Homework 5: Resumes and Resarch

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1 Resume

1.1 Research on OSU Projects

Go to google scholar and search for ”goska osu” Ben Goska and Ryan Albright are recent graduates and did some research at OSU. Describe their papers.

Ryan K. Albright, Benjamin J. Goska, and Patrick Y. Chiang were doing a wireless transceiver platform for comparing various ISM bands for Next Generation body area networks. The point of the research was to find the pros and cons of the wireless frequences: 315MHz, 433MHz, 868MHz, and 2.4GHz. They used a simple microcontroller sends known data to a transceiver. Each reciever were evaluated on multiple points on the body at five meters away. The transceivers were attached to forehead, and abdomen. Thus, the location where transceiver has a significan't degradation in the signal transmission.

1.2 Research on Pulse Width Modulation

Look at this video[1] *of pulse width modulation. Describe how PWM works and how it can control the speed of a motor. Also, compare the cost of a 555 Timer IC and the Tiny26 IC.*

PWM stands for Pulse Width Modulation. PWM is method of controlling a circuit output by controlling the period of time that the energy is giveng to the circuit. The lesser the time period is, the lower the average energy output will be so the fewer energy output will be. The PWM method can be used to control the speed of motor by giving a shoter on-cycle to slow the motor down and giveing a longer on-cycle to speed the motor up. Notice that this method does not warranty that you will no overload your motor power.

Price of LM555 timer IC (8 pins)

Source	Price ($/each)
Radio Shack	1.99
ebay	1.20
Amazon	0.15 - 4.39

Price of Tiny26

Price Break	$ Unit Price	$ extended Price
1	3.0600	3.06
25	1.9196	47.99
100	1.70640	170.64

[1] http://www.youtube.com/watch?v=YmPziPfaByw