Concept: Paper Throw Game

How to Play:

* Can move left/right and move back/forward with WASD
* Once in chosen location, press space. This will switch to the turning, and show you the wind and wind speed (little wind graphic? Fan blows so that can’t just stand and shoot)
* Once properly angled, press space, and this switches you to intensity, which you adjust with up/down.
* Press Space again to shoot.
* Will keep track of score (consecutive shots)
* Use File IO for top 5 scores list.
* IF TIME: Make easter egg(s) in the walls if you throw the papers right.

Things We’ll Need:

Graphics (Unity), Keyboard Input, Physics

Classes We’ll Need:

Score Class → Remember, need to display. ALSO: Will need to add to top score if good enough. GOOD

Ball → Need to walk around, turn, stop to turn with fan, stop to throw with intensity

Fan → Needs to blow ball, and needs to get the ball to fly with the appropriate physics.

Basket → I’m not sure what this does yet. Has to know if/when ball made it.

IF TIME Picture on Wall → Hit it right, you get an easter egg game.

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| PAYTON SCHUBEL:  5/04/2017: Started the score class. Will be used to keep track of player score and add it to top scores if it qualifies. Mostly started on it because I needed to feel like I was doing something. Constructor, add, reset, and a few other methods written. Also started to implement the file I/O. Haven’t troubleshooted.  5/05/2017: Continued to work on the score class. Need to finish and troubleshoot at some point (probably at home computer, so can check fileIO also need parsing).  5/08/2017: Checked out env3d (Java Graphics Engine) with Ashhal. Planning to use it for game. Is coded in blueJay (yay) and has a mouse tutorial (yay).  Update: env3d is a pain in the butt to figure out.  5/09/2017: Worked on score. Started troubleshooting the code.  5/10/2017: Finished troubleshooting score. Acted as sounding board for Ashhal while he figured out how to mathematically position the ball throughout its flight.  5/11/2017: Took the AP Stats test.  5/12/2017: Wrote a wind class. It took maybe 5 minutes. Then looked more at the graphics engine without being very helpful. Decided my time would be better spent writing a sort of pseudocode (so we know what the program has to accomplish). Will finish later.  5/13/2017: Finished the very light pseudocode (if it even counts as that; it’s more of an outline). Afterwards, Ashhal added a brick wall, and made the walls brick instead of fence. Worked. I tried to add the ceiling and floor in as well, but was unable to test it due to my inability to add the libraries, and was unwilling to add the new code and compile it so Ashhal could test it due to the fact he was messing with the same class (mine was a copy; didn’t affect the actual repo). Sent myself the code in canvas and plan to see if it works at school.  5/15/2017: Tried to figure out 3-dimensional trigonometry with Ashhal. We both failed and called George over, and appear to be getting closer to getting the ball to stay in place while we move around. Still requires some more work, though.  5/16/2017: Cranked out an instruction method. Not too complicated. Still need to get everything else to work. Also, Ashhal ended up doing top/bottom, but we’re considering making it a giant open plain.  5/17/2016:  Morning -- In the morning I planned on starting an intensity class (or at least the non-graphic parts) but since I extended Objc and Objc didn’t have getters or setters, I ended up writing a bunch of getters and setters for than class.  During Lunch -- Okay, got some work done on the Intensity class (called Intensity\_1 incase I screw it up completely) so that you can increase and decrease the intensity, get the intensity, and do the things in the Objc class. I’m working on getting the graphic in the Intensity\_1 class to work. We’ll see.  During Class: Okay, intensity has some polish on it, but I’m having trouble troubleshooting.  5/18/2017: Ashhal ran into some issues texturing the bucket he found on his end, so I googled instructions on how to texture things in Blender, which he’s using to texture stuff, and helped him add the texture to the bucket. It resulted in hair-pulling aggravation because we kept on running into errors that should be easy to fix but we didn’t know how and google liked to run us in circles before providing us with a usable answer. Like, seriously. It should not take an entire class period to make a colored bucket. We still didn’t even get the bucket colored properly.  5/19/2017:  Morning: Made minor changes to the Instruction class. Need to talk with Ashhal before I know exactly what needs to get done.  Afternoon: Fiddled with trying to make a graphical menu. That kinda crashed and burned.  5/21/2017: Whipped up a quick graphic-less menu so that we have some sort of menu that works.  5/22/2017:  Morning: Finalized the graphicless menu by adding a few things for functionality. It’s not pretty, but it will work. NOTE TO SELF: Do not forget to write the README later.  Lunch: Put some polish on the Graphic-less Menu. It works pretty nicely.  Afternoon: Did some work on the wind class so that now it’s an Objc object and can been seen by the user. Need to troubleshoot the wind class and see that the arrow is pointing in the right direction.  5/23/2017: WOW. This has been getting the ball to travel properly in relation to the user, getting the actual game to start working, actually putting things in place, and a whole lot of other stuff that can be seen by looking at our commit log for this night alone.. This whole project has been like assembling a piece of IKEA furniture. It seems like it should be easy, but it’s really not. | ASHHAL SHAMSI:  5/04/2017: Looked for a graphics engine. Probably going to use OpenGL. Apparently Unity does not run with Java because Java is bad. May be using C# for this if java will not suffice  5/05/2017: Kept looking for a graphics engine. Even though OpenGL may work with java because a beta program for java implementation works well, OPenGL may not be the best idea because of its beta stages  5/08/2017: Looked at Env3d, a great Java Graphics Engine that runs on BlueJ. This is much better than using OpenGL or Unity. Experimented with the 3d layout, graphics are kinda poor, but it has mouse movement and keyboard keys work  5/09/2017: Used Env3d to fix issues that were going on with the files not loading. Very easy implementation. Created the ball class to have different types of balls. Will use different textures for this later with the graphics engine  5/10/2017: Created A Bucket object that could be implemented later, but the texture is having issues rendering on any object that was not already in the library  5/11/2017: Checked different forums for issues with textures, nothing. However, a solid color is better than no color so after spending an entire day, it is better to just leave it the way it is.  5/13/2017: Worked on the actual room class and created a brick room(For a test) and messed around with the dimensions until a suitable dimension depth and width was found. Created a ball Object that follwed my XYZ movements, but did not follow my camera movements  5/15/2017: Worked on having the ball object following my camera movements to no avail, decided to try 3d trig. That was a horrible idea as it did not work at ALL. it worked some after George helped, but not enough to be implemented  5/16/2017: Changed the ceiling and Floor of the room to the bricks design, hopefully it turns out well. Still need to figure out the trig, guessing and checking seems to have created a limaconical shape while the ball moves. Yes… A limacon.  5/17/2017: Still working on trig aspect, decided to instead start working on the WASD movements of the players because they cannot have freedom of flight… Needed to set the default control to false and create a move() method that needed to be called every frame. Luckily, base code had been written for the move() method and with a few changes it should be usable  5/18/2017:  Started Trying to texture the bucket (again).... Did not go very well. We did however find a sploch of the entire color scheme somewhere in the center of the bucket. Hopefully, it is just the Obj file and not the Engine.  5/19/2017:  It is the engine, which means that we have to leave the bucket the way it is… Started looking at a graphical menu option for the Graphics Engine. The Menu seems harder than the engine, and we still have yet to figure out how to fix the ball's movement to the camera.  5/22/2017:  Changed the Bricks to what they actually should be. Was able to successfully restrict upward and downward movement letting players only use the WASD keys to move in the X and Z direction, but not the Y direction  5/23/2017:  Still able to pass through the walls, working on that. Tried making the ball class Polymorphic to avoid reusing code, but because the Objc class has a model set to null when first initialized, the ball class does not successfully work like that so they have to remain separate.  5/24/2017:  Fixed the wall issue, now no longer can the player pass through the walls, unless they are on cheat mode. Created a throw method that allows for the ball to be thrown with Physics involved that calculates where and when it will land. Still issues about rendering the moving graphics, the thing seems to not support it without multithreading, and I am not about to get into that. Added a Score counter to the top with a Shot counter. |
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Links For stuff

* <http://www.opengl-tutorial.org/beginners-tutorials/tutorial-1-opening-a-window/>
* <http://eclipsetutorial.sourceforge.net/totalbeginner.html>
* <https://en.wikipedia.org/wiki/Java_OpenGL#Java2D-OpenGL_interoperability>
* <http://stackoverflow.com/questions/5922439/can-i-use-opengl-in-my-java-applications-if-yes-how>

Pseudocode:

* Menu (Selections are made with Mouse or Keyboard)
  + Select Play Game
    - Opens the game
    - What’s visible:
      * A room (walls on four sides)
      * Several Baskets (numbers will be decided later)
    - Can move with arrow keys, and turn with mouse
    - PLAYER HITS SPACEBAR
      * Once hit, player is no longer allowed to move
      * Wind is displayed, and direction (probably as a number)
      * First: Player turns (the direction they want to shoot the ball) with either arrow keys or mouse, whichever is easier.
      * Player hits space when satisfied with direction.
        + SECOND: Player hits up/down arrow keys to increase/decrease intensity of throw. Hits space when satisfied.

THIRD: Ball (maybe visible before this point, maybe not, we can decide) is launched according to the previously set parameters and…

Lands in Basket: The player’s score increases by one, and they are allowed to move again with their controls, to make another shot

Lands outside of Basket: The player’s score is checked against the top score.

IF TOP SCORE: Displays some sort of message indicating the user has a top score. Get the user’s name, adds their score to top score, then displays top score.

Then either sends them back to the menu immediately OR offers them the option to play again or return to menu. We’ll see what works with time constraints.

* Select Instructions
  + - Displays Instructions (With graphics?)
    - Select Previous to go to Previous Page (if there is more than one)
    - Select Next to go to Next Page (if there is more than one)
    - Select Exit to stop displaying instructions
  + Select Top Scores
    - Displays Top Scores (With graphics?)
    - Select Exit to stop displaying top scores
  + Select Exit
    - Exits the program