Assignment 2: instrument with additive synthesis

Description:

Create an instrument based on additive synthesis and an interface to control it.

For the synthesis part, you can start from the Risset bell example. However, feel free to use other additive synthesis schemes, check the examples on https://sccode.org and other resources online. In the project you can include any type of sound and effect.

For playing your instrument you can either use a MIDI external device or implement a sequencing technique with SuperCollider.

Regarding the control part, implement a user interface where it is possible to control the synthesis parameters, e.g. harmonics selected, their amplitude, detuning factor, etc.. The communication between the user interface and SuperCollider should use OSC or serial communication protocols. For the user interface you can use Processing, JUCE or any other device (smartphone with OSC apps, Arduino, Kinect, …).

Be creative, feel free to combine different components for visualization, user interaction and control.

Output:

- A brief presentation and demonstration of your work (max 5 minutes) that will be given to the class.
- A more detailed report in which you illustrate your system and its implementation (max 5 pages).
- A link to a repository containing the code (e.g. on GitHub) with minimal comments.