

**P**lasm: Yer Mug offers passers-by an electronic mirror complete with cultural distortions. A seething artificial-life community behind the looking glass lines up to track and interpret the life forms that inhabit our side of the mirror.

The wandering Digital Bayou attendee steps up to the counter, or hops up on a stool. Gazing into the mirror behind the bar, visitors may notice that their reflection adapts to their reaction to it. Their visage is being served up via short-order evolution, as fleets of genetic automata mutate onward, surviving by the nature of the visitor's engagement. Over the course of this evolution, the visage always tracks its participant tightly, maintaining the intimate kinship usually reserved for one's own shadow or reflection.

The physical setting of the installation takes its cues from the Late Night Cafe. Across the diner's counter, the aroma of fresh-brewing coffee encourages people to lean in and see what's going on. Force-sensing resistors embedded in the counter and stool pedestals inform the system of each visitor's body attitude. A camera perched in front of each stool frames the seated visitor, feed-

ing live video for evaluation by the system; *Plasm: Yer Mug* "mirrors" this input through a continuous, synthetic graphic display rear-projected at life size behind the counter.

Real-time video tracking and feature extraction is used to corral a fleet of semi-autonomous geomorphs on the screen. Each geomorph presents its own 3D rendered form, animated according to its own independent behavior. Corraling ensures that the fleet of geomorphs tracks the participant's face and motions tightly, to maintain reflection relationship.

The geomorphs themselves are models drawn from a stockpot of cultural idioms and reflections, encoded as a sequence of genetically-mutable factors. Four different artists have developed their own families of geomorphs, exploring divergent vocabularies of form, motion, sound, reactivity, and statement. While each geomorph "blueprint" describes an interesting envelope of appearances and behaviors, evolutionary techniques are applied during the performance to explore within the parameter space and extrapolate outward from it. Participants shepherd this mutating construction

with their body language, instrumented via their video-tracked envelope and force-sensing devices on the countertop and seating. The geomorphs they leave behind are not likely to be the same ones the artists introduced. Geomorphs that survive will emerge frequently during SIGGRAPH 96.

This installation is motivated by a quest for increasingly accessible virtual exchanges. The reality is that today's society is becoming more and more computerized. Over the course of this cultural transformation, person-to-person contact is becoming increasingly stylized. *Plasm: Yer Mug* instills a playful/personal air into the user/computer mix, seeking an antidote to the structured formality of so many modern interfaces.

Three distinct approaches are explored in this investigation.

- "Meeting at the cafe" evokes a shared experience, an ingredient that is usually missing in today's encounters with machines.
- The explicit abstraction of facial expressions challenges the one-to-one mapping of conventional machine controls.

- Body-contact sensing allows for a multiplicity of simultaneous inputs, a dramatic divergence from the "one-handed-behind-your-back," mouse-based interactions that are commonly assumed.

Each of these approaches illuminates a subtle difference from today's typical GUI encounter. Taken together, they invite participants to think twice about their daily routines with their machines.

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