Design Project FAQ

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As we receive more questions about the DP, we may change the structure of this document, to make it easier to find information.

Can we have a map of where smart devices are located?

You are welcome to look at the floor plans of different buildings on campus, but we aren’t providing a map of smart device locations. Remember that, while you’re designing for MIT’s campus, you should think about whether your system could be used elsewhere (e.g., on other campuses). If your design depends heavily on the precise location of smart devices, it’s not very extensible.

What is defined as “main campus”?

Assume that it’s roughly the office/classroom buildings at MIT, not the dorms/living groups/sororities/etc. Our intent here is just for you to not have to think about whether living spaces should be handled differently than working spaces.

Also remember that if your design depends heavily on the precise location of smart devices, or on the precise size of what constitutes the main campus, it will not be particularly extensible.

What happens when there are power outages?

For now, we’ve asked you deal with a few different types of failures: the FCS being down for maintenance (one of the use cases), and BLE+ repeaters and gateways failing (that’s a property of those components). You should design your system with those failures in mind, but you don’t need to design a system to handle a full power failure (or, say, power failure in a large area of campus like an entire building).

If there is a conflict between technical realities and the DP spec, which is the authoritative source?

The DP spec. In this project, we’ve simplified some protocols, and made changes to others to highlight particular trade-offs that we want you to deal with (for example, our version of the BLE Communications Protocol is not exactly how BLE devices communicate, and is capable of higher speeds than the actual protocol is).
Should we be concerned with malicious users logging into the FCS and issuing commands?

No; the main reason being that we have not taught you any techniques to deal with those problems yet (and so can’t expect you to design a system that uses them).

However, in the real world, that would certainly be a concern. If you want to think about how to handle that, and include some solution in your design, that’s fine so long as your design still meets all of the other requirements.