

Draw with flow

Computer Music - project

Introduction and purpose

- Draw with flow: emotion-responsive music generator.
- The goal is to accompany the user (painter) during the creative process with a background automatically generated soundtrack.
- Possibility to adapt the sound to both the emotional state and the movement of the painter.

GUI and Processing script

- GUI implemented in processing (Java).
- Possibility to select the mood matching the emotional state of the user.
- Possibility to change the parameters of the effects linked to each mood.
- Implementation of the interactive functionalities given by the sensors.
- Parameters sent to SuperCollider via OSC messages to update the effects in real-time.

GUI and Processing script



Arduino & sensors

- Heart rate sensor in order to compute the bpm of the soundtrack.
- Triple-axis accelerometer to control the effect applied to the sound.
- Real-time evaluation of data for a responsive application.

Synthesis: SuperCollider

- Chords progressions defined for each mood.
- For each mood a peculiar synth is defined to have a musical representation of the emotional state.
- The beat is generated via three different synths (kick, snare, hi-hat).
- VST plugin (MoodFX) integrated in SC script via VSTPlugin extension.
- OSC messages, coming from processing GUI are:
 - Bpm (hear rate sensor)
 - Mood selected
 - Effects parameters

VST plugin

- Multi-effect VST3 C++ based plugin implemented using JUCE framework.
- The mood is selectable with a knob (angry, chill, happy and sad).
- Each emotional state is linked to an effect:
 - Angry: overdrive
 - Chill: reverb
 - Happy: chorus
 - Sad: delay