

Final Presentation

TeamTampons — GNG2101

Client Introduction + Project Overview

uOttawa Sustainability Office Period Project

- *Pilot project on providing free menstrual products in women's and gender-neutral bathrooms across uOttawa's campus
- *Launched in Fall 2021, currently 7 dispensers active
 - *LOTS of room for expansion
- *Some issues with current dispensers
 - * Durability / Capacity



Issues with Current Dispensers [Benchmarking]

Aunt Flow

- * Flimsy Mechanism
- * Broke often
- * No Dispense Regulation
- * US-Based
- * Dispensers only work with their own products
- * User input isn't very accessible

Joni

- * Capacity (<30 of each product)
- * Not designed for large-scale use
- * Heavy → Difficult to install
- * Tedious to restock
- * Relatively expensive
- * Dispensers only work with their own products

Problem Statement:

A need exists for the uOttawa Office of Campus Sustainability Period Project to implement improved menstrual product dispensers which are easy to restock, and dispense reliably.

Target Specs - Highlights

Examples of What We're Aiming For

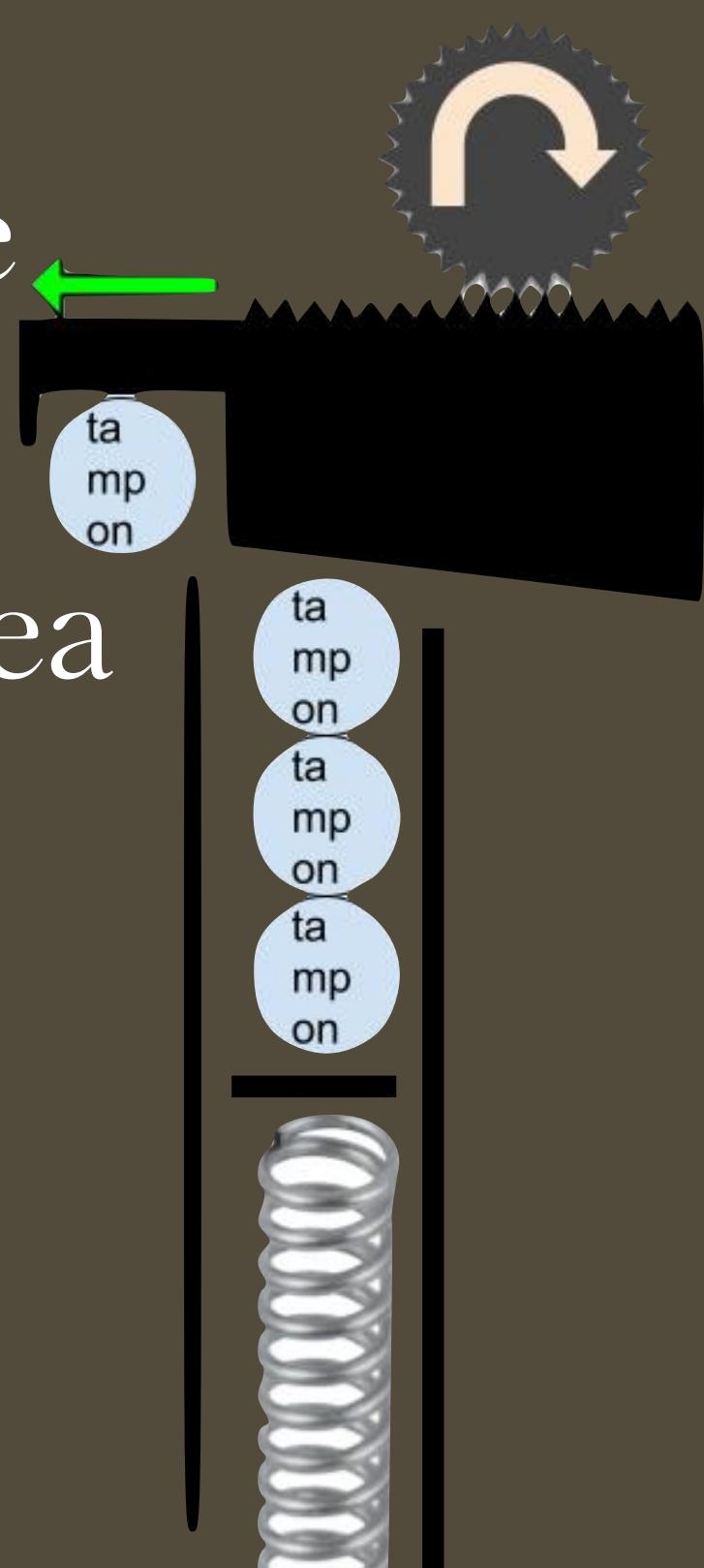
Metric	Unit	Target Range / Value	Acceptable Range	Source
Number of Products Stored	Count	≥ 50 of each product	≥ 30	Direct from Client
Number of Compatible Brands	Count	3	≥ 1	Arbitrary
Meets ADA Accessibility Guidelines	YES/NO	YES	YES	Widely Accepted Standard
Dispenser Weight (Empty)	kg	<10 kg	<25 kg	Benchmarking + Client Comments

Concepts

Modified based on Feedback

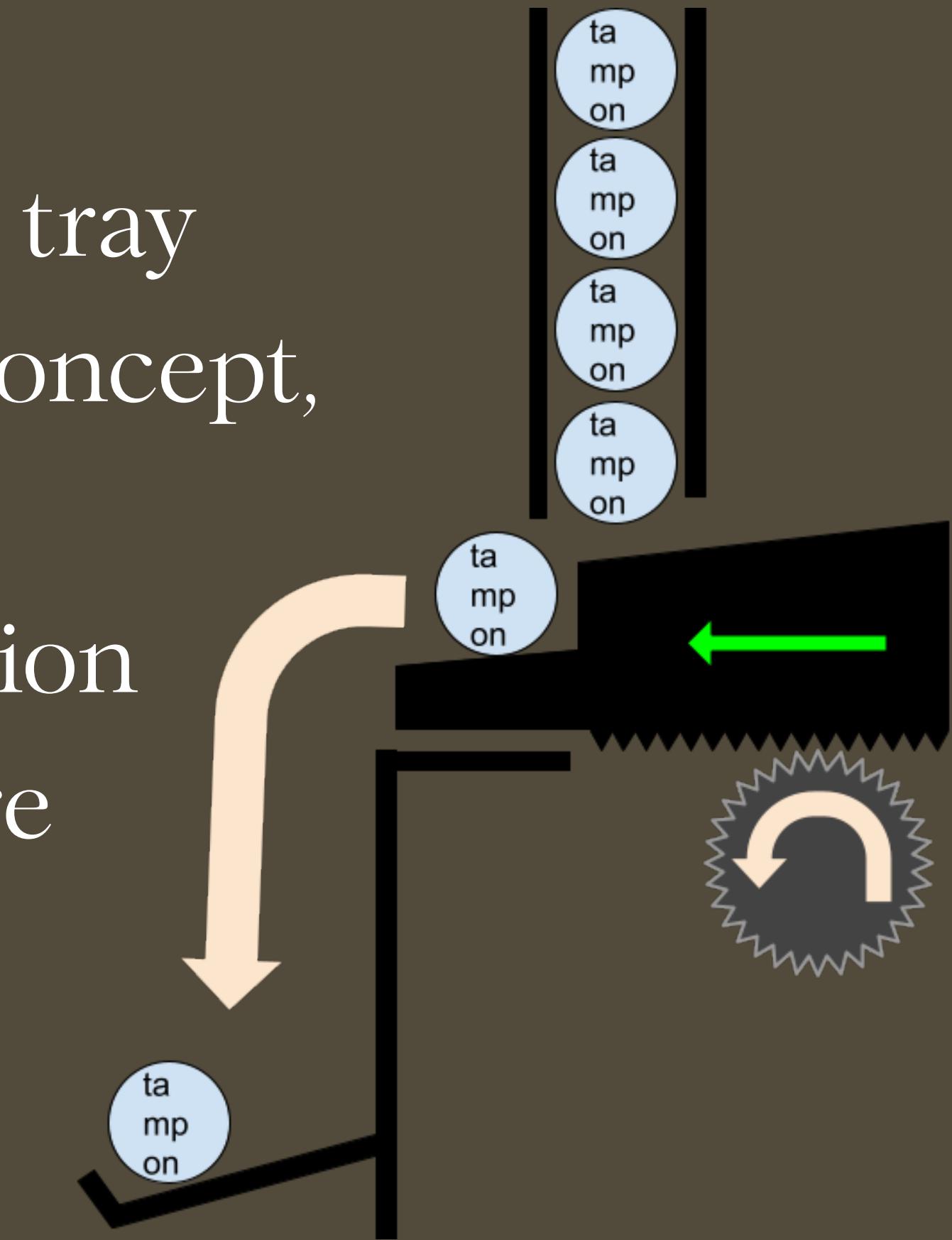
Concept 1

- * Loads from the bottom
- * Spring-loaded cartridge
- * Motor spins gear
- * Spring wasn't a good idea
(safety concern)



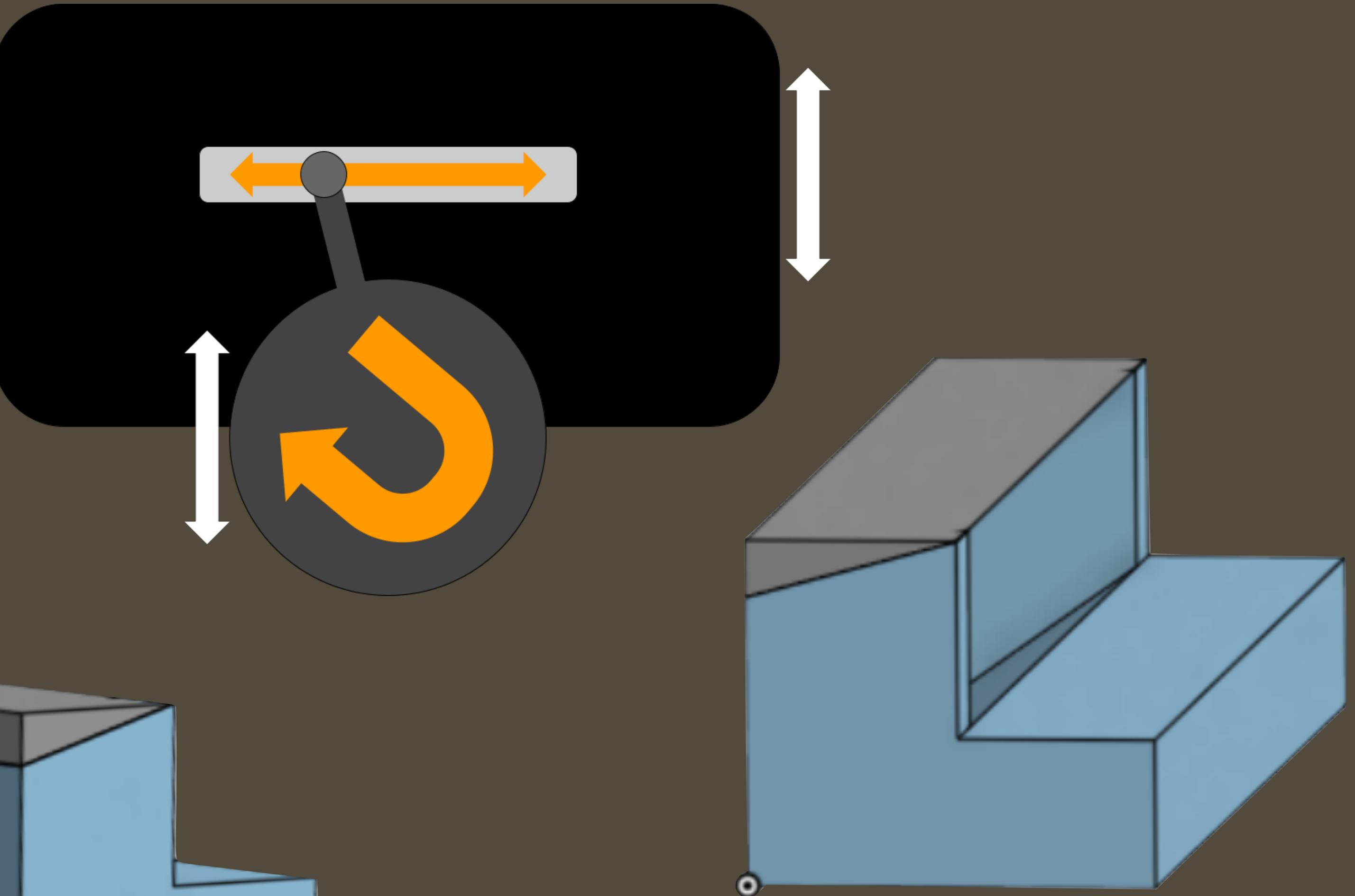
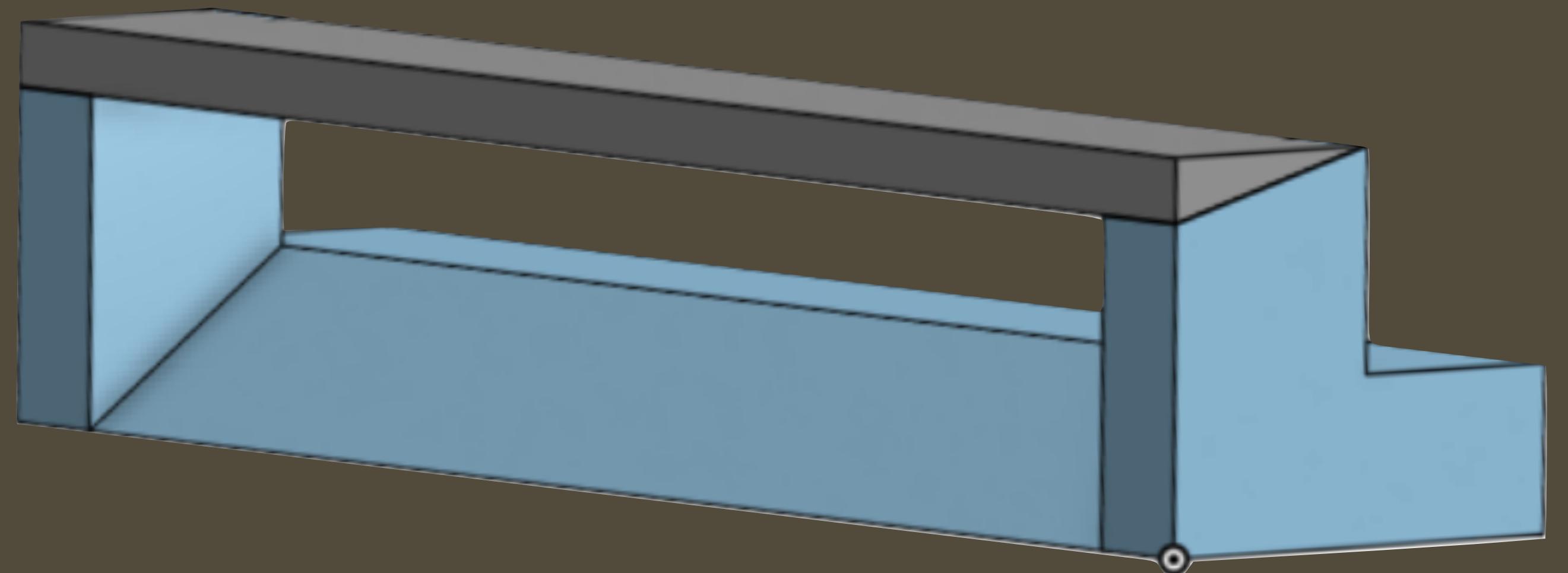
Concept 2

- * Loads from above
- * Product lands in a tray
- * Similar to initial concept, upside-down
- * Rests in “out”-position
- * No spring anymore



Final Design

- *Mechanism + Electronics
- *Tray slides on rails
- *Product Storage
- *Unit Casing

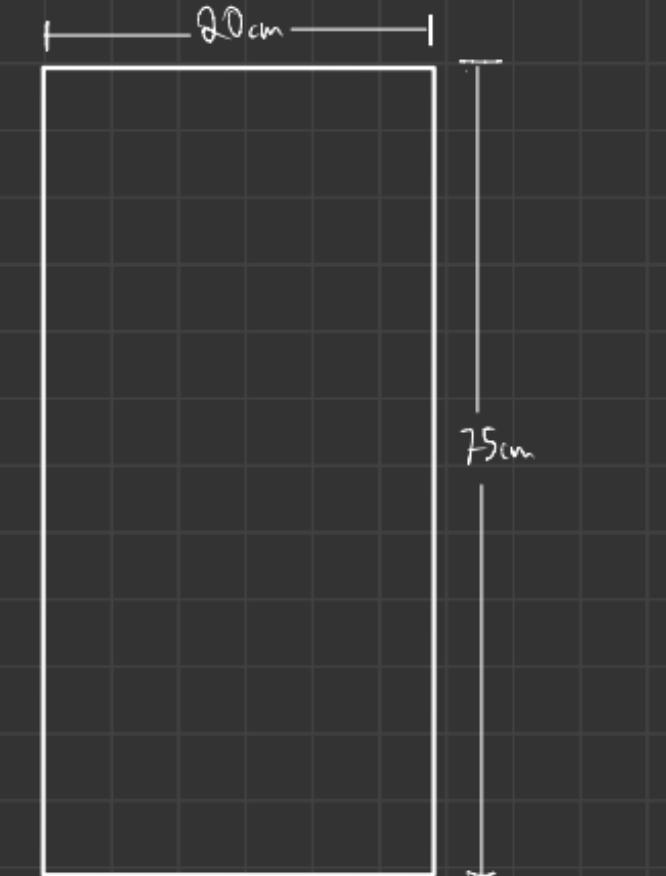
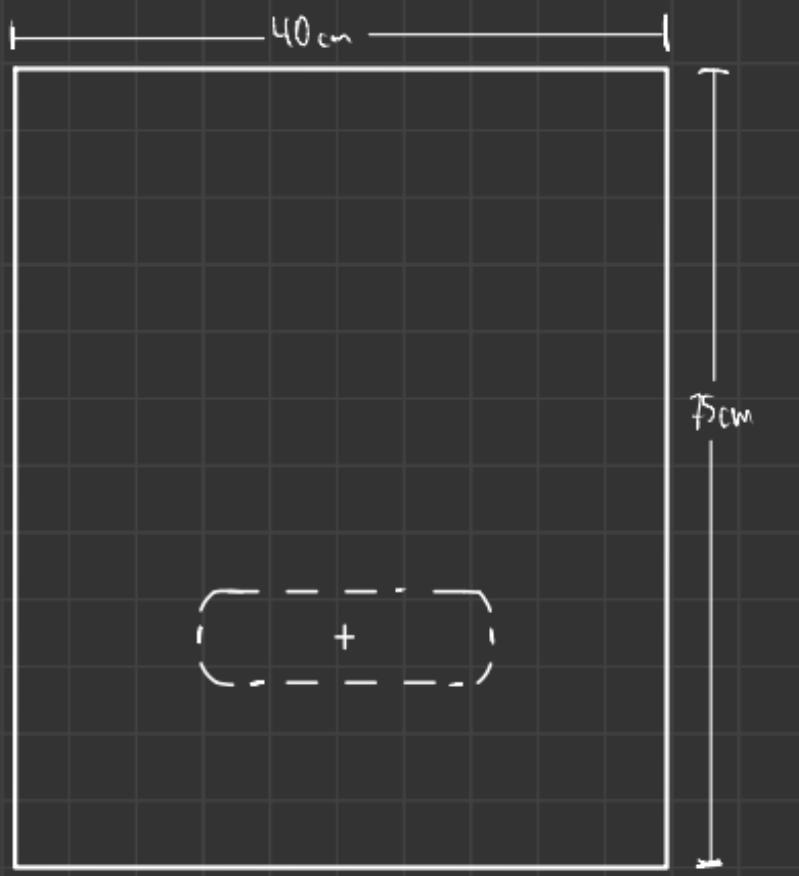
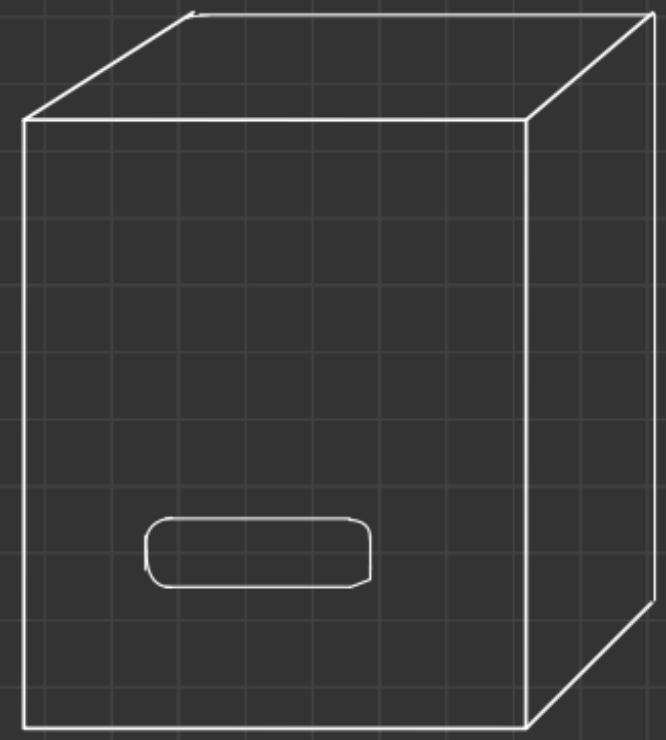
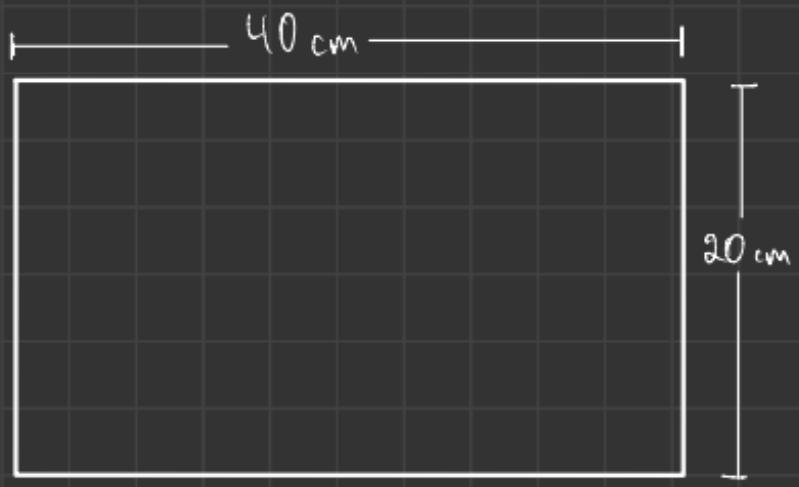


Key Specifications

Satisfied by Final Design

- *Meets ADA Guidelines
- *Delay to prevent overuse
- *Stores 50 products
- *Reliably dispenses one at a time
- *Light / Easy to install
(Aluminum body)

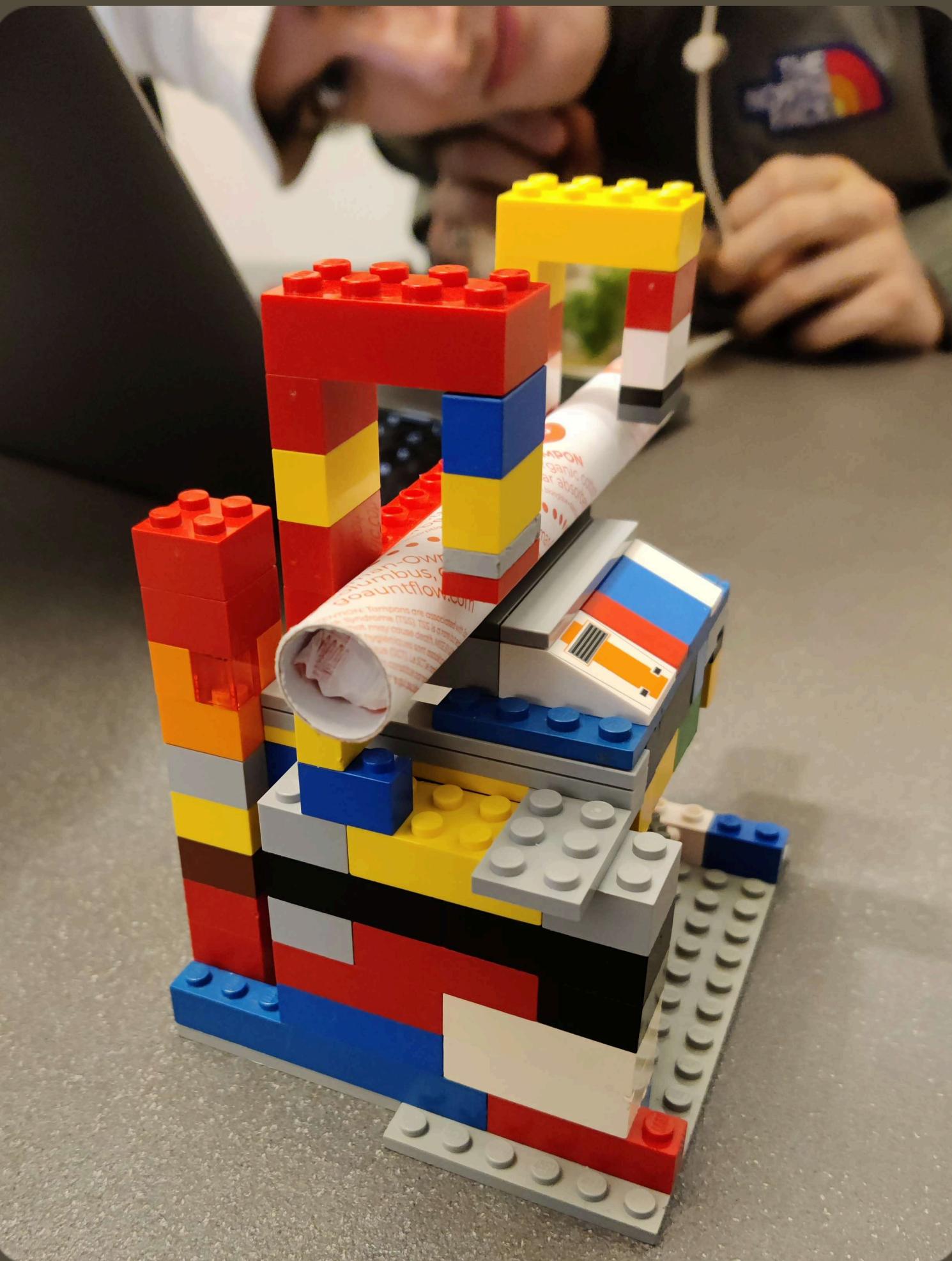
- This drawing shows a detailed view of the case that will house the tampon storage container and its dispensing mechanism. The slot at the front is where tampons will come out from.



Prototype 1

LEGO Mechanism

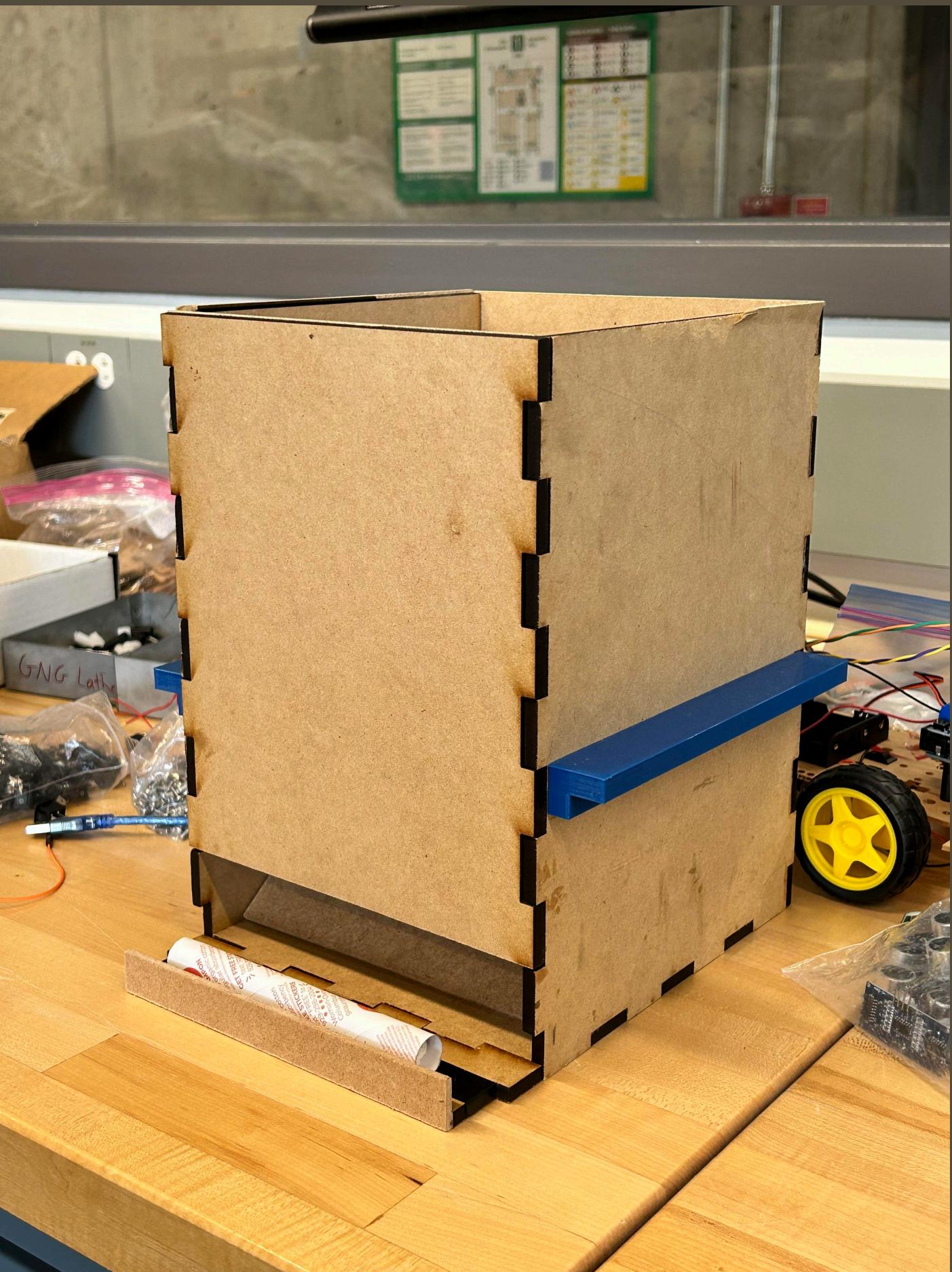
- *Mockup of mechanism
- *Hand-powered with LEGO
- *Purpose was to test functionality and performance of tray mechanism



Final Prototype

It's on the table

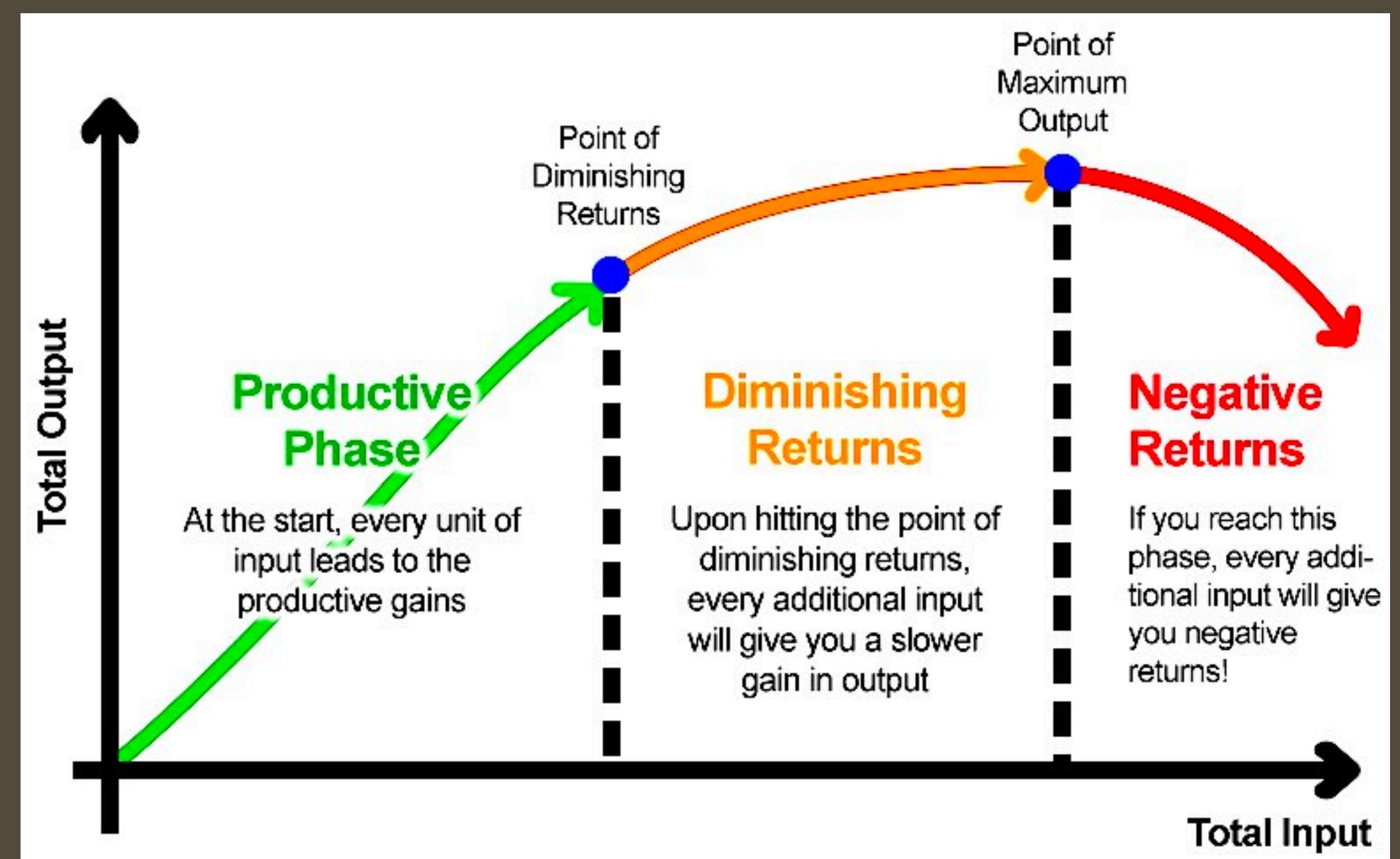
- *High-fidelity
- *Purpose
 - *Communicate the design
 - *Test a higher-fidelity iteration of the mechanism
- *Reflects 3 aspects of the final design
- *Tested, worked 93/100 trials



Lessons Learned

Trials and Tribulations

- *Know when to stop tweaking
- *Keep things simple
- *READ THE RUBRIC
- *Be open-minded



Business Model

Group C3.4 - 2023 Apr 5

<p>Key Partners:</p> <ul style="list-style-type: none"> - Public Institutions (Universities, Governments, Businesses, etc) - Distribution partners - Marketing partners 	<p>Key Activities:</p> <ul style="list-style-type: none"> - Design/Manufacturing - Distribution - Marketing 	<p>Value Propositions</p> <p>Easy access to menstrual products in public areas, customers will pay us for our products as it is increasingly becoming a necessity to have products like ours available in these contexts</p>	<p>Relationships</p> <p>Customers provide feedback that we can use to create a better user experience</p>	<p>Customer Segments</p> <p>Most important customers are educational institutions (colleges, universities, schools, etc) and larger public areas with restrooms (malls, stores, etc)</p>
<p>Cost Structure</p> <p>Set the pricing based off of costs like manufacturing, and similar products on the market based on differences</p>		<p>Revenue Streams</p> <p>Our business will make money by selling our products (dispensers, compatible tampons/pads, etc) to institutions (universities, government buildings, shopping centres...)</p>		
<p>Social/Environmental Cost</p> <ul style="list-style-type: none"> - Push towards environmentally friendly tampons - Debate of whether or not to put in mens bathrooms - Could be a financial burden to businesses 		<p>Social/Environmental Benefit</p> <ul style="list-style-type: none"> - Promotes inclusivity + equity - Product is long-lasting, easy to repair, etc. - Repairs would be cheap - simple mechanism [financial benefit] 		

Economics Analysis

- * **\$50**/Unit Mfg. Cost
- * **\$500** Sale Price to Customers
- * Expected Sales: **3000** (avg. 40 units to 75 customers)
- * Expected Operating Expenses (over 3 years): **\$2,367,400**
- * Operating Income (over 3 years): **\$1,682,600**
- * Break-Even Point: **2592** units sold. (before end of year 1)

Future Work

*Deliverable H!

