

Investigation Into The Representation Of 4D Shapes

09/12/2021

The 2 Weeks Progress Report

- More rotor work
 - tried with clifford python module for 3D - worked fine
 - 4D has same problem
- Json file generation and game state script
 - store experiment data per user
 - enable or disable different parts of the program based on a “trigger” (which is not yet defined)

Questions

- Ideas about what could be wrong with rotors

Plan Ahead

Take 2 weeks (Weeks 3 and 4) to research papers focused in the fields of geometrical representation and interaction.

Week 4: take first steps into intuitive rotation

Week 5: rotation mechanic using click-and-drag and an arc/grab ball. - FAIRLY SUCCESSFUL - needs work - Week 8

Week 6: Implement Rotors - FAIL. Begin new Unity project for more polished scenes

Week 7: Implement and test onion skin interpretation of the 4th dimension. Implement a 3D perspective that in real time mimics the 4D rotation.

Week 8: Create intuitive UI/UX for users to manipulate shapes with.

Week 9: Create a demo to "match the shapes pose". Add more shapes - cone, capsule, pentachoron.

Week 10: Plan and script a walk through for users to play with shapes and attempt to identify them. Set up a new demo for shape matching.

Week 11-12: Tutorial videos that explain why shapes behave they do, and traits to identify what the shape is. Polish the program to be a "final product".

Am I on schedule

- Tests are being set up and with a controller script i can enable everything I intend to.
- Only missing thing at the moment
 - Rotor rotation
 - Survey and data collection between each test