Radio: Think BIG with Visualization

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Overview

- Introduction
- Importance & History of Audio Visuals
- What is Generative Art?
- WKNC Music Visualizer
- Basic Tutorial: Making A Visualizer Of Your Stream
- WKNC and NCSU Libraries Growing Partnership
- Visuals for the Technophobe
- Closing
Hello!

I am Cameren Dolecheck

I am here because I love audiovisuals, digital art, and new media.

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But I’m mainly here because...

- Worked for WKNC Raleigh for 4 years
- Lead a WKNC team in creating a music visualizer
- Have experience with video and new media
- About to graduate in computer science
- Leading an entrepreneurial team in creating a visualizer system for performances
- Strive to promote coding for artistic use cases
Intro to Music Visuals
“Findings demonstrate that people actually depend primarily on visual information when making judgments about music performance.”

A Quick History of Music Visuals

Display of live and pre-recorded visuals

- 1910: 35 mm film projectors
- 1935: 16mm film projectors
- 1960s: Liquid light show
- 1975: TJ McHose makes first video touring system for The Tubes
- 1976: Atari Video Music
- 1978: McHose designs touring color video system for Kool Jazz Festivals to project performers
- 1981: MTV and the rise of music videos
- 1998: Winamp visual plugin
- 2000s: Projection mapping
What is Generative Art?

- Art created by autonomous system
- Programming clean, logical, structured
- Art is emotional, subjective, and defies definition
- GenArt is where these two meet
CODE+ART
STUDENT VISUALIZATION CONTEST

- Hosted by NC State University Libraries
- First year of the competition
- Aimed at getting generative art onto the video walls of James B. Hunt Jr. Library
- Project proposals submitted by December
- 3 projects selected and funded through the spring
- Judging for total prize money of $1000
WKNC Music Visualizer

created by:
Dylan Stein
Harrison Wideman (design lead)
Neal Grantham
Colin Keesee
Cameren Dolecheck (team lead)
WKNC Music Visualizer: Design Requirements

1. Run in a Google Chrome web browser
2. Fit the 21.3 x 7 foot (6816 x 2240px) iPearl Immersion Theater
3. Play and react to our Internet radio stream
4. Display the number of online listeners
5. Display currently playing artist and song title
6. Change based on our music blocks (Indie Rock, Hip hop, Electronic, Metal)
7. More representational than abstract
WKNC Music Visualizer: Process

- Weekly team meetings
- Proposal made by November
- Created initial sketch
- LOTS of prototyping
- Iterative testing on the Immersion Theater
WKNC Music Visualizer: Tools

- p5*js
  Processing creativity times JavaScript dynamism
- Adobe Photoshop
- Chrome
- GitHub
- Adobe Illustrator
WKNC Music Visualizer

wknc.org/viz/library

Code Repository: go.ncsu.edu/wkncviz
WKNC Music Visualizer: Parts

Daytime Indie Rock

Daytime (morning & evening)

Underground Hip Hop

Afterhours Electronic

Chainsaw Metal
WKNC Music Visualizer: Parts
Now Playing

This work of generative art, completed as part of the NCSU Libraries Code+Art Student Visualization Contest, visualizes the live Internet stream of 88.1 WKNC, the student-run noncommercial radio station of NC State University. Boasting 25,000 watts, WKNC can be heard throughout the Triangle and far beyond via their webcast.

Watch as Raleigh’s buildings light up to the frequency of the music and the flocking birds pulse to the bass. Each flocking bird represents a single online listener. Stream right now and watch your birds come to life at the radio tower! Moreover, keep an eye on the color of the sky as it changes color to fit WKNC’s block scheduling.

There are three ways to listen:
1. Tune in to 88.1 FM on your radio
2. Stream online at wknc.org/listen
3. Download the "NCSU Student Media" app for Android or iOS

Interested in the code for this app?
Visit: go.ncsu.edu/wkncviz

WKNC Music Visualizer: Parts

Now Playing

Daytime Indie Rock

"You Are In Love" by Shannon Whitworth
WKNC Music Visualizer: Parts
WKNC Music Visualizer: Parts
Basic Tutorial: Making A Visualizer of Your Internet Radio Stream
Does your webstream look like this?
RadioJS

Github Page:
http://tiny.cc/RadioJS
AnalyserNode

WKNC + NCSU Libraries = Cool Things
360 Degree Video
360 Degree Video
360 Degree Video
New Performance Spaces

NCSU Hunt Library Teaching & Visualization Studio with 270 degree projection
New Performance Spaces

NCSU Hunt Library Creativity Studio
Visually for the Technophobe
Live Painting
Liquid Light Show
Audience Sketches
Basically,

merging visual art and music is rad.

So step outside the box, think creative, and make cool stuff!
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http://tiny.cc/RadioJS