Implementation of a COVAREP-integrated application for voice analysis using LLMs

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This paper presents VocalCheck, a mobile application designed to monitor voice condition based on recordings made with a smartphone. The development process began with a comprehensive literature review and an evaluation of existing voice processing applications, which informed the project's design requirements. Based on this analysis, an application was developed to enable the recording and preliminary analysis of voice samples using parameters provided by the COVAREP toolkit. Additionally, an experimental study was conducted to assess the effectiveness of large language models (LLMs), specifically Microsoft Copilot and ChatGPT, in generating MATLAB scripts for computing voice quality parameters. Although these tools proved useful in general programming tasks, their performance in the domain of speech signal processing was unsatisfactory.