Voice Testing Quick Start

Quick guide to test the voice functionality in Multilingual Mandi.

Prerequisites

1. **Node.js installed** (v18 or higher)

```
node --version
```

2. **Dependencies installed**

```
cd backend
npm install
```

3. **API keys configured** in `backend/.env`

```
SARVAM_API_KEY=sarvam-key
OPENROUTER_API_KEY=openrouter-key
```

Quick Test (30 seconds)

Run the complete voice pipeline test:

```
node test/test-voice-complete.js test/sample_add_listing.m4a
```

Paras

Expected Result:

```
 Transcription successful!
 Transcribed Text: मुझे 100 किलो गेहूं बेचना है

 Intent Extracted Successfully!
   Intent: create_listing
   Crop: wheat
   Quantity: 100 kg
```

What This Tests

1. **SARVAM STT**: Converts audio to text

2. **OpenRouter AI**: Extracts intent and parameters
3. **Complete Pipeline**: End-to-end voice processing

If It Works

Great! Your voice pipeline is working. Next steps:

1. **Test with Kisaan Bot UI**:

```
# Terminal 1: Start backend
cd backend
npm start

# Terminal 2: Start frontend
cd frontend
npm run dev
```

2. **Open browser**: http://localhost:3000

3. **Click Kisaan Bot** (bottom right corner)

4. **Click microphone** and speak your query

5. **Check results** in the UI

If It Fails

Error: "node is not recognized"

Solution: Add Node.js to your PATH or use full path:

```
C:\Program Files\nodejs\node.exe test-voice-complete.js
test/sample_add_listing.m4a
```

Error: "SARVAM_API_KEY not configured"

Solution: Check `backend/.env` file has valid API key

Error: "Audio file not found"

Solution: Ensure you're in the project root directory

Error: "Request timeout"

Solution: Check internet connection, try again

Test Different Scenarios

Test Price Query

Create audio file saying: "आईफोन का दाम क्या है?"

```
node test-voice-complete.js path/to/your/audio.m4a
```

Expected intent: `price_query`

Test Search Listings

Create audio file saying: "मुझे पुरानी साइकिल चाहिए"

```
node test-voice-complete.js path/to/your/audio.m4a
```

Expected intent: `search_listings`

Test Make Offer

Create audio file saying: "मैं 50 हजार रुपये देने चाहता हूं इस सामान के लिए"

```
node test-voice-complete.js path/to/your/audio.m4a
```

Expected intent: `make_offer`

Supported Audio Formats 🎵

- WAV (`.wav`)
- MP3 (`.mp3`)
- M4A (`.m4a`) ← Sample file format
- OGG (`.ogg`)
- WebM (`.webm`)

Supported Languages 🌐

- Hindi (hi) - Primary
- English (en) - Supported
- Marathi (mr) - Supported
- Tamil (ta) - Supported
- Telugu (te) - Supported
- Kannada (kn) - Supported
- Punjabi (pa) - Supported

Performance ⚡

Typical response times:

- SARVAM STT: 2-5 seconds
- OpenRouter: 1-3 seconds
- **Total: 3-8 seconds**

Need More Help? 🆘

- **Detailed Guide**: docs/VOICE_TESTING_GUIDE.md
- **Configuration**: docs/ASSETS_CONFIGURATION.md
- **Troubleshooting**: See Voice Testing Guide

Quick Commands Reference 📋

```
# Complete pipeline test
node test/test-voice-complete.js test/sample_add_listing.m4a

# Test SARVAM only
node backend/test-sarvam-standalone.js test/sample_add_listing.m4a

# Test OpenRouter only
node backend/test-openrouter-standalone.js "मेरे 100 किलो टमाटर बेचने हैं"

# Start backend server
cd backend && npm start

# Start frontend server
cd frontend && npm run dev
```

Success Criteria 🎯

Your voice pipeline is working if:

- ☐ Audio is transcribed correctly
- ☐ Intent is extracted (price_query, create_listing, etc.)
- ☐ Parameters are parsed (cropType, quantity, etc.)
- ☐ Response time is under 10 seconds
- ☐ No errors in console

Ready to test? Run: `node test/test-voice-complete.js test/sample_add_listing.m4a`

Questions? Check test/VOICE_TESTING_GUIDE.md