

SYSTEM ARCHITECTURE

From QR scan to generated campaign asset.

The platform combines a guest-facing web layer with a control plane for prompt generation, rights checks, job dispatch, output polling, export packaging, and remote provider integration.

GUEST FLOW

Fan-side request path

QR / direct entry

User lands on the guest web launcher or a specific mode URL.

Mode route render

Next.js loads the mode view and query context such as language and zone.

Concierge response

Next.js API route returns next step, nearby POIs, sponsor card, reward, confidence.

Demo-ready UI

SVG route layer, premium sponsor surfaces, and persistent help controls make the story credible in-room.

GENERATION FLOW

Operator-side media path

Campaign brief

Structured request defines asset types, languages, quality mode, and Tap FIFA fields.

Prompt engine

Prompt templates and style presets build the positive and negative prompt pair.

Rights guard

Prompts are classified, flagged, and sanitized if needed.

Workflow engine

ComfyUI receives image jobs, Blender handles 3D scenes, FFmpeg handles encoding.

Exports

Outputs are converted into delivery profiles and packaged into ZIP downloads.

INFRASTRUCTURE LAYERS

Control plane summary

Layer	Implementation	Responsibility
Presentation	<code>apps/web/app</code>	Fan-facing mode routes and launch surfaces
API	<code>apps/orchestrator/main.py</code>	Prompt, campaign, export, provider, and registry endpoints
Prompting	<code>packages/prompts</code>	Style presets, asset templates, workflow hints
Policy	<code>packages/rights</code>	Rights classification, flagged terms, sanitization
Generation	<code>packages/workflows</code> + <code>packages/rendering</code>	ComfyUI job dispatch, Blender render, output polling
Media processing	<code>packages/media</code>	Resize, export profiles, metadata sidecars, video encode
Remote provider	<code>packages/providers/cloudflare_workers.py</code>	Workers AI verification and binary/json model runs

This architecture is deliberately presentation-ready: it lets you explain the system to technical and non-technical stakeholders without switching vocabularies.