

Summary:

The paper titled: "Using photography as a metaphor for teaching image synthesis" by Joe Geigel and Nan C. Schaller, described what was done to have such success with the RIT computer graphics program. Throughout the term, many lectures would compare the photography pipeline and the graphics pipeline to give a full comprehension where computer graphics originated from. The paper described the different shortcomings of previous course layouts, and what was done to improve upon each year. The course is now broken down into three main parts: project, ray tracer, and reading assignments. Each part of the course has a significant impact, and helps the students learn the ins and outs of the graphics pipeline.

Comparing the graphics and photography pipeline is a nice way to relate prior knowledge with a new topic. The comparison allows students to build and transition into a new pipeline. The two pipelines can be placed in an order that almost mimics the other. The only change is now most of the steps need to be done by computer algorithms rather than just naturally; for example, scene shading.

The course outline presents a way for students to learn on their own rather than being forced to learn content that they do not feel excited about. The term long project does this, and it allows students to explore many of the different complex techniques they have learned in class that may seem interesting. There is another project where the student is forced to do: the ray tracer. The ray tracer helps students learn the pipeline completely along with creating a classic computer graphics scene.

The course was not always the current structure, and it is constantly evolving. Before, the course used to only be a semester long project, but eventually a lecture was added to help solidify ideas that students should be learning. Giving students the freedom to do what they want is a great teach tool, and it is reiterated through not just the personal project. Many of the assignments have a bonus objective to recreate a scene to a student's max potential. Not only does this encourage the need to excel in one's assignment, but they can see how they compare to other students within the classroom.

With both graduates and undergraduates in the class, there is going to be a diversified learning experience for all. The main difference between the two programs is that the graduates should be focused on their future schooling ventures and are forced to read papers, and encouraged to work on a semester long project that can be expanded on for their master's thesis. The undergraduates are encouraged to do the readings to have a deeper understanding of the topics discussed in class.

Overall, it shows how the RIT graphics department succeeded in teaching students with this curriculum.

Looking forward too:

1. Working on the semester long project
2. See the final outcome of the ray tracer.
3. Working with graduate students, and seeing the different ideas they come up with.

Challenges:

1. Not having an error in one of the ray tracer checkpoints
2. Picking the right project. Not one that is too much work, but not too easy either.
3. First graduate class I have taken. Curious to see how it differs from the undergraduate classes.