The Huminal
An Interactive Sculpture

Abstract
The Huminal is a glowing robotic sculpture made from discarded plastic water bottles and shopping bags that navigates a dark environment while sensing and responding to viewers within the space.

Hypthesis
Interactivity and familiar materials encourage viewers to understand individual contributions to environmental responses.

Huminal Objectives
- Walk a set path using encoded stepper motors affixed to wheels
- Sense the viewer
- Stop walking when a viewer is detected
- Turn head towards viewer
- Switch lights from fading white to strobing red

Significance
- Autonomous robot
- Interactive Art
- Interdisciplinary collaboration of art and engineering
- Individual understanding of consumer waste

Methods
- The team consists of eight electrical engineering students two computer science students and one graduate student
- Scholars form Interdisciplinary groups tasked to create and program circuit components
- Engineers work together to compile circuit
- Programmers work together to compile code
- Teams work together to finalize programmed circuit

Results
- Circuit and program run sensors to detect viewer's location, responding with LED feedback
- Circuit runs motors with encoders
- Program incorporates sensors, motors and LEDs

Next Steps
- Combine sensor, motor, and LED components
- Debug program to run circuit
- Design and print circuit
- Design and print circuit and battery housing
- Test programmed circuit with Huminal body

Future Work
- Design new body
- Exhibit Huminal
- Exhibit Huminal as part of larger installation, The Machinescape

Discussion
Working on the Huminal has allowed the team the chance to learn interactive Arduino circuits and work together in an interdisciplinary environment. The project highlighted the importance of communication and ultimately will come full circle in that viewers will be able to interact with the Huminal, and the Huminal will be able to "communicate" back to its viewers.

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