

KrishiConnect MCP Server Architecture

Core Team

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Project Brief

Goal: Enable farmers to create ONDC/Marketplace product listings via voice commands (Hindi/English) in 6 weeks.

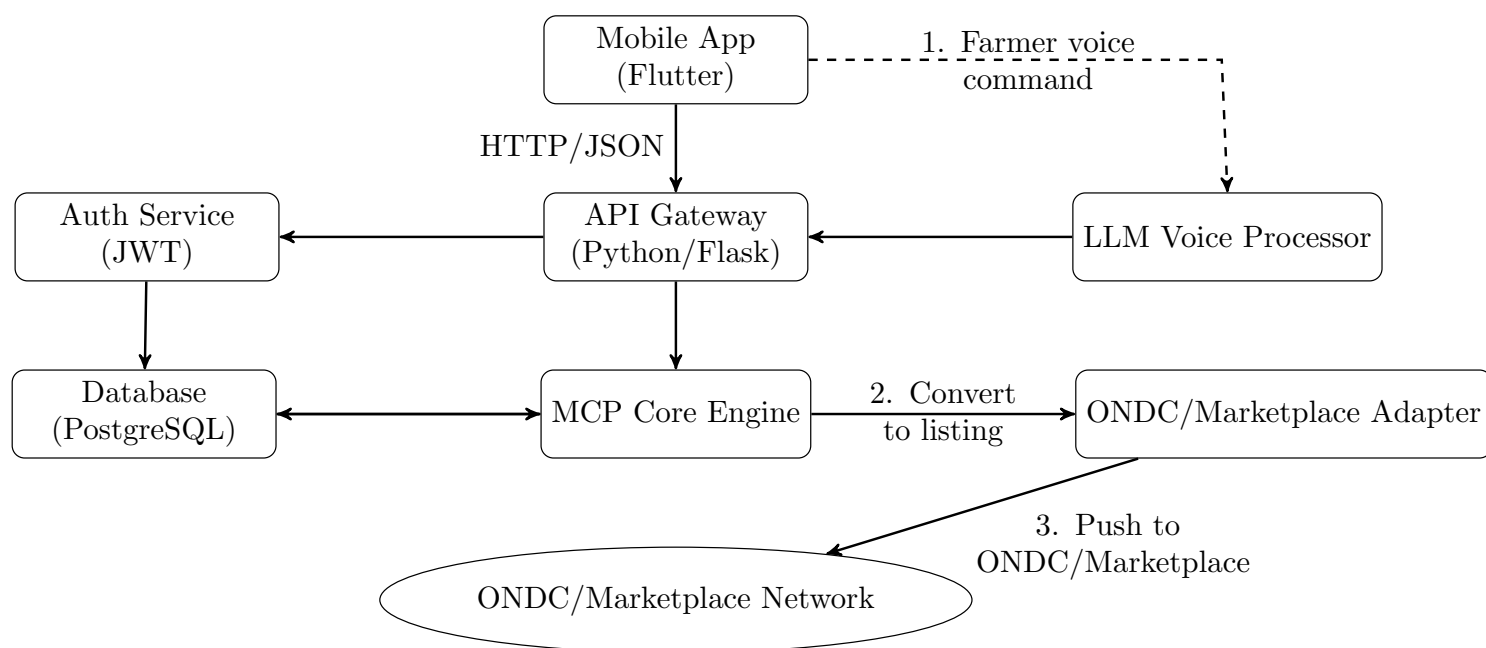
Core Components:

- MCP Server with ONDC/Marketplace adapter
- Voice-to-LLM processing pipeline
- Mobile app for voice to text service
- PostgreSQL database for farmer profiles login data

Constraints:

- 6-week delivery timeline
- Support Hindi/English voice
- ONDC/Marketplace Beckn protocol compliance

Technical Architecture



Component Responsibilities

| Component | Function |
|--------------------------|---|
| Mobile App | Voice recording, basic product UI, ONDC/Marketplace dashboard |
| API Gateway | Single entry point, request routing |
| Auth Service | Farmer registration/login (phone OTP) |
| LLM Processor | Speech-to-text (Whisper), command parsing |
| MCP Core | Product listing creation, inventory management |
| ONDC/Marketplace Adapter | Schema conversion to Beckn protocol |
| Database | Stores farmer profiles and product data |

End-to-End Workflow

1. Farmer speaks *"Sell 100kg tomatoes at Rs.50/kg"* in Hindi
2. Mobile app sends audio to LLM Processor
3. LLM converts speech to JSON: `{product: "tomatoes", qty: 100, price: 50}`
4. MCP Core validates and creates ONDC/Marketplace-compliant listing
5. ONDC/Marketplace Adapter pushes listing to network
6. Buyers discover product on ONDC/Marketplace marketplaces