Sound Lives
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Communication is a basic need of mankind and the precondition for intelligence.[1] The material of communication is information.

Communication is the exchange of information, whose handling, in the age of computer networks, is becoming increasingly automated. This can lead to information becoming increasingly independent, and being no longer subject to control by its generator. Where the automation becomes increasingly independent of user decisions, a system can achieve autonomy, provided it has sufficient life-supporting "provisions" available.

SoundLives is intended to create an artificial habitat for audio data which should be as independent as possible of direct intervention from its source. A self-contained sociology of sounds will come into being which is subject to predetermined laws. The individual is then the perceiver of this world. One might compare this with an aquarium of exotic fish, which represents a closed environment which the individual can take pleasure in looking at. The latter then assumes the role of caretaker and viewer.

The elements are selected sounds which possess a "memory" in the form of attributes and features. These together result in a sound-world which can be perceived in the appropriate form. The sounds, as information, become autonomous, and thus also do the communication channels and structures.

Communication structures change with the environment, and nowadays permit of a fusion of different cultures. Thus SoundLives is devoted to a multi-cultural blending.

The System

Sounds which are also characteristic of the location of their input [real-world sounds of an environment, or speech elements] are transplanted into a data network in which they attempt to survive. The more frequently they are listened to, or come into contact with similar sounds, the greater their chance of achieving an advanced age.

"The House of Sounds" is a program which steers and controls the habitat of these sounds. For the user this program represents a window on this habitat, and is the software interface to the real world.

In time, sounds from various locations can migrate into a computer on which this program is installed, and thus extend the sound variety of "The House of Sounds". It also offers sounds the possibility of reproducing themselves. In this way these sounds are provided with the properties of living creatures which can move around in a life-supporting environment [the data network]. The program user has no possibility of directly intervening in the migrations and "ways of life"; his role is restricted to that of the listener or visitor. He can "view" "The House of Sounds" every day, to find out which sounds are still there and which are new arrivals or have been newly-generated. The more host computers with "The House of Sounds" installed are involved, the more interesting each "The House of Sounds" becomes, and the more varied and "multi-coloured" the locations .

The rules of play

In the world of data networks, sounds are digitally-recorded signals. These can be produced and processed via sound editors, or generated by programs. They may be regarded as micro-compositions.

There must be at least one host computer[2] in which "The House of Sounds" has been installed. This host computer constitutes the location at which micro-compositions are released into the data network and listened to. If several host computers with "The House of Sounds" are available, these represent the potential homes for the micro-compositions and should be interlinked so that the micro-compositions can migrate between the host computers. [This means that a list of the surrounding host computers must always be available in one host computer as sound path.] These links constitute the "habitat" of the sounds, forming a "map" with various routes.

Any visitor to a host computer can now listen to the micro-compositions by means of "The House of Sounds", and ascertain which micro-compositions are currently in this host computer. This is effected in the form of an automated composition which, like a radio, "endlessly" plays back the micro-compositions as sounds. In addition the listener has the possibility of selecting particular micro-compositions and in this way to influence them [in their attributes]. System caretakers on the other hand have the opportunity of inputting new micro-compositions, so as to ensure a multiplicity of initial sounds.

Each micro-composition possesses various features and attributes of its own, including the type of micro-composition, date of birth, how often it has been played and at what locations it has been. When micro-compositions are listened to via "The House of Sounds", the program transmits this information to the micro-compositions. After a certain time a micro-composition "seeks" another which will best supplement it in terms of its features; it can blend with it and in this way generate a new micro-composition. When micro-compositions find others with similar features, they can together form a group; after a certain time, microcompositions can also split from groups again. When micro-compositions or groups of micro-compositions achieve a certain age, and if they have been adequately provisioned [listened to], they set out on a journey to look for another host computer; if they have been neglected [insufficiently listened to], they die and are deleted.

Implementation

The system is developed on a computer which at the same time simulates the network. Implementation of "The House of Sounds" is then effected for suitable computers, can vary according to place of setting-up, and is thus extensible. In the following, a possible implementation is illustrated which was conceived specifically for setting up in public locations.

Hardware for installation

This consists of a computer which has been set up for audio data [sound system], and a corresponding audio system. Also required is a link to a data network — preferably Internet. The computer is mounted in a cabinet with monitor; operating elements [keys, switches etc.] facilitate an intuitive operation. "The House of Sounds" produces two kinds of audio signals:

1 A composition of the sounds currently resident in the computer.

2 Sounds specifically recalled by the users.

The former can be fed into a public address system, thus becoming a sound installation for this area. Possibilities for this would be distribution via loudspeakers in a park, a square, an entrance foyer etc. The latter is played back direct via speakers at the computer site.

Software

The software implementation comprises the program package "The House of Sounds", which automatically generates an algorithmic composition from the available sounds. This software can be used on existing computers with multi-media capability, and could be applied to various platforms.

Distribution

Administration of the addresses of the individual participants is required. Most desirable would be a decentralised system, with each user of "The House of Sounds" simply passing on his address and entering others' addresses as sound paths. In this way the spread of the program could also become independent. There should however be one computer on which "The House of Sounds" registers its existence, in order to make possible a statistical record and observation of the system.

Experimental status

Since *SoundLives* represents an experiment in the data network for the investigation of the viability of independent data groups in the form of sound files, it would be useful and meaningful to regularly analyse statistical data from all host computers. The results could be published [in a "The House of Sounds" journal].

No copyright

The playback programs and sound files are no-copyright files! The resulting music can be listened to at will, be forwarded and further processed if its no-copyright status is thereby not affected.

Controlled evolution

I have a fundamental problem with the use of the word "evolution", since it is historically tainted with negative associations, and also involves the risk that the final product of the evolution will be justified positively, regardless of how this evolution came about or how long the period of observation was.

The original meaning of "evolution" is obsolete, since the framework conditions [originally defined by natural laws] of evolution do not remain constant. The possibility of actively shaping the environment — i.e. of developing laws, ethics, technical aids etc. — also makes it possible to shape the framework conditions of "evolution" and thus to control them.

For the consideration of "evolution" it is furthermore necessary to define the elements considered, and what "evolution" is applied to.

If computers and their server software form the framework conditions of information transportation, then it is clear that the development of computers itself is subject to an evolution for the purpose of ensuring an optimum transportation of information. Is it people

who determine the framework conditions for the development of computers, or is it computers that determine the framework conditions for the development of people? We have here a classic retro-coupling which shows us that the theory of evolution no longer works. If it is nonetheless desired to retain the concept, one can always speak of an evolution of evolution, or indeed the evolution of the evolution of evolution, which will very soon lead to an ad infinitum situation.

Entirely possible on the other hand are systems which create constant framework conditions for evolutionary processes, that is, an evolution in the laboratory. It therefore seems more appropriate to favour the term "development", and to reserve the term "evolution" for systems displaying constant framework conditions for certain periods of observation, or to apply it to methods of generating certain structures which on account of their framework conditions are precisely predeterminable. One example of this would be an algorithm which works extremely well in simulation technology.

The question remains as to whether one system will accept another relatively self-contained system with its own rules or "islands of life"; and if so, whether the latter will as a result enjoy the possibility of further development, or whether it will then be determined from outside.

[1] Cf. Francisco J. Varela, *Kognitionswissenschaft-Kognitionstechnik*, Suhrkamp, p.111, The term "intelligence" can no longer be understood as the ability to solve problems, but as the ability to enter into a world shared with others.

[2] A computer which is used as an administrator of data and programs and can be accessed via a certain address in a data network.