Faith E Jones

Engineering Design Portfolio

Introduction

Hello, my name is Faith Jones!

I am a recent graduate. I studied Mechanical Engineering with a concentration in Industrial Design at MIT.

I am interested in product engineering, but in particular I have a love for thoughtful and playful design.

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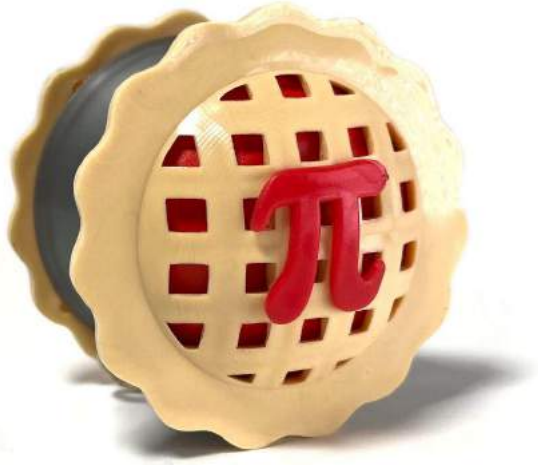
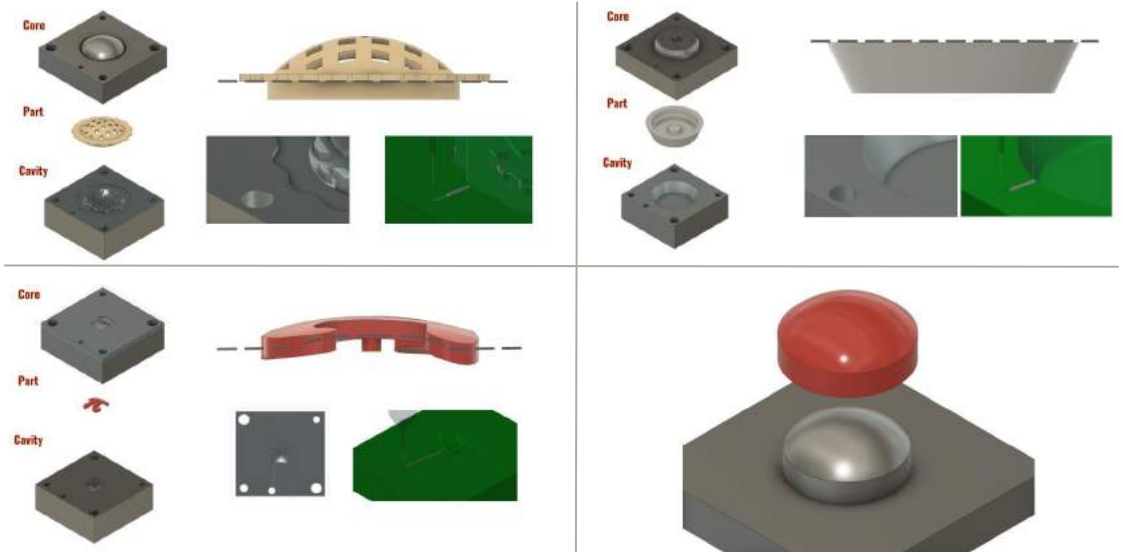
Pi Pie Yo-yo Fall 2021

Objective: Design a yo-yo with injection molded and thermoformed parts with the intention of mass manufacturing

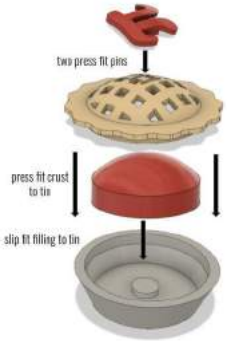


Initial Sketching

Parts and Molds



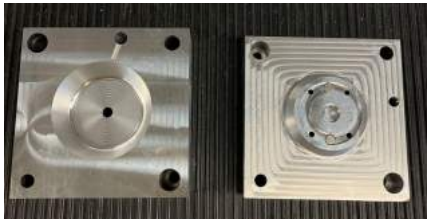
Assembly



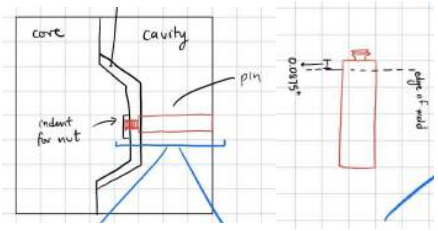
Pi Pie Yo-yo Fall 2021

Injection Molding and Press Fits

Overmolded Parts



Washer for added weighted feel

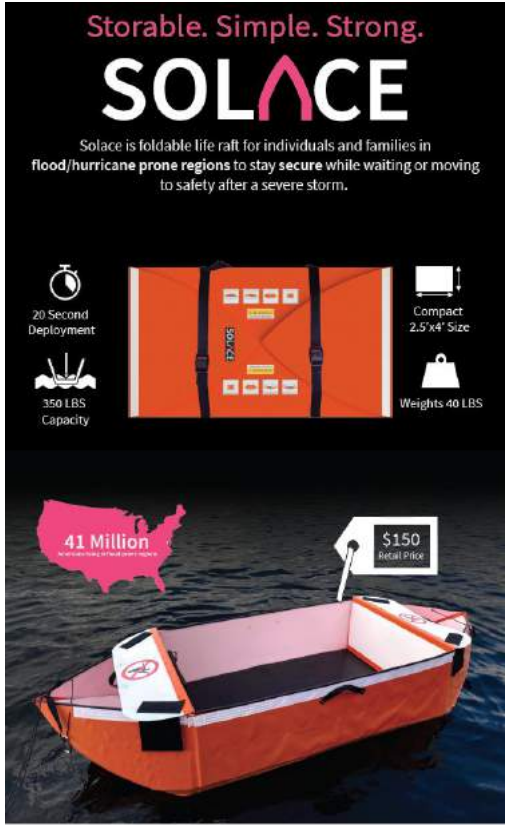


My Role: On this team of 5 I served as a designer, Thermoforming expert, and CNC engineer. This year my team won the **manufacturing award** by manufacturing over 200 yo-yos.

Tools Used: Fusion 360 for collaborative CAD, CAM, CNC milling, Thermoforming, Injection molding, resin 3D printing

Solace Fall 2020

Objective: Design and manufacture an affordable, lightweight, and easily storable alternative to traditional emergency life rafts



Deployed

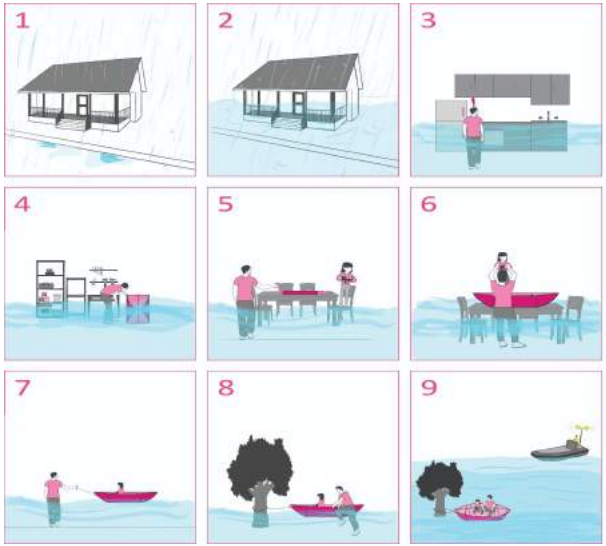
See video here of final product presentation!

Stored

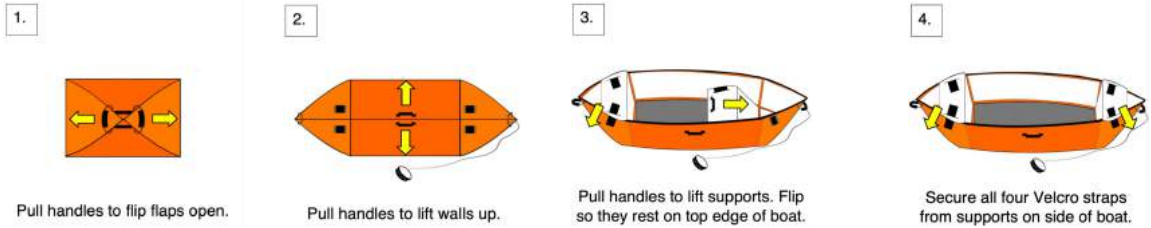
Iterations of Form

Solace Fall 2020

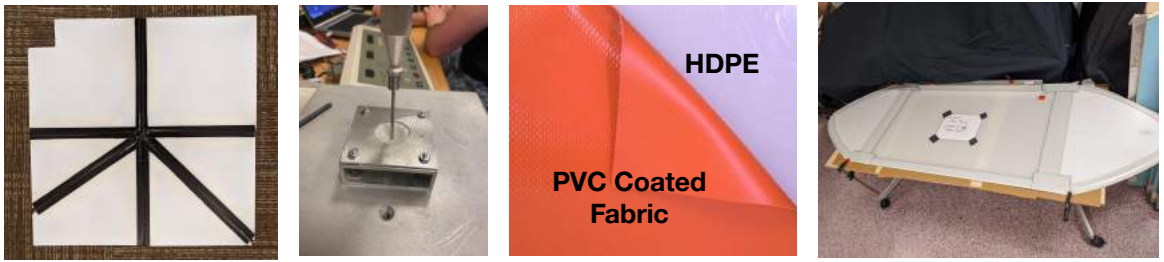
Storyboard



Industrial Design



Material and Seam Testing

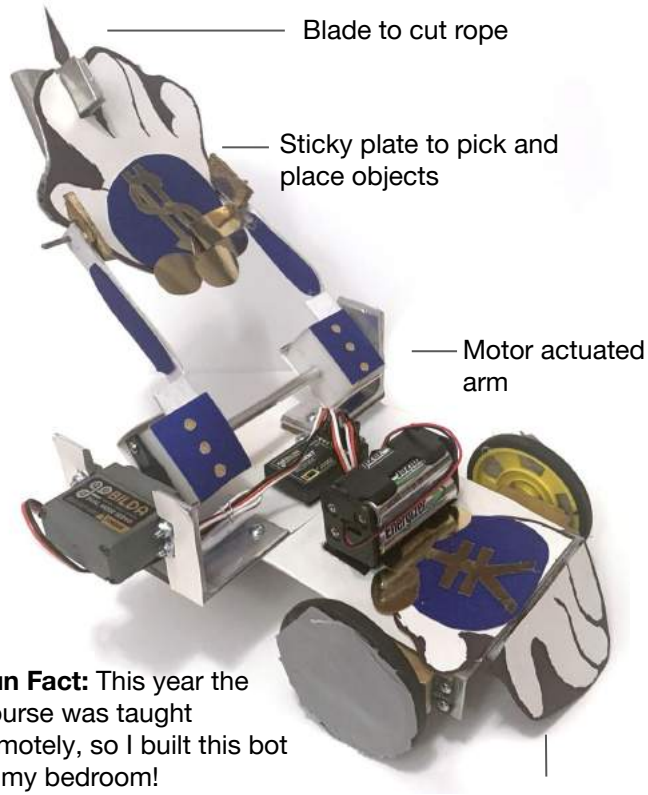


My Role: On this large team of 15 I served as Safety Officer, Lead Industrial Designer, and an R&D engineer for strength and waterproofing of seams

Tools Used: Prototyping with solid and corrugated plastics, performed tensile, puncture, and abrasion tests, Adobe Illustrator and Photoshop

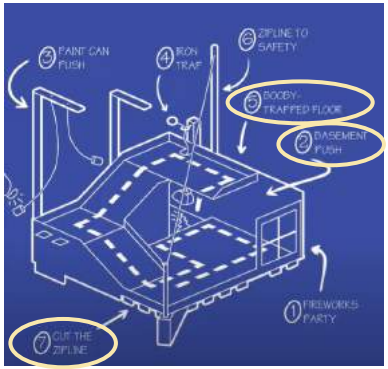
The Hand Spring 2021

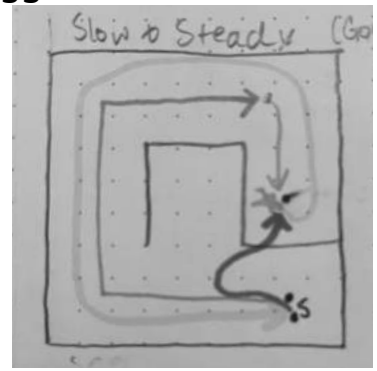
Objective: Make a robot to compete in a game from a limited kit of parts within in weight and size constraints



Fun Fact: This year the course was taught remotely, so I built this bot in my bedroom!

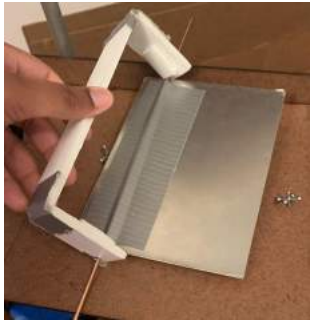
Game Board and Strategy

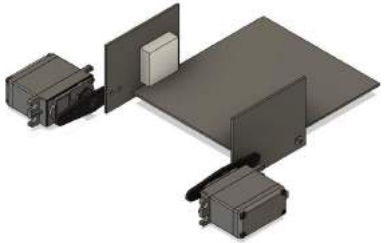


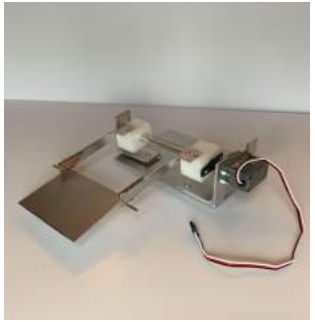


-Driving up and down incline
-Picking up and placing game objects
-Cutting rope above game board
-Pushing game objects

Mechanism Prototyping

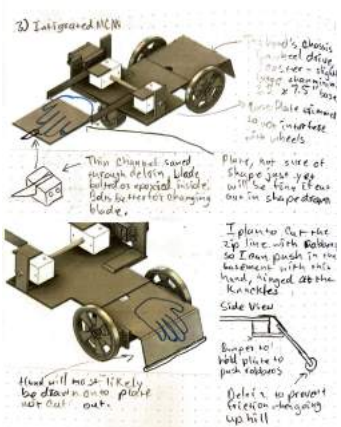


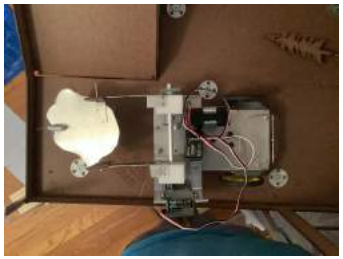




The Hand Spring 2021

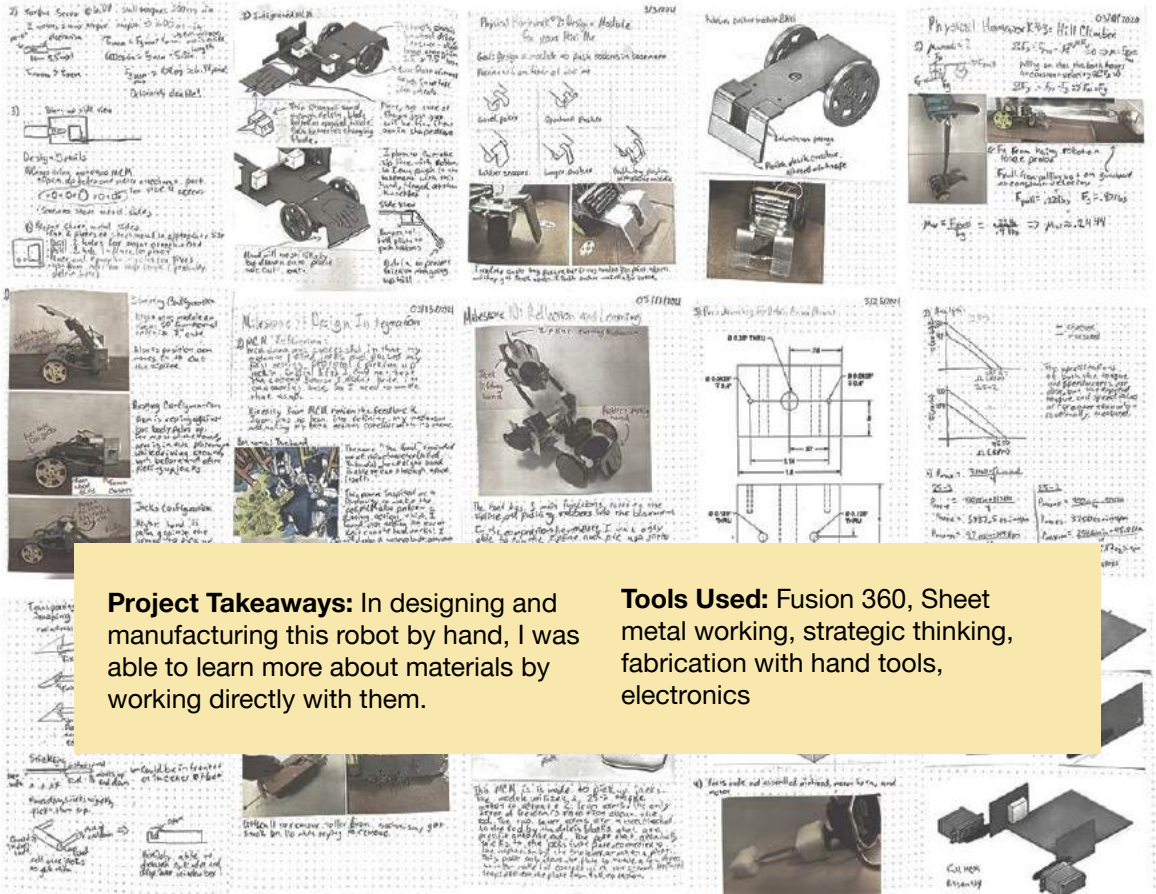
Integration and Design





See [video of bot](#) in competition!

Most Beautiful Machine Award



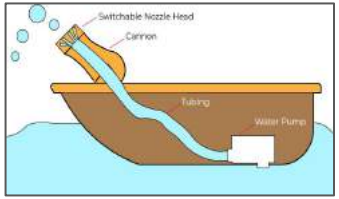
Project Takeaways: In designing and manufacturing this robot by hand, I was able to learn more about materials by working directly with them.

Tools Used: Fusion 360, Sheet metal working, strategic thinking, fabrication with hand tools, electronics

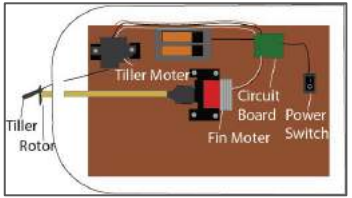
Battle Boats Spring 2018

Objective: Design and prototype an RC boat toy that can shoot and be shot at

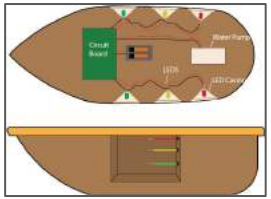
How It Works



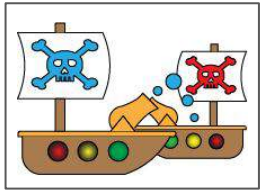
Shooting

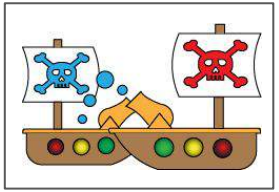


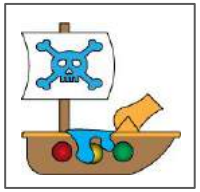
Driving


Scoring

How It Plays







See video here of final toy presentation!

Prototyping

My Role: On this team of 5 I served mainly as an Industrial designer. I made several iterations of looks like models and tested them with our target consumer: children!

Tools Used: Solidworks, sketching, rapid prototyping with wood and foam, thermoforming, adobe illustrator