

## FABRICATION OF AUTOMATIC PAGE TURNER

### ABSTRACT

The primary goal of this project is to design a device to promote independence in reading for individuals with disabilities and the elderly at their own pace. Individuals with decreased hand functioning, as the result of diagnoses such as arthritis, cerebral palsy, and stroke often have difficulties with fine motor activities. Reading, specifically the act of page-turning, can be one such activity that is greatly affected. This design will ultimately provide a capability to turn and hold the page using a mechanical structure for people who need to read without assistance.

### INTRODUCTION

Individuals with diagnoses such as arthritis, multiple sclerosis, cerebral palsy, stroke, and acquired brain injury often experience difficulties with fine motor tasks due to poor hand functioning, which may be a result of spasticity, contractures, joint subluxation, or structural deformities in the hand. Reading is an example of a meaningful activity that may be difficult for these people due to the requirement of fine motor skill to turn a page. Reading books, magazines, or newspapers is important in various domains of daily living, such as work, school, and leisure.

There are some limited commercially available options available to address this problem, such as electronic book readers, and using a rubber-tipped rod in a universal cuff. Though, electronic reader is portable, feedback from users indicate that eye strain is a problematic issue. Although using a rubber-tipped rod in a universal cuff attached to the palm of one's hand is an inexpensive and portable option, feedback from users and occupational therapists note its inefficiency, as it often takes multiple tries to turn one page.

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