Data & Visualization Weekly Projects Report 2021_10_08

Active Projects

Active Development

- Template
  - None
- CATalyst data studio vis wall playlist
  - Setup meeting with Jen for next week
  - Goal of short project is to create a web page that will be screen saver for the big vis wall at CATalyst
  - Have process that iterates over videos and live demos of visualizations and creative code works
  - Make it something others can add to over time
  - Should be a great way to be in the driver's seat for what material gets viewed by people visiting the space
  - This will make it easy to have a showcase option for RT's work
- Thermal Imaging Project
  - Had first meeting with Brad Ross and Ed Wellman
  - Received their project directory to explore and several documents detailing the previous steps of the project
  - Sounds like they want someone to explore a few different types of motion detection algorithms by January so they can put that information into next milestone document
  - If possible would like to make the workflow run on the HPC so that they can process videos in bulk
  - Set monday as date to meet and go over material with Ed
- IEEE Satellite Vis Conference Planning
  - Had meeting on Friday planning video shoutout material
  - Decided to start emailing folks in the stakeholder list I created about the conference that's coming up
  - Rooms and Birds of a Feather timing worked out
  - Had meeting with DSRT folks recently and discussed the conference, folks on panel are going to help advertise
- Vulkan on HPC
  - In the process of creating a program that will read from hdf5 files and transparently draw points to image texture using GPU to be saved out as individual frames of Astronomy Simulation videos
- Streaming Technology for HPC
- Data Visualization Roadshow With Jeff Oliver and Kiri Carini
  - Met and revised presentation with Jeff Oliver and Kiri
  - Worked on tool for Kirsten Ball as individual consultation
- Independent Study Abby Collier
  - Met with Abby and talked about Github actions for automated cloud

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operations
- – Switched to working on stream disruption effects
- – Discussed a little bit of the Kalman filter bayesian questions that I have
- Stellarscape Astronomy Multimedia Dance Performance
  - – Had Tech Test meeting last wee
  - – Switched from developing on the iMac Pro to the performance computer that Kay has
  - – Many effects were broken by the switch, so spent most of the week working on what the fixes for these were
  - – Read quite a bit of the Kalman filter jupyter notebook "book" by rlabbe, very helpful https://github.com/rlabbe/Kalman-and-Bayesian-Filters-in-Python
  - – Going to ask Ryan in TESS if he can install Touch designer on the vis PC connected to the big display wall
- Virtual Nature
  - – Will be testing Omniverse with the work machine this week to see if it's a viable way to allow the DCC Omani to work with unreal from her laptop
- Radiology 1St Year Resident Carl Sabotke

Consultations

Upcoming

- Has Faculty Collaborations With Holodeck
- Observablehq Portfolio Of Data Visualization
- Ray Tracing On The Hpc

Completed For Fiscal Year

Recently Completed

Workshops/Trainings

- Mt. Lemmon In Your Pocket-Creating A Virtual Reality Tour
  - – https://rtdatavis.github.io/#GIS_week2020
- Presentation For Civil Engineering Department
  - – https://docs.google.com/presentation/d/15Z9zcxU4vIIgFPnKEcaGv9GH7JtjNdx4Xpnjec0EzEc/edit
- Resbaz Organizer And Workshop Provider
  - – https://hackmd.io/-XS5Mqh8TA2EHjTHCQ_4tw
- Tech Core Level Up Presentation Monday, Sept 28 2020
  - – https://rtdatavis.github.io/#techcoresept28
- Tech Core Level Up Presentation Tuesday, Mar 17 2020
  - – https://rtdatavis.github.io/#techcoremar20
- Womens Hackathon: Visualization On The Web Workshop
  - – https://womenshackathon.arizona.edu/

- https://www.youtube.com/channel/UCe1YiJ53o3qcayVs4cipeXA/videos
- https://www.youtube.com/watch?v=VLwPOtqW8oM

Completed Projects/Collaborations

- Collaboration With Techcore'S Summer Internship
  - https://hackmd.io/xi_m4Kj6QDenBR3ZAfN3iw?edit
  - {'Project folder on gdrive': 'https://drive.google.com/drive/folders/13v9QfUFVjQD-x7dh8chQZFvAxmy5zmx6?usp=sharing'}
  - {'videos': 'https://drive.google.com/drive/folders/18tT28oLiXFH1wH8NGUwSU1K0URyzJq9o?usp=
  - {'Pecha Kucha style presentation': 'https://docs.google.com/presentation/d/1n6ggKJ-oG7fqHfVsLMnuYkAVh095B1RA7EcNx1RQ12M/edit?usp=sharing'}
  - {'presentation video': 'https://www.youtube.com/watch?v=EiQ9S5lNbA8'}
- 3D & Vr Retrofit Azlive
  - https://rtdatavis.github.io/#retrofitAZLIVE
- Bio5 Virtual Reality Tour
  - https://rtdatavis.github.io/#bio5-vr-tour
- Covid Retail Mitigation Web Scraping
  - https://rtdatavis.github.io/#retailscraping
- Force Directed Biochem Networks
  - https://rtdatavis.github.io/#biochem-networks
- Migrant Forensic Empathy Project: A Digital Borderlands Grant Initiative
  - https://mfemigrantdeathmap.baylyd.repl.co/
  - https://devinbayly.github.io/digital_borderlands_conversion/src/mesh_test.html
  - https://devinbayly.github.io/digital_borderlands_conversion/src/index.html
  - https://hackmd.io/Qo_HmwmwSTG-QPYVTJl0Lg?view
  - https://osf.io/v9swc
- Neuro Choropleth
  - https://rtdatavis.github.io/#neuro-choro
- Oyster Vibrio Literature Review
  - TBA
- Spring Break Covid Photo Maps
  - https://rtdatavis.github.io/#spring-break-covid

Completed Consultations

- Discussion about Social Network Analysis Visualizations
  - NA
- Advice For Thesis Defense Visualizations, Sabrina Nardin
  - NA
- Bryan Carter Photogrammetry
  - https://sketchfab.com/3d-models/churche-maze-photogrammetry-d0767af08a5d498fb960efe3ac83385f
  - https://drive.google.com/file/d/11E5_912vW6kuPBxcujGKs-UQD9S3jA-H/view?usp=sharing

Infrastructure Developed

- Remote Visualization Infrastructure Development spring 2021
- Autamus Web Interface
    - https://rtdatavis.github.io/#autamus_interface
- Virtualgl For Nvidia Accelerated Remote Hpc Visualizations
    - https://rtdatavis.github.io/#virtualgl
- Xpra And Singularity For Comprehensive Graphical Application Support On Hpc
    - https://rtdatavis.github.io/#xprasingularity

Protocols and Analysis Developed