Project Design Phase
Proposed Solution Template

Date	20 February 2026
Team ID	TVIP2026TMIDS41611
Project Name	OrderOnTheGo: Your On-Demand Food Ordering Solution
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	**Challenge:** The food delivery and restaurant management ecosystem in emerging markets faces fragmentation, trust deficits, and operational inefficiency. Current State: **Customers:** Must juggle multiple food delivery apps, struggle with inconsistent restaurant information, face payment trust issues (cash on delivery reluctance, limited payment methods), lack real-time delivery transparency, and cannot easily identify reliable restaurants. **Restaurant Owners:** Operating in silos, manually managing orders via phone/chat, lack menu digitization at affordable cost, struggle with staff coordination, have no data-driven insights, and cannot access affordable customer engagement tools. **Market Gap:** No unified platform that simultaneously solves customer discovery→ payment→ delivery trust AND restaurant operational efficiency + loyalty, especially in tier-2/3 cities with cost sensitivity. **Impact:** High order abandonment (payment friction), unverified food quality, missed revenue opportunity for restaurants, poor staff coordination, and inability for small restaurants to compete with organized chains.
2.	Idea / Solution description	Order On The Go is a comprehensive, two-sided marketplace platform that bridges customers, restaurants, and operational staff through a secure, transparent, and efficient food ordering and delivery ecosystem. **Core Offering:** **For Customers:** • Unified discovery of verified restaurants and menus in one place

		• Smart browse → cart → secure checkout with Razorpay (+ COD option) • Real-time order tracking with GPS-backed delivery visibility • Verified reviews and ratings to reduce trust friction • Subscription loyalty tiers (free basic → BASIC/PREMIUM plans) for repeat customers with personalized offers • Email/SMS notifications and verification for account security **For Restaurants:** • Easy registration + admin approval workflow (quality gate) • Free menu digitization and management interface • Live order dashboard with status tracking and staff task assignment • Staff invitation and role-based access (MANAGER, CHEF, DELIVERY staff) • Flexible subscription plans (FREE tier: 5 menu items, 10 orders/day; BASIC/PREMIUM: unlimited items, analytics, priority support) • Subscription-enforced feature access (encourages upgrade) **For Admin/Stakeholders:** • Centralized dashboard for restaurant approvals, user analytics, orders oversight, and platform health monitoring Technology Stack: React + Vite (frontend), Node.js/Express (API), MongoDB Atlas (data), Razorpay (payments), SendGrid/Twilio (comms), containerization-ready for cloud deployment.
3.	Novelty / Uniqueness	**Dual-sided innovation:** Not just a customer app—equal focus on restaurant operations. Staff management, subscription-enforced feature limits, and order workflow automation address restaurant pain points competitors ignore. **Trust-first design:** Every actor (restaurant, customer) verified: admin-approved restaurants, verified user emails/phones, signed payment confirmations, and transparent review system. Reduces fraud and builds confidence. **Subscription as operational lever**: Unlike one-way commission models (Zomato/Swiggy), subscriptions unlock features for restaurants (menu size, order limits, analytics) and provide predictable revenue—aligns incentives.

		Real-time transparency: Live order status + GPS-enabled delivery tracking visible to customer, reducing "where is my order?" friction and enabling better resource allocation for restaurants. **Offline-ready architecture**: Built with containerization and modular APIs, can support future offline mode (local order caching, async sync)—valuable in low-connectivity markets. **Scalability by design:** MongoDB sharding-ready, horizontal API scaling (Docker/K8s path), stateless JWT auth, enables growth from single city → multi-region without rearchitecture. **Competitive positioning:** *vs. Zomato/Swiggy:* Lower restaurant cost (no heavy commission), built-in loyalty (subscriptions), staff tools, admin oversight *vs. Direct restaurant apps*: Unified discovery, secure payment gateway, trust signals, multi-restaurant loyalty
4.	Social Impact / Customer Satisfaction	**Economic Empowerment:** Small/unbranded restaurants gain affordable digital presence and customer access without heavy commissions (5-15% vs. 25-30% commission from aggregators), boosting their profitability and ability to hire staff. **Employment:** Staff management features enable restaurants to scale operations, creating sustainable jobs for delivery, kitchen, and front-end staff with transparent role-based access control. **Food Safety & Quality**: Admin-verified restaurants + verified customer reviews create accountability, reducing food safety incidents and incentivizing quality. **Accessibility:** Verified email/phone and multi-language support (via future i18n) extend platform access to underserved populations lacking credit cards or deep app experience. Customer Satisfaction Metrics (Target KPIs): • Order placement → delivery: 40–60 min (vs. 90+ for phone orders) • Payment success rate: >95% (vs. 70% for COD-only) • Verified review CSAT: 4.5+/5 stars • Reorder rate (repeat customers): >40% within 30 days • Subscription adoption: >20% of active restaurants after 6 months **Community**: Verified review system builds trust in local communities; referral bonuses encourage organic growth and word-of-mouth, strengthening ecosystem.

5.	Business Model (Revenue Model)	**Multi-stream Revenue Model (Sustainable & Scalable):**
		1. Restaurant Subscription Plans (Primary Revenue): FREE Tier: 5 menu items, 10 orders/day, basic order dashboard (limited retention) BASIC Tier: Unlimited menu items, 100 orders/day, order analytics, staff invites, customer insights (₹299–499/month or regional equivalent) PREMIUM Tier: All BASIC features + priority support, custom branding, advanced analytics, fraud detection, geo-targeting (₹999–1,499/month) Est. adoption: 20–40% of restaurants upgrade (2–5 year horizon); avg. revenue per restaurant: $5–15/month
		2. Transaction Commissions (Secondary, Optional): Opt-in payment processing fee: 1.5–3% (Razorpay takes 2+bps; we take 0.5–1% margin for food orders processed) Or flat ₹5–10 per paid order if volume reaches 10k+/day
		3. Customer Loyalty/Premium (Tertiary, Future): Optional "GOLD" customer subscription: ₹99–199/month → free delivery, 5% discount sitewide, priority support, exclusive restaurant offers Referral commissions: ₹25–50 per successful restaurant referral (restaurant invites via email/SMS)
		4. Advertising (Long-term, Mature Stage): Sponsored restaurant placements in search/browse (marked "promoted") Targeted promotions for BASIC/PREMIUM restaurants paying for carousel spots Est.: 10–20% added revenue at scale (1M+ orders/month)
		Unit Economics (Target, Year 2): • CAC (Customer): $0.50–1.50 (organic + targeted ads) • LTV (Customer): $15–30 (3–4 orders/month × 12 months, reorder rate 40%+) • CAC (Restaurant): $10–25 (onboarding incentive + support)

		• LTV (Restaurant): $60–150/year (avg. 2–3 tier subscriptions, 50% churn after year 1) **Breakeven Horizon:** 18–24 months (seed funded; 5–10k restaurants + 100k active users in primary city).
6.	Scalability of the Solution	**Database:** MongoDB Atlas with sharding on { restaurantId, createdAt } supports 100M+ documents and 10k+ writes/sec in multi-region setup. **API Layer:** Stateless Node.js/Express servers scale horizontally via Docker/Kubernetes; JWT eliminates server-side session bottleneck. Static Assets: Vite-optimized React frontend + CDN (optional) for images/profiles; lazy loading reduces bandwidth. **Caching Layer:** Redis (future addition) caches popular menu items, restaurant details, reducing DB queries by 60–70%. Real-time Features: WebSocket support in Express for live order tracking; message queue (RabbitMQ/Kafka future) decouples notifications from order processing. **Performance Target**: API response time <200ms (p95), frontend load <2s on 3G, 99.9% uptime. Business Scalability: **Multi-City Expansion:** Platform agnostic to geography; add new city in 1–2 weeks (new DB region, localize comms, admin team). No code changes needed. **Vertical Integration:** Same core platform supports multiple cuisines (pizzerias → cloud kitchens → meal prep → grocery delivery) with minimal feature toggles. **Marketplace Network Effects:** Each new restaurant brings more food choices → attracts more customers → encourages more restaurant sign-ups (viral loop). **Subscription Monetization**: As restaurant base grows 2x, subscription tiers unlock for 15–25% (vs. 5% at launch), driving SaaS-like recurring revenue.