

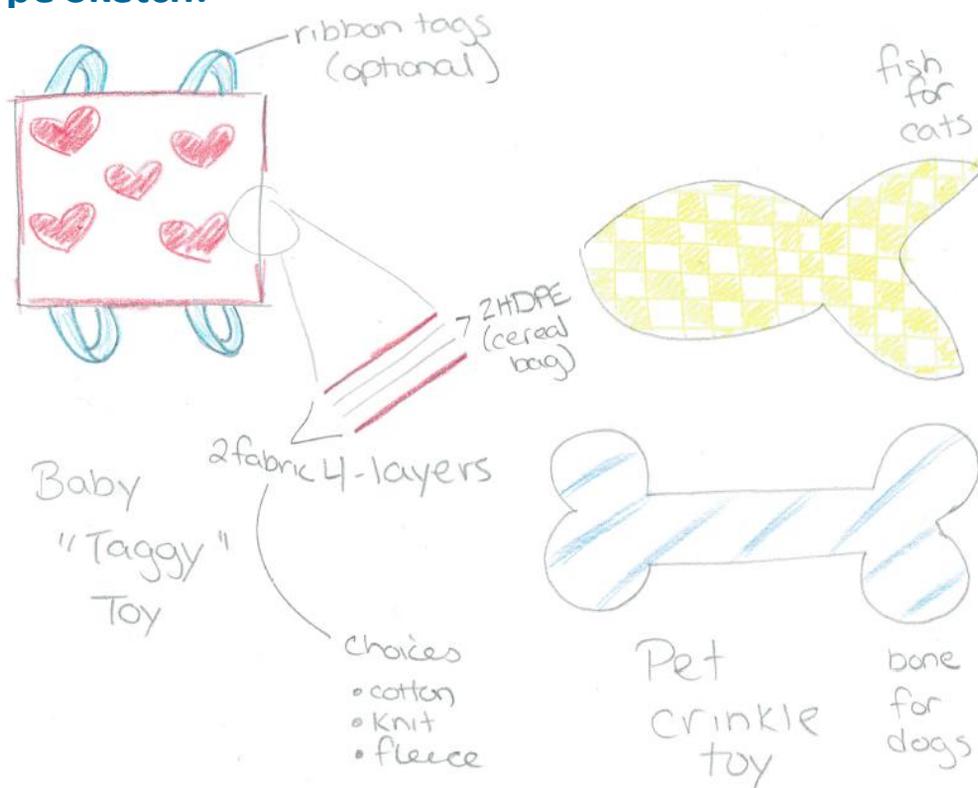
Objective: Engineer a prototype of a new product that utilizes a packaging item as a primary component

Original Product Packaging:
Cereal bags

*Made of High Density Polyethylene, these plastic bags can be recycled but are often thrown into the garbage. While they have a many unique properties, the material property I chose to focus on was the **crinkle sound** they make.*

Overview of Prototype: The prototype idea would to make either toys for infants or pets to make use of that crinkle sound. By securely sewing the plastic inside, it would prevent it being torn off. In addition, the extra plastic in the seam allowance would allow some extra bulk for the toy without the need of polyester stuffing.

Prototype Sketch:



Additional materials needed to make this product: template for shape, ~18 in² (options include cotton, fleece, knits), thread, sewing needle, scissors, sewing machine (optional)

Manufacturing of the product: Two pieces of the plastic bag and two pieces of fabric would be cut using the template. Pinning all layers together so the plastic is on the outside and right sides of fabric are facing, sew a perimeter with ¼” seam allowance and leaving 1” open near the anterior end of the fish. Turn inside out and finish sewing by hand.

Target Audience: The target audience for this would be either pet owners (with this design) or parents of infants (with a different shaped design), especially those that consider themselves environmentally conscious

Product Appeal: For pet owners or parents, this is a great way to make their own toys or to purchase ones that are using repurposed materials. Especially for the fish design, this would be easy to market in a way that emphasizes saving the fish from plastic ending up in the oceans.

Evidence of Met Objective (how does engineered design remove one product from the waste stream?): Several of these toys could be constructed from a single bag and would prevent the bag from ending up in a landfill. In addition, small fabric scraps could be repurposed for this as well (which was done here)



Shapes cut from cereal bag



Plastic and fabric ready to sew



See the completed prototype in action!