Data & Visualization Weekly Projects Report 2022_03_26

Active Projects

Active Development

- Sensor Lab Demo Package
  - Waiting for Gustavo to send me the collection of applications that he has been looking over
- Blender on HPC workflow for GIS
  - Started working on this in the week, need to unearth the python script that is used for triggering the rendering again
  - Will be adding this to a github repo that can be linked in the confluence article too
- Cyverse Field Scanner Vis Tool
  - Finally got access to the materials from Eric Lyon, still need to put time into seeing how this data appears
- Kay He Exoplanets
- Kay He B2 Lung
  - Have meeting at biosphere2 next week to plan out installation happening in may
- CATalyst data studio vis wall playlist
- Thermal Imaging Project
- Vulkan on HPC
  - Spent time this week going through more of the tutorial and things are falling into place about how the framework is used
  - Reached a point that talks about depth buffering and this will be a very useful technique for all of the point cloud data that comes from projects like the cyverse field scanner and the CDH
- Streaming Technology for HPC
  - Waiting to get confirmation from the library that the ILL loan of the mp4 specification has arrived, and then I can start working on using custom data tracks in mp4s to stream data from the hpc to different devices
  - Looks like the cyverse discovery environment is ok with port forward usecases so they might be a good longer option for keeping servers up and streaming content
- Data Visualization Roadshow With Jeff Oliver and Kiri Carini
- Independent Study Abby Collier
  - Abby was in town recently and helped me with the sensor lab grand opening event
  - she will be starting her new position at the data camp and will probably be changing up the schedule for our meetings in the future
- Stellarscape Astronomy Multimedia Dance Performance
  - Had tremendous success at the sensor lab grand opening on tuesday

- – the vice president of the health sciences was thrilled by the project and Jennifer Barton sent us a great recording that she was happy about
  - – Talked with PBS television and the U of A on camera to highlight the role of Research Technologies as a partner in the work that the sensor lab will be doing in the future
- Virtual Nature
  - – Created some material for Omani to look through on how to create tree like structures in 3d in p5js and then also converted that material into a godot example which runs much faster
  - – Also got material all confirmed for Maria Harrington's colloquium presentation on the 1st of April for the school of information

Consultations

- Tia Stephens Honors thesis assistance
  - – Tia is working on a documentary about water use in arizona and is interested in understanding what visualization tools will help her communicate scientific findings related to this project
  - – We met and discussed a number of programs that can be used to generate static or animated plots, but she hasn't found any particular data to use just yet
  - – Will meet with her again when she has concrete material to work with
- Allie Lalor pine tree growth computer vision assistance
  - – Allie showed up for consultation drop in and is looking for assistance with processing photos of pine trees growing
  - – She needs help separating the background of her images from the pine trees to graph distribution of healthy green pixels vs brown ones under different conditions
  - – I'm assisting her with finding the right methods from the opencv package for doing this
- Word Cloud Visualization
  - – Worked more on Teodora's visualization and it sounds like I have gotten her almost all the way setup for her publication
- Erin Choi Brain modeling visualization
  - – Met with Erin and she already has printed out a number of her models
  - – She tried to apply to a program that would teach her about electrochromics which would be great for making a model of how neurons undergo actionpotential, but they told her the program is only for engineering students
  - – She's making progress learning blender for her modeling too, and will be in touch with the brain bus to get her models incorporated as a learning module over the next semester
- Visit remote visualization support
  - – Waiting to hear back from Martin Liza about whether the documentation is clear to him and works for his purposes

Upcoming

- TURN UP Festival Performance NYU/UA collab
- Volumetric Capture processing on HPC
- Has Faculty Collaborations With Holodeck
- Ray Tracing On The Hpc
- Observablehq Portfolio Of Data Visualization
- Jason Hortin Holographic Dance Graduate Project

Completed For Calendar Year

Recently Completed

- Marcos Serafim Touch Designer visualization of audio file as video data bending

Workshops/Trainings

Completed Projects/Collaborations

- Marcos Serafim Touch Designer visualization of audio file as video data bending

Completed Consultations

- Martha Bhattacharya Cytoscape installation

Infrastructure Developed

Protocols and Analysis Developed