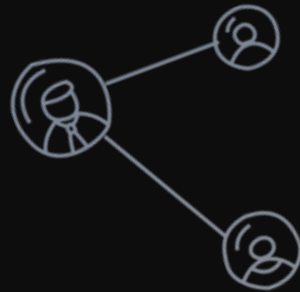# DEBUGON

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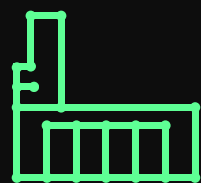
Team Name: DOMinators

Team Members Name: Saachi Peswani, Abhishek Sharma , Param Gogia, Khushi Parekh,

Problem Statement ID: 3

Problem Statement: Revolutionizing Onboarding for Kirana Stores Operational Challenges of SNPs and the Opportunities They Present

MARKET SURVEY

SHORTCOMINGS OF CURRENT **ONBOARDING** SYSTEMS

Market Share Decline:

- Kirana stores' market share expected to decline from 90% to 70%
- Facing tough competition from e-commerce and organized retail
- Unable to match discounts and variety offered by modern retailers
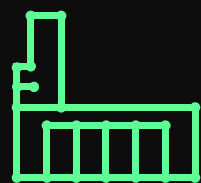
Digital Adoption Barriers:

- Only 15,000 out of 1.27 crore stores have adopted digitization
- Platform lock-in issues with existing solutions
- Duplicate onboarding costs across different platforms
- Trust deficit and rigid mindset among store owners

Operational Inefficiencies

- Manual inventory management and bookkeeping
- Limited procurement optimization
- No systematic catalog management
- Lack of standardized product listings
- Poor access to value chain partners

Customer Experience Gaps:

- Poor cleanliness and organization compared to modern retail
- Limited promotional offers
- Inconsistent quality standards
- Lack of online shopping options
- No systematic customer service approach

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PROPOSED SOLUTION

Our proposed solution is a voice-enabled, multilingual mobile application designed specifically for Kirana store owners to seamlessly transition into digital commerce through ONDC. The app leverages natural language processing and voice commands in regional languages, allowing store owners like Shyam to manage their digital storefront through simple voice interactions. The interface combines visual guides with voice assistance, making it accessible even for users with limited digital literacy, while automated catalog management and inventory sync help maintain their digital presence effortlessly.

Multilingual Visual Assistant

Interactive tutorials and help content in different languages with voice-over support

Voice-Guided Registration Wizard

Complete ONDC seller registration through natural conversation flows in local languages

Offline Mode Operations

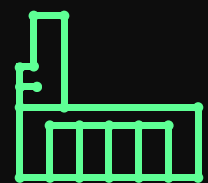Continue essential operations without internet, with automatic sync when connectivity returns

Smart Store Profile Builder

Create digital store profile by simply speaking out store details
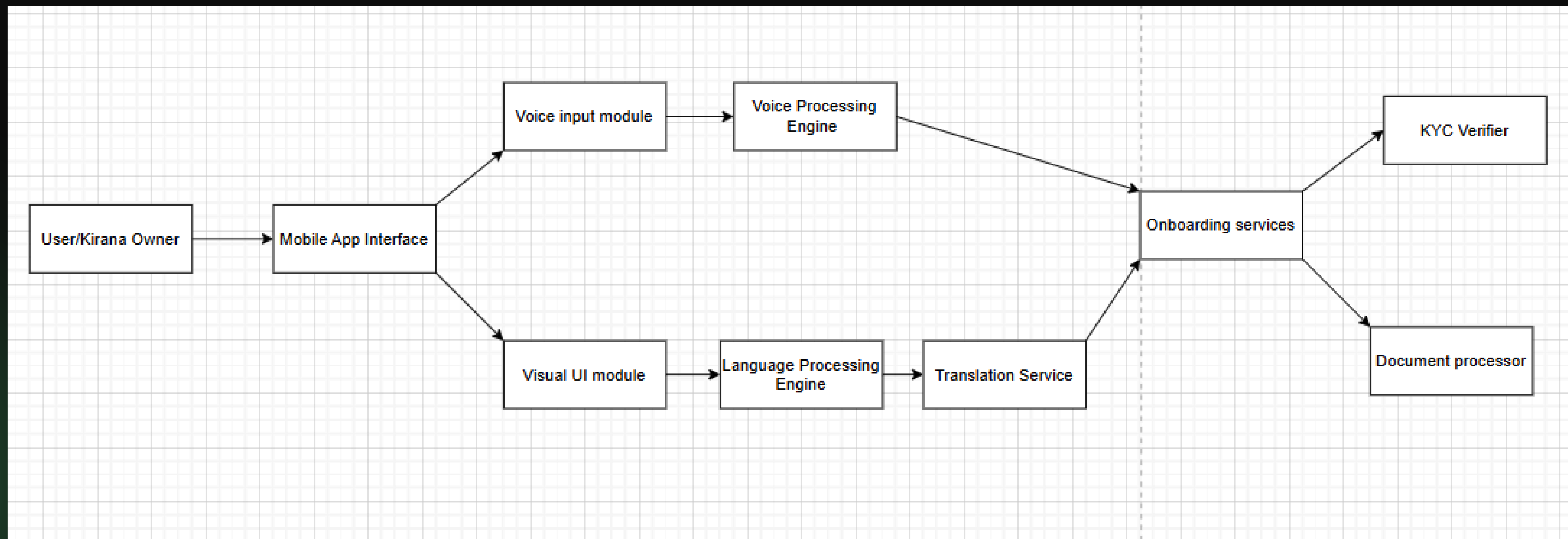
Inclusive Accessibility Features

Features like blind mode and multilingual support ensure the platform is accessible to everyone, regardless of their needs..
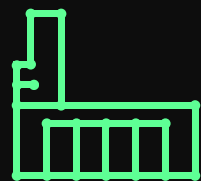
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ARCHITECTURE DIAGRAM

TECHNICAL STACK AND FEASIBILITY

SCALABILITY

Our Tech Stack Ensures:

1. Instant Scalability: Automatically scales from 100 to 100,000+ concurrent users

2. Language Performance: Real-time voice processing in 12+ Indian languages

3. Reliable Operations: 99.9% uptime with offline functionality

4. Data Security & Growth: Bank-grade security with automated ONDC compliance

5. Cost Efficiency: Pay-per-use model at ₹10 per merchant onboarding

Frontend

Flutter SDK, BLoC Pattern for State Management, GetX for Navigation, Hive for Local Storage
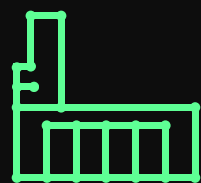
Backend & Database

Firebase (Auth & Firestore), Node.js Microservices, Redis Cache, MongoDB Atlas

Language Processing

Google Cloud Speech-to-Text, Azure Translator API, Fast API for Custom Language along with NLP models.

Swipe ➔

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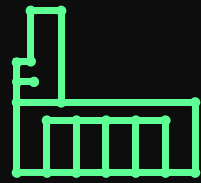
IMPACT AND BENEFITS FOR ONDC

Benefits to ONDC:

- Rapid Network Growth Faster seller onboarding across India's diverse linguistic regions
- Rural Penetration Enables easy access to Tier 2/3/4 market merchants
- Standardization Consistent quality of merchant data and catalogs
- Network Effect More sellers = more buyers = stronger ecosystem
- Cost Reduction Reduces ONDC's manual intervention costs in onboarding

Business Value for Merchants:

- Zero Learning Curve Use voice commands in local language to manage store
- Quick Setup 15-minute digital store creation
- Market Expansion Access to nationwide customer base
- Zero Technical Cost No need for additional hardware or training
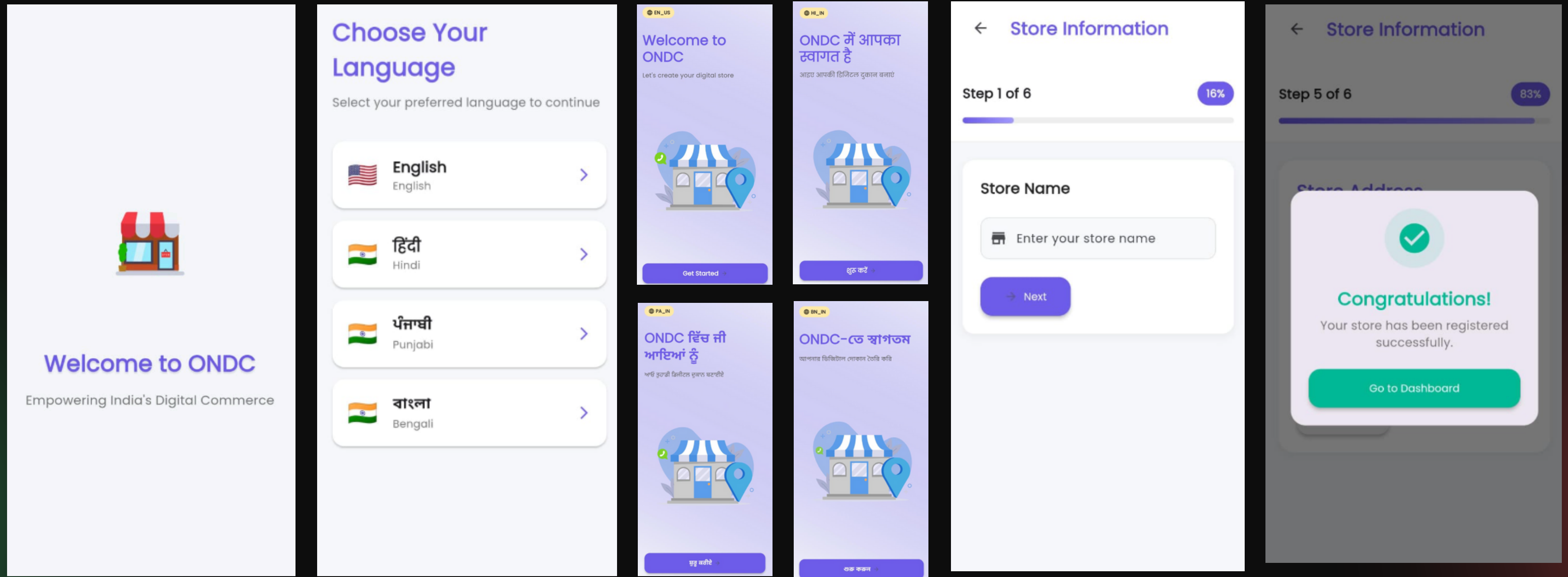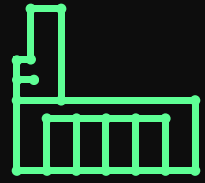- Future Ready One-time setup for all digital commerce needs

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PROTOTYPE

Prototype video link: Google Drive Link
GitHub Repository link: GitHub Link

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RESEARCH AND REFERENCES

- https://www.researchgate.net/publication/235284284_Would_Indian_consumers_move_from_kirana_stores_to_organized_retailers_when_shopping_for_groceries
- https://www.sattva.co.in/ski/unlocking-the-potential-of-kirana-stores-with-ondc/