My Personal Pool Table

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For my personal CAD project, I have designed a standard pool table with pool balls, a triangle rack, and a pool cue. I chose this for my project because playing pool is one of my hobbies. I play for the PSU billiards team and will continue to do so up until my graduation. My personal CAD project was modeled after the design below:

![Pool Table Image]

The hardest part of the entire project was mating all the pool balls together so that all of them are touching, or as we say in pool, “frozen.” To make all the balls touching, it required a great number of tangent mates which ultimately took a very long time to complete. Furthermore, attaching the triangle rack to the table was very difficult in a similar light. The mates required for the triangle all were distance mates from the side and end rails of the table as well as a tangent mate to the felt of the table. Another aspect of the project which gave me a little bit of trouble was creating the pockets. Originally I had wanted to create pockets that would go through the table and have material that could be used to catch the ball in the event that someone would use my design and want to “shoot a shot.”

After finishing the project I had learned a great deal about distance mates within Solidworks. For essentially all components of my project, a distance mate was utilized to make the table symmetric and as realistic as possible. Certain mates are not permitted in particular situations by Solidworks due to the fact that both the sketch and the features would become over-defined. With this in mind, for possible future designs, I will make sure to pay extra attention to
how all parts are designed and in what ways the parts can be assembled to present a well-defined final project.