SeeCSD:
A view inside our local school-to-prison pipeline

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Introduction

Racism and policing have become keywords attached to Charleston in the past 4 years. Through Bonner capstone, I had the opportunity through the Bonner program to develop a voice and stake in these local issues that I once believed to be out of my hands as a college student.

Within 3 years of working with a Bonner service-site Girls Rock Charleston, a grassroots nonprofit that uses music as a vehicle for social change and builds power with girls and trans youth, I grew from volunteer to organizer and co-founded a new after school program primarily to empower youth involved in the juvenile justice system. I explored many roles during this time from financing to curriculum programming.

At the same time, I have been in school developing skills in art and computer science as a Computing In The Arts major, and I was not yet sure how to integrate my interest of computer-based art into this social justice work. I was able to separately explore those skills as I created poster designs and ran the GRC website for years, but I was ready to explore how my personal interests and skills could forward social justice in a new way.

For my Bonner Capstone, I challenged myself to provide a transdisciplinary approach to computers, art, and social justice through the creation of an interactive data visualization. This adjustable graphic would compile and display the data of the year's annual Charleston County school-based arrest report, a data set which we have previously calculated by hand. I would create this website as a teaching tool of the trends within the demographic of youth that are arrested in school.

Methods

The visualization is based off of one data sheet that I received through Charleston Area Justice Ministries while working with them as a Girls Rock organizer. The data sheet is public information, but it is normally 10 pages of numbers and letters, provided as a PDF file, and currently only accessible if requested from Charleston County School District from an organization. I attempt to alleviate these issues by creating a website that is understandable for people at different education levels, uniquely organized to more effectively show trends, and publicly accessible.

The data set I received shows a list of every student arrest within a semester and their race, gender, age, school, and charge. I wanted to make use of all 5 of these demographics in the visualization, but organize them in a way that is easier to digest. In this light, I made the visualization interactive so that users can choose whether they want to organize students by one category or several.

I created containers (boxes) representing either CCSD schools, charges, or ages. When selecting a organization, my algorithms move through the data set and draw a student arrest (represented by a circle) into a container when . My focus is race and sex trends. I tied these two categories to the color and size of the circles, so that they could be shown in any organization chosen. For instance, a user may view how many students are arrested at each age group, and choose to see the race and sex breakdown within each box. The viewer may find a trend in Black males being arrested at an earlier age than other demographics.

Throughout the development of the data visualization, I met with different community members (nonprofit staff, students, and professors) to hear their responses and get insight on areas of improvement. Feedback was an important piece in this capstone project. For example, after one suggestion for more readability, I added an advanced feature for Race and Sex to be able to highlight specific populations.

Left: photograph of a drawing from a youth member of the Girls Rock Charleston after school program

Right: two screenshots of the data visualization module on my self-programmed website SeeCSD

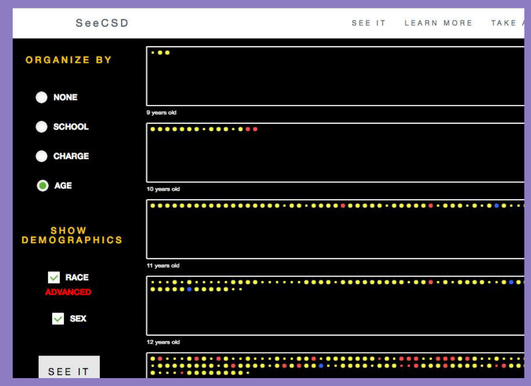
Results

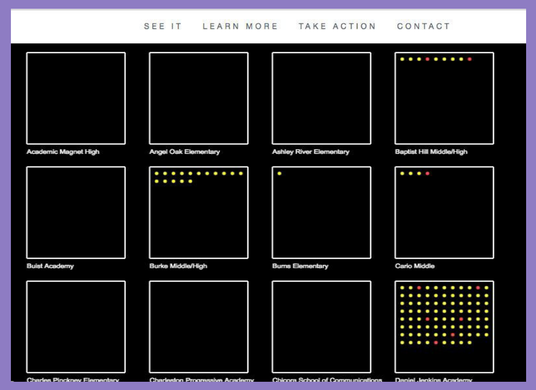
Once completing all the data structures and compiling the data, the visualization proved to be very effective in communicating large social disparities in student arrests.

Organizing student arrests by school showed many empty boxes compared to several nearly full boxes, indicating schools which funnel students into the juvenile system.

Organizing by charge made apparent the high volume of youth arrested for "Disturbing Schools" and "Disorderly Conduct", vague charges which Girls Rock Charleston and the ACLU are filing suit over, compared to small numbers of violent charges. Black females are shown to be most likely charged with Disturbing Schools or Disorderly Conduct.

Organizing by age was less shocking trend-wise, still however showing many children who are arrested at 9 and 10 years old, and almost all arrests upon elementary and middle school age being Black.





Conclusions

For this project, I used three different web-development coding languages which I had no prior experience in. That being said, it was a major challenge to present the data in a way that is professional and yet manageable to program in the given time. Despite the challenges, the visualization was successful in it's goals, proven by positive feedback and appropriate takeaways from adults and youth to which I presented.

Currently, I plan to partner with Charleston Area Justice Ministries given their interest and work within school-based arrest. I aim to look for sponsorship to launch the website this year (2017). The website is still undergoing some development in providing descriptive information about the school-to-prison pipeline in other sections of the site before it is ready to launch.

This capstone has proven to me that a skill as unique as computing in the arts can be beneficial for social justice and nonprofit work Visualizing data and making information accessible are paths to creating dialogue, shared understanding, and a call to action for issues which are intimidating for the general public to engage. This data visualization shows how the school-to-prison pipeline is a major issue in Charleston County, and far too many youth have been hidden from the community's attention for far too long.

Bibliography

Several sources which served as references and inspiration for the concept of this data visualization are provided below.

1. Rebecca Ruige Xu and Sean Hongsheng Zhai. 2009. Out of statistics: beyond legal. In *ACM SIGGRAPH 2009 Art Gallery* (SIGGRAPH '09), Jacquelyn Martino (Ed.). ACM, New York, NY, USA, , Article 32 , 1 pages. DOI=http://dx.doi.org/10.1145/1667265.1667301
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