

## Minutes 11/11/05 Team1720 Programmers Workshop

AT Building, Rm. 214, 5-7pm

Present: Ashley, Morgan, Paul, Mike

Paul gave a presentation on sensors explaining how they work and what different types are used for. He covered photoresistors, photodiodes, phototransistors, photocouplers, Infrared detectors, Hall effect sensors, thermistors, ultrasonic transducers and sensors, accelerometers, gyros and potentiometers.

Mike talked briefly about other types of sensors including current sensors and toggle, limit and pressure switches and how they are used. We also discussed advantages of dead reckoning and other methods of autonomous control. The most complex included recalculating position based on triangulation of Infrared signals.

Ashley review her previous presentation on different types of curves used to run motors in a way that takes into account the physical properties of the robot: center of gravity, inertia, momentum. Applying the correct curve at the right time will enable the robot to be run at the most efficient speed and acceleration, regardless of over-control caused by the driver.

Programming assignments due 11/18:

Ashley: write code to enable both sets of wheel motors on 1020 to be controlled with a correction curve that can override driver input.

Morgan: write code to recognize the tripping of a limit switch to stop movement of the robot arm in one direction, and another limit switch in the other direction.