

COPYING CLAVE – A TURING TEST

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ABSTRACT

A blindfolded instructor (evaluator) plays a clave pattern. A computer captures and repeats the pattern. After 1 minute the experiment stops. This process is repeated by a human who also tries to copy the clave. After another minute they stop and the evaluator assesses both performances.

The demonstration will be presented in a lively informal way allowing people to adopt the role of either the player or instructor. It is hoped that it stimulates a debate of how the methods and technology could be further developed,

DEMONSTRATION

A clave is a rhythmic pattern used in many forms of music to provide a framework for musicians to play with. It is very common in Afro-Cuban music and typically played with two pieces of wood or metal to create a clear loud sound enabling it to be identified through the rest of the music.

For the purposes of this demonstration it can be any pattern that can be accurately repeated. For now we are not concerned with deriving a tempo from the pattern or where it starts and stops.

The instructor is blindfolded. A coin is tossed. Heads the machine plays first, tails the human plays first. The instructor begins to play clave.

On the machine's turn, the clave is captured through a microphone, onset times are recorded and an autocorrelation algorithm is used to identify the pattern. When a repeated pattern is identified, the clave pattern is silently checked against the incoming pattern from the instructor and then, if correct, played back to the instructor via samples through a speaker. A camera input and CV software allow for visual feedback from the instructor as to whether it is playing the pattern right or not. A shake of the head indicates that the pattern is played incorrectly and must stop.

On the human's turn, ears are used to listen to the clave and when the pattern is identified it is played back by lightly tapping the laptop touch pad, this again produces the sampled clave sound through the speakers. As before a shake of the head indicates that the pattern is played incorrectly and the player must stop and try again.

