CS 154 Project: Street curling

Team Members:

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Description of the problem:
Our idea was to implement the racket version of the game street curling in multiplayer mode.

Rules and gameplay:
Street curling is played between 2 teams of 4 players each. The teams alternately throws stone towards the circular target called the house. The object is to have more stones closer to the centre than your opponent after 16 stones have thrown.
A typical game is played in 8 ends. In each end, 8 stones are thrown by each team. The team with the closest stones wins the number of points equal to their number of stones closer to the center of the house than the opponents best stone.
You can kick the stone out of the playing arena if they reside in the house which helps to make the game more competitive and gives you the chance not only to improve your best shot but also to displace the best shots of your opponent.
The game involves a lot of Physics and person with good knowledge of spin and curvilinear trajectories can be very effective by spinning the stone accordingly.

Implementation Idea:
We have made an animation which will show how the game should have worked. Using the image and universe we created the playing arena and balls. It contains a function place-balls which takes a list of positions of balls and their respective color and create snapshots of various stages of the balls that they passes through.
It also have a function nextstate which takes the ball’s position color angle spin and speed i.e. input of the form of the struct state and returns the next state. It also contains collision function which after taking the initial states of the balls returns their states after collision among them, irrespective of number of balls. And their is run function which shows a ball going into its trajectory by taking its initial state.
**Limitations and Bugs:**
Single player mode is not available. Though we have made most of the functions to get a uniform multiplayer game still it is not working as a unit due to some loopholes in the way we are trying to implement that. There is some small bug in it that we are unable to find otherwise else our logic is correct.