

# 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

### 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

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## 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: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 ≥ 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;  
}
```

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## 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

**Author:** Development Team

**Reviewers:** Product Owner, Technical Lead

**Approval:** Pending

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