Listing Lift by Retreat Vacation Rentals - Comprehensive Analysis

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1. Executive Summary

Application Overview

Listing Lift by Retreat Vacation Rentals is an AI-powered web application designed to help Partner+ clients transform amateur property photos into near-professional quality images optimized for Airbnb and VRBO listings.

Core Value Proposition

> "Submit and forget—we handle everything and implement photos directly into your listing"

Brand Identity

- **App Name:** Listing Lift by Retreat Vacation Rentals
- **Brand Color:** #383D31 (dark forest green)
- **Logo:** Camera aperture spiral with house/cabin silhouette inside
- **Logo URL:** https://cdn.abacus.ai/images/b56cb40b-af3f-4aa4-b8b3-d0c4f9bd4d8c.png
- **Local Path:** /home/ubuntu/listing_lift_logos/listing_lift_logo_final.png
- **Admin Contact:** dan@retreatvr.ca

Technical Stack

Component	Technology
Database	Built-in PostgreSQL (managed by Abacus AI)
Email System	Built-in Abacus AI notification system
Image Enhancement	RouteLLM API with FLUX.2 [Pro] or GPT Image 1.5 (configurable)
File Storage	Organized structure: `/originals/` , `/enhanced/` , `/hero/`

2. User Personas

2.1 Homeowner Persona (Sarah Mitchell)

Attribute	Details
Role	Partner+ Client / Property Owner
Age Range	35-65
Technical Proficiency	Low to Medium
Primary Device	Smartphone (iPhone/Android)
Goals	Professional-looking photos without hiring a photographer; increase bookings
Pain Points	Amateur photos; doesn't know photography techniques; limited time
Behavior	Takes photos on phone; wants quick, simple process; expects guidance
Success Criteria	Enhanced photos that look professional; easy upload process; clear instructions

2.2 Admin Persona (Daniel)

Attribute	Details
Role	Retreat Vacation Rentals Administrator
Email	dan@retreatvr.ca
Goals	Efficiently process submissions; maintain quality standards; communicate with homeowners
Responsibilities	Review photos, adjust enhancement settings, approve/reject/request re-uploads, select hero photos

3. User Flows

3.1 Homeowner Submission Flow (10 Steps)

Step 1: Landing Page
- Arrives at submission URL
- Sees Listing Lift / RVR branding (#383D31)
- Reads brief service overview
- Clicks "Start Submission" button

Step 2: Contact Information
- Enters Name (required)
- Enters Email (required)
- Enters Phone Number (required)
- Enters Property Address (required)
- Enters Notes (optional - special requests/information)
- Clicks "Continue to Photos"

Step 3: General Photography Tips
- Views "Pro Basics" photography guidance
- Learns about the 5-Photo Rule
- Reviews what AI can vs. cannot fix
- Understands lighting and timing recommendations
- Clicks "Begin Uploading Photos"

Step 4: Photo Upload - Kitchen
- Sees embedded YouTube tutorial video
- Reads room-specific tips (collapsible)
- Uploads 4-8 kitchen photos
- Drag-and-drop or tap to select from gallery
- Portrait photos show gentle notice (landscape recommended)
- Clicks "Next: Bedroom"

Step 5: Photo Upload - Bedroom
- Sees bedroom tutorial video and tips
- Uploads 4-8 bedroom photos (per bedroom)
- Option to add additional bedrooms
- Clicks "Next: Living Room"

Step 6: Photo Upload - Living Spaces
- Sees living room tutorial video and tips
- Uploads 4-8 photos across two sub-categories:
- **Living Room:** Main living area, foyer, home theater, game room
- **Dining Room / Dining Area:** Formal dining, breakfast nook
- User selects sub-category for each photo
- Clicks "Next: Bathroom"

Step 7: Photo Upload - Bathroom
- Sees bathroom tutorial video and tips
- Note: Laundry Room photos can be uploaded here
- Uploads 4-8 bathroom photos (per bathroom)
- Option to add additional bathrooms
- Clicks "Next: Pool/Hot Tub"

Step 8: Photo Upload - Pool/Hot Tub (if applicable)
- Sees pool/outdoor tutorial video and tips
- Uploads 4-8 pool/hot tub photos
- Option to skip if no pool/hot tub
- Clicks "Next: Exterior"

Step 9: Photo Upload - Exterior
- Sees exterior tutorial video and tips
- Uploads 4-8 photos across three sub-categories:
- **Building Exterior:** Curb appeal, front of house, architectural shots
- **Lawn / Backyard:** Landscaping, outdoor living spaces, gardens
- **Miscellaneous:** Sheds, pathways, garages, driveways
- User selects sub-category for each photo
- Clicks "Review Submission"

Step 10: Review & Submit
- Reviews all uploaded photos by room
- Can remove or add photos
- Reviews/edits notes
- Confirms contact information
- Clicks "Submit for Enhancement"
- Sees confirmation message with submission ID

Step 11: Confirmation
- Receives on-screen confirmation
- Receives email confirmation with submission details
- Messaging: "Submit and forget—we'll handle everything!"

3.2 Admin Review Flow (9 Steps)

Step 1: Notification
- Receives email notification of new submission (to dan@retreatvr.ca)

- Email includes: Homeowner name, property address, photo count
- Clicks link to open submission in dashboard

Step 2: Dashboard — Submissions List
- Views all submissions in table/card format
- Filters by: Status (New, In Progress, Approved, Rejected, Re-upload Requested)
- Sorts by: Date, Homeowner Name, Status
- Views homeowner notes for each submission
- Clicks on submission to open detail view

Step 3: Submission Detail View
- Sees homeowner contact info, property address, and notes
- Views photos organized by room type
- Each photo shows: Original | Enhanced (side-by-side)
- Sees current enhancement settings applied to each photo

Step 4: Enhancement Controls (Per Photo)
- Enhancement settings apply to INDIVIDUAL photos
- Adjusts Enhancement Intensity: Light / Moderate / Significant
- Toggles specific enhancements:
- Sky Replacement (On/Off)
- Bed Fixing (On/Off)
- Window Recovery (On/Off)
- Perspective Correction (On/Off)
- Reflection Removal (On/Off)
- Brightness/Color Optimization (On/Off)
- Option: "Select All in Room" for batch settings
- Clicks "Re-run Enhancement" to apply new settings
- **IMPORTANT:** Re-run uses ORIGINAL photo with revised prompt (not already-enhanced version)
- Previous versions preserved for comparison

Step 5: Detail Shot Enhancement (Manual Admin Action)
- Admin can mark any photo for "detail shot" enhancement
- Provides note specifying what to focus on (e.g., "coffee table staging", "countertop arrangement")
- AI generates cropped/enhanced close-up version
- Detail shot saved alongside original enhanced version

Step 6: Hero Photo Selection
- Reviews all enhanced photos
- Clicks "Set as Hero" on chosen photo
- System generates hero-optimized version (higher resolution)
- Hero photo appears with UI badge indicator ONLY (badge NOT embedded in actual photo file)
- Hero photo included in separate `/hero/` folder in downloads

Step 7: Photo Actions (Per Photo with Select-All Option)
- **APPROVE:** Photo is good, will be used in listing
- **REJECT:** Photo doesn't add value, won't be included (homeowner informed which photos were rejected)
- **REQUEST RE-UPLOAD:** Photo could be valuable but needs to be retaken (includes notes on how to retake)
- "Select All in Room" option for batch operations
- Download options per photo or batch

Step 8: Download Options

- Downloads organized in ZIP structure:
- `/originals/` - All original uploaded photos
- `/enhanced/` - All enhanced versions
- `/hero/` - Hero-optimized photo(s)
- Individual photo download (original or enhanced)
- Full batch ZIP download
- Files optimized to ~2-3MB per image for Airbnb compatibility

Step 9: Email Notifications (Automated)

- **ON SUBMISSION:** Email to homeowner confirming receipt; Email to admin with submission details
- **ON APPROVAL:** Email to homeowner: "Your photos are ready and will be implemented into your listing by Retreat Vacation Rentals"
- **ON REJECTION (per photo):** Email includes which specific photos were rejected with reason
- **ON RE-UPLOAD REQUEST:** Email specifies which photos need to be retaken with admin notes on HOW to retake

4. Feature Specifications

4.1 Homeowner Features

ID	Feature	Description	Acceptance Criteria
F1.1	Landing Page	Branded landing page with service overview	Displays Listing Lift logo and #383D31 branding; Clear value proposition; Single CTA button; Mobile-responsive
F1.2	Contact Form	Collects homeowner information	All fields required except Notes; Email validation; Phone format validation; Notes field for special requests
F1.3	General Tips Page	Photography guidance before room uploads	5-Photo Rule explanation; AI can vs. cannot fix; Lighting recommendations; Time of day tips
F1.4	Room-Based Upload	Organized photo upload by room type	6 room categories (incl. Pool/Hot Tub); 4-8 photos per room recommended; Drag-and-drop support; Mobile camera access
F1.5	Upload Tips & Videos	Room-specific photography guidance	Embedded YouTube tutorial per room; Tips displayed per room; Collapsible/expandable; "Other rooms" guidance included
F1.6	Portrait Photo Handling	Gentle notice for portrait orientation	Shows notice: "Landscape orientation recommended"; Does NOT reject photo; Note: "Portrait is fine for capturing tall spaces"
F1.7	Photo Preview		Thumbnail grid view; Remove individual

ID	Feature	Description	Acceptance Criteria
		Preview uploaded photos before submission	photos; Reorder capability
F1.8	Submission Confirmation	Confirmation of successful submission	On-screen confirmation; Unique submission ID; Email confirmation sent
F1.9	Re-upload Capability	Submit replacement photos when requested	"Submit and forget" messaging; Access via email link; Shows which photos need replacement; Shows admin notes on how to retake; Preserves original submission

4.2 Admin Features

ID	Feature	Description	Acceptance Criteria
F2.1	Submissions Dashboard	Overview of all submissions	Table/card view toggle; Filter by status; Sort by date/name; Search functionality; View homeowner notes
F2.2	Side-by-Side Comparison	View original vs enhanced photos	Synchronized zoom/pan; Slider comparison option; Full-screen view
F2.3	Per-Photo Enhancement Controls	Adjust AI enhancement settings per photo	Intensity slider (3 levels); Individual feature toggles; Settings apply per photo; "Select All in Room" option
F2.4	Re-run Enhancement	Process photos with new settings	Uses ORIGINAL photo (not enhanced); Progress indicator; Preserves previous versions; Comparison with previous run
F2.5	Detail Shot Enhancement	Generate close-up versions	Admin marks photo for detail shot; Provides focus note; AI generates cropped/enhanced version; Manual action, not automatic
F2.6	Hero Photo Selection	Designate and generate hero photo	One-click selection; Generates hero-optimized version; UI badge indicator only (NOT in photo file); Separate /hero/ folder
F2.7	Download Options	Download photos in organized structure	ZIP structure: /originals/, /enhanced/, /hero/; Individual download option;

ID	Feature	Description	Acceptance Criteria
			Files optimized to ~2-3MB
F2.8	Per-Photo Actions	Approve, Reject, or Request Re-upload per photo	All actions are per-photo; "Select All in Room" option; Reject: photo won't be used, inform client; Re-upload: include retake instructions
F2.9	Notes System	Add internal notes to submissions	Rich text support; Timestamp and history; Admin-only visibility
F2.10	AI Model Selection	Configure image enhancement model	Admin settings to switch models; Primary: FLUX.2 [Pro] or GPT Image 1.5; Alternative options available
F2.11	Email Notifications	Automated email alerts	Submission: confirm to homeowner, notify admin; Approval: inform homeowner photos ready; Rejection: specify which photos, why; Re-upload: specify photos, how to retake

4.3 Feature Priority Matrix

Priority	Features	Rationale
P0 - Must Have	F1.1-F1.4, F1.7-F1.8, F2.1-F2.4, F2.6-F2.8, F2.11	Core functionality
P1 - Should Have	F1.3, F1.5-F1.6, F1.9, F2.5, F2.9-F2.10	Enhanced workflow
P2 - Nice to Have	Video tutorials, Address auto-complete	Polish features

5. Room Categories & Sub-Categories

Main Categories (6 Total)

Category	Sub-Categories	Description
Kitchen	None	Countertops, appliances, cooking area
Bedroom	None (multiple bedrooms supported)	Bed as focal point, night-stands, closets
Living Spaces	Living Room, Dining Room / Dining Area	Main living areas and dining spaces
Bathroom	None (multiple bathrooms supported)	Also includes Laundry Room
Pool/Hot Tub	None (optional)	Water features, surrounding deck/patio
Exterior	Building Exterior, Lawn / Backyard, Miscellaneous	All outdoor areas

Sub-Category Details

Living Spaces Sub-Categories

Sub-Category	Includes
Living Room	Main living area, family room, great room, foyer/entryway, home theater, game room
Dining Room / Dining Area	Formal dining room, breakfast nook, eat-in kitchen dining area

Exterior Sub-Categories

Sub-Category	Includes
Building Exterior	Curb appeal, front of house, architectural shots, property entrance
Lawn / Backyard	Landscaping, outdoor living spaces, gardens, patios, decks
Miscellaneous	Sheds, pathways, garages, driveways, fencing, gates, other outdoor features

"Other Rooms" Guidance

Room Type	Upload Location	Sub-Category
Foyer / Entryway	Living Spaces	Living Room
Dining Room	Living Spaces	Dining Room / Dining Area
Home Theater / Game Room	Living Spaces	Living Room
Laundry Room	Bathroom	(default)
Sheds / Storage	Exterior	Miscellaneous
Pathways / Driveways	Exterior	Miscellaneous

6. AI Enhancement Prompts

6.1 Critical Accuracy Requirements (All Prompts)

All prompts include these **CRITICAL ACCURACY REQUIREMENTS**:
- DO NOT add any windows, doors, or architectural elements that are not visible in the original photo
- DO NOT change, replace, or alter any furniture or cabinets - only enhance their existing appearance
- DO NOT add any objects, decorations, appliances, or features that are not present in the original image
- PRESERVE the exact layout, furniture placement, and architectural features of the original photo
- The enhanced photo must accurately represent the actual space - guests will visit this property

6.2 Kitchen Enhancement Prompt (Exact Wording)

```
KITCHEN ENHANCEMENT PROMPT
====
Enhance this kitchen photo for a vacation rental listing to achieve professional, "ready to cook" quality that highlights the space as an emotional anchor for guests.

⚠️ CRITICAL ACCURACY REQUIREMENTS ⚠️
* DO NOT add any windows, doors, or architectural elements that are not visible in the original photo
* DO NOT change, replace, or alter any furniture or cabinets - only enhance their existing appearance
* DO NOT add any objects, decorations, appliances, or features that are not present in the original image
* PRESERVE the exact layout, furniture placement, and architectural features of the original photo
* The enhanced photo must accurately represent the actual space - guests will visit this property

CORRECTIONS:
* Straighten all vertical lines (cabinets, door frames, appliances)
* Correct any wide-angle (0.5x) distortion on edges
* Balance window exposure-reveal exterior view if blown out
* Brighten shadow areas while preserving natural highlights
* Fix any perspective issues from camera angle

LIGHTING & COLOR:
* Correct white balance for accurate surface colors
* Enhance warmth slightly for inviting, homey atmosphere
* Ensure countertops and appliances are well-lit and visible
* Stainless steel should appear clean and neutral (not yellow or blue)
* Create even illumination across the entire space

CLARITY & DETAIL:
* Sharpen details on appliances, fixtures, and hardware
* Ensure any branded elements (coffee labels, appliances) remain legible
* Enhance texture visibility on countertops and backsplash
* Do not scramble or distort any text in the image
* Polish appearance of surfaces without artificial shine

PRESERVE (CRITICAL - Accurate Representation):
* Maintain all original objects and layout EXACTLY
* Keep natural shadows for depth and dimension
* Do not alter room dimensions or proportions
* Preserve authentic material textures (granite, wood, tile)
* Keep the "lived-in but clean" vacation rental feel
* Do not move, add, or remove ANY objects unless specifically stated in additional enhancement notes
* NEVER add windows, doors, or openings that don't exist
* NEVER replace or swap out furniture, appliances, or fixtures

OUTPUT QUALITY: Professional vacation rental standard with warm, inviting "ready to cook" atmosphere that signals quality amenities. Must accurately represent the actual space to avoid guest complaints.
```

6.3 Bedroom Enhancement Prompt (Exact Wording)

```
BEDROOM ENHANCEMENT PROMPT
====
Enhance this bedroom photo for a vacation rental listing to achieve luxury hotel qual-
ity that signals comfort and premium value.

⚠️ CRITICAL ACCURACY REQUIREMENTS ⚠️
* DO NOT add any windows, doors, or architectural elements that are not visible in
the original photo
* DO NOT change, replace, or alter any furniture - only enhance the existing
furniture's appearance
* DO NOT add any objects, decorations, or features that are not present in the origin-
al image
* PRESERVE the exact layout, furniture placement, and architectural features of the or
iginal photo
* The enhanced photo must accurately represent the actual space - guests will visit th
is property

CORRECTIONS:
* Straighten any tilted or crooked framing for visual comfort
* Correct perspective if shot was angled up or down
* Smooth any wrinkles in bed linens for "crisp and clean" appearance
* Remove photographer reflection if visible in any mirrors or glass
* Fix wide-angle distortion on edges

BED & LINENS:
* Simulate high-end linen textures-crisp, fresh, inviting
* Smooth wrinkles while maintaining natural fabric appearance
* Enhance whites in linens to appear bright and clean
* Preserve pillow arrangement and layering (luxury signals)
* Avoid plastic or artificial texture appearance
* KEEP THE EXACT SAME BED FRAME, HEADBOARD, AND BEDDING STYLE

ATMOSPHERE:
* Create warm, cozy, inviting ambiance
* Soft, diffused lighting appearance
* Warm neutral tones for comfortable feeling
* Balance between bright and cozy

LIGHTING:
* Brighten dark corners and shadow areas
* Balance window light with room interior
* Ensure linens appear bright and fresh (not dingy)
* Recover window view if overexposed

PRESERVE (CRITICAL - Accurate Representation):
* Maintain bed styling and pillow arrangement EXACTLY
* Keep natural fabric textures authentic
* Do not add or remove any objects unless specifically stated in additional enhance-
ment notes
* Preserve the "luxury" signals (pillow count, layers, throws)
* Maintain accurate room proportions and layout
* Keep all furniture in original positions
* NEVER add windows, doors, or openings that don't exist
* NEVER replace or swap out furniture, bed frames, or fixtures
* NEVER change the style, color, or design of any furniture

OUTPUT QUALITY: Luxury hotel standard with high-ADR appearance- the kind of bedroom th
at makes guests excited to book. Must accurately represent the actual space.
```

6.4 Living Room Enhancement Prompt (Exact Wording)

```
LIVING ROOM ENHANCEMENT PROMPT
====
Enhance this living room photo for a vacation rental listing to maximize perceived spa
ciousness and create an inviting, comfortable atmosphere.

⚠️ CRITICAL ACCURACY REQUIREMENTS ⚠️
* DO NOT add any windows, doors, or architectural elements that are not visible in
the original photo
* DO NOT change, replace, or alter any furniture - only enhance the existing
furniture's appearance
* DO NOT add any objects, decorations, or features that are not present in the origin-
al image
* PRESERVE the exact layout, furniture placement, and architectural features of the or
iginal photo
* The enhanced photo must accurately represent the actual space - guests will visit th
is property

CORRECTIONS:
* Straighten all vertical lines (walls, door frames, windows, furniture edges)
* Correct wide-angle edge distortion
* Fix any perspective tilt from camera angle
* Remove photographer reflection from any glass, mirrors, or TV screens
* Ensure "congruent lines" for visual comfort

SPACIOUSNESS:
* Brighten to emphasize openness and volume
* Enhance natural light from windows
* Recover exterior views through any blown-out windows
* Ensure all visible walls are properly lit
* Create sense of depth and flow

LIGHTING:
* Balance bright windows with interior exposure (HDR effect)
* Reveal details in shadow areas without losing contrast
* Natural, welcoming illumination throughout
* Avoid harsh shadows or overly flat lighting

COLOR & ATMOSPHERE:
* Warm, inviting color temperature
* Accurate furniture and decor colors
* Subtle vibrancy enhancement without oversaturation
* Cozy yet spacious feeling

PRESERVE (CRITICAL - Accurate Representation):
* Maintain sense of depth and "corner-to-corner" volume
* Keep natural flow and furniture layout EXACTLY
* Do not alter furniture arrangement or positions
* Maintain realistic proportions and room dimensions
* Preserve focal points (fireplace, view, TV area)
* Do not add or remove any objects unless specifically stated in additional enhance-
ment notes
* NEVER add windows, doors, or openings that don't exist
* NEVER replace or swap out sofas, chairs, tables, or any furniture
* NEVER change the style, color, or design of any furniture or decor

OUTPUT QUALITY: Spacious, inviting living space with "visual comfort" - a room guests
can immediately imagine relaxing in. Must accurately represent the actual space.
```

6.5 Dining Room / Dining Area Enhancement Prompt (Exact Wording)

```
DINING ROOM / DINING AREA ENHANCEMENT PROMPT
====
Enhance this dining area photo for a vacation rental listing to create an inviting spa
ce where guests can imagine gathering for meals.

⚠ CRITICAL ACCURACY REQUIREMENTS ⚠
* DO NOT add any windows, doors, or architectural elements that are not visible in
the original photo
* DO NOT change, replace, or alter any furniture - only enhance the existing
furniture's appearance
* DO NOT add any objects, decorations, or features that are not present in the origin-
al image
* PRESERVE the exact layout, furniture placement, and architectural features of the or
iginal photo
* The enhanced photo must accurately represent the actual space - guests will visit th
is property

CORRECTIONS:
* Straighten all vertical lines (walls, door frames, windows)
* Correct wide-angle edge distortion
* Fix any perspective tilt from camera angle
* Remove photographer reflection from any glass, mirrors, or surfaces
* Ensure table surface appears level and properly aligned

TABLE & SEATING:
* Enhance the appearance of table surface (wood grain, polish)
* Ensure chairs appear clean and well-maintained
* Preserve exact chair count and arrangement
* Keep any table settings or centerpieces as-is
* KEEP THE EXACT SAME TABLE, CHAIRS, AND DINING SET

LIGHTING:
* Balance bright windows with interior exposure
* Ensure table surface is well-lit and inviting
* Enhance any chandelier or pendant lighting naturally
* Create warm, welcoming ambiance for dining

COLOR & ATMOSPHERE:
* Warm, inviting color temperature
* Accurate furniture and decor colors
* Subtle enhancement without oversaturation
* Create "gathering place" feeling

PRESERVE (CRITICAL - Accurate Representation):
* Maintain exact table and chair positions
* Keep natural flow and furniture layout EXACTLY
* Do not alter seating arrangement or capacity
* Maintain realistic proportions and room dimensions
* Preserve any special features (chandelier, hutch, artwork)
* Do not add or remove any objects unless specifically stated
* NEVER add windows, doors, or openings that don't exist
* NEVER replace or swap out the dining table, chairs, or fixtures
* NEVER add place settings, dishes, or food that aren't present

OUTPUT QUALITY: Warm, inviting dining space that makes guests excited to share meals t
ogether during their stay. Must accurately represent the actual space.
```

6.6 Bathroom Enhancement Prompt (Exact Wording)

```
BATHROOM ENHANCEMENT PROMPT
====
Enhance this bathroom photo for a vacation rental listing to achieve spa-quality, "cri
sp and clean" appearance that signals cleanliness.

⚠ CRITICAL ACCURACY REQUIREMENTS ⚠
* DO NOT add any windows, doors, or architectural elements that are not visible in
the original photo
* DO NOT change, replace, or alter any fixtures - only enhance their existing appear-
ance
* DO NOT add any objects, decorations, or features that are not present in the origin-
al image
* PRESERVE the exact layout, fixture placement, and architectural features of the ori-
ginal photo
* The enhanced photo must accurately represent the actual space guests will visit
this property
* EXCEPTION: Towels and toilet paper may be added if missing, as these are consumable
amenities

CORRECTIONS:
* Correct any wide-angle distortion (especially if 0.5x was used)
* Straighten vertical lines (walls, door frames, shower doors)
* Remove photographer reflection from mirrors and glass surfaces
* Fix perspective issues from tight-space shooting

AMENITIES (ONLY EXCEPTION TO "NO ADDITIONS" RULE):
* If towels are missing or sparse, add fresh white towels naturally
* If toilet paper is not visible, add it appropriately
* Ensure amenities appear ready for guests
* DO NOT add any other objects beyond towels and toilet paper

CLEANLINESS & FRESHNESS:
* Bright, fresh, spa-like appearance
* Sparkling clean surfaces throughout
* Crisp white towels and fixtures
* Streak-free mirrors and glass
* Clean tile and grout appearance

LIGHTING:
* Bright, even illumination throughout
* Eliminate dark corners and shadows
* Enhance natural light if present
* Clean, fresh lighting mood (not yellow or harsh)

COLOR:
* Accurate white balance for tiles and fixtures
* Bright whites without yellow or blue cast
* Natural material colors preserved
* Fresh, clean color palette

CLARITY:
* Sharp detail on fixtures and hardware
* Clean, polished appearance on all surfaces
* Clear reflection in mirrors (minus photographer)

PRESERVE (CRITICAL - Accurate Representation):
* Keep ALL fixtures exactly where they are (toilet, sink, shower, tub)
* Maintain exact flooring material and pattern
* Do not alter bathroom layout in ANY way
* Preserve accurate room dimensions
* Keep all tiles, grout, and surfaces accurate to original
* Do not add or remove any fixtures unless specifically stated in additional enhance-
```

```
ment notes
* NEVER add windows, doors, or openings that don't exist
* NEVER replace or swap out the vanity, toilet, tub, or shower
* NEVER change the style or design of any fixtures
* Accurate representation is critical to avoid guest complaints about misrepresenta-
tion

OUTPUT QUALITY: Spa-quality, "crisp and clean" bathroom that signals attention to de-
tail and guest comfort. Must accurately represent the actual space.
```

6.7 Pool/Hot Tub Enhancement Prompt (Exact Wording)

```
POOL/HOT TUB ENHANCEMENT PROMPT
====
Enhance this pool or hot tub photo for a vacation rental listing to create a compel-
ling, "leisure-focused" image that drives bookings.

⚠ CRITICAL ACCURACY REQUIREMENTS ⚠
✳ DO NOT add any structures, features, or architectural elements that are not visible
in the original photo
✳ DO NOT change the size, shape, or style of the pool/hot tub
✳ DO NOT add any objects, furniture, or features that are not present in the original
image
✳ PRESERVE the exact layout and surrounding features of the original photo
✳ The enhanced photo must accurately represent the actual amenity - guests will visit
this property
✳ Sky replacement IS allowed as it does not misrepresent the property itself

WATER ENHANCEMENT:
✳ Crystal clear, inviting water appearance
✳ Sparkling water effect with natural highlights
✳ Enhance blue/turquoise tones naturally
✳ Remove any debris or imperfections in water

SKY ENHANCEMENT (ALLOWED):
✳ If sky is overcast, cloudy, or gray: replace with pleasant blue sky
✳ Option: Convert to golden hour/sunset mood if appropriate
✳ Option: Create twilight look with warm lights visible
✳ Natural cloud formations if adding clouds
✳ Ensure lighting direction matches sun position

CORRECTIONS:
✳ Straighten any tilted framing
✳ Correct wide-angle distortion on edges
✳ Fix perspective issues

SURROUNDINGS:
✳ Enhance deck/patio appearance (but do not change materials)
✳ Brighten existing outdoor furniture and staging
✳ Well-lit pool area and features
✳ Clean, maintained appearance
✳ DO NOT add furniture, umbrellas, or loungers that aren't there

ATMOSPHERE:
* Leisure-focused, vacation vibes
* Bright, inviting daytime OR warm, romantic evening
* Emphasize relaxation and enjoyment

PRESERVE (CRITICAL - Accurate Representation):
* Accurate representation of pool/hot tub size and shape EXACTLY
* Real surrounding features and landscaping
* True proportions and scale
* Actual deck/patio materials
* Do not add features that don't exist (no adding pools, waterfalls, fire pits, etc.)
✳ Do not add or remove any objects unless specifically stated in additional enhance-
ment notes
✳ NEVER add pool floats, furniture, or staging items that aren't present
* NEVER alter the pool/hot tub dimensions or surrounding hardscape
* NEVER add landscaping features that don't exist

OUTPUT QUALITY: High-conversion "must-book" pool/hot tub shot that makes viewers ima-
gine themselves relaxing there. Must accurately represent the actual amenity.
```

6.8 Building Exterior Enhancement Prompt (Exact Wording)

```
BUILDING EXTERIOR ENHANCEMENT PROMPT
====
Enhance this building exterior photo for a vacation rental listing to create a compel-
ling, "curiosity-generating" curb appeal image that drives clicks.

⚠ CRITICAL ACCURACY REQUIREMENTS ⚠
⚹ DO NOT add any windows, doors, or architectural elements that are not visible in
the original photo
⚹ DO NOT change the structure, style, or architectural details of the building
⚹ DO NOT add any objects, landscaping, or features that are not present in the origin-
al image
⚹ PRESERVE the exact appearance and architectural features of the original photo
⚹ The enhanced photo must accurately represent the actual property - guests will
visit this property
⚹ Sky replacement IS allowed as it does not misrepresent the property itself

SKY ENHANCEMENT (ALLOWED):
⚹ If sky is overcast, cloudy, or gray: replace with pleasant blue sky
⚹ Option: Convert to golden hour/sunset mood if appropriate for the shot
⚹ Option: Create twilight look with warm interior lights visible
⚹ Natural cloud formations if adding clouds
⚹ Ensure lighting direction matches sun position in scene

CORRECTIONS:
⚹ Straighten any tilted framing
⚹ Correct wide-angle distortion on edges
⚹ Enhance structure to appear imposing (complement knee-height shooting)
⚹ Fix perspective issues

BUILDING & ARCHITECTURE:
⚹ Enhance the appearance of existing siding, brick, stone, etc.
⚹ Brighten and clean the appearance of windows and doors
⚹ Ensure the building looks well-maintained
⚹ DO NOT change any architectural features or add/remove elements

LANDSCAPING (ENHANCEMENT ONLY):
⚹ Enhance green grass vibrancy naturally (not neon)
⚹ Brighten existing foliage colors appropriately for season
⚹ DO NOT add landscaping features that don't exist
* DO NOT add trees, shrubs, or flowers that aren't present

LIGHTING MOOD OPTIONS (apply based on original):
⚹ DAYTIME: Bright, clear, inviting, blue sky
⚹ SUNSET: Warm golden hour glow, dramatic colors
⚹ TWILIGHT: Dramatic sky with warm interior lights visible

PRESERVE (CRITICAL - Accurate Representation):
⚹ Accurate representation of actual property structure
⚹ Real architectural details exactly as shown
⚹ True proportions and scale
⚹ Actual window and door placement
⚹ Do not add features that don't exist (no adding porches, dormers, etc.)
* Do not add or remove any objects unless specifically stated
* NEVER add windows, doors, or architectural features that don't exist
⚹ NEVER change the building's appearance, color, or style
* NEVER add landscaping, pathways, or exterior features not present

OUTPUT QUALITY: High-conversion "curiosity-generating" exterior that makes viewers
want to click and learn more about the property. Must accurately represent the actual
property.
```

6.9 Lawn / Backyard Enhancement Prompt (Exact Wording)

```
LAWN / BACKYARD ENHANCEMENT PROMPT
====
Enhance this lawn or backyard photo for a vacation rental listing to showcase the out-
door living space as an extension of the home.

⚠️ CRITICAL ACCURACY REQUIREMENTS ⚠️
* DO NOT add any structures, features, or landscaping elements that are not visible
in the original photo
* DO NOT add pools, hot tubs, fire pits, pergolas, or outdoor kitchens that don't ex-
ist
* DO NOT add any furniture, decorations, or features that are not present in the
original image
* PRESERVE the exact layout and features of the original photo
* The enhanced photo must accurately represent the actual outdoor space - guests will
visit this property
* Sky replacement IS allowed as it does not misrepresent the property itself

SKY ENHANCEMENT (ALLOWED):
* If sky is overcast, cloudy, or gray: replace with pleasant blue sky
* Option: Convert to golden hour/sunset mood if appropriate
* Natural cloud formations if adding clouds
* Ensure lighting direction matches sun position

CORRECTIONS:
* Straighten any tilted framing
* Correct wide-angle distortion on edges
* Fix perspective issues

LAWN & LANDSCAPING (ENHANCEMENT ONLY):
* Enhance green grass vibrancy naturally (not neon or artificial)
* Brighten existing foliage and flower colors appropriately
* Make existing landscaping look healthy and well-maintained
* DO NOT add trees, shrubs, flowers, or gardens that aren't present
* DO NOT change the layout or design of the landscaping

OUTDOOR LIVING SPACES:
* Enhance existing patio/deck surfaces (but don't change materials)
* Brighten existing outdoor furniture
* Make spaces look clean and inviting
* DO NOT add furniture, umbrellas, or staging items that aren't there

ATMOSPHERE:
* Create inviting, relaxing outdoor vibes
* Emphasize space for entertaining or relaxing
* Bright, welcoming daytime OR warm evening ambiance

PRESERVE (CRITICAL - Accurate Representation):
* Accurate representation of yard size and shape
* Real landscaping features and layout exactly as shown
* True proportions and scale of the space
* Actual outdoor features and amenities only
* Do not add features that don't exist
* NEVER add pools, fire pits, water features, or structures not present
* NEVER add outdoor furniture or staging that isn't there
* NEVER expand the apparent size of the yard

OUTPUT QUALITY: Inviting outdoor living space that makes guests excited about
spending time outdoors at the property. Must accurately represent the actual space.
```

6.10 Miscellaneous Exterior Enhancement Prompt (Exact Wording)

```
MISCELLANEOUS EXTERIOR ENHANCEMENT PROMPT
====
Enhance this exterior photo for a vacation rental listing to present secondary
outdoor features in their best light.

⚠ CRITICAL ACCURACY REQUIREMENTS ⚠
* DO NOT add any structures, features, or elements that are not visible in the origin-
al photo
* DO NOT change, upgrade, or alter any existing structures or features
* DO NOT add any objects, landscaping, or details that are not present in the
original image
* PRESERVE the exact appearance and features of the original photo
* The enhanced photo must accurately represent the actual feature - guests will visit
this property
* Sky replacement IS allowed as it does not misrepresent the property itself

SKY ENHANCEMENT (ALLOWED):
* If sky is overcast, cloudy, or gray: replace with pleasant blue sky
* Natural cloud formations if adding clouds
* Ensure lighting direction matches sun position

CORRECTIONS:
* Straighten any tilted framing
* Correct wide-angle distortion on edges
* Fix perspective issues

STRUCTURES & FEATURES:
* Enhance the appearance of existing structures (sheds, garages, etc.)
* Make surfaces look clean and well-maintained
* Brighten and enhance existing materials (wood, stone, concrete)
* DO NOT change the style, color, or design of any structures

PATHWAYS & SURFACES:
* Enhance driveways, walkways, and pathways to look clean
* Make existing surfaces look well-maintained
* DO NOT change materials or add landscaping borders not present

LANDSCAPING (ENHANCEMENT ONLY):
* Enhance existing greenery and plantings
* DO NOT add landscaping that isn't there

PRESERVE (CRITICAL - Accurate Representation):
* Accurate representation of all structures and features
* Real materials and finishes exactly as shown
* True proportions and scale
* Actual condition (improved but honest representation)
* Do not add features that don't exist
* NEVER upgrade or modernize the appearance of structures
* NEVER add pathways, lighting, or features not present

OUTPUT QUALITY: Clean, well-maintained appearance that accurately represents
secondary outdoor features guests will encounter. Must accurately represent the
actual property.
```

6.11 Enhancement Intensity Presets

Light Enhancement (For Good Source Images)

```
Apply subtle enhancements only:
- Minor exposure adjustment (+/- 0.5 stops maximum)
- Gentle white balance correction
- Light shadow recovery
- Subtle sharpening
- Minor vertical line straightening if needed
Maintain 95% fidelity to original image.
Do not apply sky replacement or major corrections.

⚠ ACCURACY REQUIREMENTS STILL APPLY:
- DO NOT add any elements not present in the original
- DO NOT change or replace any furniture or fixtures
- PRESERVE exact layout and architectural features
```

Moderate Enhancement (For Average Source Images)

```
Apply moderate corrections:
- Exposure correction (+/- 1 stop)
- White balance normalization
- Shadow/highlight recovery
- Perspective and distortion correction
- Bed linen smoothing if needed
- Reflection removal if present
- Color vibrancy enhancement
Maintain 85% fidelity to original image.
Apply sky replacement only if sky is significantly overcast.

⚠ ACCURACY REQUIREMENTS STILL APPLY:
- DO NOT add any windows, doors, or architectural elements not visible
- DO NOT change, replace, or alter any furniture
- DO NOT add any objects or features not present
- PRESERVE exact layout and architectural features
```

Significant Enhancement (For Challenging Source Images)

```
Apply comprehensive corrections:
- Major exposure rebalancing
- Full white balance correction
- HDR-style shadow/highlight recovery
- Sky replacement if overcast or blown out
- Blown-out window recovery
- Perspective, angle, and distortion correction
- Bed smoothing and texture enhancement
- Reflection removal
- Resolution/sharpness enhancement
- Add missing amenities ONLY: towels and toilet paper in bathrooms

Note: If original image lacks basic visibility or has severe motion blur, flag for re-
upload rather than attempting enhancement.

⚠ CRITICAL ACCURACY REQUIREMENTS STILL APPLY - EVEN AT SIGNIFICANT LEVEL:
- DO NOT add any windows, doors, or architectural elements that don't exist
- DO NOT change, replace, or alter any furniture - enhancement only
- DO NOT add any objects, decorations, or features not present
(EXCEPTION: towels and toilet paper in bathrooms)
- PRESERVE the exact layout, furniture placement, and architectural features
- The enhanced photo must accurately represent the actual space
- Guests WILL visit this property - do not misrepresent what they will see
```

6.12 Detail Shot Enhancement Prompt (Exact Wording)

```
DETAIL SHOT ENHANCEMENT PROMPT
====
Create a close-up detail shot from this photo, focusing on: [ADMIN NOTE]

⚠️ CRITICAL ACCURACY REQUIREMENTS ⚠️
- DO NOT add any elements, decorations, or features not visible in the original
- DO NOT change, replace, or alter the subject being highlighted
- PRESERVE the exact appearance of the featured element
- The detail shot must accurately represent the actual feature

CROPPING:
- Crop to focus tightly on the specified subject
- Maintain rule of thirds composition
- Ensure subject fills 60-80% of the frame

ENHANCEMENT:
- Maximum sharpness and clarity on the focal subject
- Soft background blur if appropriate (simulate f/2.8 depth of field)
- Enhance textures and details of the subject
- DO NOT alter or change the subject itself

COLOR & LIGHTING:
- Warm, inviting tones
- Well-lit subject area
- Remove distracting shadows

PRESERVE (CRITICAL):
- Natural appearance of subject exactly as it exists
- Accurate colors and textures
- Authentic representation - do not "improve" or change the item
- The featured element must look exactly as guests will see it

OUTPUT: Professional "personality shot" highlighting the specified detail, suitable fo
r vacation rental listing to showcase property features. Must accurately represent
the actual feature.
```

7. UI/UX Design Specifications

7.1 Homeowner Interface Pages

Page 1: Landing Page

- Clean, professional design with #383D31 brand color
- Listing Lift logo (camera aperture with house silhouette)
- Clear value proposition: "Submit and forget—we handle everything"
- Mobile-first responsive design
- Single CTA button

Page 2: Contact Information

- Step 1 of 9 indicator
- Fields: Full Name, Email Address, Phone Number, Property Address (with City, Province/State, Postal/ZIP), Notes (Optional)
- "Continue to Tips" button

Page 3: General Photography Tips

- Step 2 of 9 indicator
- The 5-Photo Rule explanation
- What AI CAN Fix list
- What AI CANNOT Fix (Reshoot Required) list
- Lighting Tips
- "Begin Uploading Photos" button

Pages 4-9: Room Upload Pages

- Embedded YouTube tutorial video per room
- Collapsible room-specific tips
- Upload area (4-8 photos recommended)
- Drag & drop or tap to select
- Supported formats: HEIC, JPEG, PNG, WebP
- Portrait photo notice (non-blocking)
- Navigation: Back / Next buttons

Page 10: Review & Submit

- All photos organized by room
- Edit/remove capability
- Contact info confirmation
- "Submit for Enhancement" button

Page 11: Confirmation

- On-screen confirmation with submission ID
- Email confirmation sent

7.2 Tutorial Video Links by Room

Room	YouTube Tutorial
Living Room	https://youtu.be/QJrm6URR5OA
Kitchen	https://youtu.be/g1HYNpO2ntk
Bedroom	https://youtu.be/xGbUSzszzQY
Bathroom	https://youtu.be/fffuvXLqVDg
Outdoor/Curb	https://youtu.be/_x4f59c5KSs
Pool	https://youtu.be/T_y8tAsg31I

7.3 Portrait Photo Notice (Non-Blocking)

- Title: "Landscape Orientation Recommended"
- Message: Current photo is in portrait (vertical) orientation. Landscape (horizontal) photos generally work best for vacation rental listings.
- Note: Portrait can work well for capturing tall spaces (staircases, high ceilings) and showing vertical features.

• Buttons: [Keep Photo] [Replace with Landscape]

7.4 Admin Dashboard Interface

Submissions List View

• Table/card view toggle

• Filters: Status (New, In Progress, Approved, Rejected, Re-upload Requested)

• Sort: Date, Homeowner Name, Status

• Search functionality

• Homeowner notes visible

Submission Detail View

• Contact info panel (name, email, phone)

• Property info (address)

• Submission date and photo count

• Homeowner notes display

• AI Model Settings (Current: FLUX.2 [Pro] with Edit option)

Per-Photo Controls

• Original | Enhanced side-by-side view

• Enhancement Settings panel:

• Intensity: Light / Moderate / Significant

• Toggles: Sky Replacement, Window Recovery, Brightness, Bed Fixing, Perspective, Reflection

• Additional Notes field

• Re-run Enhancement button (uses original photo)

• Version History display

• Photo Actions: Approve / Reject / Request Re-upload

• Rejection/Re-upload Notes field

• Set Hero button

• Detail Shot button

• Download button

• Full View button

Batch Actions

• Select All in Room option

• Download All (ZIP) with structure: /originals/, /enhanced/, /hero/

• Send Notification Email

7.5 Mobile Considerations

Aspect	Implementation
Touch Targets	Minimum 44x44px for all buttons and interactive elements
Photo Upload	Direct camera access + gallery selection
File Formats	HEIC, JPEG, PNG, WebP (all smartphone formats)
Form Fields	Full-width inputs, appropriate keyboard types (email, tel)
Navigation	Sticky bottom navigation for multi-step form
Image Preview	Swipeable gallery with pinch-to-zoom
Progress Saving	Auto-save progress to prevent data loss
Offline Handling	Queue uploads when connection restored

8. Technical Architecture

8.1 System Components

Component	Technology	Purpose
Frontend	Web Application	Homeowner submission form, Admin dashboard
Backend	Abacus AI Platform	Business logic, API endpoints
Database	PostgreSQL (Abacus AI managed)	Submissions, photos, settings
Image Processing	RouteLLM API	AI enhancement via FLUX.2 [Pro] or GPT Image 1.5
Email	Abacus AI Notification System	Automated notifications
File Storage	Organized folder structure	/originals/, /enhanced/, /hero/

8.2 Image Processing Pipeline

1. **Upload** → Original photo stored in `/originals/`
2. **Initial Enhancement** → AI processes with room-specific prompt

3. **Admin Review** → Side-by-side comparison

4. **Re-run (if needed)** → Uses ORIGINAL photo with revised settings

5. **Hero Generation** → Higher resolution version for selected hero

6. **Download** → ZIP with organized folder structure

8.3 File Organization

```
/submissions/{submission_id}/
├── originals/
│   ├── kitchen_001.jpg
│   ├── kitchen_002.jpg
│   ├── bedroom_001.jpg
│   └── ...
├── enhanced/
│   ├── kitchen_001_v1.jpg
│   ├── kitchen_001_v2.jpg (if re-run)
│   ├── bedroom_001_v1.jpg
│   └── ...
└── hero/
    └── hero_kitchen_001.jpg
```

8.4 Image Specifications

Specification	Value
Output Size	~2-3MB per image (Airbnb optimized)
Supported Input Formats	HEIC, JPEG, PNG, WebP
Orientation	Landscape preferred (portrait accepted with notice)
Hero Resolution	Higher than standard enhanced

9. Data Model

9.1 Core Entities

Submission

Field	Type	Description
id	UUID	Unique submission identifier
submission_number	String	Human-readable ID (e.g., 2026-0205-001)
homeowner_name	String	Full name
homeowner_email	String	Email address
homeowner_phone	String	Phone number
property_address	String	Full property address
notes	Text	Optional homeowner notes
status	Enum	New, In Progress, Approved, Rejected, Re-upload Requested
created_at	Timestamp	Submission date
updated_at	Timestamp	Last modification

Photo

Field	Type	Description
id	UUID	Unique photo identifier
submission_id	UUID	Foreign key to Submission
room_category	Enum	Kitchen, Bedroom, Living Spaces, Bathroom, Pool/Hot Tub, Exterior
sub_category	String	Living Room, Dining Room, Building Exterior, etc.
original_path	String	Path to original file
enhanced_path	String	Path to current enhanced version
is_hero	Boolean	Hero photo flag
status	Enum	Pending, Enhanced, Approved, Rejected, Re-upload Requested
enhancement_settings	JSON	Current settings applied
admin_notes	Text	Internal notes
rejection_reason	Text	Reason if rejected
reupload_instructions	Text	Instructions if re-upload requested

EnhancementVersion

Field	Type	Description
id	UUID	Unique version identifier
photo_id	UUID	Foreign key to Photo
version_number	Integer	Version sequence
enhanced_path	String	Path to this version
settings_applied	JSON	Settings used for this version
created_at	Timestamp	When generated

EnhancementSettings

Field	Type	Description
intensity	Enum	Light, Moderate, Significant
sky_replacement	Boolean	On/Off
bed_fixing	Boolean	On/Off
window_recovery	Boolean	On/Off
perspective_correction	Boolean	On/Off
reflection_removal	Boolean	On/Off
brightness_optimization	Boolean	On/Off
additional_notes	Text	Custom instructions

10. Testing Plan

10.1 Homeowner Flow Testing

Test Case	Description	Expected Result
TC-H1	Landing page loads	Branding, logo, CTA visible
TC-H2	Contact form validation	Required fields enforced, email/phone validated
TC-H3	Photo upload - drag & drop	Photos accepted, thumbnails displayed
TC-H4	Photo upload - mobile camera	Camera access works, photos captured
TC-H5	Portrait photo notice	Non-blocking notice displayed
TC-H6	Sub-category selection	User can select sub-category for Living Spaces and Exterior
TC-H7	Multiple bedrooms/bathrooms	Can add additional rooms
TC-H8	Skip Pool/Hot Tub	Can skip if not applicable
TC-H9	Review & edit	Can remove/add photos before submit
TC-H10	Submission confirmation	ID displayed, email sent
TC-H11	Re-upload flow	Access via email link, shows specific photos needed

10.2 Admin Flow Testing

Test Case	Description	Expected Result
TC-A1	Dashboard loads	All submissions visible
TC-A2	Filter by status	Correct filtering
TC-A3	Sort by date/name	Correct sorting
TC-A4	Side-by-side comparison	Original and enhanced visible
TC-A5	Enhancement intensity change	Settings update per photo
TC-A6	Toggle individual features	Each toggle works independently
TC-A7	Re-run enhancement	Uses original photo, preserves versions
TC-A8	Select All in Room	Batch settings applied
TC-A9	Hero photo selection	Badge appears, hero folder populated
TC-A10	Detail shot creation	Cropped version generated
TC-A11	Approve photo	Status updated
TC-A12	Reject photo	Notes required, status updated
TC-A13	Request re-upload	Instructions required, email sent
TC-A14	Download ZIP	Correct folder structure
TC-A15	AI model switch	Enhancement uses selected model

10.3 Email Notification Testing

Test Case	Description	Expected Result
TC-E1	Submission confirmation to homeowner	Email received with details
TC-E2	Submission notification to admin	Email to dan@retreatvr.ca
TC-E3	Approval notification	Homeowner informed photos ready
TC-E4	Rejection notification	Specific photos and reasons listed
TC-E5	Re-upload request	Specific photos and instructions listed

10.4 AI Enhancement Testing

Test Case	Description	Expected Result
TC-AI1	Kitchen enhancement	Prompt applied correctly
TC-AI2	Bedroom enhancement	Bed smoothing works
TC-AI3	Living Room enhancement	Spaciousness enhanced
TC-AI4	Dining Room enhancement	Correct sub-category prompt
TC-AI5	Bathroom enhancement	Towels/TP added if missing
TC-AI6	Pool/Hot Tub enhancement	Sky replacement works
TC-AI7	Building Exterior enhancement	Curb appeal enhanced
TC-AI8	Lawn/Backyard enhancement	Landscaping enhanced
TC-AI9	Miscellaneous Exterior	Secondary features enhanced
TC-AI10	Light intensity	Subtle changes only
TC-AI11	Moderate intensity	Standard corrections
TC-AI12	Significant intensity	Comprehensive corrections
TC-AI13	Accuracy preservation	No furniture/layout changes

11. Research Document Insights

11.1 Key Statistics from Research

Metric	Impact
Professional photos	20-28% higher revenue
Quality images	40% higher revenue for listings
Verified professional photos	17.51% increase in bookings
First 5 photos	80% of guests decide based on these alone

11.2 The 5-Second Rule

Prospective guests decide to engage with or abandon a listing within a 5-second psychological window. Superior visuals signal quality to the guest while simultaneously signaling relevance to the search algorithm.

11.3 What AI CAN Fix (Proven Capabilities)

- Dark/underexposed photos → AI brightens
- Tilted/crooked framing → AI straightens
- Overcast skies → AI replaces with blue sky
- Blown-out windows → AI recovers exterior view
- Wrinkly bed linens → AI smooths
- Wide-angle distortion → AI corrects
- Photographer reflections → AI removes
- Low resolution → AI enhances sharpness
- Missing towels/toilet paper → AI can add

11.4 What AI CANNOT Fix (Reshoot Required)

- Blurry/motion blur photos
- Extremely dark photos (no visible details)
- Bad composition/wrong angle
- Complex clutter (physically remove before shooting)
- Severe high-ISO grain/noise
- Fundamentally bad composition

11.5 The 5-Photo Rule (First 5 Photos Strategy)

1. **Hero Photo:** Most attractive amenity or "curiosity-generating" exterior
2. **Living Room:** Shows comfort and spaciousness
3. **Master Bedroom:** Emphasizes luxury (pillows, linens)
4. **Kitchen:** Ready-to-cook appeal
5. **Key Amenity:** Pool, outdoor space, bathroom, or unique feature

11.6 Camera Height Guidelines

Room Type	Recommended Height	Notes
Living Room	24-30 inches (knee to chest height)	Corner-to-corner captures three walls
Kitchen	6 inches above counter (chest height)	Shows counter space; surface must be visible
Bedroom	36-48 inches	Ensure clearance past foot of bed
Bathroom	Waist height	Shows countertop and sink clearly
Exteriors	Knee height	Makes structure appear more imposing

11.7 ISO Ceiling Rule

Keep ISO under 800. High-ISO noise creates "unfixable noise"—digital grain that occurs when a camera sensor lacks sufficient information.

11.8 Volume Strategy

- Professional photographers capture ~200 shots to yield 12-25 "keepers" (20:1 ratio)
- Homeowners should: Capture many (100-200+) → Select best 1-3 per space (15-25 total) → Submit only curated selection to AI

---

12. Opportunities for Improvement

12.1 User Experience Enhancements

1. **Progress Indicator Enhancement**
   - Add estimated time remaining for enhancement processing
   - Show real-time status updates during AI processing

2. **Smart Photo Recommendations**
   - AI-powered analysis of uploaded photos to suggest which ones might need re-shooting before submission
   - Automatic detection of blurry, too-dark, or poorly composed photos with immediate feedback

3. **Guided Photo Capture Mode**
   - In-app camera with overlay guides showing optimal framing
   - Real-time tips based on detected room type

4. **Before/After Slider for Homeowners**
   - Allow homeowners to see enhancement previews before final submission
   - Build trust and set expectations

5. **Batch Upload Improvements**
   - Allow uploading all photos at once with AI-assisted room categorization
   - Drag-and-drop reordering across rooms

12.2 Admin Workflow Optimizations

1. **AI-Assisted Quality Scoring**
   - Automatic quality score for each photo (1-10)
   - Flag photos that likely need re-upload
   - Prioritize review queue by quality score

2. **Template Responses**
   - Pre-written rejection/re-upload instruction templates
   - One-click common feedback options

3. **Bulk Processing Rules**
   - Set default enhancement settings per room type
   - Auto-apply settings to new submissions

4. **Analytics Dashboard**
   - Track submission volume over time
   - Average processing time metrics
   - Common rejection reasons analysis

12.3 Technical Improvements

1. **Progressive Enhancement**
   - Generate quick preview (lower quality) immediately
   - Full quality processing in background
   - Reduces perceived wait time

2. **Smart Caching**
   - Cache enhancement results for similar photos
   - Reduce API costs for common scenarios

3. **Webhook Integration**
   - Real-time notifications to external systems
   - Integration with property management software

4. **API for Partners**
   - Allow third-party integrations
   - Programmatic submission capability

12.4 Content & Education

1. **Interactive Tutorial Mode**
   - Step-by-step guided first submission
   - Tooltips and contextual help

2. **Example Gallery**
   - Before/after examples for each room type
   - Best practices showcase

3. **Video Library Expansion**
   - More detailed tutorials for challenging scenarios
   - Seasonal photography tips (winter, summer)

---

13. Potential Problems & Challenges

13.1 Technical Challenges

1. **AI Enhancement Consistency**
   - **Problem:** Different AI models may produce inconsistent results across a photo set
   - **Risk:** Photos from same property look like they're from different properties
   - **Mitigation:** Implement consistency checking; use same model for entire submission

2. **Processing Time & Scalability**
   - **Problem:** AI enhancement can be slow, especially for large submissions
   - **Risk:** User frustration, timeout issues
   - **Mitigation:** Queue system, progress indicators, background processing

3. **File Size Management**
   - **Problem:** High-resolution photos can be very large
   - **Risk:** Slow uploads, storage costs, processing delays
   - **Mitigation:** Client-side compression, progressive upload, size limits

4. **AI Accuracy Failures**
   - **Problem:** AI might occasionally add/change elements despite prompts
   - **Risk:** Misrepresentation of property, guest complaints
   - **Mitigation:** Admin review required, version comparison, accuracy validation

5. **Mobile Upload Reliability**
   - **Problem:** Mobile connections can be unstable
   - **Risk:** Lost uploads, incomplete submissions
   - **Mitigation:** Chunked uploads, resume capability, offline queue

13.2 User Experience Challenges

1. **Photo Quality Variability**
   - **Problem:** Homeowners submit very low-quality photos
   - **Risk:** AI cannot enhance sufficiently, wasted processing
   - **Mitigation:** Pre-upload quality check, clear guidance, rejection workflow

2. **Sub-Category Confusion**
   - **Problem:** Users may not understand which sub-category to select
   - **Risk:** Wrong prompts applied, suboptimal results
   - **Mitigation:** Clear descriptions, examples, AI-assisted categorization

3. **Expectation Management**
   - **Problem:** Users expect AI to fix everything
   - **Risk:** Disappointment when photos still need re-shooting
   - **Mitigation:** Clear "What AI Cannot Fix" education, realistic examples

4. **Re-upload Friction**
   - **Problem:** Asking users to re-take photos creates friction

- **Risk:** User abandonment, incomplete submissions
- **Mitigation:** Clear instructions, specific guidance, easy re-upload flow

13.3 Business & Operational Challenges

1. **Admin Bottleneck**
   - **Problem:** Single admin (Daniel) reviewing all submissions
   - **Risk:** Processing delays, burnout
   - **Mitigation:** Batch operations, AI-assisted prioritization, potential for additional reviewers

2. **Cost Management**
   - **Problem:** AI API calls can be expensive, especially with re-runs
   - **Risk:** Unsustainable costs
   - **Mitigation:** Usage monitoring, optimization, caching strategies

3. **Email Deliverability**
   - **Problem:** Automated emails may go to spam
   - **Risk:** Users miss important notifications
   - **Mitigation:** Email authentication (SPF, DKIM), clear sender identity, user education

4. **Legal/Compliance**
   - **Problem:** Enhanced photos must accurately represent property
   - **Risk:** Guest complaints, platform violations, legal issues
   - **Mitigation:** Strict accuracy requirements in prompts, admin review, clear policies

13.4 Edge Cases

1. **Unusual Room Types**
   - What about wine cellars, home gyms, saunas, etc.?
   - Need clear guidance on where to upload

2. **Seasonal Variations**
   - Summer photos enhanced with blue sky may not match winter reality
   - Consider seasonal tagging

3. **Multi-Property Submissions**
   - What if a homeowner has multiple properties?
   - Need clear separation or multiple submission support

4. **Very Large Properties**
   - Properties with 10+ bedrooms may exceed photo limits
   - Need flexible limits or tiered approach

14. Ambiguities & Missing Information

14.1 Technical Ambiguities

1. **AI Model Fallback**
   - What happens if FLUX.2 [Pro] is unavailable?
   - Is there automatic fallback to GPT Image 1.5?
   - What are the differences in output between models?

2. **Version Retention Policy**
   - How many enhancement versions are kept per photo?
   - Is there automatic cleanup of old versions?
   - Storage limits?

3. **Concurrent Processing**
   - How many photos can be processed simultaneously?
   - Queue priority rules?

4. **Error Handling**
   - What happens if AI enhancement fails?
   - Retry logic?
   - User notification for failures?

5. **Image Format Conversion**
   - Are HEIC files converted to JPEG?
   - What format is used for enhanced output?

14.2 Business Logic Ambiguities

1. **Submission Limits**
   - Is there a maximum number of photos per submission?
   - Maximum file size per photo?
   - Maximum submissions per homeowner?

2. **Re-upload Workflow**
   - Can homeowners re-upload without admin request?
   - Time limit for re-uploads?
   - What happens to original submission if re-upload is partial?

3. **Hero Photo Rules**
   - Can there be multiple hero photos?
   - Is hero selection required before approval?
   - What if admin doesn't select a hero?

4. **Approval Workflow**
   - Must ALL photos be approved/rejected before notification?
   - Can partial approval be sent?
   - What's the workflow for mixed decisions (some approved, some rejected)?

5. **Status Transitions**
   - What are valid status transitions?
   - Can a rejected photo be re-approved?
   - Can an approved submission be reopened?

14.3 User Experience Ambiguities

1. **Session Management**
   - How long is a submission session valid?
   - Can users return to incomplete submissions?
   - How is progress saved?

2. **Multiple Bedrooms/Bathrooms**
   - Is there a limit on additional rooms?
   - How are they labeled/organized?

3. **Notes Field Usage**
   - What kind of notes are expected?
   - Are there character limits?
   - How are notes displayed to admin?

4. **Tutorial Videos**
   - Are videos required viewing?
   - Can they be skipped?
   - What if YouTube is blocked?

14.4 Missing Information

1. **Authentication**
   - Document says "no-login-required" but how is re-upload access secured?
   - Is there any authentication for admin dashboard?
   - How is admin access controlled?

2. **Notification Preferences**
   - Can homeowners opt out of emails?
   - Email frequency limits?

3. **Data Retention**
   - How long are submissions stored?
   - GDPR/privacy compliance?
   - Data deletion requests?

4. **Pricing/Billing**
   - Is this a free service for Partner+ clients?
   - Any usage limits?
   - Cost tracking?

5. **SLA/Performance**
   - Expected turnaround time?
   - Uptime requirements?
   - Support channels?

6. **Localization**
   - Is the app English-only?
   - Currency/date formats?
   - Phone number formats for international properties?

7. **Accessibility**
   - WCAG compliance requirements?
   - Screen reader support?
   - Keyboard navigation?

8. **Browser Support**
   - Minimum browser versions?
   - Mobile browser support?

9. **Integration Details**
   - How are photos "implemented into listings"?
   - Direct Airbnb/VRBO API integration?
   - Manual upload by RVR team?

10. **Backup & Recovery**

   ◦ Backup frequency?
   ◦ Disaster recovery plan?
   ◦ Data redundancy?

Summary

This comprehensive analysis covers the complete Listing Lift by Retreat Vacation Rentals specification and research documents. The application is well-designed with clear user flows, detailed AI prompts with strict accuracy requirements, and a thoughtful admin workflow.

Key Strengths:
- Clear value proposition ("Submit and forget")
- Comprehensive AI prompts with accuracy safeguards
- Well-defined room categories and sub-categories
- Detailed UI/UX specifications
- Strong emphasis on accurate property representation

Areas Requiring Clarification Before Development:
- Authentication and security details
- Error handling and fallback strategies
- Data retention and privacy policies
- Integration specifics with Airbnb/VRBO
- Performance and scalability requirements

Recommended Next Steps:
1. Clarify ambiguities listed in Section 14
2. Define technical specifications for edge cases
3. Create detailed API specifications
4. Develop prototype for user testing
5. Establish monitoring and analytics requirements