MG-MAS Documentation
Release

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PROJECT GOALS

Plan A: write a program which generate awesome music, get famous, get rich, don't have to work the entire life

Plan B: at least 5 credits.

General Info

MG-MAS (music generation - multi agent system) is developed as a project for the Computational Creativity and Multi-Agent Systems lecture in fall 2016. The developers are international students who are taking a stay abroad at the University of Helsinki:

- Idan Tene
- Lukas Vozda
- Nikolaus Risslegger

The project tries to generate pleasant sounding pieces of music, therefore it analyzes existing tracks, generates Markov chains and produce a MIDI file:

```
mg_mas.py
```

Since the variant using Markov chains was not generating meaningful output a second attempt works with neural networks:

```
midi_gen_list.py
```

GETTING STARTED

The programs should be compiled with python 3.5. It was tested on three different machines (ubuntu 16.06, Windows 10 and MacOX)

The projects consists of two independet implementations:

- **mg_mas.py** - calcuating the probabilities with markov chains based on the implentation of the first lecture classes.

- **midi_gen_stm.py** - using neural networks instead

Dependencies

Following python modules (and their dependencies) must be installed

- music21 (http://web.mit.edu/music21/)

- numpy (http://www.numpy.org/)

- scipy

- theano

- keras

- h5py

- tensorflow

You may install them with:

```
python3 -m pip install package
```

Running the program

INDICES AND TABLES

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