Respected Professor,

I'm Sivakumaran Gowthaman, one of your master's student in COMP-5704. My project is about 'Cuda Accelerated Raytracing' and its presentation outline is as follows:

1) What is rendering & the two types of rendering techniques (Rasterization, Raytracing)
2) What is Rasterization
3) What is Raytracing
4) Why Raytracing is superior to Rasterization and reason for its selection
5) Main steps involved in Raytracing
6) Ray Generation (Its default parallel nature in contrast to the sequential implementation)
7) Ray Surface Intersection (Its default parallel nature in contrast to the sequential implementation)
8) Colour Calculation (Its default parallel nature in contrast to the sequential implementation)
9) Bottlenecks in Parallel implementation of Raytracing
10) Converting the recursive functions to iterative functions to reduce the stack for each thread
11) Why acceleration structure is needed for Parallel Raytracing & Different Types of Acceleration Data Structures
12) Grid
13) KD-Tree
14) Bounding Volume Hierarchy (BVH)
15) Reason for the selection of BVH as the acceleration structure
16) Stack implementation of BVH
17) Stackless implementation of BVH
18) Performance Comparison of the Image generation using CUDA enabled GPU vs CPU (Display of Generated Images & Performance details in Chart form)
19) Performance Comparison of the Image generation using CUDA enabled GPU vs CPU (Display of Generated Images & Performance details in Chart form)
20) Performance Comparison of the Image generation using CUDA enabled GPU vs CPU (Display of Generated Images & Performance details in Chart form)
21) Hollywood Vfx Animated Movie's (Eg:- Walt Disney's The Lion King 2019) rendering details & its future
22) Potential area of Improvement in this 'Cuda Accelerated Raytracing' Implementation

This presentation is a total of 24 slides along with the beginning 'Title slide' and end 'Than you' slide. Until the date of my presentation on December 2nd, I'll be continuously working on my implementation. This may lead to a slight change in my presentation slides, but this overall skeleton won't change much. Kindly let me know your concern regarding this presentation outline professor. Thank you for your time & consideration.

Sincerely,

S.Gowthaman