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Don Ritter

Orpheus is an interactive animation system designed by the visual artist Don Ritter. The program accesses stored digital video frames, and can display these in any order, combined with one of over 70 cinematic transitions, including fades, flashing, and the like. Images and transitions are linked to and synchronized with real-time input from a MIDI source. Correspondences stem from a user-defined control file, which indicates relations between various musical parameters, and the visual effects that will appear in response. "For example, a control file may define that an increasing musical interval in the third octave will cause the display of a bouncing ball in a forward motion; a decreasing interval, however, will display the ball in a backward motion" (Ritter 1991, 1). Orpheus analyzes several features of the musical performance, including register, dynamic, pitch, note density, duration (of notes or rests), chord type, and timbre. Performances often include two instances of Orpheus, one producing background imagery, and the other foreground. Both use distinct images and control files.

The analysis performed relies on a comparison of incoming MIDI values with a collection of thresholds, which may be defined by the user. For example, MIDI pitches are classified as high or low according to their position relative to a pitch threshold. Loudness is decided the same way. The program keeps track of timing information, including when notes go on and off, to determine a note density per unit time. A control file can define correspondences between the results of these three classifications and sets of images and transitions. We may think of the three analyses as three binary switches; each classification takes one of two values. Therefore, the three taken together form a featurespace with eight locations. Each point in the featurespace can be associated with an "action list": these are scripts specifying image frames and transitions, which will be applied when the corresponding group of classifications is found in the input.

> Additional Actions become active when note and rest durations become greater than their associated threshold values. This situation will cause a change in cinematic transitions, but not in frame selection. For example, if the rest threshold is set at two seconds and the long rest Action is set at "drop screen," when a rest greater than two seconds is encountered, the currently displayed frame will slide to the bottom of the screen and display only the top 10% of the image. Imagery will stay in this "dropped" position until the next note occurs, after which the screen will jump back to its normal full screen position. (Ritter 1991, 8)

Don Ritter's animation system has been used in collaboration with such improvisers as George Lewis, Richard Teitelbaum, Trevor Tureski, and David Rokeby. Because it is capable of characterizing some salient features of an ongoing musical performance, Orpheus can change its behavior in ways that are not known in advance but that nonetheless demonstrate correspondences which are immediately apparent to an audience.