

HAL first locates the nearest can in her habitat, navigates towards can, secures can, and abstracts it by locating recycle bin and then disposes of the can; all this is done using logic provided by the interactive C programming language.

Real World Applications

- Detection and removal of objects in an environment unsafe for humans.
- Recycling task applications.

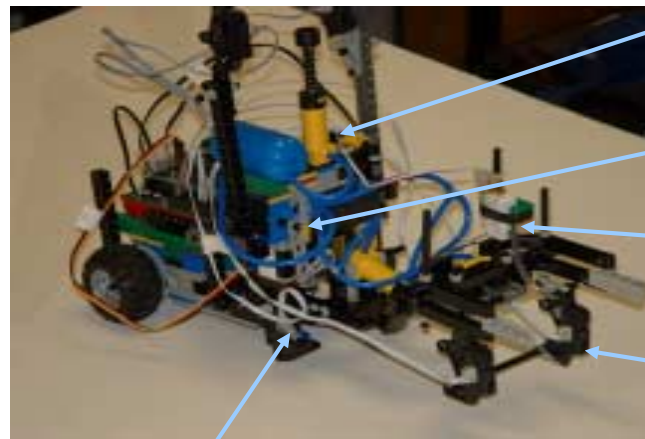
Challenges

- Sensors have a limited range of accuracy (between 6 and 28 inches).
- Weight on front of robot makes turning without front wheels difficult on some surfaces.
- Motors run faster when battery is fully charged.

HAL

Habitat Abstracting Logic

Melissa Bingham, Eric Cummings, Vincenzo Buttari, Sherryl Chang:
Emails: Cumm7094, Bing3971, butt0257, chan4606@students.rowan.edu



•**IR Reflectance Sensors:** used to detect environment boundaries (i.e. white line).

Visit HAL at:
<http://mywebpages.comcast.net/ejc>

Advisor: Dr. Jennifer Kay of Rowan University Computer Science Department

- Manual & Electric Pumps:** provides air pressure for the closed pneumatic system .
- Servo Valve Switch:** controls the air flow to the cylinders that open and close the gripper.
- Touch Sensor:** when can hits sensor it lets the robot know that the can is in its gripper.
- Distance Sensors:** Measures distance by timing how long it takes for light sent by sensor to bounce off an object and return.