

Hackathon ING Groupe 32

INNOVATION FOR TOMORROW'S BANKING



Problem & Objective



1 CONTEXT & OBJECTIVE

2 LIVE DEMONSTRATION

3 TECHNICAL EXPLANATION

Context & Objective

- ING Belgium wants a voice-enabled assistant for banking services.
- Key challenges:
 - Multi-language support (Dutch required, French/English bonus)
 - Context-aware responses for banking tasks
 - Fast, natural, secure voice interaction
- Our goal: Guide users efficiently using Al-powered voice assistant



Demo Overview

- Quick walkthrough of the prototype:
- User speaks → Assistant understands → Responds naturally
- Handles tasks like:
 - Checking account balance
 - Viewing transactions
 - Blocking cards / requesting info
- Focus on ease of use and fast response



Live Demonstration

- Show the prototype in action.
- Example interaction:
 - User: "I want to check my savings account balance."
 - Assistant: "Your balance is XXX EUR. Do you want to see recent transactions?"
- Highlight: context-aware responses, voice interaction, multi-language support

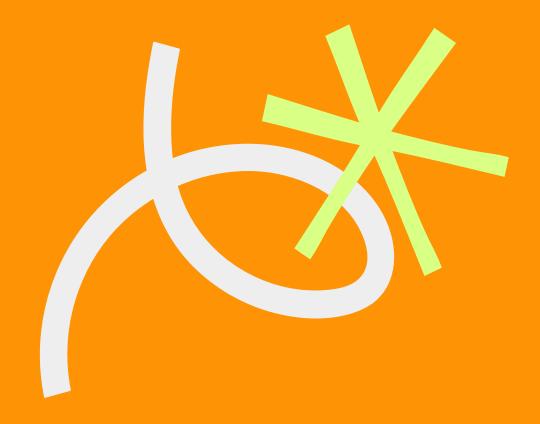


Problem & Objective

- Voice Interface: Speech-to-Text & Text-to-Speech
- Backend & AI:
 - NLP: SentenceTransformer + TF-IDF for semantic and keyword understanding
 - Similarity: Cosine similarity to match user queries with banking information
 - Voice: Google Cloud Speech-to-Text and Text-to-Speech
- Data:
 - Synthetic banking data: customers, transactions, products
 - Website content chunks for FAQ and guidance
- Optimizations:
 - Multi-language support, low latency, secure handling
- Security:
 - When a user interacts with the assistant, their voice is securely recorded and analyzed.
 - This allows potential voice-based authentication to verify the user's identity before sensitive actions (like blocking a card or viewing account details).



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