



# The Raiderbot Review

Team 955  
Crescent Valley Robotics

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Welcome to a new build season, as another exciting six weeks of struggle, hard work, sleep deprivation and fun begins! Our sub-teams are not wasting a moment and have begun to tackle this year's challenge.

The game this year is called "Lunacy" and is appropriately named! The game is played on a low friction field, and robots must use slippery wheels and maneuver an attached payload trailer. In each round there will be two alliances, three robots to an alliance, and alliance members will try to throw balls into the opposing alliance's trailers to score points. The balls are called Moon Rocks and Empty Cells, and each ball successfully placed in a trailer is worth 2 points. The Empty Cells can be replaced for Super Cells, which are worth 15 points. However, the Empty cells must be herded by the robots into a fueling station in the corners of the field in order for a Super Cell to come into play, which will be tricky on the low friction field! The game consists of 2 periods: a 15 second autonomous period and a 2 minute remotely operated period.

Currently all of the sub-teams are focused on training new members. The programming sub-team is working on learning C++ as well as the new interface being used to program, Wind River Workbench. The electrical and mechanical sub-teams are working on Solidworks tutorials and other CAD tools to model the electronics box as well as the robot. The Animation sub-team, which is all seniors, is recruiting new team members and training them in 3DS Max, the animation tool for 2009.

Each sub-team has also started some projects. The mechanical team is working on how to maximize traction control on the low friction field, and is considering different drive trains. They have two designs for the robot, either a robot that picks up balls and shoots them at the opposing team's trailers or a robot that picks balls and dumps them into opposing team's trailers. However, according to mechanical sub-team captain Noah Wade, their main goal for the season is to have the robot working for every match this year.

The electrical sub-team is hard at work designing the electronics box for the robot, which starts out on Solidworks as CAD simulations. Currently electrical sub-team captain Tyler Gakstatter is having new members learn Solidworks by experimenting with different box designs. Their goal for this season is to minimize the space the electronics box takes up on the robot.

The programming sub-team is also focusing on becoming familiar with the new interface and learning C++. Don Buenaventura, programming sub-team captain, wants to create a way to help cope with the slipping caused by the low friction surface. Their main goal is to establish a system to control the robot. They also have come up with some basic strategies for the autonomous period of the game, but nothing is final.

The animation sub-team is excited to get started on this year's animation. The theme this year is "Using Biomimicry to Solve a Design Challenge", and the team members are interested in learning more about biomimicry. Biomimicry is looking to nature to help solve some of the problems we are facing today. The animation will be 30 seconds long. It will identify a real life design issue, how nature might help us solve the issue, and how it would work. Lacey Cochran, animation sub-team captain, hopes to brainstorm ideas with the team soon and begin working on the animation.

Lipi Gupta  
Public Relations Co-Captain  
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Spencer Hedrick and Noah Baker, along with mentor Ron Sims discuss the low friction wheels, which will minimize control and challenge the team this year.

