Multimedia Systems

Assignment GA3. Sound and Music Computing Project

FEUP 2020/2021

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1. Goal

In this assignment you have the opportunity to explore the application of sound and music computing techniques in a practical context.
You can explore traditional (signal-processing or rules-based) or machine learning techniques, but you'll have always to describe/implement the traditional approach, even if it's merely for comparison.
The subject of the project is to be chosen by each group.

2. Tasks/Dates

You need to deliver the following:

- Project proposal (+presentation on class): 1 page pdf, due by 02/May (10%)
- Code of your work: zip file, due by 23/May (15%)
- Report: 6 pages pdf, due by 23/May (50%)
- Oral presentation, 10 min most, on 31/May (to confirm date) (25%)

Notes:

- 2 groups may have the same project idea, but that is not advisable, as that would force me into a direct comparison between the groups, which is not beneficial.
- You can depart from already working code, but in that case evaluation will be more focused in another components of the work.

Project Proposal

You must turn in a brief project proposal (1-page maximum).
We suggest projects on data that has already been collected and labelled, so try to work on existing data sets (exceptions are allowed).
Include the following information:

- Project title
- Data to be used (How, where and when data is going to be collected and labelled, or what is the dataset used).
- Project idea (approximately two paragraphs)
- Software you will reuse or need to write.
- Evaluation: how will you evaluate your approach. *Note: The right evaluation is probably mentioned in the papers you have selected.*
- Papers to read. Include 1-3 relevant papers. You will probably want to read at least one of them before submitting your proposal

Project proposal presentation: 5 mins/group on the next class (03/May).

Potential project ideas:

1. Check MIREX Competition
2. Other Applications ex.
   - Autotune, Source Separation, Speaker/Singer Identification, Voice-to MIDI, etc.
3. Propose your own idea.