



## PORTFOLIO

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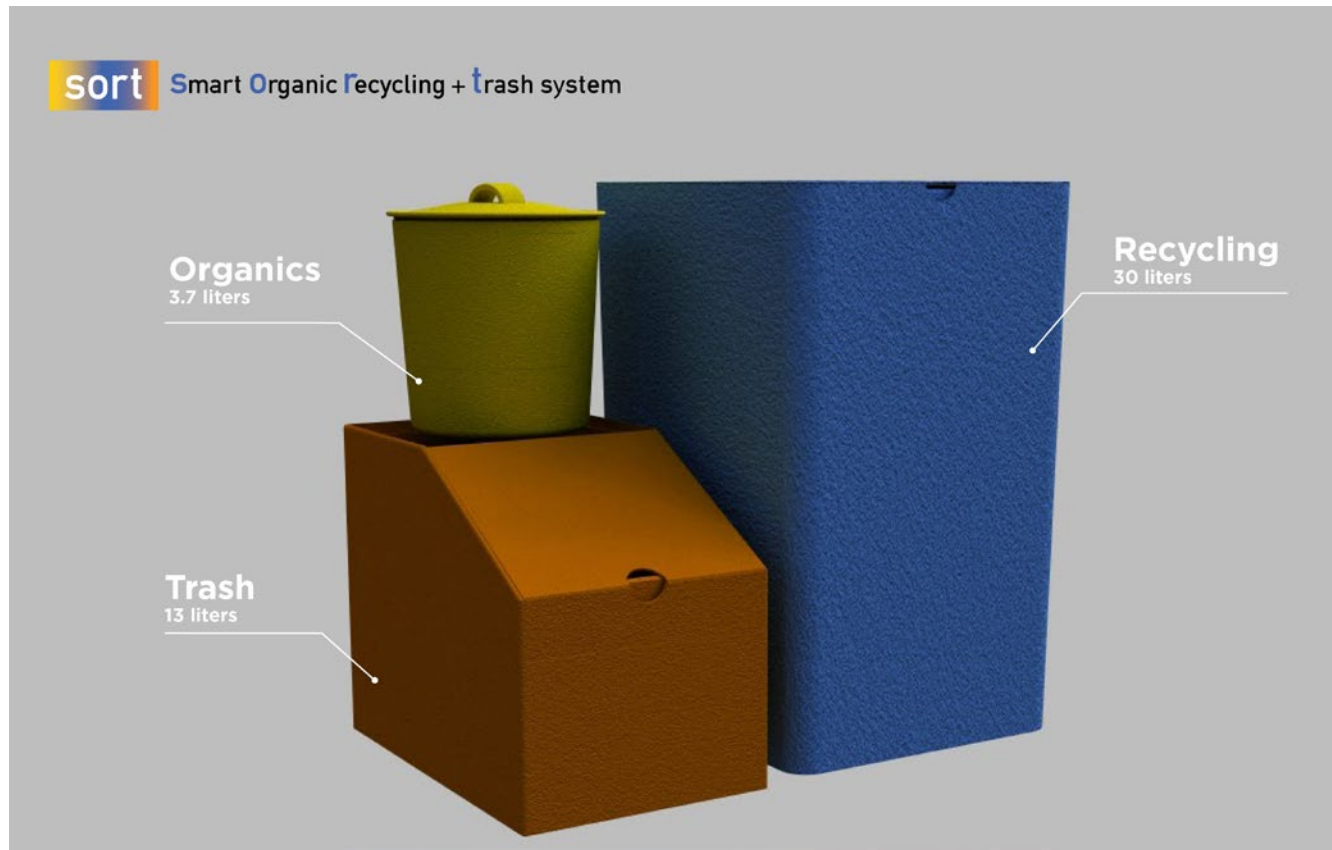
## A PLACE FOR PLASTICS 2018

### Bioplastics, Bacteria and Our Thoughtless Acts

Due to human carelessness, plastic waste ends up damaging ecosystems around the world. This project responds to this ongoing problem with bioplastic objects designed to decompose when discarded in the environment. Instead of polluting landscapes, these prototypes are made to respond to the presence of bacteria from wherever they end up, prompting their dissolution.

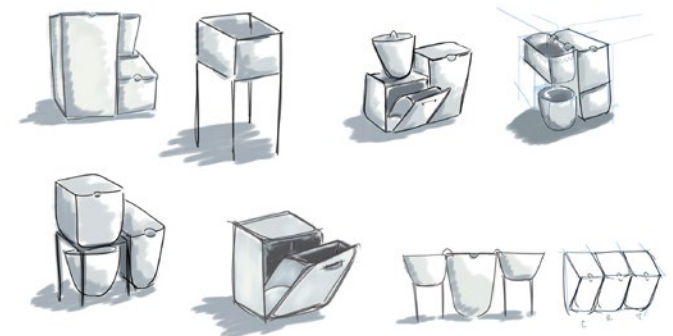
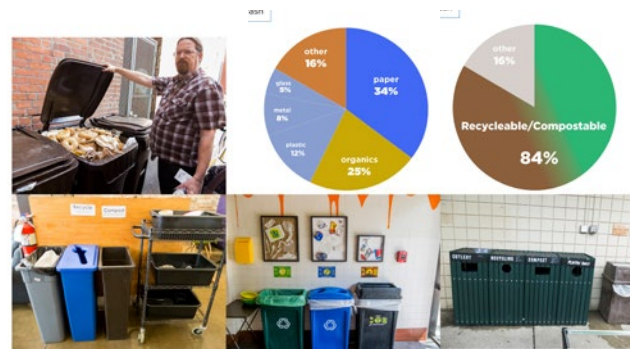
By experimenting with currently available bioplastics to determine their rate of decay when exposed to local bacteria and natural mechanical processes (*wind, water, abrasion*), this work concludes that bioplastics need to employ maximum surface area in order to accelerate natural bacterial degradation. This textured surface also acts as a tactile labeling system, communicating to consumers that this material is compostable and biodegradable. Biomimetic textures based in fruit skins allow for both outcomes.





## S.O.R.T. 2017

The Smart Organic Recycling and Trash system (S.O.R.T.) facilitates waste disposal behaviors. Each bin is designed according to the amount of waste generally created in each category. By separating the recycling from the compost, the design precludes the need for a trash bag. This system uses thin paper liners inoculated with microbes that aid in the composting process.







## Technicolor Cabin 2017

By swapping the original Lincoln Log material for porcelain I wanted to create a more precious building experience. Instead of stacking chinked, hewn logs, you are stacking fragile, hollow porcelain pieces. The delicate and colorful forms achieved with this new material provide a new platform for how we speak about home, place and the people who comprise it.





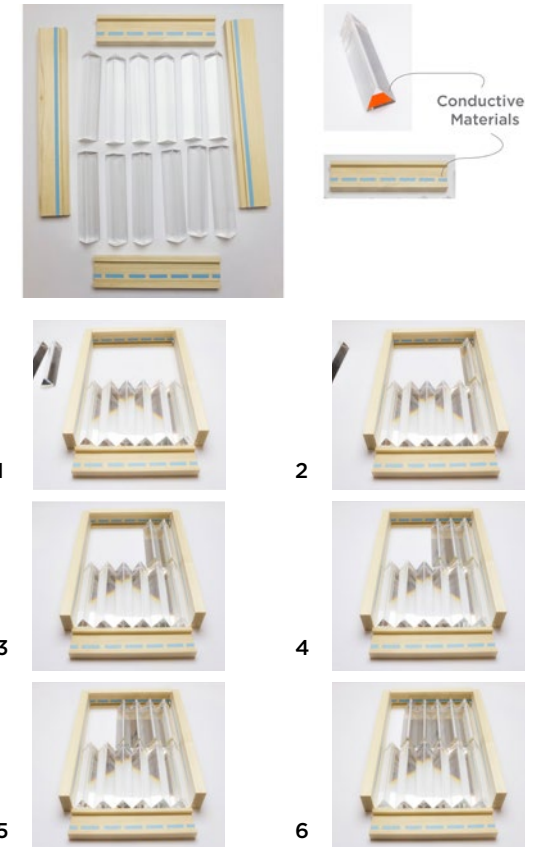
## LIGHT PILLOW 2017

Have you ever settled in to read a nice long chapter and realized that the lighting wasn't quite right? The Light Pillow is a project conceived in preserving comfort.

This pillow lights up once you lay back allowing you to read a book without compromising your hard-won reading position.







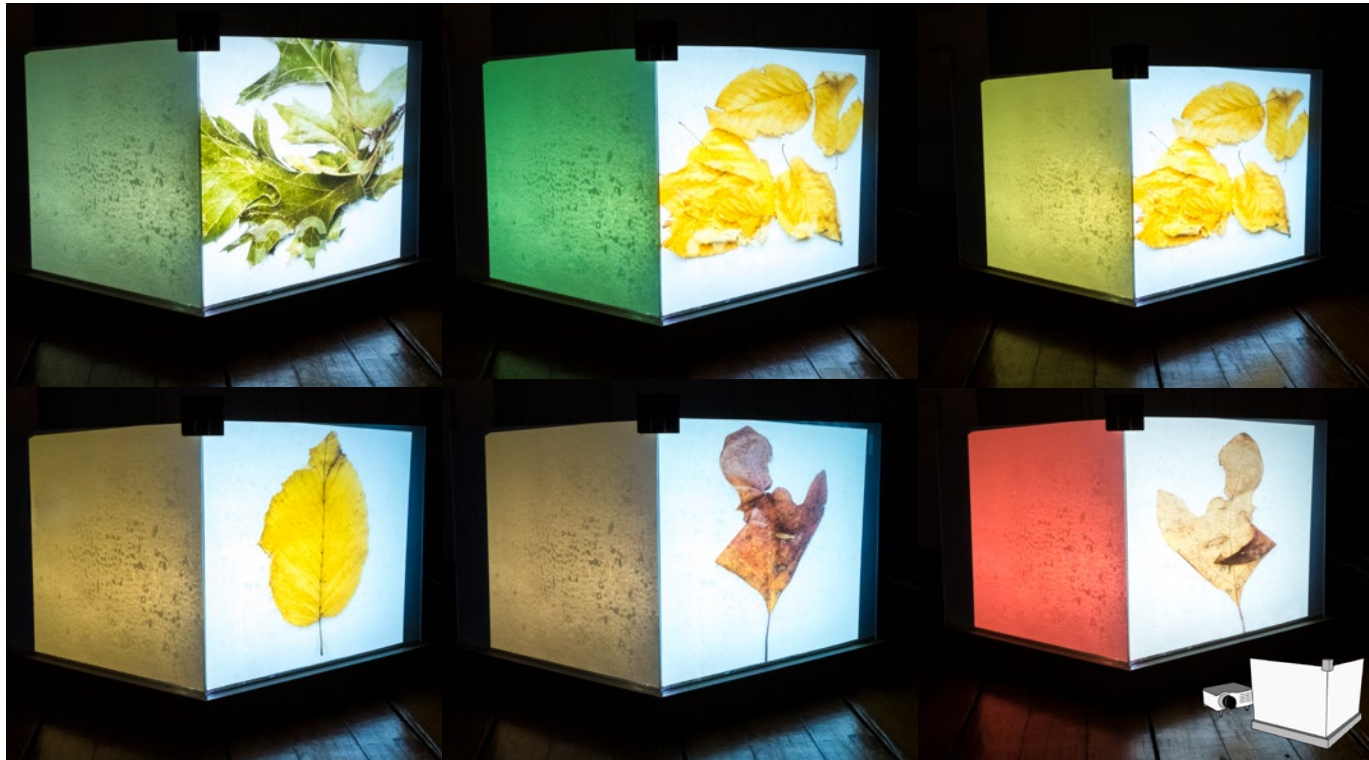
## MODERN CRAFT KIT 2016

The Modern Craft Kit explores opportunities for manipulating physical and digital components. Simple coding interfaces, such as Blockly and Scratch are coupled with physical design manipulations to allow for myriad material explorations and solutions.

The Modern Craft Kit is designed to combine two communities of student: the 'crafter' and the 'coder.'







## The **RGB's** of Fall in Providence, RI according to the TCS34725.



## THE RGB's OF FALL 2016

Color theory rarely has the luxury of including place. The RGB's of FALL records a specific time and geographic location by creating a custom color palette based in the state of Nature.

This installation employed an RGB sensor, arduino programming and projection mapping to digitally visualize Fall in Providence, RI.





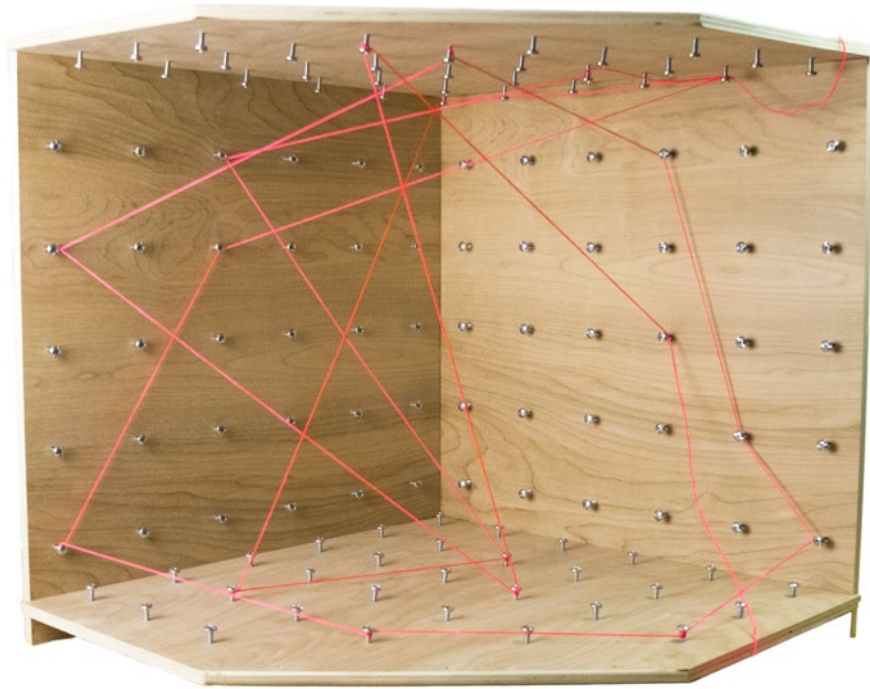


## M.A.D. The Game 2016

Mutually Assured Destruction (M.A.D) is a four-player board game where players must strategize ways to disarm the bomb in order to rush to the center to win! Players only have the opportunity to win the game during Peacetimes. The game begins with the bomb half-assembled. The game ends abruptly if the bomb becomes fully armed.







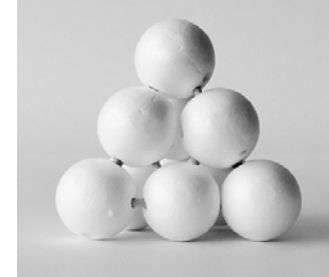
materials: string, hardware, ply



materials: fog, lasers, ply

## Complex Shapes 2017

Drawing machines as tools for getting beyond right angles. These tools that enhance the use of complex shapes in design. A deep comprehension of basic natural structures contributes to a more complete and complementary design solution. We need to innovate 'machines' to assist designers in gaining complete familiarity with these shapes.





## NASA + RISD 2016

### MAV (Mars Ascent Vehicle)

Designed to ferry one commander, one pilot and two mission specialists from the surface of Mars back up to the rendez-vous with the mothership. The MAV is like a taxi in NASA's intricate return strategy for safe transit back to Earth. My design team had regular conferences with NASA astronauts and engineers. We followed the specifications and guidelines outlined in NASA's presentations in our own designs. Focus on central interior.

*this was a group collaboration*

## 2017

### Analog Spacesuit Simulation

Team member designing an analog spacesuit simulation to be tested by astronauts participating in the HI-SEAS project. Fabricated soft, inflatable actuators that allow astronauts to adjust the suit's fit during a mission. Engaged in first-hand user-testing and parts fabrication.



astronaut Andrzei Stewart being fitted



Suit being tested at Volcano National Park, HI