

# # \*\*HOME – PROTOTIPO INTERATIO\*\*


## # Danilo Novais Portfolio Homepage

### ## Technical Documentation & Design Specifications

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Version: 3.0

Last Updated: January 03, 2026

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;
}
```

```

.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

```

// 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)",

```

```

    { lineHeight: "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 – Usar no browser:

```
`https://aymuvxysygrwoicsjgxj.supabase.co/storage/v1/object/public/logo_site/Favicon.svg`
```

– Favicon Light – Usar no browser:

```
`https://aymuvxysygrwoicsjgxj.supabase.co/storage/v1/object/public/logo_site/FaviconLight.svg`
```

- Logo Light (full - Usar no header):  
`https://aymuvxysygrwoicsjgxj.supabase.co/storage/v1/object/public/logo\_site/LogoLight.svg`
- Logo Dark (full - Usar no header):  
`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
- └─ 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

---

## # \*\*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](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](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

### ### \*\*1.1 Objetivo\*\*

Criar uma experiência hero imersiva e responsiva que gera impacto na primeira impressão, com:

- Animação 3D interativa (fantasma espectral seguindo o cursor)
- Atmosfera escura com shader customizado
- Animações de entrada impactantes
- CTA que direciona para seção SOBRE

**\*\*Inspiração:\*\*** [CodePen Ghost Animation](https://codepen.io/danilonovaisv/pen/YPWyrDW)

---

### ### \*\*1.2 Identidade Visual\*\*

#### #### \*\*Color Palette\*\*

Token	Value	Uso
-----	-----	-----
`bluePrimary`	`#0048ff`	CTAs, links, elementos interativos
`background`	`#040013`	Fundo escuro principal
`text`	`#fcffff`	Texto principal
`textMuted`	`#d9dade`	Texto secundário

#### #### \*\*Typography System\*\*

**\*\*Fonte primária:\*\*** TT Norms Pro (self-hosted)

```

```typescript
// Arquivos de fonte (Supabase Storage)
const fonts = {
  black:
    'https://aymuvxysygrwoicsjgxj.supabase
    .co/storage/v1/object/public/assets/fonts/TT%20Norms%20Pro%20Black
    .woff2',
  bold:
    'https://aymuvxysygrwoicsjgxj.supabase
    .co/storage/v1/object/public/assets/fonts/TT%20Norms%20Pro%20Bold.woff2',

```

```

medium:
  'https://aymuvxysygrwoicsjgxj.supabase
.co/storage/v1/object/public/assets/fonts/TT%20Norms%20Pro%20Medium
.woff2',
regular:
  'https://aymuvxysygrwoicsjgxj.supabase
.co/storage/v1/object/public/assets/fonts/TT%20Norms%20Pro%20Regular
.woff2',
};

```

## **\*\*Tokens Responsivos (usando clamp):\*\***

Token	Mobile	Desktop	Peso	Uso
`display`	2.5rem (40px)	4.5rem (72px)	Black	Big phrases não-semânticas
`h1`	2rem (32px)	3.5rem (56px)	Bold	Hero headlines
`h2`	1.5rem (24px)	2.5rem (40px)	Bold	Subtítulos
`h3`	1.25rem (20px)	1.75rem (28px)	Medium	Títulos de cards
`body`	1rem (16px)	1.125rem (18px)	Regular	Texto corrido

---

## **### \*\*1.3 Conteúdo\*\***

```

```tsx
// Estrutura de conteúdo
<section className="hero">
  {/* Tag decorativa */}
  <span className="tag">[BRAND AWARENESS]</span>

  {/* Headline - Desktop/Tablet (2 linhas) */}
  <h1 className="hidden md:block">
    Você não vê
    <br />
    o design.
  </h1>

  {/* Headline - Mobile (3 linhas) */}
  <h1 className="md:hidden">
    Você não
    <br />
    vê o
    <br />
    design.
  </h1>

  {/* Subheading */}
  <h2>Mas ele vê você.</h2>

  {/* CTA */}
  <CTAButton href="/sobre">step inside →</CTAButton>
</section>
```

```

#### #### \*\*CTA – 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

---

### ### \*\*1.4 Animações

#### #### \*\*Entrada de Textos (Page Load)\*\*

```
```javascript
// Framer Motion config
initial: {
  opacity: 0,
  scale: 0.92,
  translateY: 60,
  filter: "blur(10px)"
}

animate: {
  opacity: 1,
  scale: [1.02, 1],
  translateY: 0,
  filter: "blur(0px)"
}

transition: {
  duration: 1.2,
  easing: [0.25, 0.46, 0.45, 0.94]
}
```
```

#### #### \*\*CTA – Interações

| Estado            | Dispositivo | Comportamento                     |
|-------------------|-------------|-----------------------------------|
| <b>Hover</b>      | Desktop     | `translateY(-1px)`                |
| <b>Hover Seta</b> | Desktop     | `translateX(4px)` (opcional)      |
| <b>Click</b>      | Mobile      | `scale(0.98)`                     |
| <b>Focus</b>      | Teclado     | Outline 2px `#4fe6ff`, offset 4px |

---

### ### \*\*1.5 Elementos Visuais – Animação Ghost

#### #### \*\*Background / Atmosfera

| Aspecto       | Implementação                                           |
|---------------|---------------------------------------------------------|
| <b>Cores</b>  | Gradiente escuro `#0a0a0a` → `#1a1a1a`                  |
| <b>Shader</b> | Plano 300x300 com material customizado (`_atmosphere_`) |

```
| **Halo Circular** | Usa `revealRadius`, `fadeStrength`, `baseOpacity`,  
`revealOpacity` |  
| **Pós-processamento** | Opcional: grain, bleeding, scanlines, vignette  
(shader analógico) |
```

#### #### **\*\*Personagem Ghost\*\***

```
Elemento	Implementação
**Geometria**	`THREE.SphereGeometry(2, 40, 40)` com vértices inferiores
deformados	
**Material**	`MeshStandardMaterial` com alta `emissiveIntensity`
**Cor**	Controlada via `bodyColor`, rim lights azulados
**Olhos**	`Group` com esferas menores + glows transparentes
**Fireflies**	20 vagalumes (esferas amarelas + `PointLight`)
**Partículas**	Pool de formas pequenas (esfera/tetraedro/octaedro) que
nascem no movimento |
```

#### #### **\*\*Interação com Mouse\*\***

```
```javascript  
// Conversão screen → world  
x = (event.clientX / window.innerWidth) * 2 - 1  
y = (event.clientY / window.innerHeight) * 2 - 1  
  
// Seguimento suave  
targetX = mouseX * viewport.width * 0.5  
targetY = mouseY * viewport.height * 0.3  
position.x += (targetX - position.x) * followSpeed  
  
// Oscilações constantes (sin/cos)  
floatY = sin(time * 1.5) * 0.05 + cos(time * 0.7) * 0.03  
```
```

#### #### **\*\*Layout\*\***

```
```css  
/* Centralização com Flexbox */  
.hero-content {  
  display: flex;  
  flex-direction: column;  
  justify-content: center;  
  align-items: center;  
  height: 100vh;  
}  
```
```

---

### ### **\*\*1.6 Responsividade\*\***

#### #### **\*\*Textos\*\***

```
**Desktop/Tablet (≥768px):**  
```
```

H1: "Você não vê" (linha 1)  
"o design." (linha 2)  
Fonte: TT Norms Pro Black, 6–9rem  
\\

**\*\*Mobile (<768px):\*\***  
\\

H1: "Você não" (linha 1)  
"vê o" (linha 2)  
"design." (linha 3)  
Fonte: TT Norms Pro Black, 6–9rem  
\\

#### **\*\*Performance Adaptativa\*\***

```
```javascript
// Ajustes por dispositivo
const config = {
  desktop: {
    fireflies: 20,
    particles: 50,
    postProcessing: true,
    pixelRatio: 2
  },
  tablet: {
    fireflies: 10,
    particles: 25,
    postProcessing: false,
    pixelRatio: 1
  },
  mobile: {
    fireflies: 5,
    particles: 10,
    postProcessing: false,
    pixelRatio: 1
  }
};
\\
```

#### **\*\*Fallback Touch\*\***

- Em dispositivos touch onde `mousemove` não ocorre: manter fantasma centralizado
- Rodar apenas animação de flutuação
- Detectar `pointer: coarse` e reduzir efeitos

---

### **\*\*1.7 Acessibilidade\*\***

#### **\*\*Semântica HTML\*\***

```
```tsx
<section className="hero" aria-label="Seção principal de apresentação">
  <h1>Você não vê o design.</h1>
```
```

```


<h2>Mas ele vê você.</h2>

{/* Canvas decorativo */}
<div role="presentation" aria-hidden="true">
  <Canvas />
</div>

{/* Descrição alternativa */}
<p className="sr-only">
  Animação decorativa de um fantasma flutuante com partículas luminosas
</p>
</section>
```

```

#### #### \*\*Contraste\*\*

- `#fcffff` em `#040013`: \*\*19.5:1\*\*  WCAG AAA
- `#d9dade` em `#040013`: \*\*15.8:1\*\*  WCAG AAA

#### #### \*\*Prefers-Reduced-Motion\*\*

```

```tsx
const prefersReducedMotion = useReducedMotion();

if (prefersReducedMotion) {
  return <StaticGhostFallback />;
}

return <AnimatedGhostCanvas />;
```

```

---

#### ### \*\*1.8 Estrutura de Arquivos\*\*

```

```
app/
├── components/
│   ├── Hero.tsx           # Container principal
│   ├── HeroText.tsx       # Conteúdo semântico
│   ├── GhostScene.tsx     # Canvas WebGL (dynamic import)
│   ├── Ghost.tsx          # Personagem 3D
│   ├── Atmosphere.tsx     # Shader de fundo
│   ├── Fireflies.tsx      # Vagalumes
│   ├── Preloader.tsx      # Loading inicial
│   └── CTAButton.tsx      # Call-to-action
├── lib/
│   ├── hooks/
│   │   ├── usePerformanceAdaptive.ts
│   │   ├── useReducedMotion.ts
│   │   └── useMouse.ts
│   └── utils/
│       └── cn.ts
└── styles/

```

```
... └─ globals.css
```

```
---
```

```
### **1.9 Z-Index Stack**
```

```
```typescript
const zIndex = {
  preloader: 50,      // Tela de carregamento
  ghostCanvas: 20,    // Canvas WebGL (sempre acima do texto)
  heroContent: 10,    // Textos e CTA
  background: 0,      // Gradiente de fundo
};
```
```

```
---
```

```
### **1.10 Implementação – Componentes Principais**
```

```
#### **Hero.tsx**
```

```
```tsx
import dynamic from 'next/dynamic';
import { Suspense } from 'react';
import HeroText from './HeroText';
import Preloader from './Preloader';

const GhostScene = dynamic(() => import('./GhostScene'), { ssr: false });

export default function Hero() {
  return (
    <section className="relative h-screen w-full bg-[#040013]
      text-[#fcffff] overflow-hidden">
      <Preloader />
      <HeroText />
      <Suspense fallback={null}>
        <GhostScene />
      </Suspense>
    </section>
  );
}
```
```

```
#### **HeroText.tsx**
```

```
```tsx
import { motion } from 'framer-motion';

const textAnimation = {
  initial: {
    opacity: 0,
    scale: 0.92,
    y: 60,
    filter: 'blur(10px)',
  },
};
```

```

    },
    animate: {
      opacity: 1,
      scale: [1.02, 1],
      y: 0,
      filter: 'blur(0px)',
    },
    transition: {
      duration: 1.2,
      ease: [0.25, 0.46, 0.45, 0.94],
    },
  },
};

export default function HeroText() {
  return (
    <motion.div
      className="absolute inset-0 z-10 flex flex-col justify-center
        items-center text-center pointer-events-none px-5"
      {...textAnimation}
    >
      <span className="text-xs uppercase tracking-widest mb-2 opacity-60">
        [BRAND AWARENESS]
      </span>

      {/* Desktop/Tablet */}
      <h1 className="hidden md:block text-[clamp(2.5rem,5vw+1rem,4.5rem)]
        font-black tracking-tight leading-tight">
        Você não vê
        <br />
        o design.
      </h1>

      {/* Mobile */}
      <h1 className="md:hidden text-[clamp(2.5rem,5vw+1rem,4.5rem)]
        font-black tracking-tight leading-tight">
        Você não
        <br />
        vê o
        <br />
        design.
      </h1>

      <h2 className="text-[clamp(1.5rem,3vw+0.5rem,2.5rem)] font-bold
        text-[#d9dade] mt-4">
        Mas ele vê você.
      </h2>

      <div className="mt-8 pointer-events-auto">
        <CTAButton href="/sobre">step inside →</CTAButton>
      </div>
    </motion.div>
  );
}
...

```

#### **\*\*GhostScene.tsx\*\***

```
` ``tsx
'use client';

import { Canvas } from '@react-three/fiber';
import { Suspense } from 'react';
import { Ghost } from './Ghost';
import { Atmosphere } from './Atmosphere';
import { Fireflies } from './Fireflies';

export default function GhostScene() {
  return (
    <Canvas
      className="absolute inset-0 z-20"
      gl={{ antialias: true, alpha: true }}
      camera={{ position: [0, 0, 20], fov: 75 }}
      role="presentation"
      aria-hidden="true"
    >
      <ambientLight color="#0a0a2e" intensity={0.08} />
      <directionalLight position={[-8, 6, -4]} color="#4a90e2"
        intensity={1.8} />
      <directionalLight position={[8, -4, -6]} color="#50e3c2"
        intensity={1.26} />

      <Suspense fallback={null}>
        <Atmosphere />
        <Ghost />
        <Fireflies count={20} />
      </Suspense>
    </Canvas>
  );
}
` ``
```

---

## ## 🎬 4.3 – VÍDEO MANIFESTO

#### **\*\*2.1 Objetivo\*\***

Apresentar um vídeo manifesto fullscreen com resumo poético do trabalho, posicionado logo após a Hero, sem animações de scroll-morphing.

**\*\*Características:\*\***

- Seção independente e fullscreen
- Colado às paredes da página
- Aspect ratio 16:9 (`aspect-video`)
- Autoplay, loop, muted
- Controle de áudio visível

---

#### **\*\*2.2 Layout\*\***

#### #### \*\*Estrutura\*\*

```
```tsx
<section className="video-manifesto">
  <div className="video-wrapper">
    <video />
    <div className="video-overlay" />
    <div className="video-text" />
    <button className="toggle-sound" />
  </div>
</section>
```
```

#### #### \*\*Posicionamento\*\*

##### **\*\*Desktop e Mobile:\*\***

- Seção fullscreen logo após Hero
- `width: 100vw`
- `aspect-ratio: 16/9`
- Sem padding lateral (colado às paredes)

```
```css
.video-manifesto {
  width: 100vw;
  margin: 0;
  padding: 0;
}

.video-wrapper {
  width: 100%;
  aspect-ratio: 16/9;
  position: relative;
}
```
```

---

#### ### \*\*2.3 Comportamento do Vídeo\*\*

##### #### \*\*Propriedades Base\*\*

```
```tsx
<video
  autoPlay
  loop
  muted
  playsInline
  preload="metadata"
  src={videoSrc}
  poster={posterSrc}
/>
```
```

##### #### \*\*Controle de Áudio\*\*

### **\*\*Desktop e Mobile:\*\***

- Botão de som sempre visível
- Tap/click = toggle mute
- Ao sair da seção → mutar automaticamente

```
```tsx
const [muted, setMuted] = useState(true);

// Observer para detectar saída da seção
useEffect(() => {
  const observer = new IntersectionObserver(
    ([entry]) => {
      if (!entry.isIntersecting) {
        setMuted(true);
      }
    },
    { threshold: 0.1 }
  );

  if (sectionRef.current) {
    observer.observe(sectionRef.current);
  }

  return () => observer.disconnect();
}, []);
```
```

---

### **### \*\*2.4 Animação de Entrada\*\***

#### **\*\*Simple fade-in (sem scroll-triggered morphing):\*\***

```
```javascript
// Framer Motion
initial: {
  opacity: 0,
  scale: 0.95,
  y: 20
}

animate: {
  opacity: 1,
  scale: 1,
  y: 0
}

transition: {
  duration: 0.6,
  ease: [0.22, 1, 0.36, 1]
}
```
```

---

### ### \*\*2.5 Overlay e Metadados\*\*

#### #### \*\*Overlay Gradiente\*\*

```
```css
.video-overlay {
  background: radial-gradient(
    120% 120% at 70% 30%,
    rgba(0, 0, 0, 0) 0%,
    rgba(0, 0, 0, 0.55) 70%,
    rgba(0, 0, 0, 0.75) 100%
  );
  position: absolute;
  inset: 0;
  pointer-events: none;
}
```
```

#### #### \*\*Texto Sobreposto\*\*

```
```tsx
<div className="video-text absolute bottom-0 left-0 w-full p-6">
  <p className="text-white/70 text-sm mb-1">Showreel 2025</p>
  <p className="text-white text-lg font-medium">
    Strategy • Branding • Motion
  </p>
</div>
```
```

---

### ### \*\*2.6 Controle de Som – Design\*\*

```
```tsx
<button
  type="button"
  className="toggle-sound absolute top-4 right-4 w-10 h-10 rounded-full
    bg-black/50 backdrop-blur-sm text-white flex items-center justify-center
    hover:bg-black/70 transition-colors"
  onClick={() => setMuted(m => !m)}
  aria-label={muted ? 'Ativar som' : 'Desativar som'}
  aria-pressed={!muted}
>
  {muted ? (
    <svg className="w-5 h-5" fill="none" viewBox="0 0 24 24"
      stroke="currentColor">
      <path strokeLinecap="round" strokeLinejoin="round" strokeWidth={2}
        d="M5.586 15H4a1 1 0 1-1-1v-4a1 1 0 11-1h1.586l4.707-4.707C10.923
          3.663 12 4.109 12 5v14c0 .891-1.077 1.337-1.707.707L5.586 15z" />
      <path strokeLinecap="round" strokeLinejoin="round" strokeWidth={2}
        d="M17 14l2-2m0 0l2-2m-2 2l-2-2m2 2l2 2" />
    </svg>
  ) : (
```

```

    <svg className="w-5 h-5" fill="none" viewBox="0 0 24 24"
    stroke="currentColor">
      <path strokeLinecap="round" strokeLinejoin="round" strokeWidth={2}
      d="M15.536 8.464a5 5 0 010 7.072m2.828-9.9a9 9 0 010 12.728M5.586
      15H4a1 1 0 01-1-1v-4a1 1 0 011-1h1.586l4.707-4.707C10.923 3.663 12
      4.109 12 5v14c0 .891-1.077 1.337-1.707 1.707L5.586 15z" />
    </svg>
  )}
</button>
`

```

---

### ### \*\*2.7 Responsividade\*\*

#### #### \*\*Desktop e Mobile (Comportamento Unificado)\*\*

```

` ``css
/* Ambos os dispositivos */
.video-manifesto {
  width: 100vw;
  padding: 0;
  margin: 0;
}

.video-wrapper {
  aspect-ratio: 16/9;
  width: 100%;
}

/* Ajustes de texto em mobile */
@media (max-width: 767px) {
  .video-text {
    padding: 1rem;
  }

  .video-text p:first-child {
    font-size: 0.75rem;
  }

  .video-text p:last-child {
    font-size: 0.875rem;
  }
}
`

```

---

### ### \*\*2.8 Otimização de Carregamento\*\*

#### #### \*\*Lazy Loading\*\*

```

` ``tsx
const [shouldLoad, setShouldLoad] = useState(false);
const wrapperRef = useRef<HTMLDivElement>(null);

```

```

useEffect(() => {
  const observer = new IntersectionObserver(
    ([entry]) => {
      if (entry.isIntersecting) {
        setShouldLoad(true);
        observer.disconnect();
      }
    },
    { rootMargin: '200px' }
  );

  if (wrapperRef.current) {
    observer.observe(wrapperRef.current);
  }

  return () => observer.disconnect();
}, []);

```

#### **\*\*Qualidade Adaptativa\*\***

```

```tsx
const [videoQuality, setVideoQuality] = useState<'hd' | 'sd'>('hd');

useEffect(() => {
  if ('connection' in navigator) {
    const conn = (navigator as any).connection;

    if (conn?.effectiveType === '4g' || conn?.effectiveType === '5g') {
      setVideoQuality('hd');
    } else {
      setVideoQuality('sd');
    }
  }
}, []);






const videoSrc = videoQuality === 'hd'
  ? src
  : src.replace('.mp4', '-720p.mp4');


```

---

### **\*\*2.9 Acessibilidade\*\***

#### **\*\*Checklist\*\***

-  Envolver vídeo com elemento semântico (`<section>`)
-  Botão de som com `aria-label` e `aria-pressed`
-  `playsInline` para evitar fullscreen indesejado
-  Respeitar `prefers-reduced-motion`
-  Contraste adequado no overlay (gradiente)

-  Descrição alternativa via `aria-label` no vídeo

```
````tsx
<video
  aria-label="Vídeo showreel demonstrando projetos de design gráfico"
  aria-describedby="video-description"
/>

<p id="video-description" className="sr-only">
  Vídeo de apresentação dos trabalhos em estratégia, branding e motion
  design
</p>
````
```

---

### ### \*\*2.10 Implementação Completa\*\*

```
````tsx
'use client';

import { useEffect, useRef, useState } from 'react';
import { motion } from 'framer-motion';

interface VideoManifestoProps {
  src: string;
}

export function VideoManifesto({ src }: VideoManifestoProps) {
  const [muted, setMuted] = useState(true);
  const [shouldLoad, setShouldLoad] = useState(false);
  const [videoQuality, setVideoQuality] = useState<'hd' | 'sd'>('hd');

  const sectionRef = useRef<HTMLDivElement>(null);
  const wrapperRef = useRef<HTMLVideoElement>(null);
  const videoRef = useRef<HTMLVideoElement>(null);

  // Lazy loading
  useEffect(() => {
    if (!wrapperRef.current) return;

    const observer = new IntersectionObserver(
      ([entry]) => {
        if (entry.isIntersecting) {
          setShouldLoad(true);
          observer.disconnect();
        }
      },
      { rootMargin: '200px' }
    );

    observer.observe(wrapperRef.current);
    return () => observer.disconnect();
  }, []);
```

```

// Mutar ao sair da seção
useEffect(() => {
  if (!sectionRef.current) return;

  const observer = new IntersectionObserver(
    ([entry]) => {
      if (!entry.isIntersecting) {
        setMuted(true);
      }
    },
    { threshold: 0.1 }
  );

  observer.observe(sectionRef.current);
  return () => observer.disconnect();
}, []);

// Detectar qualidade de conexão
useEffect(() => {
  if ('connection' in navigator) {
    const conn = (navigator as any).connection;
    if (conn?.effectiveType === '4g' || conn?.effectiveType === '5g') {
      setVideoQuality('hd');
    } else {
      setVideoQuality('sd');
    }
  }
}, []);

// Aplicar mute
useEffect(() => {
  if (!videoRef.current) return;
  videoRef.current.muted = muted;
}, [muted]);

const videoSrc = videoQuality === 'hd'
  ? src
  : src.replace('.mp4', '-720p.mp4');

const posterSrc = src.replace('.mp4', '-poster.jpg');

return (
  <motion.section
    ref={sectionRef}
    className="video-manifesto w-full"
    initial={{ opacity: 0, scale: 0.95, y: 20 }}
    whileInView={{ opacity: 1, scale: 1, y: 0 }}
    transition={{ duration: 0.6, ease: [0.22, 1, 0.36, 1] }}
    viewport={{ once: true, amount: 0.3 }}
  >
    <div ref={wrapperRef} className="video-wrapper relative w-full aspect-video">
      {shouldLoad ? (
        <>

```

```

<motion.video
  ref={videoRef}
  className="w-full h-full object-cover"
  src={videoSrc}
  poster={posterSrc}
  autoPlay
  loop
  muted={muted}
  playsInline
  preload="metadata"
  aria-label="Vídeo showreel demonstrando projetos de design
  gráfico"
/>

{/* Overlay */}
<div className="video-overlay absolute inset-0
  pointer-events-none" />

{/* Metadados */}
<div className="video-text absolute bottom-0 left-0 w-full p-4
  md:p-6">
  <p className="text-white/70 text-xs md:text-sm mb-1">Showreel
    2025</p>
  <p className="text-white text-sm md:text-lg font-medium">
    Strategy • Branding • Motion
  </p>
</div>

{/* Toggle som */}
<button
  type="button"
  className="toggle-sound absolute top-4 right-4 w-10 h-10
    rounded-full bg-black/50 backdrop-blur-sm text-white flex
    items-center justify-center hover:bg-black/70
    transition-colors focus-visible:outline-2
    focus-visible:outline-[#4fe6ff]
    focus-visible:outline-offset-2"
  onClick={() => setMuted(m => !m)}
  aria-label={muted ? 'Ativar som do vídeo' : 'Desativar som do
  vídeo'}
  aria-pressed={!muted}
>
  {muted ? '🔊' : '🔇'}
</button>
</>
) : (
  // Placeholder
  <div className="w-full h-full bg-gradient-to-br from-neutral-900
    to-neutral-800 animate-pulse" />
  </div>
)
</motion.section>
);
}

```

```

---

### ### \*\*2.11 Integração na Página\*\*

```
```tsx
// app/page.tsx
import Hero from './_components/Hero';
import { VideoManifesto } from './_components/VideoManifesto';

export default function HomePage() {
  return (
    <main>
      {/* Hero Section */}
      <Hero />

      {/* Vídeo Manifesto */}
      <VideoManifesto
        src="https://aymuvxysygrwoicsjgxj.supabase
          .co/storage/v1/object/public/project-videos/VIDEO-APRESENTACAO-PORT
          FOLIO.mp4"
      />

      {/* Outras seções */}
    </main>
  );
}
```
```

---

### ### \*\*2.12 CSS Global\*\*

```
```css
/* globals.css */

/* Overlay de vídeo */
.video-overlay {
  background: radial-gradient(
    120% 120% at 70% 30%,
    rgba(0, 0, 0, 0) 0%,
    rgba(0, 0, 0, 0.55) 70%,
    rgba(0, 0, 0, 0.75) 100%
  );
}

/* Remover espaçamento padrão */
.video-manifesto {
  margin: 0;
  padding: 0;
}

/* Garantir que vídeo ocupe toda a largura */
.video-wrapper video {
```

```
display: block;
width: 100%;
height: 100%;
}
``,`
```

---

### ### \*\*2.13 Checklist de Validação\*\*

#### \*\*Funcional:\*\*

- [ ] Vídeo fullscreen logo após Hero
- [ ] Aspect ratio 16:9 mantido em todas as telas
- [ ] Autoplay funciona (muted)
- [ ] Botão de som visível e funcional
- [ ] Vídeo muda ao sair da seção
- [ ] Lazy loading implementado
- [ ] Qualidade adaptativa baseada em conexão

#### \*\*Acessibilidade:\*\*

- [ ] Botão com `aria-label` e `aria-pressed`
- [ ] `playsInline` no mobile
- [ ] Descrição alternativa no vídeo
- [ ] Contraste adequado no overlay
- [ ] Foco visível no botão de som

#### \*\*Performance:\*\*

- [ ] `preload="metadata"`
- [ ] Poster estático carregado
- [ ] IntersectionObserver para lazy load
- [ ] Versões HD/SD disponíveis

---

## # 4.4 Portfolio Showcase – Protótipo Interativo

### ## Purpose

Apresentar as principais categorias de trabalho com **sofisticação editorial**, usando movimento, hierarquia tipográfica e interação progressiva para **guiar o usuário naturalmente** até áreas específicas do portfólio – replicando o ritmo, layout e comportamento da sessão equivalente na home do site de referência.

---

### ## Layout & Estrutura

### Desktop (≥1024px)

#### Estrutura Geral

- Headline centralizada:
  - \*\*"portfólio showcase"\*\*
  - "portfólio" em branco
  - "showcase" em `#0048ff`
- Label flutuante contextual:
  - Texto: **[what we love working on]**
  - Cor: `#0048ff`
  - Posicionamento: absoluto, alinhado à esquerda, alinhado a esquerda e ao ítem 'Brand & Campaigns' dentro da faixa
- Três faixas interativas horizontais ['#8705f2'] (\*accordion-style stripes\*), com alinhamento alternado:
  1. **Brand & Campaigns** – alinhada à direita
  2. **Videos & Motions** – centralizada
  3. **Web Campaigns, Websites & Tech** – alinhada à esquerda
    - Quebra de linha após a vírgula
- CTA centralizado abaixo das faixas:
  - **"let's build something great →"**

---

#### #### Estrutura de Cada Stripe

Cada faixa contém:

- **Thumbnail de vídeo/imagem**
  - Largura: `288px`
  - Aspect ratio: ~16:9
  - Bordas levemente arredondadas
  - Oculta por padrão
- **Título da categoria**
  - Tipografia grande (2xl–5xl)
  - Peso médio
  - Font-family: `TT Norms Pro Normal`
- **Ícone de ação**
  - Badge circular azul
  - Ícone de seta interna

---

## ## Interações & Animações

### ### Scroll Reveal (Desktop)

- Trigger: quando 30% da seção entra na viewport
- Animação:

```
```js
opacity: 0 → 1
translateY: 24px → 0
duration: 0.8s
easing: ease-out
stagger: 120ms entre faixas
```
```

- Durante a entrada, os títulos transitam para `#0057FF`, reforçando hierarquia visual.

---

### ### Hover sobre a Stripe (Desktop)

#### #### 1. Revelação da Thumbnail

```
```js
width: 0 → 288px
opacity: 0 → 1
duration: 700ms
easing: cubic-bezier(0.22, 1, 0.36, 1)
```
```

#### #### 2. Ajuste de Espaçamento Interno

```
```js
gap: gap-7 → gap-10
duration: 300ms
```
```

#### #### 3. Ícone de Seta

```
```js
rotation: -45deg → 0deg
duration: 500ms
```
```

> A interação é **\*\*progressiva e silenciosa\*\***, sem sobreposição agressiva ou quebra de layout.

---

### ### Click

- Navegação para `/portfolio`
- Categoria correspondente aplicada via filtro (slug).

---

## ## Responsividade & Adaptação de Conteúdo

### ### Mobile & Tablet ( $\leq 1023\text{px}$ )

#### #### Layout

- Cards verticais full-width
- Conteúdo texto alinhado a esquerda da página
- Ícone de Seta alinhado a direita da página
- Label flutuante removida
- CTA centralizado

#### #### Comportamento

- Sem hover
- Thumbnails ocultas ou estáticas
- Ícones de seta à direita

---

### #### 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`

**\*\*Estado\*\***, Propriedade, Valor / Classe Tailwind, Duração, Easing

**\*\*Idle\*\***, Translação Y, translate-y-0, -, -

**\*\*Hover\*\***, Translação Y, -translate-y-px (Levitação sutil), 200ms, ease-out

**\*\*Hover\*\***, Background, bg-light-blue `#0048ff` (Iluminação), 300ms, default  
(`translateX: 4px`)

**\*\*Optional:\*\*** Subtle looping animation on arrow in idle state (`translateX:  
0 → 4px → 0`)

---

## ## Resultado Esperado

- Experiência editorial fluida
- Movimento como reforço de significado
- Consistência total entre desktop e mobile

-----

## # **\*\*4.5 Featured Projects**

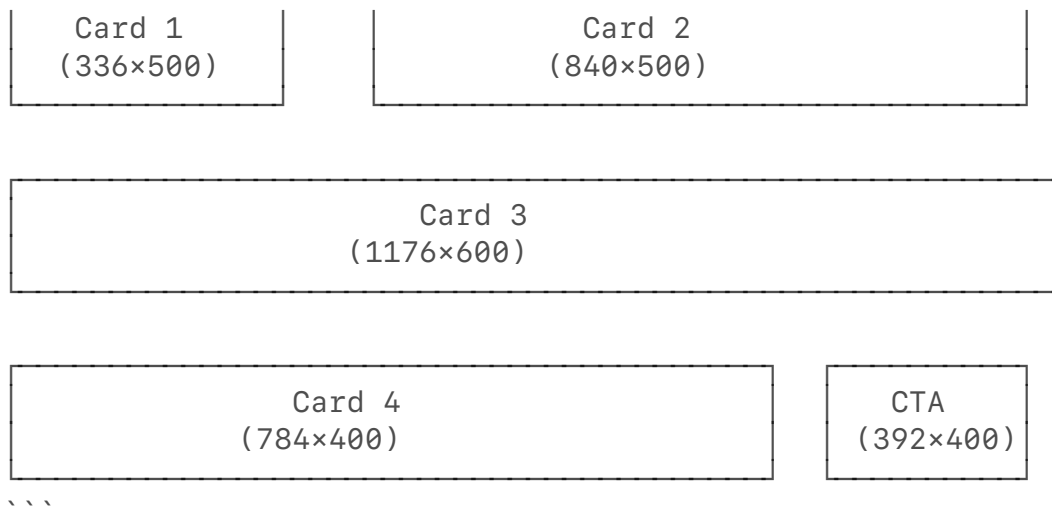
**\*\*Purpose:\*\*** Showcase curated, high-quality work examples in an editorial, magazine-style layout (Bento Grid).

#### Layout (Desktop)

Irregular grid resembling a magazine spread:

...





...

### **\*\*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

---

## # \*\*4.6 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

---

## # **\*\*4.7 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 `` elements
- Keyboard navigable
- Focus indicators (`focus-visible`)
- Error messages programmatically associated with fields
- Minimum touch target size: 48×48px (mobile)

---

## # \*\*4.8 Footer

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

#### Desktop ( $\geq 1024\text{px}$ )

**\*\*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 ( $\leq 1023\text{px}$ )

**\*\*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 48x48px.

---

## ## 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).

----

## ## 5. Build, Deploy e Variáveis

**\*\*Comando de Build:\*\*** `pnpm run build`

**\*\*Variáveis de Ambiente (`.env.local`):\*\***

```
```bash
NEXT_PUBLIC_GA_ID=UA-XXXXXXXXX-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).

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