

Task Priority Justification

Task or ISR	Priority	Justification
UART2 Rx Interrupt	Interrupt priority 1	Only interrupt routine, priority isn't that relevant but can pre-empt any task.
vTaskTimer	4	Task tracks time elapsed using a vTaskDelay(). Must be highest priority for correct timing. Pre-empt everything but UART2 Rx ISR, which has a short execution time anyways.
vTaskTech	3	Tech Task has higher priority than vTaskUI and vTaskPoll so it can disable them and block them as soon as a technician servicing transaction is initiated via UART2 Rx ISR. When technician is servicing vending machine, user interface (buttons, LCD) is disabled.
vTaskUI	2	UI task has a higher priority than vTaskPoll so that it does not get pre-empted by it, and less priority than vTaskTimer and vTaskTech so it does not pre-empt those task (undesired functionality).
vTaskPoll	1	Poll task has least priority due to its polling nature, which doesn't require precision timing. Runs if all other tasks are blocked, and blocks as well to allow idle processor time.