Foundation For an Immersive Visual Analytics System to Support Climate Change Decision Making

Laying groundwork for researchers and decision makers to immerse themselves in virtual workspaces to observe data and conduct analyses in innovative ways

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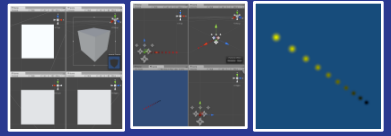
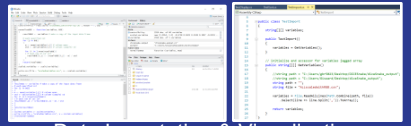
Process

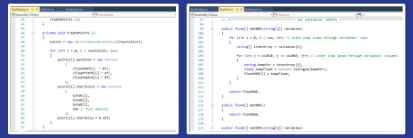
Unity & C# Tutorials



Data Normalization & Organization



Data Importation & Visualization

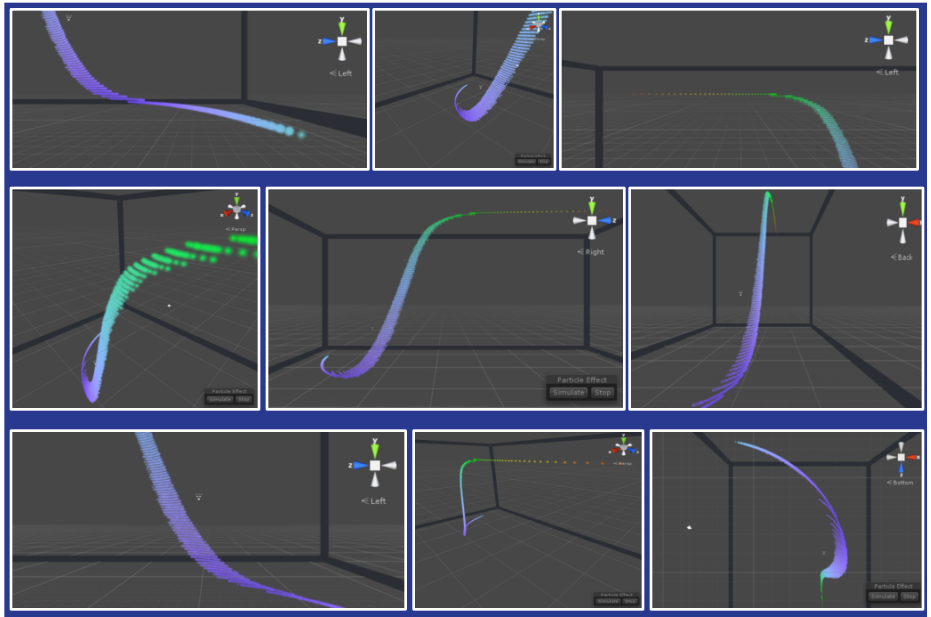


Applications & Programming

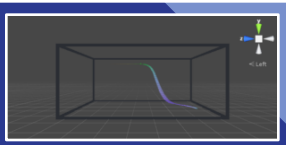
R & RStudio

Unity & C#

Visualization Results



Conclusion



As Unity is a game development platform, importation and creation of 3D graphs for scientific research was largely unheard of. With the success of the 3D recreation of the DICE Snake Model in “Climate risk management requires explicit representation of societal trade-offs” (Garner et al. 2016), foundation has been laid for the creation of an immersive visual analytics workbench in virtual reality. This workbench will ultimately allow researchers and decision makers to immerse themselves in the visualized data thanks to implementation into technologies such as the HTC Vive and the Oculus Rift

Future Work

During the upcoming school year, implementation of this graph into virtual reality technology is expected to be completed, creating an opportunity to explore each data point that exists in the model for an overall immersive analytic experience.

Acknowledgements

Dr. Klippel, Mark, & Jan- Thank you for being patient with me (as this was a completely new experiences) and overall for this opportunity and I look forward to working with you all again in this upcoming school year!

References

1. Garner, G., P. Reed, and K. Keller. 2016. Climate risk management requires explicit representation of societal tradeoffs. Climatic Change 134 (4):713–23.