# Introduction

A device for those who have difficulties with tremors when eating. It used both passive stabilization and weights to dampen the effect of hand tremors.

# Research

Below is a table of existing commercial or DIY options that are similar.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Picture** | **Price** | **Link** |
| **Commercial** | | | |
| Vive Weighted Utensils |  | $55.46 | [Link](https://www.amazon.ca/Vive-7oz-Weighted-Utensils-Piece/dp/B075Y3N1MZ) |
| GYENNO Bravo Twist |  | $399 | [Link](https://www.amazon.ca/GYENNO-Twist-Parkinson-Stabilizing-Parkinsons/dp/B07FRPX2H8/ref=sr_1_1_sspa?gclid=EAIaIQobChMIp5b6_PmV_QIVGhitBh2x6wk4EAAYASAAEgKhd_D_BwE&hvadid=353068188462&hvdev=c&hvlocphy=9001594&hvnetw=g&hvqmt=e&hvrand=5032402835688515493&hvtargid=kwd-376802284730&hydadcr=26083_9772496&keywords=weighted+spoons+for+tremors&qid=1676410025&sr=8-1-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUExUVRYTTVMQ0RBU1hEJmVuY3J5cHRlZElkPUEwNzU2NDM0RVI1M0JFRjZUOEtCJmVuY3J5cHRlZEFkSWQ9QTA2NzA3MjgxMkZLOTJRVUY0UlpIJndpZGdldE5hbWU9c3BfYXRmJmFjdGlvbj1jbGlja1JlZGlyZWN0JmRvTm90TG9nQ2xpY2s9dHJ1ZQ==) |
| Ehucon Adaptive Utensils |  | $22.32 | [Link](https://www.amazon.ca/Ehucon-Untensils-Parkinsons-Lightweight-Ergonomic/dp/B09QGBSPK9/ref=sr_1_4_sspa?gclid=EAIaIQobChMIp5b6_PmV_QIVGhitBh2x6wk4EAAYASAAEgKhd_D_BwE&hvadid=353068188462&hvdev=c&hvlocphy=9001594&hvnetw=g&hvqmt=e&hvrand=5032402835688515493&hvtargid=kwd-376802284730&hydadcr=26083_9772496&keywords=weighted+spoons+for+tremors&qid=1676410025&sr=8-4-spons&psc=1&spLa=ZW5jcnlwdGVkUXVhbGlmaWVyPUExUVRYTTVMQ0RBU1hEJmVuY3J5cHRlZElkPUEwNzU2NDM0RVI1M0JFRjZUOEtCJmVuY3J5cHRlZEFkSWQ9QTA0MzQ2NTYxSDRWS0E2OURWODcwJndpZGdldE5hbWU9c3BfYXRmJmFjdGlvbj1jbGlja1JlZGlyZWN0JmRvTm90TG9nQ2xpY2s9dHJ1ZQ==) |
| DIY | | | |
| DIY Weighted Marker |  | N/A | [Link](https://www.youtube.com/watch?v=PVcX0uTqMMg) |
| DIY Weighted Fork |  | N/A | [Link](https://ohanaot.com/make-weighted-pencil-fork-spoon-kids-autism/) |

# Requirements

## Goals

|  |  |
| --- | --- |
| G01 | Create a weighted utensil that stabilizes the tremors of a user’s hand |

## Functional Requirements

|  |  |
| --- | --- |
| F01 | Device must be weighted |
| F02 | Device must have passive spill prevention |
| F03 | Device must be cleanable |

## Non-functional Requirement

|  |  |
| --- | --- |
| NF01 | Device must be made from off the shelf components and 3D printed parts |

## Constraints

|  |  |
| --- | --- |
| C01 | Device must cost less than 10 dollars |

# Testing

After assembling the device, it was tested to see if it would fail. It was found that 20% infill was too weak for some parts, so they were changed to 100% infill for added strength.

# Opportunities for Improvement

The device could be printed in ABS or another dishwasher safe material.

Printability improvements could be made to reduce support use.