# **MASTER DROP‑IN PROMPT — Full‑Stack, Integration‑Ready AI Website Builder**

Paste this entire prompt into your system ("a system that builds systems"). It specifies **what to build**, **how it thinks**, **what to emit**, and **how to validate**. It is self‑contained and designed to produce a complete, first‑draft repo + CI that is production‑minded.

## **0) Mission & Outcomes**

* Build an **AI website builder** that creates **world‑class, motion‑rich, production‑ready** sites and funnels.
* Single **Spec** (JSON/DSL) is the source of truth. All code (UI + backend + infra) and docs are compiled from it.
* The system includes: **brand intake**, **design tokens**, **motion grammar**, **code generators**, **validators**, **hosting & domains**, **observability**, **multi‑provider payments**, **forms/surveys/chat**, **guided prompts**.
* Editing is **intent‑driven** (commands → JSON patches) with **minimal, readable diffs**.

**Non‑negotiable quality gates:** perf ≥ 0.90, a11y ≥ 0.95, SEO ≥ 0.90 in Lighthouse; type‑safe APIs; idempotent webhooks; reduced‑motion parity; p95 API latency budgets.

## **1) System Map**

**Control Plane (Studio):** guided intake, Spec editor, diff viewer, secrets manager, live preview, timeline scrubber, backend console, domain/SSL wizard.  
 **Data Plane (Generated App):** Next.js app (App Router, RSC) + API routes + Prisma DB + jobs/cron + payments + webhooks + email/CRM/search/CMS adapters.  
 **CI/CD:** GitHub Actions + Lighthouse CI + Playwright + API contract tests + webhook simulators.  
 **Hosting:** Vercel default (plugins for Cloudflare Workers/K8s/S3+CloudFront).  
 **Domains:** ACME/Let’s Encrypt, DNS verification, multi‑tenant custom domains.

## **2) Spec (Single Source of Truth)**

### **2.1 Zod‑style Schema (author the equivalent in code)**

// primitives

const Hex = /^#([0-9a-fA-F]{3}){1,2}([0-9a-fA-F]{2})?$/;

// Sections discriminated union (hero, feature\_grid, logo\_cloud, showreel, pricing, cta\_banner,

// landing\_page, form, survey, blog/docs/product stubs)

// Payments providers with routing rules by country/currency/method; products with multi‑currency prices; subscriptions toggle.

// Integrations: auth (clerk/auth0/nextauth), db (postgres), email (resend/postmark), cms (sanity|contentful|markdown),

// storage (s3|r2|supabase + transforms), search (meilisearch|algolia), analytics (vercel|posthog), crm (hubspot), chat (intercom|drift|hubspot|custom)

// Infra: hosting targets, regions, envs. i18n: locales, default.

// Forms/Surveys: field types, required flags, actions pipeline (db.insert, crm.upsert, email.send, analytics.track).

### **2.2 Example Spec (starter)**

{

"brand": { "name": "Aether", "voice": "understated, confident", "mood": "hi‑tech serene" },

"goals": ["launch signup", "wow‑factor hero"],

"audience": "founders, designers",

"palette": { "bg": "#0A0D12", "primary": "#C9F0FF", "accent": "#A787FF" },

"type": { "display": "Sora", "text": "Inter" },

"layout": { "maxWidth": 1200, "grid": 12, "radius": "2xl", "space": "fluid-8pt" },

"sections": [

{ "kind": "hero", "headline": "Clarity. At light speed.", "sub": "AI-crafted sites with cinematic motion.", "cta": "Request access", "motionEnergy": "high" },

{ "kind": "feature\_grid", "items": 6 },

{ "kind": "logo\_cloud" },

{ "kind": "showreel", "source": "auto" },

{ "kind": "pricing", "tiers": ["Starter","Pro","Studio"] },

{ "kind": "cta\_banner" }

],

"forms": [

{ "id": "lead\_form", "fields": [ { "name": "email", "type": "email", "required": true } ], "actions": ["db.insert(leads)","crm.upsert","email.send(template:'welcome')"] }

],

"surveys": [],

"motion": { "style": "cinematic", "stagger": 0.08, "scrollScenes": true, "parallaxDepth": 0.32 },

"assets": { "three": true, "lottie": true },

"variant": "Cinematic",

"integrations": {

"auth": { "provider": "clerk", "social": ["google","github"] },

"db": { "kind": "postgres", "multiTenant": true },

"payments": {

"providers": [

{ "name": "stripe", "modes": ["checkout","elements"], "currencies": ["USD","EUR"] },

{ "name": "paypal", "modes": ["smart-buttons"] },

{ "name": "adyen", "modes": ["dropin"], "currencies": ["JPY","USD","EUR"] },

{ "name": "razorpay", "modes": ["checkout"], "currencies": ["INR"] }

],

"routing": { "rules": [

{ "if": { "country": "IN" }, "use": "razorpay" },

{ "if": { "currency": "JPY" }, "use": "adyen" },

{ "if": { "method": "paypal" }, "use": "paypal" },

{ "else": "stripe" }

]},

"products": [

{ "id": "starter", "price": { "USD": 19, "EUR": 19, "INR": 999 } },

{ "id": "pro", "price": { "USD": 49, "EUR": 49, "INR": 3999 } }

],

"subscriptions": true

},

"email": { "provider": "resend", "domains": ["aether.site"] },

"cms": { "sanity": { "dataset": "production" } },

"storage": { "provider": "s3", "imageTransforms": "cloudflare" },

"search": { "provider": "meilisearch" },

"analytics": { "provider": "vercel-analytics", "rum": true },

"crm": { "hubspot": { "forms": ["lead"] } },

"chat": { "provider": "intercom", "ai": false, "config": {} }

},

"backend": {

"apis": [

{ "name": "lead.capture", "method": "POST", "path": "/api/lead",

"input": { "email": "string", "source": "string?" },

"effects": ["db.insert(leads)","crm.upsert","email.send(template:'welcome')"] }

],

"jobs": [{ "name": "nightlyReindex", "cron": "0 3 \* \* \*" }],

"webhooks": [{ "source": "stripe", "events": ["checkout.session.completed"], "handler": "billing.onCheckout" }]

},

"infra": { "hosting": { "preview": "vercel", "prod": "vercel" }, "regions": ["iad","sfo","fra"], "env": ["preview","production"] },

"i18n": { "enabled": false, "locales": ["en"], "defaultLocale": "en" }

}

## **3) Thinking Engine**

### **3.1 Brand DNA Derivation**

* Extract palette from logo/assets; ensure WCAG AA (≥4.5:1). Compute fg against bg via readability; nudge hues if needed.
* Build type ramps: display/text families + scale map (xs..3xl).
* Set component density (airy/regular/dense), radius, spacing base.
* Choose motion energy based on variant and goals.

### **3.2 Motion Grammar**

* Eases: studioIn=[0.2,0.8,0.2,1], studioOut=[0.3,0.1,0.1,1], editorial=[0.17,0.67,0.2,1].
* Durations: { xs:0.3, sm:0.5, md:0.8, lg:1.2 }.
* Parallax map: (depth)=>({ bg:-10\*depth, mid:-5\*depth, fg:-2\*depth }).
* Reduced‑motion substitutions: disable pin/parallax; fade-only; shorten durations ~30%.

### **3.3 Intent → Patch**

* Commands converted to **JSON Patch** operations. Keep within bounds (e.g., clamp parallaxDepth in 0..1). Idempotent edits.

## **4) Generators (What to Emit)**

### **4.1 UI (Next.js 14 + Tailwind)**

* app/layout.tsx, app/page.tsx, compositional sections under components/sections/\*.
* Hero supports GSAP ScrollTrigger pin + Framer reveals; prefers-reduced-motion fallback.
* SEO (robots.ts, sitemap.ts), OG via Satori using tokens.

### **4.2 Backend**

* API routes from backend.apis with Zod schemas + rate limiting; standardized error shape { ok:boolean, error?:{ code:string, message:string } }.
* Prisma schema + migrations (multi‑tenant optional, tenantId on rows).
* Jobs/cron (Vercel Cron or adapter). Webhooks with signature verification + idempotency store + DLQ & retries.
* Auth (Clerk/Auth0/NextAuth) + RBAC; Email (Resend/Postmark); Search (Meilisearch/Algolia); CMS (Sanity) generator.

### **4.3 Payments**

* Adapters: Stripe, PayPal, Adyen, Razorpay. Router chooses provider by rules (country/currency/method). CLI payments sync creates/updates products/prices.
* Unified /api/checkout and /api/webhooks/payments → normalized events → DB updates → email/analytics.

### **4.4 Funnels, Forms, Surveys, Chat**

* Form/survey UI + API with actions: db.insert, crm.upsert, email.send, analytics.track. Chat widget injection or custom AI chat edge function.

## **5) Hosting & Domains**

* Preview builds on Vercel per branch. Production deploys to Vercel by default (pluggable targets supported).
* Domain connect flow: output DNS records; verify; provision SSL via ACME; multitenant custom domains supported.
* Zero‑downtime deploys; CDN caching; next/image with transforms (Cloudflare/Imgix/Uploadcare).

## **6) Validation & QA**

* **Lighthouse CI** budgets (perf≥0.90, a11y≥0.95, SEO≥0.90).
* **API contracts** (OpenAPI) + p95 latency budgets.
* **Motion budget** (Puppeteer trace; <5% frames <60fps on hero).
* **Visual regression** (Playwright sm/md/lg).
* **A11y lint** (eslint‑plugin‑jsx‑a11y + custom motion guards).

## **7) Security & Compliance**

* Secrets in vault; short‑lived CI tokens; no secrets in repo.
* Webhook verification + idempotency; replay window; WAF hooks.
* Rate limiting; PII tagging; right‑to‑erasure CLI; DPIA checklist.
* Tenant isolation; region pinning; backups & DR runbook.
* Cookie banner/CMP scaffolding.

## **8) Observability & Cost**

* Structured logs; OpenTelemetry traces; metrics for routes/jobs/webhooks.
* Dashboards: Web Vitals (LCP/CLS/INP), API p95, job durations, webhook success, payment success.
* Alerts: 5xx spikes, DLQ growth, latency regressions, Lighthouse dips.
* Cost guardrails: CDN egress, DB rows, search docs; suggest Spec changes when limits approach.

## **9) Guided Prompt (Conversational Intake)**

* Slot model for brand, goals, audience, palette, assets, variants, integrations, payments, regions, i18n.
* Adaptive questioning (impact×entropy×missingness).
* Importers (logo/URLs/screenshots) → palette/type extraction.
* Output: validated Spec + evidence map + rationales + redacted transcript.
* Wizards: **SaaS Launch**, **Portfolio**, **Event**, **E‑comm**.

## **10) Repo Skeleton (PNPM Workspaces)**

repo/

apps/

site/ # generated Next.js (UI + API)

studio/ # control plane (intake/editor/preview)

packages/

core/ # types, tokens, motion grammar

compiler/ # spec→tokens/layout/motion/backend/infra emitters

codegen-next/ # TSX templates, SEO kit, sections

backend-core/ # OpenAPI compiler, webhook kit, job runner, rate limiter

integrations/ # payments/auth/email/CRM/search adapters

cms-sanity/ # Sanity adapter + schema generator

validators/ # lighthouse, a11y, motion, api, visual tests

runtime/ # diff/apply, commands→patch, intent DSL

infra/ # domain/SSL provisioning, env manager, migration runner

intake/ # guided prompt engine (slot/graph/policy)

ui-components/ # shared UI (forms, surveys, chat wrappers)

tools/

lighthouse-ci/

playwright/

e2e-api/

package.json

pnpm-workspace.yaml

## **11) Golden Path (Commands)**

pnpm i

pnpm --filter @app/site dev # run generated app

pnpm --filter @app/studio dev # run studio

pnpm --filter @pkg/validators test # lighthouse + a11y + api + visual

pnpm --filter @pkg/integrations payments:sync # ensure products/prices exist across providers

## **12) Key Snippets (emit as files)**

### **12.1 Tailwind + Tokens**

// apps/site/tailwind.config.ts

import type { Config } from 'tailwindcss';

export default <Partial<Config>>({ content: ['./app/\*\*/\*.{ts,tsx}','./components/\*\*/\*.{ts,tsx}'], theme:{ extend:{ colors:{ bg:'var(--bg)', fg:'var(--fg)', primary:'var(--primary)', accent:'var(--accent)' }, borderRadius:{ '2xl':'var(--radius)' } } } });

/\* apps/site/app/globals.css \*/

:root{ --bg:#0A0D12; --fg:#E6F7FF; --primary:#C9F0FF; --accent:#A787FF; --radius:1rem; }

html,body{ background:var(--bg); color:var(--fg); }

### **12.2 Hero (Framer + GSAP pin, reduced‑motion safe)**

// apps/site/components/sections/Hero.tsx

'use client';

import { motion } from 'framer-motion';

import gsap from 'gsap'; import { ScrollTrigger } from 'gsap/ScrollTrigger';

import { useEffect, useRef } from 'react';

if (typeof window !== 'undefined') gsap.registerPlugin(ScrollTrigger);

export default function Hero({ headline, sub, cta, energy='med' }){

const ref = useRef<HTMLDivElement>(null);

useEffect(()=>{

const reduce = window.matchMedia('(prefers-reduced-motion: reduce)').matches;

if(reduce || !ref.current) return;

const ctx = gsap.context(()=>{

const tl = gsap.timeline({ scrollTrigger:{ trigger: ref.current, start:'top top', end:'+=120%', scrub:1, pin:true }});

tl.fromTo('[data-hero-bg]', { yPercent:-10 }, { yPercent:10 });

tl.from('[data-hero-h1]', { y:40, opacity:0, duration:0.8 }, 0.1);

tl.from('[data-hero-sub]', { y:24, opacity:0, duration:0.6 }, 0.2);

tl.from('[data-hero-cta]', { y:16, opacity:0, duration:0.5 }, 0.3);

}, ref); return ()=>ctx.revert();

},[]);

return (

<section ref={ref} className="relative min-h-[90svh] grid place-items-center overflow-clip">

<div data-hero-bg className="absolute inset-0 bg-[radial-gradient(60%\_60%\_at\_50%\_0%,\_rgba(201,240,255,0.14),\_transparent\_70%)]" />

<div className="relative z-10 max-w-3xl text-center px-6">

<motion.h1 data-hero-h1 className="text-6xl md:text-7xl font-semibold tracking-tight" initial={{opacity:0,y:40}} whileInView={{opacity:1,y:0}} transition={{duration:0.8, ease:[0.2,0.8,0.2,1]}}>{headline}</motion.h1>

{sub && <motion.p data-hero-sub className="mt-6 text-lg/7 text-[color:var(--fg)]/80" initial={{opacity:0,y:24}} whileInView={{opacity:1,y:0}} transition={{duration:0.6}}>{sub}</motion.p>}

{cta && <motion.button data-hero-cta className="mt-8 inline-flex items-center rounded-2xl px-5 py-3 bg-[color:var(--primary)] text-slate-900">{cta}</motion.button>}

</div>

</section>

);

}

### **12.3 Checkout Router (provider‑agnostic)**

// apps/site/app/api/checkout/route.ts

import { z } from 'zod'; import { pickProvider } from '@/lib/payments/router'; import { getSpec } from '@/lib/spec';

const Z = z.object({ items: z.array(z.object({ productId:z.string(), qty:z.number().min(1) })), country:z.string().optional(), currency:z.string().optional(), mode:z.enum(['one\_time','subscription']) });

export async function POST(req: Request){

const data = Z.parse(await req.json()); const spec = await getSpec();

const provider = pickProvider(spec, { country:data.country, currency:data.currency });

// map products → unit prices by currency

return Response.json(await provider.createCheckout({ /\* ... \*/ }));

}

### **12.4 Payments Webhook (normalized)**

// apps/site/app/api/webhooks/payments/route.ts

import { normalizeAndDispatch } from '@/lib/payments/webhooks';

export async function POST(req: Request){

const raw = await req.text(); const headers = new Headers(Object.fromEntries((req as any).headers));

await normalizeAndDispatch(headers, raw); return new Response(null, { status:204 });

}

### **12.5 Lead API (typed + idempotent)**

// apps/site/app/api/lead/route.ts

import { z } from 'zod'; import { db } from '@/lib/db'; import { sendWelcome } from '@/lib/email'; import { upsertHubspot } from '@/lib/crm'; import { rateLimit } from '@/lib/ratelimit';

const Input = z.object({ email:z.string().email(), source:z.string().optional() });

export async function POST(req: Request){

await rateLimit({ key:`lead:${req.headers.get('x-forwarded-for')}` });

const data = Input.parse(await req.json());

const lead = await db.lead.upsert({ where:{ email:data.email }, update:{ source:data.source }, create:data });

await Promise.allSettled([sendWelcome(lead.email), upsertHubspot(lead)]);

return Response.json({ ok:true });

}

### **12.6 Prisma (multi‑tenant example)**

model Lead { id String @id @default(cuid()); tenantId String; email String @unique; source String?; createdAt DateTime @default(now()); @@index([tenantId]) }

## **13) Acceptance Criteria**

* **Build passes:** type checks, linting, unit tests, e2e API tests, Lighthouse budgets, Playwright snapshots.
* **Payments:** test checkout succeeds; webhook processed idempotently; DB updated; email sent.
* **Forms:** lead form validates; rate limit enforced; CRM upsert called (stub ok).
* **Motion:** reduced‑motion disables pin/pan; no >5% sub‑60fps frames in hero trace.
* **Domains:** domain wizard outputs valid DNS records; SSL cert auto‑provision scripted (dry‑run ok).
* **Observability:** logs/traces/metrics emit on route hit and webhook process.

## **14) Roadmap (Two Weeks)**

**Week 1**: Spec + tokens + core sections; Motion v1; API generator; Prisma; Resend; Stripe + normalized webhooks; Studio shell.  
 **Week 2**: PayPal/Adyen/Razorpay + sync tool + idempotency store; GSAP + Lenis; Lighthouse/a11y/perf gates; Playwright; Meilisearch indexer; Guided Prompt v1; JSON Patch diffs + Change Plan.

## **15) Extras & Guardrails**

* Feature flags/rollouts; RBAC; audit log; cookie/CMP; profanity/PII scrubbers for UGC; media pipeline (video posters); edge caching rules; cost dashboards; import/export of Spec; environment promotion; one‑click rollback.

## **16) Final Instruction (to the system)**

1. **Create the repo** using the folder layout in §10.
2. **Implement generators** to emit all files in §12 based on the Example Spec in §2.2.
3. **Wire CI** with Lighthouse CI, Playwright, API contract tests, and webhook simulators.
4. **Provide a runbook** with commands from §11 and a README that explains: install, dev, build, preview, deploy, domain connect, env vars, payments sync, testing, and rollback.
5. **Produce a minimal yet production‑minded first draft** meeting §13 acceptance criteria.

Output: a bootable repo with Studio (control plane) and a generated Site (data plane), ready to iterate via Spec patches and intent commands.

# **17) Hosting & Domain Connection Module (Extended)**

### **17.1 AWS Hosting Model**

* **Storage**: Generated Next.js app → built assets (HTML/JS/CSS/images) stored in **S3**.
* **Delivery**: **CloudFront** CDN in front of S3 for global distribution and caching.
* **SSL**: Auto-provision via **AWS Certificate Manager (ACM)**.
* **Domains**:  
  + User clicks “Connect Domain” in Studio.
  + Builder outputs required DNS records (CNAME/A/AAAA/TXT for verification).
  + User adds them at their registrar (GoDaddy, Namecheap, Cloudflare, etc.).
  + Builder verifies → ACM certificate issued → domain goes live.
* **Multi-tenant support**: Each site maps to a unique CloudFront distribution or a shared distribution with path-based rules.
* **Zero-downtime deploys**: atomic S3 object version swaps; CloudFront cache invalidation.

### **17.2 Low-Traffic Cost Estimates (per site)**

* **S3**: $0.023/GB/month. Typical site = 100–300 MB → <$0.10.
* **CloudFront**: $0.085/GB in US/EU. Low traffic (~5–10k visits = 1–3 GB) → ~$0.25–0.50.
* **SSL (ACM)**: free.
* **DNS (Route 53, optional)**: $0.50 per hosted zone/month.

👉 **Total = $1–5/month per low-traffic site.**

### **17.3 Medium & High Traffic**

* **Medium (~100k visits, 30–50 GB bandwidth)**: $20–50/month.
* **High (~1M visits, 300+ GB bandwidth)**: $200–500/month.
* Costs scale linearly with bandwidth; still cheaper than SaaS hosts.

# **18) Cost Estimation Module**

### **18.1 Inputs**

* monthlyVisits
* avgPageSizeMB (default 1.5 MB incl. JS/images)
* assetStorageMB
* dnsManaged (true/false)

### **18.2 Calculation**

function estimateCost({ monthlyVisits, avgPageSizeMB, assetStorageMB, dnsManaged }) {

const bandwidthGB = (monthlyVisits \* avgPageSizeMB) / 1024;

const s3Cost = assetStorageMB/1024 \* 0.023;

const cfCost = bandwidthGB \* 0.085;

const dnsCost = dnsManaged ? 0.50 : 0;

return Math.max(1, s3Cost + cfCost + dnsCost); // round to $1 min

}

### **18.3 Output**

* monthlyCostEstimateUSD: number
* tierRecommendation: “low”, “medium”, “high”

# **19) Pricing & Monetization Framework**

### **19.1 Strategy**

* **Infra costs**: $1–5 low traffic; $20–50 medium; $200+ high.
* **Markup**: 5–10× typical in SaaS builders.
* **Tiers**:  
  + **Starter**: $29/month → 1 hosted site, 5k visits, 1 custom domain, SSL.
  + **Pro**: $79/month → 5 sites, 100k visits, forms/surveys/chat, multi-provider payments.
  + **Studio/Agency**: $199+/month → unlimited sites, multi-region hosting, white-label Studio.

### **19.2 Additional Monetization**

* **Custom domains**: included in paid tiers.
* **Add-ons**: extra traffic/bandwidth, premium AI features (3D hero, cinematic motion packs).
* **Marketplace revenue**: commission on extensions/themes.

# **20) Acceptance Criteria (Extended)**

* System can **forecast hosting costs** given Spec + traffic assumptions.
* Studio shows **“Estimated Monthly Cost”** in project settings.
* Pricing tiers align with cost forecasts (ensuring profit margins).
* Domain connect flow (DNS verification + SSL issuance) works with any external registrar.