



Noodle Frenzy

A Pretend Robot Game

General Description

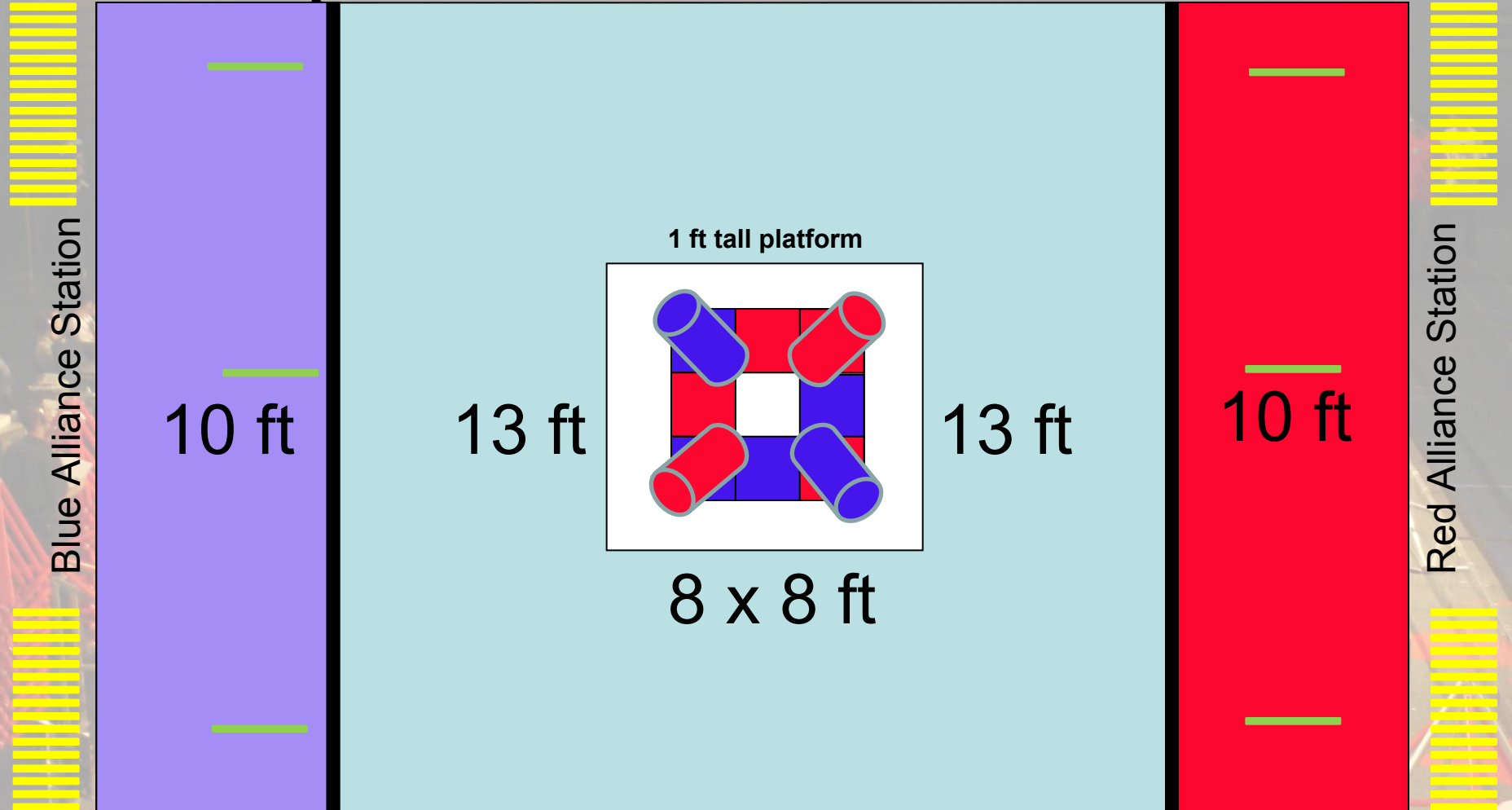
- Robots will play 2 minute and 30 second matches with the first 15 seconds of the match in an autonomous mode. During the match the goal of the game is for robots to deposit pool noodles into their scoring goals on a structure at the center of the field.
- 3 points for each noodle in the horizontal goals.
- 1 point for each noodle in the vertical scoring troughs.
- 10 point bonus for each Green Bonus noodle placed into horizontal goal at the end of auto mode
- 5 point bonus for each Green Bonus noodle placed into a scoring trough at the end of auto mode
- 15 point end game bonus for each robot that balances onto the 4x4 field divider near their starting zone

Field Layout

- The field is standard size, 27' x 54', 3 robots per alliance.
- There is an 8 foot wide, 8 foot long, 1 foot tall platform in the middle of the field. A scoring structure is atop of this platform. The scoring structure has a series of vertical scoring troughs, 2 ft x 2 ft by 3 ft tall arranged in a grid. Extend above these troughs are the circular, 12" diameter, horizontal goals, elevated 6 ft above the platform, 2 of each color.
- 3 Green Bonus noodles per alliance can be placed anywhere on the starting area of the field not touching a robot at the start of a match.
- There is a 4" x 4" barrier, covered with carpet, on the floor on each side of the field, 10' from the alliance stations. Robots must start between their alliance station and this barrier.
- Each alliance station will have 40 yellow noodles. These can be thrown into the field or handed over the wall to the robots.

Field Layout

4 Inch high barrier



Rules

- The first 15 seconds of the match, the robots must autonomously operate.
- Robots can be near but not touching a green noodle at the start.
- Robots must start the match no larger than 112" in perimeter and no taller than 60". After the start of a match robot can extend to 84", BUT must stay within an 84" cylinder work area. Weight limit is 120 lbs. 2014 Bumper rules are in effect.
- Noodles are 4 feet long and 2.75" in diameter with a .75" hole in the center.
- Robot kits and motor allowances are similar to last year except with the updated control system.
- Green Noodles that are scored in regular match play are scored the same as a Yellow noodle.
- Noodles are considered scored if any part of them is within the volume of a trough or goal.
- Noodles that leave the field will be thrown back into play in a random location.
- Once noodles are scored, they cannot be descored. If a noodle is descored, it is considered a dead noodle and their points still count.
- Robots receive Balance Points if they are perched atop of the 4x4 field barrier at the end of the match. No part of the robot can be touching anything else except that 4x4 barrier to receive these points.

Design Task

- With your group, design a strategy of play and a preliminary robot design for this game. Be sure to consider drive system type, manipulator, motors, and sensors.
- You will present your approach to the class on the day of Finals. Use aids, 3D models, pictures, sketches to help pitch your design.
- Everyone will individually vote on the best strategy / design. The winner will receive 10 bonus points.
- The project is to be done in a group and is worth 50 pts towards your final exam grade. Work together and find ways in which everyone contributes to the task.

Groups

- Group A: Mikey, Ryan, Ian, Gabby, Jonny
- Group B: Andrew, Aaron, Connor, Spencer, Roshi
- Group C: Nick, MKNZ, Diego, Kris, Olivia
- Group D: Leah, Edesiri, Tia, Kyler, Justin
- Group E: Patricia, Omena, Berto, Kaylee, Josh
- Group F: Mondo, Devin, Braden, Cynthia, Kiana