

SPEECH EMOTION RECOGNITION APPLICATION USING VOKATURI API WITH BINAURAL BEAT SOUNDS THERAPY (EMO CHECKUP)

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ABSTRACT

There are many ways of communication but the speech signal is one of the fastest and most natural methods of communications between humans. Therefore, the speech can be the fast and efficient method of interaction between human and machine too. Recognising emotion from speech has become one the active research themes in speech processing and in applications based on human-computer interaction. People in mental health problems are typically unhappy, unwell, angry or sad and having emotional disturbance. Most of them are unable to speak out their problems in front of others makes them unable to be aware of their own emotions. Besides, there are a lot of mental health patients that having difficulties when they are having a face-to-face treatment. The objectives of the project are to design and develop an application named as EMO CHECKUP that implemented speech emotion recognition technology using Vokaturi API with binaural beat sounds therapy and to evaluate the effectiveness of the EMO CHECKUP by using functionality and usability test. The application was developed by using Java programming language and C/C++ languages in Android Studio IDE. The usability testing was conducted in order to collect result from 30 respondents. 20% of the respondents strongly agreed that by using EMO CHECKUP, their emotion conditions would be improved. Not only that, 33.33% out of respondents also agreed that learning to use EMO CHECKUP would be easy for them. Thus, this project found out that EMO CHECKUP does help users in recognising their emotions and at the same time helping them in managing their emotions by listening to binaural beat sounds.

Keywords: Android application, speech emotion recognition, binaural beat sounds therapy.