

1 - MOTIVATION



Emergency medical call operators (155) must react quickly, calmly, and accurately in extremely stressful situations.

Traditional training methods are limited by:

- High costs of live actors
- Limited availability of instructors
- Lack of realistic and repeatable scenarios

This project introduces an AI-driven training/testing platform that enables operators to safely practice emergency calls in a realistic and repeatable environment.



4 - SYSTEM OVERVIEW

Call record

1. WHO IS CALLING? Peter

2. CALLER TYPE H1 - Calls themselves (patient)

3. PRIORITY K - Critical

4. LOCATION -- Select region -- City, Street, House number

5. DEPARTURE TYPE Primary

6. DIAGNOSIS -- Select diagnosis --

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Welcome, Ján Novák

Operator dashboard

My tasks

Training scenarios

History

My statistics

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Successful

Score: 50%

Detailed evaluation:

Data accuracy	30%
Expertise	60%
Empathy	70%
Response speed	90%
Notes quality	0%

Note: This was training mode. Data was not saved to the database.

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LIVE CALL SCREEN

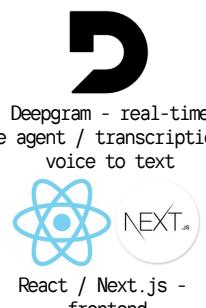
OPERATOR DASHBOARD

POST-CALL EVALUATION

5 - KEY FEATURES

- Real-time voice calls (operator ↔ AI patient)
- AI-generated caller emotions and behavior
- Live transcription displayed on screen
- Structured emergency call workflow
- Post-call evaluation and feedback
- Scenario-based training (medical emergencies)

6 - TECHNOLOGIES USED



Deepgram - real-time voice agent / transcription from voice to text

React / Next.js - frontend



Twilio - voice call infrastructure



MongoDB | ChromaDB data storage



Huggingface - LLM integration



PostgreSQL



FastAPI - backend services



Docker - containerized deployment

7 - EVALUATION & FEEDBACK

After each training session, the system evaluates:

- Clarity of operator communication
- Accuracy of questions asked
- Reaction time and call structure
- Compliance with emergency procedures
- Overall performance score

8 - TARGET USERS

- Emergency medical call operators (155)
- Training centers
- Educational institutions
- Emergency response organizations

9 - BENEFITS

- Scalable and repeatable training
- Reduced training costs
- Objective and consistent evaluation
- Improved operator preparedness
- Safe environment for learning from mistakes
- Realistic emergency simulations without real risk