Appendix A – User and Workflow Fit

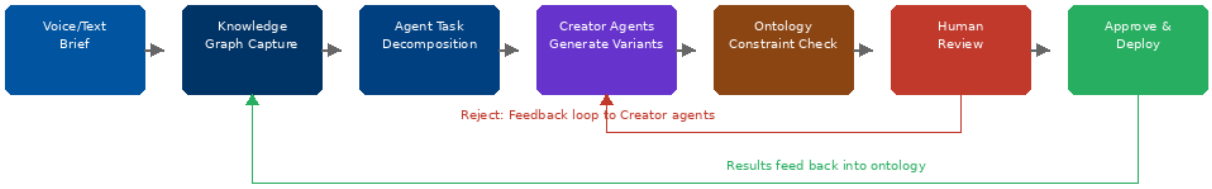
IRIS: User-Centred Design, Accessibility, and Workflow Integration

A.1 User Personas

IRIS targets five roles within THG Ingenuity's creative studio – Europe's largest, operating 250+ brand storefronts across 195 delivery destinations. Personas are informed by fortnightly sprint demos with THG creative teams and will be validated through ethnographic observation during the THG Ingenuity fashion catwalk (25–26 February 2026, University of Salford).

Persona	Pain Points	IRIS Intervention
Creative Director	Context-switching across brands; tribal knowledge loss when staff leave	Voice-briefs IRIS from set; reviews AI-generated variants spatially in 3D knowledge graph; annotations persist as ontology-encoded decisions
Graphic Designer	Repetitive production tasks; manual brand-guideline checking error-prone at scale	Co-creates with Creator agents via natural language; OWL 2 reasoner enforces brand rules – only compliant variants surface
Video Producer	LED-volume content requires pre-built environments; iteration cycles measured in days	Directs scene generation from voice prompts; previews on LED wall in real time; agent manages scene-switching autonomously
Campaign Manager	A/B test setup takes 4–8 hours; weekly PDF reports arrive too late to react	Analyst agents automate test deployment (<15 min); real-time dashboards with live conversion tracking
Brand Manager	Manual compliance cannot scale across 250+ storefronts	Ontology-encoded brand rules provide automated pre-screening; audit trail captures every decision

A.2 Human-in-the-Loop Gated Workflow



Gated Approval Workflow: Every generative output requires human sign-off before production deployment

Automated actions (analytics, A/B splits, monitoring) operate within ontology-encoded policy boundaries

Full provenance chain: derivedFrom, generatedWith, approvedBy, deployedTo — all Git-committed

Key principle: Every client-facing action follows a five-stage pipeline: agents **propose**, the Coordinator **validates** against OWL 2 constraints, proposals are **surfaced** to the appropriate human, who **approves or rejects** via voice, and approved actions are **committed** with full provenance (`decidedBy`, `rationale`, `derivedFrom`). Automated actions – analytics, A/B traffic splitting, monitoring – operate only within pre-approved ontology-encoded policy boundaries and are logged for retrospective audit.

A.3 Voice-First Interaction and Accessibility

IRIS implements a **four-plane voice architecture** for hands-occupied studio environments: **Private** (one-to-one dialogue, sensitive briefs), **Team** (shared spatial audio, multi-user collaboration), **Broadcast** (one-to-many via Coordinator), **Observation** (opt-in monitoring of agent deliberation for transparency). Stack: turbo-whisper STT (99 languages), Claude-Flow routing, Kokoro TTS. Measured latency: **2.1 seconds**.

Voice-first in practice: THG Ingenuity's Steve Moyler issued an ad-hoc challenge during a sprint demo: *"Can it do flowers in bloom? Think Bjork."* The IRIS Creator agent interpreted this brief, routed through ComfyUI to generate a reference image, then passed it to Microsoft Trellis 2 for single-image-to-3D reconstruction – producing a textured GLB mesh with iridescent petals and organic geometry. The entire pipeline executed with no manual intervention.

GLB flower model from voice brief. Pipeline: NL prompt to ComfyUI to Trellis 2 to textured GLB with PBR materials.

Accessibility by design: Motor: voice commands replace menus; WebXR hand-tracking on Quest 3 as alternative. **Visual:** semantic zoom, Kokoro TTS audio descriptions, WCAG 2.1 AA contrast modes. **Cognitive:** Coordinator filters by role – Brand Managers see compliance; Designers see variants. **Language:** turbo-whisper supports 99 languages across THG's 195 destinations; OWL 2 logic is language-agnostic.

A.4 Workflow Impact Metrics

Metric	Current State	IRIS Target	Improvement
Time to first creative draft	2–5 days	**2–5 hours**	10–24x
A/B test setup and launch	4–8 hours	**<15 minutes**	16–32x
Campaign performance visibility	Weekly PDF	**Real-time dashboard**	Days to seconds
Asset discovery time	Manual search (15+ min)	**Voice query (<5 sec)**	180x
New staff onboarding	2–4 weeks	**2–5 days (ontology-guided)**	4–8x
Knowledge capture	Tribal, undocumented	**Ontology-encoded, queryable**	Persistent
Brand compliance checking	Manual per asset	**Automated + human sign-off**	Scales to 250+

A.5 Co-Design and University of Salford

IRIS follows a co-design methodology in partnership with the **University of Salford** (School of Arts, Media and Creative Technology), who contribute evaluation methodology, contextual inquiry protocols, and student researchers – creating a skills pipeline into the creative-AI workforce. During the THG fashion catwalk (25–26 February 2026, co-produced with the University at MediaCity), DreamLab researchers will conduct contextual inquiry: observing creative professionals in situ during live production to map pain points, decision heuristics, and handoff patterns. Preliminary testing with three THG teams during sprint demos has informed the voice-first model – staff report that hands-free operation reduces context-switching and maintains creative flow. Post-event analysis will quantify AI-generated assets deployed, time savings vs manual baseline, agent utilisation, and creative team satisfaction.

A.6 Interoperability

IRIS orchestrates existing tools via **hexagonal architecture** (port/adapter pattern): **Adobe Creative Suite** (file-system

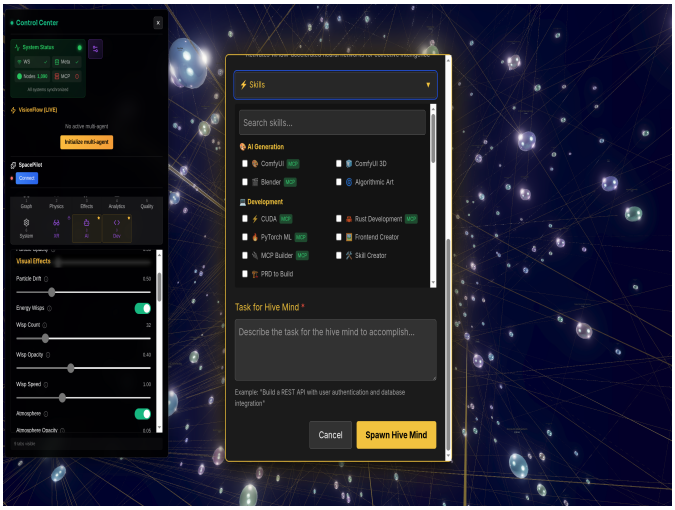
watchers index assets into KG), **Google Cloud AI** (Vertex AI, Gemini, Veo 2, Imagen – THG's existing investment preserved), **ComfyUI** (containerised Flux2 Dev on local GPU – IP never leaves studio), **THG Commerce** (REST API to 250+ storefronts, 195 destinations). Data interchange: OWL 2 (W3C), JSON-LD, RDF/Turtle, OpenAPI 3.1, Binary Protocol V3 (21 bytes/node, sub-10 ms WebSocket sync). New tools require only a single adapter implementation.

A.7 Knowledge Transfer

UK creative industries face acute knowledge-loss risk (DCMS: 2.4M employed, high turnover) [1]. IRIS addresses this structurally: **(1) Decision provenance** – every creative decision stored as KG relationship (`decidedBy`, `rationale`, `derivedFrom`); **(2) Apprenticeship mode** – juniors enter Observation plane to monitor senior-agent interactions with replayable traces; **(3) Pattern extraction** – Learning agents identify recurring strategies, propose ontology rules subject to human review; **(4) Onboarding acceleration** – new staff query encoded decisions, not tribal memory. Expertise persists, compounds, and transfers.

Evidence

Left: Four agent types (Research, Planning, Creative, Learning) share OWL 2 ontology via Discovery Layer. Centre/Right: THG LED volume – IRIS will add voice-controlled scene switching at the February 2026 catwalk.



Left: IRIS Control Center – Skills panel, Spawn Hive Mind dialog, live 3D knowledge graph (60 FPS, 100+ CUDA kernels). Right: Real-time campaign dashboard replacing weekly PDF reports.

References

1. DCMS, "DCMS Sector Economic Estimates 2024: GVA," Department for Culture, Media and Sport, 2024.
2. Grand View Research, "AI in Media and Entertainment Market Size Report, 2024–2030," 2024.
3. Hitzler, P., Sarker, M.K., "Neuro-Symbolic AI: The State of the Art," IOS Press, vol. 342, 2021.
4. W3C, "OWL 2 Web Ontology Language Document Overview," W3C Recommendation, 2012.
5. Anthropic, "Model Context Protocol," 2024.
6. DCMS, "AI regulation: a pro-innovation approach," HM Government, 2023.