# Introduction

For some users with arthritis, limited grip strength or finger dexterity, it can be difficult to use a light switch. The Light Switch Extension Lever allows the user to flip the switch without needing any grip strength or nearly as much precision.

# Research

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Photo | Price | Link |
| Commercial | | | |
| Light Switch Extender for Children | Amazon product image of the light switch extender for children | $15.95 | [Link](https://www.amazon.ca/Light-Switch-Extender-Children-PACK/dp/B01HHQRH96) |
| Light Switch Extender | Image of the Light Switch Extender on a yellow white background, with a maple leaf on the wall | N/A | [Link](https://ontariohomehealth.ca/light-switch-extender-16h165) |
| DIY | | | |
| Light Switch Extension Lever | Light Switch Extension Lever image | N/A | [Link](https://www.myminifactory.com/object/3d-print-77490#google_vignette) |

# Requirements

## Goals

|  |  |
| --- | --- |
| G01 | Extend the toggle lever of a light switch so it can be toggled by bumping it with the hand |

## Functional Requirements

|  |  |
| --- | --- |
| F01 | Device must work, or be easily customizable to work with multiple thicknesses of light switch toggles |

## Constraints

|  |  |
| --- | --- |
| C01 | Must be entirely 3D printed |

# Testing

The original design was tested, and found to require supports, and was too big for most of the light switches tried. It was remodeled in Fusion 360, with a changeable user parameter to accommodate any light switch.

# Opportunities for Improvement

Design could be altered to include a spring or some mechanism that would allow a one size fits all, instead of changing the Switch\_Thickness parameter for each switch.