**1. Introduction**

Music is an art, which is enjoyed by almost all sorts of people. It has the power to change the mood of us, release stress, cure diseases etc. But different people listen to music in different ways based on their choice of selection. If you have a collection of songs, which is played by a music player in a shuffled order, will you like a rock song followed by a melody? No one will like to listen to music from one end to another extreme type of music.

We are proposing a solution for the above scenario, by recommending a song from the given song lists based on the type or genre of the current playing one. We will be doing unsupervised learning to associate songs to different clusters by EM algorithm.

Summary / conclusion – how it worked

Pending - A short discussion of how it fits into related work in the area is also desirable. Summarize the basic results and conclusions that you will present.   
  
**2. Problem Definition and Algorithm**   
  
2.1 Task Definition

For this proposed work, we used EM algorithm to classify songs to different clusters based on the frequency distance and amplitude.

We will give labeled song for each genre and based on that we will classify cluster to genre. If user is playing one song from particular cluster, then based on its genre, will suggest list of songs, which is related to that. Hence user can pick from the list and play the next. For example: If a user is listening to hip hop song then song with more hip hop probabilities among the lists will be suggested to user to play next.

Input – Different genre songs.

Output -

Pending - Elaborate on why this is an interesting and important problem.   
  
2.2 Algorithm Definition

EM algorithm definition.

Pseudocode – for the algorithm.

Feature set we have chosen. How did we conclude for frequency distance and amplitude.

Step by step explanation – what we have done. – just a brief.

Describe in reasonable detail the algorithm you are using to address this problem. A psuedocode description of the algorithm you are using is frequently useful. Trace through a concrete example, showing how your algorithm processes this example. The example should be complex enough to illustrate all of the important aspects of the problem but simple enough to be easily understood. If possible, an intuitively meaningful example is better than one with meaningless symbols.   
  
**3. Experimental Evaluation**   
  
3.1 Methodology

Feature set we have chosen. How did we conclude for frequency distance and amplitude.

Step by step explanation – what we have done. – just a brief.

What are criteria you are using to evaluate your method? What specific hypotheses does your experiment test? Describe the experimental methodology that you used. What are the dependent and independent variables? What is the training/test data that was used, and why is it realistic or interesting? Exactly what performance data did you collect and how are you presenting and analyzing it? Comparisons to competing methods that address the same problem are particularly useful.   
  
3.2 Results

Present the quantitative results of your experiments. Graphical data presentation such as graphs and histograms are frequently better than tables. What are the basic differences revealed in the data. Are they statistically significant?   
  
3.3 Discussion

Is your hypothesis supported? What conclusions do the results support about the strengths and weaknesses of your method compared to other methods? How can the results be explained in terms of the underlying properties of the algorithm and/or the data.   
  
**4. Related Work**

Answer the following questions for each piece of related work that addresses the same or a similar problem. What is their problem and method? How is your problem and method different? Why is your problem and method better?   
  
**5. Future Work**

What are the major shortcomings of your current method? For each shortcoming, propose additions or enhancements that would help overcome it.   
  
**6. Conclusion**   
Briefly summarize the important results and conclusions presented in the paper. What are the most important points illustrated by your work? How will your results improve future research and applications in the area?   
  
**Bilbiography**   
Be sure to include a standard, well-formated, comprehensive bibliography with citations from the text referring to previously published papers in the scientific literature that you utilized or are related to your work.

EM means classification – probability

Soft classification