

Project Scope

The team was tasked with creating a prototype which mitigates some aspect of trash polluting Oceans and waterways. The prototype is to be operable by a single person, and must fit in the trunk of a four-door sedan. The team was to then document the engineering process utilized from the planning stage to the final product in the form of short videos.

What is a Capstone Project?

A capstone is a senior design project. In any engineering degree, when you are in your final year of college, you enroll in a class to begin your capstone. A bunch of groups or companies, in or outside of OSU, submit projects they'd like done. From there, students pick their favorite project descriptions and are then placed in groups. Time frame depends on the major but it's usually 20-30 weeks long. There's lots of report writing involved along with the building. This board is the accumulation of some of the work we've done for our capstone and the finished product.

Meet The Team!



Gabrielle Tomba
Major: Mechanical Engineering
From: New Orleans, LA



Andrew Harker
Major: Mechanical Engineering
From: Portland, OR



John Herrera
Major: Industrial Engineering
From: Santa Barbara, CA

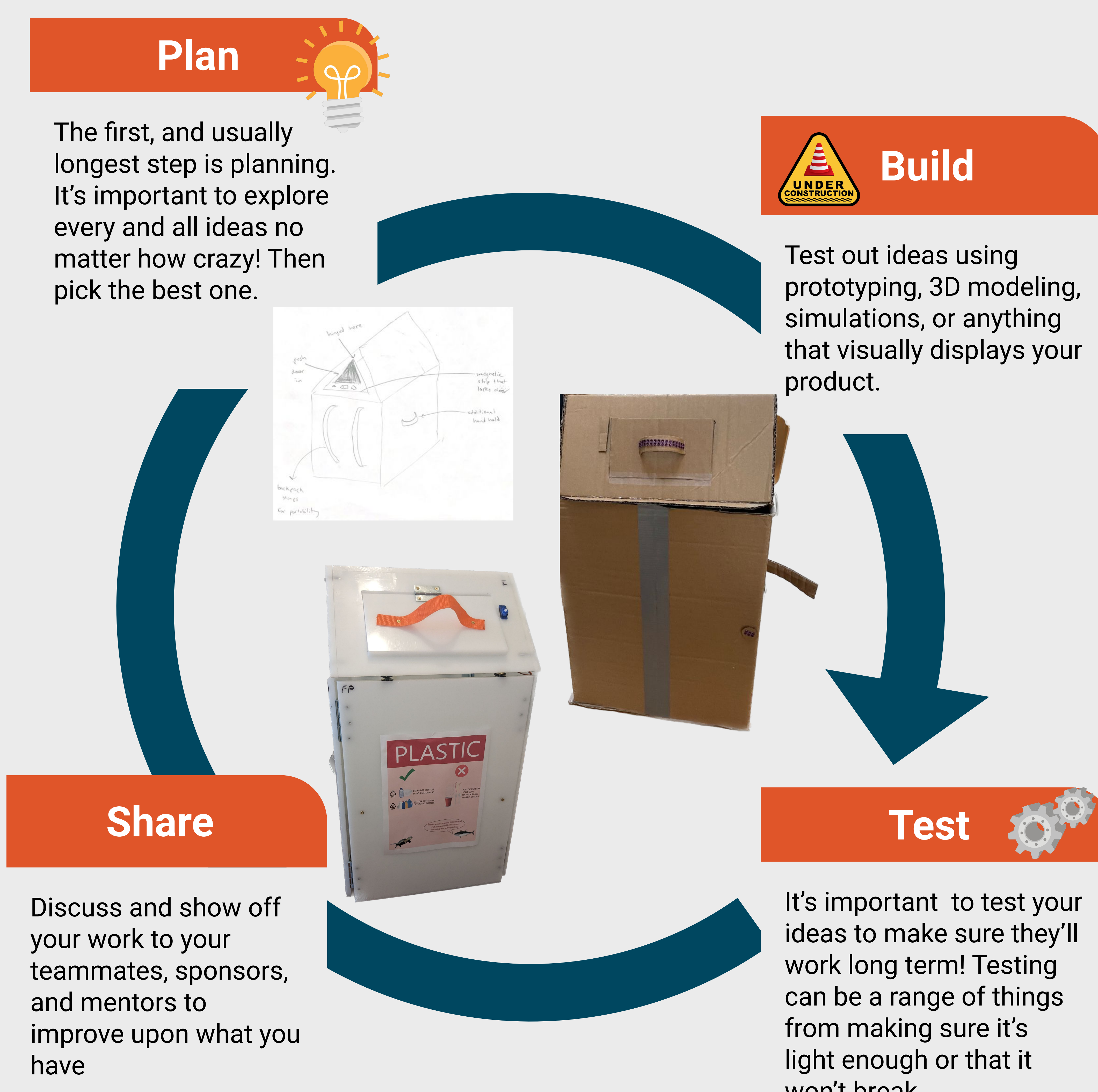


Igor Patrakov
Major: Industrial Engineering
From: Portland, OR

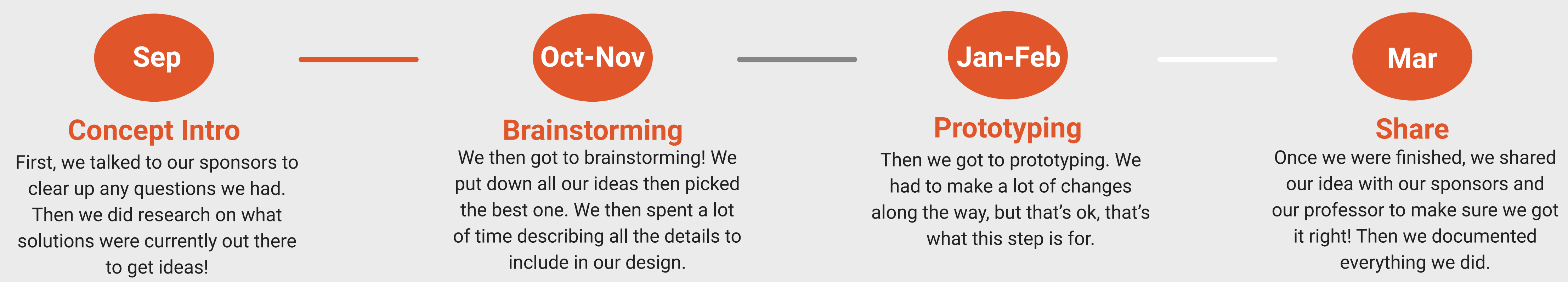


Upstream Garbage Project

Our Process



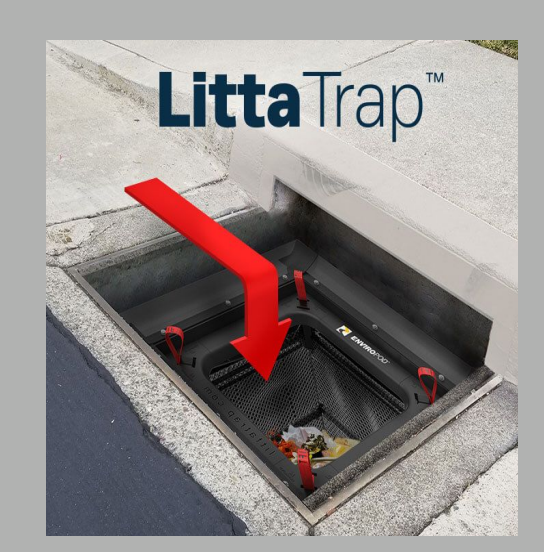
Our Timeline



Ideate and Planning Process

1 Initial Downselect or Brainstorming

- Come up with as many ideas as possible
 - Fun garbage can
 - Tiny garbage robot
 - Storm drain catcher
- Choose the ideas that we believe are interesting but also feasible



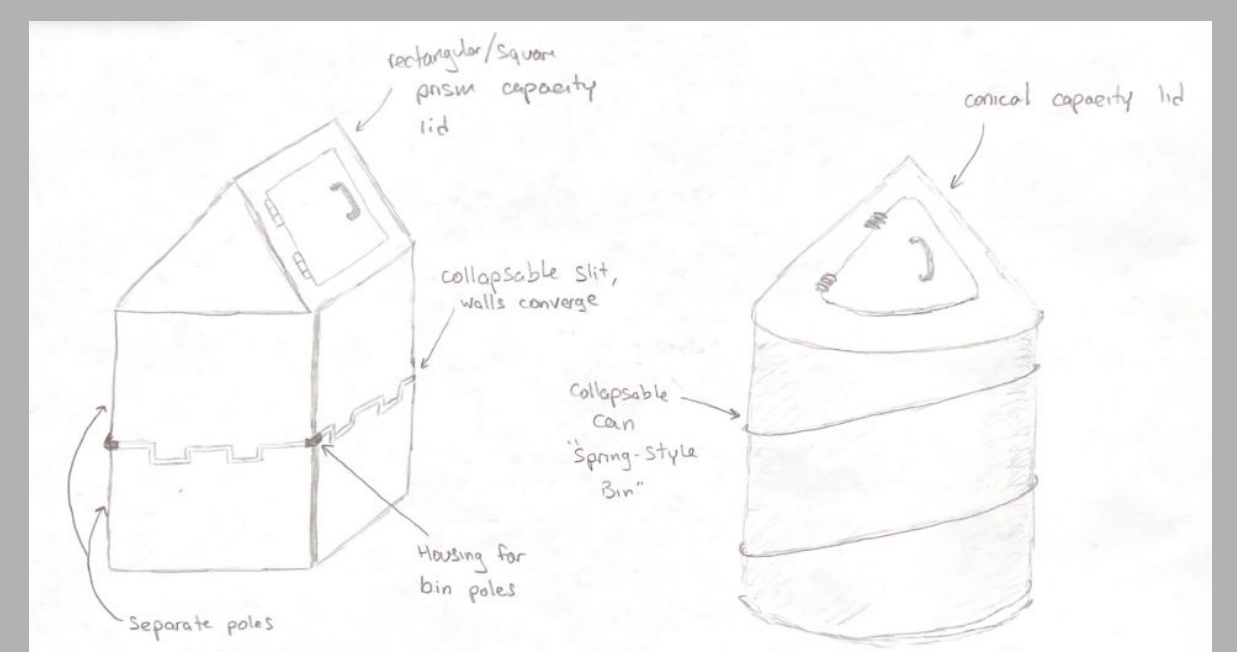
2 Decision Matrix or Pros and Cons

- Place values on certain parameters that need to be met by the project!
 - Decide what is the most important needs our project needs to meet
 - talk to sponsors
 - research
- See how well each concept would meet these criteria and narrow down our choices!
 - 1-10

	Competency	Cost	Viability	Desirability	Alignment	Total
Criteria rating	3	4	5	4	2	
Idea A	1	3	3	1	1	
Weighted rating	3	12	15	4	2	36
Idea B	5	3	5	3	4	
Weighted rating	15	12	25	12	8	72
Idea C	1	2	3	1	1	
Weighted rating	3	8	15	4	2	32
Idea D	5	1	2	1	1	
Weighted rating	15	4	10	4	2	35

3 Final Concept Definition

- The group must come together and weigh all of the options, and choose one to go with!
- Detail our chosen prototype
 - verbally
 - concept sketches
 - cardboard proof of concept (prototype)



Our Solution

The final prototype is a foldable trash can fit with backpack straps, side handles, and a motion sensing lock mechanism built into the lid. The idea was to create something that prevented litter in the streets and roads. We were inspired by how many people come to Corvallis for game days and how much garbage is left lying around. Our hope was to create a garbage can that prevented overflow of trash into the street that would eventually end up in our waterways.

