Diego Portfolio - UI/UX Specification

Introduction

This document defines the user experience goals, information architecture, user flows, and visual design specifications for Diego Portfolio's user interface. It serves as the foundation for visual design and frontend development, ensuring a cohesive, music-inspired experience that showcases Diego's technical skills while remaining accessible and user-friendly.

The portfolio reimagines the traditional developer portfolio as an immersive music streaming experience, where each section ("track") of Diego's professional journey is presented with the familiar, intuitive interface patterns of Spotify or Apple Music, enhanced with interactive AI chat capabilities and audio-reactive visualizations.

Change Log

Date	Version	Description	Author
2025-01-XX	1.0	Initial UI/UX specification	Sally (UX Expert)

Overall UX Goals & Principles

Target User Personas

Persona 1: The Hiring Manager

- **Background:** Technical hiring manager at a tech company, reviews 10-20 portfolios weekly
- **Goals:** Quickly assess technical skills, see evidence of work, gauge cultural fit
- **Pain Points:** Tired of cookie-cutter portfolios, needs quick filtering, wants to remember candidates
- **Needs:** Fast access to skills and projects, contact info, memorable differentiation

Persona 2: The Technical Recruiter

- **Background:** Non-technical recruiter sourcing candidates, less technical depth but highly motivated
- **Goals:** Understand candidate's experience level, find contact info, share portfolio with team
- **Pain Points:** Technical jargon overload, unclear experience levels, hard-to-navigate sites
- **Needs:** Clear summaries, visual skill indicators, easy sharing, quick contact

Persona 3: The Engineering Peer

- **Background:** Senior developer or tech lead evaluating technical depth for team fit
- **Goals:** Deep dive into projects, assess code quality, understand technical choices
- **Pain Points:** Surface-level portfolios, missing GitHub links, no technical details
- **Needs:** Direct links to code, technical depth, clear architecture explanations

Usability Goals

1. **Immediate Engagement:** Visitors understand the unique concept within 5 seconds
2. **Efficient Navigation:** Users can find specific information (skills, projects, contact) within 30 seconds
3. **Memorable Experience:** 90%+ of visitors remember "the music portfolio" weeks later
4. **Low Friction:** No forced interactions, intuitive controls, respectful of user preferences
5. **Professional + Creative Balance:** Showcases creativity without sacrificing professionalism

Design Principles

1. **"Familiar Yet Fresh"** - Use established music player patterns (Spotify, Apple Music) but add unique touches that surprise and delight
2. **"Let the Music Guide"** - Audio and visuals work together to create atmosphere, but never distract from content
3. **"Accessible Creativity"** - Innovative design never comes at the expense of usability or accessibility
4. **"Progressive Disclosure"** - Surface key information immediately, depth available on demand
5. **"Respect User Agency"** - No auto-play, no forced interactions, users control their experience

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Information Architecture

Site Map / Screen Inventory

mermaid

```
graph TD
    A[Landing: Album View] --> B[Track 1: University Years]
    A --> C[Track 2: Work Experience]
    A --> D[Track 3: Side Projects]
    A --> E[Track 4: Technical Skills]
    A --> F[Track 5: Interests & Hobbies]

    B --> B1[Project Detail Modal]
    C --> C1[Project Detail Modal]
    D --> D1[Project Detail Modal]

    A --> G[AI DJ Chat]
    B --> G
    C --> G
    D --> G
    E --> G
    F --> G

    B -.Shuffle.-> C
    C -.Shuffle.-> E
    D -.Shuffle.-> F
```

Navigation Structure

Primary Navigation:

- Album view serves as home/hub
- Track list visible at all times (sidebar on desktop, menu on mobile)
- Current track highlighted in navigation
- Shuffle button always accessible

Secondary Navigation:

- Previous/Next track buttons
- Return to Album View button
- Quick links within track content

Breadcrumb Strategy: Not needed - music player paradigm doesn't use breadcrumbs. Track indicator (e.g., "Track 2 of 5") provides context.

User Flows

Flow 1: First-Time Visitor Explores Portfolio

User Goal: Understand who Diego is and what he can do

Entry Points: Direct URL, LinkedIn link, QR code from resume

Success Criteria: User explores at least 2 tracks and understands Diego's key skills

Flow Diagram:

```
mermaid

graph TD
    A[Land on Album View] --> B{Read Title/Intro}
    B --> C[See 5 Tracks Listed]
    C --> D{Choose Entry Point}
    D -->|Click Track| E[View Track Content]
    D -->|Click Play All| E
    D -->|Click Shuffle| F[Random Track]

    E --> G[Read Content]
    G --> H{Want More?}
    H -->|Yes| I[Click Project Details]
    H -->|Different Track| J[Navigate to Next Track]
    H -->|Ask Question| K[Open AI DJ Chat]

    I --> L[View Project Detail]
    L --> M[Click GitHub/Demo Links]

    K --> N[Chat with AI DJ]
    N --> O[Get Answers]

    J --> G
```

Edge Cases & Error Handling:

- **Slow Connection:** Progressive loading with skeleton screens
- **No Audio Support:** Visual-only experience with message about audio
- **Broken Links:** Graceful 404 with return to album view
- **Chat API Down:** Friendly error message, alternative contact info shown

Notes: First impression is critical. Landing page must immediately communicate the unique concept while remaining professional.

Flow 2: Recruiter Looking for Specific Information

User Goal: Quickly find contact info and assess technical skills

Entry Points: Direct URL from application, LinkedIn

Success Criteria: Find contact info within 30 seconds, understand skill level

Flow Diagram:

```
mermaid

graph TD
    A[Land on Album View] --> B{Scan for Quick Info}
    B --> C[See Contact Button/Link]
    B --> D[See Track 4: Technical Skills]

    C --> E[Click Contact]
    E --> F[Get Email/LinkedIn]

    D --> G[View Skills List]
    G --> H[Scan Categories]
    H --> I{Satisfied?}
    I -->|Yes| J[Copy Contact Info]
    I -->|Want More| K[Click Track 2: Work Experience]
```

Edge Cases & Error Handling:

- **Contact Link Broken:** Multiple contact methods visible
- **Skills Too Technical:** AI DJ offers to explain
- **Mobile Viewing:** Touch-optimized, easy scrolling

Notes: Must support quick "scan and extract" behavior without forcing engagement with full experience.

Flow 3: Developer Deep Dive into Projects

User Goal: Assess technical depth and code quality

Entry Points: Shared link, GitHub profile link

Success Criteria: View multiple projects, access GitHub repos, understand technical choices

Flow Diagram:

```
mermaid

graph TD
  A[Land on Album View] --> B[Navigate to Track 3: Projects]
  B --> C[Browse Project Cards]
  C --> D[Click Project of Interest]
  D --> E[View Project Detail Modal]

  E --> F[Read Description]
  F --> G[See Tech Stack]
  G --> H[View Screenshots/Demo]
  H --> I{Want Code?}

  I -->|Yes| J[Click GitHub Link]
  I -->|More Projects| K[Close Modal, Browse More]
  I -->|Questions| L[Ask AI DJ Technical Question]

  J --> M[View on GitHub]
  L --> N[Get Technical Answer]
```

Edge Cases & Error Handling:

- **GitHub Link Broken:** Alternative demo/documentation links provided
- **No Project Details:** AI DJ can provide more context
- **Large Images:** Lazy loading, optimized formats

Notes: This user wants depth, not fluff. Provide direct access to code and technical details.

Wireframes & Mockups

Primary Design Files

Design Tool: Figma

File Location: [To be created - recommend Figma for design system and component library]

Key Screen Layouts

Screen: Album View (Landing Page)

Purpose: First impression, portfolio overview, entry point to all tracks

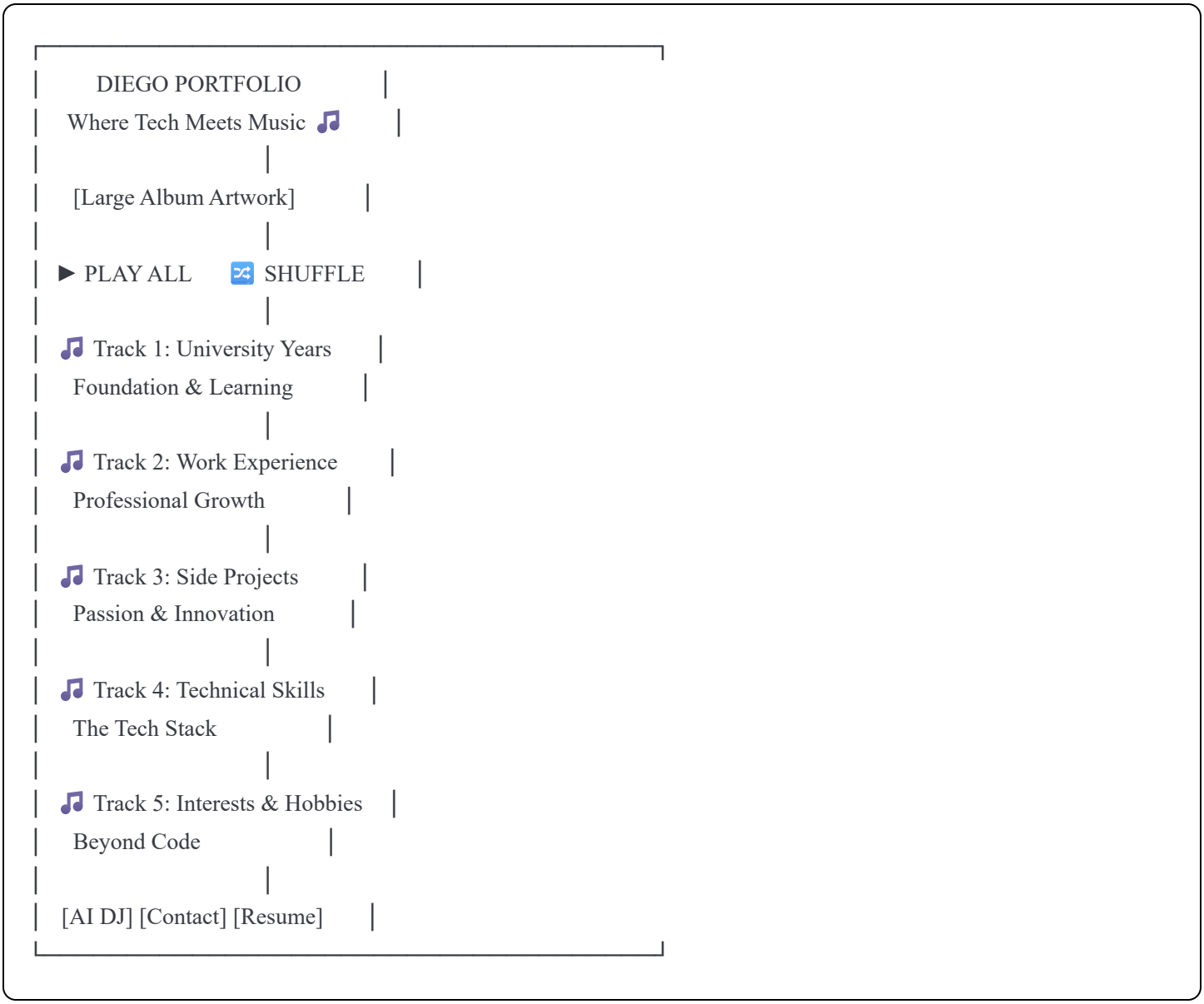
Key Elements:

- Hero section with portfolio title "Diego Portfolio" and tagline
- Album artwork or hero visual (abstract, music-themed)
- Track listing showing all 5 tracks with numbers, titles, brief descriptions
- Large "Play" or "Start Experience" button
- Visual indicators for features (AI DJ, Interactive Visualizations)
- Subtle music-themed design elements (vinyl record, waveforms, play buttons)

Interaction Notes:

- Hovering track shows preview or animation
- Play button begins from Track 1
- Shuffle button visible for random entry
- Scroll to see all tracks on mobile

Layout Structure:



Screen: Track View (Individual Track Page)

Purpose: Display track-specific content with audio and visuals

Key Elements:

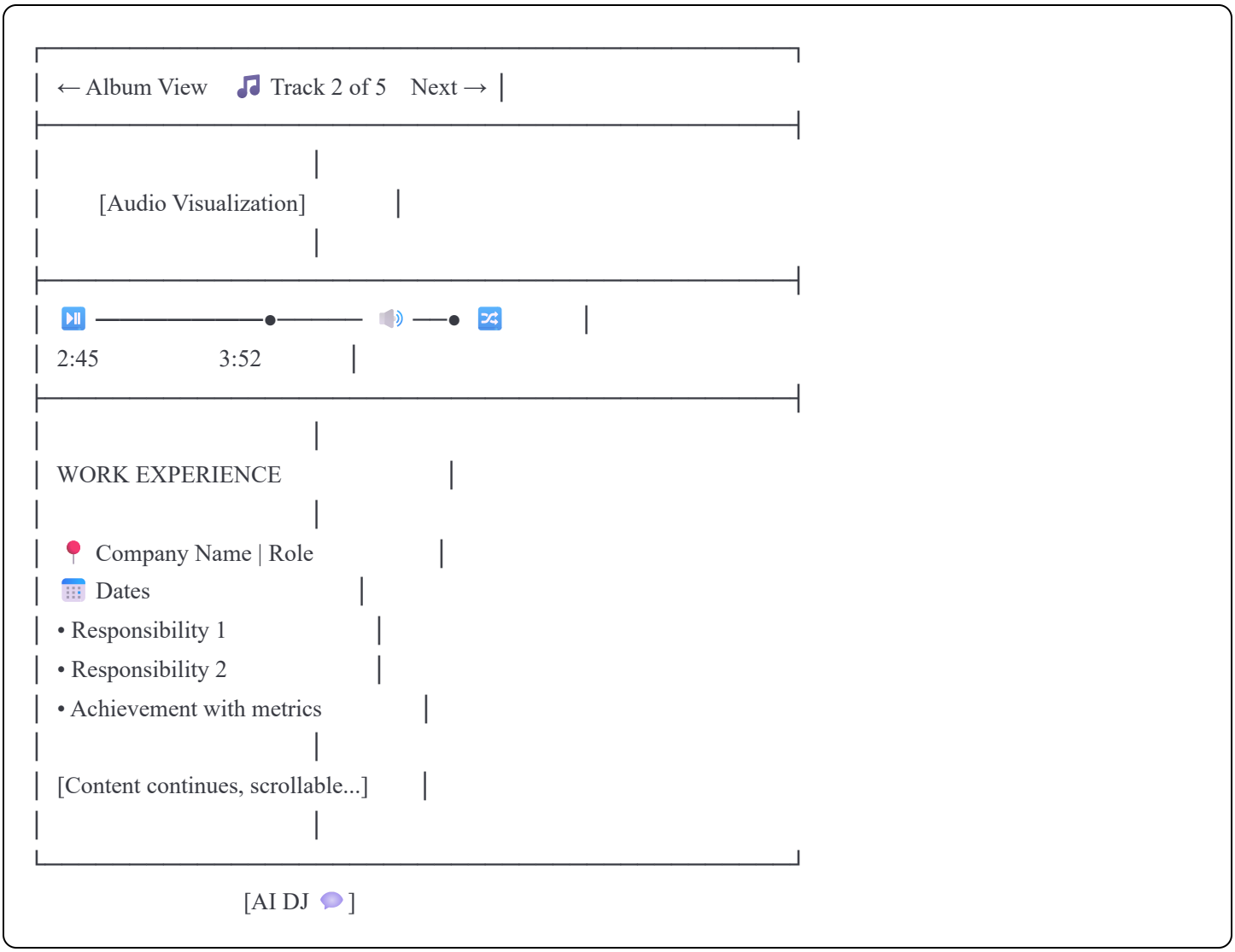
- Track header (number, title, description)
- Audio player controls (play/pause, timeline, volume, mute)
- Audio visualization canvas (full-width or background)
- Main content area (scrollable)
- Track navigation (previous/next)
- AI DJ chat button (floating or sidebar)

- Return to album view button

Interaction Notes:

- Audio controls sticky/fixed position
- Visualization reacts to audio in real-time
- Content scrolls independently of controls
- Smooth transitions between tracks

Layout Structure (Desktop):



Screen: AI DJ Chat Interface

Purpose: Interactive Q&A about Diego's background

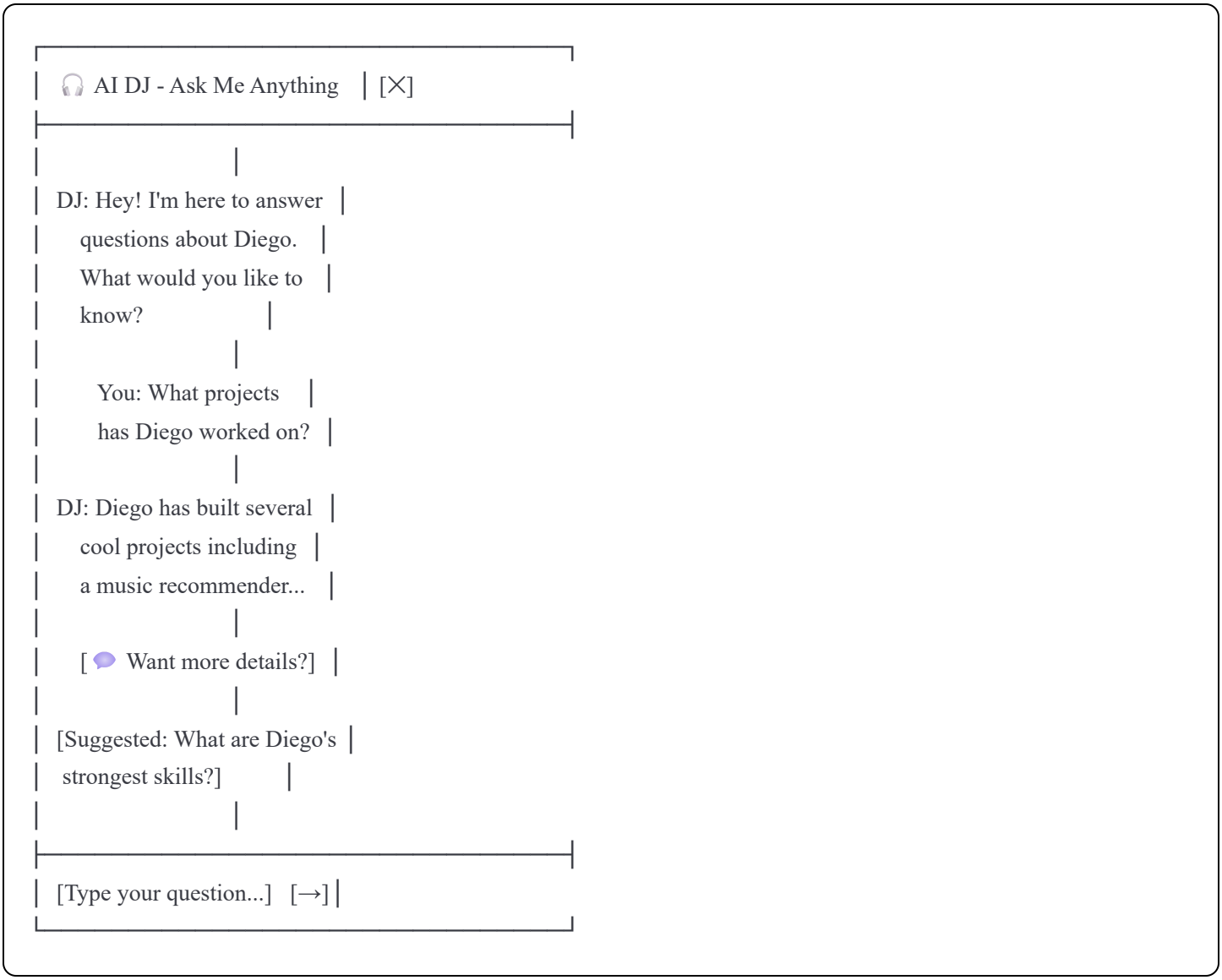
Key Elements:

- Chat header with AI DJ branding/personality
- Conversation thread (scrollable)
- Message input field
- Send button
- Suggested questions (chips/bubbles)
- Clear/reset conversation button
- Close button

Interaction Notes:

- Opens as modal, drawer, or sidebar
- Accessible from any page
- Messages stream in (typing indicator)
- "Want more details?" appears after summary responses
- Suggested questions clickable

Layout Structure:



Component Library / Design System

Design System Approach

Foundation: Custom design system built specifically for Diego Portfolio, optimized for music-themed interface with modern, accessible components.

Component Philosophy:

- Reusable, composable components
- Consistent props API across similar components
- Accessibility built-in by default
- Theme-aware (supports visual variations per track)

Core Components

Component: AudioPlayer

Purpose: Global audio playback controls

Variants:

- Full (desktop) - all controls visible
- Compact (mobile) - essential controls only

States:

- Playing
- Paused
- Loading
- Error (audio failed to load)

Usage Guidelines:

- Always visible when audio is available
- Sticky positioning (bottom of viewport)
- Controls remain accessible while scrolling
- Keyboard shortcuts supported (spacebar = play/pause)

Component: TrackCard

Purpose: Displays track in album view listing

Variants:

- Default (in list)
- Featured (larger, hero-style)
- Compact (mobile)

States:

- Default
- Hover (preview animation)

- Active (currently playing)
- Disabled

Usage Guidelines:

- Clickable entire card
- Track number always visible
- Brief description truncated at 2 lines
- Smooth hover transitions

Component: Visualization Canvas

Purpose: Real-time audio-reactive visual display

Variants:

- Frequency Bars
- Waveform
- Particles
- Circular (radial)

States:

- Active (audio playing, animating)
- Paused (static/frozen)
- Loading

Usage Guidelines:

- Full-width or background element
- Never blocks content
- Performance-optimized (30+ FPS)
- Responsive to screen size

Component: ChatMessage

Purpose: Individual message in AI DJ conversation

Variants:

- User Message (right-aligned, different style)
- AI Message (left-aligned, DJ personality)
- System Message (centered, low emphasis)

States:

- Sending
- Sent
- Error

Usage Guidelines:

- Timestamp optional
- "More details" button inline
- Suggested questions as chips
- Markdown support for formatting

Component: ProjectCard

Purpose: Display project in grid or list

Variants:

- Grid Card (image + title + brief)
- List Item (horizontal layout)
- Featured (larger with more detail)

States:

- Default
- Hover (lift effect, show "View Details")
- Loading

Usage Guidelines:

- Always shows tech stack tags
- Links prominently displayed
- Image optimized and lazy-loaded
- Click anywhere to open details

Component: NavigationSidebar

Purpose: Track list navigation

Variants:

- Desktop (always visible sidebar)
- Mobile (hamburger menu drawer)

States:

- Expanded
- Collapsed
- Active track highlighted

Usage Guidelines:

- Current track visually distinct
- Click track to navigate
- Close on mobile after selection
- Keyboard accessible

Branding & Style Guide

Visual Identity

Brand Guidelines: Diego Portfolio brand is modern, technical, and creative with strong music influences. The visual identity balances professional polish with playful creativity, appealing to tech recruiters while showcasing personality.

Design Inspiration:

- Spotify's clean, dark interface

- Apple Music's typography and spacing
- SoundCloud's waveform visualizations
- Modern portfolio sites (Awwwards winners)
- Synthwave/retrowave aesthetics (subtle influence)

Color Palette

Color Type	Hex Code	Usage	Notes
Primary	#1DB954	CTA buttons, active states, accents	Spotify-inspired green, energetic
Secondary	#6366F1	Links, secondary actions	Indigo, tech-forward
Accent	#F59E0B	Highlights, special elements	Amber, warm contrast
Success	#10B981	Positive feedback, completed states	Emerald green
Warning	#F59E0B	Cautions, important notices	Amber (same as accent)
Error	#EF4444	Errors, destructive actions	Red, clear alert
Background Dark	#0F172A	Main background	Slate 900, rich dark
Background Light	#1E293B	Cards, elevated surfaces	Slate 800
Text Primary	#F8FAFC	Main text, headings	Slate 50, high contrast
Text Secondary	#CBD5E1	Secondary text, captions	Slate 300, readable
Border	#334155	Dividers, borders	Slate 700, subtle

Accessibility Notes:

- All color combinations meet WCAG AA (4.5:1 contrast minimum)
- Primary green on dark background: 4.8:1 contrast
- Text primary on background dark: 18:1 contrast

Typography

Font Families

- **Primary (Headings):** 'Inter', system-ui, -apple-system, sans-serif
- **Secondary (Body):** 'Inter', system-ui, -apple-system, sans-serif
- **Monospace (Code):** 'Fira Code', 'Courier New', monospace

Rationale: Inter is modern, highly readable, excellent for interfaces, and includes proper font weights. Single font family creates cohesion while reducing page weight.

Type Scale

Element	Size	Weight	Line Height	Usage
H1	48px (3rem)	700 Bold	1.2	Page titles, hero
H2	36px (2.25rem)	600 Semibold	1.3	Section headings
H3	24px (1.5rem)	600 Semibold	1.4	Subsections, track titles
H4	20px (1.25rem)	600 Semibold	1.5	Component headers
Body Large	18px (1.125rem)	400 Regular	1.6	Intro paragraphs, emphasis
Body	16px (1rem)	400 Regular	1.6	Main content, descriptions
Body Small	14px (0.875rem)	400 Regular	1.5	Captions, metadata, labels
Tiny	12px (0.75rem)	500 Medium	1.4	Tags, timestamps, smallest text

Iconography

Icon Library: Lucide Icons (https://lucide.dev)

Usage Guidelines:

- Use outline style for consistency
- Icon size: 20px (default), 24px (prominent actions), 16px (inline)
- Always pair icons with text labels for accessibility
- Use semantic icons (play = ▶️, pause = ⏸️, etc.)

Common Icons:

- Play: `play-circle`
- Pause: `pause-circle`
- Shuffle: `shuffle`
- Next: `skip-forward`
- Previous: `skip-back`
- Volume: `volume-2`, `volume-x` (muted)
- Chat: `message-circle`
- External Link: `external-link`
- GitHub: `github` (brand icon)

Spacing & Layout

Grid System: 12-column grid with consistent gutters

Container Max Width:

- Desktop: 1280px
- Tablet: 100% with padding
- Mobile: 100% with padding

Spacing Scale (Tailwind-inspired):

- 4px (0.25rem) - xs
- 8px (0.5rem) - sm
- 12px (0.75rem) - md
- 16px (1rem) - base
- 24px (1.5rem) - lg
- 32px (2rem) - xl
- 48px (3rem) - 2xl
- 64px (4rem) - 3xl
- 96px (6rem) - 4xl

Layout Principles:

- Generous whitespace for breathing room
- Consistent padding within cards/sections (24px desktop, 16px mobile)
- Sections separated by 48-64px vertically
- Related content grouped with less spacing (8-16px)

Accessibility Requirements

Compliance Target

Standard: WCAG 2.1 Level AA

Priority: Accessibility is a first-class requirement, not an afterthought. Every component must be usable by keyboard, screen reader, and assistive technologies.

Key Requirements

Visual:

- **Color Contrast Ratios:** 4.5:1 minimum for normal text, 3:1 for large text (18px+)
- **Focus Indicators:** Visible focus ring on all interactive elements (2px solid, high contrast)
- **Text Sizing:** User can zoom to 200% without loss of functionality

Interaction:

- **Keyboard Navigation:** All functionality available via keyboard (Tab, Enter, Space, Arrows, Esc)
- **Screen Reader Support:** Proper ARIA labels, roles, and live regions for dynamic content
- **Touch Targets:** Minimum 44x44px for mobile touch targets

Content:

- **Alternative Text:** All images have descriptive alt text (decorative images marked with alt="")
- **Heading Structure:** Logical heading hierarchy (H1 → H2 → H3, no skipping levels)
- **Form Labels:** All inputs have associated labels or aria-label

Specific Accessibility Features

Audio Player:

- ARIA labels for all controls
- Keyboard shortcuts announced to screen readers
- Visual indication of playback state
- Volume level announced when changed

Navigation:

- Skip to main content link
- Breadcrumb or track indicator for context
- Keyboard shortcuts for track navigation (documented)

Chat Interface:

- Live region announces new messages
- Input field properly labeled
- Send button keyboard accessible
- Clear conversation keyboard shortcut

Visualizations:

- Alternative text describes what visualization represents
- Not critical to content understanding (enhancement only)
- Can be disabled if causing seizure risk (unlikely but checked)

Testing Strategy

Automated Testing:

- axe DevTools for automated checks
- Lighthouse accessibility audit (100 score target)
- Pa11y CI for continuous testing

Manual Testing:

- Keyboard-only navigation
- Screen reader testing (NVDA on Windows, VoiceOver on Mac/iOS)
- Zoom testing (200% browser zoom)
- Color blindness simulation

Responsiveness Strategy

Breakpoints

Breakpoint	Min Width	Max Width	Target Devices	Layout Changes
Mobile	320px	767px	Phones	Single column, stacked layout, hamburger menu
Tablet	768px	1023px	Tablets, small laptops	2-column where appropriate, larger touch targets
Desktop	1024px	1279px	Laptops, small desktop	Full layout, sidebar navigation, multi-column
Wide	1280px	-	Large desktop, ultra-wide	Max-width container, enhanced visualizations

Adaptation Patterns

Layout Changes:

- **Mobile:** Single column, vertical stack, bottom-aligned audio player
- **Tablet:** 2-column grid for projects, side-by-side elements where space allows
- **Desktop:** Sidebar navigation always visible, multi-column layouts, floating AI DJ

Navigation Changes:

- **Mobile:** Hamburger menu (☰) reveals track list, bottom navigation bar
- **Tablet:** Collapsible sidebar, hybrid approach
- **Desktop:** Always-visible sidebar with all tracks listed

Content Priority:

- **Mobile:** Essential info first, "show more" patterns for detail
- **Tablet:** More content visible, less truncation
- **Desktop:** Full content visible, detailed views default

Interaction Changes:

- **Mobile:** Touch-optimized (larger targets, swipe gestures), simplified visualizations
- **Tablet:** Hybrid touch + cursor, medium complexity
- **Desktop:** Hover states, keyboard shortcuts, full-featured visualizations

Mobile-Specific Considerations

Touch Targets:

- Minimum 44x44px for all interactive elements
- Extra padding around small buttons
- Swipe gestures for track navigation (optional)

Performance:

- Simplified visualizations on mobile
- Lazy loading more aggressive
- Smaller audio file quality options

- Reduce animation complexity

UI Adaptations:

- Bottom sheet for AI DJ chat
- Fixed bottom player with minimal controls
- Full-screen track view (no sidebar)
- Pull-to-refresh (optional)

Animation & Micro-interactions

Motion Principles

Philosophy: Animations should feel smooth, purposeful, and respect user preferences (prefers-reduced-motion). Music-themed portfolio can have more personality than typical site, but never distract.

Duration Guidelines:

- **Fast (100-200ms):** Hover effects, button presses, small UI changes
- **Medium (200-400ms):** Panel transitions, modal open/close, page transitions
- **Slow (400-800ms):** Complex animations, visualizations, entrance effects

Easing Functions:

- **Ease-out:** Most UI transitions (starts fast, slows to stop)
- **Ease-in-out:** Smooth both ways (modals, page transitions)
- **Spring:** Playful elements (like buttons, cards)

Key Animations

Track Card Hover:

- **Effect:** Subtle lift (translate Y: -4px), shadow increase, scale: 1.02
- **Duration:** 200ms ease-out
- **Trigger:** Mouse hover, keyboard focus

Track Transition:

- **Effect:** Fade out current, fade in next with slight slide

- **Duration:** 400ms ease-in-out
- **Trigger:** Track navigation

Audio Visualization:

- **Effect:** Continuous, real-time response to frequency data
- **Duration:** Frame-by-frame (60fps target)
- **Trigger:** Audio playing

Chat Message Appearance:

- **Effect:** Fade + slide from bottom
- **Duration:** 300ms ease-out
- **Trigger:** New message received

Button Press:

- **Effect:** Scale down slightly (0.95), color darken
- **Duration:** 100ms ease-out
- **Trigger:** Click, tap, Enter key

Modal Open:

- **Effect:** Backdrop fade in, modal slide up + fade in
- **Duration:** 300ms ease-out
- **Trigger:** Click project card, open chat

Shuffle Activation:

- **Effect:** Shuffle icon spin, track list briefly scrambles visually
- **Duration:** 400ms ease-in-out
- **Trigger:** Click shuffle button

Micro-interactions

Audio Player:

- Play button morphs to pause
- Progress bar scrubbing shows hover tooltip with time

- Volume slider expands on hover
- Mute icon changes based on state

Project Cards:

- Tags/tech stack animate in on hover (stagger effect)
- "View Details" text fades in
- Background color shifts subtly

AI DJ Chat:

- Typing indicator (three dots bounce)
- "Want more details?" button pulses gently
- Suggested questions fade in after response

Track Navigation:

- Active track pulses subtly
- Next track preview on hover (shows first line of content)

Performance Considerations

Performance Goals

- **Page Load:** First Contentful Paint < 1.5s, Largest Contentful Paint < 2.5s
- **Interaction:** Response to user input < 100ms
- **Animation FPS:** 60fps for smooth animations, 30fps minimum for visualizations
- **Bundle Size:** Initial JS < 200KB gzipped

Design Strategies

Image Optimization:

- Use WebP format with JPEG fallback
- Responsive images (srcset) for different screen sizes
- Lazy loading for below-fold images
- Blur-up placeholders for smooth loading

Code Splitting:

- Route-based code splitting (each track = separate bundle)
- Component lazy loading (modals, chat interface)
- Defer non-critical features (analytics, share buttons)

Re-render Optimization:

- Memoize expensive calculations
- Use React.memo for pure components
- Avoid unnecessary state updates
- Optimize visualization rendering (RAF, debounce)

Audio Performance:

- Compressed, optimized audio files (MP3 or AAC, 128-192kbps)
- Progressive streaming for audio
- Preload next track audio
- Cancel requests when navigating away

Next Steps

Immediate Actions

1. **Create Visual Mockups in Figma**
   - Design album view, track pages, chat interface
   - Define exact visual style, colors, and spacing
   - Create component library in Figma
2. **Validate with User Testing (Optional)**
   - Show mockups to 3-5 potential users (recruiters, developers)
   - Gather feedback on clarity, usability, and appeal
   - Iterate based on feedback
3. **Prepare Design Assets**
   - Export icons and graphics

- Document component specifications
- Create design system documentation

4. **Handoff to Architecture**
   - Provide UX spec to architect for technical implementation planning
   - Collaborate on technical feasibility

Design Handoff Checklist

- [x] Overall UX vision defined
- [x] User flows documented
- [x] Component library specified
- [x] Accessibility requirements detailed
- [x] Responsive strategy defined
- [x] Animation guidelines provided
- [ ] Visual mockups created in Figma
- [ ] Design assets exported
- [ ] Component specs finalized
- [ ] Design system documented