

1. Jirani Platform - Our Proven Solution

1.1 Platform Overview

Jirani is our proprietary digital marketplace platform specifically designed for African MSMEs, with a strong focus on women-led businesses. The platform has been developed and refined based on real-world deployment experience, addressing the unique challenges of African markets including low bandwidth, mobile-first usage, and diverse payment methods.

Platform Highlights:

Aspect	Details
Current Status	Production-ready, actively deployed
Target Market	African WMSMEs across multiple sectors
Architecture	Multi-tenant, white-label capable, microservices-based
Mobile Optimization	Progressive Web App (PWA), WhatsApp integration, offline capabilities
Payment Integration	M-PESA, Airtel Money, MTN Mobile Money, card payments, bank transfers
Key Differentiator	WhatsApp-first commerce and learning platform

1.2 Core Platform Features

Marketplace Features:

Feature	Description
Product Catalog	Multi-category product listings with rich media, search, filters
Order Management	End-to-end order processing, status tracking, notifications
Payment Processing	Multi-channel payments (mobile money, cards, bank), escrow
Seller Dashboard	Inventory management, sales analytics, customer management
Buyer Experience	Product discovery, cart, checkout, order tracking
Reviews & Ratings	Verified purchase reviews, seller ratings, moderation

Feature	Description
WhatsApp Commerce	Browse, order, pay, track via WhatsApp

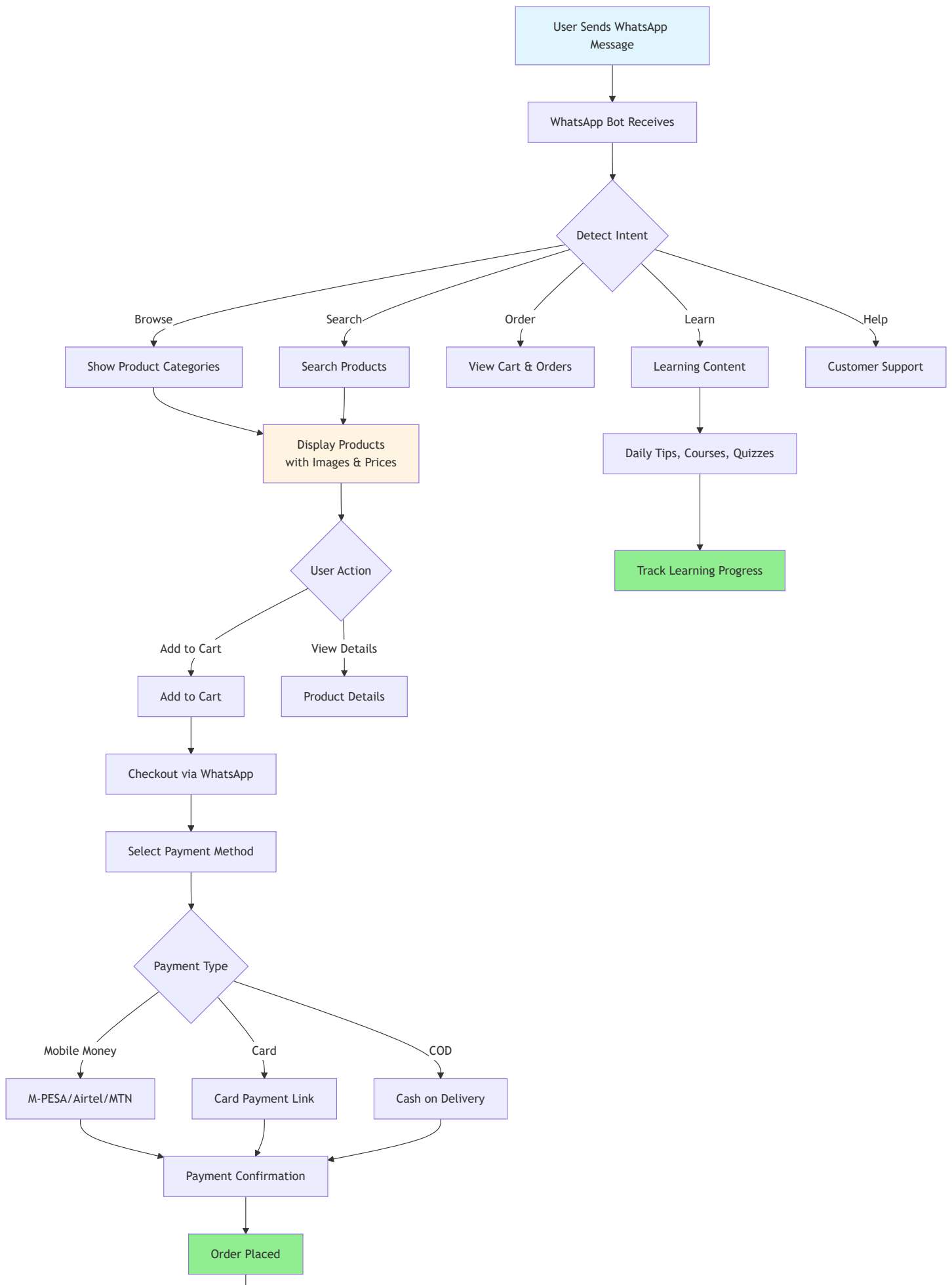
Business Support Features:

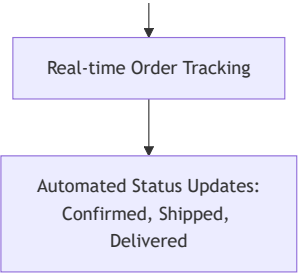
Feature	Description
Market Linkage	AI-powered business matching, supplier/buyer networks
Financial Services	Credit scoring, loan application, PFI integration
Bookkeeping	Invoicing, expense tracking, financial reports, OCR receipts
Events Management	Virtual/physical events, networking, matchmaking
Logistics Integration	Multi-carrier shipping, tracking, inventory management
Digital Microsites	Professional storefronts, SEO-optimized, custom domains

1.3 WhatsApp Integration - Our Signature Feature

Jirani's WhatsApp integration is a game-changer for African WMSMEs, providing full platform access through the most popular communication channel in Africa.

WhatsApp Commerce Flow:





WhatsApp Features:

Feature	Capabilities
Product Discovery	Browse categories, search products, view images/prices, product recommendations
Shopping Cart	Add/remove items, view cart, modify quantities, save for later
Checkout	Complete purchase flow, address entry, payment selection, order confirmation
Order Tracking	Real-time status updates, delivery notifications, proof of delivery
Customer Support	24/7 chatbot, human agent escalation, order inquiries, complaint resolution
Account Management	Profile updates, order history, saved addresses, payment methods
Notifications	Order updates, payment confirmations, promotional offers, learning reminders
Language Support	English, Swahili (expandable to local languages)
Offline Capability	Queue messages when offline, sync when connected

WhatsApp Technical Implementation:

Component	Technology
API	WhatsApp Business Cloud API (Meta)
Bot Framework	Custom NLP engine with intent recognition
Message Queue	Redis for message processing
Media Handling	Cloudinary for image optimization

Component	Technology
Session Management	Redis-based conversation state
Analytics	Message engagement, conversion tracking
Compliance	Opt-in management, GDPR/data protection

1.5 Technology Stack

Layer	Technologies
Frontend	React 18, Next.js 14, TailwindCSS, PWA
Backend	Node.js, Express, GraphQL, REST APIs
Database	PostgreSQL 15, Redis 7, Elasticsearch 8
Storage	AWS S3, Cloudinary (images/videos)
Messaging	WhatsApp Business API, Twilio (SMS), SendGrid (Email)
Payments	Flutterwave, Paystack, M-PESA API
Infrastructure	AWS (EC2, RDS, S3, CloudFront), Docker, Kubernetes
CI/CD	GitHub Actions, Docker, Terraform
Monitoring	Datadog, Sentry, CloudWatch
Security	SSL/TLS, OAuth 2.0, JWT, AES-256 encryption

1.6 White-Label Capabilities

Jirani is built from the ground up to support multiple Partner Financial Institutions (PFIs) with complete branding customization:

Customization	Options
Branding	Custom logo, color scheme, typography, favicon
Domain	Custom domain (e.g., marketplace.pfname.com) or subdomain
WhatsApp	Custom sender names, branded messages
User Interface	Customizable homepage, navigation, footer

Customization	Options
Payment Methods	PFI-specific payment gateway configurations
Content	Custom landing pages, help center, FAQs
Features	Enable/disable features per PFI requirements
Integrations	PFI-specific API integrations (core banking, CRM)
Reporting	Custom dashboards and analytics per PFI

1.7 Scalability & Multi-Tenancy

Multi-Tenancy Architecture:

- Shared infrastructure with isolated data per PFI
- Row-level security (RLS) for data protection
- Tenant-aware caching and session management
- Independent scaling per tenant
- Automated tenant provisioning (< 1 hour)

1.8 Compliance & Security

Aspect	Implementation
Data Protection	GDPR compliant, data encryption at rest and in transit
Payment Security	PCI-DSS Level 1 compliant
Authentication	Multi-factor authentication (MFA), OAuth 2.0, JWT
Authorization	Role-based access control (RBAC), granular permissions
Audit Trail	Immutable logs for all transactions and changes
Backup	Automated daily backups, 30-day retention, point-in-time recovery
Disaster Recovery	Multi-region deployment, RTO <4 hours, RPO <1 hour
Penetration Testing	Quarterly security audits, vulnerability scanning
Compliance	KYC/AML integration, financial regulations by country