

Toco the Toucan: A Synthetic Character Guided by Perception, Emotion, and Story

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Toco the Toucan is a synthetic creature created at the MIT Media Laboratory. Participants can walk up to the display, sit down, and begin interacting with the toucan using a combination of speech and gesture. A constrained, but not entirely predetermined, story ensures that the highly interactive experience includes some structure and an overall plot.

An underlying emotion model drives Toco's facial expressions, sounds, and body motions. Changes in the creature's emotional state are determined by four factors:

- Speech and other sounds produced by the participant.
- Hand and body motions produced by the participant.
- Constraints from an underlying story-based interaction.
- Innate tendencies toward certain emotional states (personality).

This exhibit demonstrates the integration of several key technologies including behavior-based animation, interactive storytelling, robust computer audition and vision, and affective computing.



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