CS 4833: Embedded Systems

Lab 3: **Serial Communication between RP3 & PRIZM**
Report and Evaluation Form

Group # _9_____

Names: _Hunter Long_____ _____

_Ryan Gill_____

Q1: How much time did you spend on following parts of the lab?
Which part of the lab is most difficult for you and why?

Part	Target time	Time taken
Setup and Test the example codes (Task 1)	20 min	20 mins
Understand the example codes (Task 1)	20 min	20 mins
Simple exchange protocol via serial (Task 2)	50 min	8 hours
New HandFollower with RP3 (Task 3)	50 min	1 hour
LineFollower (Task 4)	45 min	2 hours

Designing and implementing the exchange protocol was by far the most difficult part of this lab, in fact we never figured it out 100%, we had to use the code that was provided to us by the professor. I think we just thought way too much about it and tried to implement it ourselves from scratch, which would have been cool if we had

unlimited time to work on it but was a bit of a waste of time in the context of this class.

Q2: Does the lab help you achieve the objectives? Please summarize what you have accomplished for this lab. Which concepts does this lab enhance your understanding?

Yes, the lab helps you achieve the objectives by providing the sample code you can build on. Our biggest accomplishment in this lab was to successfully communicate between the pi and the prism to read in sensor data and send commands to control the robot. The main concept that we dug into in this lab was communication between two separate micro-controllers through serial ports. Interprocess communication is one thing but when the processes are running on different computers the difficulty is increased quite a bit.

Q3: Other suggestions for this Lab?
Overall this lab was good for encouraging a deep exploration of IPC between two processes on different computers, maybe just offer the example protocol from the beginning so that it can be completed faster.

Q4: What is the difficult level of this lab? (**Using 1 to 10 scale,** where 1 is easiest and 10 is the most difficult).
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