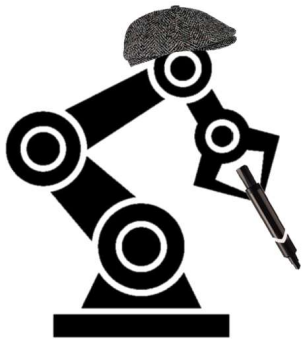


MADbot

Manipulation and Drawing Robot

Madhu Korada
Dhanesh Pamnani
Alec Trela

16-662 Robot Autonomy: Project Proposal

February 11, 2023

What is the name of the project?

MADbot: Manipulation and Drawing Robot

Which students are working on this project?

Madhu Korada, Dhanesh Pamnani, Alec Trela

What does the forward process look like?

User inputs a text response and the robot will write it.

What does the reset process look like?

Erasing the board.

What is the motion generation problem?

Picking up the correct object (eraser/marker) and then planning the correct path to write the letters on the board.

What is the variability being explored?

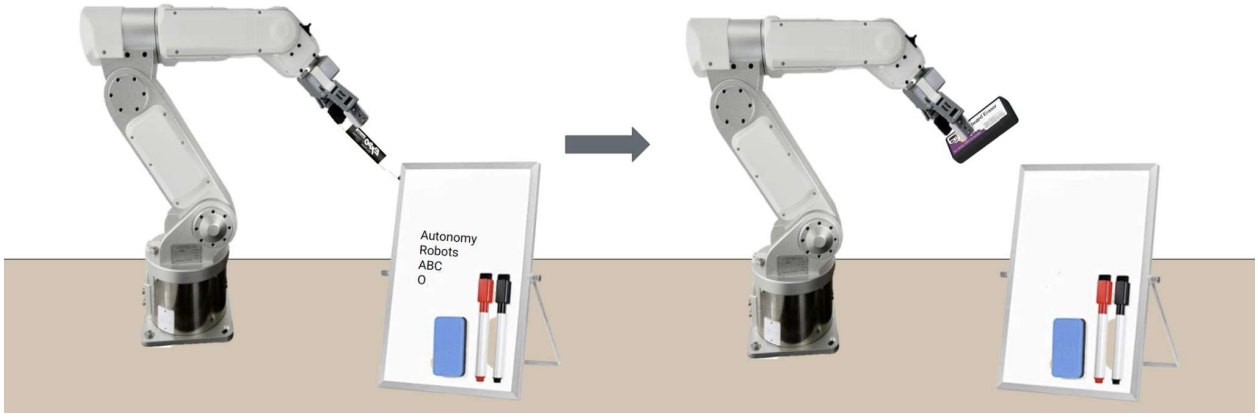
Size of the letters, types of markers, different user inputs.

What could be learned using the data?

Options for learning include the following:

1. Determining the size and scale of letters depending on the sentence length, and when to insert a new line.
2. User writes a prompt on paper, the vision system recognizes it, and converts it to text.
3. User writes a prompt on paper, the vision system recognizes it, and converts it to text. However, now it will interpret the sentiment of the input (positive or negative), and writes a response in green or red - respectively.
4. Learning to erase efficiently.

What does the hardware setup look like? (Sketch)



What additional materials do we need? (e.g., objects to manipulate)

Multiple colors of dry erase markers & an eraser.

Which students are in the other group (shared robot)

Praveen Venkatesh, Ronit Hire, Vineet Tambe