BUSINESS PLAN

ConvoAI

AI Language Conversation Partner

6-Week MVP Development Project

Confidential - Academic Project

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1. Executive Summary

ConvoAI is an AI-powered language learning web application designed to help Spanish learners practice real-world conversations in a judgment-free environment. Our 6-week minimum viable product (MVP) addresses the critical gap between vocabulary learning apps and expensive human tutors by providing scenario-based conversation practice with intelligent AI feedback using completely free AI models.

1.1. Business Concept

Most Spanish learners struggle to achieve conversational fluency because they lack affordable, accessible opportunities for practice. Traditional solutions—hiring tutors ($30-60/hour), finding language partners (scheduling challenges), or attending conversation groups (intimidating for beginners)—create barriers to consistent practice. Existing apps like Duolingo focus on vocabulary drills but provide limited authentic conversation experience.

AI Language Conversation Partner

- Web app where users practice conversations with AI in realistic scenarios
- AI gives real-time feedback and suggestions
- Core scenario: Restaurant/Café ordering in Spanish
- Simple text-based chat interface
- Basic conversation tracking

Our focused MVP concentrates exclusively on Spanish (the most-studied language in the US) and delivers a web-only experience, ensuring we can build, test, and validate the core concept within our 6-week academic project timeline.

1.2. Target Market

Our initial target audience consists of Spanish learners who already have basic knowledge (completed at least one semester or equivalent) and need conversational practice:

College Students (18-24): Taking Spanish courses and needing extra practice beyond classroom hours. Tech-comfortable, budget-conscious, motivated by grades or study abroad. Approximately 50% of our initial user base.

Young Professionals (25-35): Working adults who want practical Spanish skills for career advancement, travel, or personal enrichment. Value time efficiency and real-world application. Approximately 35% of our initial user base.

Travelers & Hobbyists (25-50): People planning trips to Spanish-speaking countries or learning for personal interest. Prioritize practical conversation over academic perfection. Approximately 15% of our initial user base.

Geographic focus: United States, starting with our university community for beta testing before expanding to broader markets.

1.3. Proposed Solution

ConvoAI delivers focused, achievable value through carefully scoped features that leverage completely free and open-source AI technology.

Core Technical Approach:

- AI Integration: Uses free Hugging Face Inference API (Mistral-7B-Instruct) for natural conversation generation—completely free with no API costs
- Core Scenario: Restaurant/Café conversation covering common real-world situations
- Conversation Interface: Simple, intuitive chat interface for practicing Spanish
- Backend Architecture: Node.js/Express API with PostgreSQL database handles authentication and AI orchestration

Unlike Duolingo (gamified drills) or Babbel (structured lessons), ConvoAI specializes exclusively in free-form conversational practice—the exact skill traditional apps struggle to teach effectively. By using free AI models through Hugging Face's free Inference API, we eliminate all ongoing costs.

1.4. Team

Our three-person team brings complementary full-stack development skills:

Backend Developer: Node.js/Express API, PostgreSQL database with Prisma ORM, AI API integration, JWT authentication, conversation logic and prompt engineering. Proficient in JavaScript, RESTful APIs, SQL.

Frontend Developer: React application, UI/UX design, responsive design, state management, chat interface. Strong React/JavaScript, CSS skills.

Full-Stack/Content Developer: Scenario content creation, testing/QA, deployment. Full-stack JavaScript, Spanish proficiency, deployment experience (Vercel/Railway).

Team collaboration: Git/GitHub for version control, twice-weekly standups, shared task board (Trello), sprint reviews. All members are computer science students with web development coursework completed.

2. Product Overview

2.1. Core Features

Our MVP includes essential features designed for feasibility within 6 weeks while delivering genuine learning value.

1. Restaurant/Café Conversation Scenario

Users engage in realistic Spanish conversation simulating a restaurant setting:

Restaurant/Café: Ordering food and drinks, asking about menu items, requesting the check. Includes context setting and AI role configuration as friendly Spanish waiter.

2. AI Conversation Engine

Powered by free Hugging Face Inference API (Mistral-7B-Instruct):

- Responds naturally in Spanish, staying in character for the restaurant scenario
- Maintains conversation context throughout the session
- Handles errors gracefully, asking for clarification when needed
- No API costs - completely free

Implementation uses carefully engineered prompts to ensure the AI provides educational value while maintaining engaging, natural conversation flow.

3. User Authentication

Secure user management system:

- Email and password registration
- JWT-based authentication for secure sessions
- Protected routes ensuring user privacy

4. Simple Conversation Tracking

Basic tracking functionality:

- Users can start new conversations
- Clean, intuitive interface focused on learning

2.2. Technology Stack

Technology choices prioritize development speed, team familiarity, zero cost, and proven, well-documented tools to minimize risk within our 6-week timeline.

Frontend (Web Application)

- React 18: Component-based UI framework with hooks for state management
- CSS: Clean, responsive styling

- React Router: Client-side routing for navigation
- Axios: HTTP client for backend API requests

Backend (API Server)

- Node.js + Express: JavaScript runtime and web framework for RESTful APIs
- PostgreSQL: Relational database for users and authentication
- Prisma ORM: Database toolkit for schema management and type-safe queries
- JWT Authentication: JSON Web Tokens for secure, stateless user authentication
- bcrypt: Password hashing for secure credential storage

AI Integration (100% FREE)

- Hugging Face Inference API (FREE): Primary conversation generation
- Model: Mistral-7B-Instruct-v0.3 (excellent Spanish support, completely free)
- Custom prompt engineering: Scenario-specific system prompts for educational responses
- No API costs at any scale during development or testing

Development & Deployment

- Git & GitHub: Version control with feature branch workflow
- Vercel: Frontend hosting with automatic GitHub deployments (free tier)
- Railway/Render: Backend hosting with PostgreSQL database (free tier)
- Environment variables: Secure API key and credential storage

All team members have JavaScript/React/Node.js experience from coursework. Stack uses completely free services. Excellent documentation and community support enable rapid problem-solving.

3. Market Analysis

3.1. Industry Overview

The digital language learning market is experiencing rapid growth driven by technological advances and changing learning preferences.

Market Size & Growth

- Global digital language learning: $14.7B (2023) → $70.6B (2032) projected, 19.2% CAGR
- US market: 35% of global market ($5.1B in 2023) with strong AI-powered solution growth
- Spanish learning: 8 million US students in schools, plus millions of adult learners

Key Market Drivers

- Cost-effectiveness: Digital learning costs 60-80% less than tutoring ($30-60/hour)
- Flexibility: Learn anytime, anywhere—critical for busy students and professionals
- AI advancement: Open-source models enable natural conversations with zero cost
- Conversation gap: Most apps focus on vocabulary/grammar; few provide quality conversational practice

ConvoAI Opportunity: Clear gap between expensive human tutoring and limited app-based practice. Our AI conversation focus fills this gap at zero cost using free AI models.

4. Marketing and Sales Strategy

4.1. Marketing Channels

For our 6-week MVP, marketing focuses on low-cost, high-impact channels suitable for a student project.

University Community (Primary Launch Channel)

- Partner with Spanish department for beta testing (10-15 student volunteers)
- Present to Spanish classes with instructor permission
- Posts in university subreddit and student groups

Total marketing budget for MVP: $0 (student project, organic channels only).

4.2. Customer Acquisition

Free Access Strategy (MVP Phase)

- Weeks 1-4: Development and internal testing
- Weeks 5-6: Open to 10-15 test users from university
- Goal: 10-15 active test users by end of week 6 for proof-of-concept

Success Metrics (MVP)

- User activation: Target 75%+ complete first conversation
- User satisfaction: Target 4+ stars average from test user surveys
- Technical success: Stable, deployed application

4.3. Development Timeline & Costs

6-Week MVP Timeline

- Weeks 1-2: Core infrastructure (auth, database, basic setup)
- Weeks 3-4: AI integration and conversation functionality
- Weeks 5-6: Testing, deployment, user feedback, presentation

Estimated Development Costs (MVP)

- AI API costs: $0 (using free Hugging Face Inference API)
- Hosting: $0 (free tiers: Vercel, Railway/Render)
- Domain name: $0-12/year (optional for MVP)
- Total: $0-12 for 6-week MVP development

Success Definition (Academic Project): Working web application demonstrating AI conversation capability, positive user feedback from test users, technical documentation, and polished presentation. Revenue generation not required for MVP success.

5. Risk Analysis & Mitigation

This section identifies key risks to project success and provides mitigation strategies.

5.1. Risk Matrix

Impact/Likelihood	Low	Medium	High
High Impact	R3: Database Issues	R1: AI Model Quality R2: Time Management	
Medium Impact		R4: Deployment R5: User Adoption	
Low Impact	R6: Minor Bugs		

Risk Color Legend:

- Orange: High Priority - Active mitigation needed
- Yellow: Monitor - Regular tracking
- Green: Low Priority - Standard management

5.2. Key Risks & Mitigation Strategies

R1: AI Model Response Quality

Description: Free AI model may produce inconsistent or lower quality Spanish responses.

Mitigation:

- Test Mistral-7B extensively before full implementation
- Create detailed system prompts with strict constraints
- Implement response validation
- Focus on narrow scenario (restaurant) for better quality

R2: Time Management

Description: Team members balancing coursework may fall behind schedule.

Mitigation:

- Realistic sprint planning with buffer time
- Bi-weekly standups to catch blockers early
- Clear task ownership in Trello
- Focused scope on core features only

R3: Database Design Issues

Description: Poor initial schema could require migration mid-project.

Mitigation:

- Design complete schema in Week 1 before coding
- Review schema with all team members
- Use Prisma migrations for easy updates

R4: Deployment Challenges

Description: First-time deployment may encounter unexpected issues.

Mitigation:

- Deploy early with minimal features to test pipeline
- Use platform-specific documentation
- Allocate sufficient time in Week 6 for troubleshooting

R5: User Adoption

Description: Test users may not engage or provide feedback.

Mitigation:

- Partner with Spanish department instructors
- Create structured feedback survey
- Make onboarding extremely simple

R6: Minor Bugs

Description: Small UI bugs or edge cases that don't break core functionality.

Mitigation:

- Maintain bug backlog prioritized by severity
- Focus fixes on critical issues only
- Accept some minor bugs for MVP

Conclusion

ConvoAI addresses a genuine gap in language learning—affordable, accessible conversation practice—using completely free, cutting-edge open-source AI technology. Our carefully scoped MVP focuses on delivering real value within a 6-week timeline by leveraging free tools rather than expensive commercial APIs.

The project balances ambition with feasibility: challenging enough to demonstrate technical skills and create genuine value for users, yet achievable with our three-person team and academic schedule constraints. By focusing on a core conversation feature and essential functionality, we ensure delivery of a working, demonstrable product.

Success will be measured by working software, positive user feedback, and demonstrated learning outcomes. The combination of proven market demand, zero-cost technology, and focused execution positions ConvoAI as both an educational endeavor and foundation for future development.

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