



You Spin My Hand Right Round: Learning about Human Perception of Mechanical Systems

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MOTIVATION

The aim of this project is to learn and understand more about mechanical systems based on the way users use and perceive haptic information.



Types of Haptic Feedback to Explore:

- Passive
- Active force
- Vibrational
- Active Force & Vibrational

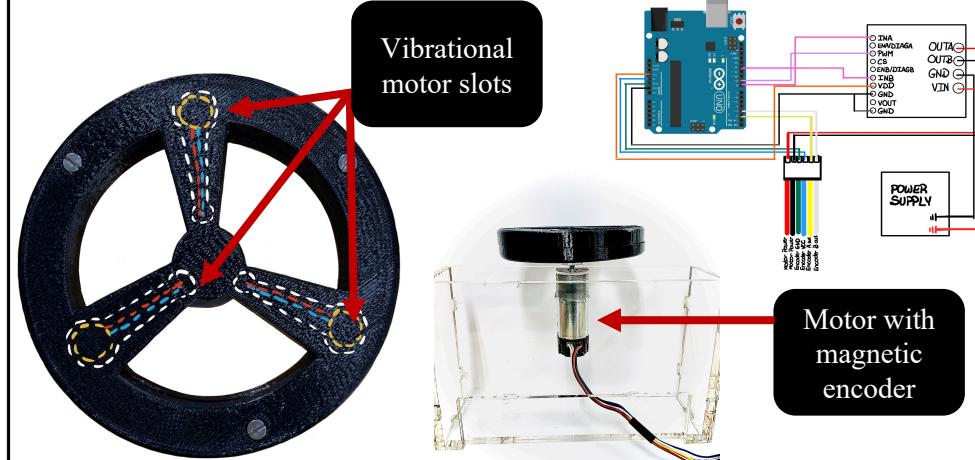
BACKGROUND

The term “haptic” refers to technology that utilises the sense of touch with the purpose of interacting with and controlling electronic devices.³

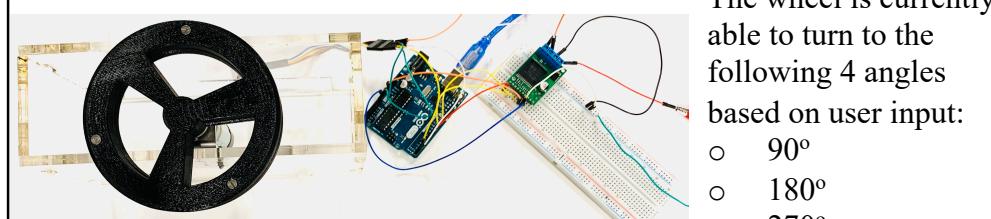
Human haptic perception is very important as there are countless situations people will come across in which they can't rely on auditory or visual perception alone.¹ However, it isn't as widely studied as the other two forms mentioned.²

Currently, haptic feedback is most commonly used in cellular and gaming devices,² but only few individuals are studying how various forms of haptic feedback can impact how users perceive information.

DESIGN

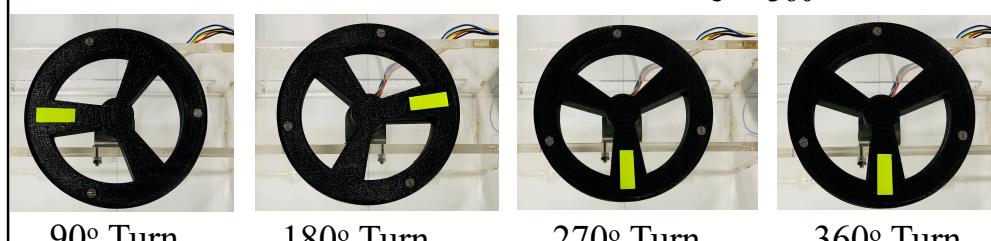


CURRENT PROTOTYPE



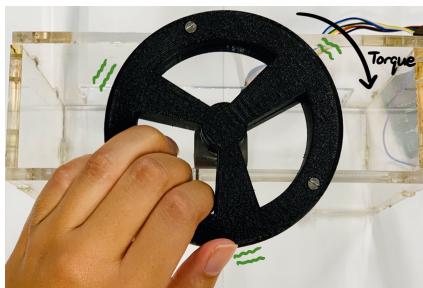
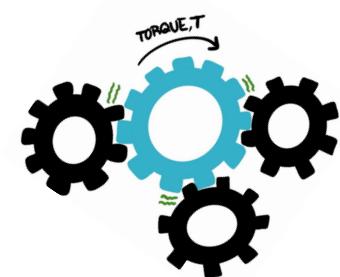
The wheel is currently able to turn to the following 4 angles based on user input:

- 90°
- 180°
- 270°
- 360°



FUTURE WORK

- Make the vibrational motors work in conjunction with the motor used for active force feedback
- Create a GUI that will allow users to pretend they're a specific gear they see on a screen using the wheel. Users will have the opportunity to experience four (4) different kinds of haptic feedback that vary based on the gear ratios available. These are:
 - Passive
 - Vibrational
 - Active Force
 - Active Force & Vibrational



REFERENCES

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