Hyperscore

A Case Study in Computer Mediated Music Composition

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What is Composition?

A Creative process:

1. Preparation – define the problem, inform
2. Incubation – contemplate, internalize
3. Illumination – generate ideas
4. Verification – Do the ideas generated satsify criteria of the Preparation Stage?

Do composers concur with this view?

Source: http://members.optusnet.com.au/~charles57/Creative/Brain/wallis.htm

What is Composition?

This study focused on the abstract principles of composition:

- Repetition/variation
- Large-scale/small-scale ideas
- Unity/variety, development, etc.

Largely based on structural components

Forms of Learning in the Compositional Process

While composing, a student can learn…

- Musical concepts needed for successful composition (e.g. surprising the audience)
- The strategies which effectively realize musical vision (e.g. the creative process)
- Fundamental, rudimentary music principles (e.g. the concept of a “rest”)

Difficulties in Traditional Process

- Ability to play instruments may be limited
  - More difficult to generate/playback ideas
- Standard notation may be difficult or cumbersome
  - As an "object to think with," some representation is needed

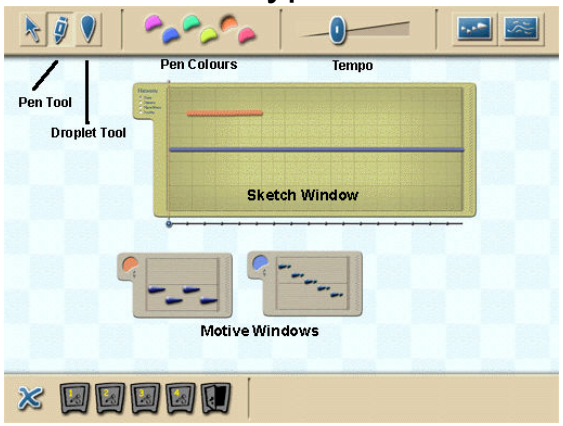
What is Hyperscore?

Hyperscore is a graphical tool for creating simple compositions.

A "motive" window allows the user to create a basic melody

A "sketch" window allows the user to organize and vary motives by using "strokes"

What is Hyperscore?



The Study

- Children used Hyperscore to compose 2-4 minute pieces, for several sessions
- A teacher (in this case, the researcher of the study) loosely guided the students when necessary
- To remain objective, sessions were also recorded, so that progress can be examined without the role of a teacher

Kevin: The Case Study Presented

Kevin starts with no formal musical experience.

His task is to play with Hyperscore over eight sessions, working towards creating compositions.

Kevin's Progress

1. Initially, he produces seemingly random motives.
2. The teacher guides him to consider the musical results of his actions.

After growing comfortable with the interface, this interaction is the first step in self-discovery process of composition.

Kevin's Progress

- Next, he reaches a "writer's block," and does not know how to proceed
- The teacher brings to his awareness the idea of imagining what would "sound right"

Kevin begins to realize the basic strategies for composition.

Kevin's Progress

- His two motives are uneven length, so as they repeat, they become out of sync
- The teacher encourages Kevin to clap the rhythms, and Kevin realizes he needs to add "silent notes" or "rests" to fix it.

Kevin learns some elements of rhythm as well as the concept of a "rest"

Kevin's Progress

- Kevin begins to think of structure at various levels of detail. On the medium scale, he produces similarities in the motif. On a larger scale, he considers adding a "surprise" in the structure.

Through interactions with the teacher, he learns to consider "texture" as a strategy for the larger level-of-detail

Conclusions

- The software seems to guide what Kevin's focus is, during the compositional process.
- Kevin has learned some natural techiques of the composition process, which are usually limited to older musicians that understand an instrument and standard notation

Conclusions

- Teaching involves guiding the student by framing the task and encouraging the student to develop criteria for judging the work.
- This technology as well as digital video recording, is an effective way to record the natural interactions in a teaching environment for action-research oriented studies

My Opinions

There is an implicit picture being painted, about a common "feedback cycle" technique:

1. Try your best to translate your vision onto a medium
2. Observe/perceive how the medium implements your vision
3. Judge how it satisfies your vision, decide how to adjust your translation
4. Repeat!

My Opinions

This cycle (previous slide), will obviously be sculpted by context set up by the person's prior knowledge and the tools at hand.

With this in mind, we need to address more questions:

- Will these tools limit a subject's creativity in some way?
- Is this cycle itself the only (or a limiting) method of creativity?

My Opinions

I feel that there are several issues which may (or may not) be a concern:

- We are assuming that the ability to play a musical instrument is not correlated to the creative, composition process.
- Is "difficulty" of musical instrument or music notation something that should be avoided? Part of the learning process should entail learning how to filter through encoded information, as well as conveying/translating that information.

My Opinions

- Hyperscore emphasizes (almost entirely) the notes and rhythms as basic parameters. What about timbre and dynamics?
- We are defining composition to deal with structural, tonal, and rhythmic elements. What if we want to play around with other parameters? What if our goal of composition is to just create a "musical experience?" Surely a musical experience is not solely determined by notes and rhythms…

My Opinions

- Within this "limited" definition of composing, I feel Hyperscore is very effective in promoting a hierarchical, structural view of music.