The Emotional Robot
Vanessa Larco, Anne Hewitt, Lilia Moshkina
gtg299w@mail.gatech.edu, gtg392y@mail.gatech.edu, lilia@cc.gatech.edu

Introduction
With the rapid increase in personal robots in the near future, the importance of human–robot interaction is of paramount importance. In particular, if the robot enters the home we want to examine what the best way to communicate with them is so that it is pleasant and easy for the user. In this project we attempted to uncover human perceptions on the appearance of robot hosts of home and office environments.

Approach
Emotion plays a vital role in human communications, therefore we decided to augment the robot interface with emotional facial expressions. In order to find what human perception would be of a robot host, we created an extensive survey oriented around robot emotions and acceptance in certain environments.

Recognizing Emotion
In creating faces for the robot to be able to respond with emotion to the user input. The interface can display any of the six main emotions portrayed below. The face will be shown in a graphical user interface which with the user can interact.

Emotions and their Accuracy

The Interface

Human Perception of Robot Host
• All surveyed were Georgia Tech students between the ages of 18-23.
• 87% of these students have had limited or no interaction with robots.

Conclusions
• Robots be portrayed as having the same facial emotive features that humans do and humans can interpret these emotions.
• People cannot easily identify emotions on robots even when all the correct features are present.
• Students did not feel comfortable with recognizing human emotions in robots.

"I am somewhat skeptical about this whole human-like robot concept. I guess I attribute it to movies like I-Robot and The Matrix" - 19 year old Male, Industrial Design

*Emotions and their Accuracy*

While all of the voices were not clearly recognized, they were designed with regards for research done by professors Scott Brave and Clifford Nass (Stanford University) in their Handbook of Human Computer Interaction.

The students did not swear very accepting for robots in their homes. They envisioned the robot as either a computer (56%) or a secretary (22%).

Manners were the most important human trait the robot should have (93%), knowing when to go away was another important trait the students recognized (91%).

The students who preferred human-like robots mainly preferred to communicate by oral commands, the others wanted to distance themselves by other means of communication.

"There was no correlation between gender or major and acceptance toward robots. The majority of students felt that robots were too cold and therefore inappropriate for hosting people. Many felt more accepting if the robots could demonstrate charisma and had a human appearance."

*Conclusions*