

Homework 3 Report

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Problem Statement:

The goal of this programming assignment was to create a block on the screen that can be dragged by the mouse and launched across the screen. The normal inputs of this program are the mouse cursor and left mouse button. The output should be a simulation of a box being launched. The main error handling required is checking whether or not the mouse has been pressed on or off the box.

Design:

I made a variety of design decisions in this project. No data structures are really needed other than global Integers and Booleans to keep track of the box position, whether or not the mouse is pressed on the box, as well as information regarding physics. I decided on using the idle function for tracking the timing of the program.

I have broken out a function for drawing the block which is being drawn based on global min and max variables set initially along the origin. This function is called all the time, and is changed whenever the mouse clicks on the box and moves. Some pros include easy manipulation of the block given this design structure since everything can be changed with a few variables. Some cons are I could not complete the assignment 100% because I couldn't figure out the next step given my design decisions.

Implementation:

I began with sample code from balls.cpp and office.cpp. I took the block function from office.cpp to initialize my block on the screen. I also reused my code from homework 2 to allow the user to rotate the screen with ('x', 'X', 'y', 'Y', 'z', 'Z'). From balls.cpp I took the structure of the idle function and looked there for physics implementations.

Testing:

I tested my program using simple trial and error, since it was easy to check mouse clicks. Unfortunately my program isn't complete as I was not able to fully figure out how to implement the launching capability. Because of this I wasn't able to fully test my program.

Conclusions:

Overall, the project was a minor success in that I got some of the functionality complete and learned about object translation. With more time and proper planning I feel like I would have been able to complete the program.