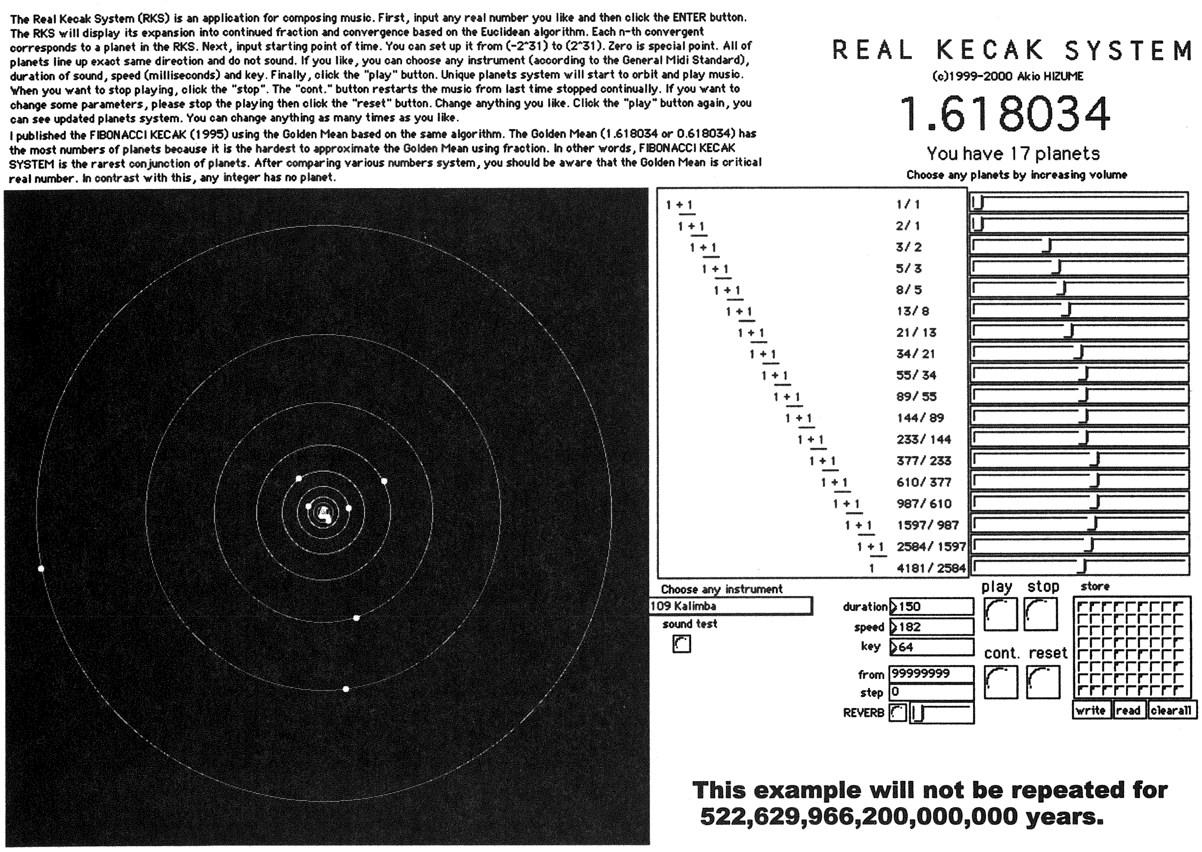
Real Kecak System

Akio Hizume
Star Cage Institute of Geometry
Email: starcage@mbb.nifty.com
http://homepage1.nifty.com/starcage/



This example will not be repeated for 522,629,966,200,000,000 years.

The "Real Kecak System" is interactive computer music in which polyrhythms correspond to any combination of real numbers. In this work, it was my main aim to innovate musical form through recursive structures of any irrational numbers. No random numbers or stochastic processes were used in this work, which was based on the quite deterministic laws of mathematics. The real numbers are infinite; musical forms are infinite!

Any real number has their own hierarchy of the convergences derived from a continued fraction. Each convergence has their own periodic sequence. The Real Kecak System plays polyrhythm music consists of these sequences of convergences. When you input an irrational number, e.g., SQR2, SQR3, EXP1, or Golden Mean, the music is fantastic, and we do not get tired of it. The musical texture goes on changing little by little beyond the astronomical period. We enjoy it as ethnic music. We can exhaustively make the best use of the self-similitude of irrational numbers for music. Our ears can recognize the characters of real numbers. Since most of the real numbers are irrational numbers, most of the music made should be non-periodic and eternal.

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