**Electronic Page Turner**

**Team Members:**

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**Problem:**

Page turning is required when reading a book. This is typically done with one's hands, which can be an inconvenience for those wishing to multitask while reading, such as playing an instrument or using a cookbook while cooking. This is a challenge for both avid readers and people with disabilities. There are hands-free page turners that exist, but most are expensive and typically designed for electronic reading on tablets.

**Solution:**

The solution for this problem will use three different subsystems: actuation, sensors, and power. Our solution is unique because it is a hands free page turner for a physical book that can turn an unlimited number of pages.

**Actuation Subsystem:**

1. Stand with a Lever/Arm
   1. This would be controlled by servo motors to turn the pages
   2. Two would be needed to flip pages forward and backwards
   3. Adjustable levers to accommodate different sized books

**Power Subsystem:**

1. Uses batteries to power required subsystems and allow for portability

**Sensor Subsystem:**

1. Button (easy)
   1. Using a foot pedal to turn the page forward and backwards

*If we are able to meet the minimum requirements for success, we will try to implement the following:*

1. Audio (medium)
   1. Using a microphone to turn pages forward when “Next” is said and backwards when “Back” is said
2. Vision (hard)
   1. Computer vision would be used alongside a camera to flip the page. It would be placed on the bottom left and right corners near the book and use some sort of facial cue in order to turn the page.

*If we are able to meet the minimum requirements for success, we will try to implement the following:*

**Processing Subsystem:**

1. A screen that displays the total pages flipped and how many pages were flipped in one sitting. This can help bookmark where you left off.
2. Include a timer to keep track of how much time you have read i.e. if someone wants to read for 30 mins the device can make a sound letting the user know the time is up.

**Criterion for Success:**

1. A stand for the book with levers for turning pages in the book
2. Has to be able to flip one page at a time, forward and backward
3. Should be able to go through all the pages in a book
4. Must be able to flip the pages using a foot pedal