

Product Requirements Document (PRD)

Restaurant OS - Phase 1

Version: 1.0

Last Updated: December 2024

Target Market: Bangalore Restaurants & Cafes

Team Size: 5 (AI-Assisted Development)

Timeline: 6-9 months to MVP

1. Executive Summary

Vision

Build India's most comprehensive restaurant operating system that combines:

- **PetPooja's strength:** Hardcore POS + restaurant operations
- **Explorex's strength:** Modern QR ordering + customer experience

Mission Statement

Become the single software that runs an Indian restaurant end-to-end, starting with Bangalore's cafe and QSR segment.

Success Metrics (Phase 1)

- **20+ paying restaurants** within 6 months of launch
 - **95%+ retention rate** after first 3 months
 - **₹2-4 lakhs MRR** by month 9
 - **100+ orders/day** across all restaurants
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2. Market Analysis

Target Customers (Phase 1)

Primary Segment:

- Cafes (20-50 seats)
- Quick Service Restaurants (QSRs)
- Ice cream parlors, bakeries, bubble tea shops

- Breweries and casual dining with QR needs

Geographic Focus:

- Bangalore (Indiranagar, Koramangala, HSR, Whitefield, MG Road)

Pain Points We Solve

1. **Menu Management:** Reprinting costs ₹5,000-15,000/year per outlet
2. **Staff Shortage:** Hard to find reliable waiters, high turnover
3. **Order Errors:** Manual orders lead to 15-20% mistakes
4. **No Data:** Don't know which items sell, when peaks happen
5. **Customer Wait Time:** Long waits = bad reviews + lost revenue

Competitive Landscape

Competitor	Strengths	Weaknesses	Our Advantage
PetPooja	Strong POS, inventory	Outdated UI, complex onboarding	Modern UX + faster setup
Explorex	Beautiful QR ordering	Weak on operations, expensive	Operations depth + better pricing
Dukaan/Shopify	Easy setup	Not restaurant-specific	Purpose-built for F&B
Manual/Excel	Free	Error-prone, no real-time	Automation + insights

Pricing Strategy

Mid-market positioning:

- **Starter Plan:** ₹999/month (1 outlet, basic features)
- **Pro Plan:** ₹2,499/month (1 outlet, all features)
- **Multi-outlet:** ₹1,999/outlet/month (3+ outlets)

Lock-in: 6-12 month contracts with 15% discount on annual payment

3. Product Overview

Core Value Proposition

"Run your entire restaurant from one modern dashboard. Let customers order via QR. Get insights that actually help you make money."

Feature Set by Phase

Phase 1: QR Ordering + Menu Management (Months 1-6)

MVP to get first paying customers

Must-Have Features:

1. Digital menu system with photos
2. QR code generation per table
3. Customer ordering interface (mobile-first)
4. Basic order dashboard for staff
5. Restaurant branding customization
6. Multi-outlet support (architecture only)

Business Value:

- Reduces printing costs
- Reduces dependency on waiters
- Photos increase order value by 20-30%
- Real-time menu updates

Phase 2: POS + Kitchen Operations (Months 7-12)

Becoming core to restaurant operations

Features:

1. Full billing system (dine-in, takeaway, delivery)
2. Kitchen Display System (KDS)
3. Table management with status tracking
4. Payment gateway integration (UPI, cards)
5. Basic sales analytics
6. Staff roles & permissions

Business Value:

- Restaurant can't operate without you = sticky
- Full visibility into operations
- Reduced payment friction

Phase 3: Profitability Tools (Year 2)

Features that directly impact bottom line

1. Inventory tracking & alerts
2. Recipe costing & contribution margin
3. Staff attendance & fraud prevention
4. Customer CRM & loyalty programs
5. Online ordering website (bypass Swiggy/Zomato)
6. Advanced analytics & reporting

Phase 4: Enterprise & Scale (Year 3)

Moving upmarket to chains

1. Multi-outlet central management
 2. Franchise billing & royalty tracking
 3. API for third-party integrations
 4. White-label options for large chains
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4. User Personas

Persona 1: Rajesh - Cafe Owner

Demographics:

- Age: 32
- Business: 1-2 cafes in Bangalore
- Revenue: ₹30-50 lakhs/year
- Tech-savvy: Medium

Goals:

- Reduce staff dependency
- Know which items are profitable
- Professional online presence
- Scale to 2nd location

Pain Points:

- Staff turnover is killing him

- No idea which items to push
- Menu changes are expensive
- Can't afford PetPooja (too complex + expensive)

How We Help:

- QR ordering = less staff needed
 - Analytics show bestsellers
 - Update menu in 2 minutes
 - Affordable + easy setup
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Persona 2: Priya - Restaurant Manager

Demographics:

- Age: 28
- Role: Manager at 3-outlet QSR
- Reports to: Owner/franchise head
- Tech-savvy: High

Goals:

- Smooth operations across all shifts
- Accurate inventory tracking
- Staff accountability
- Meet revenue targets

Pain Points:

- Can't track inventory properly
- Staff mistakes with manual orders
- No real-time view of all outlets
- Reporting takes hours

How We Help (Phase 2+):

- Real-time dashboard for all outlets
- Inventory auto-updates on orders

- Staff actions are logged
 - Auto-generated reports
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Persona 3: Customer - Arjun

Demographics:

- Age: 24-35
- Occupation: IT professional
- Dining frequency: 3-4x/week
- Tech-savvy: High

Goals:

- Order quickly without waiting
- See photos before ordering
- Split bills easily
- Contactless experience

Pain Points:

- Long wait for waiter attention
- Menu descriptions unclear
- Can't see what food looks like
- Payment takes forever

How We Help:

- Scan QR → order immediately
 - Photos of every item
 - Clear add-ons & customization
 - (Phase 2) Pay via UPI instantly
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5. Feature Requirements (Phase 1 Detailed)

5.1 Admin Dashboard

5.1.1 Authentication & Onboarding

User Stories:

- As a restaurant owner, I want to sign up with email/phone so I can create my account quickly
- As an owner, I want a guided onboarding flow so I understand how to set up my restaurant

Requirements:

- Email + OTP or Phone + OTP authentication
- No complex password rules (friction reducer)
- Onboarding wizard:
 - Restaurant name, logo, address
 - Operating hours
 - Basic settings (currency, tax %)
- Multi-step form (max 3 screens)

Acceptance Criteria:

- User can complete signup in < 2 minutes
 - Email verification sent within 5 seconds
 - Onboarding completion rate > 80%
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5.1.2 Menu Management

User Stories:

- As an owner, I want to create menu categories so I can organize my items
- As an owner, I want to add items with photos so customers see what they're ordering
- As an owner, I want to set variants and addons so customers can customize orders

Requirements:

Categories:

- Name, description, display order

- Show/hide toggle
- Drag-and-drop reordering
- Support for subcategories (optional)

Menu Items:

- Basic fields:
 - Name (required)
 - Description (optional, 200 char limit)
 - Category (required)
 - Base price (required)
 - Veg/Non-veg/Egg indicator
 - Image upload (max 5MB, JPEG/PNG)
- Advanced fields:
 - Spicy level (1-3 chilis or none)
 - Preparation time estimate
 - Tags (Bestseller, New, Seasonal, etc.)
 - Allergen warnings

Variants:

- Name (e.g., "Size", "Base")
- Options with individual prices
 - Example: Small ₹120, Medium ₹180, Large ₹220
- Single-select or multi-select
- Required or optional

Add-ons:

- Organized in addon groups
- Example groups: "Toppings", "Sauces", "Extras"
- Each addon:
 - Name
 - Price (₹0 or paid)
 - Single/multi-select

- Max selections limit

Item Availability:

- Mark as "Out of stock" (temporary)
- Time-based availability (e.g., Breakfast 8-11am)
- Outlet-specific availability (Phase 1 architecture, Phase 2 feature)

Acceptance Criteria:

- Owner can add 50 items in < 30 minutes
 - Image upload works on mobile admin
 - Changes reflect on customer QR app within 2 seconds
 - No bugs when toggling availability
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5.1.3 Table Management & QR Generation

User Stories:

- As an owner, I want to create tables/sections so I can organize my restaurant layout
- As an owner, I want unique QR codes for each table so customers can order correctly
- As an owner, I want to download/print QR codes so I can put them on tables

Requirements:

Table Setup:

- Table name/number (e.g., T1, Patio-3, Counter-A)
- Section assignment (Indoor, Outdoor, Rooftop, Bar, etc.)
- Capacity (seats) - optional
- Table status (Active/Inactive)
- Unique URL generation per table

QR Code Generation:

- Format: `https://yourapp.com/order/:restaurantSlug/:tableId`
- QR image formats: PNG (print), SVG (scalable)
- Bulk download option (ZIP file of all QRs)

- Customization:
 - Restaurant logo in center
 - Brand colors on border
 - Table name displayed below QR

QR Management:

- Regenerate QR if needed (security)
- Preview before download
- Print-ready format (A4 template with multiple QRs)

Acceptance Criteria:

- Generate 50 table QRs in < 1 minute
 - QR codes work on all phone camera apps
 - Download as single PDF with 6 QRs per page
 - QR codes remain valid permanently (unless regenerated)
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5.1.4 Order Management Dashboard

User Stories:

- As a manager, I want to see all incoming orders in real-time so I can manage kitchen flow
- As staff, I want to update order status so customers know their food is coming
- As owner, I want to see completed orders so I can track daily sales

Requirements:

Live Order View:

- Real-time updates (WebSocket or 3-5 second polling)
- Order cards showing:
 - Table number
 - Items ordered
 - Special instructions
 - Time since order placed
 - Current status

- Total amount

Order Statuses:

1. **Pending** (just received)
2. **Preparing** (kitchen started)
3. **Ready** (ready to serve)
4. **Served** (delivered to table)
5. **Completed** (bill settled) - Phase 2
6. **Cancelled** (with reason)

Filters & Views:

- Filter by status
- Filter by table/section
- Search by order ID
- Today's view vs All orders
- Sort by time or table

Actions:

- Click to change status
- Add internal notes
- Call waiter button (Phase 2)
- Print KOT (Phase 2)

Acceptance Criteria:

- Order appears on dashboard within 2 seconds of customer placing it
- Staff can update status in 1 click
- No orders get lost in the system
- Works on tablets at restaurant counter

5.1.5 Basic Analytics (Phase 1)

User Stories:

- As an owner, I want to see today's sales so I know how business is doing
- As an owner, I want to know bestselling items so I can optimize my menu

Requirements:

Dashboard Widgets:

1. Today's Summary:

- Total orders
- Total revenue (order value, not paid)
- Average order value
- Busiest hour

2. Bestsellers:

- Top 5 items by quantity sold
- Top 5 items by revenue
- Category-wise breakdown

3. Table Performance:

- Orders per table
- Avg time per order by table

Date Filters:

- Today, Yesterday, Last 7 days, Last 30 days
- Custom date range

Export:

- Download as CSV
- Basic charts (bar/pie)

Acceptance Criteria:

- Data updates every 5 minutes
 - Charts load in < 3 seconds
 - Owner can understand report without training
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5.2 Customer QR Ordering App

5.2.1 Table Landing & Session

User Stories:

- As a customer, I want to scan QR and see my table number so I know I'm ordering correctly
- As a customer, I want a clean menu interface so I can browse easily

Requirements:

Landing Experience:

- Instant load (< 2 seconds on 4G)
- Welcome screen showing:
 - Restaurant logo & name
 - Table number/name
 - Section (if applicable)
- No login required
- No app install required (PWA)

Session Management:

- Auto-start session on first scan
- Session persists for 3 hours or until reset
- Multiple people can scan same QR = join same session (Phase 2)
- Clear "Order for Table X" indicator always visible

Acceptance Criteria:

- Works on any smartphone browser
 - Loads on slow 3G connections
 - QR scan to menu view in < 3 seconds
 - No crashes on old Android phones
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5.2.2 Menu Browsing

User Stories:

- As a customer, I want to see all menu categories so I can find what I want
- As a customer, I want to see photos of food so I know what I'm ordering
- As a customer, I want to filter by veg/non-veg so I find relevant items quickly

Requirements:

Layout:

- Mobile-first design
- Categories in horizontal scrollable tabs OR vertical list
- Item cards showing:
 - Photo (if available)
 - Name
 - Description (first 50 chars)
 - Price (base price or "From ₹X")
 - Veg/Non-veg indicator
 - Tags (Bestseller, Spicy, etc.)
 - "Add" button

Filters:

- Veg/Non-veg toggle
- Search by name
- Sort: Popular, Price (low-high), Price (high-low)

Item Detail View:

- Full description
- Full-size photo (zoomable)
- Variants selection
- Addons selection
- Quantity selector
- "Add to Cart" button
- Estimated prep time

Acceptance Criteria:

- Scroll performance is smooth (60fps)
 - Images lazy-load
 - Filter applies instantly (no loading spinner)
 - Works with no images (fallback to placeholder)
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5.2.3 Cart & Order Placement

User Stories:

- As a customer, I want to add items to cart so I can order multiple things at once
- As a customer, I want to customize items with variants/addons so I get exactly what I want
- As a customer, I want to see order total before placing so there are no surprises

Requirements:

Cart Functionality:

- Floating cart button showing item count + total
- Cart summary shows:
 - Each item with variants/addons
 - Quantity controls (+/-)
 - Remove item option
 - Subtotal
 - Tax breakdown (CGST/SGST) - Phase 2
 - Total amount
- Special instructions field (per item or order-level)

Order Placement:

- "Place Order" button (prominent, sticky)
- Confirmation screen:
 - "Ordering for Table X"
 - Order summary
 - Confirm/Edit buttons
- Success screen:

- "Order received! Kitchen is preparing."
- Order number
- Estimated time
- "Order More" button
- "Call Waiter" button (Phase 2)

Order Status Tracking:

- Show current status (Received → Preparing → Ready)
- Progress indicator
- Push notifications (if permissions granted) - Phase 2

Acceptance Criteria:

- Add to cart animation is smooth
 - Cart persists during session
 - Order submits even on flaky network (retry logic)
 - Success rate > 99%
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5.3 Marketing Website

5.3.1 Landing Page

User Stories:

- As a restaurant owner, I want to understand what the product does in 10 seconds
- As an owner, I want to see if this works for my type of restaurant

Requirements:

Structure:

1. Hero Section:

- Headline: "Smart QR Menus & Ordering System for Indian Restaurants"
- Subheadline: "Let guests scan, order & pay from their table. No hardware. No hassle."
- CTA: "Get Demo" (WhatsApp) + "Start Free Trial"
- Hero image: Customer scanning QR + restaurant dashboard side-by-side

2. How It Works (4 steps with icons):

- Add your menu (10 minutes)
- Generate table QR codes
- Guests scan & order
- Manage everything from dashboard

3. Features Grid (6 features max):

- Digital QR Menu
- Custom branding
- Real-time menu updates
- Multi-language support (coming soon)
- Order management dashboard
- Basic analytics

4. Social Proof:

- "Trusted by 20+ cafes in Bangalore" (update number)
- Logos of partner restaurants (get permission)
- Testimonial: 1 video + 2 text testimonials

5. Use Cases (who it's for):

- Cafes & Coffee Shops
- QSRs & Cloud Kitchens
- Bakeries & Dessert Parlors
- Casual Dining & Breweries

6. Pricing Teaser:

- "Simple pricing. No hidden fees."
- "Plans starting at ₹999/month"
- Link to "See Pricing"

7. FAQ (5 questions):

- Do customers need to download an app?
- What if internet goes down?
- Can I update menu anytime?
- Do you charge per order?
- How long does setup take?

8. CTA Footer:

- "Ready to modernize your restaurant?"
- WhatsApp CTA + Signup button

Technical:

- Responsive design
- < 2 second load time
- SEO optimized (meta tags, schema markup)
- Mobile-first

Acceptance Criteria:

- Conversion rate > 5% (demo requests)
 - Bounce rate < 60%
 - Works on all devices
 - Page speed score > 85
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5.3.2 "For Cafes & Restaurants" Page (Sales Page)

User Stories:

- As an owner, I want detailed information so I can make a buying decision
- As an owner, I want to see pricing clearly

Requirements:

Structure:

1. Opening Section:

- Pain points list:
 - "Menu reprinting costs ₹10,000/year"
 - "Staff shortages during rush hour"
 - "Order mistakes frustrate customers"
- "Here's how we solve it..."

2. Detailed Benefits (with visuals):

- Update menu in real-time (show before/after)

- Reduce staff dependency (show stats)
- Increase order value with photos (show uplift)
- Get insights you've never had

3. Feature Deep-Dive (with screenshots):

- Menu management UI
- QR ordering flow
- Order dashboard
- Analytics dashboard

4. Onboarding Process:

- "Setup in 3 Easy Steps"
- Step 1: Sign up (2 minutes)
- Step 2: Add menu (15 minutes)
- Step 3: Print QR codes (5 minutes)
- "Start receiving orders same day"

5. Pricing (detailed):

Plan	Price	Features	Best For
Starter	₹999/mo	1 outlet, basic features	Small cafes
Pro	₹2,499/mo	1 outlet, all features	Growing restaurants
Multi-outlet	₹1,999/outlet	3+ outlets	Chains

- Annual discount: 15% off
- No setup fee
- Cancel anytime (but 6-month lock-in)

6. Comparisons:

- vs PetPooja (price + ease of use)
- vs Manual process (time + errors)
- vs Explorex (features + value)

7. Case Study (1 detailed):

- Restaurant name (with permission)
- Problem they had
- How we solved it
- Results (numbers)

8. Strong CTA:

- "Book a 15-minute Demo Call"
- "Start Free 30-Day Trial"
- WhatsApp button

Acceptance Criteria:

- Conversion rate > 10%
 - All CTAs trackable
 - Demo calls booked within 24 hours
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6. Non-Functional Requirements

6.1 Performance

- **Page Load:** < 2 seconds on 4G
- **API Response:** < 500ms for standard operations
- **Real-time Updates:** < 2 second latency for order notifications
- **Concurrent Users:** Support 100+ active sessions per restaurant

6.2 Reliability

- **Uptime:** 99.5% (Phase 1), 99.9% (Phase 2)
- **Data Loss:** Zero tolerance for order data
- **Backup:** Daily automated backups
- **Recovery:** < 1 hour RPO, < 4 hour RTO

6.3 Security

- **Authentication:** JWT with 24-hour expiry
- **Data Encryption:** At rest and in transit (TLS 1.3)
- **Multi-tenancy:** Complete data isolation between restaurants
- **API Security:** Rate limiting (100 req/min per user)
- **PII Handling:** Minimal collection, no customer data storage (Phase 1)

6.4 Scalability

- **Phase 1:** 50 restaurants, 5,000 orders/day

- **Phase 2:** 200 restaurants, 20,000 orders/day
- **Database:** Designed for 10,000+ restaurants
- **Architecture:** Horizontal scaling ready

6.5 Usability

- **Admin Dashboard:** Staff can learn in < 15 minutes
- **Customer App:** Zero training required
- **Mobile-First:** 80%+ of usage will be mobile
- **Languages:** English (Phase 1), Hindi + Kannada (Phase 2)

6.6 Compliance

- **GST Ready:** Tax calculation fields (implementation in Phase 2)
 - **Data Privacy:** Basic GDPR/DPDPA compliance
 - **Accessibility:** WCAG 2.1 Level A (minimum)
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7. Success Metrics & KPIs

Business Metrics

- **MRR Growth:** ₹50,000 in Month 6 → ₹2,00,000 in Month 12
- **Customer Acquisition Cost:** < ₹10,000 per restaurant
- **Churn Rate:** < 5% monthly
- **Net Revenue Retention:** > 100%

Product Metrics

- **Onboarding Completion:** > 80% of signups complete setup
- **Daily Active Restaurants:** > 70% of paying customers
- **Orders per Restaurant:** > 20 orders/day average
- **Customer Reordering Rate:** > 30% of QR scanners order again

Technical Metrics

- **System Uptime:** > 99.5%
- **API Error Rate:** < 0.1%
- **Page Load Time:** < 2 seconds (95th percentile)

- **Bug Escape Rate:** < 5% of releases

8. Out of Scope (Phase 1)

Explicitly NOT building in Phase 1:

- Payment gateway integration (demo flow only)
- Kitchen Display System (hardware)
- Thermal printer integration
- Inventory management
- Staff attendance/payroll
- Customer loyalty programs
- Swiggy/Zomato integrations
- Delivery management
- Advanced reporting
- Mobile apps (native iOS/Android) - PWA only

Reason: Focus on core value proposition, get customers fast, iterate based on real feedback.

9. Risks & Mitigations

Technical Risks

Risk	Impact	Probability	Mitigation
Team lacks coding experience	High	High	AI-assisted coding, simpler architecture, clear docs
Real-time sync issues	Medium	Medium	Use proven libraries (Socket.io), polling fallback
Multi-tenancy bugs	High	Medium	Extensive testing, clear data isolation patterns
Mobile compatibility	Medium	Medium	Progressive Web App, broad testing

Business Risks

Risk	Impact	Probability	Mitigation
Low restaurant adoption	High	Medium	Pilot with 5 friendly restaurants, iterate fast
PetPooja/Explorex pricing war	Medium	Low	Focus on better UX + faster setup, not price
Feature creep delays launch	High	High	Strict scope adherence, defer everything to Phase 2
Support burden overwhelms team	Medium	High	Excellent docs, WhatsApp support, video tutorials

Market Risks

Risk	Impact	Probability	Mitigation
QR adoption fatigue post-COVID	Medium	Low	Value is operations, not just contactless
Internet connectivity at restaurants	Medium	Medium	Offline-capable PWA (Phase 2)
Restaurant budget constraints	Medium	Medium	Flexible pricing, longer trials

10. Launch Strategy

Phase 1 Launch Plan

Month 1-2: Development Sprint

- Core features build
- Internal testing

Month 3: Alpha Testing

- 3 friendly restaurants (no charge)
- Bug fixes based on real usage
- Onboarding process refinement

Month 4: Beta Launch

- 10 paying restaurants (₹499/month beta price)
- Feedback collection
- Feature polish

Month 5: Limited Public Launch

- Bangalore soft launch
- Pricing: ₹999 and ₹1,999 tiers
- WhatsApp-based support
- Referral program (get 1 month free)

Month 6: Full Public Launch

- Marketing push (Instagram, local food bloggers)
- Target: 20 paying customers
- Case studies published

- Pricing finalized

Go-to-Market Channels

1. Direct Outreach (Primary):

- Visit 100 cafes in target zones
- Free setup for first 20 customers
- In-person demos

2. Partnerships:

- QR/print vendors
- Restaurant equipment suppliers
- Co-working spaces with cafes

3. Digital Marketing:

- Instagram: target cafe owners
- Google Ads: "QR menu system Bangalore"
- Food blogger partnerships

4. Community:

- Restaurant owner WhatsApp groups
- Food business forums
- F&B events sponsorships

11. Appendix

11.1 Glossary

- **QSR:** Quick Service Restaurant (fast food)
- **KDS:** Kitchen Display System
- **KOT:** Kitchen Order Ticket
- **POS:** Point of Sale
- **MRR:** Monthly Recurring Revenue
- **Churn:** Customer cancellation rate
- **PWA:** Progressive Web App

11.2 References

- PetPooja: petpooja.com
- Explorex: explorex.app
- Market research: F&B India reports

11.3 Document History

Version	Date	Author	Changes
1.0	Dec 2024	Product Team	Initial PRD for Phase 1

12. Approval & Sign-off

Prepared by: Product Team
Review Required: Founder, Tech Lead, Business Lead
Next Review Date: After alpha testing (Month 3)

END OF PRD