Edu Plastic Pollution

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Abstract

Edu Plastic Pollution is an interactive education web application made in collaboration with the students at the IDEASS lab, a UCSC program that brings together students of different disciplines to tackle projects dealing with social, ecological and economic issues. Edu Plastic Pollution deals with the growing problem of plastic pollution by educating the general public on the life cycle of plastic as it deteriorates from a macro to a micro to a nano stage, and its detrimental effects on the environment, wildlife, and human health in each stage. Edu plastic pollution takes an interactive and engaging approach to educating the public on issues dealing with plastic pollution.

Our Approach

To create an interactive and engaging experience we focused heavily on the user experience. Our website is broken down into the three life stages of a plastic: the macro, micro and the nano.
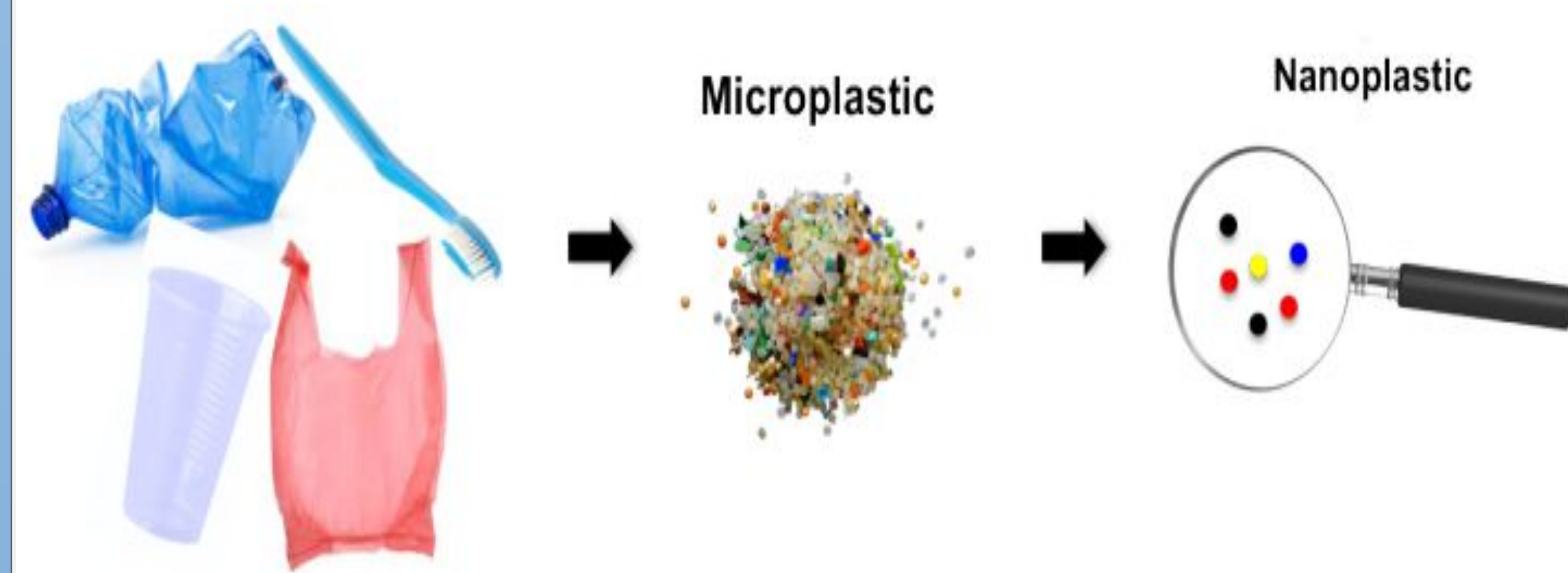
- We showcase how a macro can be recycled, trashed or dumped. If trashed it ends up in a landfill. If recycled it ends up on a boat to China or a landfill, but if dumped then it can eventually end up in our oceans, and then in our food.
- A micro can be found in things such as clothes, facial scrubs, or toothpastes and end up in our oceans, and eventually consumed as nano particles in seafood.

Overview

Over the last few decades, global consumption and production of plastics have skyrocketed. An estimated seven billion tons of plastic over the last seventy years accumulated worldwide, with merely half just within the last two decades. Plastic Pollution is a rapidly growing problem since the general public contributes to it daily. Edu Plastic Pollution aims at bringing awareness to plastic pollutants and their detrimental effects. Current plastic pollution educational websites can be disengaging and do not focus on all 3 stages of a plastic pollutant. Our interactive application makes it easy and fun to learn about the life cycle of plastic pollutants, and how you can do your part to help in fighting plastic pollution.

Macro, Micro, Nano Path Breakdown

Technology Stack

- React
- React-Spring
- HTML
- CSS
- GitHub Pages
- Node.js

Results

The resulting product is an engaging and interactive website that makes learning about plastic pollution easy and fun for users of all ages. Our website offers:

- Three interactive informative story paths
  - macro, micro, nano paths
  - 3D interactive story
- Animated statistical data graphs
- An activism route
  - including links to activism organizations

Conclusion

Edu Plastic Pollution's goal of creating a web application to help bridge the education gap on plastic pollution was accomplished. The user's experience has been revolutionized making it easier and efficient to learn by filling in the educational void surrounding plastic pollution and its detrimental effects. Through interactive learning, we instill pertinent information that helps decrease plastic pollutants contributions over time. Of course, there is still more work that can be done to create an even richer experience.

Acknowledgments