**Final Project Proposal Worksheet**Write answers in complete sentences, except for #1 & #2

1. Who? (if in a group - state group members)  
   Diana Vu
2. Name of the Project  
   PixelBot
3. Introduction -
   * What does the project do - what is it? Also note whether it should be performed, exhibited / installed, or both.
     + PixelBot will be an AI that will create a pixelated image. It would preferably be exhibited in a gallery setting where a user can prompt the machine to create the image at the touch of a button.
   * Why is it important? What am I contributing to society by making this work? (eg. if you have aesthetic aims, articulate those here)
     + Arts and culture are also important features in a society and seeing if an AI can replicate that is something that should be pursued. The aesthetics of *PixelBot* are light-hearted and the project aims bring joy to its audience.
   * What are the tangible deliverables/outcomes?
     + Some tangible outcomes from PixelBot would be a software that can generate a pixelated image depending on the data inputted.
   * How will I be expanding my knowledge of motion capture and motion feature detection? (Note that the project must *significantly* involve coding and some motion capture technology (e.g. C++, processing))
     + I will be expanding my knowledge of AI and creative composition by applying the algorithms generated in the class to different creative applications like drawing.
4. Context and Related Work -- what previous work (by other artists and researchers) has been done in this area? How is what I am going to do different or similar to previous work?

Compare and contrast *at least* 2 related works and your own. Remember to use proper APA in-text citations. After reading, I should understand the context of where your work comes from. For instance, if you are creating a work in a genre or style -- that should be explained -- what the genre is, what 1-2 notable works are, how your work builds on that or contrasts with it. Same for software.

* *PixelBot* draws upon a rich body of work in artificially and algorithmically generated visual art. For instance, Harold Cohen created an autonomous robot named AARON that was able to draw on its own (Garcia, 2016). AARON is a program that at first was only able to draw (able to program color later) and Cohen would color the image afterwards. Similarly, *PixelBot* will be able to draw on its own using a Markov Chain algorithm. Another work that is similar is from researchers at Microsoft who created a bot that can “draw” what you tell it to (Roach, 2018). However, this bot generates the correct image you tell it to by inputting the color of each pixel of an image into an array and generating from that, rather than drawing on its own. Another similar work is Google’s AI doodle bot that creates Clip Art based on the image you draw (Statt, 2017). You upload a file of your image and the bot identifies what it most resembles and creates a unique clipart based on the image. This AI Doodle also works more like a generator, but I similarly want my bot to be able to draw an image based on inputs.

1. Rough Timeline for Project Outcomes
   * What are the pieces that need to come together for this project to work?
     + The pieces needed to make *PixelBot* work are: creating a color and XY class, send input data to train on, and use the data to make art based on input (draw a Super Mario mushroom, car, flower, etc.).
   * Give dates that you will expect to finish each sub-piece
   * Give the date that would like to demo your *working* project prototypes for feedback.This must be done at least once per week until the final presentation.

|  |  |
| --- | --- |
| Task | Date to Finish |
| Create XY class and test | November 10 |
| Create Color class and test | November 17 |
| Train to draw on certain inputs, Create GUI, Create different method of drawing, Final Presentation | November 24 |

*Note: I find tables to be very effective for this section*.

Criteria –

1. What will it mean for me to be successful in this work? What am I setting out to achieve? How am I evaluating my progress?
   * Being successful in this work will mean that I have given some contribution to the art and science community by creating an AI that has capabilities that are more conscious decisions, such as deciding color, what to draw, etc. rather than finding the most optimal path to the store, where there is only one correct answer. The AI will have to make decisions artists more often ask themselves than a mathematician. I will be evaluating my progress by reaching my goals for each weekly demo.

**B. Make yourself a rubric out of 100%, similar to the rubrics that I give you.**

|  |  |
| --- | --- |
| Criteria | Points |
| It does the THING | **50** |
| * Draws brush stroke | (10) |
| * Colors each brush stroke | (10) |
| * Can draw an image based on input using a Markov Chain (i.e. mushroom, car, the screen is not one color, etc.) | (10) |
| * GUI | (10) |
| * Different methods of drawing with Markov Chain | (10) |
| Style | **50** |
| * Comments | (12.5) |
| * Encapsulation | (12.5) |
| * Code re-use | (12.5) |
| * Prototype Iteration (6 commits) | (12.5) |

**Note that I will need to see and approve this rubric so that you can use it effectively in your self-assessment paper.**

1. Documentation - How will I document this work to show it in the best light in my portfolio? What are my plans for this? How would I distribute/perform/exhibit this work to the greater public?
   * I plan to screen record to demonstrate and explain my code and how to run the program. I will also save the output of the artwork from the program to display on a website.
2. List equipment, etc. that you will need to exhibit or perform the work.
   * A projector and computer will be needed to exhibit the work.
3. References/Bibliography - **use APA format**

At least 3 references.

Garcia, C. (2016, August 23). *Harold Cohen and AARON- A 40-Year Collaboration*. CHA. <https://computerhistory.org/blog/harold-cohen-and-aaron-a-40-year-collaboration/>

Roach, J. (2018, January 18). *Microsoft researchers build a bot that draws what you tell it to*. The AI Blog. <https://blogs.microsoft.com/ai/drawing-bot/>

Statt, N. (2017, April 11). *Google’s AI doodle bot will transform your crude drawings into glorious clip art.* The Verge. <https://www.theverge.com/2017/4/11/15263434/google-ai-autodraw-doodle-bot-drawing-image-recognition>