

# Revolt Motors Voice Chatbot

A real-time **voice assistant** for Revolt Motors built with **Node.js**, **Express**, **WebSockets**, and **Gemini Live API**.

The assistant, named **Rev**, answers queries about Revolt Motors' electric motorcycles, supports **interruptions**, and delivers **low-latency voice responses**.

## ■ Features

- **Live voice conversations** with Google's Gemini Live API.
- **Interruptions** — stop AI mid-response and ask a new question.
- **Low-latency streaming audio** responses (target: 1–2s).
- **Modern frontend** with microphone controls and debug panel.
- **Secure server-to-server** API key handling.
- **Cross-browser compatibility checks**.

## ■ Project Structure

```
■■■■ .env # Environment variables
■■■■ package.json # Dependencies & scripts
■■■■ package-lock.json # Locked dependencies
■■■■ server.js # Node.js backend with WebSocket + Gemini integration
■■■■ index.html # Frontend UI
■■■■ test-api.js # Gemini API connection test script
■■■■ README.md # Documentation
```

## ■■■ Requirements

- Node.js **v16+**
- A **Gemini Live API key** from Google AI Studio
- Internet connection & microphone access

## ■ Environment Variables

Create a `.env` file in the root directory:

```
GEMINI_API_KEY=your_api_key_here
GEMINI_MODEL=gemini-2.0-flash-live-001
PORT=3000
NODE_ENV=development
```

For production:

```
GEMINI_MODEL=gemini-2.5-flash-preview-native-audio-dialog
```

## ■ Installation

1. Clone the repository  
``bash

```
git clone https://github.com/your-username/revolt-voice-chatbot.git
cd revolt-voice-chatbot
...
```

2. Install dependencies

```
```bash
npm install
```
```

3. Set up `.env` with your API key and settings.

## ■■ Run the App

Development mode:

```
npm run dev
```

Production mode:

```
npm start
```

Visit:

<http://localhost:3000>

## ■ Test the Gemini API

```
npm run test
```

## ■ How It Works

**Frontend** (`index.html`):

- UI with mic button, status messages, and debug logs.
- Uses **MediaRecorder API** to capture voice input.
- Sends audio via **WebSocket** to the backend.
- Plays streaming AI audio responses in real time.

**Backend** (`server.js`):

- Serves the frontend.
- Manages **WebSocket connections**.
- Connects to **Gemini Live API** securely.
- Forwards AI-generated audio back to the client.

## ■ AI Behavior

- Only talks about **Revolt Motors**.
- Friendly, professional, enthusiastic.
- Keeps responses under 30 seconds.
- Redirects unrelated queries politely.

## ■ Resources

- Revolt Motors Live Chatbot: <https://live.revoltmotors.com/>

- Gemini Live API Docs: <https://ai.google.dev/gemini-api/docs/live>
- Google AI Studio Playground: <https://aistudio.google.com/live>

## ■ License

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