Task 1: Knobs

Task 2: TileArray

Task 3: DisplayDriver

Knobs will use PB8, PB9, PA2 and PA3 (input pins needed for the knobs)

TileArray uses no peripherals

DisplayDriver PA4, PA5, PA7, PA0, and PA1 (output pins to the display)

File List:

Main File

Knob Files (3)

Array File

Display File

Prototype Declarations:

Knob states will send strings through the queue “up” “down” “left” “right”

Array will send in order the 16 integers stored in the array.

// The Knobs task handles the stateful inputs from the 2 quadrature knobs and will send through a queue whether the action the user is making is up down left or right.

// The TileArray task handles the virtual array that stores all the values of the array. It takes the output data from the knobs and updates the array accordingly.

// The DisplayDriver will send bits to the DOGS display to reflect the changes of the virtual array thus physically updating the game board.

2 queues

Queue1: KnobsToArray

Queue2: ArrayToDisplay