Here are **UC\_01–UC\_08** directly in your **Section 2.1 Functional Requirements** template format.

**UC\_01**

**Description**  
Advanced Search & Discovery — blended semantic/keyword/geo search with fast, relevant results.

**Actor**  
Buyer (primary); Seller (indirect—via searchable listings)

**Pre-condition**  
Listings exist and are indexed; buyer can access the app/site; locale & location available (optional).

**Post-condition**  
Results returned with facets; search/engagement events logged; (optional) saved-search created.

**Basic Flow**

1. Buyer enters query or opens home feed.
2. System executes lexical + vector (semantic) + geo search.
3. Apply policy/availability filters; de-duplicate.
4. Re-rank with personalization and popularity signals.
5. Return paginated results and aggregates; log telemetry.

**Additional Flow**

* No results → relax filters, semantic expansion, similar items.
* Saved search → subscribe and notify on new matches.
* Degraded network → fallback to cached/trending near user.

**UC\_02**

**Description**  
Listing Creation & Management — create/update/pause/delete listings with AI assist & policy checks.

**Actor**  
Seller (primary); Moderation Service; Risk Service

**Pre-condition**  
Seller signed in; minimum profile/KYC tier met per policy.

**Post-condition**  
Listing persisted; moderation/risk outcome stored; listing indexed for search/recs; events emitted.

**Basic Flow**

1. Seller uploads images and basic details.
2. AI suggests title/category/attributes and price comps.
3. Run content moderation and risk checks in-line.
4. Seller reviews and publishes.
5. Index listing to search/vector stores; emit ItemCreated.

**Additional Flow**

* Draft autosave/restore; bulk upload.
* Policy violation → explain, fix, or appeal queue.
* Edit/pause/delete propagates to indexes within seconds.

**UC\_3**

**Description**  
Recommendations & Personalization — feeds, similar items, and nudges tailored to the buyer.

**Actor**  
Buyer (primary)

**Pre-condition**  
Some user/session signals exist (or cold-start fallback available).

**Post-condition**  
Personalized items shown; recs impressions/clicks logged for learning.

**Basic Flow**

1. Fetch candidate items (trending, similar, collaborative signals).
2. Re-rank with session context, diversity, and price/condition fit.
3. Render with brief explanations (“Because you viewed X”).
4. Log outcomes to feedback loop.

**Additional Flow**

* Cold start → use trending near user and broad categories.
* Respect opt-outs/preferences; exclude blocked sellers/items.
* Trigger saved-search or “price drop” notifications.

**UC\_04**

**Description**  
Buyer–Seller Messaging & Offers — secure chat and structured offers/counteroffers.

**Actor**  
Buyer, Seller; Risk/Moderation (supporting)

**Pre-condition**  
Valid accounts; listing exists; messaging permitted per policy.

**Post-condition**  
Messages/offers stored and audited; accepted offer creates an order draft.

**Basic Flow**

1. Buyer opens chat on a listing and sends a message.
2. Buyer or seller sends an offer with price and expiry.
3. Counter/accept/decline handled; acceptance creates order draft.
4. Notifications sent to the counterparty.

**Additional Flow**

* Safety filters block off-platform payment solicitations/scams.
* Report/block user; rate limits applied for spam/abuse.
* Attachments (images/POC) scanned and logged.

**UC\_05**

**Description**  
Checkout & Escrow — friction-light payment with risk gating, tax/fees, and fund protection.

**Actor**  
Buyer, Seller; Payment Processor/Escrow; Tax/Compliance; Risk Service

**Pre-condition**  
Accepted offer or “buy now”; item available; buyer has payment method.

**Post-condition**  
Escrow authorization captured; order placed; confirmations sent.

**Basic Flow**

1. Confirm address and shipping/pickup option; compute taxes/fees.
2. Run risk checks; challenge if required.
3. Tokenize payment; create escrow authorization.
4. Create order; notify seller; generate label if shipped.

**Additional Flow**

* High risk → MFA/3DS or manual review.
* Pickup flow → release escrow after buyer confirmation/POD code.
* Cancellation/refund per policy updates escrow and order state.

**UC\_06**

**Description**  
Fraud & Risk Control — real-time and post-transaction risk detection and actions.

**Actor**  
System (risk engine); Trust & Safety Analyst

**Pre-condition**  
Policies, thresholds, and models configured; telemetry available.

**Post-condition**  
Decision recorded (allow/challenge/block); actions applied; audit trail updated.

**Basic Flow**

1. At risk checkpoints (signup, listing publish, messaging, checkout, payout), compute features.
2. Score via ML + rules; enrich with device/velocity/graph signals.
3. Apply action (allow, step-up verification, block); notify relevant services.
4. Feed outcomes (chargebacks/disputes) back to training.

**Additional Flow**

* Collusion detection via account/transaction graphs.
* Appeal workflow with explainable reasons.
* Model A/B tests and drift monitoring.

**UC\_07**

**Description**  
Fulfillment & Tracking — ship or local pickup with traceability and proof-of-delivery.

**Actor**  
Seller, Buyer; Logistics Provider

**Pre-condition**  
Order placed; escrow active; addresses/meetup details set.

**Post-condition**  
Shipment tracked or pickup confirmed; escrow released per policy.

**Basic Flow**

1. Generate shipping label or pickup code.
2. Track status; notify buyer/seller on milestones.
3. Capture delivery confirmation/POD; update order state.
4. Release escrow when conditions met.

**Additional Flow**

* Lost/damaged → auto-open dispute.
* Reroute/address change with carrier constraints.
* Returns managed with new label and disposition.

**UC\_08**

**Description**  
Disputes & Resolution — fair, timely case handling tied to escrow outcomes.

**Actor**  
Buyer, Seller; Support Agent; Payment/Escrow

**Pre-condition**  
Eligible order within dispute window; evidence available.

**Post-condition**  
Resolution executed (refund/partial/return); ratings and risk signals updated.

**Basic Flow**

1. Buyer or seller opens a case and submits evidence.
2. System/agent triages (LLM summary, classification).
3. Propose and agree on resolution (return, partial refund, deny).
4. Execute escrow action; close case; record rationale.

**Additional Flow**

* Escalate to human mediation; SLA timers and reminders.
* Policy appeals and secondary review.
* Abuse detection for serial false claims.

If you want, I can paste these into your **Section 2.1** table in the Word template and return a filled document.