

Markov's Window 2004 - 2018 Harm van den Dorpel

Markov's Window is a generative animation piece. It was programmed in 2004 and is now materialised and exhibited for the first time.

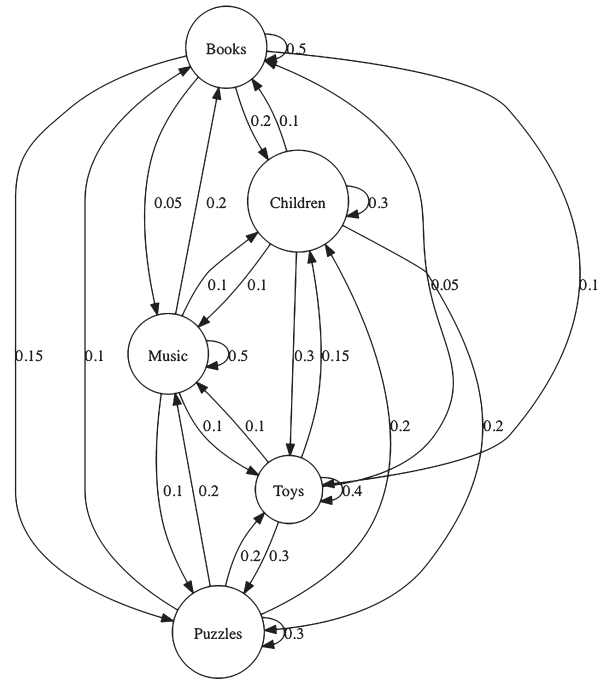
Markov was a Russian mathematician (1856 - 1922) who is best known for his work on chance. He described the so called "Markov Chain": a simple method to calculate the probability of something new happening, by looking only at the current situation, and ignoring events in the past. This is sometimes characterized as "memorylessness".

The composition starts off as a single square, filling the whole screen. This square can split into multiple segments, it might change its colour, or it might rotate 45°. Each of these changes in appearance have a particular chance of happening, purely based on their current state.

A square can subdivide into sub-squares, which in turn can split into other segments, and so forth. This could potentially happen infinite times. The property of nested subdivision is called "recursivity", and is commonly found in software development, architecture and linguistics.

By defining only a few simple probabilistic rules the artist created a system that can achieve a very complex composition.

Whereas Mondriaan would make many studies and versions to reach one single best possible composition, this work instead offers a perpetually changing situation, an embrace of change as refusal of suprematism.



A Markov Chain describing the possible state changes of a child playing.

For example, the chance of a child switching from listening music to playing with a puzzle is 0.1 (10%), the chance to keep playing a puzzle 0.3 (30%).

Note that the sum of all arrows going out of a circle is always 1.0 (100%).