Audio event detection

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With recent advances in the basic analysis of speaker recognition, the technology can be expanded to a new system of audio event detection. The analysis of audio events is important in a variety of applications including audio surveillance, sports highlights and hearing disability support. Past project has given many challenges regarding to the detection and recognition speaker. This report presents an audio event detection method by using the Maximum Likelihood techniques. The algorithm uses Gauss/an Mixture Model (GMM) to provide a model of several types of sound. The Maximum Likelihood methods will give an estimation of all the parameters of the Gauss/an Mixture Model that can be used to identify what event(s) happen in audio signals. The focus of this work is on the ability of modelling different types of audio files and identifying what events occur regarding to the models. A complete experimental evaluation of the Gauss/an Mixture Model is conducted on a 150 speaker, 3 different types of sound, with each type of sound consisting of 10 audio files. The approach of Expectation Maximisation algorithm is applied in order to improve the performance of the classifier.