What’s Our Scoring Plan?

1. Quick 15 pts by pushing in one cone, then auto-parking on the platform.
2. Play defense and score opportunistically when we can.

What's With the Concrete Block?

Our autoparking system can change our center of gravity when on the platform. We can even compensate for the parking of our alliance teammates if they're a bit off.

What's With the Broom?

It's what we'll use to sweep the competition :-). But seriously, there's a bit of give on the plastic and the bristles which let it get into places the bot itself can't for scoring.

What Kind of Drive System are We Using?

Differential, or "tank" drive. One stick on the gamepad for each side.

What Kind of Controllers Are We Using?

Victor SPXes for the drive motors, hooked up to the CAN bus. Spark PWM modules for the broom and screw drive.

What Kind of Motors Are We Using?

VEX CIM for the main drive, Mini-CIM for the accessories.

Is All This Stuff FRC Legal?

YES.

What About the Accelerometer and Encoders?

We have a NavX daughter board for the RoboRIO and E4T encoders on each of the gearboxes. The E4T's are hooked up on DIO.

What Does the NavX Accelerometer Do?

It tells us how much the robot is tilting, so we can see if we need to shift our center of mass.

What Do the Encoders Do?

They tell us how far we've gone, so we know how far we've moved in autonomous.

What Busses/Ports Are We Using on the RoboRIO?

- CAN - The PDU and the Drive (Victor) motor controllers.
- USB - Cameras and occasionally debugging the RoboRIO.
- Ethernet - Connecting the RoboRIO to the OpenMesh radio for Wifi.
- PWM - The SPARK motor controllers.
- DIO - The E4T encoders.

What Radio(s) Are We Using?

The FRC-standard OpenMesh radio.

Are There Any Additional Batteries or Radios?

No. Nothing in the cameras or elsewhere on the bot. Just the main power battery and the OpenMesh radio.

PWM: What Is PWM?

PWM stands for Pulse-Width Modulation and is used anytime a digital system (such as our RoboRIO) needs to set an analog percentage to a device such as a motor or an LED.

Shorter: PWM allows a *digital* system to *simulate* analog behavior.