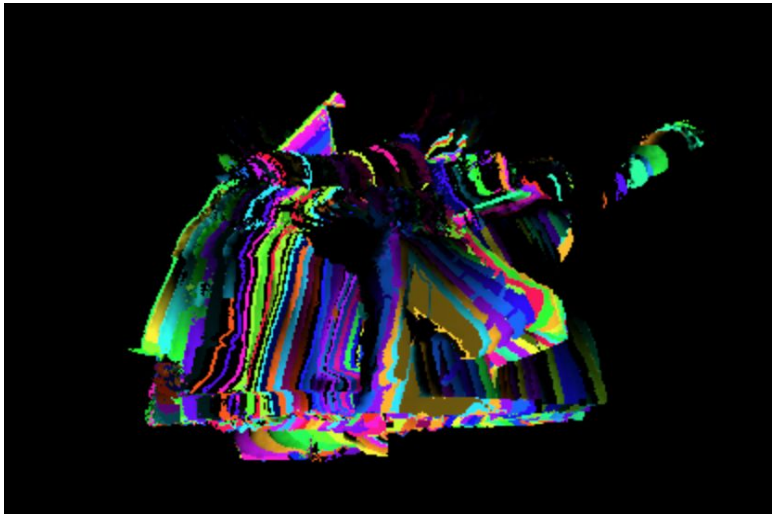
Dance With Me

Tiffany Quon - Peer Project Review 1

How might we use the data we generate to connect with others?

About Dance With Me

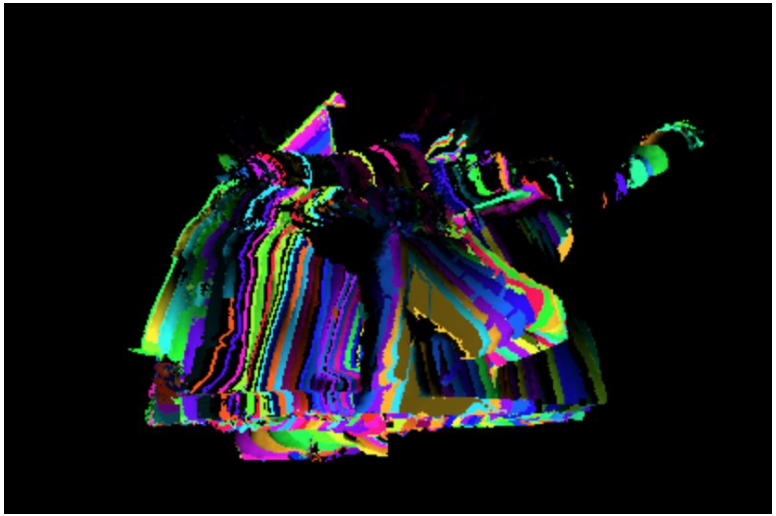
- Minute-long experience.
- Person moves around in front of a Kinect sensor and sees their movement projected in front of them.
- Person’s movement is compared with the movement of the person who used Dance With Me before them.
- Person can see the visualization of similarities being generated in real time.
- Person can keep images of visualizations (output images).



Example of intersection visualization

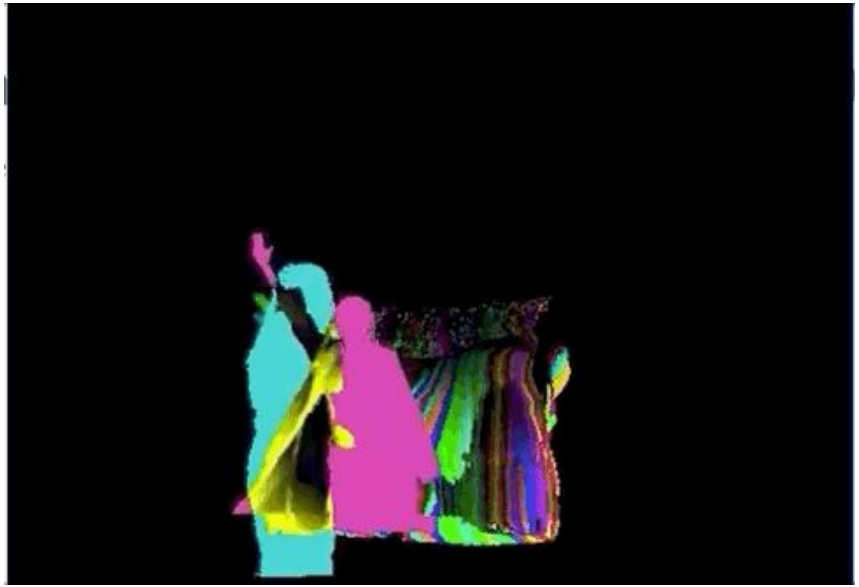
Encoding

- 2D physical overlap → shape
- Joint position similarity → hue of shape
- Depth similarity → lightness of shape
- Working on a new visualization of similarities within your own movement: a heatmap of where you tend to stay in space, and how your body is positioned

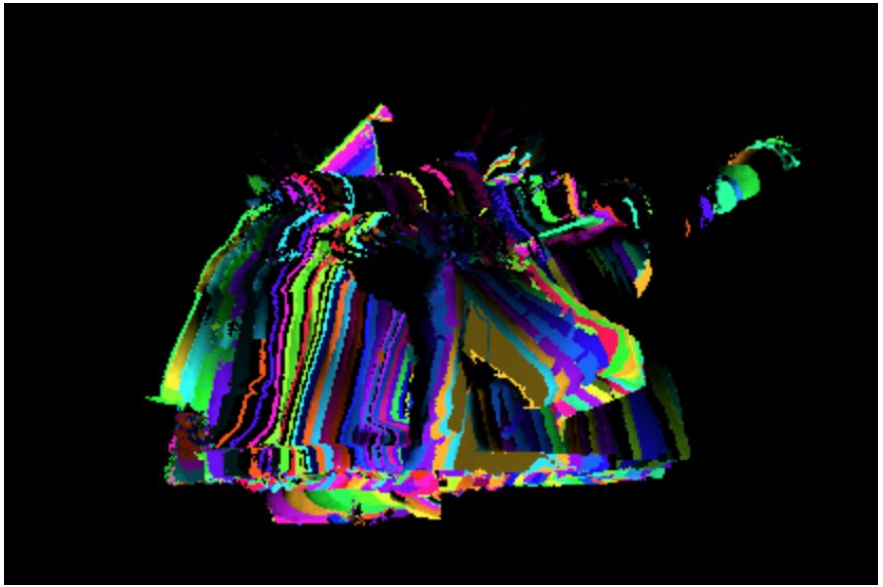


Example of intersection visualization

Example of Dance With Me



Person using Dance With Me



Output image

For CPSC 547...

Visualize similarity in movement between you and **the last 100 people** who used Dance With Me.

Summary of Concept

As you move around the scene, Dance With Me will find people who were at the same location in space at the same relative time. It will display those users' silhouettes, which will continue moving while fading away.

- Filter by timestep.
    - Filter by location in space by dividing screen into 36 squares → determine which square the current user's torso best fits to.
    - Find 1-5 previous users and display their silhouettes behind the current user.

Example of visualization through space and time

Visualization Decisions

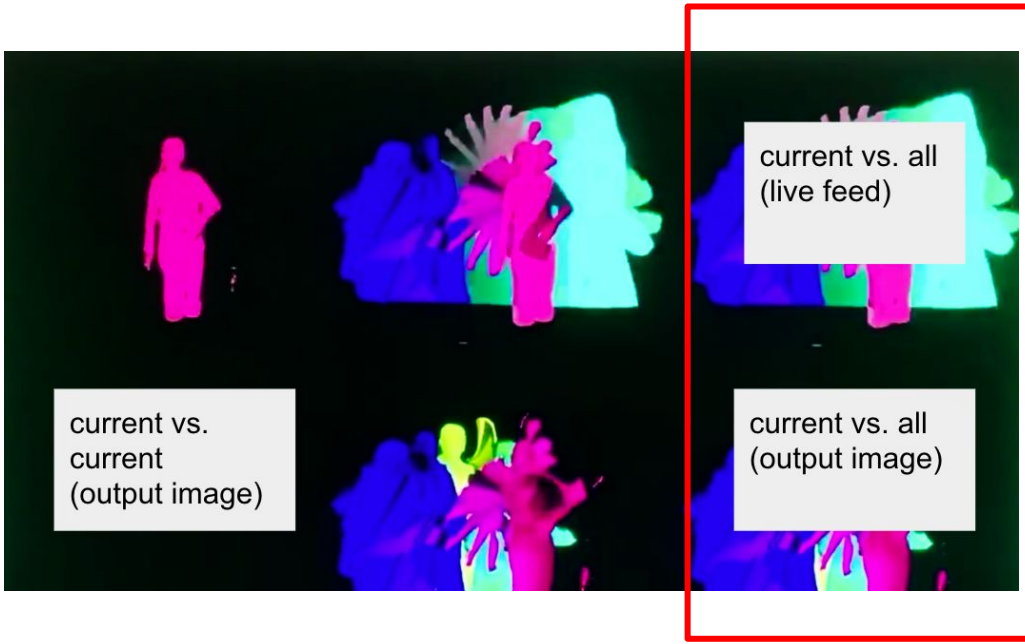
- Silhouette color is determined by the person's body position.
  - Can control RGB color by:
    - Moving right arm to change R value
    - Moving left arm to change G value
    - Moving feet to change B value
  - Chose this over HSV for more clear mapping of movement → color for user

- Silhouettes will be offset from current user so that they are not occluded

- Include fading trail of old silhouettes' movement to see how those users' journeys compare to your own

Example of visualization through space and time

Mockup of End Goal



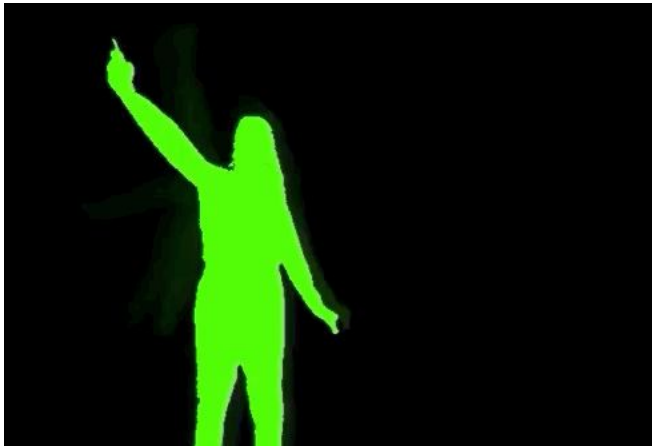
You vs. all visualization for CPSC 547

Current Status

- Finalized technical details
  - Local SQLite setup
  - How to assign position in space and determine what silhouettes to surface
  - What information needs to be stored, and how to store/retrieve it

- Set up proof of concept for database: can read and write data from the Dance With Me program

- Developed proof of concept of mapping joint position to colour



Example of mapping joint position to color. Right arm controls red, left arm controls green

Next Steps

- Determine output image for this visualization
- Read, write, and display body data (step it up from proof of concept)
- Implement fading body trails
  - Identify how long this trail can be (for performance) and how short this trail can be (for user experience)
- **Get user feedback on the experience and make user experience tweaks where possible**