



UniLooper

Unified Looping of MIDI and Visuals

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Overview

- 4-track MIDI Looper
- MIDI-driven visuals
- Controlled by Roger Linn's LinnStrument
 - 8 rows of 25 buttons
- Enabled by LinnStrument “user mode”
 - Disables normal user interface
 - MIDI-driven control of button colors and behaviour
- Omnisphere 2 and Battery 4 for sounds

User Interface

- Four independent instruments, indicated by color
- Notes are scale-adjusted and time-quantized
- Two rows for each instrument
 - Upper row is 8th notes, lower row is quarter notes
- Per-instrument control with leftmost button in each row
 - Clear current contents of loop
 - Disable fadeout
- Global control with column of buttons on far left
 - Cycle through 8 banks of sounds, 8 choices for visuals
 - Loop length and fadeout time

Looping

- MIDI looper implemented with KeyKit
 - MIDI programming language
 - Designed for realtime use
 - Interpreter makes interactive development easy
- MIDI looper + MIDI-driven visuals = Visual Looper

MIDI-driven Visuals

- Each MIDI note generates a visual sprite
 - Position is determined by MIDI channel and pitch
 - Size is determined by MIDI velocity
 - Many per-channel parameters (speed, shape, rotation, etc)
 - Separate set of parameters for note-off behavior
- FreeFrame: plugin standard for realtime visual effects
 - One plugin accepts MIDI and generates the sprites
 - Other plugins greatly enhance the shapes and movement
- FFFF is the FreeFrame host
 - Contains an HTTP server that accepts JSON APIs

Browser-based interface

- Browser interface uses JSON APIs
 - UI is constructed using the APIs, so that new parameters and plugins are handled automatically
 - Enables remote control over a network
- Realtime control of visual sprite parameters
 - The effects of changes are visible immediately
 - Changes are persistent
- Realtime control of FreeFrame visual effects
 - Order of plugins in pipeline
 - FreeFrame parameters

Conclusion

- Big Wins
 - Controller button color control
 - MIDI-driven visuals
 - FreeFrame plugins
 - JSON APIs
 - Browser-based UI
- Other details
 - Windows-only
 - Requirements: LinnStrument, KeyKit, Omnisphere, Battery
 - Not packaged for distribution



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