HOME — PROTOTIPO INTERATIO

Danilo Novais Portfolio Homepage
Technical Documentation & Design Specifications
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Version: 3.0
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Status: ✅ Ready for Implementation

1. PROJECT OVERVIEW

1.1 Vision & Goals
Create a premium institutional portfolio that demonstrates design
 excellence not just through showcased work, but through the site's own
 execution. The homepage must:
— Establish immediate credibility through atmospheric visual design and
 editorial sophistication
— Guide visitors intuitively from brand introduction → work showcase →
 contact
— Feel distinctive and memorable without sacrificing usability or
 accessibility
— Perform flawlessly across all devices and connection speeds
— Reflect the designer's philosophy: "You don't see design. But it sees
 you."

Success looks like:
— Visitors spending 2+ minutes exploring the portfolio
— High engagement with featured projects (50%+ click-through)
— Contact form conversions from qualified leads
— Zero accessibility violations (WCAG AA minimum)
— Lighthouse scores: Performance 90+, Accessibility 100, Best Practices 100

1.2 Target Audience
Primary:
— Brand managers and marketing directors at mid-to-large companies seeking
 design partners
— Creative agencies looking for freelance brand designers or collaborators
— Startups and scale-ups needing brand identity and campaign work

Secondary:
— Design recruiters and HR professionals
— Fellow designers and creative community (peer recognition)
— Potential collaborators for interdisciplinary projects

User Needs:
— Quickly understand what Danilo does and his areas of expertise
— See evidence of high-quality work across branding, campaigns, and digital
— Assess cultural fit and working style
— Easily initiate contact

1.3 Key Success Metrics
Engagement: Average session duration, scroll depth, interaction rate
Conversion: Contact form submissions, portfolio page visits
Technical: Page load time <3s, Core Web Vitals passing, 0 console errors
Accessibility: WCAG AA compliance, keyboard navigation coverage

1.4 Technical Constraints
- No localStorage/sessionStorage in artifacts (Claude.ai environment restriction)
- Self-hosted assets where possible to avoid external dependencies
- Graceful degradation for WebGL/3D features (fallback to static alternatives)
- Mobile-first responsive design (majority of traffic expected from mobile)
- Performance budget: <2MB initial page weight, <5s time to interactive

2. DESIGN SYSTEM

2.1 Color Palette

Token	Value	Uso
bluePrimary	`#0048ff`	Cor primária da marca, CTAs, links, elementos interativos
blueAccent	`#4fe6ff`	Destaques secundários, brilhos "ghost"/atmosfera
purpleDetails	`#8705f2`	Pequenos detalhes e highlights
pinkDetails	`#f501d3`	Pequenos detalhes, ênfases pontuais
background	`#040013`	Fundo escuro principal
backgroundLight	`#f0f0f0`	Seções claras (forms, blocos alternados)
text	`#fcffff`	Texto principal em fundo escuro
textInverse	`#0e0e0e`	Texto em fundos claros
textEmphasis	`#2E85F2`	Palavras destacadas no meio do texto
textHighlight	`#4fe6ff`	Destaques curtos, intros breves
textSecondary	`#a1a3a3`	Infos secundárias, metadata
neutral	`#0b0d3a`	Gradientes, fundos sutis
neutralLight	`#F5F5F5`	Fundos de seções secundárias

> Obs: `textEmphasis` estava com `##2E85F2` e `textHilght` com typo — normalizei para `textHighlight`.

2.2 Typography

Fonte primária: TT Norms Pro (self-hosted, fallback: `ui-sans-serif, system-ui`)

Tokens de texto **responsivos** (usando `clamp`) para manter coerência em todos os breakpoints:

Token	Mobile (~<640px)	Desktop (~≥1024px)	Peso	Uso
display	2.5rem (40px)	4.5rem (72px)	Black	Frases grandes no meio da página, não-semânticas (Big Phrase)
h1	2rem (32px)	3.5rem (56px)	Bold	Hero headlines, títulos principais
h2	1.5rem (24px)	2.5rem (40px)	Bold	Títulos de seção
h3	1.25rem (20px)	1.75rem (28px)	Medium	Títulos de cards, subtítulos
body	1rem (16px)	1.125rem (18px)	Regular	Texto corrido
small	0.875rem (14px)	0.875rem (14px)	Reg/Med	Labels, legendas
micro	0.75rem (12px)	0.75rem (12px)	Mono	Tags, infos de sistema

Tokens em CSS com `clamp()`

```css
:root {
  --font-display: clamp(2.5rem, 5vw, 4.5rem);
  --font-h1:      clamp(2rem, 4vw, 3.5rem);
  --font-h2:      clamp(1.5rem, 3vw, 2.5rem);
  --font-h3:      clamp(1.25rem, 2vw, 1.75rem);
  --font-body:    clamp(1rem, 1.2vw, 1.125rem);
  --font-small:   0.875rem;
  --font-micro:   0.75rem;
}

body {
  font-family: "TT Norms Pro", ui-sans-serif, system-ui, -apple-system,
   BlinkMacSystemFont,
    "Segoe UI", sans-serif;
}

.display-text {
  font-size: var(--font-display);
  font-weight: 700;
  line-height: 1.1;
}
```

```css
.h1 {
  font-size: var(--font-h1);
  font-weight: 700;
  line-height: 1.1;
}

.h2 {
  font-size: var(--font-h2);
  font-weight: 700;
  line-height: 1.15;
}

.h3 {
  font-size: var(--font-h3);
  font-weight: 500;
  line-height: 1.2;
}

.body {
  font-size: var(--font-body);
  font-weight: 400;
  line-height: 1.5;
}

.small {
  font-size: var(--font-small);
}

.micro {
  font-size: var(--font-micro);
  font-family: ui-monospace, SFMono-Regular, Menlo, Monaco, Consolas,
    "Liberation Mono", "Courier New",
    monospace;
}
```

Versão conceitual em Tailwind

```js
// tailwind.config.js
module.exports = {
  theme: {
    extend: {
      fontFamily: {
        sans: ['"TT Norms Pro"', "ui-sans-serif", "system-ui"],
      },
      fontSize: {
        display: [
          "clamp(2.5rem, 5vw, 4.5rem)",
          { lineHeight: "1.1", fontWeight: "700" },
        ],
        h1: [
          "clamp(2rem, 4vw, 3.5rem)",
          { lineHeight: "1.1", fontWeight: "700" },
        ],
        h2: [
          "clamp(1.5rem, 3vw, 2.5rem)",
```

```
          { lineHeíght: "1.15", fontWeight: "700" },
        ],
        h3: [
          "clamp(1.25rem, 2vw, 1.75rem)",
          { lineHeight: "1.2", fontWeight: "500" },
        ],
        body: [
          "clamp(1rem, 1.2vw, 1.125rem)",
          { lineHeight: "1.5", fontWeight: "400" },
        ],
        small: ["0.875rem", { lineHeight: "1.4" }],
        micro: ["0.75rem", { lineHeight: "1.4" }],
      },
    },
  },
};']
```

2.3 Spacing & Grid

Container
- max-width: 1680px
- Padding horizontal: clamp(24px, 5vw, 96px)

Ritmo Vertical
- Seções: py-16 md:py-24
- Componentes: gap-8 md:gap-12
- Elementos internos: gap-4 md:gap-6

Grid (Tailwind)
- Mobile (até md):
- Layout: 1 coluna (grid-cols-1 ou flex flex-col)
- w-full
- Alinhamento:
- text-center para todos os textos
- items-center e justify-center para stacks verticais (flex-col)
- Tablet (md:):
- Cards em md:grid-cols-2
- Hero / destaques podem continuar 1 coluna
- Textos podem voltar a text-left se fizer sentido
- Desktop (lg:+):
- Distribuição customizada por seção
- Textos geralmente alinhados à esquerda para leitura longa

Regra de alinhamento para mobile (base do sistema):

Breakpoint padrão: < 768px
Regra:
- Todos os títulos (display, h1, h2, h3), parágrafos e CTAs usam text-align: center.
- Componentes em coluna usam align-items: center.
- Imagens e ícones principais centralizados (margin-inline: auto).

Exemplo padrão de seção:

```
<section className="flex flex-col items-center text-center md:items-start
 md:text-left">
  {/* conteúdo */}
</section>
```

2.4 Animation Principles

Filosofia: animações orgânicas e intencionais, nunca gratuitas.

Core Library: Framer Motion

Diretrizes:
- Animar apenas transform e opacity (performance)
- Easing: cubic-bezier(0.22, 1, 0.36, 1) (easeOutExpo)
- Duração: 300–700ms na maioria das transições
- Stagger: 60–120ms entre elementos sequenciais
- Respeitar prefers-reduced-motion: desabilitar animações não essenciais

Padrões comuns:

```
// Scroll reveal
<motion.div
  initial={{ opacity: 0, y: 24 }}
  whileInView={{ opacity: 1, y: 0 }}
  transition={{ duration: 0.6, ease: [0.22, 1, 0.36, 1] }}
/>

// Hover (botões, cards)
<motion.button
  whileHover={{ scale: 1.02, y: -2 }}
  transition={{ duration: 0.3 }}
/>

// Staggered children
const variants = {
  hidden: { opacity: 0 },
  visible: {
    opacity: 1,
    transition: { staggerChildren: 0.08 },
  },
};
```

Em mobile, como tudo é centralizado e o fluxo é vertical, as entradas
 preferenciais vêm de baixo (y: 24 → 0) acompanhando o scroll.

2.5 Display Text / Big Phrases (Frases em destaque)

Frases grandes no meio da página, com grande destaque visual, mas sem
 função de título semântico.

Token: display

Diretrizes de uso:
 ●   Quando usar:
 ●   Frases de impacto, statements da marca, quotes, promessas fortes
  de seção.
 ●   Semântica:
 ●   Usar como <p> ou <span> com classe específica:
 ●   className="display-text" ou className="text-display"
 ●   Exemplo:

```
<p className="text-display">
  Construímos experiências digitais que parecem magia, mas são guiadas por
   dados.
</p>
```

 ●   Alinhamento:
 ●   Mobile: sempre centralizado, com largura limitada:
 ●   Ex.: className="text-display max-w-2xl mx-auto text-center"
 ●   Desktop: pode ser centralizado ou seguir a grid da seção
  (recomendado manter centralizado em blocos de destaque).
 ●   Espaçamento:
 ●   Mais respiro que títulos normais:
 ●   Ex.: mt-16 mb-12 (ajustar conforme a seção).
 ●   Cores:
 ●   Base: text (#fcffff)
 ●   Palavras-chave com textEmphasis e textHighlight.

Exemplo em JSX/Tailwind:

```
<section className="py-16 flex flex-col items-center text-center">
  <p className="text-display max-w-2xl mx-auto">
    Criamos produtos que parecem
    <span className="text-textHighlight"> magia</span>, mas são construídos
     com
    <span className="textEmphasis"> engenharia séria</span>.
  </p>
</section>
```

2.6 Global Assets
Logos:
- Favicon:
 `https://aymuvxysygrwoicsjgxj.supabase
 .co/storage/v1/object/public/logo_site/Favicon.svg`
- Favicon Light:
 `https://aymuvxysygrwoicsjgxj.supabase
 .co/storage/v1/object/public/logo_site/FaviconLight.svg`

- Logo Light (full):
  `https://aymuvxysygrwoicsjgxj.supabase
  .co/storage/v1/object/public/logo_site/LogoLight.svg`
- Logo Dark (full):
  `https://aymuvxysygrwoicsjgxj.supabase
  .co/storage/v1/object/public/logo_site/LogoDark.svg`

2.7 Fonts:
- font-family: 'TT Norms Pro';
  src:
   url('https://aymuvxysygrwoicsjgxj.supabase
   .co/storage/v1/object/public/assets/fonts/TT%20Norms%20Pro%20Thin
   .woff2') format('woff2');
  font-weight: 100;
  font-style: normal;
  font-display: swap;

- font-face {
  font-family: 'TT Norms Pro';
  src:
   url('https://aymuvxysygrwoicsjgxj.supabase
   .co/storage/v1/object/public/assets/fonts/TT%20Norms%20Pro%20Light
   .woff2') format('woff2');
  font-weight: 300;
  font-style: normal;
  font-display: swap;

- font-face {
  font-family: 'TT Norms Pro';
  src:
   url('https://aymuvxysygrwoicsjgxj.supabase
   .co/storage/v1/object/public/assets/fonts/TT%20Norms%20Pro%20Regular
   .woff2') format('woff2');
  font-weight: 400;
  font-style: normal;
  font-display: swap;

- font-face {
  font-family: 'TT Norms Pro';
  src:
   url('https://aymuvxysygrwoicsjgxj.supabase
   .co/storage/v1/object/public/assets/fonts/TT%20Norms%20Pro%20Medium
   .woff2') format('woff2');
  font-weight: 500;
  font-style: normal;
  font-display: swap;

- font-face {
  font-family: 'TT Norms Pro';
  src:
   url('https://aymuvxysygrwoicsjgxj.supabase
   .co/storage/v1/object/public/assets/fonts/TT%20Norms%20Pro%20Bold
   .woff2') format('woff2');
  font-weight: 700;

```
    font-style: normal;
    font-display: swap;


— font-face {
    font-family: 'TT Norms Pro';
    src:
     url('https://aymuvxysygrwoicsjgxj.supabase
     .co/storage/v1/object/public/assets/fonts/TT%20Norms%20Pro%20Black
     .woff2') format('woff2');
    font-weight: 900;
    font-style: normal;
    font-display: swap;
}

/* Fonte Mono para Tags */
@font-face {
    font-family: 'PPSupplyMono';
    src: url('https://assets.codepen.io/7558/PPSupplyMono-Variable.woff2')
     format('woff2');
    font-weight: 100 900;
    font-style: normal;
    font-display: swap;
}

Videos:
— Manifesto Video:
 `https://aymuvxysygrwoicsjgxj.supabase
 .co/storage/v1/object/public/project-videos/VIDEO-APRESENTACAO-PORTFOLIO
 .mp4`

Client Logos:
— 12 monochromatic SVG logos: `client1.svg` through `client12.svg`
— Base URL:
 `https://aymuvxysygrwoicsjgxj.supabase
 .co/storage/v1/object/public/client-logos/`
```

3. SITE ARCHITECTURE

3.1 Information Architecture
```
Homepage
├── Header (persistent navigation)
├── Hero + Manifesto Video
├── Portfolio Showcase (3 categories)
├── Featured Projects (4 highlighted works)
├── Clients/Brands (logo grid)
├── Contact (form + info)
└── Footer

Other Pages (linked from homepage)
├── /sobre (About page)
├── /portfolio (Full portfolio with filters)
└── /portfolio/[slug] (Individual project pages)
```

3.2 Navigation Structure
Primary Navigation (Header):
— Home → `/` or `#hero`
— Sobre (About) → `/sobre`
— Portfólio → `/portfolio`
— Contato (Contact) → `#contact` (always anchors to contact section)

Secondary Navigation (Footer):
— Same as primary navigation
— Additional: Social media links

3.3 Section Flow
The homepage follows a narrative arc:
1. Header: Establishes brand identity and provides navigation
2. Hero: Creates emotional impact and communicates positioning
3. Manifesto Video: Deepens understanding through motion storytelling
4. Portfolio Showcase: Introduces work categories with editorial rhythm
5. Featured Projects: Demonstrates quality through curated examples
6. Clients/Brands: Builds credibility through association
7. Contact: Provides clear conversion path
8. Footer: Reinforces brand and provides supplementary navigation

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**4. COMPONENT SPECIFICATIONS

4.1 Header

Purpose: Provide persistent, accessible navigation using a clean, static interface.

Desktop (≥1024px): Static Glass Header

Layout:
— Position: `position: sticky`, `top: 24px` (or `top: 0` with padding), `z-index: 40`
— Width: Partial container (centered), or Full-width (based on preference, images suggest clean alignment)
— Height: `64px`
— Style: Pill-shaped or Bar, translucent glass effect (`backdrop-filter: blur(12px)`), subtle border.
— **Behavior:** COMPLETELY STATIC. No movement tracking, no physics.

Content:
— Left: Logo (SVG) – https://aymuvxysygrwoicsjgxj.supabase .co/storage/v1/object/public/logo_site/FaviconLight.svg
— Right: Navigation Links (Home, Sobre, Portfólio, Contato)

Interaction – Contrast Adaptation (Scroll):
Essential for visibility on the white 'Contato' section shown in designs.
— **Trigger:** When the header overlaps a light-colored background (e.g., the white Contact section).
— **Action:**

– Text/Icon color switches to **Blue** (Primary Brand Color).
   – Background may increase opacity for readability.
– **Transition:** `transition: all 0.3s ease`.

Desktop (≥1024px): Fluid Glass Header
– Layout:
  – Position: `position: sticky`, `top: 0`, `z-index: 40`
  – Width: Partial container (not full-width), horizontally centered
  – Height: `56–72px`
  – Style: Pill-shaped with rounded corners, translucent glass effect (blur
   + subtle gradient)
– Content:
  – Left: Logo (Favicon Light)
   https://aymuvxysygrwoicsjgxj.supabase
   .co/storage/v1/object/public/logo_site/FaviconLight.svg
  – Right: Horizontal navigation list (Home, Sobre, Portfólio, Contato)
– Interaction – Fluid Glass Effect:
  – The header responds to cursor movement along the X-axis:
    – Follow behavior: Subtle horizontal translation (`maxTranslateX:
     40–60px`)
    – Spring physics: `followDamping: 0.08–0.12s`, gentle overshoot
    – Scale: Slight horizontal stretch (`maxScaleX: 1.05`) and vertical
     compression (`maxScaleY: 1.02`)
    – Visual: Refraction distortion, chromatic aberration on edges,
     backdrop blur
– Fallback (no WebGL / reduced motion):
  – Same layout and typography
  – Static positioning with standard backdrop-filter blur or solid/gradient
   background
  – No cursor-following behavior

Mobile & Tablet (≤1023px): Staggered Menu Header
– Layout:
  – Position: Fixed bar at top, full-width
  – Height: `48–64px`
  – Content: Logo (left), Hamburger icon (right)
– Menu Overlay (when open):
  – Fullscreen or near-fullscreen overlay
  – Gradient background (primary to neutral)
  – Navigation items in vertical column, large text, generous spacing
  – Social media icons at bottom
– Animation:
  – Open: Overlay fades in (`opacity: 0 → 1`, 200–250ms), panel slides in
   from right (`translateX: 100% → 0`, 260–320ms), hamburger morphs to X
  – Items appear with stagger: `opacity: 0 → 1`, `translateY: 16px → 0`,
   `staggerDelay: 100ms`
  – Close: Reverse sequence, items disappear in reverse order
– Interactions:
  – Tap X icon: Close menu
  – Tap navigation item: Close menu + navigate
  – Tap overlay background: Close menu
– Accessibility:
  – `aria-label` on hamburger/X icon

- `aria-expanded` state
  - Focus trap within open menu
  - ESC key closes menu
- Mobile-Specific Implementation Notes:
  - The header does not have the glass effect on mobile
  - The logo is positioned flush left with no additional spacing
  - The hamburger menu icon is positioned flush right with 16px padding
  - When open, the menu covers the entire viewport

____

**4.2 Hero + Manifesto

Purpose: Create immediate visual and emotional impact, communicate brand positioning, introduce the manifesto video as a sensory layer.

Structure (Desktop)

Z-Index Stack:
1. **Z-50:** Preloader (Ghost Loader SVG animation)
2. **Z-30:** Manifesto Video Thumbnail (floating, bottom-right)
3. **Z-20:** Ghost Atmosphere (WebGL Canvas)
4. **Z-10:** Editorial Text Block (static, centered)
5. **Z-0:** Gradient Background (`#040013` to `#0b0d3a`)

Preloader

Visual:
- SVG ghost icon (white, floating animation)
- Text: "Summoning spirits" (uppercase, mono font, tracking-wide)
- Progress bar: Gradient fill (`#0057FF` to `#5227FF`), 2s duration
- Background: Dark gradient (`#0a0a0a` to `#1a1a1a`)

Behavior:
- Displays immediately on page load
- Fades out after 1.5–2s (`opacity: 1 → 0`, 1s duration)

Ghost Atmosphere (WebGL Canvas)

Visual Description:
Ethereal, organic 3D atmosphere inspired by the "Ghost Blue" aesthetic. Main elements:
- **Ghost Mesh:** Emissive spherical form (`#0057FF`), harmonic pulsing, floating vertically
- **Reactive Eyes:** Glow intensity increases with mouse movement
- **Particles:** Organic floating particles orbiting the ghost
- **Fireflies:** Small light points adding depth

Post-Processing:
- **Bloom Pass:** HDR glow effect (intensity: 2.8)
- **Analog Decay Pass:** Film grain, scanlines, subtle jitter, vignette

Interaction:
- Ghost follows cursor slowly (`lerp: 0.05`)

- Sinusoidal organic movement (`sin(time * 0.8)` vertical, `sin(time * 0.3)` horizontal)

Performance:
- DPR: Max 2
- Antialias: False
- Disabled entirely on `prefers-reduced-motion`

Fallback:
- Static radial gradient background (`#040013` to `#06071f`)
- No 3D elements

Reference: Inspired by https://codepen.io/danilonovaisv/pen/azZbdQo

Editorial Text Block

Content:
- Tag: `[BRAND AWARENESS]` (12px, uppercase, mono) TT Norms Pro Normal
- H1: "Você não vê o design." (5–8rem, TT Norms Pro Black, tracking-tight)
- H2: "Mas ele vê você." (4–6rem, TT Norms Pro Black, tracking-tight)
- CTA: "step inside →" (link to `/sobre`, hover effect: color change + arrow translation)
- Same CTA button at bottom
Primary Font: TT Norms Pro (self-hosted, fallback: `ui-sans-serif, system-ui`)

Behavior:
- 100% static (no scroll-triggered animations or fades)
- Centered vertically and horizontally
- Color: `#d9dade` on `#06071f` background
Here's your updated and clarified description with all the new desktop behaviors (full-page for 2s, scroll hold, fixed position on the side, and sound logic) integrated and cleaned up 👇

Manifesto Video Thumbnail (Desktop)

Initial State:
- Position: `bottom-right`, with gutter spacing
- Size: ~30vw width, 16:9 aspect ratio
- Style: Rounded corners (`border-radius: 12–16px`), subtle shadow
- Video: Autoplay, **muted**, loop, `playsInline`
- URL: (Manifesto video from assets)

Scroll Behavior & Positioning (Desktop):
- While the Hero section is in view and the video is transitioning from thumbnail → fullscreen:
  - The video stays **fixed** to the viewport (anchored to `bottom-right`) and does **not** scroll with the page content.
  - As the user scrolls, the video:
    - Scales up toward fullscreen
    - Moves from `bottom-right` toward the center
    - Gradually loses its rounded corners
  - Only after the animation completes and the video reaches the **fullscreen state** does it stop being a small "floating" thumbnail.

Scroll Animation (Desktop):
The video grows and centers as the user scrolls:

```javascript
// Pseudo-code (Framer Motion / GSAP style idea)
scaleVideo: [0.3, 1]              // from 30% to 100% viewport
posXVideo: ["100%", "50%"]        // from bottom-right → center (example)
posYVideo: ["100%", "50%"]        // from bottom-right → center (example)
borderRadius: ["16px", "0px"]     // from rounded to square
opacityText: [1, 0]               // editorial text fades out
position: ["fixed", "fixed"]      // stays pinned to viewport during scroll
```

Trigger:
- Driven by scroll progress through the Hero section:
scrollYProgress: [0, 1]

Fullscreen Hold & Sound Logic (Desktop)
When the video reaches its fullscreen state (covers the entire viewport, scaleVideo = 1, borderRadius = 0):
1. Fullscreen Hold (2 seconds):
- The video remains in full-page fullscreen for 2 seconds.
- During these 2 seconds:
- The scroll is effectively held/locked on the Hero section (the page does not immediately move to the next section).
- The video stays centered and covers the full viewport.
2. Sound Behavior (Desktop):
- Before fullscreen:
- Video plays muted (thumbnail and transition states are always muted).
- When fullscreen state is reached:
- After reaching fullscreen, the video unmutes and audio plays while in this full-page state.
- After leaving fullscreen / going to the next section:
- When the user scrolls beyond the Hero section into the next section, the video is muted again.
- If the user scrolls back up into the Hero and hits fullscreen again, the same logic repeats:
- Muted during transition, unmute only in fullscreen, mute again when exiting.

Implementation Hint (State Machine):
- state = "thumbnail" | "transition" | "fullscreenHold" | "released"
- On scrollYProgress reaching 1.0:
- Enter fullscreenHold:
- Unmute video
- Start a 2-second timer before allowing scroll to continue normally.
- On scroll beyond Hero (next section in view):
- Mute video again and move to released.

Entrance Animation (on page load):

```
initial: {
  opacity: 0,
  scale: 0.92,
  translateY: 60,
  filter: "blur(10px)"
}
animate: {
  opacity: 1,
  scale: [1.02, 1],          // settle with a slight overshoot
  translateY: 0,
  filter: "blur(0px)"
}
duration: 1.2s
easing: cubic-bezier(0.25, 0.46, 0.45, 0.94)
```

Hover (Desktop):
* Scale: 1 → 1.05
* Duration: 500ms

Click (Desktop):
* Clicking the thumbnail:
* Jumps directly to the fullscreen state (skips the gradual scroll animation).
* Triggers the same 2-second fullscreen hold and sound logic:
* Video unmutes while fullscreen,
* Video mutes again once the user scrolls to the next section.

Click (Mobile):
* Toggles sound (mute/unmute) on the mobile fullscreen video section (see below).

―――

Manifesto Section (Mobile)
On mobile, the manifesto video appears as a separate fullscreen section immediately below the Hero (no floating thumbnail).

Layout:
* Full viewport width, aspect-video height
* Background: #040013 (matches Hero for visual continuity)
* Video:
* Autoplay, loop, muted by default, playsInline
* Sound can be enabled by user interaction (tap)
* When the user scrolls away from this section, the video should revert to muted state

Animation (scroll reveal):

```
initial: { opacity: 0, scale: 0.95, y: 20 }
animate (when in view): { opacity: 1, scale: 1, y: 0 }
duration: 0.6s
easing: cubic-bezier(0.22, 1, 0.36, 1)
```

Accessibility:

- Video has no audio by default (muted until user explicitly enables sound).
- Provide a clear control (icon/button) to toggle sound on/off.
- Show a visible focus indicator if the video or sound toggle is focusable/tappable.

Desktop (≥1024px)
- Z-Index Stack:
  - Z-50: Preloader (Ghost Loader SVG animation)
  - Z-30: Manifesto Video Thumbnail (floating, bottom-right)
  - Z-20: Ghost Atmosphere (WebGL Canvas)
  - Z-10: Editorial Text Block (static, centered)
  - Z-0: Gradient Background (`#040013` to `#0b0d3a`)
- Preloader:
  - Visual: SVG ghost icon (white, floating animation), Text: "Summoning spirits", Progress bar
  - Behavior: Fades out after 1.5–2s
- Ghost Atmosphere (WebGL Canvas):
  - Visual Description: Ethereal 3D atmosphere with ghost mesh, reactive eyes, particles, fireflies
  - Performance: DPR max 2, antialias disabled
  - Fallback: Static radial gradient background
- Editorial Text Block:
  - Content: Tag, H1, H2, CTA
  - Position: Centered vertically and horizontally
  - Color: `#d9dade` on `#06071f` background
- Manifesto Video Thumbnail:
  - Initial State: Position: `bottom-right`, size: ~30vw width
  - Scroll Behavior & Positioning:
    - Video stays fixed to viewport during scroll
    - Scales up toward fullscreen as user scrolls
    - Gradually loses rounded corners
  - Fullscreen Hold & Sound Logic:
    - 2-second hold at fullscreen
    - Video muted during transition, unmuted at fullscreen
    - Muted again when scrolling to next section
  - Entrance Animation: Initial opacity 0, scale 0.92, translateY 60
  - Hover: Scale 1 → 1.05 over 500ms
  - Click: Jumps directly to fullscreen state

Mobile & Tablet (≤1023px)
- Manifesto Section:
  - Layout: Full viewport width, aspect-video height
  - Background: `#040013` (matches Hero)
  - Video: Autoplay, loop, muted by default, playsInline
  - Behavior:
    - The manifesto video appears as a separate fullscreen section immediately below the Hero
    - No floating thumbnail behavior
    - Video starts playing automatically when section comes into view
    - Sound can be enabled by user interaction (tap)
    - Video reverts to muted state when scrolled away
  - Animation:

- Scroll reveal: `initial: { opacity: 0, scale: 0.95, y: 20 }`,
      `animate: { opacity: 1, scale: 1, y: 0 }`
    - Duration: 0.6s, easing: cubic-bezier(0.22, 1, 0.36, 1)
  - Accessibility:
    - Clear sound toggle button visible
    - Focus indicator on interactive elements
    - No audio by default (muted until user explicitly enables sound)
- Hero Section:
  - The editorial text is centered and occupies the full width of the screen
  - The ghost atmosphere is simplified due to performance constraints
  - The "step inside" CTA button is centered with appropriate spacing
  - No video thumbnail in the hero section (it appears as a separate
    section below)

**4.3 Portfolio Showcase

Purpose: Clearly present work categories with editorial sophistication,
guiding users toward specific areas of interest.

Layout (Desktop)

Structure:
- Centered headline: "portfólio showcase" (mixed color: "portfólio" in
  white, "showcase" in `#0048ff`)
- Floating label: "[what we love working on]" (`#4fe6ff`, positioned
  absolute, left-aligned near first stripe)
- Three interactive stripes (accordion-style rows), each with alternating
  alignment:
  1. **Brand & Campaigns** — aligned right
  2. **Videos & Motions** — centered
  3. **Web Campaigns, Websites & Tech** — aligned left (text breaks after
     "," into two lines)
  - font-family: 'TT Norms Pro Normal';
- CTA button below: "let's build something great →" (center-aligned)

Stripe Structure:
Each stripe contains:
- **Thumbnail** (hidden by default, reveals on hover): 288px width, aspect
  ratio ~16:9, rounded corners
- **Category Title**: Large text (2xl–5xl), medium weight
- **Icon**: Blue circular badge with arrow icon (rotates from −45° to 0° on
  hover)

Interactions (Desktop)

Hover on Stripe:
```javascript
// Thumbnail reveal
imageWrapper: { width: "0 → 288px", opacity: "0 → 1" }
duration: 700ms
easing: cubic-bezier(0.22, 1, 0.36, 1)
```

```
// Content gap adjustment
contentGap: { gap: "gap-7 → gap-10" }
duration: 300ms

// Arrow rotation
arrowIcon: { rotation: "-45deg → 0deg" }
duration: 500ms
```

Scroll Reveal:
- Trigger: 30% intersection with viewport
- Animation: Staggered fade-up, category titles turn blue (`#0057FF`)
  ```javascript
  opacity: 0 → 1
  translateY: 24px → 0px
  duration: 0.8s ease-out
  stagger: 120ms between stripes
  ```

Click:
- Navigates to `/portfolio` with category filter applied

Layout (Mobile)

- Full-width cards stacked vertically
- No floating label
- No thumbnail reveal (thumbnails remain hidden or shown static)
- All cards center-aligned
- Same CTA button at bottom

Categories & Assets

1. **Brand & Campaigns**
   - Slug: `brand-campaigns`
   - Thumbnail:
     `https://aymuvxysygrwoicsjgxj.supabase
     .co/storage/v1/object/public/project-images/Branding-Project.webp`

2. **Videos & Motions**
   - Slug: `videos-motions`
   - Thumbnail:
     `https://aymuvxysygrwoicsjgxj.supabase
     .co/storage/v1/object/public/project-images/webdesigner-2%202.gif`

3. **Web Campaigns, Websites & Tech**
   - Slug: `websites-webcampaigns-tech`
   - Thumbnail:
     `https://aymuvxysygrwoicsjgxj.supabase
     .co/storage/v1/object/public/project-images/WelcomeAd_800x500px.webp`

CTA Button

Text: "let's build something great →"
Destination: `/#contact`

Hover: Background changes to `#4fe6ff`, arrow translates right (`translateX: 4px`)
Optional: Subtle looping animation on arrow in idle state (`translateX: 0 → 4px → 0`)

Desktop (≥1024px)
- Layout:
  - Centered headline: "portfólio showcase" (mixed color)
  - Floating label: "[what we love working on]" (absolute positioned)
  - Three interactive stripes (accordion-style rows) with alternating alignment:
    - Brand & Campaigns — aligned right
    - Videos & Motions — centered
    - Web Campaigns, Websites & Tech — aligned left
  - CTA button below: "let's build something great →" (center-aligned)
- Stripe Structure:
  - Each stripe contains: thumbnail (hidden by default), category title, icon
- Interactions:
  - Hover on Stripe: Thumbnail reveal, content gap adjustment, arrow rotation
  - Scroll Reveal: Staggered fade-up, category titles turn blue
  - Click: Navigates to `/portfolio` with category filter

Mobile & Tablet (≤1023px)
- Layout:
  - Full-width cards stacked vertically
  - No floating label
  - No thumbnail reveal (thumbnails remain hidden or shown static)
  - All cards center-aligned
  - Same CTA button at bottom
- Specific Implementation Details:
  - The three category stripes are displayed as full-width blocks with equal spacing
  - The category titles are center-aligned on mobile
  - The arrow icons are positioned on the right side of each stripe
  - The CTA button is centered with appropriate vertical spacing (48px above)
  - The "portfólio showcase" headline is centered with reduced spacing from the CTA
- Content Adaptation:
  - The "what we love working on" label is removed on mobile
  - Category titles wrap to multiple lines if necessary
  - The right-aligned, center-aligned, and left-aligned pattern from desktop is replaced with a consistent center-aligned pattern on mobile
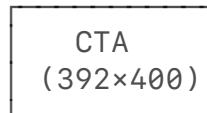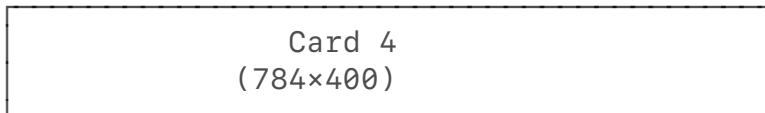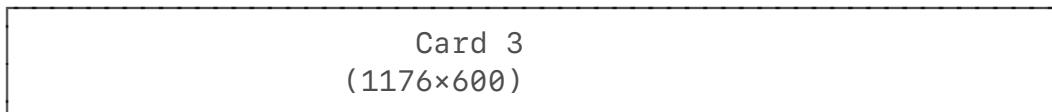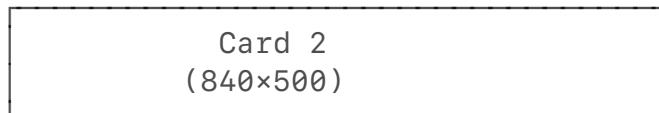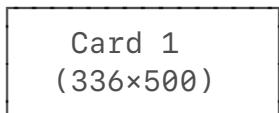

4.4 Featured Projects

Purpose: Showcase curated, high-quality work examples in an editorial, magazine-style layout (Bento Grid).

Layout (Desktop)

Irregular grid resembling a magazine spread:

```
┌─────────────────┐  ┌─────────────────────────────────┐
│    Card 1        │  │           Card 2                │
│   (336×500)      │  │          (840×500)              │
│                  │  │                                 │
└─────────────────┘  └─────────────────────────────────┘

┌──────────────────────────────────────────────────────┐
│                    Card 3                              │
│                  (1176×600)                            │
│                                                        │
└──────────────────────────────────────────────────────┘

┌──────────────────────────────────────┐  ┌────────────┐
│              Card 4                    │  │    CTA     │
│            (784×400)                   │  │  (392×400) │
│                                        │  │            │
└──────────────────────────────────────┘  └────────────┘
```

Grid Implementation (Tailwind):
```javascript
// Row 1
<div className="md:col-span-5"><ProjectCard /></div>
<div className="md:col-span-7"><ProjectCard /></div>

// Row 2
<div className="md:col-span-12"><ProjectCard /></div>

// Row 3
<div className="md:col-span-8"><ProjectCard /></div>
<div className="md:col-span-4"><CTAProjectCard /></div>
```

Project Cards

Structure:
- **Image/Video:** Covers card, object-fit cover
- **Pills (tags):** Positioned absolute, top-right, semi-transparent background (`#E6EFEF` at 70% opacity), small text
- **Info Block (below image):**
  - Title (H3, medium weight)
  - Meta: Client • Year (`#6B7280`, small text)
  - Arrow icon in blue circle (translates right on hover)

Interaction (Desktop):
```javascript
// Hover on card
image: { scale: 1.03, translateY: -1 }
duration: 500ms
```

```
arrow: { translateX: 20px }
duration: 700ms ease-out

shadow: { shadow-xl shadow-blue-500/10 }
```

Scroll Reveal:
```javascript
container: { opacity: 0 → 1, y: 40px → 0 }
cards: { scale: 0.96 → 1, staggerChildren: 0.12 }
duration: 0.7s ease-out
```

Featured Projects Content

1. **Magic — devolvendo a magia ao rádio**
   - Slug: `magic-radio-branding`
   - Category: branding & campanha
   - Client: Magic
   - Year: 2023
   - Image:
     `https://aymuvxysygrwoicsjgxj.supabase
     .co/storage/v1/object/public/project-images/Brand-Identity%20copy.webp`

2. **Uma marca ousada e consistente**
   - Slug: `branding-project-01`
   - Category: branding
   - Client: Cliente confidencial
   - Year: 2022
   - Image:
     `https://aymuvxysygrwoicsjgxj.supabase
     .co/storage/v1/object/public/project-images/Branding-Project.webp`

3. **Key visual para campanha sazonal**
   - Slug: `key-visual-campaign`
   - Category: campanha
   - Client: Cliente confidencial
   - Year: 2021
   - Image:
     `https://aymuvxysygrwoicsjgxj.supabase
     .co/storage/v1/object/public/project-images/Key-Visual.webp`

4. **Experiência web em movimento**
   - Slug: `webdesigner-motion`
   - Category: web & motion
   - Client: Cliente confidencial
   - Year: 2023
   - Image:
     `https://aymuvxysygrwoicsjgxj.supabase
     .co/storage/v1/object/public/project-images/webdesigner-2%202.gif`

CTA Card

Content:
```

- Headline: "Like what you see?" – font normal – (on hover, text becomes
  `#0057FF`)
- Button: "view projects →" with arrow icon
- Background: `#040013` (on hover, text becomes `#0057FF`)

**Interaction:**
```javascript
// Hover
background: { #040013 }
text: { white → #0057FF }
arrow: { translateX: 4px }
duration: 300ms
```

Destination: `/portfolio`

Layout (Mobile)

- All cards stacked vertically
- Full-width, heights adapted to content/aspect ratio
- CTA card appears as last item

Desktop (≥1024px)
- Layout:
  - Irregular grid resembling a magazine spread (Bento Grid)
  - 4 project cards with varying sizes and positions
  - CTA card in bottom-right position
- Grid Implementation (Tailwind):
  ```jsx
  // Row 1
  <div className="md:col-span-5"> <ProjectCard /> </div>
  <div className="md:col-span-7"> <ProjectCard /> </div>

  // Row 2
  <div className="md:col-span-12"> <ProjectCard /> </div>

  // Row 3
  <div className="md:col-span-8"> <ProjectCard /> </div>
  <div className="md:col-span-4"> <CTAProjectCard /> </div>
  ```
- Project Cards:
  - Structure: Image/Video, Pills (tags), Info Block
  - Interaction: Hover effects on image, arrow, and shadow
  - Scroll Reveal: Container and cards with staggered animation

Mobile & Tablet (≤1023px)
- Layout:
  - All cards stacked vertically
  - Full-width, heights adapted to content/aspect ratio
  - CTA card appears as last item
- Specific Implementation Details:
  - Each project card takes 100% of the container width
  - Cards have consistent vertical spacing (32px)

- Project images maintain aspect ratio but scale to fit width
  - Tags/pills are positioned at the top of the card
  - The CTA card is simplified to a full-width button with text "view projects →"
  - The grid layout is replaced with a simple vertical stack
  - Project titles and metadata are center-aligned
- Content Adaptation:
  - The irregular bento grid is replaced with a clean vertical list
  - Project cards have consistent height on mobile
  - The CTA card no longer has a separate section but is integrated as a full-width button
  - The hover effects are replaced with touch-friendly tap effects

---

**4.5 Clients/Brands

Purpose: Build credibility by displaying recognizable brands previously worked with.

Layout

Desktop & Mobile:
- Full-width blue bar: `bg-[#0048ff]`
- Centered headline: "marcas com as quais já trabalhei" (white, bold, 2xl)
- Grid of logos: Responsive grid (3–4 columns on mobile, 6+ on desktop)
- Logos: White (apply `filter: brightness(0) invert` to SVGs)

Interaction

Hover (Desktop):
```javascript
logo: { scale: 1.04, brightness: 1.1 }
duration: 300ms
```

Scroll Reveal:
```javascript
title: { opacity: 0 → 1, y: 16 → 0 }
logos: {
  staggerChildren: 0.03,
  each: { opacity: 0 → 1, y: 12 → 0, scale: 0.9 → 1 }
}
```

Client Logos (12 total)

- `client1.svg` through `client12.svg`
- Base URL:
  `https://aymuvxysygrwoicsjgxj.supabase.co/storage/v1/object/public/client-logos/`

Accessibility

- Logos have descriptive `alt` text (e.g., "Logo da empresa X")
- Keyboard navigable (if logos link anywhere)
- Respect `prefers-reduced-motion` (disable entrance stagger)

Desktop & Mobile
- Layout:
  - Full-width blue bar: `bg-[#0048ff]`
  - Centered headline: "marcas com as quais já trabalhei"
  - Grid of logos: Responsive grid (3–4 columns on mobile, 6+ on desktop)
  - Logos: White (apply `filter: brightness(0) invert` to SVGs)
- Interaction:
  - Hover (Desktop): logo scale and brightness increase
  - Scroll Reveal: title and logos with staggered animation
- Mobile-Specific Details:
  - Grid changes to 2 columns on small mobile, 3 columns on larger mobile/tablet
  - Logos are scaled to 70% of their desktop size on mobile
  - Vertical spacing between logo rows is 24px on mobile
  - The headline is smaller (1.5rem vs 2rem on desktop)
  - Logo grid has 16px padding on all sides on mobile
  - The blue background extends full width with no horizontal container constraints

---

4.6 Contact

Purpose: Provide clear contact information and enable message submission.

Layout (Desktop)

Two-column layout:
- **Left column:** Contact info + social media links
- **Right column:** Contact form

Layout (Mobile)

Single column, vertically stacked:
1. Headline + subheadline
2. Contact info
3. Contact form
4. Social media links

Content

Headline: "contato"

Subheadline: "Tem uma pergunta ou quer trabalhar junto?"

Contact Information

Direct Channels:
- **Phone:** `+55 (11) 98396-6838`
  - Icon: Phone
  - Link: `tel:+5511983966838`
- **Email (primary):** `danilo@portfoliodanilo.com`
  - Icon: Envelope
  - Link: `mailto:danilo@portfoliodanilo.com`
- **Email (secondary):** `dannovaisv@gmail.com`
  - Icon: Envelope
  - Link: `mailto:dannovaisv@gmail.com`

Interaction:
- Text color: `#111111`
- Hover: Underline + color change to `#0057FF`
- Icons match text color

Social Media & Portfolio:
- Icons only (no text labels)
- Platforms: Instagram, Facebook, LinkedIn, Portfolio site, Twitter
- Color: `#111111`, hover: `#0057FF` + `scale(1.1)`
- All open in new tab (`target="_blank"`, `rel="noopener noreferrer"`)

Links:
- Instagram: `https://instagram.com/danilo_novais`
- Facebook: `https://facebook.com/danilonovaisvilela`
- LinkedIn: `https://linkedin.com/in/danilonovais`
- Portfolio: `https://portfoliodanilo.com`
- Twitter: `https://twitter.com/danilo_novais`

Contact Form

Fields:
- Name (text input, required)
- Email (email input, required)
- Message (textarea, required)

Submit Button:
- Label: "Enviar Mensagem"
- Background: `#0048ff`
- Text: White
- Hover: Slight elevation (`translateY: -1px`), `scale(1.02)`
- Tap: `scale(0.98)`

Form Action:
- Method: POST
- Endpoint: `https://formsubmit.co/danilo@portfoliodanilo.com`

States:
- **Focus on input:** Border color `#0057FF`, shadow `ring-2 ring-blue-500`
- **Error:** Show validation message below field
- **Success:** Show success message, clear form

- **Loading:** Disable button, show spinner

Interactions & Animations

Scroll Reveal:
```javascript
section: { opacity: 0 → 1, y: 24 → 0 }
form fields: { staggerChildren: 60ms }
duration: 0.6s
```

Form Interactions:
```javascript
// Input focus
ring-2 ring-blue-500 ring-offset-2

// Button hover
{ scale: 1.02, y: -1 }

// Button tap
{ scale: 0.98 }
```

Desktop (≥1024px)
- Layout:
  - Two-column layout: Left column (contact info), Right column (contact form)
- Content:
  - Headline: "contato"
  - Subheadline: "Tem uma pergunta ou quer trabalhar junto?"
  - Contact Information: Direct channels (phone, emails), Social media
  - Contact Form: Name, Email, Message fields, Submit button

Mobile & Tablet (≤1023px)
- Layout:
  - Single column, vertically stacked:
    - Headline + subheadline
    - Contact info
    - Contact form
    - Social media links
- Specific Implementation Details:
  - All elements are full-width with appropriate spacing
  - Form fields have larger touch targets (minimum 48×48px)
  - The contact info section has increased vertical spacing between items
  - Social media icons are displayed in a single row at the bottom
  - The form submit button is full-width with increased height
  - The headline and subheadline are center-aligned
  - The contact information is simplified to a vertical list
- Content Adaptation:
  - The two-column layout collapses to a single column
  - Social media icons are reduced to just the icons (no text)
  - Form fields have increased padding for touch interaction
  - The "Enviar Mensagem" button has a minimum width of 100% on mobile

Accessibility

- All inputs have associated `<label>` elements
- Keyboard navigable
- Focus indicators (`focus-visible`)
- Error messages programmatically associated with fields
- Minimum touch target size: 48×48px (mobile)

**4.7 Footer

Purpose: Provide legal information, supplementary navigation, and social links while respecting the overall editorial aesthetic.

Desktop (≥1024px)

Layout:
- Fixed bar at bottom of viewport
- Persistent (always visible)
- Horizontal layout: Copyright (left) | Navigation + Social (right)
- Height: `48–64px`

Behavior:
- `position: fixed`, `bottom: 0`, `z-index: 10`
- Does not scroll away

Mobile & Tablet (≤1023px)

Layout:
- Static section in document flow (last element on page)
- Vertical stack: Copyright → Navigation → Social
- **Never fixed**
- **Never overlaps content**

Spacing:
- Generous vertical padding: `py-10`
- Spacing between blocks: `space-y-6`
- Minimum touch target: 48×48px

Content

Copyright:
- "© 2025 Danilo Novais Vilela — todos os direitos reservados"
- Color: White
- Small text

Navigation Links:
- Home → `#hero`
- Portfólio Showcase → `#portfolio-showcase`
- Sobre → `/sobre`
- Contato → `#contact`

Social Media:
- Same icons and links as Contact section
- White icons, hover: slight opacity reduction (desktop) or focus indicator
 (mobile)

Background

- Solid blue: `bg-[#0057FF]`
- Text: White

Interactions

Desktop:
```javascript
// Hover on links
opacity: 1 → 0.8
underline animation
duration: 200ms

// Hover on social icons
scale: 1.05
duration: 200ms
```

Mobile:
- No hover dependencies
- Feedback only on `:active` / `:focus-visible`

Desktop (≥1024px)
- Layout:
  - Fixed bar at bottom of viewport
  - Persistent (always visible)
  - Horizontal layout: Copyright (left) | Navigation + Social (right)
  - Height: `48-64px`
- Behavior:
  - `position: fixed`, `bottom: 0`, `z-index: 10`
  - Does not scroll away

Mobile & Tablet (≤1023px)
- Layout:
  - Static section in document flow (last element on page)
  - Vertical stack: Copyright → Navigation → Social
  - Never fixed, never overlaps content
- Specific Implementation Details:
  - The footer is the last element on the page, not fixed to bottom
  - Content is center-aligned with generous vertical padding
  - Navigation links are displayed in a single row
  - Social media icons are displayed in a single row below navigation
  - Copyright text is smaller (0.875rem) on mobile
  - The blue background extends full width with no container constraints
  - Spacing between elements is increased (32px) for touch accessibility
- Content Adaptation:
  - The fixed position behavior is removed on mobile

- The horizontal layout is converted to a vertical stack
- The navigation and social links are consolidated into fewer rows
- The height is variable based on content rather than fixed

Accessibility

- All links have `aria-label` where needed
- Keyboard navigable
- Logical tab order
- Contrast: White on `#0057FF` meets WCAG AA
- Touch targets meet minimum 48×48px

Non-Negotiables

- Footer is **fixed only on desktop**
- Footer is **not fixed on mobile**
- No competition with Hero, Manifesto, or CTAs
- Clean, unobtrusive design

**5. TECHNICAL IMPLEMENTATION

1. Visão Geral da Tecnologia (Tech Stack)

Frontend Core
- **Framework:** React 18+ (com Hooks)
- **Meta-framework:** Next.js 13+ (App Router)
- **Linguagem:** TypeScript (implícito pela stack moderna)

Estilização e UI
- **CSS:** Tailwind CSS (apenas classes utilitárias core)
- **Animações de Interface:** Framer Motion
- **3D / WebGL:** React Three Fiber + Three.js

Infraestrutura e Assets
- **Formulários:** FormSubmit.co
- **Assets:** Fontes self-hosted; Assets externos via Supabase Storage
- **Build/Deploy:** Vercel, Netlify ou Cloudflare Pages

---

2. Requisitos de Performance e Acessibilidade

2.1 Orçamento de Performance (Performance Budget)
- **Peso Inicial da Página:** < 2MB
- **Time to Interactive (TTI):** < 5s (em 3G)
- **First Contentful Paint (FCP):** < 2s
- **Cumulative Layout Shift (CLS):** < 0.1

2.2 Estratégias de Otimização
- **Imagens:** Formato WebP, lazy loading, `srcset` responsivo.
- **Vídeos:** Comprimidos, autoplay mudo, lazy load (abaixo da dobra).
- **Fontes:** Self-hosted, preloaded, *subsetting* se possível.
- **JavaScript:** Code splitting, imports dinâmicos para WebGL.
- **CSS:** Purge de classes Tailwind não utilizadas em produção.
- **WebGL:** Max DPR de 2, antialias desativado.

2.3 Padrões de Acessibilidade (WCAG 2.1 Level AA)
- **Contraste:** Mínimo 4.5:1 para texto normal.
- **Navegação:** Totalmente operável via teclado (Focus Indicators visíveis).
- **Semântica:** Uso correto de HTML semântico e atributos ARIA.
- **Movimento:** Respeitar a preferência `prefers-reduced-motion`.
- **Mobile:** Áreas de toque mínimas de 48×48px.

---

3. Especificação de Componentes Críticos

3.1 Botão CTA (Primary Call-to-Action)

Design Visual:
- **Formato:** Compósito (Pílula à esquerda + Círculo à direita).
- **Cor:** Azul Primário (`#0048ff`). Texto Branco.
- **Texto:** Uppercase, tracking médio, padding `px-6 py-3`.
- **Ícone:** Seta (→) centralizada no círculo.

Interações e Animações:
1. **Hover (Desktop):** O botão inteiro sobe 1px (`translateY(-1px)`).
2. **Seta (Opcional):** Desliza 4px para a direita no hover.
3. **Click (Mobile):** Efeito de compressão (`scale(0.98)`).
4. **Foco (Teclado):** Outline de 2px sólido cor `#4fe6ff` com offset de 4px.

Exemplo de Implementação (Framer Motion):
```tsx
import { motion } from 'framer-motion';
import { ArrowRight } from 'lucide-react';

export const CTAButton = ({ href, children, variant = 'primary' }) => {
  return (
    <motion.a
      href={href}
      className="inline-flex items-stretch rounded-full bg-[#000022]
       text-white group focus-visible:outline-2
       focus-visible:outline-[#4fe6ff]"
      whileHover={{ y: -1 }}
      whileTap={{ scale: 0.98 }}
      transition={{ duration: 0.2, ease: 'easeOut' }}
    >
      <span className="px-6 py-3 font-medium uppercase
       tracking-wide">{children}</span>
      <motion.span
```

```
        className="flex items-center justify-center w-12 h-12 rounded-full"
        whileHover={{ x: 4 }}
      >
        <ArrowRight className="w-5 h-5" />
      </motion.span>
    </motion.a>
  );
};
```

3.2 Atmosfera "Ghost" (WebGL)

Propósito: Camada visual atmosférica na seção Hero (decorativo).
Regras Críticas:

* Carregamento via **Dynamic Import** (apenas client-side).
* Fallback para gradiente estático se falhar ou se `prefers-reduced-motion`
 estiver ativo.
* Não deve controlar layout ou bloquear texto.

Arquitetura de Pastas Sugerida:

```text
components/
├── canvas/
│   ├── GhostCanvas.tsx
│   ├── Ghost.tsx
│   ├── Particles.tsx
│   ├── Fireflies.tsx
│   └── postprocessing/
```

---

4. Estrutura de Conteúdo e Páginas

4.1 Inventário de Conteúdo

1. **Hero:** Manchete editorial, submanchete, CTA principal, Atmosfera
 WebGL.
2. **Portfolio Showcase:** Título, lista de categorias, labels flutuantes,
 CTA.
3. **Featured Projects:** Grid Bento, metadados dos projetos.
4. **Clients/Brands:** Grid de logotipos.
5. **Contact:** Formulário (2 colunas desktop, 1 mobile), info de contato,
 sociais.
6. **Footer:** Copyright 2025, navegação.

4.2 Comportamento Responsivo

* **Header:**
* Desktop: Efeito "Glass" fluido.

* Mobile: Menu "Hambúrguer" com animação escalonada (staggered).

* **Footer:**
* Desktop: Fixo na base (se o design pedir reveal) ou estático.
* Mobile: Sempre estático no fluxo do documento (nunca fixo).

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5. Build, Deploy e Variáveis

Comando de Build: `npm run build`

Variáveis de Ambiente (`.env.local`):

```bash
NEXT_PUBLIC_GA_ID=UA-XXXXXXXX-X
NEXT_PUBLIC_SUPABASE_URL=
 [https://aymuvxysygrwoicsjgxj.supabase.co](https://aymuvxysygrwoicsjgxj
 .supabase.co)
NEXT_PUBLIC_SUPABASE_ANON_KEY=<anon_key>

```


Checklist Pré-Deployment:

* [ ] Auditoria Lighthouse (Score > 90).
* [ ] Teste em dispositivos móveis reais (iOS/Android).
* [ ] Validação de envio de formulários.
* [ ] Verificação de links externos (abrir em nova aba).
* [ ] Teste de vídeos (autoplay mudo).
* [ ] Teste de `prefers-reduced-motion`.

---

6. Checklist de Garantia de Qualidade (QA)

Visual

* [ ] **Hero:** Texto legível sobre o WebGL.
* [ ] **Manifesto:** Vídeo inicia pequeno e expande no scroll.
* [ ] **Projetos:** Grid Bento proporcional no desktop, pilha vertical no
 mobile.
* [ ] **Logos:** Grid adapta colunas (2-3 no mobile).

Funcionalidade

* [ ] Links de navegação (âncoras e rotas) funcionais.
* [ ] Formulário envia dados corretamente.
* [ ] Ícones sociais abrem em novas abas.
* [ ] Sem erros no console do navegador.
* [ ] Sem scroll horizontal indesejado no mobile.

Performance & Acessibilidade

* [ ] Carregamento < 3s em 3G.
* [ ] Navegação completa via Tab (Teclado).
* [ ] Screen Readers leem o conteúdo corretamente.
* [ ] CLS < 0.1 (Layout estável).

```

---