Music generation base on photo

**Project description**

This project is generating a piece of music without vocals by a photo given by the user. Choice of language is going to be python for possible machine learning on the photo recognition instead of using libraries. The program will analyse the photo with its colour to determine the mood of the photo. Then it will generate a piece of music that is base off the mood of the photo. With different elements of the photo, example being dominated colour and brightness, mapping these to music elements being melody and rhythm. get\_mood () to determine tempo on the beat (bpm) (tempo is measure on beats). Dominate colour will have a scale on determining how quick the rhythm is. Groups of notes are divided base of mood (mood\_to\_key). It should also determine what instruments it will use base of the photo.

**How am I going to do it**

Stage 1: able to analyse the photo, having an output of dominate colour and colour temperature.

Stage 2: able to generate a simple melody with the given photo.

Stage 3: mapping different elements of the photo and music the generate music.

Stage 4: adding more instrument into the generated melody.

**Background and links to creativity**

I can first use colourthief gives me the most dominating colour in the photo. Which would generally reflect to if the mood of the photo are going more towards the wamer side or cooler. I could then use webcolour to convert the colour given from colourthief to a RGB format for further use. Other uses of library could be colourEmotionAnalysis with the get\_mood () function to find out mood of the photo directly instead of analysing the colour. On the music generation side, my choice of library is music21 but with the element above to change the music element.

These are some library description that I read about.

<https://github.com/fengsp/color-thief-py/blob/master/README.rst>

<https://pypi.org/project/webcolors/>

<https://web.mit.edu/music21/doc/>

<https://openai.com>

**Evaluation**

This project shows it is high in novelty since the music is generated from a photo which should be unique by each pixel. With different element of the music being link to the photo even just slightly difference every time could generate a totally different music with different instrument. In terms of intentionality, I think the purpose for the project is clear to produce the best fit music for the photo. Yet value is to be determined since it will have to be evaluated by user. However, it could be used by widely between people, from music producing to everyday like people just want to listen to something new. Therefore, there are still value in terms off practicality.