

Zoaria Project Description

Zoaria is a Human-Computer Interface based on a unique language of spatial metaphors.

Syntax is made up of basic visual symbols -- geometric planes, lines, spheres, and colours -- that are intentionally devoid of iconic reference. The core symbols are called nodes and they are spheres that populate a surface, move around, and interact with other nodes (via connecting lines) according to changing inputs and conditions. The spatial relationship between nodes represents the information content embodied by the system and this design emphasises the subjective dynamics of information rather than objective labels.

The goal of the project is to represent ambiguous information relative to the observer. The slippery quality of symbolic interpretation that we all use in our day-to-day lives is a process that is highly dependent upon the state of other relevant information. The Zoaria project acts as a language that can represent the temporal dimension of symbolic connectivity, its evolution over time, and the capacity to express the meaning of change inherently in the symbol itself. These subtle bits of information are the domain of the animate, are felt and processed by living things, and are largely neglected and without symbolic representation by our existing repertoire of communication tools.

The design structure of the Zoaria project relies heavily on research into abstract, dynamic, symbolic language sets. If one views the project as a visual language, it appears to be completely abstract (similar to mathematics or music) in the sense that it is based on symbolic primitives that are ambiguous and yet ubiquitous enough to fit any subjective phenomena. Unfortunately, this also means that it is not a literal language with a direct and objective relation to physical reality (such as the empiricism). The Zoaria project emphasises the dynamic symbol in the sense that the majority of the information content, the meaning, is bound in the temporal relations of the symbols to one another; and therefore, the language requires interactive involvement of the user in order to convey knowledge as change over time. This, in turn, means that Zoaria does not collapse information into a static form available for retrieval at any time, like the usefulness of modern information systems are based upon. And, Zoaria is symbolically intuitive in its method of representing information because the range of patterns are isomorphic to natural human visual-spatial processing.

In terms of tangible benefits, the Zoaria project strives to convey the potency of self-organizing principles and strategies, such as cooperation and competition, and their outcomes on emergent group qualities such as cohesive stability and adaptive flexibility. The potency of this tool is the expression of complex social and cultural concepts such as:

- The advantages that diversity endows to cooperative groups and the the ongoing adaptation required to maintain it.
- The interconnectedness of seemingly separate, discreet, and specialized entities; and the demonstration of their macro-scale interdependence on one another.
- Demonstration of the disproportionate capability of some micro-scale behaviours to determine macro-states of a system in terms of stability and adaptability.
- Timing of events to coincide with other events in order to have a desired outcome such as amplification or cancellation of effect.
- Synergistic potential of cooperation and competition in certain proportions, and the emphasis of constructive behaviours contrasted against destructive ones.
- Latent consequences of historical memory on the organizational patterns of groups, and the effects on future behavioural patterns.
- Irreversibility of time and the interesting complexity of non-linear transitions.
- The power of excitation and inhibition as methods of interaction that can result in rudimentary learning networks (programmed stimulus response actions).

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Updated: October 13, 2007