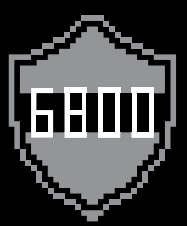
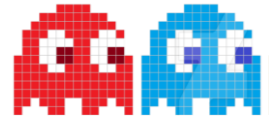


THE VALOR OBSERVER



Build-Season Week 1
Friday, January 12th, 2018



FIRST Robotics Competition

FIRST Robotics Competition (FRC) is a robotics competition in which students have six weeks, and strict rules to complete the game challenge that is released every year in January. This week Valor traveled to Dripping Springs Highschool in order to watch the game reveal!

2018 FRC Kickoff

This years FIRST Robotics Competition game, Power Up, is a retro 8 bit themed game. The teams score points by placing milk crates called power cubes on balances called the switch and scale. Towards the end of the game players score points by hanging off of the rung to face the boss.

Game Strategy Meeting

After the game release video, our team broke up into groups to analyze the different scoring options for this years challenge. We decided to focus on having a large scoring potential while keeping our goals attainable in the 6 week build season. Without revealing too much of our top secret information, we plan on scoring the power cubes in the scale and consistently hang at the end of each match!



Student Spotlight

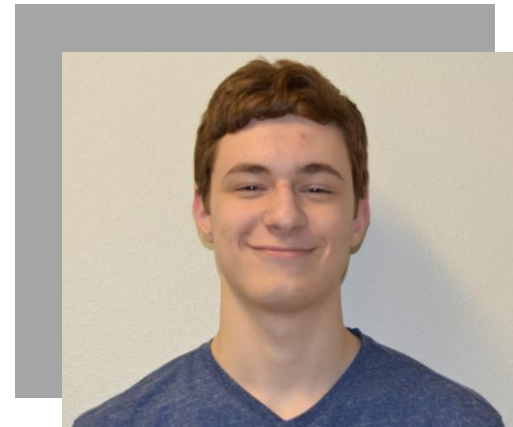


Justin Phillips ■ ■ ■ ■ ■ Object Collection Device (OCD) Sub-Team Lead

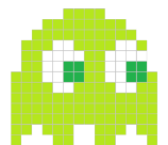
The OCD sub-team is designing, prototyping, and building the power cube input and output mechanisms. My favorite part of Valor is the commitment that everyone has to getting everything finished the proper way with what we have. I'm really curious to see how far our team goes with our years of experience building FTC robots, and all our opportunities our team has had, such as competing at off-season events.

Ian Padovani Above Chassis Sub-Team Lead

I am the lead of the above chassis sub-team and help build the mechanisms to allow our robot to do tasks in end game. My sub-team and I have been designing a grappling-hook-like design to pull our robot up a significant distance. We are also building a lifting mechanism so our intake can score in higher places. My favorite part about being on Valor is the people. Everyone is insanely dedicated and supportive of each other as we are all brand new to FRC. Currently I am looking forward to our competitions in six weeks where we get to see and compete against other robots from teams around Texas. It will be exciting to see how other teams did and how we compare to veteran teams.



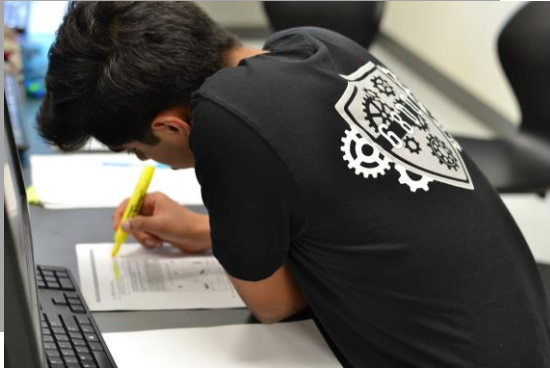
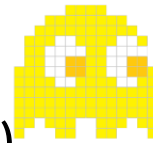
Meet the Mentor



Ben Helgeson ■ ■ ■ ■ ■ Chassis Sub-Team Mentor

In high school I was a part of Team RUSH 27 for 4 years. I became a mentor of Valor when my friend from high school and Team RUSH (Michael Ray) said he wanted to start a team. I knew it would be fun and that I could probably help. Currently I'm mentoring the Chassis sub-team. We're responsible for the drivetrain and chassis subframe. I attended U.T. Austin and obtained a Bachelor of Science in Physics – Space Sciences, and a Bachelor of Science in Astronomy. It's great working with such an incredibly motivated group of students. Everyone is always on top of their work, and continues to seek out more tasks. They set their goals incredibly high, and I'm excited to see where this season takes them.

Sub-Team Updates



Object Collection Device (OCD)

The goal for our sub-team was to create an effective prototype to intake the power cubes and have CAD models finished by Friday. One of the largest challenges for intaking the powercubes is that the game element is not a cube. Our first idea was to have a large top roller across our robot. This allows to have a large area to intake, to eliminate time when picking up the cubes. Our second prototype is a mechanism where we have two arms with wheels that intake the block.

Above Chassis

The above chassis sub-team is currently working on two different parts of the robot. The first part we are trying to get done is our lift. Working with the OCD sub-team we are making an elevator that will lift our scoring mechanism up several feet in the air quickly. We successfully created a prototype that should scale up to our competition robot. The other mechanism we have to make is a hook and winch system. This system utilizes a small but strong hook that will grab onto a bar high off the ground.



Chassis

Originally, our goal was to have the practice bot chassis ready to be welded by Friday, but we moved up our due date to Wednesday which meant we needed to speed things up. The chassis was CADed over the weekend, we were able to use a lot of the designs from our Pre-season. We finished milling and cutting the parts this afternoon and were able to meet our due date. Hopefully we will have a moving robot by Saturday night.

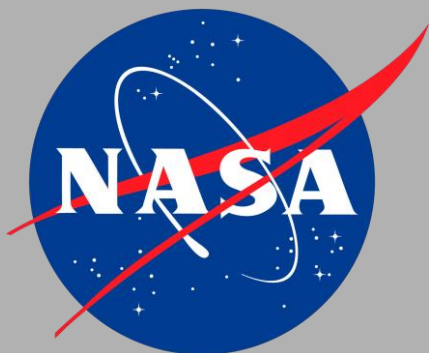


Controls

The controls team worked on creating the framework for our autonomous program that we will later use when we have access to the practice bot to test autonomous programs. We got the kit-bot working electrically so we can test the hardware prototypes (as they are developed this week) on a moving robot for the different sub-teams. Phillip has been able to organize a separate sets of electronics to use on the practice robot and competition robot. He also worked on creating a CAD repository for all electronics. We hope to have all electronics and sensors ready in order to wire up the robot this weekend.

Thank you to our Sponsors!

Silver Sponsors



Black Sponsors



Grey Sponsors

The Everitt Family

ViperBots Valor would not be able to participate in the FIRST Robotics Competition without the kind support from these companies and families. We extend our gratitude.