



A Scalable Art-Direction Methodology for Live-Service Visual Production

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Abstract

Live-service games depend on a continuous supply of visual content, including characters, environments, user interfaces, animations, visual effects, seasonal events, and marketing materials. When a studio grows to dozens or hundreds of artists who support several products simultaneously, art direction that relies on the constant personal involvement of a single strong specialist loses stability. Quality becomes uneven, key people carry an excessive load, and errors surface at late, expensive stages. This article describes a practitioner-derived methodology that treats art direction as a reproducible production system. The system links visual strategy with organizational architecture, capacity planning, technical standards, multilevel quality control, specialist development, and LiveOps. The proposal rests on two distinctive elements. The first element scales artistic vision through a distributed decision-making structure in which project and discipline leads hold defined authority within set boundaries. The second element plans visual production across the full life cycle of an asset, from brief and scope estimation to integration, validation, release, and reuse. A comparison with published approaches positions the methodology against the Art Bible tradition, Scrum, industry conference practices, and production-tracking software. Boundaries of applicability and directions for empirical validation are outlined.

Keywords: Art Direction, Live-Service Games, Visual Production, Distributed Teams, Capacity Planning, Creative Management.

INTRODUCTION

A live-service game continues to change after release, so visual production becomes a permanent operating function of the studio. Research on games-as-a-service shows how ongoing content obligations reshape developers' daily work and create tension between creative tasks and service duties (Dubois & Weststar, 2022). Later analysis of the same model records rising costs of content pipelines and growing pressure on studios that must sustain player expectations for years (Dubois & Chalk, 2025). Under these conditions, the art function is evaluated by the regularity and predictability of output as much as by the quality of individual images.

The scale of the task grows together with the organization. Internal art teams, game designers, UI/UX specialists, animators, VFX and technical artists, marketing units, and outsourcing studios work on one product at the same time, and the number of dependencies among them rises faster than headcount. An extensive analysis of industry postmortems and gray literature found that most root causes of production problems concern people and processes, and technology accounts for a minor share (Politowski et al., 2021). Field studies of professional studios add that content processes depend on cross-disciplinary coordination and on structured review points (Karlsson et al., 2023).

Distribution multiplies these dependencies. Requirements that one internal team interprets as intended can receive three different interpretations from three external vendors, and every gap in the transfer of artistic intent returns as rework. The art function needs a mechanism that carries the same standards, file structures, and quality criteria across internal staff, freelancers, and external studios without constant supervision from a single leader.

Visual quality resists full formalization through technical parameters. Ethnographic research describes game art practice as a design-like activity in which experienced artists interpret artistic intent, make contextual judgments, and align creative decisions with design, technology, and user experience (Hawey, 2025). When dozens of people make such judgments without a shared system, teams read the style in divergent ways, decision-making becomes concentrated in a single art director and creates a bottleneck, feedback arrives late and forces expensive rework, similar assets appear twice across different teams, and the cost of content becomes hard to predict.

This article presents a methodology that the author developed and applied across several companies over more than 20 years of practice in game development. The methodology treats art direction as a manageable production

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system and rests on two distinctive elements: a distributed structure of artistic decision making and end-to-end planning of visual production across the asset life cycle. To the author's knowledge, the published approaches reviewed below describe separate parts of this task and stop short of a portable system that manages the entire art function of a live-service product. All claims of novelty in this article stay within the corpus defined in section 2.

MATERIALS AND METHODS

The source of the methodology is the author's professional practice between 2004 and 2026 in studios ranging from a single project team to a distributed organization of about 200 artists and art leads, the largest structure the author directed at one time, supporting more than 10 mobile products, in roles from 3D artist to senior art director. The methodology evolved iteratively across these organizations, and this article presents its consolidated form.

The framework was consolidated retrospectively by identifying recurring production problems, organizational patterns, and management mechanisms observed across different teams and products. Components were retained when they addressed recurring challenges across more than one organizational context rather than a single project-specific case.

The text presents the system as a practitioner-derived framework. Effects such as lower production cost or faster delivery are reported as professional experience on the author's projects. Numbers used below serve as teaching examples and do not represent measurements.

The comparison corpus contains four groups of published sources. Together these groups cover the main documented forms of organizing visual production: style documentation, conference discourse, a general process framework, and production-tracking software. The first group covers the Art Bible tradition, documented in the industry press since the 1990s as the reference document that fixes the artistic direction of a project (Game Developer, 1999). The second group covers talks at the Game Developers Conference on art direction in pre-production, project estimation, team evolution, and scalable visual identity (DeYoung, 2017; Foertsch, 2024; Pangilinan & Ruppel, 2010). Research on industry discourse treats such talks as an established genre of professional knowledge exchange, which justifies their use as comparison material (Chia, 2022). The third group contains the Scrum framework as defined by its authors (Schwaber & Sutherland, 2020). The fourth group contains production-tracking systems for VFX and animation, represented by Flow Production Tracking (Autodesk, n.d.).

The comparison uses six criteria derived from the functional components of the proposed methodology. First, the fixing of artistic direction and style. Second, the scaling of artistic decisions through a lead structure. Third, role-based capacity planning. Fourth, specialist growth combined with review

gates. Fifth, the link between visual production and LiveOps, together with product goals. Sixth, portability across projects and teams. Each approach was assessed against the scope stated in the cited sources, and the assessment avoids judgments about possible extensions of those approaches.

The method has limitations. The framework rests on the reflection of a single practitioner; the article contains no primary datasets, and the corpus remains open to selection bias. Section 4 returns to these constraints.

RESULTS

Overview of the Methodology

The methodology consists of six components. The first component defines the visual strategy across the full content life cycle, so the team establishes the target audience, the emotional response, the level of stylization, readability on target devices, and requirements for each content type before production starts. The second component separates project responsibility from professional responsibility: Project Art Leads are responsible for the artistic integrity of specific products, while Discipline Leads are responsible for standards, quality, technology adoption, and growth across 2D, 3D, UI/UX, animation, VFX, and technical art. The third component plans capacity and resources by mapping content volume to available skills, seniority levels, deadlines, and task complexity. The fourth component organizes reuse of production resources through asset libraries, templates, unified file structures, and shared requirements for internal and external performers. The fifth component applies multilevel quality control at key stages and evaluates visual decisions against user experience, feature readability, retention, monetization, marketing, and production cost. The sixth component builds specialist development and continuous improvement into the lead structure through post-cycle analysis of delays, rework, and brief quality. The two elements described below distinguish this combination from the approaches reviewed in section 2.

The components operate as a single loop and lose value in isolation. Strategy without capacity planning produces intent the team cannot deliver; planning without a lead structure produces numbers nobody owns; and reuse without quality control degrades style over releases. The methodology fixes the connections between components as part of the system, so standards feed review gates, gates generate material for retrospectives, and retrospectives adjust the plan and the standards for the next cycle.

First Distinctive Element: Distributed Structure of Artistic Decision Making

Traditional art direction depends on the constant personal involvement of a single strong specialist. This model works well in a small team but loses stability as the organization grows to dozens or hundreds of employees and several parallel projects. In the author's practice, a comfortable span of control for a single lead covers 5 to 7 direct reports. In the

author's experience, a strong art director can hold a linear team of up to 15 people before performance declines and decision-making becomes centralized into a single approval bottleneck.

The first distinctive element scales artistic vision through a distributed decision-making structure. The Art Director defines strategic direction and quality standards. Project Art Leads receive authority over the visual integrity of their products, and Discipline Leads receive authority over craft standards, technology, and mentoring within set boundaries. Unified artistic and technical standards, review gates, a specialist development system, and libraries of reusable solutions preserve visual integrity without routing every asset through the Art Director. Figure 1 presents this structure.

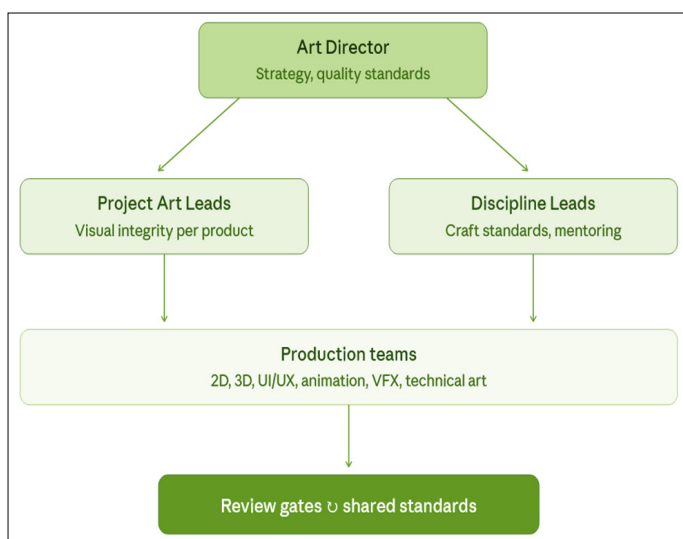


Fig. 1. Distributed structure of art-direction decision making

The boundaries of delegated authority require the same precision as the delegation itself. The project lead answers for fit with the product and its style, the discipline lead answers for craft and technical standards, and undefined zones leave an artist between two conflicting instructions. Review gates give this division a procedural form through three named checkpoints that this methodology introduces. A concept gate checks fit with visual pillars before production hours are spent, a craft gate checks discipline standards before integration, and an in-game gate checks the result on the target device before release, so escalation reaches the Art Director for defined classes of decisions and the strategic level stays free from routine approvals.

Research on large-scale development supports the coordination principles behind this element, while the artistic decision-making framework remains the contribution of this methodology. Studies of multiteam programs identify specialized roles, scheduled meetings, and shared production artifacts as the main coordination mechanisms and report that coordination complexity increases with the number of teams (Berntzen et al., 2021; Dingsøyr et al., 2023). A longitudinal case study shows that coordination mechanisms require revision as the organization changes,

which matches the periodic revision of review gates and lead responsibilities built into the proposed system (Berntzen et al., 2023). The distinctive part of the element lies in its object, because the structure distributes judgments about style and quality, while the cited coordination research addresses task dependencies in software work.

Second Distinctive Element: End-to-End Planning of Visual Production

The second distinctive element plans visual content across the entire life cycle of an asset. Each unit of content moves from product brief and scope estimation through concept, production, technical integration, in-game validation, and release to reuse in LiveOps. Tasks are decomposed by professional roles and stages, which turns an abstract request into a production unit with defined hours per role and a known chain of dependencies. The stages themselves are standard practice, and the contribution of this element lies in their integration into one role-based planning model across the full asset life cycle. Figure 2 traces this flow.

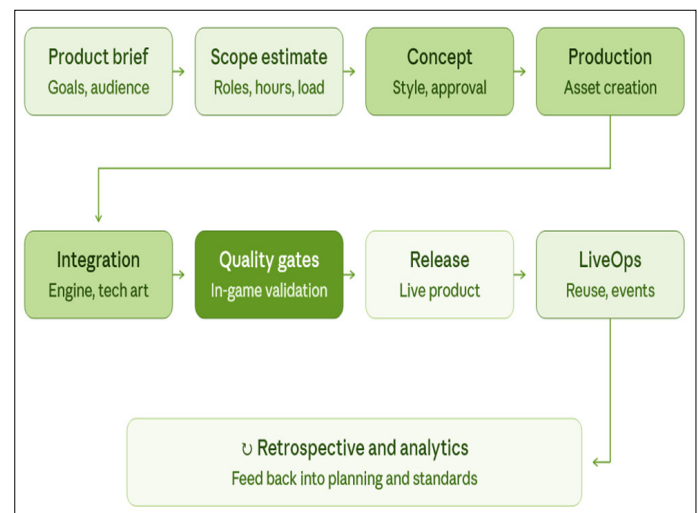


Fig. 2. Life cycle of a visual asset in the proposed methodology

Role-based decomposition changes the arithmetic of planning. The duration of a project follows the most loaded discipline, so a total that looks sufficient can hide a shortage of one animator or one technical artist. As an illustrative example, producing one game character can require 4 days of concept work, 10 days of 3D modeling and texturing, 8 days of animation, 5 days of VFX, and 2 days of technical integration, totaling 29 person-days for one unit and 725 person-days for 25 units. These figures are illustrative and do not represent measured production data. When a team compares such totals by discipline with its actual composition, it sees before the start where scope must shrink, where staff must grow, and where outsourcing can close the gap.

The same decomposition supports scenario comparison before the start of production, because a team can recalculate the plan for a reduced scope, an enlarged staff, a later deadline, or a partial transfer to outsourcing on a single basis of roles and hours. The life-cycle view also protects finished work. As an anonymized example from the author's actual

production practice, a set of 30 finished backgrounds from a closed project became 30 greeting cards for a new feature after relighting and character additions, at a fraction of the cost of producing them from scratch.

Review gates at stage boundaries shift the discovery of artistic and technical errors to phases where corrections remain cheap, which aligns with the stage-based control documented in field studies of content processes in professional studios (Karlsson et al., 2023). A publicly available role-based estimation tool, developed by the author as a practical continuation of this methodology, implements the capacity-planning model of this element (Yeremenko, n.d.). A detailed description of that model falls outside the scope of this article.

Comparative Analysis

The reviewed approaches serve complementary purposes and cover separate parts of the task, so the comparison

below concerns functional scope and treats none of them as direct competitors. The Art Bible fixes direction and style in a reference document and leaves the scaling of managerial decisions, resource planning, specialist development, and LiveOps support outside its scope (Game Developer, 1999). Conference talks examine pre-production, estimation, artistic documentation, and team restructuring for specific products or single stages (DeYoung, 2017; Foertsch, 2024; Pangilinan & Ruppel, 2010). Scrum offers a portable framework for complex work and by design, contains no domain rules for artistic leadership, visual review gates, or role-based estimation of art effort (Schwaber & Sutherland, 2020). Flow Production Tracking follows assets, tasks, versions, schedules, and review procedures as an instrument of production control and does not define how artistic strategy passes through a lead structure or how visual decisions connect to commercial priorities (Autodesk, n.d.). Table 1 summarizes the comparison across the six criteria.

Table 1. Functional scope of the proposed methodology and published approaches

Criterion	Art Bible	Scrum	GDC practices	Flow Production Tracking	Proposed methodology
Fixing artistic direction and style	Addressed	Not a focus	Addressed	Not a focus	Addressed
Scaling decisions through a lead structure	Not a focus	Not a focus	Partial	Not a focus	Addressed
Role-based capacity planning	Not a focus	Not a focus	Partial	Partial	Addressed
Specialist growth and review gates	Not a focus	Not a focus	Partial	Partial	Addressed
Link to LiveOps and product goals	Not a focus	Not a focus	Not a focus	Not a focus	Addressed
Portability across projects and teams	Not a focus	Addressed	Not a focus	Addressed	Addressed

The ratings in Table 1 reflect the scope stated in each cited source and carry no judgment about possible extensions of those approaches. Scrum and Flow Production Tracking receive full marks for portability because both transfer across domains, and the difference of the proposed methodology lies in the coverage of the art function as a whole. To the author's knowledge, none of the reviewed sources describe a portable system that integrates artistic strategy, organizational structure, role-based planning, quality control, specialist growth, and LiveOps into a single framework.

The two distinctive elements answer the two principal gaps identified in Table 1. The distributed structure closes the gap in the scaling of artistic authority that the Art Bible leaves to the individual leader and that Scrum leaves outside its domain. End-to-end planning closes the gap in role-based capacity work, which the reviewed talks address only at individual stages. The connection to LiveOps remains absent throughout the corpus, and the methodology treats it as a core component because a live-service product evaluates every visual decision by its behavior in the live environment.

Extension: Generative Tools at Preparatory Stages

Generative tools extend the first and third components at the concept stage. In the author's practice, a team can produce dozens of style directions within 2 or 3 days and select candidates for refinement, while the judgment about quality

and fit remains with the artist and the art director. Research on creative industries frames such use as amplification of human creative labor and warns against replacement framings that erode professional judgment (Bender, 2025). Industry discourse on procedural generation takes a similar position regarding the balance between automation and artistic control (Chia, 2022). Within the methodology, generated material enters the same review gates as human-made assets.

DISCUSSION

The combination of the six components and the two distinctive elements produces two practical outcomes. The organization maintains a single artistic direction as the team grows, and the visual strategy becomes a measurable production plan with known load per discipline, dependencies, and points of control. Because the system operates through roles, standards, and gates, it adapts to different genres, styles, team structures, and stages of the product life cycle.

The methodology's applicability has boundaries. The system targets organizations that support multiple products or continuous content cycles with 15 or more artists, a practitioner-derived boundary that awaits empirical validation. A small team on one project can keep a linear structure because at that scale, the overhead of a lead hierarchy exceeds its benefit. The transition point arrives

when the volume of decisions outgrows the capacity of a single art director, and the methodology describes the target state for that transition.

Adoption follows a staged path. An organization introduces the lead structure and the review gates first, because these two mechanisms remove the decision bottleneck within one or two production cycles. Role-based planning enters next, once the team accumulates a history of estimates and actuals, and the LiveOps loop closes last, when the product generates live data. This order allows a studio to adopt the system without stopping production and lets each stage demonstrate its value before the next one starts.

The limitations follow from the method. The framework rests on the professional reflection of a single practitioner, and the reported effects remain experience on the author's projects until independent measurement confirms them. The comparison is based on published sources and cannot rule out undocumented internal systems within individual studios; the literature shows a marked absence of direct studies of working game artists, which narrows the material available for such a comparison (Hawey, 2025). The share of process-related root causes in postmortems supports the value of a systemic response, and that evidence base remains gray literature with its own biases (Politowski et al., 2021).

Future work should test the methodology on industrial cases with indicators collected before and after adoption. Candidate indicators include average production time per asset, the share of work accepted within two review cycles, rework after integration, the share of reused components, and the deviation of actual effort from estimates. A separate line of work concerns the formal evaluation of the estimation model referenced in section 3.3.

CONCLUSION

Stable operation of a live-service product depends on the art organization's ability to consistently deliver a quality result at a predictable cost, release after release. The described methodology formalizes art direction as a production system in which strategy, organizational architecture, capacity planning, reuse, quality control, specialist development, and LiveOps form a single managed loop. The distributed structure of decision-making removes the organization's dependence on the constant personal presence of a single leader, and end-to-end planning converts visual intent into a verifiable schedule of roles, hours, and control points. The next step is empirical validation of the system on industrial cases with measured indicators of efficiency, quality, and predictability.

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