

# Technical Checkpoint


Start Assignment

- Due Thursday by 11:59pm
- Points 150
- Submitting a file upload
- File Types vhd, bdf, zip, and pdf


This is a group assignment, so only one person on your team needs to upload it, but you should all work on it to make sure it reflects the whole team's work and plans.

Upload two things:

1. Your peripheral's current design files (**very likely** a **single** vhd file, but possibly multiple vhd files and/or block diagram files depending on how you have chosen to create your peripheral). If your peripheral requires more than one design file, you can zip them for convenience. Your peripheral does not need to be *fully* functional or complete, but with only one week left in the project, it should be at a point that you could use it as-is if needed, and the version that you submit should synthesize ("compile").
2. Your peripheral's API described using a register map and register description. This should be a pdf document containing a single table and a short description of each register (either in the table or separately).

You saw the concept of register maps in the first project lecture. You can see the one that I mentioned in lecture starting on page 46 of [this datasheet](#) 

(<http://cdn.sparkfun.com/datasheets/Dev/Arduino/Shields/WolfsonWM8731.pdf>). Those authors have provided a summarized table on page 46, a more detailed table spanning pages 47-51, and even more detailed information throughout pages 18-46.

That audio chip is far more complicated than what you are making. A register map and register description closer to what you should create is in [this datasheet](#) 

(<https://www.analog.com/media/en/technical-documentation/data-sheets/MAX30208.pdf>), in Table 4 and the information above it. In the table, they provide the register address, give it a name, and briefly describe its contents. They then use some space in the document (in that case, above the table) to explain the purpose/function of that register. In the audio codec datasheet above, you can see how they provide the summary directly within the second, more detailed table. You can structure your information either way.

If your peripheral only uses one I/O register, that's fine. You can still describe its function in exactly the same way.

One of the main purposes of this checkpoint is to ensure that you understand that you are creating an SCOMP hardware peripheral. If your API description mentions the DE10's switches or other hardware, or if it describes an *application* of the peripheral you will not receive credit for this assignment, because

all of *that* is relevant to how you plan to *demonstrate* your peripheral; it is not relevant to the peripheral that you are making, which is what you are describing here. Other than that, as long as you accurately describe your peripheral's API and submit the file(s) described above, you will receive credit for this assignment.