Toothpaste Squeezer
DESIGN RATIONALE

Makers Making Change
A Neil Squire Program

Introduction

The Toothpaste Squeezer is an inexpensive 3D-printed device that aids in the removal of toothpaste. This device may benefit those with limited hand dexterity or those who find it challenging to get the last bit of toothpaste out of the tube. The toothpaste squeezer will work with most standard toothpaste tubes and helps drive their contents toward the nozzle.

Research

Feedthrough Type

There are a variety of commercially available designs like the Toothpaste Squeezer V1.0. This design requires the user to slide the tube of toothpaste through a narrow slot which drives the toothpaste toward the nozzle. With the nozzle side of the toothpaste tube full, very minimal force is required to expel toothpaste. Overall, this makes for a very basic device with minimal print time.

Turn to Squeeze Type

The other common style of toothpaste squeezer is the ‘key’ style device. This type requires the user to turn the handle to roll up the end of the tube to squeeze out toothpaste. This style requires more dexterity to operate but having alternate handles and a method for mounting to a wall could make this style feasible.

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Requirements

Goals

G01	Make it easier to get toothpaste out of tube
G02	Help those with limited dexterity with everyday tasks

Functional Requirements

F01	Must work with standard sizes of toothpaste tubes
F02	Must require minimal force to squeeze out toothpaste

Non-functional Requirement

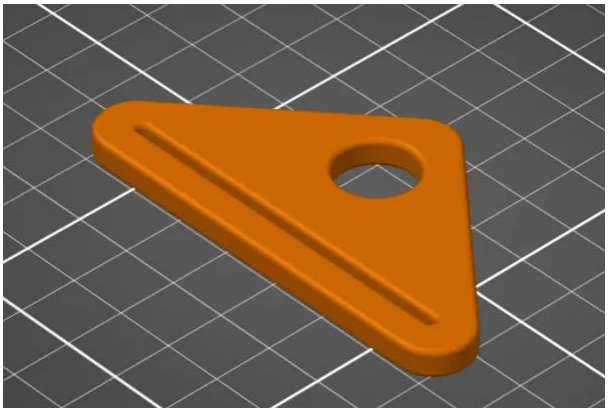
NF01	Must be easy to clean

Constraints

C01	Must be printable on standard maker 3d printers

Version 1.0

This design consists of a single 3D printed part. It has a 12.5 mm hole to hang the device up when it is not in use. The slot for the toothpaste tube has dimensions of 60 mm by 1.35 mm and the thickness of the device is 5 mm.



Opportunities for Improvement

- Add a chamfer around the edges to break the edges for more comfort.
- Larger or more accessible grip for holding onto the device during use.