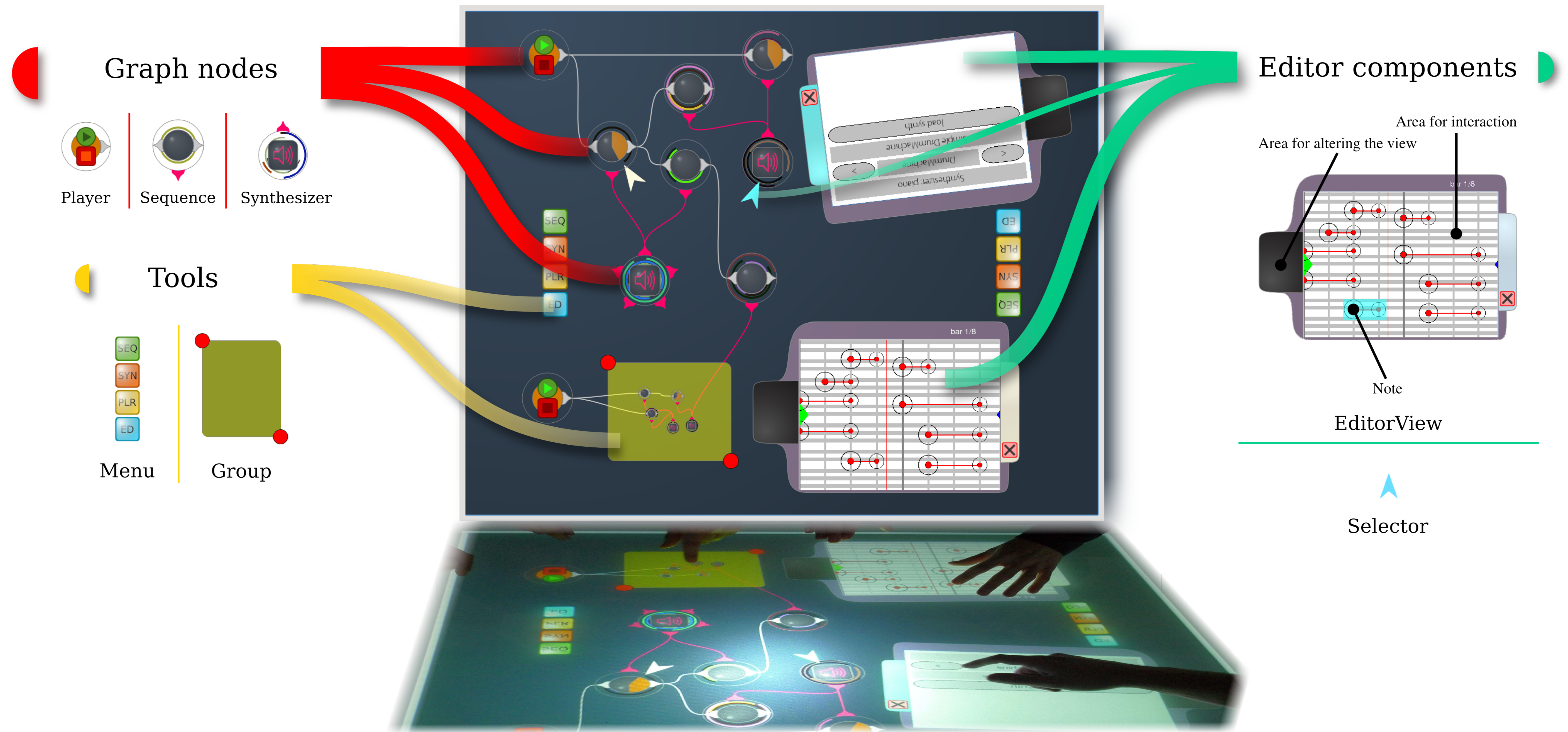


An Approach to Collaborative Music Composition

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Motivation

Creativity is the product of social systems around individuals. Therefore we aim to support the *collaborative* and *co-located* composition of electronic music. In this way, we'd like to mediate between single-user style music composition tools (e.g. Digital Audio Workstations) and situated, co-located collaborative music improvisation. Emphasis is placed on *discursive exploration of expression* and *exchange of musical ideas*, thereby focusing on experts in the field of electronic music composition. Our method of interaction with the application is a **shared multitouch tabletop** device.

Philosophy & Key Aspects

- Focus freedom of expression
- Encourage users to sketch and shape their musical ideas in real-time
- Allow concurrent creation and exchange of ideas
- Allow triggering the playback of musical ideas ad-lib to fabricate new and derivative arrangements promptly

Collaboration centric design

Requirements

For Collaboration

Group Awareness ⇔ mutual knowledge about the activities

Group Articulation ⇔ "pluggable" partitions/units of the group task

Tailorability ⇔ individual adoption of technology

Group Dynamics and Coordination: Coupling, Territoriality,...

Interaction: Free orientation & spatial independence of artifacts,...

Conceptual

Musical organizing principles: abstraction from timeline and instrument staves
Co-existing musical ideas: Multiple arrangements

Notation: symbols and sequence of musical events plain to everyone

Consistency: regarding state of composition(s) and application

Sonification: Modulation of arbitrary synthesis parameters

Improvisation: Immediate playback of ideas

Technical

Concurrency

Radical & non-linear changes to program structures

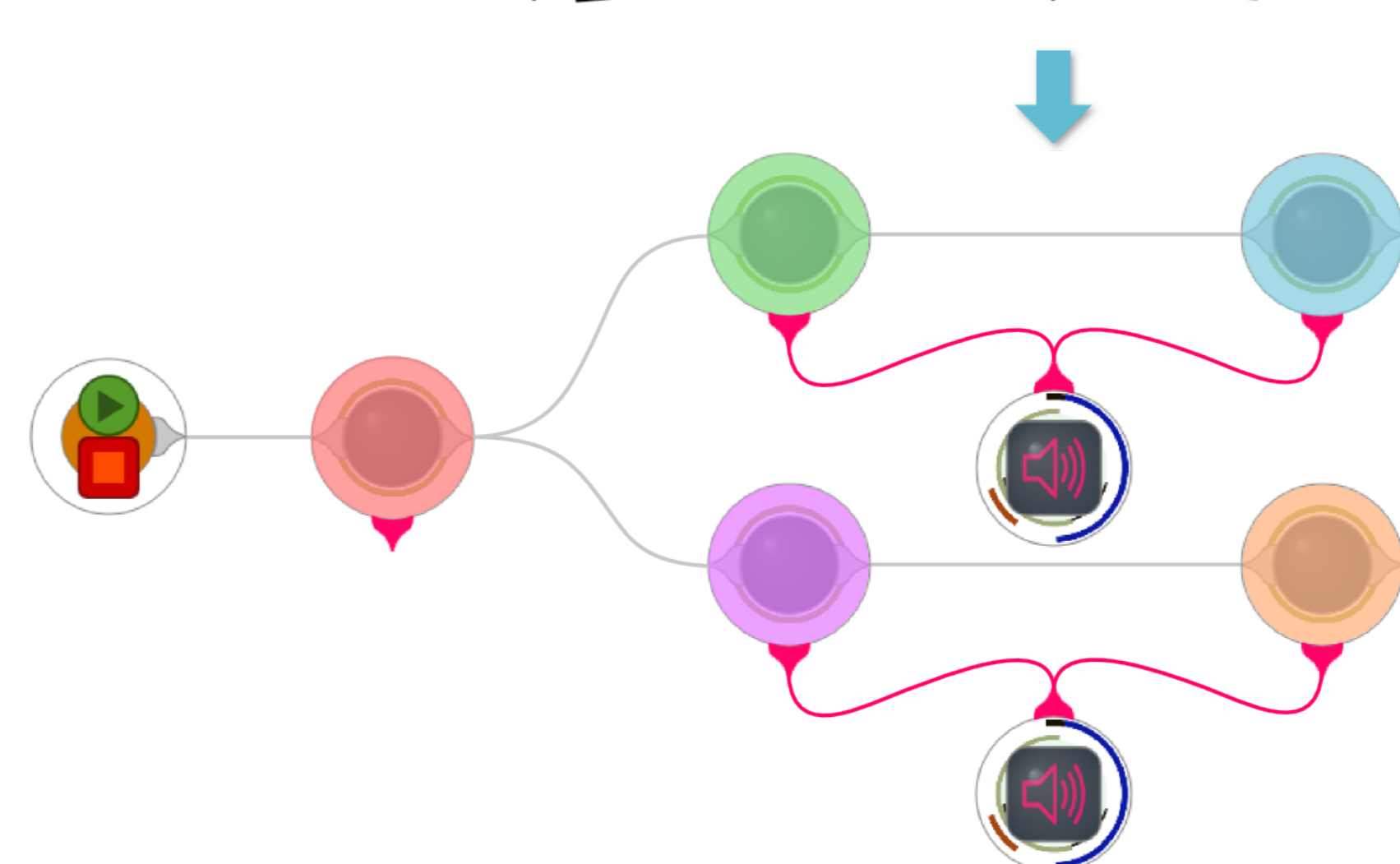
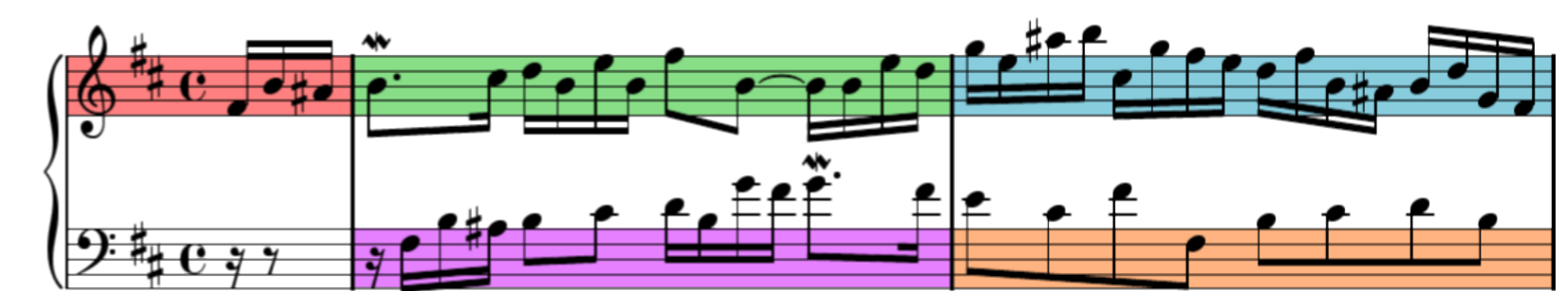
Visual & sonic feedback

Real-time capabilities

Concepts

Timeline & Arrangements

The set of arrangements in the application is represented by a *directed acyclic graph* that expresses the sequence of musical events and their sonification. **Graph Nodes** can be **Synthesizers**, **Sequences** of musical events or objects to control the playback of (parts of) arrangements (**Player**).



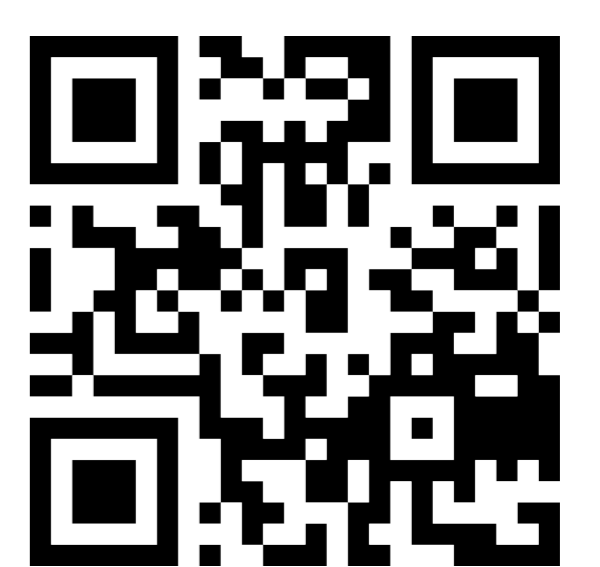
User Interface

The User Interface consists of two levels, one for interacting with the **Graph** and the other one for changing the properties of the respective nodes. The latter consists of a **Selector** that is used to select the node of interest and an **EditorView** which shows the UI for interfacing with the selected node and floats freely above the graph structure. In this way musical events in sequences can be modified, synthesizers changed and the way altered how arrangements are played back. Additional **Tools** facilitate creation and organization of artifacts.

Resulting Features

- Multiple arrangements/sketches of musical ideas are supported on the same interface. In fact there is no notion of a primary arrangement.
- Arrangements can be freely combined and rearranged.
- Changes on the compositional structure are immediately reflected visually and sonically
- Building blocks of the composition can be freely moved around, grouped and interacted with regardless of the virtual position of artifacts arrangement are played back).

More information



Contact, Video & Source Code