

Speakify – Presentation Dossier

1. Project Overview

Speakify is a language-learning platform that rethinks how people acquire languages in a digital world. It offers learners a rich, personalized, and interactive experience where listening, repetition, and contextual practice are central. Whether used by individuals for self-guided learning or by educators managing entire classrooms, Speakify adapts to each user's goals and pace.

At its core, Speakify is about turning passive study into active practice — allowing users to experience the language through structured playlists, smart content generation, real-time audio playback, and flexible schema-driven logic.

2. Objectives & Innovation

Speakify was created in response to a recurring challenge in language education: how to keep learners engaged, exposed to real content, and supported with the tools to retain and reuse what they learn. While many platforms offer lessons and flashcards, few support:

- Dynamic, personalized repetition logic
- Sentence-level mastery tracking
- AI-assisted content generation
- Audio customization by voice, language, and provider
- Group-based learning environments

Speakify answers this gap with a system built to adapt, grow, and support real-world language practice.

3. Key Functional Features

3.1 Custom Playlists and Playback Schemas

Speakify lets users create playlists filled with "translation blocks" — sentence pairs across two or more languages. These can be replayed in specific sequences defined by reusable playback schemas. A schema might specify that the sentence should be repeated 3 times in French, followed by 2 times in English 1 time in Spanish, with delays in between. This repetition and rhythm help strengthen memorization and recall.

3.2 Smart List Generation via AI

Speakify leverages the power of OpenAI to allow learners to generate learning content that is contextually rich, relevant to their interests, and highly adaptive to real-life situations. Unlike

traditional static flashcards, smart lists provide a flexible and dynamic entry point into new vocabulary or sentence structures.

Users can generate:

- Keyword-based playlists (e.g., "coffee") for vocabulary expansion
- Word of the Day prompts that offer a new learning spark daily
- Verb conjugation sets tailored to specific tenses or grammar rules
- Contextual scenarios ("starting a new job," "ordering in a restaurant") that reflect real-life use cases

These smart lists are not only generated with precision but can be reviewed, modified, and seamlessly added to any existing playlist. The feature empowers learners to personalize their journey, focus on what matters most to them, and engage with content that is both familiar and challenging.

3.3 On-the-Go Note Capture

Speakify also empowers users to capture spontaneous questions and phrases. Whether it's text or voice, users can quickly record thoughts like, "How would I say this in French?" and store it as a note for later processing. These notes can be reviewed, translated, or even turned into new playlist items — transforming curiosity into learning.

3.4 TTS Integration

Every sentence in Speakify can be played back using TTS (Text-to-Speech) audio, with options for language, provider (Google, OpenAI, etc.), and voice style. This ensures learners get not just visual exposure, but audio immersion — crucial for pronunciation and listening skills.

3.5 Mastery & Progress Tracking

Speakify includes a mastery system where users can track their familiarity with specific content. As they reduce repetition frequency for known content, the platform marks sentences as "mastered." This data feeds into achievements — with badges, streaks, and XP systems to encourage long-term engagement.

3.6 Group Features for Teachers

Speakify isn't just for solo learners. Educators can:

- Create groups
- Invite students
- Assign playlists to a class
- Track participation and progress (in future versions)

Groups turn Speakify into a digital classroom tool, supporting tutoring, formal lessons, or even corporate training environments.

3.7 Social Connectivity (Future Feature)

To bridge the gap between digital practice and real conversation, Speakify may offer features that connect users based on shared language goals, locations, or interests. Users could then chat, call, or even meet in person to practice in authentic, meaningful ways.

4. Technical Structure

Speakify's architecture is based on a relational database schema that emphasizes normalization, clarity, and scalability. Key technical features include:

- **Translation Logic:** translation_pairs, sentences, languages
- **Customization:** schemas, user_settings, smart_lists
- **Audio System:** tts_audio, tts_providers, tts_voices
- **Progress Tracking:** sentence_mastery, achievements
- **Collaboration:** groups, group_members, group_playlists
- **User Behavior:** sessions, notes (planned), favorites

An MCD (Modèle Conceptuel de Données) was developed to support this logic, including labeled cardinalities and visual zoning.

5. Scalability & Future Development

Speakify's backend and data structure are built with future growth in mind:

- Adding more languages and voices
- Integration with additional AI tools
- Expansion of group and community tools
- Push notifications, gamification layers, and adaptive scheduling

The project is modular: each major feature (TTS, groups, AI, progress tracking) can evolve independently while remaining fully integrated into the core learning experience.

6. Development Timeline

Phase	Timeline	Deliverables
Ideation	March 2025	Feature planning, project definition, tech stack decisions
Data Modeling	Late March 2025	MCD diagram, schema files, config setup
Core Dev	Early April 2025	Playback, UI logic, session manager
TTS Integration	Mid-April 2025	Google/OpenAI API use, audio linking
Smart List & OpenAI	Mid-April 2025	Contextual and keyword list generation
Group Features	Late April 2025	Group creation, playlist sharing
Finalization	April 21–24, 2025	MCD export, docs, soutenance presentation prep

7. Conclusion

Speakify combines dynamic AI content, interactive TTS playback, personalized control, and collaborative tools into one cohesive language-learning system. Whether for individual mastery or group engagement, it provides learners with tools that adapt to their goals, environment, and imagination. Designed to grow, Speakify is not just an app — it's a learning platform that listens, speaks, and evolves with its users.