Final Project Report:

I successfully completed all requirements and add some extra features.

How to run the program:

1. Click a “new” button to create a new canvas.
2. Choose the shapes to draw the shapes which you like to take a look at.
3. You can transform any shape that is selected by using the selected handle

Moving, scaling, translation, rotation

1. Click “Save as Image” button to save the canvas to a HD image.
2. Choose a shape to copy and paste the shape, you also can use ctrl + c / ctrl +v to copy/paste a shape. you should choose a shape (click the shape) first, then copy/ paste it.
3. Click “Save as Json” to save the image data to json file.
4. Click “Choose File” to load a json file. You also can see the file name on the right of button (for extra credits).
5. Click “Fun” button to play the photos and text. (for extra credits).
6. Click “Upload Images” to upload a images, you can move the images. ( for extra credits)
7. Click “Undo” to cancel the event of the upload images (9). You also can use “ctrl +z” to do this step. The undo is unlimited.
8. Click “Redo” to redo the event of the upload images, you also can use “ctrl+ y” to do this step. (for extra credits).

Most of codes are based on javaScript and html with a javaScript library Konva.js. The project took me more than 50 hours to do it. Although I used konva.js to do it, konva.js is not a good library to do this project, because documents are simple without more details, not enough demos are on its website, cannot find enough source to help me.

I have learnt:

1. Master the button listener and call function.
2. How to use a JavaScript library, such as konva.js
3. How to draw a curve and circle.
4. Json file and it format.
5. Keyboard events.

Encountering some problem:

A lot of problems come out during doing this project.

1. Save to json is easy, but upload json is not easy. The format is not the same. I should make the format same. it took me a long time to solve it.
2. Drawing the curves. I need to group separate parts together. Otherwise, you cannot move, transform it as a whole shape.
3. Using clipboard to copy the shape, it is hard for me. Finally, I use call draw function to redraw the shape when the copy button is clicked ( it works🙂)