("Code+Art: Expanding Creative Coding Opportunities at NCSU Libraries", Alison Blaine, March 10, 2016, Code4Lib conference, Philadelphia, PA)

Hi, I'm Alison and i'm here to talk about a project called **Code+Art.**

This is a project that I took over managing last July, and it's in its second year.

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The project was started as a student contest for digital, **data-driven generative** art for display on our large-scale video walls in the James B. Hunt, Jr. Library.

**Generative art is art that it is created with an autonomous system, like computer algorithms.**

The Hunt Library opened in 2013 and the four video walls that were built into the public spaces of the library were intended to be canvases for the university to show student and faculty work.

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So, the **Code+Art Student Visualization Contest was created to advertise this intention. It is sponsored for the last two years by** Christie Digital Systems, maker of the video wall MicroTiles, sponsored the contest.

We thought that a competition with a substantial monetary prize (hundreds of dollars) for 1st/2nd place winners would be attractive to students, along with getting to exhibit their work in the Library.

Another aim of the contest was to raise awareness **that there is such a thing called creative coding** and to encourage students to learn to code who may never have considered it a possibility.

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Creative coding = making art with code. Common tools for this include Processing and P5.js.

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Last year in 2015,

The contest structure required that interested students **submit a written proposal** for a project; the proposals were judged and two were funded and eventually competed for the final judging. The projects were developed over a few months.

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The outcome of last year's contest was that **we had 2 very impressive pieces** produced for the video walls. They were each; created with data, code (Processing or P5.js) and could stand alone as art.

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**Fractal Forest** -- uses entry gate data collected with an Arduino to make fractals trees that grow on a planet. Sun and moon are the hands of a clock that move with the time.

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**WKNC Visualizer --** visualizes the number of listeners streaming the campus radio station as birds flying over the skyline of Raleigh; the beat of the music visualized in the buildings

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**In taking over the project in July, I set some improvement goals for 2016:**

-more student participation
-more inclusive program appealing to a more diverse student population (more diverse in terms of identity as well as program of study)
-more faculty involvement and mentorship of participants who could help steward the projects

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One challenge / opportunity was that the pool of students who make art with code is very small, hard to identify.

- Very few courses on campus related to making art with code.
- The pool of coders are in the computer science department, not clear how many were interested in art
- We have a design school of over 800 students, not sure how many of them could code or had an interest in coding. All interested in design and adept at using digital design tools.

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Happily, **two new faculty** with energy and enthusiasm for creative coding and animation joined the Design School last summer. They were eager to help with advertising and mentoring students wanting to submit to the contest. Also, they are creating new classes that involve creative coding in some fashion.

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We also re-structured the contest, doing away with the proposal process and accepting more types of digital art that didn't require code.

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We also planned a series of **smallish events in our Makerspace** that allow students with no experience to get hands-on exposure to creative coding and make something. These creations would be eligible for submission to the contest.

Creative coding workshops -- first in November - going to have another workshop next week

- 70% female, over 50% humanities & design students;

Creative coding Hackathon - February

- 93% male, 80% computer science students, mostly white and South Asian

Creative coding lunch group - weekly

- about 50/50 female to male

Interestingly, while the workshop and hackathon covered the same tools and both were advertised in similar ways and as no experience required, they drew **very different audiences**. Perhaps people were dissuaded to enter because of the title, "Hackathon" -- that may have connoted exclusivity or a certain kind of competition, whereas the term "workshop" seemed more accessible.

Just last week, NPR aired a study from the National University of Singapore that examined the role of **gender in competition** and found that highly competitive settings may dissuade qualified women from competing[1].

**The larger point from the study is that larger social and structural forces, competitions might not be the best way to identify talent. The most talented may not be competing.**

It may be that rather than a **high-stakes contest, more non-competitive programming is the key to building a creative coding community on campus, and growing a** talented pool of students who create work to exhibit on our video walls.

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While we can report that this year modest gains in the number of women, international students, students of color and non-coders who have participated in the Code+Art program, we have more work to do.

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[1] Cornish, A. (Host), Vendantam, S. (Byline). (2016, March 1). "How Does Gender Affect One's Willingness to Compete?" [Radio broadcast episode]. http://www.npr.org/2016/03/01/468751715/how-does-gender-affect-ones-willingness-to-compete

This more work includes shifting focus from the contest model toward a more robust and inclusive program, especially one with more opportunities for underrepresented students. In so doing and with input from the students, I believe that we can develop a community where anyone who wants to learn how to make art with code will feel empowered to do so.

**Thank you.**