Heap

Tangram meets Jenga meets Operation

by Antonio Garosi

Fab Academy 2018 - Final Project Pitch

Heap

The project

- A culture-free interactive game/workshop about waste disposal for children (6-12 y.o.)

- A metaphor about life goods, their resource footprints and consequences when not enjoyed with consciousness

- The result of many modules and topics learned during my Fab Academy course (CAD, 3D printing, laser cutting, electronics desing, programming, etc.)

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Game Rules

- The players are presented a deck of cards, each one representing the outline of an item or an experience (food, toys, sport, traveling, etc.)

- The players have access to a pool of pieces of many shapes and colors. The aforementioned outlines can be realized by assembling these pieces in combinations that are not revealed These represents the resources required and the residual waste the good outlined demands in real life to be experienced

- Within a certain amount of time, the players have to place one card over a base and the pieces they've found matching the outline

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Game Rules

- The base features a weight-recognition sensor that evaluate if all pieces put match those outlined on the card. If not the base starts to buzz and shake with a force and for a time according to the degree of weight difference: the more the players make mistakes, the more the base shakes

- The game continue by stacking up more cards and more pieces, unless too many parts fall down from the shaking, the players inadvertently make the heap come undone or the given time runs out. In those cases, the game is lost

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Current Status

- Defining theme and game mechanics was (and probably will be) the most delicate part. Now, I feel I can proceed with testing and prototyping the various components of the project (such as sensors and actuators), coding the Finished State Machine of the game and designing the aesthetic of the different parts

- A final stage of the project will be focused on playtesting, fine-tuning the game mechanics and editing game material toward a child audience

- Some assignments already accomplished were loosely based on the vision of this project, hence retrieving those works will ease and quicken the actual load of work

What Is Needed / Used

Machines, Tools and Techniques

- Laser cutter
- Vinyl cutter
- 3D printer
- PCB milling machine
- Molding and casting materials (wax blocks, polyurethane rubbers and resins, gypsum)
- Sandpaper
- Soldering tools
- Printer

Materials

- Plywood
- Thick cardboard
- Adhesive vinyl
- Colored threads
- PCB board
- Various electronic components (most importantly: DC motor, speaker, RGB LEDs, FSR)

Bonus points: for theme coherence, I'd like to use the most recovery material as possible

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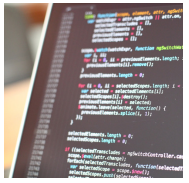
Updates on

https://github.com/AntonioGarosi/Heap



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