Using Generative AI to Develop Croatian Language Scenarios for XR-based Migrant Integration

Authors: Kristina Posavec, Institute for Migration Research
Natasha Kathleen Ružić, Institute for Migration Research
Abstract ID: 403
Event: Linguistics 2026 Paris
Subject: 24. AI linguistics
Presenter Name: Kristina Posavec

Abstract

The growing use of extended reality (XR) technologies in educational settings has created new opportunities for supporting the linguistic and social integration of migrants. At the same time, recent advances in generative artificial intelligence (AI) enable the rapid creation of authentic learning materials that can be adapted to different communicative contexts and proficiency levels. Despite this potential, there is still limited research on systematic approaches to designing AI-generated language scenarios for less widely taught languages such as Croatian.

This paper proposes a methodological framework for developing Croatian language scenarios intended for XR-based integration environments using generative AI. Rather than evaluating language learners, the study focuses on the process of creating pedagogically appropriate and linguistically authentic dialogue scenarios. A set of everyday communicative situations relevant to migrant integration (e.g., healthcare, public administration, education, employment, banking, and everyday interactions) will be used to generate dialogues through carefully designed prompting strategies. Different prompt structures will be compared according to predefined linguistic and pedagogical criteria, including grammatical accuracy, lexical appropriateness, communicative naturalness, CEFR-level suitability, cultural relevance, and applicability within immersive XR environments.

The study aims to identify prompt design principles that consistently produce high-quality Croatian language materials suitable for integration-oriented XR applications. The proposed framework offers practical guidance for educators, instructional designers, and developers of AI-assisted language learning systems, while contributing to the growing intersection of applied linguistics, language technology, and immersive learning environments. Furthermore, the paper demonstrates how generative AI can support the development of language resources for less-resourced languages without relying on empirical data collection from participants, providing a scalable methodology for future research and educational practice.

Keywords: Generative Artificial Intelligence, Extended Reality, Croatian as a Second Language, Migrant Integration, Prompt Engineering, AI-Assisted Language Learning