Alas Artistry — Alas Stories

Project Requirements Document (PRD)

Product	Alas Stories (Phase 2)
Owner	Ryan Schwegman, Founder & CEO
Status	Draft — for approval (gate to Step 2)
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Related systems	Alas Studios (Phase 2 Vite SPA), Supabase backend, Stripe, Edge Functions, Mailchimp
Schema owned by	`docs/architecture/database-webhooks.md` + Schema Addendum — those win on any conflict

> **Naming note (v0.8):** vocabulary is now unified with the database architecture. **Alas Studios** = the physical tribute design/ordering flow; **Alas Stories** = the AR memory experience builder. What earlier drafts called an "AR profile" is an **AR Story** (`ar_stories`); a physical piece is a **tribute piece** (`tribute_pieces`).

1. Purpose & Scope

Alas Stories is the post-purchase web application that lets a tribute owner and their invited circle assemble, sequence, and manage the augmented-reality memorial experience tied to a physical Alas Artistry tribute. When a customer scans the QR code embedded in their tribute, Alas Stories is what produced and now serves that experience.

Relationship to Alas Studios

These are two distinct surfaces in the same Vite SPA and must not be conflated:

- **Alas Studios** (pre-purchase) — configures the *physical product* (tier: Cherish / Legacy / Timeless, honored photo, options). Feeds `catalog` , `pricing-estimate` , `create-checkout-session` . Output: a paid order.
- **Alas Stories** (post-purchase) — configures the *digital experience* tied to the AR story created at order time. Output: a published AR experience served on QR scan.

The seam between them is **story provisioning** at order-paid (§7.1, §11).

In scope (Phase 2)

- AR story + QR/marker provisioning at order time
- Owner account, gift-claim flow, core-group invitations & permissions
- Story Media (photo / video / audio / text) with member uploads
- Non-member submission link/form + moderation review queue
- Experience composition: sequencing, randomization, the 5 animation sequences and the 5-act personalized intro
- **Limited pre-purchase AR preview** (personalized, abbreviated, anti-piracy) + owner preview
- **Artist tribute photo approval** (customer reviews a photo of the finished physical piece before shipping)
- Lifecycle: expiration comms, grace period, renewal, read-only/archive
- Multiple tribute pieces per story, reorder, QR replacement
- WebAR delivery (recommendation in §5)
- **Fulfillment match code** linking tribute ↔ shipping label for recipient-match QA

Out of scope (Phase 2) — see §14

Native mobile apps; physical fulfillment automation beyond the QR/marker handoff; CITES/customs workflow; marketing-page CMS (pages remain hand-crafted per Q14); multi-marketplace inventory sync (Amazon/Shopify/eBay).

2. Goals & Success Metrics

Goal	Metric
The AR experience feels effortless and reverent	Scan-to-first-render < 4s on mid-tier mobile; no app install required
Owners can build a meaningful experience without help	% of profiles that publish ≥1 content item within 7 days of claim
The circle, not just the owner, contributes	Avg. collaborators per story; non-member submissions per story
Renewals sustain hosting	Renewal rate at expiration; grace-period recovery rate
Members drive repeat orders & referrals	Additional pieces ordered per story; new stories originated by members
The builder is easy for non-technical / older users	% of first-time owners who complete the guided starting experience without dropping off
AR works on the devices customers actually have	≥95% successful AR launch across the supported device matrix (§10)

3. Glossary / Core Concepts

- **AR Story** — the durable identity behind a QR code. One profile ↔ one QR ↔ one AR experience. Persists independent of any physical tribute. Can have multiple tributes attached.
- **Tribute** — a physical handcrafted piece. Carries the QR for its profile. Multiple tributes can share one profile (Q6).
- **Tribute Owner** — the person who owns/controls the story (purchaser, or gift recipient after claim).
- **Story Collaborators** — owner-invited members with edit rights to the Builder and Story Media (Q7, Q11).
- **Non-member contributor** — someone outside the collaborators who submits content via a link/form; their content enters a **review queue** (Q7).
- **Story Media** — the repository of approved media for a profile, drawn on during composition.
- **AR Experience** — the published, sequenced experience served on QR scan, including the 5-act intro and the animation sequences.
- **Marker** — the image target (the tribute background art) that image-tracking AR locks onto.
- **Pre-purchase AR preview** — a limited, personalized AR experience a prospect can build and view *before* ordering: their image emerging through the butterfly halo, 1–3 media elements with a transition between each, ending in the outro + Alas Artistry logo animation. Deliberately abbreviated to deter screen-record misuse while still conveying the experience and driving the purchase. For gifts, this becomes the "inspiring starting experience" the family inherits.
- **Artist Tribute Photo Approval** — after a piece is crafted, the artist uploads a photo of the *finished physical tribute* for the customer to review and approve (or request changes) before it ships. A physical-product QA gate, distinct from the AR preview.
- **Match Code (Program ID)** — a short, human-readable code (5–7 chars) unique to a tribute, printed near the QR and on the shipping label so production/fulfillment can verify the correct tribute ships to the correct recipient. Distinct from the URL slug used to resolve the AR experience.

4. Roles & Permissions

Capability	Owner	Admin*	Editor (member)	Non-member submitter	Public viewer
View published experience	✓	✓	✓	—	✓
Add/remove collaborators	✓	✓	—	—	—
Upload directly to Library (no review)	✓	✓	✓	—	—
Submit content via link/form	✓	✓	✓	✓	—
Moderate review queue	✓	✓	✓	—	—
Compose / sequence experience	✓	✓	✓	—	—
Publish experience	✓	✓	—	—	—
Manage renewal / billing	✓	—	—	—	—
Order an additional tribute on this profile (same QR/experience)	✓	✓	✓	—	—
Order a new custom tribute (becomes their own new profile)	✓	✓	✓	—	—
QR replacement on this profile	✓	—	—	—	—

* **Admin** = an elevated member the owner designates (read/write/edit), per the gift-recipient note in Q11. Owner remains the single billing/renewal authority. *(Decision needed: confirm whether Editor can publish or only stage — see §13.)*

5. AR Delivery Approach — Recommendation (answers Q10)

Recommendation: marker-based WebAR as the primary experience, with a web-viewer fallback. Do not pick one or the other — ship both, gated by device capability.

Why marker-based WebAR (point phone at frame → overlay): - It is the experience already designed for (butterflies emerging from the shadow-box frame, the portrait rising on center light). The "wow" is inseparable from the physical piece. - It is your established non-negotiable: mobile browser / WebAR, marker image-tracking, no app install. - The circuit-filigree butterfly motif is feature-rich and high-contrast, which makes it a *good* image target — the brand art works in our favor for tracking robustness.

Why a web-viewer fallback is mandatory, not optional: - In-browser image tracking fails or degrades on older devices, poor lighting, low-end Android, and some in-app browsers. Without a fallback, a meaningful share of scans would dead-end — unacceptable for a grief product. - The fallback is a graceful, beautiful multimedia tribute page (the same Story Media, presented as a curated scroll) reachable when AR can't launch, or by user choice.

Flow on scan: QR → capability detection → offer **"Launch AR"** (if supported) and **"View tribute"** (always). Same underlying experience data; two presentations.

Recommended stack (economical, scalable, no install): - **MindAR.js** (open-source image tracking) + **Three.js** for rendering Blender-exported **GLB** assets. Free, in-browser, fits the "economical scalable hosting" requirement. - **Upgrade path:** if tracking robustness becomes a blocker at scale, evaluate **8th Wall** (subscription) — note as a known cost lever, not a Phase-2 commitment. - Assets (GLB + media) served from object storage / CDN; the AR experience is a static route in the Vite SPA, resolved by profile slug.

Marker design constraint to lock now: the tribute background must be designed as a valid image target (sufficient unique features, high contrast, asymmetry, matte finish behind glass to limit glare). This couples the AR Builder to the physical art spec and should be a shared acceptance criterion with production.

6. Key User Flows

1. **Owner onboarding (direct purchase)** — Order paid → story workspace provisioned → owner prompted (email + in-app) to claim/build → lands in Alas Stories with the guided setup.
2. **Gift claim (Q11)** — Purchaser buys as gift → recipient receives a claim link → sets up account → becomes Tribute Owner → may invite collaborators. Purchaser does *not* retain edit rights unless added by the recipient. Any starter content the purchaser built in the pre-purchase preview is seeded into the story as the family's inspiring starting experience, which the owner can then extend. **The purchaser is emailed when the recipient claims ownership**, and (dependent on a tracking source — see §11) **when the tribute is physically delivered**.
3. **Member upload** — Core-group member uploads media → lands directly in Story Media (no review, Q7).
4. **Non-member submission + moderation (Q7)** — Owner/member shares a submission link/form → non-member submits → enters **review queue** → a member approves (→ Library) or declines.
5. **Compose experience** — Pull from Library → arrange into the 5 sequences + 5-act intro → set randomization rules → preview → publish.
6. **Pre-purchase AR preview** — Prospect uploads their image + up to 1–3 media elements → previews a personalized, abbreviated AR experience (image through the butterfly halo → media with a transition between each → outro + logo). Length-capped to build excitement without exposing a screen-recordable full experience. On purchase, this starter content carries forward into the provisioned profile.
7. **Artist Tribute Photo Approval** — After the piece is crafted, the artist uploads a photo of the finished tribute → customer **approves** (→ proceeds to ship) or **requests changes** (→ revision loop) before shipping.
8. **Owner preview** — Owner previews their actual published-candidate experience (full sequences + 5-act intro) before publish, including an AR test against their marker and the web-viewer fallback.
9. **Renewal / expiration (Q9)** — Comms sequence to all collaborators ahead of expiry → renew, or → grace (read-only hosting, no edits) → eventually replaced with "Contact Us for hosting renewal."
10. **QR recovery / replacement (Q12)** — Story + QR persist server-side. If the physical QR is damaged: ship a replacement sticker *or* reorder a piece against the same story. No data loss; the story is the source of truth.
11. **Member-initiated order (repeat / referral)** — From within the shared experience, a collaborator chooses to buy and picks one of two paths: **(a) Same as this tribute** → another physical piece on the *same* profile/QR/experience, shipped to and paid by the member; or **(b) Create my own** → a *new* custom tribute with its own profile/experience that the member owns. Drives repeat orders and referrals.

7. Functional Requirements

7.1 AR Story & QR provisioning

- On `stripe-webhook` order-paid, automatically create an **AR Story** (status `draft`), generate a unique **slug**, a **QR asset**, and a **print-ready marker reference** for production.
- Persist the QR/marker server-side permanently (supports reorder and replacement per Q12).
- Attach the **tribute piece** record to the story; store production status.
- Generate a **match code / program ID** per tribute for recipient-match QA (see §7.10).
- A profile supports **multiple tributes** (Q6); all share one experience.

7.2 Accounts, gift claim, collaborators

- Accounts required except for gift recipients pre-claim (Q11).
- **Gift-claim**: tokenized claim link → account setup → owner role assigned.
- **Purchaser notifications:** email the gift purchaser (a) when the recipient **claims ownership** (fired by the `gift-claim` handler), and (b) when the tribute is **physically delivered** — the latter dependent on a carrier tracking source (§11). Surface the same status in the purchaser's order view.
- Owner/Admin can **invite** members by email; invitee accepts → Editor (or Admin if elevated).
- Removing a member revokes Builder access immediately; their already-approved content remains unless explicitly removed.

7.3 Story Media & upload

- Supported types: **photo, video, audio, text**. *(Decision: per-type size/length/format caps — §13.)*
- Member uploads use a **signed upload URL** pattern (mirror existing `honored-photo-upload-url`).
- Every upload is **optimized before it can be placed** — see §7.13 (media processing & video trim).
- Unlimited updates to content over the life of the story (Q8).
- Library items carry: type, source (member vs submission), uploader, moderation status, timestamps.

7.4 Non-member submission & moderation

- Tokenized **submission link/form** for non-members (no account).
- Submissions land in a **review queue** scoped to the story.
- Any collaborator can **approve** (→ Library) or **decline** (Q7).
- Capture submitter name/email for context; rate-limit and basic abuse protection on the public form.

7.5 Experience composition

- Select Library items into the **5 animation sequences** and the **5-act personalized intro** (butterflies emerge from frame; portrait rises on center light).
- **Sequencing** controls (order) and **randomization** rules (which content varies per view) — both established non-negotiables.
- Structure follows the composition grammar in **§7.11** (Intro → memory segments with auto-inserted transitions → Outro), drawing intros/outros/transitions from the tier-gated **Animation Bank**.
- Save as draft; **publish** to make live (Q7: member content goes live without review once composed).

7.6 Preview

Pre-purchase AR preview (limited, personalized): - A prospect can upload **their own image** + up to **1–3 media elements** and render a real but abbreviated AR preview: image emerging through the **butterfly halo** → each media element separated by a **transition animation** → **outro + Alas Artistry logo** animation. - **Deliberately capped** in length and scope. Full sequences, randomization, and the complete 5-act intro unlock only **post-purchase**. The cap is the anti-piracy mechanism: short enough to deter screen-record-and-reuse, rich enough to convert. - Additional screen-record deterrents to validate: preview-mode watermark, no full-resolution/downloadable assets exposed pre-purchase. *(Design decision — §13.)* - **Carry-forward:** the prospect's pre-purchase image + media bind to the order at checkout and migrate into the provisioned profile, so nothing built is lost. For gifts, this seeds the family's starting experience.

Owner preview (post-purchase): - Render the owner's actual experience pre-publish (full sequences + 5-act intro), including an AR test against their marker and the web-viewer fallback.

7.7 Lifecycle: expiration, comms, renewal (Q9)

- Each profile has `expires_at`. A **communications sequence** (cadence TBD) notifies all collaborators ahead of expiry, optimizing for renewal.
- On expiry without renewal → **grace**: experience remains hosted and viewable, but **no edits/revisions allowed**.
- After the grace window → the experience is **replaced with a "Contact Us for hosting renewal"** state.
- Renewal restores full edit + hosting.

7.8 Additional tributes, member orders, reorder, QR replacement

- **Any collaborator** (Owner, Admin, or Editor) — not just the Owner — can order a tribute, funded and shipped to themselves. Two paths:
- **Same as this tribute** → another physical piece attached to the **same profile** (same QR/experience, Q6). Each piece still gets its **own** `match_code` and shipping label for correct routing, even though the QR/experience is shared.
- **Create my own custom tribute** → a **new profile** with its own QR/experience; the ordering member becomes its Owner. This is the repeat-order / referral path.
- Additional pieces on a shared story do **not** create a new hosting/renewal unit — the story remains a single hosting unit under the original Owner's billing.
- **QR replacement**: reissue a sticker for the existing profile, or attach a new tribute — no new profile created.
- *(Decision — §13: referral/attribution tracking and any incentive on member-originated orders.)*

7.9 Artist Tribute Photo Approval (physical-product QA gate)

- After production, the **artist uploads a photo of the finished physical tribute** for the customer to review.
- Customer **approves** → tribute is cleared to ship; or **requests changes** → revision loop back to production.
- Shipping is **gated on approval**. *(Decisions — §13: revision-loop limit; auto-approve after N days of no response; whether approval is hard-block or advisory.)*
- Tribute production sub-lifecycle: `in_production → proof_uploaded → approved → shipped` (with `revision_requested` looping back to `in_production`).

7.10 Order-to-Recipient Match Code & Production QA

- At provisioning, generate a **match code (program ID)** per tribute: short, human-readable (target 5–7 chars), unique to the tribute/order. **Requirement:** use an **unambiguous alphanumeric character set** with look-alike glyphs excluded (no 0/O, 1/I/L) to reduce mis-reads and transcription errors during fulfillment.
- The same code is injected into **two** production artifacts from the single source of truth (the tribute record): (a) printed in plain text **near the QR** on the tribute background art, and (b) printed on the **shipping-label production file**.
- The code is also encoded in the **QR payload** (as a parameter) to support scan-based verification.
- **Pack-out QA (recipient match):** before sealing/shipping, the operator scans the QR (or keys the code) → system returns the recipient and the expected match code → operator confirms the physical tribute and the shipping label carry the same code. A **mismatch blocks shipping**; confirmations are logged for traceability.
- This verification is part of the shipping gate alongside the §7.9 photo approval.
- **Co-owned with production:** the detailed QA SOP (batch handling, double-check steps, exception handling) is defined jointly with the production team. The software's responsibility is to generate the code, embed it in both print artifacts, and provide the verification lookup.

7.11 Animation Bank & tiered access

The **Animation Bank** is the Alas-authored library of intro, outro, and transition animations — distinct from the customer's **Story Media** (their photos/videos/voices). The composer draws from both.

Composition grammar: - Every published experience is exactly one **Intro** → the **body** → exactly one **Outro**. - The **body** is an ordered list of **segments**. A segment is a **photo group** (1–10 consecutive photos), a **single video**, or a **voice/audio message**. Every segment — including a voice message — takes its own slot on the one timeline; **nothing overlaps**, so a video's audio and a voicemail can never play at once. - A **transition auto-inserts** at every segment boundary. The customer chooses only the transition **style** (from what their tier unlocks) — placement is automatic, never hand-edited (preserves the "arranging keepsakes, not editing video" ease-of-use goal). N segments → N−1 transitions. - **One master timeline:** the intro, each segment (including voice), and the outro play **one at a time** — there is no concurrent/background layer, which keeps audio tracks from colliding. - **A voice segment's visual is the visualization:** while a voice message plays, nothing else does — the on-brand audio-reactive visual carries the moment (proposed: the butterflies and gold halo move with the voice), so it has motion of its own without competing media. *(Exact treatment — §13.)*

Tiered access:

Tier	Intros	Outros	Transitions
Cherish (T1)	1 (set default)	1 (set default)	1 default style
Legacy (T2)	+1–2 options (2–3 total)	+1–2 options	small curated set
Timeless (T3)	full Animation Bank	full Animation Bank	full Animation Bank

- **Starter / pre-purchase preview:** Intro + up to **3 segments** + **2 transitions** + Outro, using fixed **default** animations (pre-purchase, before a tier is owned) — consistent with the anti-piracy cap (§7.6).
- **Upsell:** higher-tier intros/outros/transitions appear in the composer as **previewable-but-locked**, a gentle, on-brand upgrade nudge (never pushy).
- **Performance/cost:** tier caps naturally bound experience length, which protects WebAR load time and hosting cost.

7.12 Guided experience creation (accessibility-first)

Many owners will be **less-technical or older users** who abandon quickly once a UI feels unclear. A guided walkthrough is therefore a requirement, not a nicety. - A **first-run guided walkthrough** leads the owner through building the **starting experience** one clear decision at a time — add intro → add photos → choose a transition style → add outro — and **teaches builder navigation** along the way. - Principles: plain language, one decision per step, **skippable and resumable**, no dead-ends, no way to get lost. Reachable again later from the Builder. - Tied to the **new-owner welcome** first-run state (§7.2). Applies especially to gift recipients arriving while grieving.

7.13 Media optimization & video trim

Every uploaded photo and video is **processed before it can be placed** — the first step after upload. - **Optimize & make consistent:** transcode/scale each asset to web-optimized renditions (fast WebAR load) in the formats the AR runtime needs, and normalize dimensions/framing so mixed-source media looks cohesive. Optional **enhancement** (denoise / sharpen / AI upscale) can lift low-resolution or pixelated sources — with an honest limit: optimization guarantees consistency and speed, but enhancement cannot invent detail the original never captured. - **Processing state:** uploads enter a brief `processing` state, then `ready`; the flow never blocks the person, and the guided walkthrough (§7.12) handles the wait gracefully. - **Video trim (tier-capped):** after upload, the customer chooses which portion of a video to include via a simple **trim slider** (in/out window) — one clear control, with a **sensible default window pre-selected** so a non-technical owner can just accept it. Maximum included duration is a **tier attribute**: Cherish ~30s, higher tiers up to ~3 min. *(Exact per-tier caps — §13.)* - **Audio analysis at upload:** each voice/audio upload is normalized, optimized, and its **amplitude envelope extracted** during processing — the same data drives the editor's waveform and the reactive visualization. The visualization **binds to the trimmed window when the audio is placed on the timeline** and **reacts at playback**; analyzing once at upload keeps it consistent and avoids recomputing on every edit. - **Where it runs:** async, server-side — a `media-process` pipeline (images via sharp-type tooling; video via ffmpeg renditions + poster). Optimized renditions live on object storage / CDN, supporting hosting economy (§10).

8. AR Story Lifecycle (state machine)

```
draft ──claim/first publish──▶ active
active ──approaching expiry──▶ expiring (comms sequence; still fully editable)
expiring ──expiry, no renewal──▶ grace (viewable, READ-ONLY)
grace ──grace window ends──▶ archived ("Contact Us for hosting renewal")
[expiring | grace | archived] ──renewal payment──▶ active
```

9. Technical Architecture

Frontend: React 18 + TypeScript, Vite, React Router v6, Tailwind, shadcn/ui, Lucide, react-hook-form + zod, Context + hooks. AR experience as a static SPA route resolved by story slug.

AR runtime: MindAR.js (image tracking) + Three.js, rendering Blender-exported GLB. Web-viewer fallback page from the same experience data.

Backend: Supabase (Postgres + Storage + Auth). Stripe for checkout, tax, and renewals. Edge Functions for orchestration.

Data model — canonical sources

The schema is **not** defined in this PRD. Two documents own it, and they win on any conflict:

1. `docs/architecture/database-webhooks.md` — the authoritative base: identity, catalog, Alas Studios (`tribute_orders`, `tribute_order_items`, `tribute_order_selections`), Alas Stories (`ar_stories`, `ar_story_media`, `story_collaborators`, `qr_codes`), commerce, webhooks, fulfillment, audit; plus RLS, the order state machine, and the webhook contract.
2. `Schema Addendum` — the Phase 2 tables this PRD's decisions require:

Table	Serves
`tribute_pieces`	match code, artist proof approval, per-piece tracking, multiple pieces per story (§7.8–7.10)
`animation_assets` + `ar_package_animations`	the tier-gated Animation Bank (§7.11)
`story_segments`	the composed one-at-a-time timeline incl. voice segments (§7.5, §7.11)
`story_submission_links`	tokenized non-member submissions → review queue (§7.4)
`gift_claims`	gift claim tokens + purchaser notifications (§7.2)
`story_renewals`	renewal payments and the grace/archived lifecycle (§7.7)
`preview_sessions`	pre-purchase preview carry-forward (§7.6)
ALTERs on `ar_story_media`	optimization variants, video trim, audio envelope, submission provenance (§7.13)

Payment truth: the Stripe webhook is the only source of truth for payment success. Client code never marks an order paid; story provisioning, piece creation, and match-code generation all happen inside that idempotent handler.

New Edge Functions (alongside those in the base doc)

- `provision-tribute-piece` (on order-paid: match code, QR, print-ready marker)
- `media-process` (optimize/scale renditions, extract audio envelope, set `processing_status`)
- `moderation-action` (approve/decline a submission into the story)
- `animation-bank-list` (assets available for a story's package tier; flag locked/previewable)
- `claim-gift` (redeem token, transfer ownership, notify purchaser)
- `renew-story` (renewal checkout → extend `expires_at`)
- `shipping-tracking-webhook` (carrier delivery event → `delivered_at`, notify purchaser) — *conditional on adopting a tracking source (§11)*

The base doc already defines `create-checkout-session`, `stripe-webhook`, `create-upload-url`, `create-story-workspace`, `publish-story`, `send-order-confirmation`, and `admin-update-fulfillment` — use those names rather than inventing parallel ones.

10. Non-Functional Requirements

- **Performance:** scan-to-first-render < 4s on mid-tier mobile; lazy-load GLB/media; compress textures.
- **Device matrix (to validate in the spike):** iOS Safari (current −2 versions), Android Chrome (current −2), with explicit notes on in-app browsers (Instagram/Facebook). Define AR-supported vs. fallback-only tiers.
- **Scalability / hosting economy:** static SPA + object storage/CDN; avoid per-view server cost. Open-source AR runtime (MindAR) over paid (8th Wall) until tracking demands otherwise.
- **Accessibility:** WCAG 2.1 AA; fallback web viewer fully accessible; captions/transcripts for media where possible. **Design for less-technical / older users:** plain language, one decision at a time, generous targets, no jargon; the guided walkthrough (§7.12) is the primary safeguard against drop-off.
- **Privacy & retention:** photos/video of deceased individuals are sensitive PII. Define retention on `archived` profiles; honor deletion requests; data-processing terms for international customers. *(Legal review flagged in §13.)*
- **Security:** signed upload URLs, tokenized submission/claim links with expiry, RLS on all profile-scoped tables, rate limiting on public forms.
- **UX tone:** care-first, grief-sensitive; no urgency mechanics, countdowns, or popups. Renewal comms are permission-based and gentle. Palette: dark bg, #b8974a gold, #f0ece4 warm white; Artifex CF Bold headings / Inter body.

11. Integrations

- **Stripe:** checkout (existing), **Stripe Tax** (Q15), renewal billing, discount codes/promotions (Q16).
- **Fulfillment / production:** order-paid → `provision-story-workspace` → hand print-ready marker/QR to ops (QR affixed during production, Q5). Before shipping, the artist uploads a finished-piece photo for **customer approval** (§7.9), and pack-out QA verifies the tribute's **match code** against the shipping label (§7.10); shipping is gated on both. Shipping handled in-house, USPS primary (Q2/Q4) — outside Alas Stories, but the provisioning, approval, and match-code handoffs are in scope.
- **Delivery tracking (for the purchaser's delivery email): Stripe does not provide carrier delivery status** — it ends at payment. Delivery confirmation must come from the carrier. Recommended: route USPS label generation + tracking through a shipping platform (**Shippo** or **EasyPost**), which emits a **delivery webhook** that fires the purchaser email and sets `delivered_at`. Without such a source, the alternative is polling USPS tracking by tracking number. *(Adoption decision — §13.)*
- **Mailchimp:** marketing capture; transactional/renewal sequences may live in Mailchimp or a transactional provider *(decision §13)*.
- **Existing Edge Functions:** reuse `get-order`, `stripe-webhook`, signed-upload pattern.

12. Analytics & Instrumentation

Instrument the funnel and AR engagement from day one (pre-launch learning): claim rate, time-to-first-content, collaborators per story, submissions per story, AR-launch success/fallback rate by device, renewal/grace-recovery rate.

13. Open Questions / Decisions Needed

1. Can **Editor** publish, or only stage for Owner/Admin? (§4)
2. Per-type content **caps** (photo size, video length, audio length, formats)? (§7.3)
3. **Gift purchaser status** — **decided:** purchaser is emailed on recipient claim (in our control) and on physical delivery (dependent on tracking source, see #14). (§6, §7.2)
4. **Expiration comms cadence** and channel (Mailchimp vs. transactional provider)? (§7.7, §11)
5. **Grace-period length** before archive/Contact-Us state? (§8)
6. **Canonical AR package pricing** — multiple variants exist across past work; confirm before any public-facing copy.
7. **Data retention** policy on archived profiles + international data-processing terms (legal review).
8. **MindAR vs. 8th Wall** — confirm starting with MindAR pending spike results.
9. **Pre-purchase preview anti-piracy** — confirm the length cap, plus whether to add a watermark and withhold full-res assets. Find the balance between conversion appeal and misuse deterrence.
10. **Pre-purchase carry-forward** — confirm starter content auto-migrates into the story on purchase (recommended yes), and the gift-handoff behavior.
11. **Artist photo approval** — revision-loop limit; auto-approve after N days of no response; hard-block vs. advisory on shipping.
12. **Match code** — character set **decided** (unambiguous alphanumeric, exclude 0/O/1/I/L). Still open: exact length (5–7); uniqueness scope (per-tribute global vs. per-batch); scan-based vs. manual pack-out check. Finalize the QA SOP with the production team.
13. **Member-originated orders** — referral/attribution tracking and any incentive (e.g., crediting the originating member or the source profile)? (§7.8)
14. **Delivery tracking source** — adopt a shipping platform (Shippo / EasyPost) for USPS labels + delivery webhooks, or poll USPS tracking? Gates the purchaser delivery email. (§11)
15. **Animation composition grammar** — **decided:** each video is its own segment; audio is a background layer; transitions auto-insert at boundaries with the customer choosing only the style; photo groups ≤10 before a transition. (§7.11)
16. **Cherish (T1) transitions** — one default transition *style* between groups (default) vs. straight cuts. Leaning default style so the entry tier still flows.

17. **Per-tier length caps** — set a max number of segments / total runtime per tier to bound WebAR load and hosting cost, and sharpen the upgrade reason. (§7.11)
18. **Per-tier video duration** — confirm the trim caps (e.g., Cherish ~30s, Legacy ~60–90s, Timeless ~3 min) and the default trim window pre-selected for the customer. (§7.13)
19. **Media enhancement** — whether to offer optional AI upscaling/denoise on low-res uploads, and how to set expectations honestly (optimization always; enhancement within limits). (§7.13)
20. **Audio-reactive visualization** — confirm the on-brand treatment (proposed: butterflies / gold halo responding to the audio), and that the driving envelope is **precomputed at upload** (recommended) rather than live at playback. (§7.11, §7.13)

14. Out of Scope (Phase 2)

Native mobile apps; full fulfillment automation beyond QR/marker handoff; CITES / U.S. Fish & Wildlife customs workflow; marketing-page CMS; multi-marketplace inventory sync.

15. Appendix — Sample Acceptance Criteria (illustrative)

- *Provisioning:* Given a paid order, when the webhook fires, then an `ar_stories` row (draft), a unique slug, a `tribute_pieces` row with a unique `match_code`, a QR code, and a print-ready marker reference exist, and the owner receives a claim/build prompt.
- *Moderation:* Given a non-member submission, when it is created, then it appears in the story's review queue and is **not** visible in the published experience until a member approves it.
- *Lifecycle:* Given an expired, unrenewed profile past its grace window, when a viewer scans the QR, then they see the "Contact Us for hosting renewal" state and no edit controls are reachable by any role.
- *AR fallback:* Given a device without image-tracking support, when the QR is scanned, then the web-viewer tribute page renders with the same content and no error dead-end.
- *Pre-purchase preview:* Given a prospect with an uploaded image and ≤3 media elements, when they preview, then the experience runs halo intro → media with transitions → outro + logo, is length-capped, and on purchase the same content appears in their provisioned profile.
- *Photo approval:* Given a tribute with `proof_uploaded`, when the customer requests changes, then status returns to `revision_requested` / `in_production` and the tribute is not marked shippable until `approved`.
- *Recipient match:* Given a tribute at pack-out, when the operator scans the QR or enters the match code, then the system returns the recipient and expected code, and shipping cannot be completed unless the physical tribute and shipping-label codes match.
- *Gift claim notice:* Given a gifted tribute, when the recipient claims ownership, then the purchaser receives a claim-confirmation email and the same status appears in their order view.