

## SynC — Unified Project Brief (Mermaid-Aligned)

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### 1) Vision & Problem

**Vision.** SynC connects city shoppers and hyperlocal businesses through a social, coupon-driven, “word-of-mouth at scale” experience, turning real in-store visits into measurable growth.

**Problem.** Physical stores can’t push timely updates and struggle to stay connected between visits; users either miss offers or drown in irrelevant ads. SynC solves this with discovery, targeted offers, gamified sharing, and simple reviews that keep footfall high.

### 2) Users & Value

- **Consumers:** discover businesses, collect/share coupons, redeem in store, and follow only what matches interests. Reviews are binary (👍 / 👎) with a short note.
- **Merchants:** maintain storefronts, run coupons/ads, target “Drivers” (top advocates), and track analytics.
- **Platform Owner (Command Centre):** manage users/merchants/content, pricing, promotions, and revenue.

### 3) Product Scope (MVP → Post-MVP)

**Core MVP (selected highlights):**

- **Auth & Profiles (Customer & Merchant)** via Supabase.
- **Customer Dashboard** with search, city picker, notifications, wallet, wishlist, contacts sidebar, and ad slots.
- **Storefronts** with branding, hours/holidays, trending/top products, offers, and contact.
- **Coupons:** discover, collect, share (friend cap rules), and redeem via code/QR; wallet state tracks expiry/used.
- **Social:** find friends; requests/accept/decline; activity feed (check-ins, redemptions); share coupons to friends.
- **Reviews:** only Recommend / Don’t Recommend + ≤30 words; gated by GPS or redemption check-in.
- **Command Centre (Admin):** moderation, visibility, pricing, ad approvals, billing, and archives.

- **Performance/security:** <2s main screens; 99.9% uptime; responsive web (React/Vite/Tailwind).

**Post-MVP examples:** public coupon sharing; videos on storefronts; KYC; mobile/WhatsApp OTP; multi-city; advanced gamification and pricing tiers.

#### 4) Key Monetization & Pricing Mechanics

- **Coupon generation:** ₹2 per coupon.
- **Banner ads (dashboard):** ₹500/day.
- **Search rank #1:** ₹500/day.
- **Push notifications:** as a monetized channel.

#### Effective Pricing Engine (Mermaid improvement)

A unified **Pricing Config → Overrides → Promotions → Context → Compute** pipeline determines the **Effective Price** per merchant, city, and tier. Promotion stacking rules: 1 global + 1 city/region + freebies/bundles; floor at  $\geq 0$ . This feeds UI (current prices), approval, unbilled accruals, and monthly invoicing.

#### Examples (from your Mermaid):

- **Promos:** Hyderabad Launch (Sep 1–30, 2025), Bengaluru Festive (Oct 15–Nov 15, 2025), First-Week –50% (global), Telangana bundle (6 days → +1 free).
- **Propagation:** Publish pushes config, overrides, and promos system-wide; analytics and billing read Effective Pricing.

#### 5) End-to-End Flows (Aligned to Mermaid)

##### 5.1 Landing & Auth

- Landing → Public storefront allowed; gated actions route to login. Customer/Business segmented auth; reset via OTP/link; first login requires **City +  $\geq 5$  interests** and optional tour.

##### 5.2 Customer Dashboard & Navigation

- Top sections: **Spotlight Businesses, Hot Offers, Trending Products, New Businesses/Events**; up to **6 ad slots** with labeled organic fallbacks. Tap cards → Storefront/Offer/Product.
- City picker updates context (also used by pricing engine for ad rates). Notifications route users to storefronts, products, wallet items, feed, or profile.

##### 5.3 Search

- Results ( $\leq 20$ ), filter/sort modal, promoted slots (max 2). Cards reveal **people-recommended**, map, “open until,” nearby, and favourites. Empty state offers trending in similar categories.

#### 5.4 Storefront (Authenticated)

- **Info** → **Contact/Hours/Holidays**; offers (T&Cs modal), products (4+ show; details page), **reviews** with infinite scroll; **GPS Check-in** flow with permission prompt; actions notify merchants (check-ins, coupons, reviews). **Reviews are only** 👍 / 🗣️ +  $\leq 30$  words.

#### 5.5 Wallet

- Filters/search/summary; open coupon → code+T&C; **offline redemption** flow (merchant redeem page); share to friend (choose/confirm); collect/reject incoming; favourites.

#### 5.6 Social

- **Find/Manage Friends, Requests, Activity Feed**; toast events for sent/accepted/removed; privacy: activity sharing is system-wide (no opt-out in MVP).

#### 5.7 Favourites & Wishlist

- Separate tabs for businesses/coupons/products; wishlist is user-entered; clicking wishlist can pre-fill search.

#### 5.8 Business Owner

- **Onboarding**: profile, precise map pin, categories, demographics, avg ticket size, seasons.
- **Marketing Hub**: offers, coupons (ID series + barcode), **ad requests** (owner approval), **targeted campaigns**, and analytics (redemptions, storefront visits, recommendations, likes/shares).
- **Media rules**: per display item  $\leq 4$  images, optional 1 video  $\leq 60$ s (video priority), with upload/transcode states; **data retention 365 days** & override request flow.
- **Billing**: unbilled/credits, disputes, applied credits.

#### 5.9 Coupons Lifecycle (Mermaid enhancement)

States: **Not Issued** → **Issued** → **Not Collected** → **Collected** → **Expired (irreversible)**.

Merchants can mark expired (allowed only if NotIssued/NotCollected). Admin can archive/delete sets with audit logging. Customer wallets keep expired/used (greyed) for history/benefit recall.

## 5.10 Command Centre / Admin

- **Queues:** Ad Requests (approve/reject), Flagged Content (from offers/products/reviews).
- **Management:** businesses/users tables; visibility toggles; block spammy accounts; pricing config + overrides + promo rules; monthly invoicing; audit log; coupon archives.
- **Driver Algorithm:** saved as versioned setting; used by business analytics and targeting.

## 6) Gamification: “Drivers”

Top 10% most active users per city are **Drivers**—measured by collecting/sharing coupons, check-ins, writing reviews, and interactions—eligible for exclusive perks and targeting by merchants. Weightages configurable by platform owner.

## 7) Functional Requirements (roll-up)

Representative FRs (full lists reside in your PRDs): Auth, dashboards, search, coupons wallet & redemption, interests (min 5), favourites/wishlist, social share (cap **3 coupons/friend/day**), review rule (👍 / 👎 + ≤30 words), GPS/auto check-ins, business profiling, storefronts with top products, analytics, admin controls, and monetization endpoints.

## 8) Non-Functional & Quality

- **Performance:** <2s main screens; **Realtime** feed/updates.
- **Reliability:** 99.9% availability; backups/DR.
- **Security/Privacy:** Supabase Auth; scoped RLS; separate admin domain.
- **Accessibility & UX:** responsive web; WCAG 2.1 AA practices.

## 9) Analytics & KPIs (initial)

- CAC reduction targets; footfall + engagement uplifts; retention; staged DAU/MAU and onboarding targets; revenue baseline via coupons/ads.

## 10) Data & Policy Highlights

- **Retention:** 365-day item retention; warnings and override request flow (business).
- **Notifications:** throttle & group (advanced mechanisms targeted post-MVP).
- **Disputes/Credits:** billing disputes → admin review → credits applied to unbilled.

## 11) Risks & Mitigations

- **Coupon hoarding / spam:** friend caps, lifecycle state checks, admin flags.
- **Fake reviews:** GPS + redemption-triggered check-ins only.
- **Ad abuse/non-payment:** owner approval, soft-lock on default, auto-stop & prorate.
- **Notification fatigue:** early rate limits; advanced grouping post-MVP.

## 12) Open Questions (please confirm)

1. **Activity privacy:** MVP has no opt-out. Keep it that way, or add per-event hide toggles?
2. **Public coupon sharing:** Phase-2 confirmed—any special anti-hoarding rules beyond friend caps?
3. **Driver perks:** Who funds perks—merchant pool vs platform promos? (Impacts pricing engine.)
4. **City scope:** Single city per user/merchant MVP, multi-city later—OK?
5. **Events in dashboard:** You list “Promoted Events/New Businesses”—are user-initiated events excluded in MVP? (Docs say listing only.)
6. **Merchant KYC:** Still Phase-2, or do we need a light “verified” badge now?

## 13) Execution Plan (12 Weeks)

### Week 1–2 — Foundation

- Finalize FRD/acceptance criteria; DB schema & RLS; auth flows; routing & layout; CI/CD.

### Week 3–4 — Customer Core

- Dashboard surfaces (ads, spotlight, hot offers, trending, events); search; storefront read; wallet; notifications.

### Week 5–6 — Social & Reviews

- Friends/requests; activity feed; coupon share to friends (cap & toasts); GPS/auto check-ins; review composer (👍 / 🗣️ + 30 words).

### Week 7–8 — Merchant & Campaigns

- Business onboarding; storefront editor (top products/media rules); offers & coupon templates (ID series + barcode); ad requests (approval queue).

### Week 9 — Pricing & Billing

- Effective Pricing engine (config/overrides/promotions/context/compute); unbilled ledger; monthly invoicing; soft-lock on default.

### **Week 10 — Admin & Moderation**

- Command Centre dashboards; users/merchants tables; flagged content; ad approvals; coupon archive & audit; driver algorithm settings.

### **Week 11 — Hardening**

- Perf (<2s), security pen-pass, data retention warnings, analytics dashboards, notification throttles (basic).

### **Week 12 — UAT & Launch**

- City pilot (Hyderabad); merchant playbook; rollout checklist; go-live; post-launch monitoring.

### **14) Acceptance (Definition of Done) — MVP**

- All flows in the Mermaid render have a live, tested counterpart (including Loading/Empty/Error/Toast states).
- Coupons move through lifecycle correctly and are auditable.
- Pricing engine shows the same effective rates in UI, ledger, and invoice.
- Driver list is reproducible from events.
- Admin can approve/reject ads, moderate content, archive coupons, and publish pricing/promos.

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### **How we'll hit your goal (summary)**

1. We codified the entire Mermaid system into this single Project Brief that merges product, pricing, admin, and delivery.
2. We mapped every screen/state from the chart to product features and acceptance.
3. We built a concrete 12-week plan to land MVP and a list of specific clarifications to eliminate assumptions.

If you're happy, I can immediately generate a clean Word/PDF from this brief for circulation. Also—answer the **six open questions** above, and I'll lock the PRD with zero assumptions.