

Final Project Interview Questions

1. Feature scope changes from original proposal and the reason for the change.

- The original proposal was modified to use the touch sensor as a trigger source to transition from RUN mode to the Low Leakage Stop (LLS) mode instead of using it as a wakeup source.
- It was a suggestion from the professor to use the onboard accelerometer (MMA8451Q) as a wakeup source.

2. What works or you feel confident in getting working in the revised proposal.

- Not Applicable

3. What did not work in the revised proposal or you had to tweak.

- I developed a code for the onboard accelerometer but while studying the documents in a detailed manner, it was realized that the interrupt pins of the accelerometer are not connected by default to any of the LLWU (Low-Leakage Wake-up Unit) pins.
- So, connecting the accelerometer interrupt pins to the LLWU pins required traces on the hardware to be altered by cutting/connecting them as required. Since the traces on the KL25Z FRDM board are very small, this option was not feasible.
- The professor then suggested using two FRDM KL25Z boards; one for the accelerometer (to write to a GPIO on accelerometer interrupt and drive the main board's LLWU pin from that GPIO) and another one for low-power mode demonstration.
- Due to a time crunch, I was not able to experiment much on the above-mentioned idea.

4. What did you learn from the project.

- How to build and use the mcu-sdk applications with MCUXpresso.
- How to use the touch sensor as a triggering source for transitioning from RUN mode to Low Leakage Stop (LLS) mode.
- How to verify the effects of low power mode on the hardware.
- How to build and use the TSS library developed by NXP on IAR Embedded Workbench.
- Potential methods to use the onboard touch sensor or accelerometer as a wakeup source.

5. What could you have done differently.

- I wish I had researched more about the references and known the limitations before proposing this project as I had to refer to a lot of resources while working on it which resulted in making it more of a Research and Development Project focused on the experiments to understand the low power modes.