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Section: 02

EEE 102 TERM PROJECT PROPOSAL:

MINI BASKETBALL GAME

How to play the game and get points?

The purpose of the game is to pass the ball through the basketball hoop to score 1 point.

Components to implement my mini-game and how does the system work?

I may place an infrared or ultrasonic sensor to detect the balls passing through the hoop. Each ball that passes through the hole will count as 1 point. The seven-segment display on the BASYS3 board will show how many points you earn. I may improve the system if I could, I may add modes to the game which will enable the basketball hoop to rotate around itself with the servo motor. The modes may be altered by the switches on the BASYS3 board. Each mode may adjust the

rotating speed and with the difficulty of the mode, the points that the gamer earns will be duplicated. The game could also have a timer. After the game ends, an LED or a sound may warn the gamer and no points will be counted after that warning. I will maybe use jumpers and a breadboard to connect the sensor or the servo motor to the system if I use it. I will use a JTAG USB cable and the micro USB port in my project to connect my board to my computer(to reach my VHDL code).

Progress and Final Demos

My first aim is to use only one mode and detect the balls passing through the hoop and count the balls, however, in the progress demo I won't focus on the timer and my system won't warn the gamer when the time's up with the LED's or sound effect. Nevertheless, in the final demo I could focus on the time counter which will help stop counting points after the time runs out. Moreover, If I had enough time I will maybe add the rotating hoop modes in my project.

References

https://www.schoolspecialty.com/competition-basketball-goal-1288446