Kathaka Studio - current functional requirements

Edition 2026-11-14 | Android candidate 0.3.50+81 | Controlling language: English

Current source specification; physical Android and artistic acceptance remain open. See immutable release receipts for deployed version.

Scope and policy

Priority

Android authoring and VPS web/API/CMS. Desktop source remains shared; installer refreshes deferred.

Account

Current deployment uses CMS/account authentication at startup; online services require a valid session. Local core editing/recovery can continue after successful sign-in when applicable. No new guarantee of indefinite offline activation is introduced.

Network

English Android system speech may require internet. AI inference is self-hosted on a server and still requires client connectivity. Collaboration, Language Master updates and account actions require connectivity; cached/bundled text and local core drawing do not require inference.

Commercial

Do not use the archived October 30-day-trial, one-time-offline-activation or local-only-website statements as the current commercial contract. Billing, subscriptions, ownership claims and licensing terms require the deployed account policy and owner-approved published terms.

Claims

No 100% reliability claim, no unverified India-first claim, no promise of every voice parameter or top Meta availability.

Actors and responsibilities

Creator

Own local artwork, review AI proposals, grant device permissions, save portable copies.

Company Editor

Edit permitted shared projects under ownership/write leases.

Cms Language Editor

Publish approved language/text revisions within role permissions.

Operator

Back up, qualify, deploy and monitor containers, downloads, database and private AI.

Reviewer

Assess story/art/accessibility quality; physical-device acceptance is separate from automated testing.

Architecture and boundaries

Client

Flutter presentation and shared command registry > StudioController application façade > native Rust document/sculpture engine. UI, keyboard, voice and gestures share actions; viewport motion is not document mutation.

Server

HTTPS reverse proxy > separate website and account/API/CMS services > PostgreSQL. Private owner-scoped AI worker and immutable public downloads have separate lifecycles.

Persistence

Local Book manifest/assets plus journal/checkpoints; compact immutable shared sculpture meshes/frames in private recovery, public schema 1/2 JSON; PostgreSQL shared records; SQLite private single-worker AI queue.

Migration

Copy originals, validate schema, atomically commit accepted changes, test save/reopen and downgrade/export. Avoid changing storage merely because a different database exists.

Boundaries

A Book save does not automatically package separate editable sculpture or AR source. PNG handoff is flattened. Scene preview, sculpture, shot animatic and flipbook are distinct modules.

Data ownership and persistence

Accounts/companies/roles/sessions

Store: PostgreSQL

Server-owned transactional authorization; secrets never in project files.

Language profiles/messages/revisions/history

Store: PostgreSQL

Surface-scoped unique keys; optimistic revisions and validated placeholders; immutable route/identifier metadata.

Shared project/page resources and write leases

Store: PostgreSQL

Company scope, revision conflicts and reviewed contribution boundaries.

Book/pages/panels/layers/characters

Store: Local manifest, assets, journal and checkpoints

Stable IDs; undoable edits; relative managed paths; explicit save destination.

Sculpture objects/geometry/materials/view/frames

Store: Native shared geometry; compact local recovery; portable JSON 1/2

Object IDs stable; geometry edits transactional; view not necessarily part of geometry undo.

AR board source

Store: Native local AR storage

Separate editable session; PNG handoff does not preserve tracking/anchors.

AI jobs and artifact references

Store: Private SQLite single-worker ledger/files

Owner-scoped IDs; bounded pending queue; interrupted running work fails on restart; terminal TTL 24h.

Public artwork/installers/manuals

Store: Immutable files plus versioned metadata

SHA-256 release verification; preserve provenance, format compatibility and signed update feeds.

End-to-end user journeys

Create and return

New project > select page format/direction > draw/layers > Save project copy > Back to Projects > Resume/Open recent > verify saved-folder workspace.

Open/cancel safely

Open project JSON > grant its artwork folder if required > validate/stage > open atomically. Cancel any chooser returns without changing the active Book. Back/Close remains available in the editor and tool drawer.

Sculpt a character

3D Sculpture > Geometry > Head & shoulders or Full figure > select part > left brush rail > Brush/Surface/Lighting > Rotation > apply speed > save editable sculpture > OBJ/STL/PNG or Animation/GIF. Accepted edits are recovered; unfinished-stroke Close is guarded.

Storyboard to publication

Story & Storyboards > brief/script > review proposal > choose manga/comic/film layout > approve panel references > draw/letter/tone > preflight > save/reopen > export. Image continuity is reviewed, never assumed.

Voice and gestures

Input Controls > choose online English voice or camera/touch gesture setup > read network/permissions > calibrate > Listen > inspect recognized command/proposal > apply > Stop or configured idle timeout. Tablet retest is a release gate.

Flipbook and AR

Animation > frames/onion skin/holds/FPS > play > GIF. AR & Holograms > supported-device check > anchor flat board > write > local AR save/PNG transfer. These are separate editable workspaces.

Publish language

Authorized CMS editor > Language Master > surface/language > edit values > validate coverage/placeholders > publish expected revision > clients refresh > audit history or restore. Source strings are fallbacks, not the sole live values.

Showcase study

Website Showcase/Gallery > filter category > View artwork > Close/Escape > download image or extracted project ZIP > open book.json plus artwork folder in Kathaka. Source labels distinguish references from native authoring.

Current additions: FR-081 to FR-102

These requirements describe implemented source behaviour and its acceptance boundaries. A source test is not device certification. Exact shipped artifacts are identified by release receipts.

FR-081 - Visible project Back, Close and Resume

Status: Implemented; acceptance boundaries remain

Behavior: Header Back and File > Close project return to Projects; Resume restores the active document. Android Back first unwinds the active tool.

Acceptance: Accepted edits and revision survive Back/Resume; blocked input cannot be abandoned; picker cancellation preserves the active document.

Boundary: Close means navigation; the active Book remains cached and local recovery is not a portable export.

Evidence: test/project_navigation_test.dart; test/tool_dock_test.dart; lib/studio/studio_screen.dart

FR-082 - Sculpture workspace and character blockouts

Status: Implemented; acceptance boundaries remain

Behavior: A dedicated 3D viewport exposes Orbit and Clay, Carve, Smooth, Flatten, Pinch and Move in a visible left rail; Geometry offers Head & shoulders and Full figure.

Acceptance: Tool selection reaches the existing brush command; bust creates 3 independent meshes and figure 17; previous objects persist; invalid presets are transactional; save/reopen and undo/redo preserve geometry.

Boundary: Blockouts are separate primitive meshes, not fused anatomy, a skeleton, rigging or automatic character reconstruction.

Evidence: test/sculpture_workspace_test.dart; packages/manga_engine/native/src/sculpture/character.rs; sculpture/tests.rs

FR-083 - Sculpture properties, spacing and safe Close

Status: Implemented; acceptance boundaries remain

Behavior: Geometry, Brush, Object, Surface, Lighting, Camera, Rotation, Animation and Export have separate properties; the tool rail and properties scroll independently.

Acceptance: Normal/2× text phone layouts remain reachable without overlapping controls; Close/Back during an unfinished stroke offers Keep editing or explicit discard; failed cancellation keeps the editor open.

Boundary: Large-text phone users scroll the properties; no promise of all properties visible simultaneously.

Evidence: test/sculpture_workspace_test.dart; test/goldens/sculpture-phone-1x.png; test/goldens/sculpture-phone-2x.png

FR-084 - Virtual turntable and drawing

Status: Implemented; acceptance boundaries remain

Behavior: Canvas/depth/sculpture turntables have independent virtual phase, speed, axis and reset; drawing maps input through the current transform.

Acceptance: Accepted RPM changes show feedback; animation does not intentionally stop a stroke; pin locks navigation; reset restores the view.

Boundary: 10,800 RPM is a virtual timing value, not visible physical revolutions. Physical Xiaomi stylus, fingers, palm rejection and sustained high-RPM tests remain open.

Evidence: docs/product/android-inputs-feedback.md; test/sculpture_workspace_test.dart; docs/architecture/architecture-database-audit-2026-11-14.md

FR-085 - Symmetry and asymmetric drawing

Status: Implemented; acceptance boundaries remain

Behavior: Offer supported radial modes including 12, 16 and 24 ways and explicit asymmetric controls with readable tool feedback.

Acceptance: Changing mode changes only subsequent intended strokes and preserves undoable artwork; reset and saved settings behave consistently.

Boundary: Symmetric spinning 2D art and the depth viewing effect are distinct from editable sculpt meshes.

Evidence: lib/studio/canvas_viewport.dart; docs/help/feature-lessons.json

FR-086 - Online English speech and continuous Listen

Status: Implemented; acceptance boundaries remain

Behavior: Listen starts speech directly with permission/startup feedback; stop is explicit; silence watchdog and idle timeout are configurable. Voice proposals use the shared action registry.

Acceptance: Disclose internet/service availability; show recognized text or actionable failure; stale or unsupported commands never silently mutate a different project.

Boundary: Tablet microphone/service startup remains unconfirmed. Exhaustive coverage of every property is not certified; native AR uses reviewed proposals and must be device-tested.

Evidence: docs/product/android-inputs-feedback.md; lib/studio/studio_screen.dart

FR-087 - Camera and touch gesture setup

Status: Implemented; acceptance boundaries remain

Behavior: Input Controls offers separate gesture configuration, calibration and step-by-step guidance; camera and touch are independent options.

Acceptance: Explain permissions and enabled mode, preserve stylus drawing and display useful calibration feedback.

Boundary: Real-camera tracking, five-finger interactions and Android system conflicts on the Xiaomi Pad 6 remain open acceptance tests.

Evidence: docs/handbook/en.md; docs/product/android-inputs-feedback.md

FR-088 - Resource-aware files and recovery

Status: Implemented; acceptance boundaries remain

Behavior: Stream/stage supported project data without the former general 32 MiB JSON rejection; keep original assets, saved-folder recents and actionable storage failures.

Acceptance: Transactional failed import/save; recovery remains accessible; low-storage failures must identify the resource issue without deleting originals.

Boundary: Specialized photo decoding, active scene, collaboration and safety budgets still exist. GB-scale mixed projects and low-storage provider tests are not completed. Drive capacity alone cannot guarantee RAM/decoding capacity.

Evidence: docs/architecture/architecture-database-audit-2026-11-14.md; docs/product/requirements-status-2026-11-14.md

FR-089 - Origin metadata and standard file interchange

Status: Implemented; acceptance boundaries remain

Behavior: Keep standard supported PNG/GIF/PSD/document formats with Kathaka origin metadata where implemented; distinguish missing/external origins without refusing valid third-party content.

Acceptance: Round-trip supported metadata and report unsupported/missing origin safely; native project formats remain versioned.

Boundary: Metadata identifies a declared source, not a tamper-proof authorship or copyright guarantee. External tools can strip it. Not every third-party format preserves metadata.

Evidence: docs/help/feature-lessons.json; docs/product/requirements-status-2026-11-14.md

FR-090 - Image and animated GIF import

Status: Implemented; acceptance boundaries remain

Behavior: Offer still-frame or animated canvas workflows for supported GIFs and image-layer insertion.

Acceptance: Cancellation changes nothing; frame timing and still selection are explicit; save/reopen preserves supported project assets.

Boundary: Imported raster content is flattened; vector paths and original source layers are not reconstructed.

Evidence: docs/help/feature-lessons.json; lib/studio/spin_gif_workspace.dart

FR-091 - Flipbook animation

Status: Implemented; acceptance boundaries remain

Behavior: Dedicated editable frames, holds, FPS/speed, onion skin, play/stop and cancellable GIF export.

Acceptance: Export a representative sequence; save/reopen restores frames and holds; playback speed is explicit.

Boundary: Long tablet sessions, continuous timeline scrubbing, flipbook audio/video and AR playback remain follow-up. Shot animatic video/audio is a separate existing workflow.

Evidence: docs/product/flipbook-animation-plan.md; docs/help/feature-lessons.json

FR-092 - Sculpture captured-frame animation and GIF

Status: Implemented; acceptance boundaries remain

Behavior: Capture sculpture states, control frame holds/playback and export a turntable/captured-frame GIF.

Acceptance: Archive geometry is shared when identical; editing transfers omit full archived frames; compact recovery reopens; exported frames render correctly.

Boundary: Captured-frame changes are not skeletal motion capture. Video, bones/rigging and continuous shape interpolation are not claimed.

Evidence: docs/product/sculpture-engine.md; docs/architecture/architecture-database-audit-2026-11-14.md

FR-093 - Storyboard writing to manga/comics

Status: Implemented; acceptance boundaries remain

Behavior: Brief, script and scene/shot proposal review link to manga B5 RTL, comics A4 LTR and film 16:9; approved references can be handed to AI Artist.

Acceptance: Reject stale plans, require review before replace/append and preserve shot/panel links, dialogue, save/reopen and export.

Boundary: Long-form assistance, whole-storyboard batch illustration and consistent generated characters across chapters remain pending.

Evidence: docs/product/requirements-status-2026-11-14.md; docs/help/feature-lessons.json

FR-094 - Photo, manga and painterly portraits/backgrounds

Status: Implemented; acceptance boundaries remain

Behavior: Local sketch/tones/shading treatments and Painterly Studio support separate portrait/background guidance with optional private-server generation.

Acceptance: Preview before placement; retain original image and explicit target layer; show failures and resource requirements.

Boundary: Prompt adherence, identity, shading and artistic output need review. Ghibli-inspired means an aesthetic workflow; no Studio Ghibli affiliation or exact style guarantee.

Evidence: docs/product/page-actions-and-character-sketch.md; docs/product/requirements-status-2026-11-14.md

FR-095 - Native AR hologram writing

Status: Implemented; acceptance boundaries remain

Behavior: Optional ARCore flat world-anchored board accepts touch/stylus/text/art/glow; save locally and explicitly transfer PNG.

Acceptance: Handle unsupported AR devices and permissions; keep AR source separate from a Book; reject stale voice changes.

Boundary: No volumetric projection, air-finger writing, persistent anchors, depth occlusion, portable editable AR sessions or camera/video capture. Physical tracking remains unverified.

Evidence: docs/architecture/architecture-database-audit-2026-11-14.md

FR-096 - Private AI commands, story and image jobs

Status: Implemented; acceptance boundaries remain

Behavior: Server-only command/writing/image adapters run behind the account boundary and return reviewable proposals/artifacts; image references guide continuity.

Acceptance: Bound pending jobs, isolate owners, cancel safely, expire terminal artifacts, mark interrupted inference failed after restart and apply only to the intended revision.

Boundary: Temporary CPU setup uses Qwen3 4B and FLUX.2 klein 4B. Requested top Meta model is not installed. CPU latency and character continuity/production quality are not guaranteed.

Evidence: docs/architecture/architecture-database-audit-2026-11-14.md; docs/product/requirements-status-2026-11-14.md

FR-097 - Language Master across app, website and CMS

Status: Implemented; acceptance boundaries remain

Behavior: PostgreSQL catalogue and surface bundles publish atomic language/text revisions without rebuilding clients; clients keep validated bundled fallback.

Acceptance: Role/CSRF/origin checks, optimistic conflicts, history/restore, safe placeholders, immutable routes and identifiers; admin overrides survive seed deployment.

Boundary: Four authored handbook languages; app has 68 language profiles, not 68 fully translated guides. CMS translation coverage is partial; native-speaker review remains.

Evidence: docs/product/language-master.md; website/kathaka/tests/language-master.test.mjs

FR-098 - Consistent interface and feedback

Status: Implemented; acceptance boundaries remain

Behavior: Menus/toolboxes use readable Studio-like flat surfaces across themes; compact QuriLabs footer, separate Listen action, adjustable docks and applied-setting feedback.

Acceptance: No Listen/Apply overlap; keyboard and 2× text controls stay reachable; reduced motion is respected; feedback describes success/failure.

Boundary: Theme-specific branded palettes do not imply partnerships. Physical accessibility review remains open.

Evidence: docs/product/android-inputs-feedback.md; test/goldens; docs/theme-collections.md

FR-099 - Professional showcase and honest provenance

Status: Implemented; acceptance boundaries remain

Behavior: Publish original native-engine demos and labelled supplied/external AI-assisted reference artwork in all website languages, with accessible full-size reader and project downloads.

Acceptance: Native import, save, reopen and render each new raster project; downloaded ZIP/assets match hashes; Close/Escape restores focus; routes/metadata cannot be altered through translated text.

Boundary: External generated references are not native brush authorship, not results of the VPS model and not proof of Android execution. Supplied artwork creator is not invented.

Evidence: tool/create_atelier_projects.py; website/kathaka/public/art/atelier/projects-verification.json; website/kathaka/app/components/atelier-collection.tsx

FR-100 - Documentation and traceability

Status: Implemented; acceptance boundaries remain

Behavior: Version current FRD, architecture, user guidance, operator runbook and acceptance matrix; retain historic requirement IDs and disclose superseded policy.

Acceptance: Guide chapters/steps/tours align across four languages; every available workspace command maps to a lesson; generated HTML/JSON is reproducible; links exist.

Boundary: English is the controlling FRD; translated guides need native-speaker review. Documentation completion is not completion of future features.

Evidence: tool/build_help.py; tool/export_handbooks.py; docs/product/current-frd.json

FR-101 - Android release and VPS deployment

Status: Implemented; acceptance boundaries remain

Behavior: Sign Android artifacts with the existing identity, verify update feeds, publish immutable downloads, stage exact source and deploy current website/API images.

Acceptance: Check source-tree mapping, public hashes, readiness, localization and database backup; retain user data/models/volumes; remove superseded runtime containers/images after a healthy replacement.

Boundary: Windows/macOS installer refreshes are deferred. Automated/emulator checks do not establish 100% production reliability.

Evidence: tool/release; docs/release; docs/architecture/evidence

FR-102 - Storage architecture and data ownership

Status: Implemented; acceptance boundaries remain

Behavior: Use PostgreSQL for shared accounts/CMS/collaboration, a private SQLite ledger for the single AI worker, local journal/checkpoints/assets for Books and compact sculpture recovery.

Acceptance: Enforce ownership, transactional revisions, copy-only migrations and bounded caches. Public sculpture JSON schema 1/2 stays compatible.

Boundary: No wholesale database rewrite without a measured bottleneck. A unified portable Book/sculpture/AR/audio bundle is future work.

Evidence: docs/architecture/architecture-database-audit-2026-11-14.md

Failure and recovery contract

Import invalid/newer schema

Show reason; keep active document, revision, original file and recovery.

Missing artwork permission

Explain required project folder; cancel retains current workspace.

Save/disk full

Report failed destination/resource; retain original and recovery; never claim success before atomic commit.

AI unavailable/timeout

Keep prompt/references; report job state; offer retry/manual tools; do not apply partial output.

Voice permission/service unavailable

Show status and remedy; do not leave an inert Listen control or auto-enable microphone.

Sculpture stroke failure

Keep editor/draft for retry; explicit discard required to abandon unfinished input.

Language revision conflict

Reject stale publication atomically; reload latest revision; preserve existing translations.

Deploy health failure

Keep previous service/config until candidate readiness; restore proxy if public checks fail; never delete database volumes.

Unsupported AR

Explain support requirement and keep ordinary drawing available.

High RPM

Use elapsed-time virtual phase and transform-aware input; never promise display beyond refresh rate.

Quality and release gates

1. Full Flutter regression suite and clean static analysis; review changed goldens.

2. Relevant native tests, import/save/reopen/render acceptance, release-tool and website/CMS contract tests.

3. Isolated candidate service readiness and language-seed preservation before public proxy switch; database backup.

4. Public artifact hashes, signed feeds and source-tree provenance.

5. Physical Xiaomi Pad 6 voice/camera/touch/stylus/high-RPM and accessibility tests stay open until the user tests the exact APK.

6. Long projects, disk-full, corrupt data, dense meshes, generation quality and continuity need representative end-to-end acceptance.

Remaining implementation and acceptance

1. Physical Xiaomi voice, camera/touch calibration, palm rejection and sustained rotating drawing.

2. Exhaustive voice property coverage; clearer feedback for unsupported actions.

3. GB-scale mixed-content and low-storage acceptance; remaining specialized photo/scene/collaboration resource budgets.

4. Batch storyboard illustration, longer writing and chapter-level identity/quality review.

5. Higher-resolution/batch painterly output; prompt, tones and unintended-figure review.

6. Long flipbook sessions; continuous scrubbing, audio/video integration and AR playback.

7. AR air-writing, persistent anchors, occlusion, editable portability and capture.

8. Top Meta/GPU capacity; CPU throughput/reliability and production artistic acceptance.

9. Sculpture dense-mesh GPU/BVH, masks/remesh/UV/rigging/import and unified portable workspace bundle.

10. Native-speaker localization review; refreshed desktop installers deferred.

Documentation maintenance

Userguide

28 aligned chapters, 702 numbered steps and 51 guided lessons in English, German, French and Russian.

Source

docs/handbook/*.md, docs/help/*-lessons.json, docs/tours; generated by tool/build_help.py.

Operator

docs/operations/current-release-runbook.md

Architecture

docs/architecture/architecture-database-audit-2026-11-14.md

Traceability

FR-001-080 retained as historical lineage; FR-081-102 describe current additions and boundaries. Historical PASS entries do not assert current requalification.

Historic requirement lineage: FR-001 to FR-080

The original acceptance intent is retained for traceability. Archived pass labels, licensing statements and platform approvals are not current qualification. Current scope/policy takes precedence; requalify changes against exact release artifacts.

FR-001 - First launch and recovery choice

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Open a usable offline workspace with a bundled demonstration and an explicit recovery choice after corruption.

Acceptance: Stage only packaged assets. Never erase recovery during fallback. Show actionable failures and a retry action.

FR-002 - Project creation and presets

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Create B5, A4 or webtoon books with valid dimensions and stable identities.

Acceptance: Reject invalid presets and dimensions. Use one documented Unicode title limit across create, rename and import. Cancel leaves the current project unchanged.

FR-003 - Reelhouse project import

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Import editable Reelhouse book JSON and project-relative artwork without requiring the Reelhouse application.

Acceptance: Retain stable IDs and supported metadata. Reject newer schemas or invalid geometry transactionally. Show missing-asset relink actions.

FR-004 - Durable editing and recovery

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Acknowledge edits only after durable recovery commit and restore the last acknowledged revision after restart.

Acceptance: Failed storage leaves document and history unchanged. Recovery history and crash injection qualify the stronger durability guarantee.

FR-005 - Revision control and undo

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Apply revision-guarded commands and expose predictable undo and redo.

Acceptance: Reject stale commands. Compressed session history is capped at 40 entries and 16 MiB per stack; oversized snapshots form a boundary. Durable checkpoints remain separate.

FR-006 - Professional inking

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Provide pressure pen, vector erase, stabilizer, white ink and configurable brushes without input stalls.

Acceptance: UI shows immediate temporary strokes; Rust commits fitted geometry. Invalid samples cannot corrupt a page. Palm rejection requires device qualification.

FR-007 - Panel design and reading order

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Build pages using templates, panel knife, gutters, resize handles and explicit reading order.

Acceptance: Cuts preserve valid polygons and minimum gutters. Reading-order visualization must match PDF, EPUB and webtoon transforms.

FR-008 - Screentones and fills

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Apply flat, gradient and patterned screentones with print-aware frequency and angle.

Acceptance: Use stable screen previews and real print dots. Warn on unsupported settings rather than flattening editable tone data.

FR-009 - Balloons and lettering

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Keep dialogue editable independently of generated art with balloon shapes, tails, vertical text and furigana.

Acceptance: Moves preserve tail offsets. Unsupported glyphs and overflow are visible. Changes invalidate lettering approval.

FR-010 - Fonts and multilingual shaping

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Manage licensed fonts and render consistent text across operating systems.

Acceptance: Qualify Japanese vertical substitutions and kinsoku; declare supported scripts. Complex shaping needs a tested shaping adapter rather than assuming glyph rotation is sufficient.

FR-011 - Canvas navigation

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Provide pan, pinch, zoom, fit, guide toggles and stable selection at high DPI.

Acceptance: Pointer-to-page conversion remains correct under transforms. Navigation never becomes an edit. Phone gestures and accessibility alternatives are available.

FR-012 - Book navigation and page lifecycle

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Add, duplicate, delete and reorder pages with thumbnails, spreads and stage indicators.

Acceptance: Use stable page IDs in pending jobs. Prevent deletion of the final page or provide an explicit replacement. Reorder preserves content ownership.

FR-013 - Script to editable storyboard

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Turn structured scenes, dialogue and shot intent into an editable storyboard proposal.

Acceptance: Deterministic templates work without AI. Optional model assistance produces drafts only. User reviews panel count, order and dialogue before application.

FR-014 - Character and location bible

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Version approved reference sheets, costumes, props, palettes and location rules for reuse across panels.

Acceptance: Reference packs are immutable versions. Editing a pack does not change earlier panels; new jobs record exact reference hashes.

FR-015 - Free provider registry

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Offer bundled manga tools, a local Candle worker and an optional self-hosted ComfyUI adapter through one capability registry.

Acceptance: Required paths have no API fees or subscription. Paid API nodes and unknown licenses are excluded from the baseline. Unavailable capabilities explain how to enable them.

FR-016 - Model installation and integrity

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Install optional approved model packs with disk estimates, resumable downloads and integrity verification.

Acceptance: Pin exact repository revisions and every component hash and license. Activate atomically after all checks. Display terms and any required account gate before download.

FR-017 - Text to panel generation

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Generate candidate panel art using prompt, style, seed, aspect ratio and finishing options.

Acceptance: Show draft quality, model and resource estimate. No lettering is baked in intentionally. Candidate review is separate from document mutation.

FR-018 - Reference edits and masks

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Support reference-guided variations and, only with capable adapters, masked inpainting or pose conditioning.

Acceptance: Do not label image-to-image as character locking or true inpainting. Masks, strengths and adapter features are validated and recorded.

FR-019 - Durable job queue

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Schedule generation and publication as durable cancellable jobs outside the editor mutation loop.

Acceptance: Persist state before launch; serialize local inference per device; cancel only owned jobs. Never automatically retry an ambiguous submitted request.

FR-020 - Generation provenance

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Record how every generated asset was made and preserve lineage through edits and export.

Acceptance: Include provider, model and workflow hashes, prompt snapshot, seed, backend, reference hashes and finish version. Never include credentials. Same seed across devices does not promise byte-identical output.

FR-021 - Safe generation application

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Compare candidates and explicitly apply one to a stable panel target as an undoable transaction.

Acceptance: Check target and base revision. Stale jobs become reviewable proposals. Preserve crop, original art and lettering; application can be undone.

FR-022 - Continuity review

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Review character, costume, prop and location continuity against approved reference versions.

Acceptance: Start with deterministic reference and metadata checks. Optional visual similarity gives explainable suggestions, never automatic edits or a guarantee of identity.

FR-023 - Portable managed assets

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Save a self-contained project copy using verified relative artwork and content hashes.

Acceptance: Original source is preserved. Imported content cannot escape the selected project root. Multi-file copies require manifest-last commit and orphan cleanup.

FR-024 - Publication preflight and approvals

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Check missing art, resolution, glyphs, bleed, stage and reading order before final publication.

Acceptance: Blocking errors identify page and panel. Approval binds to a content digest; relevant edits invalidate it. Users can export clearly marked drafts.

FR-025 - Print PDF and PNG

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Export deterministic page order to print-oriented PDF and PNG with explicit trim, bleed, tone and resolution settings.

Acceptance: Current host is limited to 72 to 300 dpi and 32 megapixels. Qualify tiled or streaming 600 dpi export before advertising print-ready output; PDF/X certification is separate.

FR-026 - Digital book publication

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Export CBZ and fixed-layout EPUB with correct reading direction, order and metadata.

Acceptance: Validate archive entries, EPUB structure and reader interoperability. Stream large output; enforce budgets before allocation. Encryption and DRM are outside the baseline.

FR-027 - Webtoon adaptation

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Derive reviewed vertical layouts from the same editable book without destroying print composition.

Acceptance: Store a separate transformation map and versioned reading order. Slice boundaries avoid balloons and key faces or require a reviewed override.

FR-028 - Plugin installation and lifecycle

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Enable versioned free integrations through an in-app toolkit panel with health checks and clear removal behavior.

Acceptance: Ship curated adapters; no arbitrary native library loading. Installation never runs code embedded in a book. Preserve original license and source notices for separately distributed components.

FR-029 - Android tablet authoring

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Provide touch and stylus authoring with Android document access and resilient lifecycle behavior.

Acceptance: Respect SAF access, revoked grants, palm input and low-memory callbacks. Large generation remains optional companion work, not a requirement on the tablet.

FR-030 - Free desktop companion for Android

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Let Android submit generation to the user's own paired Mac or Windows machine without a hosted subscription.

Acceptance: Pair explicitly with short-lived challenge and pinned identity, then use scoped credentials. Send selected references only. No internet exposure or unauthenticated LAN service by default.

FR-031 - Accessible titanium workspace

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Deliver a professional graphite and titanium interface with copper accents and accessible alternatives.

Acceptance: Decorative metal textures never reduce legibility. Support keyboard access, text scale, high contrast, reduced motion and labels; status cannot rely on color alone.

FR-032 - Local diagnostics

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Expose health, capability state and an explicit local diagnostics export.

Acceptance: No default telemetry or prompt uploads. Redact documents, artwork, reference images, secrets and personal paths. User previews bundle before sharing elsewhere.

FR-033 - Packaging and updates

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Ship independent Mac, Windows and Android builds with pinned native dependencies and controlled migrations.

Acceptance: Production releases need platform signing and Mac notarization, clean-machine install tests and an update rollback path. Model packs are separate from app binaries.

FR-034 - Translation and localized lettering

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Maintain optional language variants against the same artwork with editable reviewed dialogue.

Acceptance: Manual translation works offline. Machine translation is optional and local where approved. Preserve original text, reading order and approvals per language.

FR-035 - Rights and license records

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Track component notices and user-declared rights for imported, generated and reference assets.

Acceptance: Free does not mean unrestricted. Every required model component must clear the selected use policy. Existing proprietary engine and demonstration art are not relicensed by this FRD.

FR-036 - Offline operation after Professional activation and network boundaries

Status: Superseded or deferred policy; current policy above controls.

Behavior: Keep creation, editing, saving and supported export available offline once Kathaka Professional is activated on the device. Installation, the 30-day trial and the one-time licence activation require the internet.

Acceptance: Generation never silently switches from local to hosted processing. Enable model downloads and companion transfer explicitly. Reject provider-selected arbitrary URLs and redirects outside policy.

FR-037 - Layer stacks and isolated groups

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Preserve source artwork in editable paint/group trees with visibility, locks, opacity, ordering, duplication and bounded nesting.

Acceptance: Revision-guard all changes; enforce ancestor locks; preserve source bytes and Undo; selection remains transient.

FR-038 - Editable masks and clipping

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Support shape/image/vector masks and local clipping chains without rewriting artwork.

Acceptance: Hide/reveal mask strokes and vector eraser target only the selected mask; clipping retains base alpha.

FR-039 - Blend and adjustment layers

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Offer eight encoded-sRGB blend modes and editable brightness/contrast/saturation adjustments.

Acceptance: Apply isolated group opacity once and scope adjustments to content below in the same container.

FR-040 - Non-destructive generation and derived assets

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Apply reviewed generation or reusable artwork as a new top-level layer and retain earlier sources/provenance.

Acceptance: Require current review token, preserve original layer/source/provenance and support Undo. Derived panel captures remain explicitly labelled.

FR-041 - Portable layered publication

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Package all retained layer/mask sources and publish through the shared compositor.

Acceptance: Hash all retained source bytes, reject corrupt sources, use source-bound approvals and preserve geometry across resize/knife/duplicate.

FR-042 - Perspective rulers and constrained drawing

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Create page-owned 1/2/3-point guides, edit horizon/vanishing points, configure opacity/density and snap pen strokes with stable family locking.

Acceptance: Finite bounded geometry; reject degenerate horizons/third points; pressure order retained; masks, eraser and fill unchanged. Undo/recovery and duplicate/delete preserve guide ownership.

FR-043 - Portable reference boards and source records

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Import local PNG/JPEG references, arrange bounded cards, maintain notes/source/rights and pin a thumbnail beside the canvas.

Acceptance: 48 cards; 16 MiB and 2048px per import; 512 KiB metadata; shared 256 MiB artwork budget. Preserve source and normalized-image hashes and copy/check all declared references.

FR-044 - Publication-safe workspace metadata

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Keep perspective overlays and reference boards separate from native publication artwork and AI conditioning.

Acceptance: Ruler/board metadata changes preserve artwork bytes and publication fingerprint. Snapped ink changes content; references are not automatically sent to generators.

FR-045 - Editable 3D scene and mannequin posing

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Create, save, duplicate and delete project-owned stages with articulated mannequins, pose presets, joint rotations and transformed block props.

Acceptance: Scene drafts are separate from persisted project state. Save is one revision-checked Undo command. Duplicate uses independent IDs. Up to 8 scenes, 8 actors, 16 props and 3 lights per scene; scene metadata ≤24 KiB.

FR-046 - Local camera and light staging renderer

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Preview perspective/orthographic cameras, orbit/dolly/FOV/target controls, ground/grid and movable colored point lights using a local renderer.

Acceptance: Clip before perspective divide, depth-test opaque triangles, bound finite geometry and preview surfaces, serialize preview requests and discard stale responses. No mandatory plugin, network service or GPU runtime.

FR-047 - Reviewed Full HD scene references and publication isolation

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Capture a saved scene to a project reference card or a new panel paint layer, retaining an editable source scene and panel-capture source snapshot.

Acceptance: Require current revision, exact saved scene hash and explicit review; Full HD 1920×1080 or 1080×1920. Preserve original source art/layers, use immutable portable assets, support Undo and reject failed checkpoint commits atomically. Staging metadata alone does not change publication artwork/hash.

FR-048 - Local manga quality diagnostics

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Scan dialogue, spatial reading order, gutters and print risks without mutating project content.

Acceptance: Use native renderer and geometry; configurable thresholds; no automatic artistic-intent inference. Cap reports at 2,000 findings and disclose truncation.

FR-049 - Creator-approved quality corrections

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Preview an exact candidate, then explicitly accept one undoable edit.

Acceptance: Keep original images, dialogue, font size and language variants. Reject stale/discarded/forged/replayed proposals, source-file changes, impossible fits and newly introduced rectangular overlap pairs.

FR-050 - Portable creator intent and publication separation

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Record/revoke intentional advisory findings while keeping blockers visible.

Acceptance: Bind notes to evidence; validate/bound portable metadata; Undo; do not alter publication approval/content hash.

FR-051 - Portable named versions and safe restore

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Retain named editable snapshots outside automatic recovery retention and restore through creator review.

Acceptance: 12 non-nested immutable snapshots; canonical historical artwork retained/shared; hash and size limits; restore preserves newer history, validates current source/revision/token/confirmation and supports exact Undo.

FR-052 - Visual editorial comparisons

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Compare working or saved books by stable page identity using native page images and a cyan difference map.

Acceptance: Comparison is read-only; missing-side pages disclosed; preview-pixel semantics explicit; separate whole-book restore confirmation.

FR-053 - Panel discussion and editorial approval checkpoints

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Attach version/page/panel comments, reply/resolve/reopen, and record/revoke exact version approval.

Acceptance: Review all saved pages and resolve open comments first; bind approval to named identity/source/font/comment review; retain revoked/historical records; no generic-edit bypass or implicit publication approval.

FR-054 - Optional signed team ownership

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Explicitly enable a solo project, invite devices by public key and maintain owner-signed permissions without requiring a network account.

Acceptance: All listed automated scenarios must pass; physical-device and protocol-security qualification remain separate.

FR-055 - Assigned-page offline editing

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Permit editing only on assigned pages; retain solo forks and enforce current permissions on returned contributions.

Acceptance: All listed automated scenarios must pass; physical-device and protocol-security qualification remain separate.

FR-056 - Reviewed three-way contribution merge

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Import signed folders, merge independent pages, require conflict choices and exact page proofs, then commit atomically with Undo.

Acceptance: All listed automated scenarios must pass; physical-device and protocol-security qualification remain separate.

FR-057 - Signed page review and portable team resources

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Require review permission and exact preview; bind signed decisions to page content and include baseline-only artwork in portable projects.

Acceptance: All listed automated scenarios must pass; physical-device and protocol-security qualification remain separate.

FR-058 - Editable shot timeline and camera movement

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Create, order and time page/panel shots with deterministic camera moves, cuts, dissolves and fades. Preview drafts separately from saved manga.

Acceptance: All listed automated cases pass within host scope; native hardware/player qualification remains separate.

FR-059 - Content-bound dialogue timing

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Show editable balloons only in their half-open cue intervals and require retiming after dialogue content changes.

Acceptance: All listed automated cases pass within host scope; native hardware/player qualification remains separate.

FR-060 - Portable offline audio tracks

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Import bounded PCM16 WAV tracks, mix offsets/trims/fades/gains/mute locally and preserve immutable audio through history and team project copies.

Acceptance: All listed automated cases pass within host scope; native hardware/player qualification remains separate.

FR-061 - Atomic Full HD animatic video export

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Export every saved timeline frame and PCM audio into a new AVI file, support cancellation, freeze source state and keep editing available between export steps.

Acceptance: All listed automated cases pass within host scope; native hardware/player qualification remains separate.

FR-062 - Free extension package and compatibility

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Inspect/install data-only packages with SDK/host/platform compatibility, exact hash, manifest and contribution validation.

Acceptance: Reject executable/unknown fields, tampering, malformed/oversized packages, duplicate IDs and unsupported licenses; reject incompatible installation.

FR-063 - Extension permissions and recovery

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Install disabled with no grants; explicitly save device-local grants. Disable/revoke/remove and update invalidate prepared work.

Acceptance: Enforce required permissions on every invocation; compare-and-swap settings, reset grants on upgrade, fail closed on registry corruption and restore previous settings disabled.

FR-064 - Free brush extension starter

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Load a validated pressure-sensitive preset into editable drawing controls without changing existing strokes.

Acceptance: Brush values stay inside M04 engine limits; permission denial leaves the book and revision unchanged.

FR-065 - Importer and exporter extension starters

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Preview storyboard JSON before appending undoable pages; review briefs JSON or raster SVG proofs before file export.

Acceptance: Preserve existing artwork; enforce revision/token/package/grants, collaboration permissions and recovery-before-acknowledgment. Never overwrite an existing output; cancellation has no acknowledged document change.

FR-066 - Viewport tiles and high-resolution pages

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Only visible regions render at zoom-aware resolution; drawing overlays stay responsive.

Acceptance: 512px tiles, 20 visible target, 32 resident / 16 MiB encoded; no full virtual frame.

FR-067 - Background rendering and cancellation

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Render immutable active-page snapshots outside the document mutex.

Acceptance: Token/revision/page/viewport guards prevent stale paint; at most two workers per process.

FR-068 - Byte-bounded history and caches

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Retain predictable session history and verified decoded-source reuse.

Acceptance: 16 MiB/40 entries per undo/redo stack, 32 MiB serialized snapshot limit; oversized barrier.

FR-069 - Reproducible large-book benchmarks

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Measure cold/warm tiles, edit latency and history bytes on declared workloads.

Acceptance: Report host, binary hash, raw samples and qualification gaps; diagnostics do not edit the document.

FR-070 - Candidate installers and platform signing

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Build local Mac DMG, free per-user Windows installer recipe and explicit Android signing configurations.

Acceptance: Candidate artifacts never imply production approval; no debug-key fallback for release.

FR-071 - Controlled updates and app recovery

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Authenticate offline publisher metadata and support journaled manual Mac replacement with rollback.

Acceptance: Trusted keys are compiled in; no downloads/install during manifest inspection; retain previous bundle until verified launch.

FR-072 - Schema migration copies and compatibility

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Read schema 1/2 additively, keep library format 1 and export reviewed normalization copies with original-byte backups.

Acceptance: Stable identities; reject unknown/future/zero schemas or lost fields; never rewrite original checkpoints on open.

FR-073 - Accessibility and release qualification

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Qualify automated control semantics and actual assistive workflows on each supported platform.

Acceptance: Automated tests supplement actual VoiceOver/Narrator/TalkBack and device release evidence.

FR-074 - Exact original-source PDF reproduction

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Recreate the supplied manga as a portable project and a lossless native PDF from original full-page artwork.

Acceptance: Preserve all source pixels, physical layout and blank pages; reject visible edits/crops/effects; avoid overwrite; distinguish source copy from publication approval.

FR-075 - Compatibility check before installation and purchase

Status: Superseded or deferred policy; current policy above controls.

Behavior: Check operating system, processor, memory, free disk and graphics against the published requirements before installing and before buying, and report ready, editing only or unsupported.

Acceptance: kyanvra-setup --check exits 0 ready, 10 editing only, 20 unsupported. Windows and Mac installers stop on unsupported and ask on editing only; the account screen offers the same check before purchase. No network use.

FR-076 - Professional activation online once, then offline

Status: Superseded or deferred policy; current policy above controls.

Behavior: Redeem the licence key online; the CMS registers the device seat and signs a device-bound KTHKP1 activation that the engine verifies with the CMS public key. The app then opens without login or network.

Acceptance: Activation is device-bound, has no expiry, cannot be swapped with a trial lease, respects the seat allowance, and is removed when an online status check reports revocation or device release.

FR-077 - Plugins and components from the Kathaka server (Hostinger VPS)

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Serve plugins, installer components and AI model files from the owner's VPS. The app installs plugins from a signed catalogue; the online installer and the app fetch model files from the server first, then the pinned upstream source.

Acceptance: Catalogue and install manifest are signed with the owner key (Ed25519, domain-separated), expire within 90 days, and pin every file by SHA-256. Traversal paths, unknown keys, tampering and expired catalogues are refused. Nothing downloaded runs code except the signed installer components.

FR-078 - Published system requirements

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Publish minimum and recommended hardware, disk, memory and graphics for Windows, macOS and Linux from one source file.

Acceptance: assets/release/system-requirements.json is the source for the checker; README, docs/system-requirements.md, setup instructions, installers and website show the same values.

FR-079 - Steady, resumable downloads with connection warnings

Status: Historical requirement retained; use current scope and qualification evidence, not archived PASS labels.

Behavior: Large downloads resume from the last saved byte after a drop or restart, retry automatically with back-off, and warn the person when the connection is unstable, stalled or too slow. The account check-in rides out short drops while the lease holds.

Acceptance: Range with If-Range (strong ETag or Last-Modified) resumes; a changed file restarts from zero; 5xx/429 and socket errors retry 2 s doubling to 60 s, up to 12 attempts; warnings after 2 drops in 10 minutes, 20 s without data, or more than 3 hours remaining.

FR-080 - Windows online installer (Visual Studio style)

Status: Superseded or deferred policy; current policy above controls.

Behavior: A small Kathaka-Online-Setup.exe checks the PC, lets the person choose components (app required; writing assistant, image generation pack, character reference pack optional) with sizes, downloads them from the Kathaka server with resume and progress, and offers Retry that continues from where it stopped.

Acceptance: Compatibility check first; signed manifest; per-file SHA-256; zip entries cannot escape the install folder; chosen AI packs are imported and verified by the app on first launch.