intention

Laundry Detergent

1.1 Contact Information

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1.2 Submitting Category

Professional using AutoDesk Fusion 360

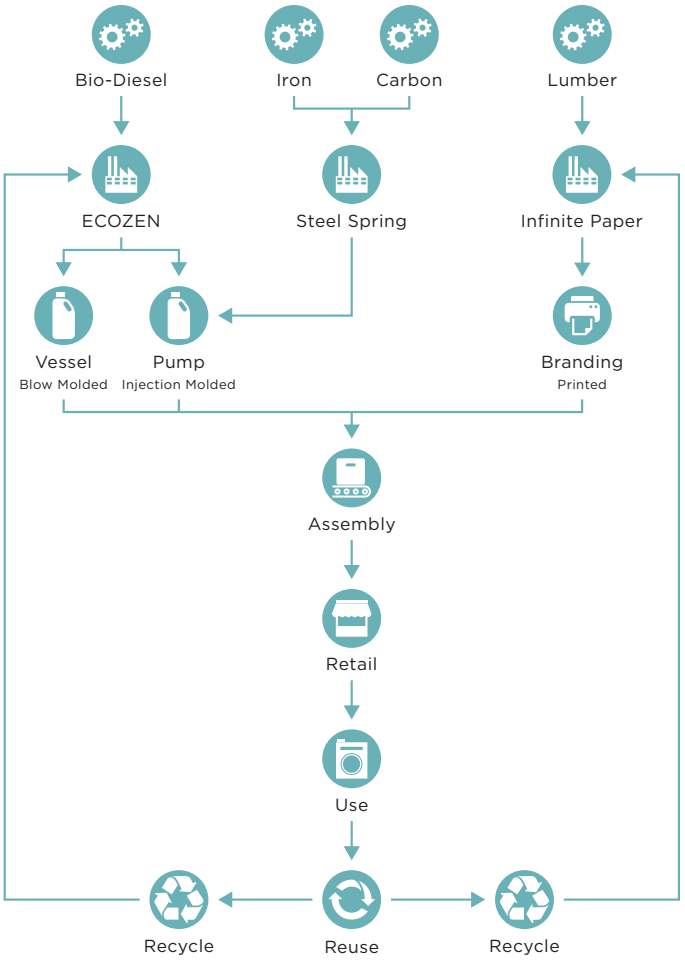
2.1 Intention — Second Life Packaging

Intention is a packaging brand designed to consider secondary functionality. Unlike the majority of current packaging systems, Intention products have been deliberately fashioned to serve an additional purpose post consumption to avoid preemptive disposal. Reuse, employed as a sustainable design strategy, is often more successful at saving embodied energy and resources than recycling alone. Packaging created to serve multiple functions offers a chance to address ill-considered standards of disposal worldwide.

Intention Laundry Detergent is the first concept in a family of branded packaging products. The PETG blow-molded vessel houses an eight-times concentrated biocompatible laundry detergent (accessible via a push pump to control detergent expenditure). Designed to increase in value and elongate material lifespan, Intention packaging has the ability to transform into a group of second-life objects. With integrated tear strips placed at calculated points across the product during manufacture, the vessel allows users an opportunity to create their very own container garden, transforming the product into a plant pot, watering can, trowel, and vase.

2.2

2.3 Product System



3.0 Reutilization Cycle & Business Model

Reutilization Cycle Strategy: Reuse & Recycle

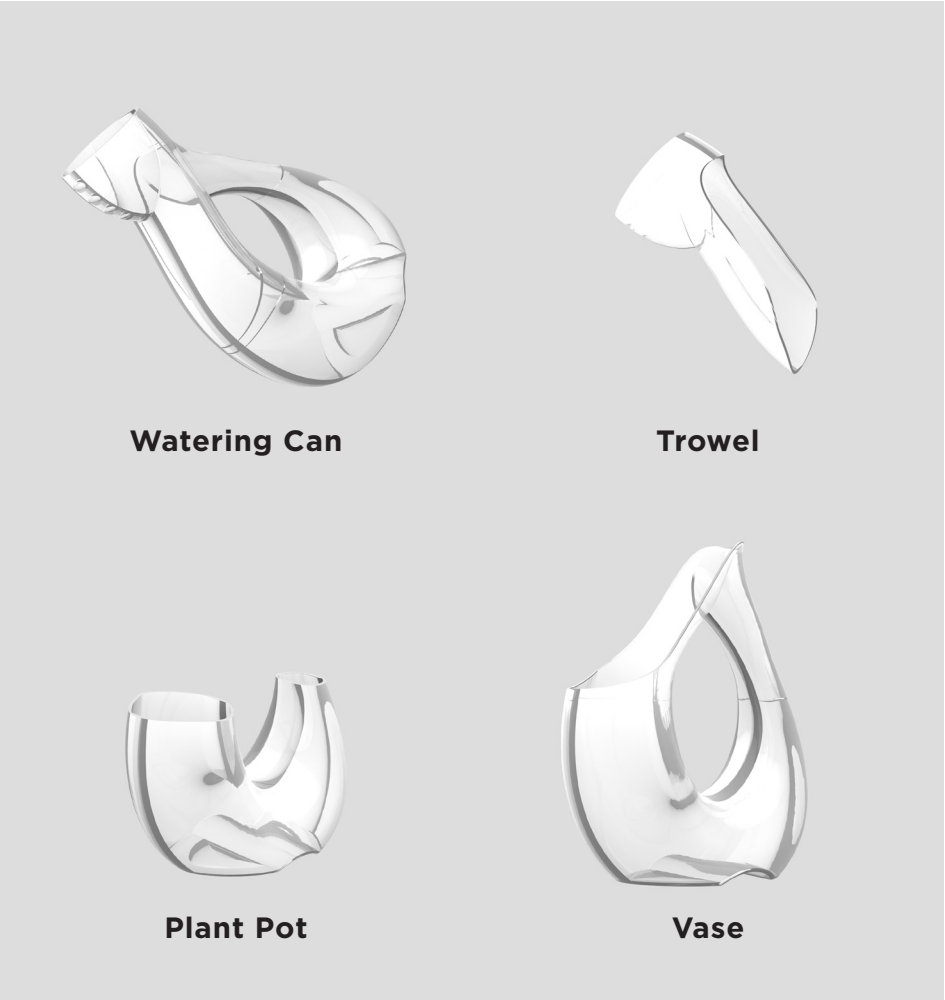
Reuse is a strategy heavily embraced by the DIY community. The growing craft culture online has produced instructions for reinventing wasted single-use containers. Their creativity inspired a thought--what if there were products on the market that took the hard work out of reuse and were designed to intentionally delay disposal? Second life packaging does exactly that by offering use in a new form following its original use. If disposal is absolutely necessary, the PETG bio-copolyester is recyclable in the vast majority of municipalities locally and internationally.

Intention packaging uses a pumping mechanism to dispense detergent solution. Chosen for its ability to prevent detergent overdosing, the pump provides users with an accurate amount of liquid as it relates to the size of their wash load. In doing so, Intention mitigates impacts of detergent overconsumption. The pump has been designed to fit universally across Intention branded products, meaning users can simply reuse it with another laundry detergent vessel or a different Intention packaging product. It does not need to be disposed of once the vessel has finished serving its first life.

Branding is an important addition to the creation of Intention packaging. In order to ensure the proper use of this unique product, we feel consumers will have to carefully read instructions on how to separate the vessel and quantify the correct amount of detergent for a given wash load. Without this consumer education, misuse of the product could potentially contribute to a higher ecological impact.

Business Model Strategy

Intention products will be marketed as a family of goods that share an ability to function as secondary objects. In order to guarantee the strategy will be adopted by users as we anticipate, we propose that the laundry detergent be sold as two independent items -- the vessel and the pump. Our decision to sell objects separately (that are typically offered together), will remind consumers that with every vessel purchased, a single pump can be used many times over. There is no need to dispose of the well-functioning mechanism merely because a vessel is empty. Our hope is that this business model approach will improve consumer understanding of product and material lifespan.



4.1 Material Overview

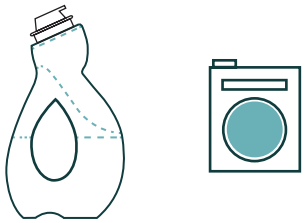
The choice to focus on laundry detergent packaging came to us after witnessing regular improper disposal of large sums of HDPE detergent bottles at our local Brooklyn laundromat. This initiated an in-depth look at the harmful impacts generated by the laundry industry globally.

Proctor & Gamble has notably claimed that the average American household washes 600 loads of laundry yearly. That roughly equates to six to thirteen containers per family, or 700 million countrywide, most likely made of HDPE. The #2 plastic has a recycling rate of 30% according to the Association of Postconsumer Plastic Recyclers, meaning the other 70% is, unfortunately, sent to landfills.

Intention aims to curb that percentage by blow-molding its vessel and injection-molding the pump out of post-consumer ECOZEN, a PETG bio-copolyester manufactured by SK Chemicals and is Cradle to Cradle Gold Certified. Composed of a bio-diesel raw material, ECOZEN is a plastic that does not require fossil fuels to manufacture but performs similarly to standard petroleum-based plastics. PETG is highly recyclable and remains transparent, eliminating potentially toxic dye additives present in colored plastics.

Additionally, we envision Intention's branding to be printed on another Cradle to Cradle Certified material. Infinite Paper Products manufactured by Dekkers Van Gerwen scores very high on material reutilization and is made in factories fuelled by renewable energy.

Intention's product system relies heavily on the detergent. By using a biocompatible formula, users are able to wash their clothes, collect greywater from each wash and use it to nourish plant life, eliminating water waste and closing the use loop. This mitigates the harmful actions of surfactants and phosphate containing detergents on the environment.



4.2 Material Reutilization

ECOZEN PETG	Infinite Paper Products	Steel
95.4	96.6	83.3

4.3 Material Health

ECOZEN PETG	Infinite Paper Products	Steel
0	0	1

5 Design with Autodesk's Fusion 360

Fusion 360 greatly influenced the design process that lead up to this very submission. It became an imperative tool for digital ideation, especially when we were working from separate locations. When we had difficulty expressing ideas to one another, Fusion provided evidence and reasoning to support design decisions and initiated constructive conversation. The speed at which we were able to asses product development options was significantly quicker had we only drawn and physically modeled our ideas. By realizing concepts swiftly, we learned which design choices were most successful and which failed. However, the most helpful aspect of Fusion was the ability to measure amounts of material and volumes of liquid. Getting quantified data enabled us to more accurately produce a Material Reutilization Score.