Digital Systems Project Proposal

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Project Outline:

* Six colored squares will be displayed on the screen in a random order and the user/player must be rearranged into the order of the rainbow (Red, Orange, Yellow, Green, Blue, Purple).
* A module will be built to check if the sequence of numbers referring to the rearranged sequence of colors is correct and output an ‘EnableStop’ signal.
* The time taken to rearrange the colors will be recorded and printed on a high score board list.
* The user/player will press start (KEY[0]) and will use SW[5:0] to indicate the correct order or the colors before pressing KEY[0] again to stop the timer. The time between the first time pressing KEY[0] and the second time will be recorded.
* The user will be prompted for a display name for their high score which can be inputted using SW[9:6]. The display name will be limited to 3 characters total of any of the following: (0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F).
* KEY[1] will be utilized to reset the high score board and erase all the high scores recorded.

Block Diagram:

Milestone Projection:

Week 1:

* The system should be now be able to display a few combinations of random color sequences to be rearranged by the user/player. It should be able to sense the correct sequence of colors/inputs. It should be able to store at least one display name.

Week 2:

* The system should by now be able to record the time taken for the colors/inputs to be arranged in the correct order

Week 3:

* The system should be fully functional. It should record multiple high score inputs and display them in a list arranged from highest score to lowest score inputted.