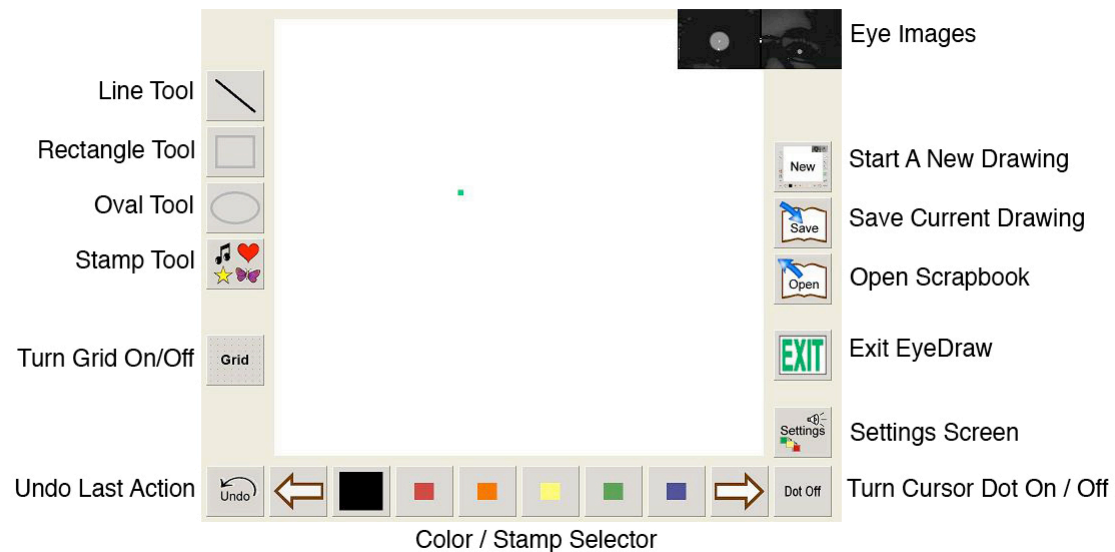


# Eye Draw User Documentation

EyeDraw enables a user to draw with his or her eyes. The user can, with their eye movements:

- Place a variety of stamps.
- Draw colored lines, ovals and rectangles.
- Save drawings to be opened again later.
- Modify the interaction settings to better suit him or her.

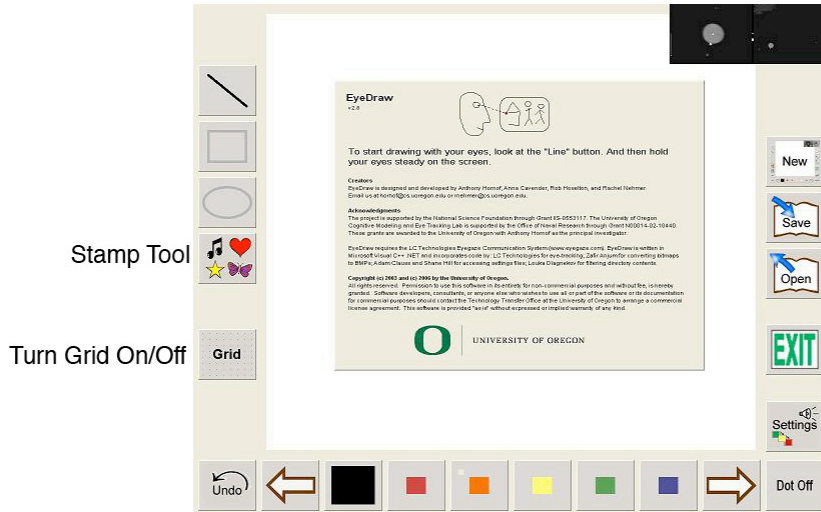
Here are the functions available on the main EyeDraw screen:



**EyeDraw Main Screen**

## Task 1: Startup and setup

The Welcome Screen will be shown when EyeDraw is started. It gives some information about the creators and development of EyeDraw. The first thing you must do is get past the Welcome Screen.

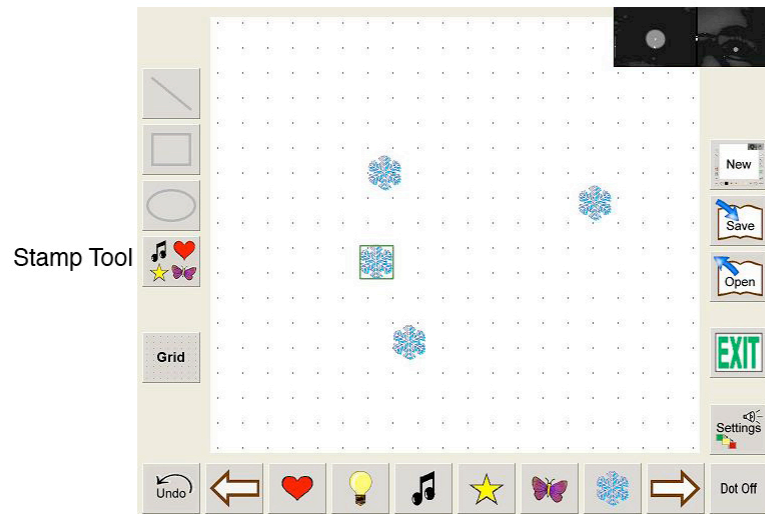


### Welcome Screen

- 1) Proceed past the Welcome Screen by either looking at a button such as the stamp tool or having the assistant click anywhere such as on the welcome screen.
- 2) Click the “Grid” button on the left hand side of the screen. The user can do this with his or her eyes, or the assistant can do it with the mouse. The “Grid” button does not affect how the program functions other than to turn on an array of dots which can be used as visual anchors to make it easier to use the program, so the user can focus on one dot at a time, and not chase the cursor off of the screen. Asking the user to look at something like the tip of a pen that is held in front of the screen also helps at first.

## Task 2: Placing stamps

Placing stamps is an easy way for the user to begin to get a feel for how to use EyeDraw, though it may take the user some time to learn how to issue commands, or clicking, with his or her eyes.

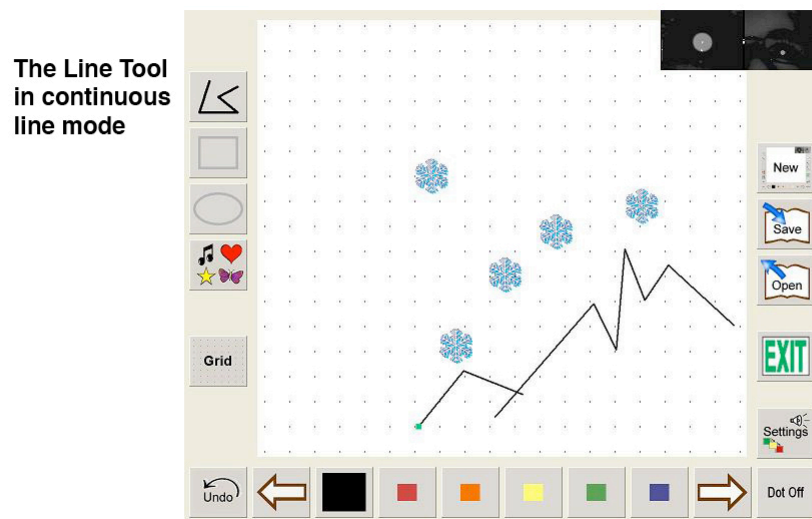


### Putting down stamps with the grid on.

- 1) Direct the user to look at the “Stamp Tool” button on the left hand side of the screen. The selector located on the bottom of the screen will now show the selection of stamps. More stamps can be viewed by using the right and left arrow keys.
- 2) Have the user pick out a stamp from the stamp selector. You can use the mouse here as well.
- 3) Have the user hold his or her gaze steady in one location within the drawing canvas. The grid of dots can help with this. This is when the magic happens. While the user is holding his or her gaze steady at a single location, a musical melody will play and the square around the stamp will change from green to yellow to red. If the user holds the gaze steady for the entire process, a stamp will get placed at that location. If the user moves his or her eyes before the process is complete (such as if they want to put the stamp somewhere else), the melody and color change will stop, and the stamp will not be drawn.
- 4) Let the user continue to place stamps until he or she is comfortable with clicking in EyeDraw.

### Task 3: Drawing lines

Drawing a line requires clicking once at a start point and at again an end point. The line tool can be flipped between line segment mode, where one line will be drawn at a time, or continues line mode, where clicking on an end point will immediately start a new line from that point.

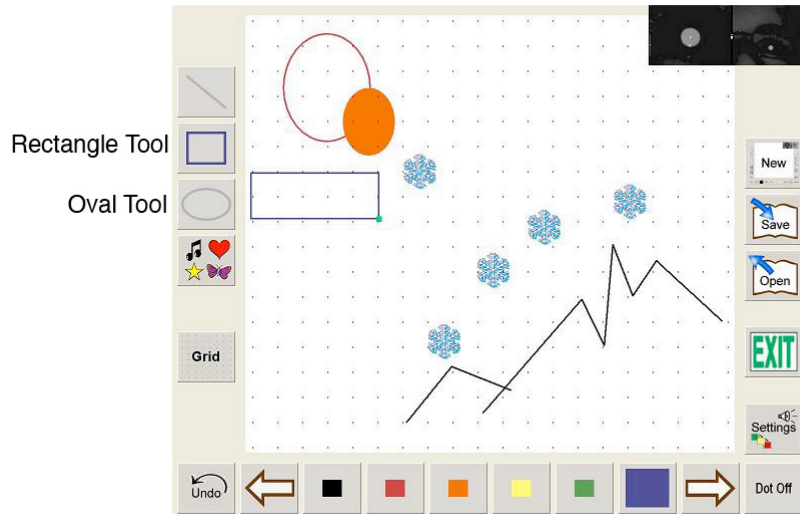


#### Drawing some lines using continues line mode.

- 1) Direct the user to look at the “Line Tool” button. He or she can also pick a line color at the bottom of the screen.
- 2) Have the user click at one point to start a line, and then direct his or her eyes to a new point to end the line.
- 3) Change the mode of the line tool to continues line mode by having the user look at the “Line Tool” button again.
- 4) Direct the user to click at a starting point, and then have him or her click at some other points to draw a zigzag. Have the user look at the “Line Tool” button again, or look at the “Undo” button, to stop drawing a zigzag.
- 5) Let the user practice drawing lines in both the segment and continues modes. Continue once he or she is comfortable with drawing lines.

## Task 4: Drawing rectangles and ovals

Drawing a rectangle or oval is very similar to drawing a line, except that the start and end points define the top left and bottom right corners of the rectangle, or the region around the oval.

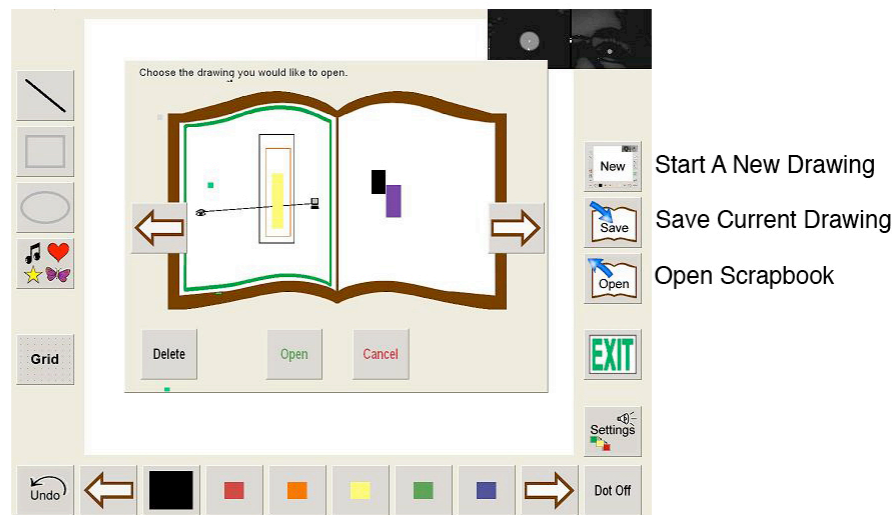


### Drawing some rectangles and ovals.

- 1) Direct the user to the “Rectangle Tool” button.
- 2) Have the user click at a starting point for the rectangle, and then direct his or her gaze to a new point to finish drawing the rectangle.
- 3) Change the mode of the rectangle tool to filled mode by having the user look at the “Rectangle Tool” button again.
- 4) Have the user change the color by choosing a new color from the selector on the bottom of the screen, and then have the user draw a filled rectangle with this new color.
- 5) Once the user has acquired a feel for drawing a rectangle, try the ovals. Notice how the start and end points are a little outside of the oval itself, making them a little harder to put an oval exactly where you want it, but it gets easier with practice.

## Task 5: Saving and retrieving drawings

- 1) Have the user start a new drawing by looking at the “New” button. Any drawing that has been modified since it was last saved will automatically be saved when clicking on the “New” button.
- 2) A window will pop up informing you that the drawing was saved. Have the user click “Ok” to continue.
- 3) Let the user draw anything they want to on this new drawing. After some time, have the user to look at the “Save” button again, and then direct the user to the “Open” button underneath the save button. This will bring up the Scrapbook, where old drawings can be retrieved or deleted. Cycle through the pages of the book to view other drawings by looking at the arrows. The currently selected drawing will be displayed with a green border around it.

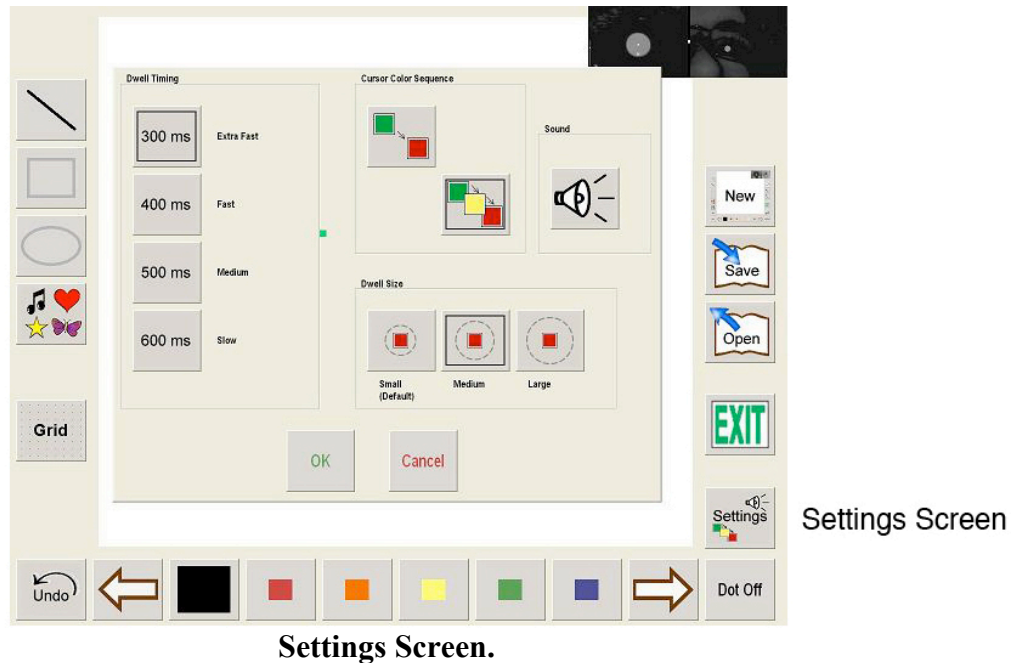


### Scrapbook.

- 4) Have the user flip through the Scrapbook and pick a drawing to work on, such as the practice drawing done earlier.
- 5) Have the user look at “Open” to retrieve this drawing.  
(Opening a drawing creates a copy of that drawing, without changing the original.)

## Trouble Shooting

The Settings Screen can be accessed by clicking on the “Settings” button on the right hand side of the screen. Consider changing the settings if the user is having difficulty, or to make drawing faster or slower.



**If the drawing commands are too fast or slow try changing the “Cursor Color Sequence” or the “Dwell Timing.”**

The “Cursor Color Sequence” selects either a two- or three-cycle selection sequence (as in, a two- or three- note melody), and the “Dwell Timing” does the same thing as the “Gaze Duration” in the LC ECS system. Note that EyeDraw’s “Dwell Timing” is set independently from the “Gaze Duration” in the ECS System.

The “Dwell Timing” changes the amount of time the user will have to hold his or her gaze steady in order to advance to the next step in the cursor color sequence. A smaller setting will make drawing faster.

**If the user is having trouble holding his or her gaze steady to issue a drawing command, then try increasing the dwell size.**

**To turn the musical tones during the drawing commands on or off, click on “Sound”.**

## Acknowledgements

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