2. AI Integrations
 3. Desktop & Mobile Websites
 4. Mobile Applications
 5. Technical Support
 6. Hardware Services
 - Each card includes:
 - Icon representation
 - Service title
 - Service description
 - Hover effects with glow and lift animation
 - Scroll-triggered animations (staggered)

4.4 About Section

FR-7: Company Information

- **Description:** Information about Fusion Media IT
- **Requirements:**
 - Section heading: "About Fusion Media IT"
 - Company description paragraph
 - Four value cards:
 1. Our Mission
 2. Expert Team
 3. Quality First
 4. Innovation
 - Each card includes icon, title, and description
 - Grid layout: 1 column (mobile), 2 columns (tablet), 4 columns (desktop)
 - Scroll-triggered animations

4.5 Contact Section

FR-8: Contact Form

- **Description:** Lead generation contact form
- **Requirements:**
 - Form fields:
 - Name (text input)
 - Email (email input with validation)
 - Message (textarea, 5 rows)
 - "Send Message" submit button
 - Form validation (client-side)
 - Glass morphism design
 - Responsive layout

FR-9: Contact Information

- **Description:** Display company contact details
- **Requirements:**
 - Email: info@fusionmediait.com (mailto link)
 - Phone: +1 (555) 123-4567 (tel link)
 - Location: Amman, Jordan
 - Each item with icon and clickable link
 - Hover effects on contact items

4.6 Footer

FR-10: Footer Content

- **Description:** Site footer with additional information
- **Requirements:**
 - Company name and tagline
 - Social media links (LinkedIn, GitHub)
 - Contact information display
 - Copyright notice with current year
 - Responsive grid layout
 - Decorative gradient line

4.7 Utility Features

FR-11: Back to Top Button

- **Description:** Floating button to return to top
- **Requirements:**
 - Appears when user scrolls down 300px
 - Smooth scroll animation to top
 - Fixed position at bottom-right
 - Animated entrance/exit
 - Circular button with arrow icon

FR-12: Smooth Scrolling

- **Description:** Smooth scroll behavior for navigation
- **Requirements:**
 - All anchor links use smooth scrolling

- Scroll to section with proper offset
 - Works across all browsers
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5. Non-Functional Requirements

5.1 Performance

NFR-1: Page Load Time

- **Target:** First Contentful Paint < 1.5s
- **Target:** Time to Interactive < 3s
- **Method:** Code splitting, lazy loading, optimized assets

NFR-2: Animation Performance

- **Target:** 60 FPS for all animations
- **Method:** Hardware-accelerated CSS transforms, optimized 3D rendering

NFR-3: Bundle Size

- **Target:** Initial bundle < 200KB (gzipped)
- **Method:** Tree shaking, code splitting, vendor chunking

5.2 Responsiveness

NFR-4: Device Support

- **Mobile:** 320px - 767px
- **Tablet:** 768px - 1023px
- **Desktop:** 1024px+
- **Large Desktop:** 1400px+

NFR-5: Browser Support

- Chrome (latest 2 versions)
- Firefox (latest 2 versions)
- Safari (latest 2 versions)
- Edge (latest 2 versions)

5.3 Accessibility

NFR-6: WCAG Compliance

- **Target:** WCAG 2.1 Level AA
- **Requirements:**
 - Keyboard navigation support
 - Screen reader compatibility
 - Proper ARIA labels
 - Color contrast ratios $\geq 4.5:1$
 - Focus indicators

5.4 User Experience

NFR-7: Visual Design

- Modern glass morphism effects
- Gradient accents and glows
- Smooth animations and transitions
- Consistent spacing and typography

- Dark mode support

NFR-8: Interaction Feedback

- Hover states on all interactive elements
 - Loading states for async operations
 - Visual feedback for form validation
 - Smooth page transitions
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6. User Stories

6.1 As a Potential Client

- **US-1:** I want to quickly understand what services Fusion Media IT offers so I can determine if they meet my needs
- **US-2:** I want to contact the company easily so I can inquire about their services
- **US-3:** I want to learn about the company's values and expertise so I can assess their credibility

6.2 As a Mobile User

- **US-4:** I want to navigate the site easily on my mobile device so I can access all information
- **US-5:** I want the site to load quickly on mobile so I don't waste data or time

6.3 As a Returning Visitor

- **US-6:** I want to quickly find contact information so I can reach out without searching
 - **US-7:** I want smooth navigation so I can move between sections effortlessly
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7. Design Specifications

7.1 Color Scheme

- **Primary:** Teal/Cyan accent color (hsl-based)
- **Background:** Dark theme with glass morphism
- **Text:** High contrast foreground colors
- **Accents:** Gradient glows and highlights

7.2 Typography

- **Headings:** Bold, large scale (3xl to 7xl)
- **Body:** Base to xl scale
- **Responsive:** Scales down on mobile devices

7.3 Layout

- **Container:** Max width with centered content
- **Spacing:** Consistent padding and margins
- **Grid:** Responsive grid system (1-4 columns)

7.4 Visual Effects

- **Glass Morphism:** Frosted glass effect on cards and navigation
 - **Gradient Glows:** Animated gradient backgrounds
 - **Hover Effects:** Scale, glow, and translate transforms
 - **Scroll Animations:** Fade and slide animations on scroll
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8. Data Model

8.1 Services Data

```
interface Service {
  icon: React.ComponentType;
  title: string;
  description: string;
}
```

8.2 Contact Form Data

```
interface ContactForm {
  name: string;
  email: string;
  message: string;
}
```

8.3 Contact Information

```
interface ContactInfo {
  icon: React.ComponentType;
  label: string;
  value: string;
  href: string;
}
```

9. API Specifications

9.1 Current State

- **Status:** Frontend-only application
- **Form Submission:** Client-side only (no backend integration)

9.2 Future Integration Points

- Contact form submission endpoint
 - Analytics tracking
 - Newsletter subscription
 - Live chat integration
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10. Testing Requirements

10.1 Unit Testing

- Component rendering tests
- Hook functionality tests
- Utility function tests

10.2 Integration Testing

- Navigation flow testing
- Form submission flow
- Scroll behavior testing

10.3 E2E Testing

- Complete user journey testing
- Cross-browser testing
- Responsive design testing

10.4 Performance Testing

- Lighthouse audits
 - Bundle size analysis
 - Animation performance profiling
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11. Deployment & Infrastructure

11.1 Build Process

- **Development:** `npm run dev` (Vite dev server on port 8080)
- **Production Build:** `npm run build` (Vite production build)
- **Preview:** `npm run preview` (Local preview of production build)

11.2 Deployment

- **Base Path:** `/fusion-media-it/` (configured for GitHub Pages or subdirectory)
- **Static Hosting:** Compatible with any static hosting service
- **CDN:** Recommended for optimal performance

11.3 Environment Variables

- Currently none required (frontend-only)
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12. Future Enhancements

12.1 Phase 2 Features

- Backend API integration for contact form
- Blog section for company updates
- Case studies/portfolio section
- Client testimonials
- Multi-language support
- Advanced analytics integration

12.2 Phase 3 Features

- Client portal/login system
 - Project management dashboard
 - Live chat support
 - Interactive service configurator
 - Video content integration
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13. Success Metrics

13.1 Key Performance Indicators (KPIs)

- **Page Load Time:** < 2 seconds
- **Bounce Rate:** < 40%
- **Contact Form Submissions:** Track conversion rate
- **Mobile Usage:** Monitor mobile vs desktop traffic
- **User Engagement:** Average session duration > 2 minutes

13.2 Analytics Tracking

- Page views per section
 - Contact form completion rate
 - Navigation path analysis
 - Device and browser statistics
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14. Risk Assessment

14.1 Technical Risks

- **3D Performance:** Mitigated with optimized rendering and fallbacks
- **Browser Compatibility:** Tested across major browsers
- **Mobile Performance:** Optimized assets and lazy loading

14.2 Business Risks

- **Form Spam:** Future implementation of CAPTCHA or backend validation
 - **SEO:** Single-page application may require SSR for better SEO
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15. Appendices

15.1 Glossary

- **ERP:** Enterprise Resource Planning
- **SPA:** Single Page Application
- **UI:** User Interface
- **UX:** User Experience
- **WCAG:** Web Content Accessibility Guidelines

15.2 References

- React Documentation: <https://react.dev>
 - Vite Documentation: <https://vitejs.dev>
 - Tailwind CSS Documentation: <https://tailwindcss.com>
 - Three.js Documentation: <https://threejs.org>
 - Framer Motion Documentation: <https://www.framer.com/motion>
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Document Control

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This document is a living document and should be updated as the product evolves.