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**Workshop > Sonic Process > Kim Cascone  
"Emergent Content Creation Using Simple Genetic Algorithms"  
15th to 17th Nov, 2004 at Espaço Atmosferas in Lisbon**

**A workshop. A process. A working model for open source material. The creation of an experimental emergent sonic piece.**

In this workshop each participant acts as an active node in a creative network. Using software you normally use we will embark on an experiment to breed a piece of audio art. We will evolve a sound piece starting with a library of sound files provided by the .microsound list and then will mutate and cross-breed them until a work of sonic art emerges. The final piece will then be performed for the public by the group at the end of the workshop.

Kim Cascone is a central figure in the development of electronic music. Collaborated with David Lynch and Staccato Systems as a Sound Designer. As an author, he has over 30 editions and collaborated with names such as Merzbow, Scanner, Keith Rowe, Tony Conrad. Has published articles in Computer Music Journal (MIT Press), Parachute Journal and is the founder of the microsound.org list.

**17th November 19h - public presentation of the workshop results - and at 22h - concert with Kim Cascone at [ZDB Gallery](#), in Lisbon.**

An initiative Atmosferas with Diogo Valério

## > Overview

The concept for this workshop was inspired by John Maeda's "[Human Powered Computer Experiment](#)".

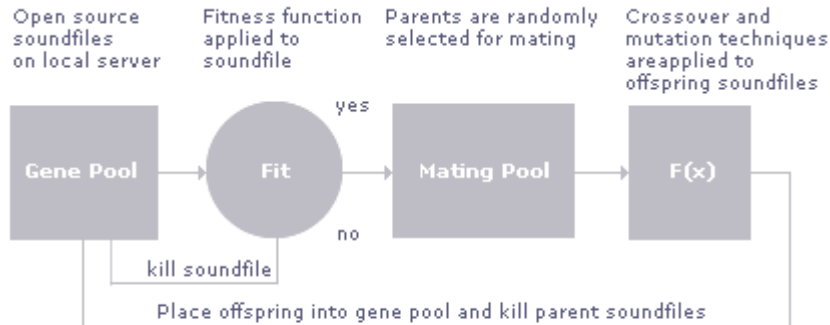
In this experiment Maeda recreated the internal operations of a simple computer using people to physically transport handwritten instructions and data to and from the CPU, RAM, FPU, etc. Participating in this type of experiment enables one to transfer abstract concepts from their body to their brain.

In a similar spirit, this workshop develops a group workflow using the model of a simple genetic algorithm (SGA) with the result being an emergent work of music/sound art.

The idea of using a SGA as a conceptual framework evolved out of my research in information flow used as a catalyst to construct emergent content. Also, while doing research for a project that utilized genetic algorithms I saw that many of the ideas embodied in the SGA could also be used to construct a framework for my open source content creation workshop.

The SGA workflow for the group is constructed in the following fashion:

- A random pool of open source sound files is established on a server and will serve as the 'gene pool';
- a fitness function is applied to sound files (implementation of the fitness function is still being developed);
- the resulting 'parent' files are then moved into a 'mating pool';
- two parent files are randomly chosen by workshop participants to 'mate';
- mating is accomplished by applying various crossover operations to the parent sound files resulting in the creation of two offspring;
- random mutation is also applied to the offspring;
- all of the offspring sound files are moved into the 'gene pool' and the parents are 'killed' in both the mating and gene pools;
- the process is iterated until a work starts to take shape:



### Simple Genetic Algorithm (sGA Workshop Flowshart)

The workshop language will be **English**

#### > Schedule

15 - 17 November

**15th November 10h-18h** one hour lunch break

**16th November:** 13h-18h

**17th November:** 13h-18h

**17th November - 19h** Public Presentation of the workshop results and also at **22h concert with Kim Cascone at ZDB Gallery**, in Lisbon.

#### > Info Kim Cascone

Kim Cascone has a long history involving electronic music: he received his formal training in electronic music at the Berklee College of Music in the early 1970's, and in 1976 continued his studies with Dana McCurdy at the New School in New York City. In the 1980's, after moving to San Francisco and gaining experience as an audio technician, Cascone worked with David Lynch as Assistant Music Editor on both Twin Peaks and Wild at Heart. Cascone left the film industry in 1991 to concentrate on Silent Records, a label that he founded in 1986, transforming it into the US's premier electronic music label. At the height of Silent's success, he sold the company in early 1996 to pursue a career as a sound designer and went to work for Thomas Dolby's company Headspace as a sound designer and composer. After a two-year stint at Headspace he worked for Staccato Systems as the Director of Content where he oversaw sound design using algorithmic synthesis for video games. Since 1984, Kim has released more than 30 albums of electronic music and has recorded/performed with Merzbow, Keith Rowe, Tony Conrad, Scanner, Ikue Mori, and Pauline Oliveros among others.

Cascone was one of the co-founders of the microsound list which focuses on issues concerning digital music and laptop performance (<http://www.microsound.org>) and has written for Computer Music Journal (MIT Press), Artbyte Magazine, Contemporary Music Review, and Parachute Journal.

## > Links

### **Kim Cascone**

[microsound](http://www.microsound.org/) - <http://www.microsound.org/>  
[anechoicmedia](http://www.anechoicmedia.com/) - <http://www.anechoicmedia.com/>

### **Interview Kim Cascone**

[C Theory](http://www.ctheory.net/text_file.asp?pick=322%20) - [http://www.ctheory.net/text\\_file.asp?pick=322%20](http://www.ctheory.net/text_file.asp?pick=322%20)

### **Article in Computer Music Journal**

["The Aesthetics of Failure: "Post-Digital" Tendencies in Contemporary Computer Music"](http://mitpress.mit.edu/journals/COMJ/CMJ24_4Cascone.pdf)  
[http://mitpress.mit.edu/journals/COMJ/CMJ24\\_4Cascone.pdf](http://mitpress.mit.edu/journals/COMJ/CMJ24_4Cascone.pdf)

### **John Maeda**

["Human Powered Computer Experiment"](http://www.imrf.or.jp/HPCE.html) - <http://www.imrf.or.jp/HPCE.html>

## > Target

People who are interested in sound (with or without training) and that already work with some sound software.

## > Price

125 Euros

## > Applications

The workshop has a maximum number of 20 participants. You'll be contacted for a selection interview.

## > Place and Dates

The workshop will take place at **Espaço Atmosferas**, Rua da Boavista, 67 in Lisbon, telephone **+351 21 321 30 40**, email [sonic@atmosferas.net](mailto:sonic@atmosferas.net).

## **ABOUT ATMOSFERAS**

Atmosferas is a cultural project that stands at the intersection of the arts, the sciences and the technologies.

Within this framework Atmosferas is engaged in promoting a cultural dialogue between these different areas trying to bring forward an understanding on the relatedness of their practices.

To achieve this objective Atmosferas will organize a number of different events (conferences, exhibitions, etc) and support the production and the distribution of relevant artistic work done for the digital realm.

### **Credits**

#### **> Directors**

Manuela Carlos, José Xavier, Rui Trindade

#### **> Executive Director**

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