

1. The image is in the file HW2ShortDiscussion.JPG
The ray is "bad" because it will likely never intersect, and if the ray is parallel to any surface, then it will never intersect.
2. If there is a scene with a lot of geometry (i.e. vertices, fractals, etc.),
then using the min() function with multiple distance estimators would be optimal. If the scene had little geometry, then using the k-d tree would probably be best.
3. If pError is the zero vector, then the image has a lot of shadows. This is because "pbrt tries to guarantee that the "true" hitpoint would be in the box centered at p with extents equal to pError." If pError is the zero vector, then pbrt calculates the surface interaction only at point p with no extents.
4. Some troubles I encountered during the assignment were mainly C++ based. I don't have a lot of knowledge when it comes to coding in C++, so I don't know the syntax or the structure for most of the code base. That made it difficult to begin the assignment and really figure out what I had to do. Therefore, Parts 1-4 were really challenging, but the rest of the assignment was pretty straightforward for me.