



OCEAN ROBOTS COLLECTION ADMINISTRATION

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MEET ORCA



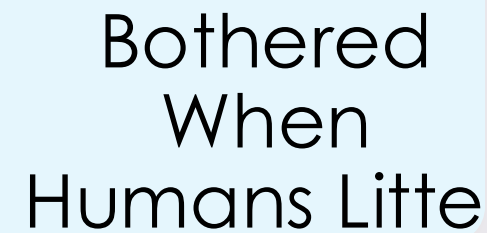
WHY THIS PROJECT?



Like the
Beach



Helping
Environment



Bothered
When
Humans Litter

PROBLEM/ CHALLENGE

Too Much Trash on
Beaches

Using ORCA Instead of
Littering

CLAIM

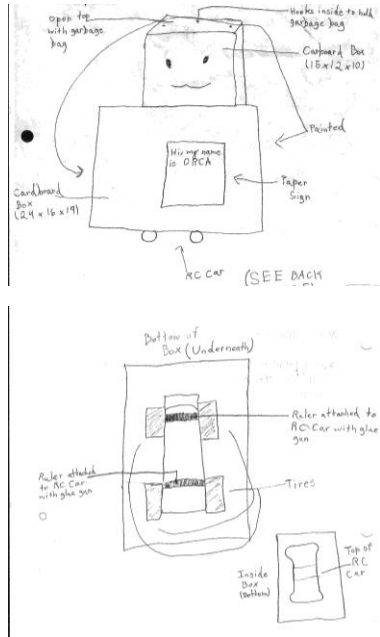
It moves around

It has a fun design

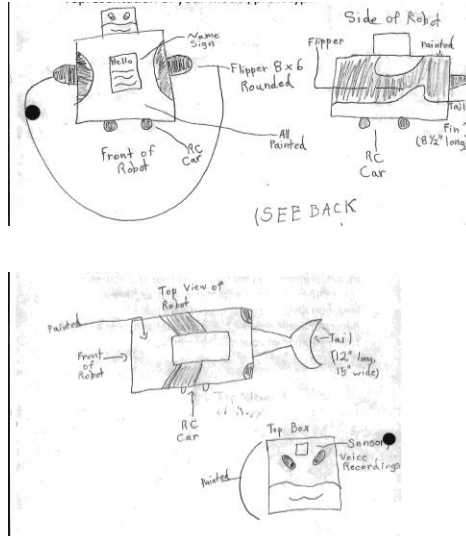
It talks and tells you what it's about

It creates interest and attention

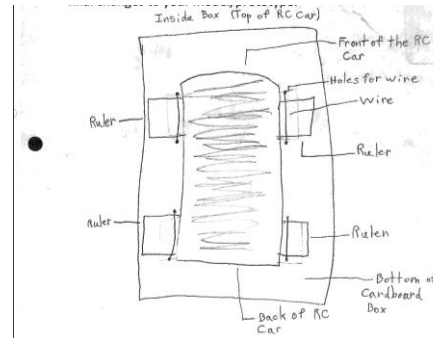
BLUEPRINTS



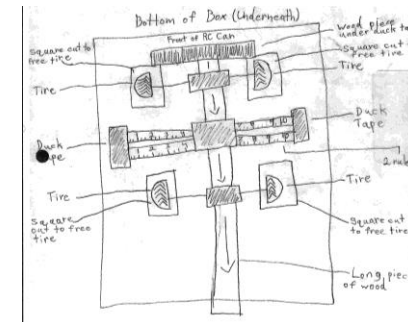
#1



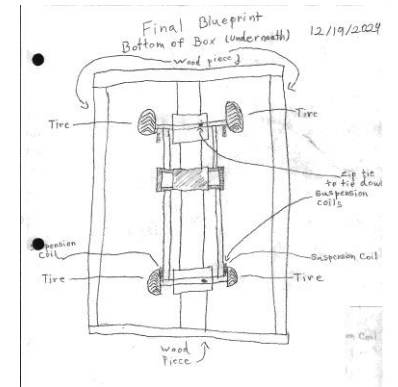
#2



#3



#4



#5

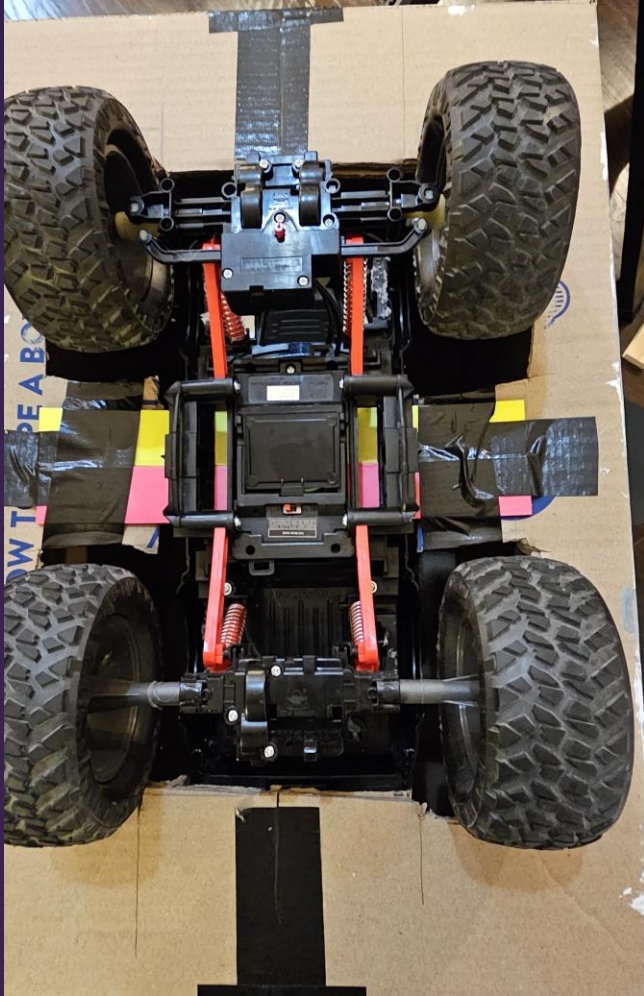
TRIAL AND ERROR

Three Main Issues:

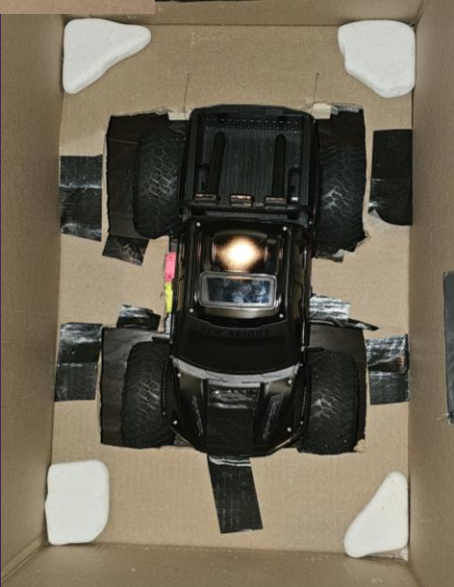
1.) Wheels Rolling Freely

2.) Balance

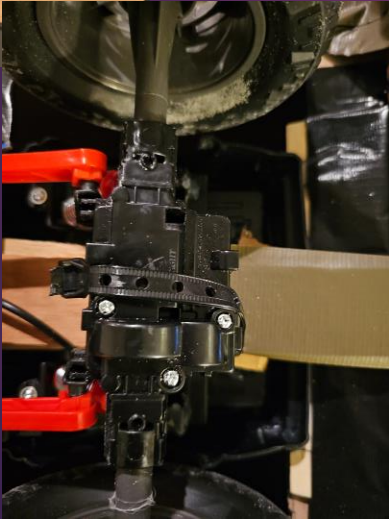
3.) Stability



Wheels Rolling
Freely



Balance



Stability

MATERIALS USED FOR ORCA

- Acrylic Black Paint
- Acrylic White Paint
- Paintbrushes
- Large Cardboard Box (24x16x19)
- Small Cardboard Box (15x12x10)
- New Bright Ford F-150 RC Heavy Metal Truck
- Rulers (2)
- Glue Gun
- Box Cutter
- Paper
- SierraTeck Motion Activated Voice Player
- Duck Tape
- Hooks (12)
- Garbage Bag
- Cardboard Pieces
- Velcro Strips (2)
- Medium Yard Decorative Stones
- Wood Pieces
- Black Zip Ties

DATA COLLECTION

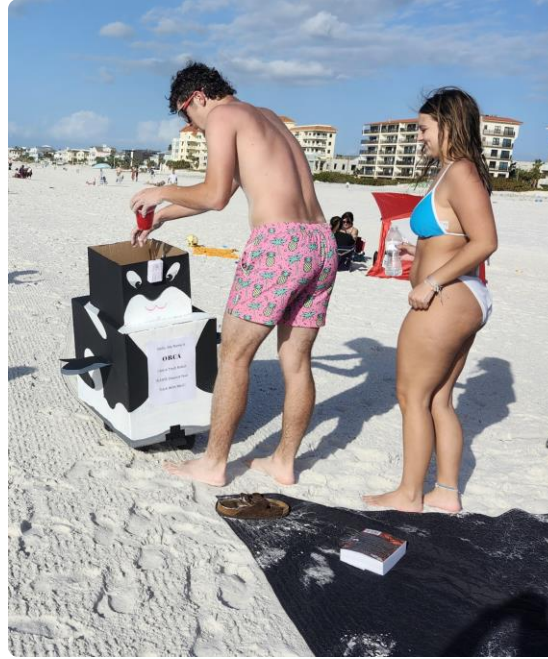
Amount of
Trash
Available

Amount of
People

Realistic
Trash
Collection

NOT POSSIBLE!

- Too Much Trash
- Too Many People
- Too Little Time



REFOCUSSED DATA COLLECTION

DATA

ORCA approach 32 people on the beach

Items Collected:

- Glass and plastic bottles
- Cans
- Paper goods
- Other plastic materials
- Food containers
- And anything else they wanted to throw away

SUMMARY



SUCCESS!!!



100% Participated



Interested AND Excited



Great Way to Reduce Litter

RESULTS

► ORCA is the BEST Solution:

- Works to Save Marine Life
- Prevents sickness in human life
- Helps the Economy
- Protects the Environment



CONCLUSION

Our Purpose was to Make a Difference

Litter Affects

- Wildlife
- Humans
- The Environment
- Economy

Our Mission was to Do Something...**ORCA**

This is a START!!!

PROTOTYPE TO POSSIBLE

Pick Up Trash
and Sift Out
Sand

Roomba®
Type
Product

Different
Body
Material

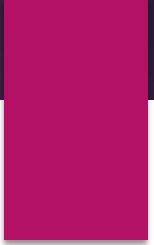
TOP TEN LITTERED ITEMS

- ▶ Food Wrappers
- ▶ Cigarette Butts
- ▶ Plastic Bottles
- ▶ Plastic Bottle Caps
- ▶ Straws and Stirrers
- ▶ Plastic Cups & Plates
- ▶ Plastic Grocery Bags
- ▶ Take-out Containers
- ▶ Plastic Lids
- ▶ Other Plastic Bags



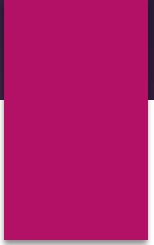
A FEW FACTS

It has been estimated that more than 800 species of wildlife around the world are affected by beach pollution. (U.S. Environmental Protection Agency (.gov), June 26, 2024)



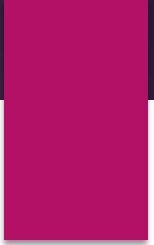
Americans take more than 900 million trips to coastal areas each year and spend approximately \$44 billion. When beaches are closed it impacts local businesses, tourism and the all-around economy.

[www.nrdc.org>stories>beach-pollution-101](http://www.nrdc.org/stories/beach-pollution-101), May 28, 2020)

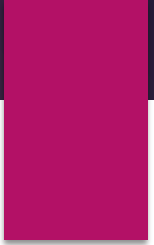


In 2013 the United States had more than 20,000 beach closings due to pollution and contamination.

([https://www.nrdc.org › stories › beach-pollution-101](https://www.nrdc.org/stories/beach-pollution-101), May 28, 2020)



The Environmental Protection Agency (EPA) estimates that nearly 3.5 million people get sick from being in contact with sewage while swimming. (U.S. Environmental Protection Agency (.gov), June 26, 2024)



If people continue to leave trash and plastic where they can get into coastal environments, by the year 2050, there will be more plastic in the ocean than fish (by weight).

(<https://www.ecoredux.com/beach-pollution-causes> Beach Pollution: Causes and Effects (and Prevention!))

Plastic can take up to 450 years to decompose.
(ecoredux.com/beach-pollution-causes)



THANK YOU!

ANY QUESTIONS???