**CollageMachine: a Model of “Interface Ecology”**

**Abstract**

by Andruid Kerne

advisor: Ken Perlin

Browsing is an open-ended activity, which involves fulfillment of vague desires, as well as satisfaction of definite goals. Typical computational artifacts, on the other hand, address well-formed problems. Even in the field of human computer interaction, development processes have previously been modeled in terms of users’ concrete tasks. Undertaking more open inquiries necessitates exploring more open processes and methods. The interactive artifact, *CollageMachine*, which addresses browsing creatively, has been co-developed with the metadisciplinary framework of interface ecology.

*CollageMachine* is a creative web visualization tool that learns while you surf. Instead of waiting for you to click a hyperlink, the program proactively pulls content of interest. *CollageMachine* supports an open-ended process of web browsing, in which the
user needs only a fuzzy sense of interests. Clear advance goals are not required.

*CollageMachine* deconstructs websites into media elements - images and chunks of text. These media elements continuously stream into a collage. A point and click, drag and drop interface enables the user to rearrange the elements. From this interaction, an agent learns about the user’s interests. It acts to shape the ongoing development of the collage on her/his behalf.

Like browsing, understanding and developing what goes on *around* computers, in addition to inside of them, is an open process without definite bounds. As a metadiscipline, interface ecology brings the perspectives of diverse disciplines to bear on the form and function of interfaces. It explores and develops the complex web of interrelationships between people, activities, codes, components, and systems. Interfaces are the multidimensional border zones through which these relationships are constituted. The dynamic interactions of media, cultures, and disciplines flow through them. Interface ecology adapts and
invokes functional principles of ecosystem dynamics for the information age.

Interface ecology and CollageMachine co-development has connected the principles of collage with the creative cognition of emergence. A new model for hci development emanates from concept. The form of streaming visualization affords particular interactive semantics. The Collage Visualization Grid dynamically allocates screen real estate according to the agent model. A visualization of the structure of the user’s interests emerges bottom up.