CPSC 290 Project Proposal

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Background

Human robot interaction studies the ways robots and humans interact. Part of that interaction is based on how a particular robot looks. I will be working on more of the physical look of a robot in order to make its appearance more friendly for users. As I have never worked with robots or done any kind of research, I will be focused on learning as much from this experience as I can.

Purpose

The aim of this project is to create a casing for the robot that is viewed by humans as personable or friendly. The aim is also to add certain features to the robot, such as emergency stop button, and give it basic functionality.

Approach

I will first learn rapid fabrication techniques. I will complete training in the Center for Engineering, Innovation, and Design focused on 3D printing and laser cutting, and I will also learn how to use SolidWorks. I will learn more about the parts of robots and how to put together a robot. I will also implement an
emergency stop button for the robot that would be used in case of emergency during interactions with humans.

I plan to spend the first month of my project focusing on learning the essential rapid fabrication technique methods, and then continuing with the more concrete parts of the project and actually working with the robot.

Deliverables

By the end of this project, I hope to:

- Create a working prototype of a table top robot with basic functionality
- Ensure the robot’s casing, such as any hinges or electrical parts, are not exposed or pose a danger to humans
- Include an emergency stop button on the robot
- Understand rapid fabrication techniques
- Submit a final paper detailing my semester’s work