Music generation

Area of application: Computer music

The Lindenmayer Systems are commonly know because with them we can represent realistic-looking pictures of plants through string of symbols (grammars). According to Peter Worth and Susan Stepney [1] the grammars also can be a representation of pleasing musical pieces.

What they did was to render musical pieces from the known graphical renderings L-systems. They interpreted the symbols of the string in the next way:

- `[` push the current state
- `]` pop the the current state
- `F` as play a note of duration 1
- `+` move up one note in the scale
- `-` move down one note in the scale
- a sequence of `F` s as a play a note of duration *n*.

At the end Worth and Stepney rendered two musical pieces producing pleasant sounds. They conclude that is possible to generate short interesting melodies, but with more iterations the melodies generated are dull, because the pattern is repeated once and again.

They published their results in the next website:

- https://www-users.cs.york.ac.uk/~susan/bib/ss/nonstd/eurogp05/index.html

References:

- **Peter Worth, Susan Stepney. Growing Music: musical interpretations of L-Systems**. In EvoMUSART workshop, EuroGP 2005, Lausanne, Switzerland, March

    1. LNCS 3449, pp. 545-550. Springer, 2005