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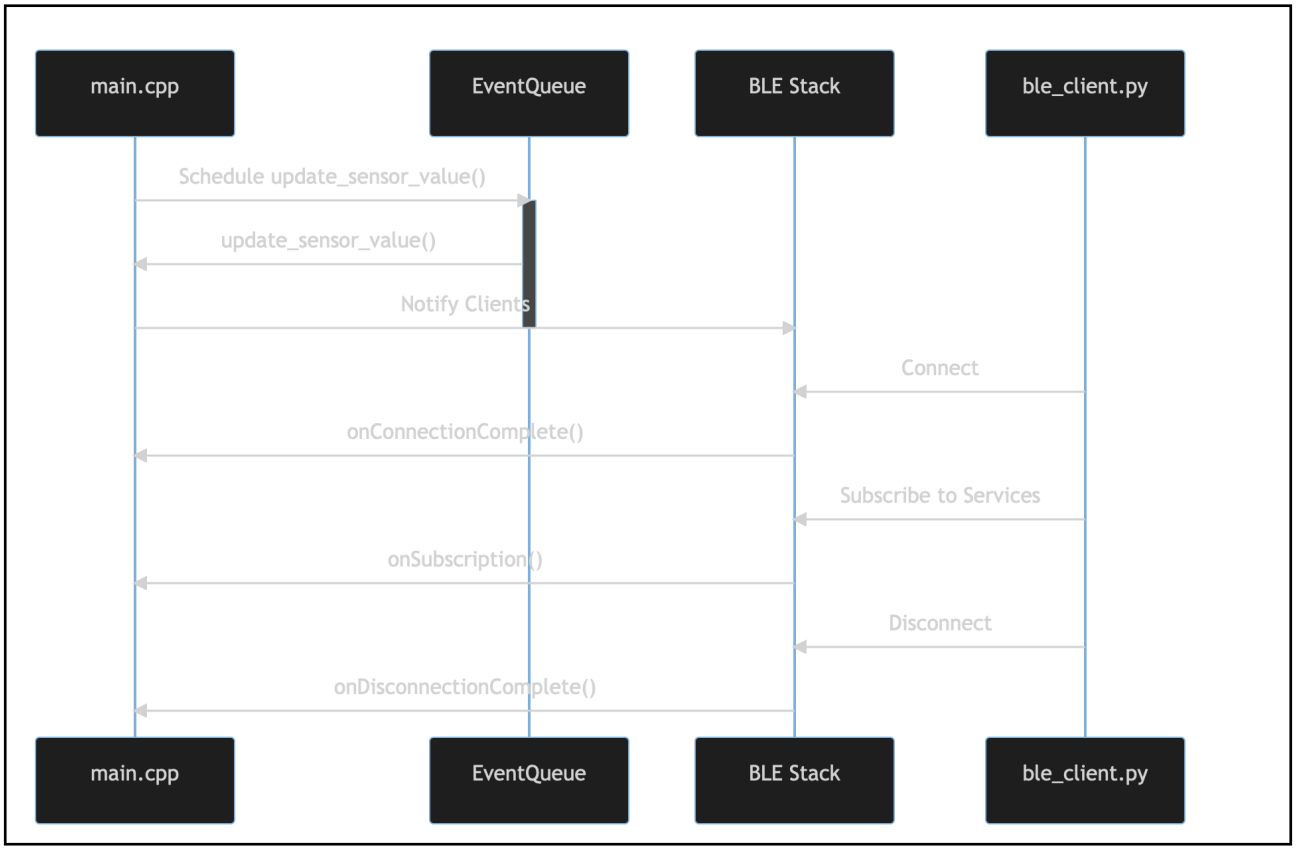
HW4 report

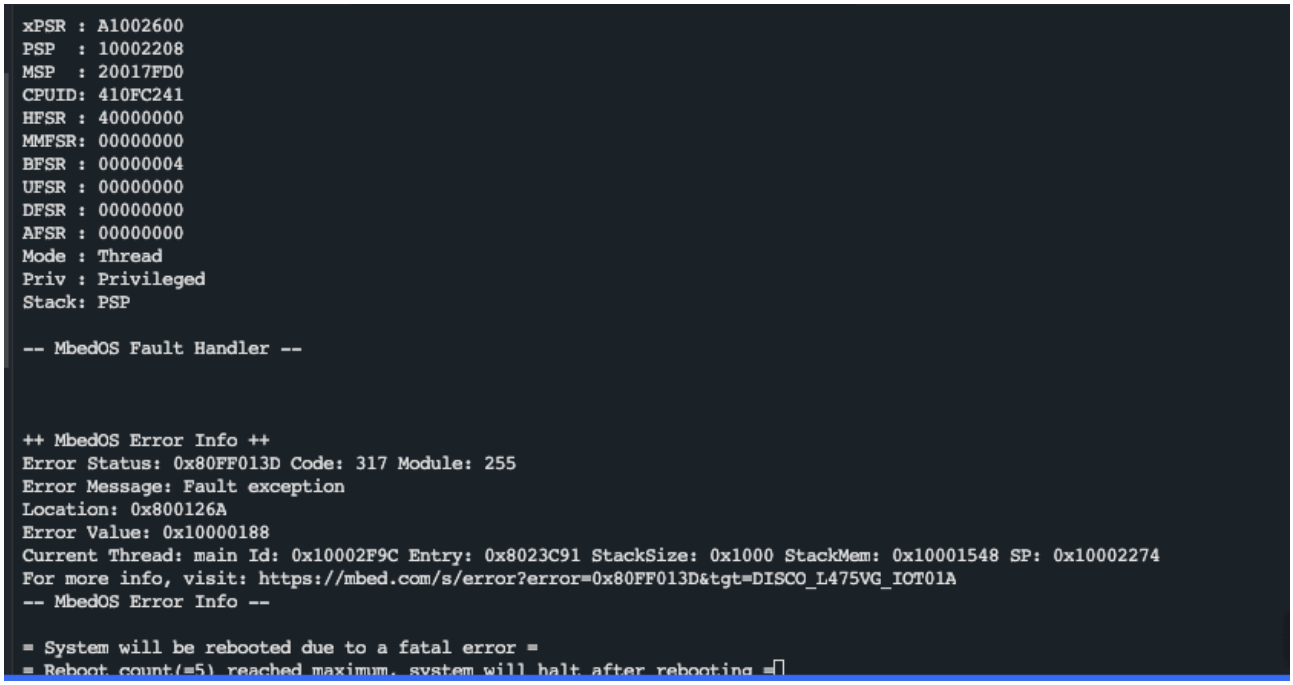
Github URL: https://github.com/stanthemaker/EmbeddedSystem/tree/main/hw4

Draw an execution sequence chart of the program and also describe how an EventQueue object play its role in the program:



In summary, the EventQueue in the program serves as the central mechanism for scheduling and dispatching events. It ensures that tasks like updating sensor values and processing BLE events are executed in a timely and organized manner.
There are two major types of events in the even queue: BLE Events and Update Sensor Events. The BLE stack generates events based on various activities, such as incoming BLE connections, disconnections, data transfers, and more. These events need to be processed to ensure the BLE functionality operates correctly. On the other hand, the program periodically updates the sensor values. This is achieved using the `call_every` method of the `EventQueue`, which schedules the `update_sensor_value` method to be called every 1 second.

Personal report:
This homework requires us to design how to store 3D values obtained by the sensors on board. And because of the memory storage is involved, it is way harder to debug. For example, I encountered the bug below. I thought the bug was memory-related problems, but the compiler did not report any error and the error messages shown were also insufficient for



me to debug. I had to manually test out which line of code was the cause, which took me a lot of time. I feel that programming in micro processing unit could be very challenging for me, especially with memory-related problems.