**CS 350 Milestone Three**

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CS 350: Emerging System Arch and Tech

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**Why does the loop that processes the LED blinking need to run in a separate thread?**

The LED blinking loop needs its own thread so that it can work at the same time as the main program.​ This way, it can control the LED's timing without stopping other parts of the program such as listening for button presses.

**What is the purpose of returning to the off state after each completed state action?**

Returning to the off state helps keep the system organized and predictable. It prevents any confusion or errors and makes it easier to start the next action from a known point.

**How could you integrate serial communications to facilitate changing the messages available to the program?**

To add serial communications, you can set up a way to connect through USB or a similar method. This would allow the program to receive new messages from an external source. You would create a format for sending messages and handle adding, editing, or removing them in the program.

**How could you use the 16x2 display to provide debugging information to the user when they don’t have access to the application console?**

We can use the 16x2 display to show important information for troubleshooting. It could display the current operation, error or success messages or the state of the system which would make it easier to understand what’s happening without relying on the application console. Scrolling messages can also be used for displaying longer information.