Investigation Into The Representation Of 4D Shapes

02/12/2021

The 2 Weeks Progress Report

- Less progress due to AEs (as you said)
- Created a quad-planar texturing
- Through testing decided on what colour and texture representations I would want to experiment with
  - Normal diffuse lighting (not for pose matching)
  - RGBW with diffuse lighting
  - Blue positive & Red negative with patterns
  - RGBW with patterns
- Rotor4 progress - 5 of 6 degrees of rotation - don’t understand why this is the case… (I emailed marc ten bosch last night - assuming he won’t reply)
- Writing up more scripts for tutorial videos

Questions

- At what point do I “give up” on the rotors
- Who should I ask for permission for user testing next semester

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

Falling behind

- I was hoping to have done more on recording tutorial videos and setting up tests
- I was hoping rotors would be working by now