

Spoon Stabilizer Support




DESIGN RATIONALE

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
GYENNO Bravo Twist		\$399	Link
Ehucon Adaptive Utensils		\$22.32	Link
DIY			

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DIY Weighted Marker		N/A	Link
DIY Weighted Fork		N/A	Link

Requirements

Goals

G01	Create a weighted utensil that stabilizes the tremors of a user's hand
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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
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Constraints

C01	Device must cost less than 10 dollars
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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.