**Pool Shark Final Project Customer Requirements**

In Bar Rules Pool, the player calls the color of the ball they intend to pot along with the pocket.

Teams are tasked to build a robot that can play our version of Pool using a mini pool table. In Pool Shark, the user will choose the ball to be potted into their pocket of choice. The game board consists of a mini pool table with a system mounted along one width along with a modified cue to hit the cue ball to pot a colored ball. The goal is to successfully pot the colored ball in the correct pocket as chosen from the GUI (graphical user interface) that the user will interact with.

To that end, an autonomous system is to be designed that can complete basic snooker moves ahead of the cue ball location. No English is needed to be applied. The system needs to get user input on the location of the balls on the table as well as which ball is to be potted and in which pocket. Based on the user input, the system must determine the most efficient way to achieve the user's goal and act accordingly. Potting the cue ball is acceptable, however potting the 8-ball is not. It should be noted that the designed system must be quiet, efficient, fast, safe, and user-friendly, employ closed-loop motion control with smooth motion for any moving components other than the cue stick.