The Walker School – Computer Science Department

Robot Art Project

**Directions:** Students will use the Scribbler robots to create a mixed media painting. The robot will be used to create a series of lines and shapes. In combination with the robot, the student may add other types of media, including found objects from their garage.

**Duration:** 7-8 class periods

**Deliverables:** Piece of original art, self-analysis, and printed code used by robot

**Discovery Questions:** Show students the Elements of Design PowerPoint and have them discuss these questions in class and in writing.

1. How do tools help us express our imagination?
2. What tools are used in art?
3. What are the elements of design?
4. Which elements can be expressed by robots?
5. What elements do you hope to express in your work?

**Project Analysis:** After completing their work, students will write an analysis of their work. Your analysis should include a response to the following questions. Your responses should be in the form of an essay. This analysis will be displayed with the work during the exhibit.

1. Describe 3 elements that are prominent in your work.
2. How did the technology used work for me?
3. How did the technology used work against me?
4. What unintentional elements showed up in your work?
5. What did you add to the work and why?

**Suggested Equipment List:** Poster board, paint and brushes, sharpie makers (fit in Scribbler) of different colors, patterned cloth and corrugated cardboard texture, found objects from your garage (nuts, bolts, screws, metal scraps), glue, Scribbler robot.

**Teaching Schedule:**

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| Day 1 | Show PowerPoint on the Elements of Design and discuss exemplary work by various artists.  Answer the discovery questions.  Have students write a short plan of what they hope to accomplish; they should discuss what they expect the robot to do and what they will add to the work. |
| Day 2 | Allow students time to program various movements in their robots and test the movements with paper and pencil. |
| Day 3 | Have students work in groups and conduct a peer review of the other group’s code and the pencil drawings they accomplished. |
| Day 4 | Students should add base color, such as a tempera wash.  Allow robots to draw with permanent markers. |
| Day 5 | Continue with programming and drawing. |
| Day 6 | Students bring in found objects from garage.  Teacher should review images on pattern and texture.  Have students plan out where they will place the found objects from their garage; have students leave them over night, in case they want to make changes the next day. |
| Day 7 | Students glue found objects to their work.  Make any last minute touches to their work; sign it.  Students turn in essay to go with art work.  If students need more time for gluing and touchups, you might give them one more day. |

**Robot Art Plan - Homework**

Write down a general idea about what you want to do for your robot art project. Your summary should discuss: 1) the general idea 2) which 3 design elements you will try to create with your robot – Remember to review the painting examples presentation; 3) discuss how the robot will be used to create these effects, 4) what parts (elements of design) you will add (e.g. value, texture, etc.), 5) materials you will use – This is really up to you. (e.g. Poster board, paint and brushes, sharpie makers (fit in Scribbler) of different colors, patterned cloth and corrugated cardboard texture, found objects from your garage (nuts, bolts, screws, metal scraps), glue, Scribbler robot.), 6) what theme or ideas you will embed in your work - Profound statements; big questions. Remember, that this is a "robot art project" and that your theme should have something to do with one of the questions we discussed in class. One big idea of this project is the interaction between technology and humans, such as how tools (robots) help us express our imagination.

**Example Plan:**

I’m thinking about painting the poster board with a light brown wash, then having the robot draw a series of vertical arcs, which could represent grass and flowers in a garden. They could be different colors or the same color. In some cases I might connect these arcs to make wide blades of grass or strange flowers, such as is evidence in Picasso’s paintings. Searching my garage, I would collect a number of nuts, bolts, and other small, round pieces of broken machinery of different sizes. These could be placed in groups above the vertical arcs as flower petals. Others could be placed in groups, in the shape of insects. The three elements I plan to concentrate on are line, color, and pattern. Minor elements I will try to incorporate through other media, such as colored pencils will be balance and direction. I might call this mixed media painting “Garage Garden”.