FRONTEND ARCHITECTURE BLUEPRINT

Summit Digital Solutions, Inc.

Document Version: 2.4

Last Updated: January 9, 2024

Classification: CONFIDENTIAL

1. DOCUMENT PURPOSE AND SCOPE

1. This Frontend Architecture Blueprint ("Blueprint") constitutes the authoritative technical specification for Summit Digital Solutions, Inc.'s ("Company") frontend architecture implementation, including all associated frameworks, technologies, and standards governing the Peak Performance Platform(TM) user interface layer.

2. This document is protected by confidentiality obligations and intellectual property rights as set forth in Section 8 hereof.

2. ARCHITECTURAL FOUNDATIONS

1. **Core Framework**

- Primary Framework: React 18.2.0

- State Management: Redux Toolkit 1.9.5

- Router: React Router 6.15.0

- Build System: Vite 4.4.0

- Package Management: pnpm 8.6.0

2. **Design System**

- Component Library: Summit Design System v3.2

- CSS Framework: Tailwind CSS 3.3.3

- Icon System: Custom SVG library with Material Icons fallback

- Typography: Inter (primary), Roboto Mono (code)

3. TECHNICAL STANDARDS

1. **Code Organization**

- Atomic Design methodology

- Feature-based folder structure

- Strict module boundaries

- Lazy loading implementation for all route-level components

2. **Performance Requirements**

- First Contentful Paint (FCP):   1.5 seconds

- Time to Interactive (TTI):   3.0 seconds

- First Input Delay (FID):   100ms

- Cumulative Layout Shift (CLS):   0.1

4. SECURITY IMPLEMENTATION

1. **Authentication**

- OAuth 2.0 implementation with PKCE

- JWT token management

- Refresh token rotation

- Session timeout handling

2. **Data Protection**

- All API communications via HTTPS

- Client-side data encryption using AES-256

- Secure storage implementation for sensitive data

- XSS protection through Content Security Policy

5. INTEGRATION SPECIFICATIONS

1. **API Integration**

- RESTful API consumption via Axios

- GraphQL integration using Apollo Client

- WebSocket implementation for real-time features

- Standardized error handling and retry logic

2. **Third-Party Services**

- Analytics: Google Analytics 4

- Error Tracking: Sentry

- Performance Monitoring: New Relic Browser

- A/B Testing: Optimizely

6. DEVELOPMENT STANDARDS

1. **Quality Assurance**

- Unit Testing: Jest with React Testing Library

- E2E Testing: Cypress

- Code Coverage Requirement: 80%

- Accessibility Compliance: WCAG 2.1 Level AA

2. **Build Process**

- Automated CI/CD pipeline via GitHub Actions

- Environment-specific builds

- Asset optimization and compression

- Source map generation for production debugging

7. MAINTENANCE AND UPDATES

1. The Company shall maintain this Blueprint with regular updates reflecting technological advancements and security requirements.

2. Version control shall be maintained through Git with semantic versioning (MAJOR.MINOR.PATCH).

8. INTELLECTUAL PROPERTY AND CONFIDENTIALITY

1. This Blueprint and all architectural designs, implementations, and associated documentation contained herein are the exclusive intellectual property of Summit Digital Solutions, Inc.

2. Recipients of this document are bound by confidentiality obligations and may not disclose, distribute, or reproduce any portion without express written consent from the Company.

9. APPROVAL AND GOVERNANCE

1. All architectural changes must be approved by the Architecture Review Board (ARB) comprising:

-     Chief Technology Officer

-     Chief Digital Officer

-     Lead Frontend Architect

-     Security Architect

2. Documentation updates must be reviewed and approved by both Technical Documentation and Legal departments.

EXECUTION

IN WITNESS WHEREOF, the undersigned hereby acknowledges and approves this Frontend Architecture Blueprint as of the date first written above.

SUMMIT DIGITAL SOLUTIONS, INC.

By:

Name: Michael Chang

Title: Chief Technology Officer

By:

Name: James Henderson

Title: Chief Digital Officer

Date: January 9, 2024