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Research exercise: Dispense-A-Roll Project for PM Company

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Dispense-A-Roll Project

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Faculty Mentor :Rebecca Blust

Problem Statement: To bring a convenient, sustainable, and cost saving method to dispense receipt paper rolls at the point of sale location

Surveying and Data

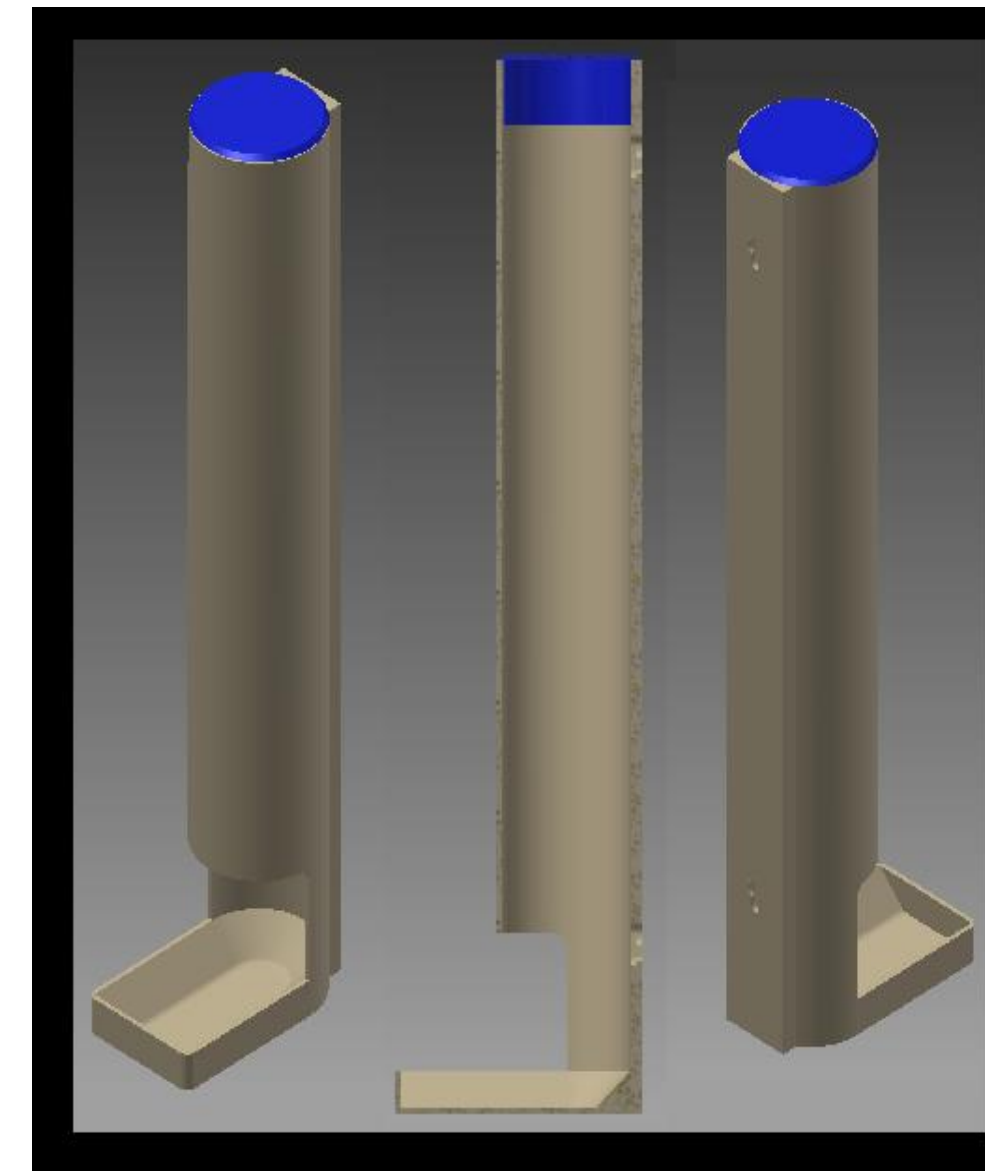
- How many rolls are used per day?
- How long does it take to change a roll?
- Is there too much extra packaging for rolls?
- Would you want or use a roll dispenser if available?
- Preferred mounting for roll Dispenser?
 - Fixed or sitting?
 - Appealing or hidden?
- Any preference for a basic shape?
- Should it be adjustable for multiple sized rolls?

	How many rolls per day on average?	How long does it take to change a roll? (seconds)	Is there too much extra packaging?	Would you want or use a roll dispenser if available?	Fixed or sitting?	Appealing or hidden?	Any preference for a basic shape?	Should it be adjustable for multiple sized rolls?
1	2	1	No	Yes	Sitting	Hidden	No	No
2	2	10	No	No	Sitting	Hidden	No	Yes
3	2	10	No	Maybe	Sitting	Appealing	Square	Yes
4	2	15	No	Yes	Sitting	Appealing	Circle	Yes
5	1	30	No	Maybe	Fixed	Hidden	No	Yes
6	1	15	No	Yes	Fixed	Hidden	Tube	No
7	0.3	30	No	Yes	Sitting	Hidden	No	Yes
8	8	30	No	Yes	Sitting	Hidden	No	Yes
9	4	10	No	Yes	Sitting	Hidden	Square	Yes
10	3	5	No	Yes	Sitting	Hidden	Fit on table	No
11	2	2	No	Yes	Fixed	Appealing	Small	No
12	2	10	No	No	Sitting	Hidden	No	Yes
13	4	3	No	Yes	Sitting	Appealing	Angled and easy to access	Yes
14	4	5	No	Yes	Sitting	Hidden	Square	Yes
15	2	60	No	No	Sitting	Hidden	No	Yes
16	5	20	No	Yes	Sitting	Hidden	No	Yes
17	6	30	No	Yes	Fixed	Appealing	Tube	Yes
18	4	15	No	No	Sitting	Hidden	No	No
Averages & Totals:	3.0	16.7	Yes: 0 No: 18	Yes: 12 No: 4 Maybe: 2	Fixed: 4 Sitting: 14	Appealing: 5 Hidden: 13	Square: 3 No: 9 Tube/Circle: 3 Other: 3	Yes: 13 No: 5

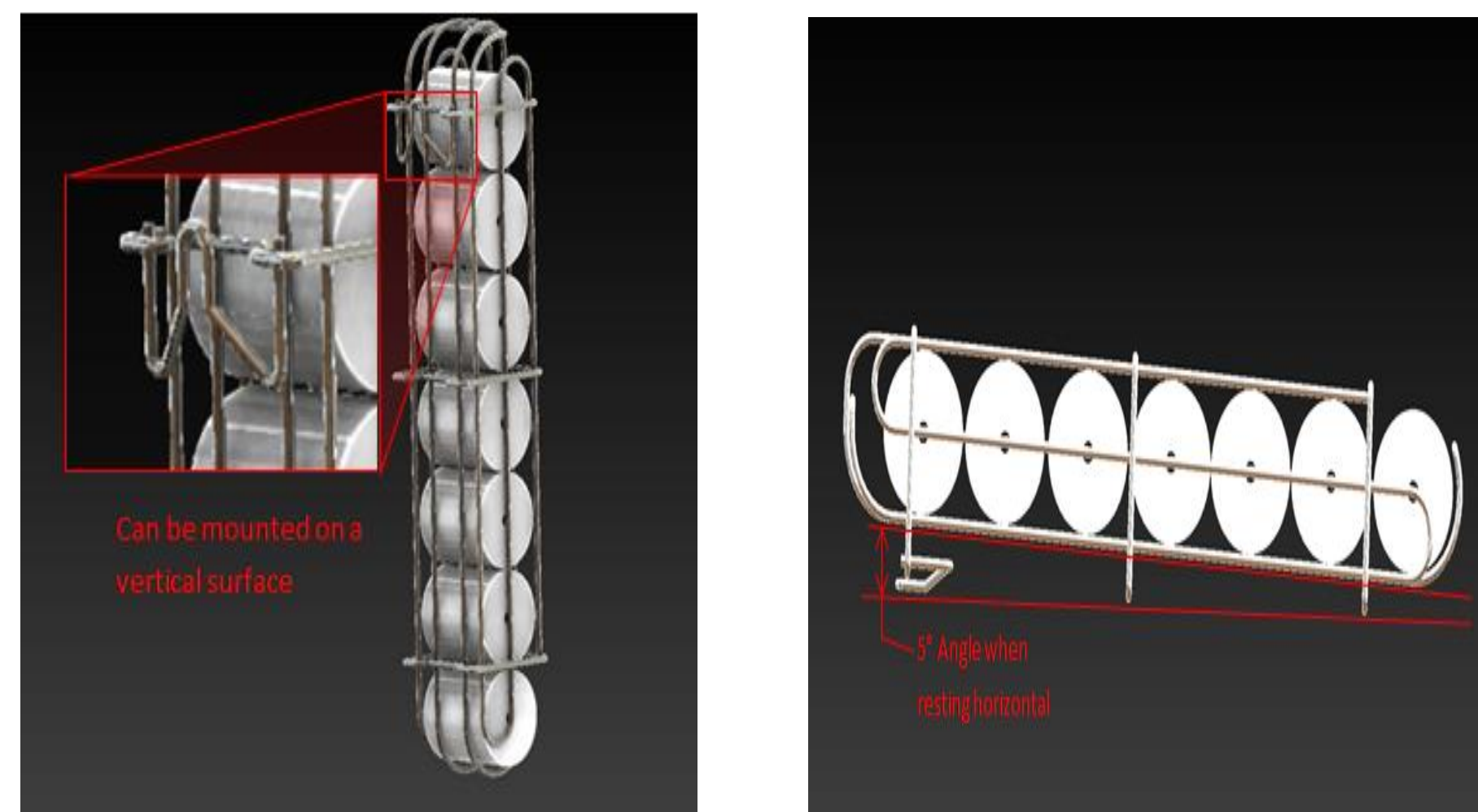
Design Matrix

Design	Sustainability (10)	Cost (10)	Convenience (10)	Safety (5)	Orientation/Volume (5)	Versatility of Sizes (5)	Roll Quantity (5)	Esthetics (5)	Total (425)
Spring Loaded with Drawer	90	70	100	20	25	25	20	25	375
Gravity Fed	90	80	80	25	15	15	25	20	350
Regular Spring Loaded	90	80	80	20	25	25	20	25	365
Wire Frame Gravity Fed	90	90	90	25	25	25	25	20	390
Molded Gravity Fed	90	80	90	25	20	25	25	25	380

Design Concepts



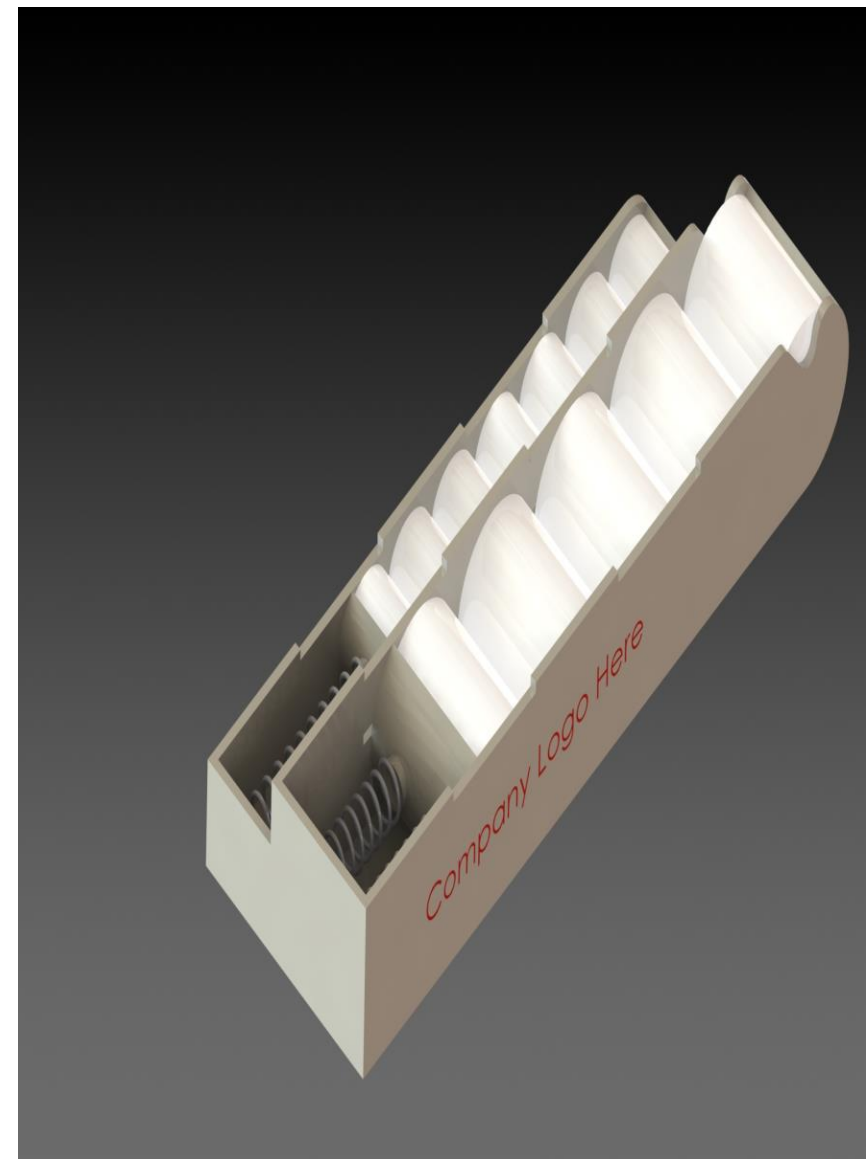
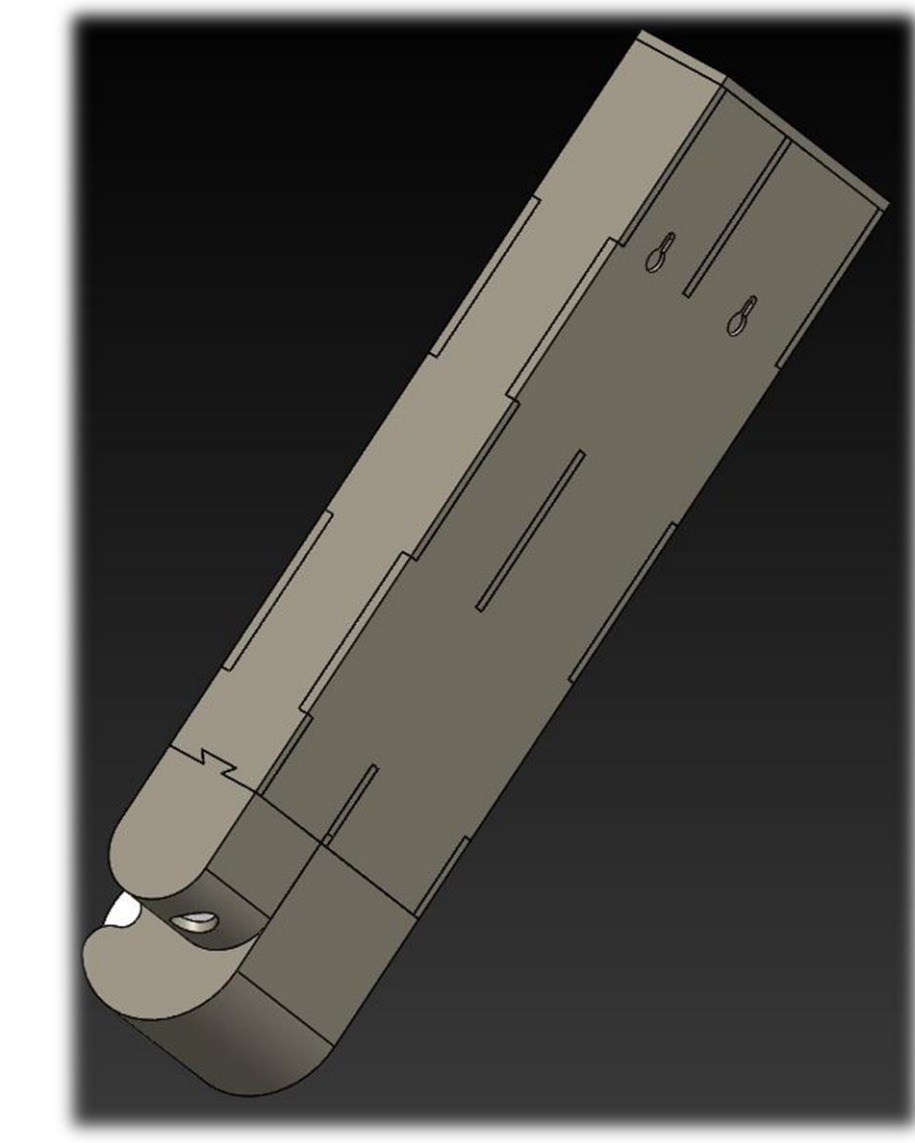
Concept 1: Gravity Fed Tube



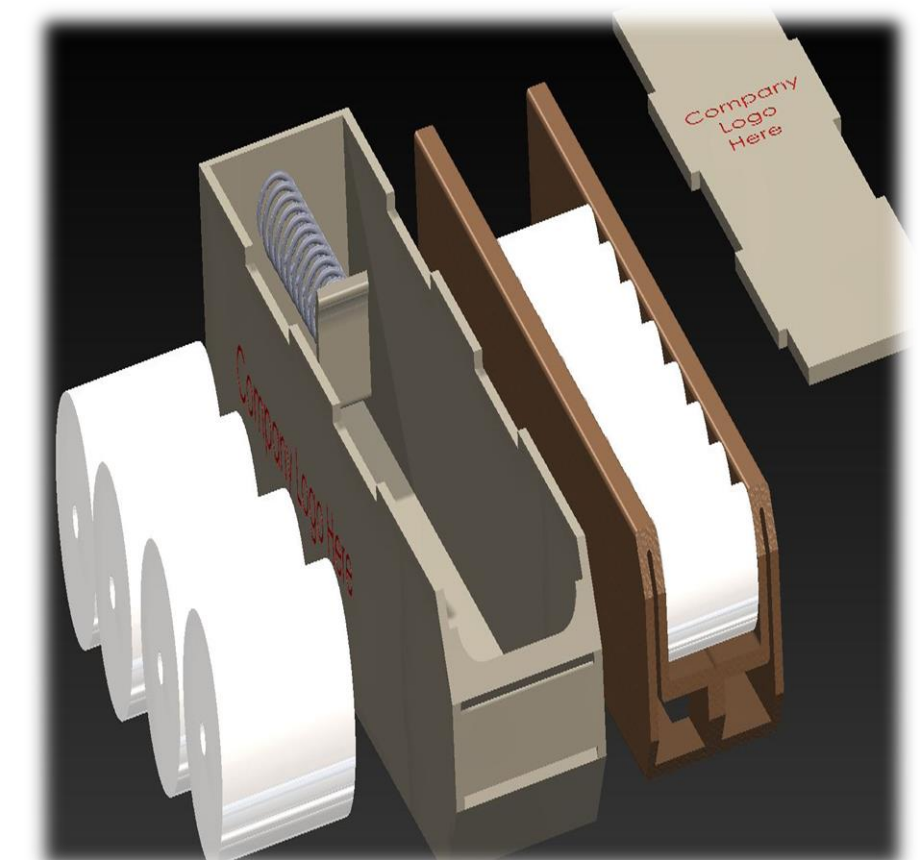
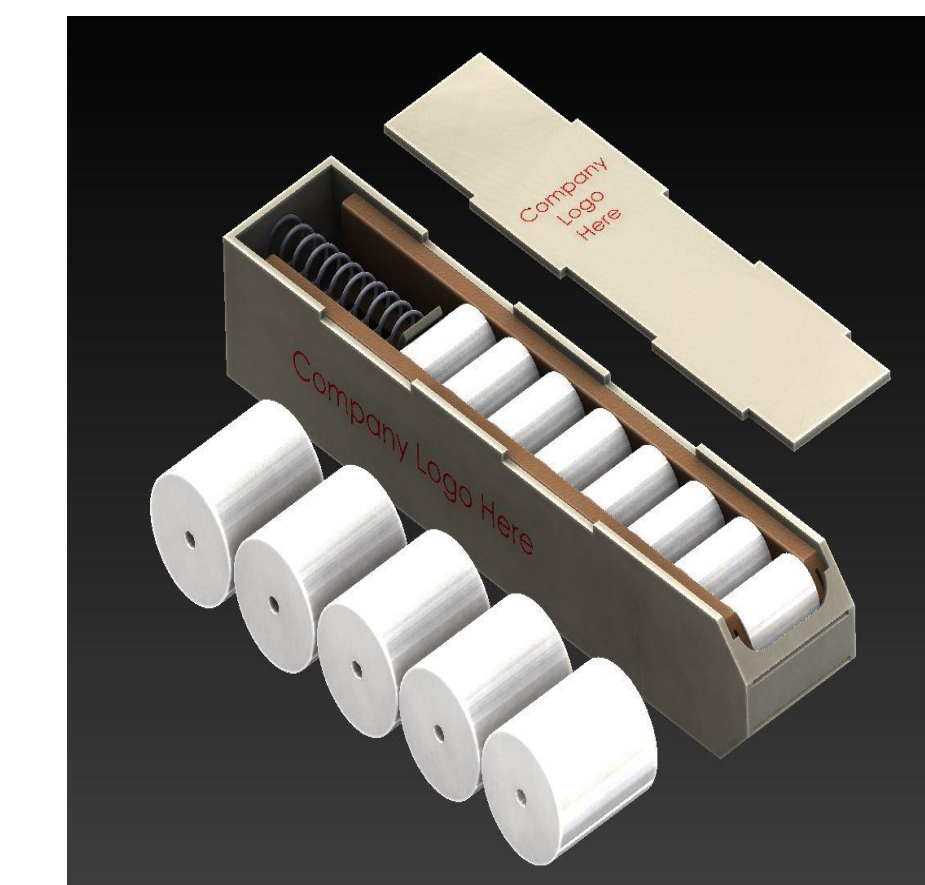
Concept 4: Wire Frame Gravity Fed

Design Criteria

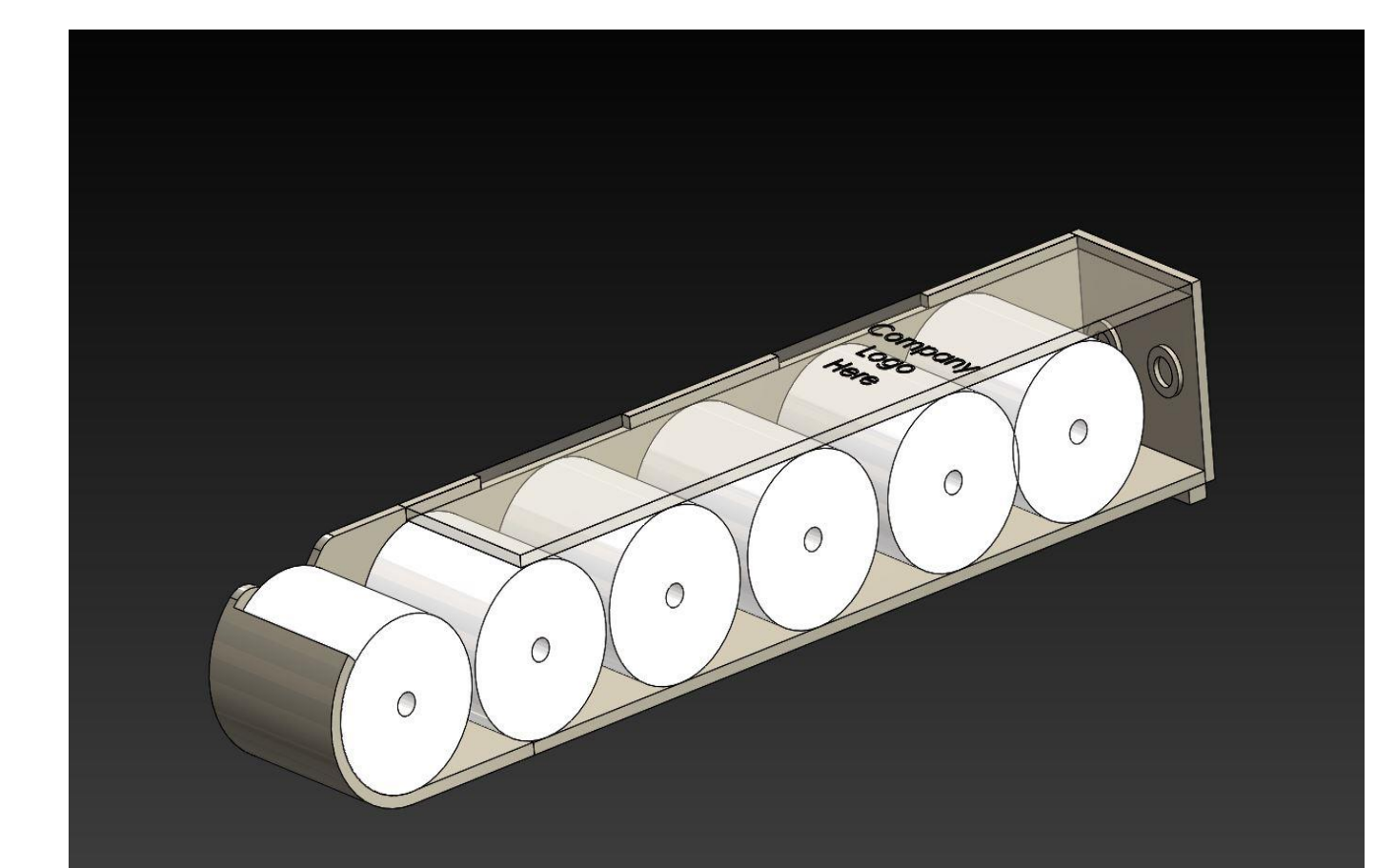
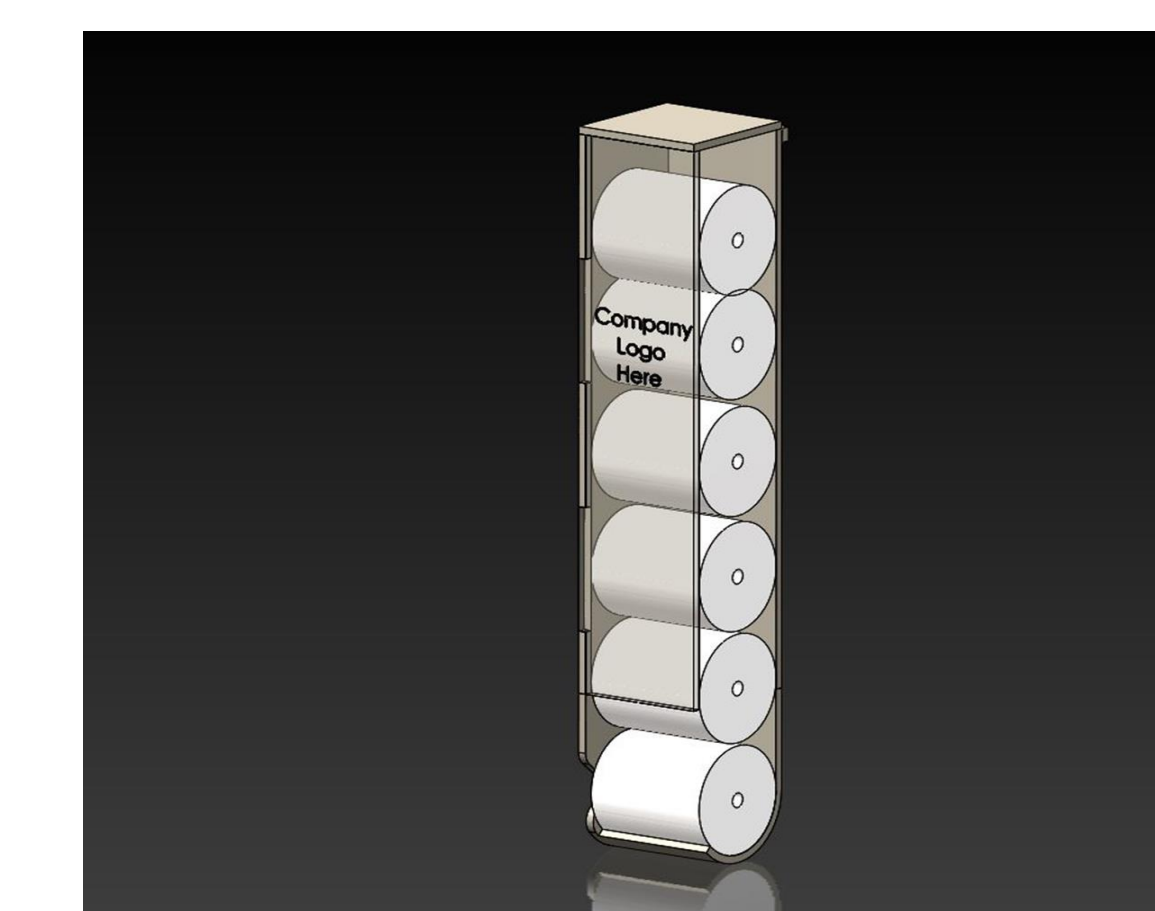
- Sustainable
- Low Cost (under \$8 per unit)
- Convenience
- Orientation of rolls
- Versatility of sizes
- Roll Quantity
- Esthetics



Concept 2: Spring Loaded Without Tray



Concept 3: Spring Loaded With Drawer



Concept 5: Molded Gravity Fed

Work Breakdown Structure

