



MusArt: Creating Musical Art Pieces

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April 29, 2021



Presentation Outline

(((01)))

**Project
Overview**

(((02)))

**Current
Status**

(((03)))

**Future
Plans**

(((04)))

**Acknowledgements
and References**

The top corners of the slide feature decorative wavy lines. On the left, the lines are light blue and pink, curving downwards. On the right, the lines are light blue and pink, curving upwards.

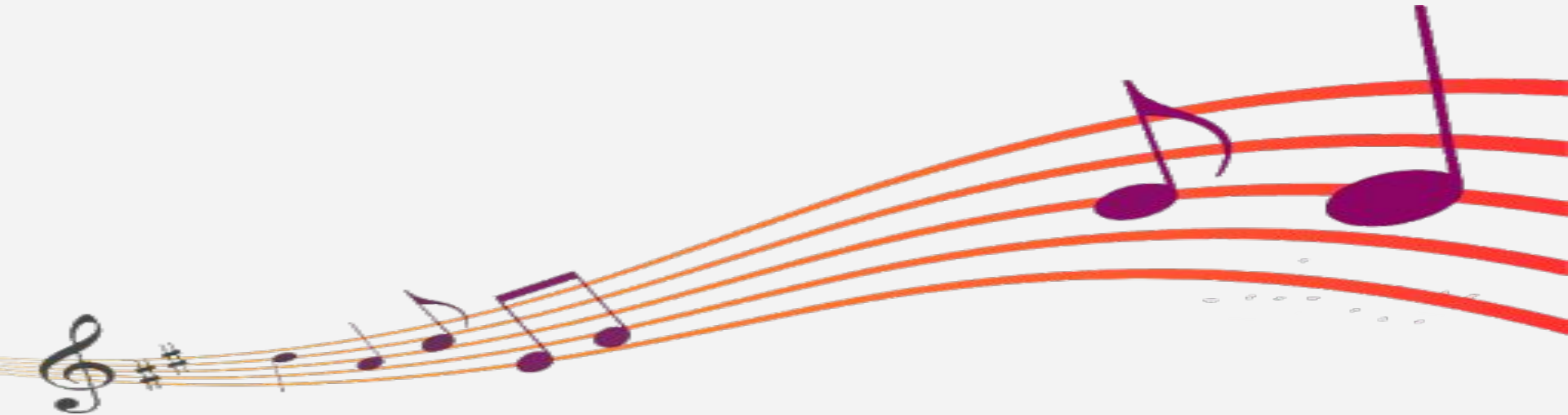
Goal

Incorporate music and art into existing technologies to create a tool that provides users a relaxing experience

Why Music + Art?

Music helps to regulate our heart rate

Art allows us to tune into the moment



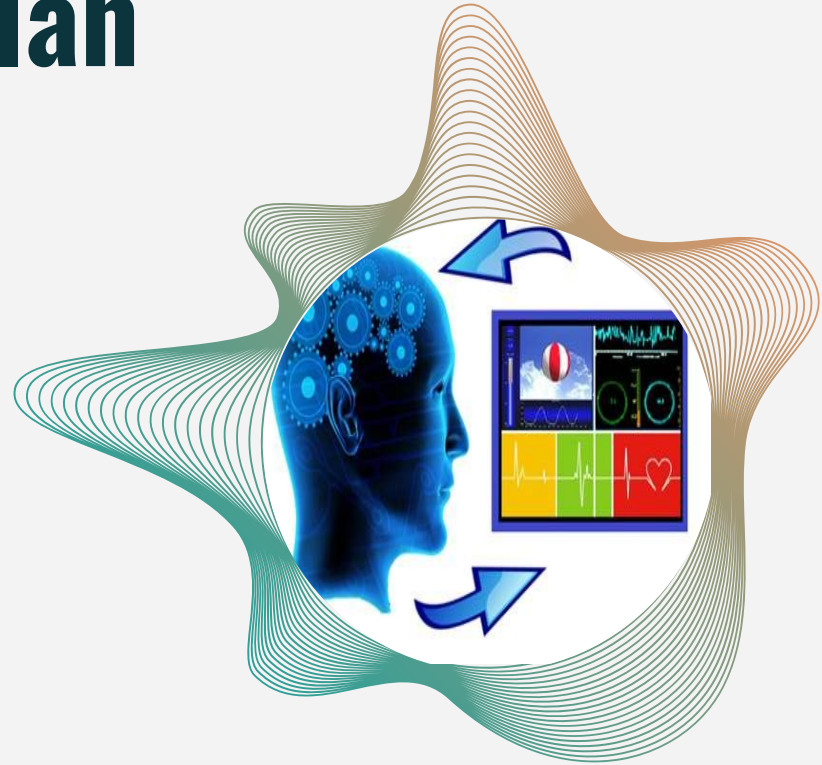
Original Project Plan

**Create biofeedback tool
that incorporates audio
and visuals**

Ideas

~~Generative music based on
Bio-indicators~~

~~Assistive Meditative App~~



A Variety of Perspectives



**Enma
Navarro**

Gong Master



**Dr. Benjamin
Knapp**

Founding
Director of
ICAT at VT



**Dr. Katherine
Biddle**

Registered
Expressive Arts
Therapist at
Carilion Clinic

Updated Plan: MusArt

Create a web app which allows users to build individualized Audio-Visual art pieces based on provided templates

Is it...

Accessible?



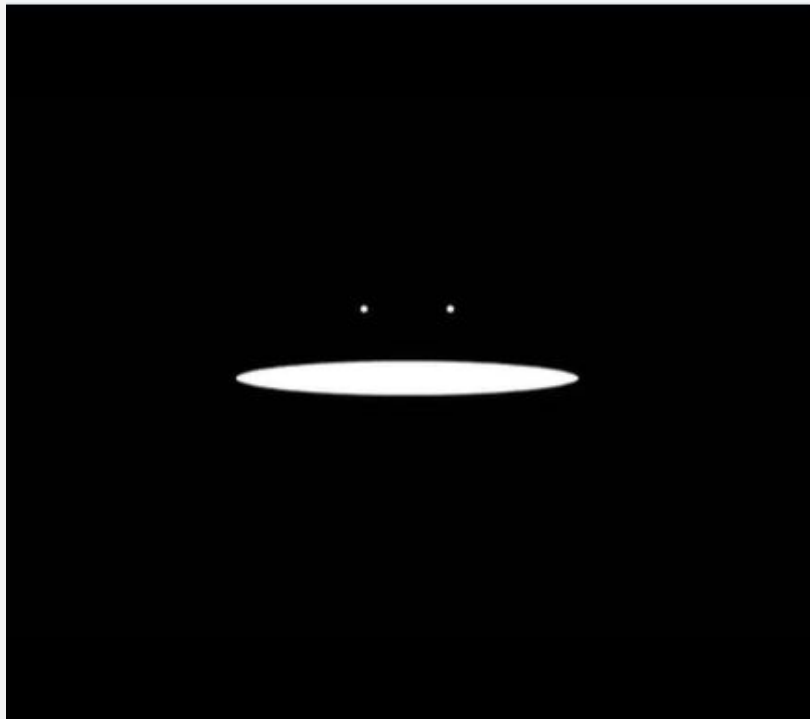
Feasible?



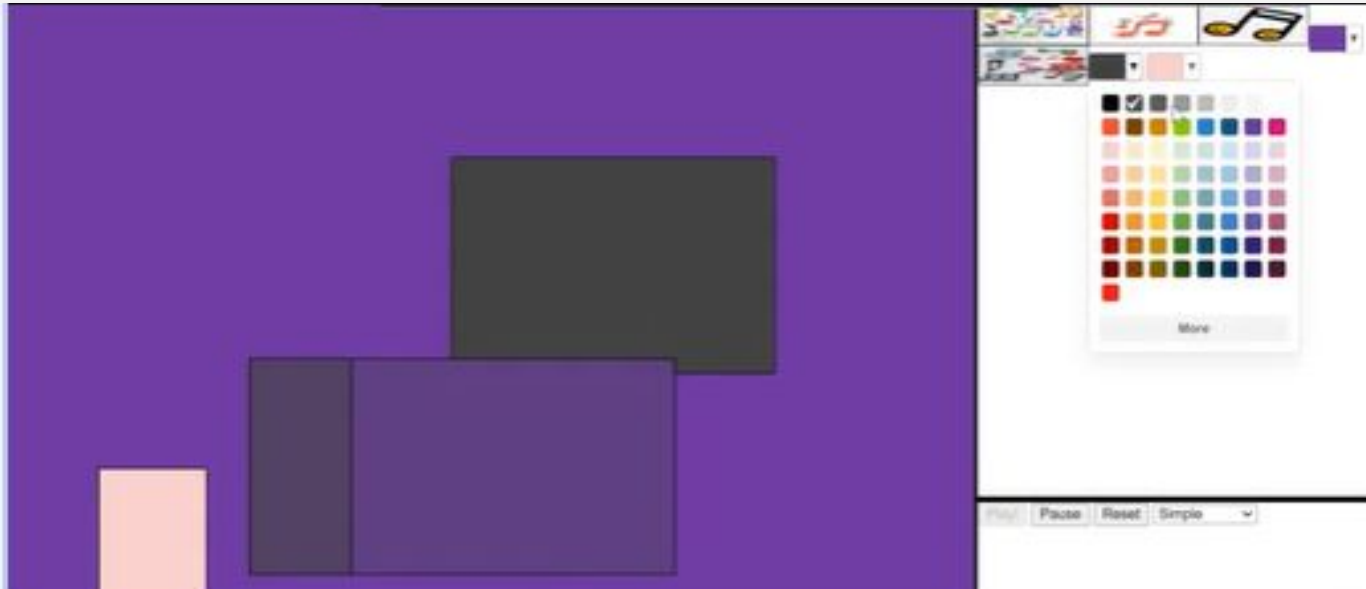
Useful?



Early steps



Beginnings of the Web App



Current State



Music Layer Toggles

- Layer 1
- Layer 2
- Layer 3
- Layer 4



Your Color Palette



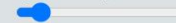
Opacity: 50%



Speed: 50%

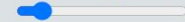


Symmetry: 1



Shape:

Size of Shape: 10%



Shape Border



Key Technologies Used

p5.js

Used for visual elements



Used for audio playback



Used for music creation

Next Features To Be Added



Recording

Allow user to include their own voice recording for the song



Random Variable

Introduce random slider for visual



Audio Controlled by Drawing

Have the drawing change various effects of the audio (panning, oscillators, etc.)



Main Areas Needing Improvement

- 1. Easy to Understand**
- 2. Visually Interesting**
- 3. “Bob Ross” Effect**
- 4. Music-Visual Interaction**



Lessons Learned

Thinking is hard

Having to think through a design makes the building process much longer

Life is Long

There is always time to add more features, sometimes it's good to step away from the computer

Others know much more

Having additional perspectives gets you a long way



Acknowledgements

Thank you to:

Dr. Ivica Ico Bukvic - Client

Dr. Edward Fox

Dr. Benjamin Knapp

Dr. Katherine Biddle

Enma Navarro

Keith Ebeltoft

Ruchi Maniar

Resources

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5772659/> - Musical auditory stimulus acutely influences heart rate dynamic responses to medication in subjects with well-controlled hypertension, Martiniano et. al., 2018

<https://www.health.harvard.edu/staying-healthy/music-and-health> - A study of 80 patients undergoing urologic surgery under spinal anesthesia found that music can decrease the need for supplementary intravenous sedation, 2011

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3741536/> - A research review on evolution of music(why we make/listen to music) and its psychological role, Thomas Schäfer, Peter Sedlmeier, Christine Städtler, and David Huron, 2013

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1860846/> - Relaxation during intermission after listening to music, L Bernardi, C Porta, and P Sleight, 2005

Using Color Effectively in Computer Graphics(Textbook) - Lindsay W. MacDonald

The image features decorative wavy lines in the top corners. The top-left corner has lines in shades of pink and purple, while the top-right corner has lines in shades of blue and purple. The main text is centered and reads:

Feedback is greatly appreciated! Any ideas would be helpful.