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Computer Graphics I Spring 2021  
Project Report: 2D Shape Editor

This assignment was to create a 2D shape editor using HTML and Javascript and implement functionality such as selection, translation, scaling and more. I used HTML buttons and forms to initially input shapes, and users can select them and rotate or scale them from there. Shapes can also be dragged and dropped.

The main open source API that I used was two.js. Two.js has many useful features such as grouping and a “master” group called a scene which holds all shapes and their attributes. The scene feature was especially useful for adding event listeners to every shape for interaction such as selection. Initially I was doing this for every shape as it was created, but this led to bulky code that was difficult to debug and read. I also used the open source script html2canvas.js which puts HTML elements into a canvas and allows it to be downloaded as an image file.

There are some features which I could not implement such as copy and paste and undo. There are also some small bugs such as shapes disappearing. Another way in which two.js was useful was that it has a function `two.clear()` which will clear the screen for you. Overall I feel like I was mostly successful and learned a lot in this project.