

# Design Document: Drawing Dojo

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*By Kevin Hu*

## **Game Description**

Unlock your inner artist in the Drawing Dojo: a virtual drawing space that will set you on the path to becoming one of the greats!

The objective of the game is to recreate the images presented in each level, using nothing but an in-game paintbrush and sheer wits. The player can choose to draw with either black or white.

There are three levels to choose from: they vary in difficulty from the classic smiley face to the slightly more challenging yin-yang symbol, and finally the formidably tricky biohazard symbol. From there, the user can up the ante even further by choosing a difficulty: novice, amateur, or master. Based on the difficulty selected, the time allotted to drawing will change.

The game comes to an end when the timer reaches 0. An algorithm then compares the user's drawing with the reference image and determines, in percentage, how accurately they have drawn the image. It displays this percentage on an ending screen along with a picture of the user's drawing superimposed on the reference image, to show which parts did not match up. From then on, the user may enjoy unlimited hours of fun by starting a new game or quit.

Score 100% on all three levels at master-level difficulty, and become a certified art aficionado!

## **How to Play**

Firstly, double-click on "DrawingDojo.py" to open the file and press F5 to run the program.

When the game has opened, you can choose to either read the instructions by left-mouse-clicking the "How to play" button, or select one of the three levels by clicking the buttons "Level 1", "Level 2", or "Level 3". After selecting a level, select a difficulty by clicking the "Novice" "Amateur," or "Master" buttons. A 3-second countdown will act as a prompt for you to start drawing; your drawing space is on the left, separated from your reference image by a black divider that runs down the middle of the screen.

To draw a dot, simply left-click. To draw lines, hold down the left-click mouse button while dragging the mouse in any direction.

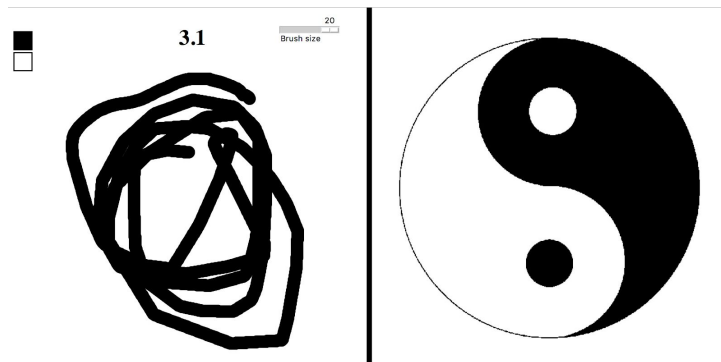
You can change your brush size from anywhere between 2-20 pixels by dragging the slider labelled "Brush Size" up and down. Your paint colour options are either white or black, which you can switch between by clicking on the paint palettes to the left.

Try to draw the reference image as accurately as possible before time runs out, and keep in mind that the time limits will vary based on what level and difficulty you have selected. When the timer hits 0, the checking algorithm is called. After a couple of seconds, the ending screen will be displayed. You will be able to view how accurately you drew the image as well as where your drawing did not match up with the reference image. You can then start a new game by clicking the “Play Again” button. Pressing “Q” at any time will close the game.

## Screenshots of the Game Screen



The opening game screen



Gameplay of the second level



The ending screen