**Performance Requirements:-**

* **Plotting the track of the robot while moving with an accurate measurement of both direction and distance using a digital compass, wheel encoders, GPS, and proximity sensors (flex and ultrasonic).**
* **Detect gate beacons within the range of 15 to 25 feet.**
* **The robot must be a self contained autonomous vehicle. No human or remote server interaction is permitted.**
* **The entire robot at deployment must fit within a 16”x16”x16” cube.**
* **The robot must have a clearly labeled emergency stop switch.**
* **Has to go at least 2 mph.**
* **Use a 7.2 V battery in conjunction with a power supply to provide regulated 5V DC for various electronics.**
* **All the sensors must communicate with the AVR.**