Proposal - Broken Bricks

SUMMARY

My project will consist of several versions of Brickbreaker, some of which are combined with aspects of Pong. There will be 7 minigames for the user to play, some of which are for more than one player.

CAT BRICKS

In this game, a cat is tossing objects off the top of the screen. The user's goal is to bounce them back. They will receive 1 point per bounced object, have 3 lives, and need to get 10 points to win the game. (Note that while the cat in the concept image is a picture of a cat, I plan on animating a cat myself.) (Fig 3)

BEER PONG

This multiplayer game is combination of brick breaker and pong, and is inspired by the game Beer Pong. The user must hit all of their opponent's glasses (represented by yellow circles). The game is laid out like pong, but the glasses are placed in a triangle on both sides. If a player's glass is hit, the ball is reset, and the following happens:

- The game controls (UP and DOWN key to move paddle) randomly switch around.
- The ball is more distorted when on the player's side of your screen.
- The player's paddle appears more distorted.
- The opponent's cups appear more distorted/move around so it is more difficult to hit them.

To win, the user must hit all of their opponent's glasses. (Fig 1)

TONKA/GAMECUBE BRICKS

This game resembles and is played like a classic version of BrickBreaker, except the bricks are very difficult to break. They take from 4 to 6 hits with the ball to break. If there is no risk of copyright infringement, the bricks may be shaped like Tonka trucks or Nintendo GameCubes.

Another idea to make the game easier would be to allow the user to make the ball explode upon pressing the space bar, and take out several bricks at once. However,

there would be a limited number of explosive balls, and they can make the paddle itself explode if the user isn't careful (this would result in an instant game over).

BRICK MINE

Again, this version of BrickBreaker resembles the classic version. However, diamonds are hidden in some bricks. The player must find them all within a time limit. (This idea may be dropped as I don't find it as interesting as the others.)

BRICKBREAKER, BUT IN A CIRCLE

Here, the bricks are at the center of the screen and you can control up to 4 paddles orbiting around at the edges. (Fig 2) The gameplay is the same as regular Brickbreaker. The LEFT and RIGHT arrow keys can move the paddle clockwise and counterclockwise. While this is a multiplayer game, the players play together rather than against one another. If there is one player, they will have 5 balls/lives, and this number decreases the more players there are.

REALIST BRICKBREAKER

Brickbreaker - with a brick! Here, the program with find the reddest (or most brick colored thing) from a video stream captured by the webcam and place the (invisible) paddle there. This version of BrickBreaker is meant to be played with an actual brick. If the program cannot find brick red, it will ask the user to remove the tape from their webcam and get a brick, or another red item.

Alternatively, the ball could be replaced by a paddle and the bricks replaced by balls.

HEAD, MEET BRICK

Here, the webcam is opened before the game and takes a picture of the user. The user then draws a circle around their face. The pixels in the selection are copied to another image, which is then mapped over the ball in the game.

Taking it one step further - the player may record a sound themselves, and that sound will play whenever the head-ball hits a wall or the paddle. (The user will be prompted to say "Ow!", but they can say whatever they want.)

INSPIRATION

For this project, I am taking inspiration from the classic game BrickBreaker, as well as Pongs (by Pippin Barr), and various games made and played throughout the semester.

Head meets brick's concept is inspired by JibJab videos.

TECH APPROACH

First, I will need to create classes for each game to make a menu. I will also need to revise how arrays work, so I can use them for bricks and beer cups.

For HEAD, MEET BRICK, I'll need to figure out how to copy pixels from a selection and paste them somewhere else. I will also need to take input from a microphone and play it in game.

I will need image manipulation/distortion in BEER PONG to distort things.

In TONKA BREAKER, I will need a void/class for exploding balls that interacts with the bricks and the paddle. It will be called when the player presses the space bar. If the bricks are near the ball, they explode instantly. If the paddle is near the ball, it explodes and a "game over" message is displayed.

For BRICK MINE, if I include it, I will have the diamonds appear in the destroyed brick's place for a few seconds, then fade away. Will probably need to use time (millis?) to animate it.

For CAT PONG, I will need to loop through frames for the cat animation. When the cat goes to push something down, I'll need to get a different image sequence for the push animation. I will need to figure out how to do this. I will also need to use sine/arcs to make objects bounce realistically.

REALISTIC BRICK BREAKER will need the program to find the reddest pixel in the video, and place the paddle there. If nothing near red is found, then prompt user to find brick (or anything bright red), and do not have a paddle on screen.

BRICKBREAKER, BUT IN A CIRCLE will need the paddle to move around in a circle and rotate itself to face the center. I'm still unsure of how I will achieve this.

TECH RESEARCH

I've already used the Processing website as a resource, and plan on using it to learn more about Processing functions. The site also has examples of things and what they look like, and i plan on using it as inspiration.

MEDIA

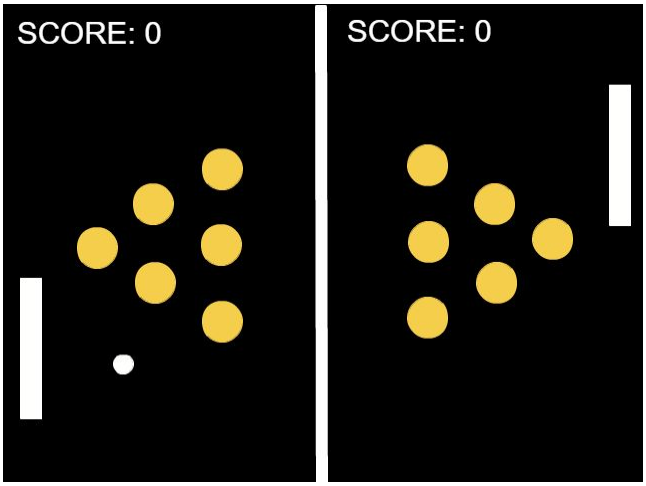

Fig. 1: Concept for "Beer Pong" at the beginning of the game

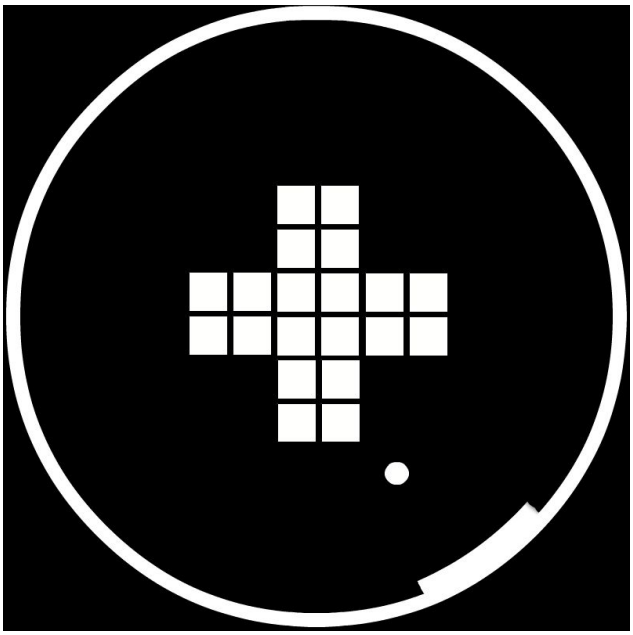

Fig 2: Concept art for "Brickbreaker, but in a circle".

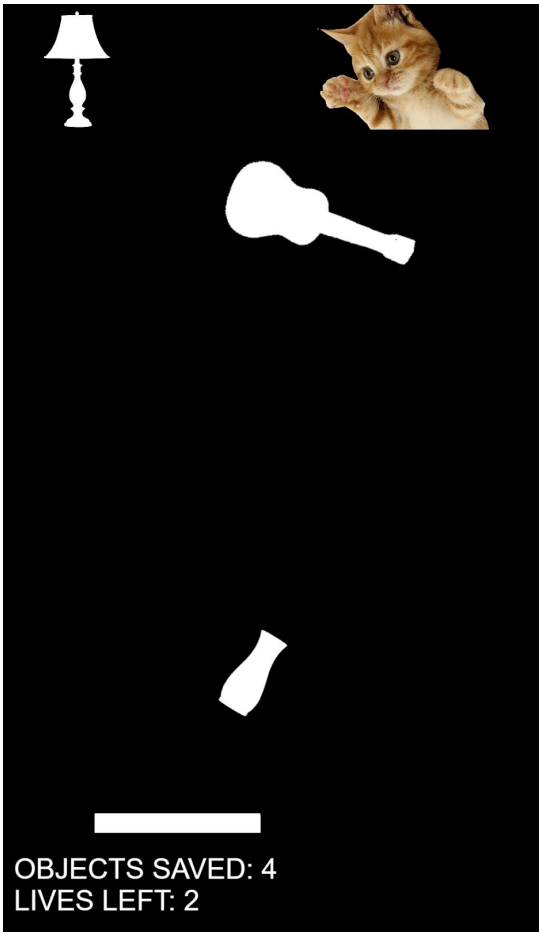

Fig 3: Concept for "Cat Pong" (cat will be animated)