Painting as an Interface for Timbre Design

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Abstract: There is challenge in designing a system for timbre design that is both intuitive and engaging for new users, and provides a high level of creative control for experienced users. This paper provides a theoretic framework for research in this area and presents GAS, a real-time software additive synthesizer that uses painting as an interface to specify the parameters of an additive synthesizer. Looping melodies drawn by the user provide constant feedback while sounds are being designed. Additionally, plans for an extension to the system where the synthesizer is controlled by sculpting a real clay model clay are outlined.