

Game Maker

A Digital Fabrication Project

About the Project

In the summer of 2016, ECU hosted a K-12 summer camp called STEM to STEAM. One of our workshop leader teams, Daniel Niece, Ira Varney, and Melanie Carey guided 9-12th graders through a series of lessons that formed the inspiration for the Game Maker digital fabrication project I taught my college students this semester.

Game Design Foundations



Mechanics

Theme

User
experience

Game Design Foundations + Digital Fabrication = Game Maker

Mechanics

Theme

User
experience

Digital
Fabrication

Game Maker Teaching Points



Mechanics

This determines how the game moves from beginning to end by providing structure. Common ones include rolling dice, using a timer, and decks of cards.



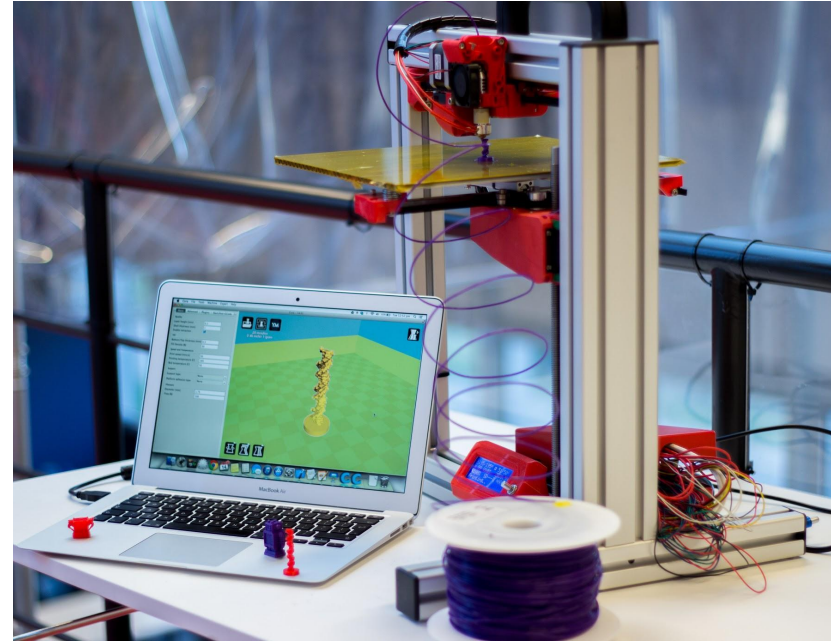
Theme

This provides players with the context about why they should care about investing their time and energy in the game. The design should match the theme.



User Experience

This answers questions like: What is your target audience? How do you want a player to feel? Do mechanics and theme align with these considerations?

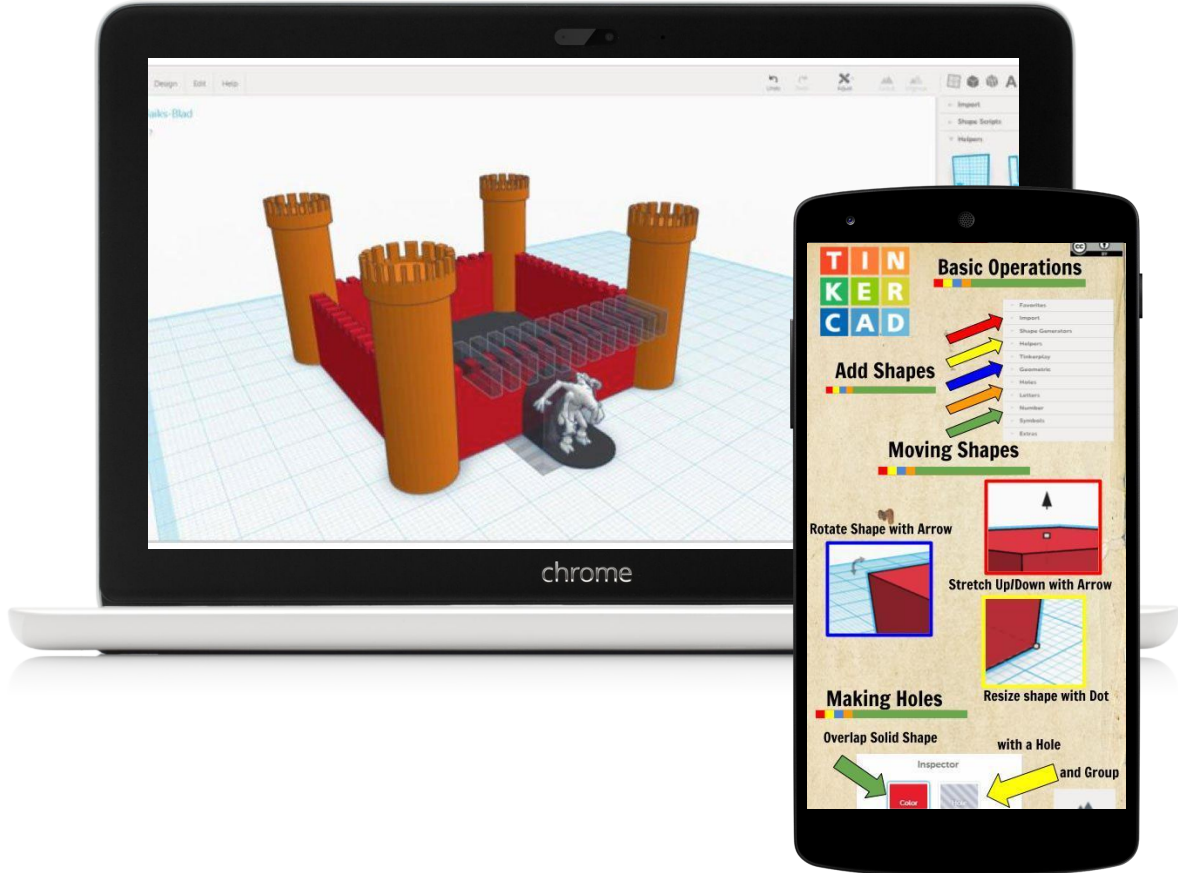


Digital Fabrication

A production process that includes digital modeling and computer-aided design.

Digital Preparation

- Students develop a digital model of a 3D gameplay item in Tinkercad.



Digital Preparation

- Students develop game board and packaging prototypes using digital art programs.



Available Digital Fabrication Tools

CNC Router

4'x8' Shopbot

Laser Engraver

Epilog 40 Watt

Vinyl Cutters

Graphtec and Cricut Maker

3D Printer

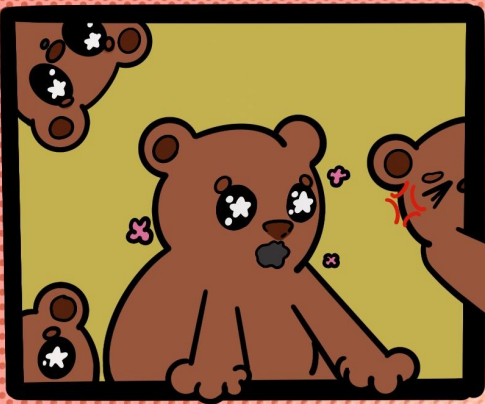
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Other Tools We Used:

Laminating Machine, Large format Canon printer

Student Work

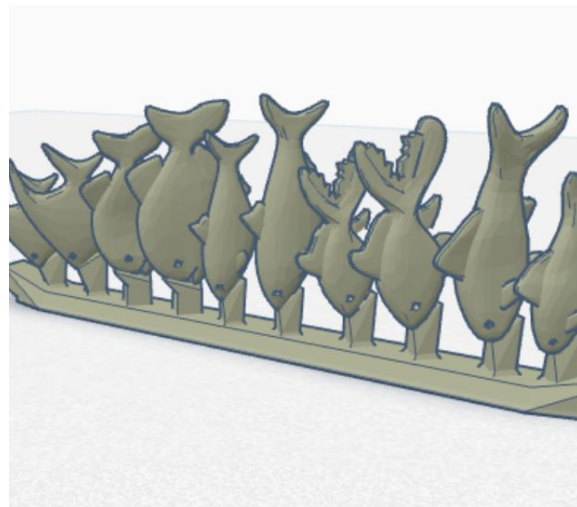
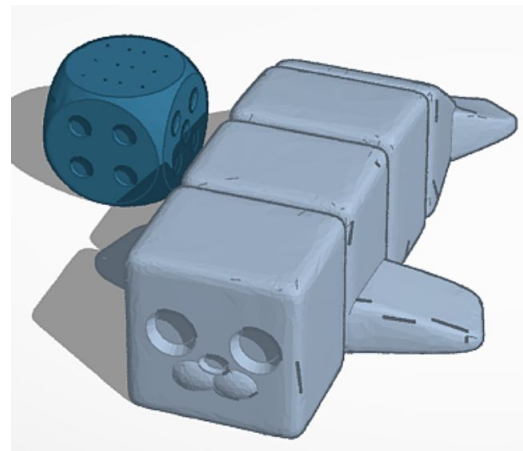
Game Maker Prototypes



**BEARY
SWEETS**









★
**CURL UP ON
 A WARM ROCK**

Take 4 REST
 resource cards

★
**CURL UP ON
 A WARM ROCK**

Take 4 REST
 resource cards

★
**HOWL AT
 THE MOON**

Claim 2 territory
 adjacent to any of
 your current spaces

★
**HOWL AT
 THE MOON**

Claim 2 territory
 adjacent to any of
 your current spaces

★
**RUN IN
 THE RAIN**

Take 4 WATER
 resource cards

★
**RUN IN
 THE RAIN**

Take 4 WATER
 resource cards

★
**FIGHT AN
 ENEMY PACK**

Steal 1 territory
 anywhere on
 the board

★
**FIGHT AN
 ENEMY PACK**

Steal 1 territory
 anywhere on
 the board

★
**HUNT A PACK
 OF PRONGHORN**

Take 4 FOOD
 resource cards

★
**HUNT A PACK
 OF PRONGHORN**

Take 4 FOOD
 resource cards

★
**HOWL AT
 THE MOON**

Claim 2 territory
 adjacent to any of
 your current spaces

ON YOUR TURN

- roll the dice
- collect cards
- *use any special resource card(s)
- *trade in resources to claim or steal territory

* = optional

★
FIND A PACK

Take 2 of each
 resource cards

★
FIND A PACK

Take 2 of each
 resource cards

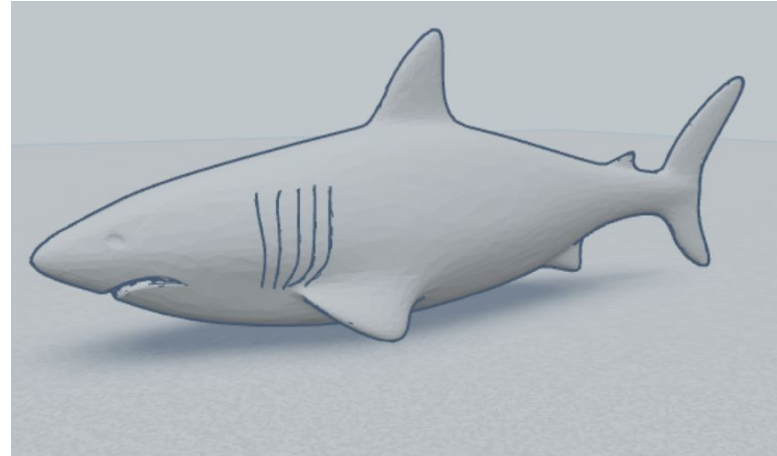
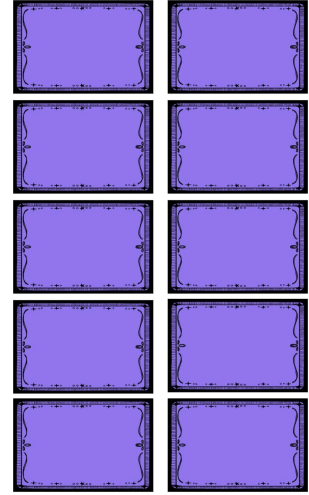
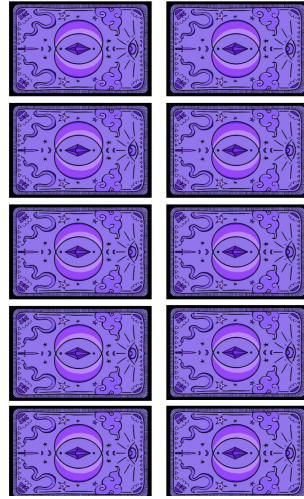
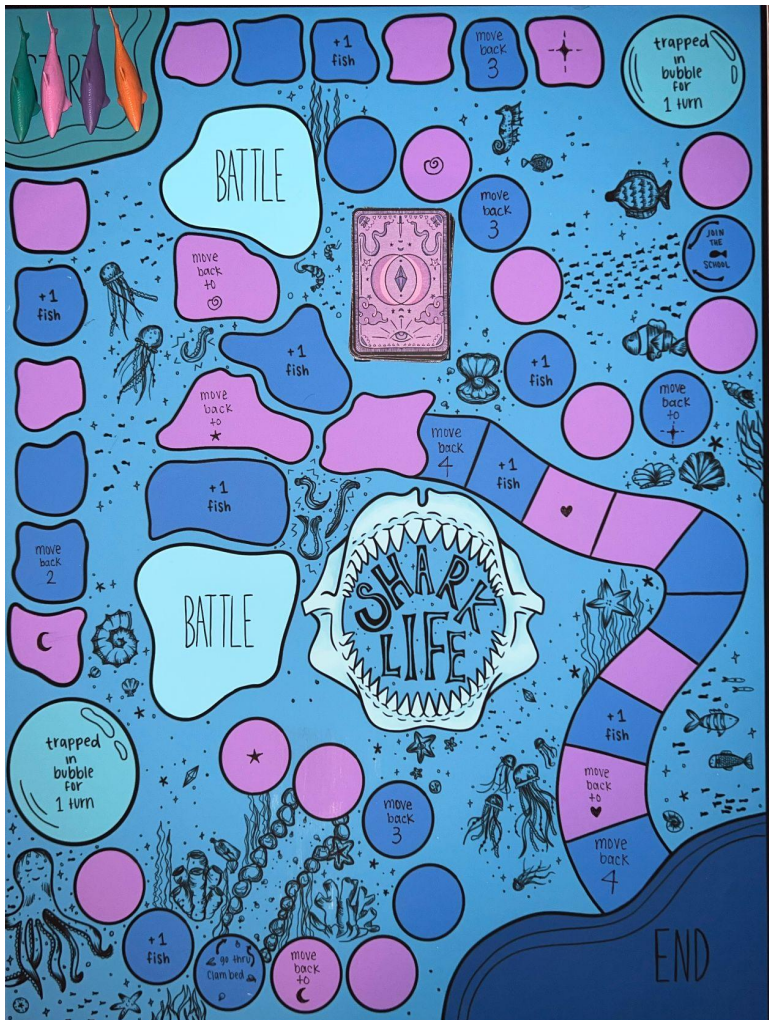
★
**FIGHT AN
 ENEMY PACK**

Steal 1 territory
 anywhere on
 the board

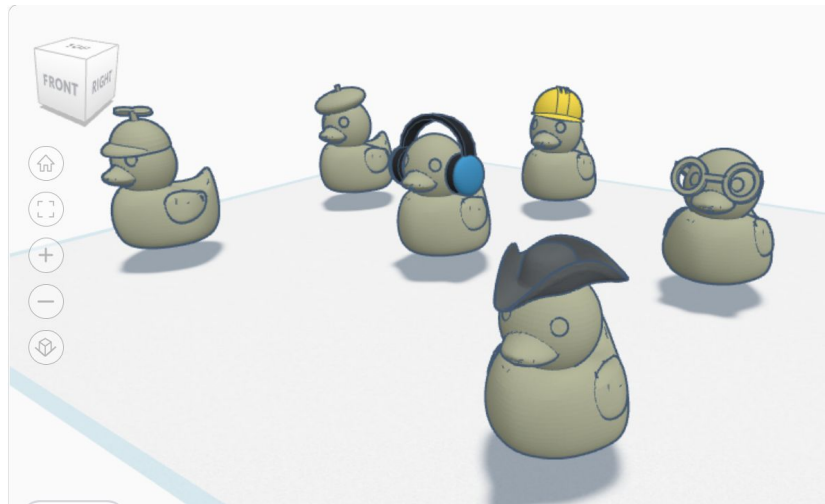
ON YOUR TURN

- roll the dice
- collect cards
- *use any special resource card(s)
- *trade in resources to claim or steal territory

* = optional



QUACKERS
IN THE
CRIP



New Jeans

Objective

The goal of "Mancala x New Jeans" is to collect the most game pieces (seeds) in your store by the end of the game.

Game Setup

Board Layout: The board consists of two rows with 3 pockets each (6 total) and 2 larger stores at each end (one for each player).

Placing Game Pieces: Place 4 game pieces in each of the 6 pockets (24 total).

How to Play

1. **Choose Your Side:** Each player sits on one side of the board. One player uses the pockets on their side (the left side), and the other player uses the pockets on their side (the right side).
2. **Starting the Game:** The player whose turn it is picks all the game pieces from one of their 3 pockets and distributes them one by one into the subsequent pockets in a clockwise direction, including their store but skipping the opponent's store.
3. **End of Turn:** Your turn ends when you drop the last game piece into your store or if you land in an empty pocket on your side.
4. **Alternate Turns:** Players take turns until one player cannot make a move (all their pockets are empty).

Ending the Game

The game ends when one player can no longer make a move. Players count the game pieces in their store. The player with the most game pieces wins.



Contact

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References and Resources

[Board Game Design Lab](#)

[Meeples Source](#)

[Making a telescoping box the easy way \(templates for two-deck card box\) | BoardGameGeek](#)

[Thingiverse](#)

[Cuttle](#)