

Program and Technical notes for *Lit*.

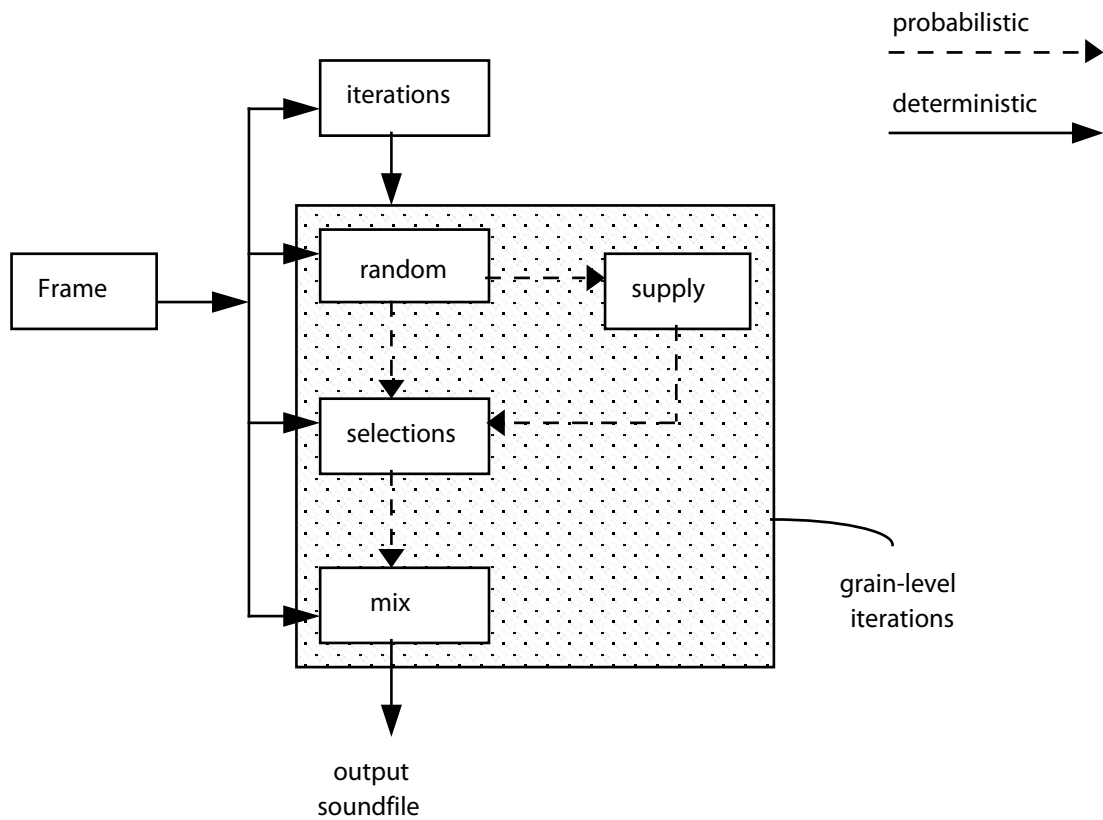
Lit is a flexible term. Among its references are literature, flame, a journey beginning, repose during flight.

This piece utilizes software sound synthesis and algorithmic processing of sampled sounds. The composer developed granular synthesis methods which incorporate sampled and synthesized sounds. Granularity is applied hierarchically, creating rhythms and phrases as well as timbres. The time scale will determine whether the result is heard as a rhythm, phrase, or timbre.

Named "ConcSynth", these procedures address the perceptual function of recognizing sampled sounds and integrate their recognizable natural properties into the domain of synthetic sound symbols. The potential appearance of each source sound acquires the synthesis characteristics of frequency, duration and relative periodicity. These variables contribute to the recognizability of each grain while the function of that recognition is determined by the context provided between the grain and the larger structure of the probabilistic event.

Grains may be specified at durations from milliseconds to seconds, providing listeners with a variety of exposures to the sampled material. Inputs provide specifications for each module in the program and are considered frames of reference which the grains reflect. A composer provides one or more soundfile sources (the *supply*) to be combined in an output soundfile. A single grain contains sound from a single source file. Constrained random procedures are used to select the content of each grain; probabilistic variables include the source file, the start position within the source file, the duration of the grain and the number of times and order each source file is used.

ConcSynth composition algorithms were implemented using the TAPeLIB routines developed by Chris Gennaula using the NeXT Music Kit, and original composition routines by the composer. *Lit* was realized in the Computer Music Project and the Experimental Music Studios of the University of Illinois at Urbana-Champaign.



ConcSynth overview

Composer's Statement from published CD notes*

/// 的 过程 是 一个 迭代 的 过程。 在 每一 次 迭代 中， 系统 会 从 一个 初始 的 状态 开始， 通过 一系列 的 随机 选择 和 混合 操作， 最终 生成 一个 输出 的 声音 文件。 这个过程 是 一个 典型的 迭代 优化 过程， 它 需要 多次 的 尝试 和 调整， 才能 达到 理想 的 效果。 在 这个 过程中， 系统 会 不断地 生成 新的 声音 样本， 并 根据 一定的 规则 进行 选择和 混合， 直到 满足 预设 的 条件 为止。 这个过程 是 一个 典型的 迭代 优化 过程， 它 需要 多次 的 尝试 和 调整， 才能 达到 理想 的 效果。

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The original sound is a complex waveform. The new sound is a sequence of smaller, overlapping waveforms. The new sound is a sequence of smaller, overlapping waveforms. The new sound is a sequence of smaller, overlapping waveforms.

**Lit.* was released on The Composer in the Computer Age - VI, CDCM Computer Music Series, Vol 23. Centaur Records CRC 2302.

Sound samples and semiotic practice in *Lit.*

Natural sounds appearing in electro-acoustic compositions are often treated as though their recognizable features are static and cannot be composed thus are either relied upon to be interesting in a shallow context of simple playback or they are thought to be unusable unless their familiar character is disguised. These are issues of inflexible semiotic conditions. ConcSynth procedures address this composition problem by applying natural sound to a synthesis environment that preserves the original complexity and dynamical behavior, and varies degrees of familiar qualities. Emphasizing signification as opposed to the signified, the process that listeners can detect is computational and composed. A ConcSynth sound event is referencing to its sources, and to its method of construction which allows sound sources to remain identifiable while joining a composed context. This is a semiotic alternative to the sound which is identified by its likeness to a known sound class.

ConcSynth focuses on the relational role of timing and duration of presentation of sounds. When grains appear as references to a longer event (the source sound file) their perceived variety includes re-ordering of the internal sequences of the source event as well as an interplay when and how long each reference appears. Grain size, loudness and adjacency intensify the significance of temporal aspects.

