On Load Up:

Program will ask for a picture (.jpg, .png, etc.) to be chosen from the file /program1/ using a file browser. The program will then load up the buffer for the picture with the matching dimensions of the picture i.e. if the picture is 620x980 the buffer will be 620x980.

Key Functions:

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| INPUT | FUNCTION |
| Mouse Click | Will place one selected brush shape to the screen with correct color. |
| Mouse Drag | Will drag the selected brush shape across the screen with the correct colors. |
| C Key | Will clear the screen completely. |
| I Key | Will increment the brush size by 1. |
| D Key | Will decrement the brush size by 1. |
| S Key | Will change (cycle through) the brush shape between circle, square, and triangle. Circle is default. |
| F Key | Will fill the screen completely with the selected brush shape and size. |
| R Key | Will fill in the screen with the selected brush shape and size randomly but the F Key must be held down in order for it to be completely filled but this will fill in slowly so it can be used as a guessing game. |
| H Key | Will print out a help menu giving you the same guide as this but will also give you the current brush shape and size. |

Using the Program:

Once the image is loaded in and the buffer screen appears you can then proceed to use the program. Any click on and or drag on the buffer will start painting to the screen using the default shape (circle) with the default size of 10. You can cycle through the brush shapes by using the S Key which will cycle through circle, square, and triangle as stated. You are then also able to increase and decrease the size of the brush using the I Key to increase the size of your brush as well as using the D Key to decrease the size of your brush. The current size of your brush will be shown in the console as well as the current shape being used. The smallest size of your brush available is 1. To fill in the screen the F Key is used. The fill function uses the current brush shape and current brush size to completely fill in the screen and other squares will be overlapped. The R Key can be used to do the same but with this key the screen will be filled in randomly with four brush strokes at a time so the R Key must be held down in order to completely fill out the screen but this will give the user the chance to play a guessing game at what the picture really is. I suggest that the user decreases the shape size is in order to provide greater clarity. The larger the size of your brush the faster the image will be filled in but at the cost of clarity of the image. If you would like to clear what you have painted so far and restart the painting of your image then you can use the C Key and it will completely clear the buffer. If you are confused at any point what your current brush shape and size is you can use the H Key to provide you with a helpful menu giving you current brush shape and size as well as the usable keys and their functions that are included in this program. There is no way to enter in another picture as the program is running so the program must be restarted to use another picture.

Cautions:

If at any point you run into “Bad\_alloc caught. Ran out of memory in array.” It can easily be fixed by pressing the C Key to clear the array and then you will be able to continue with what you were trying to do.

Write Up on Image:

The image chosen for the program is a picture of a sports car on asphalt with the sunset horizon in the background. This image was chosen because cars have always been a passion of mine. Another reason I chose this picture is because I felt the curves of the car would be best conveyed using the circle brush for it as well as the interior of the car. The interesting part of this image is the reflection of the sun on the side of the car I was interested to see how this would show up with this program, whether the reflection would be shown vividly or if it would just distort the picture of the car. The part of this picture I like the most is still the reflection of the sun off the side of the car besides the use of this picture in the program is that the reflection adds a sense to it of adventure in my opinion something sort of like freedom.