Mapping Approach.

When making the SQL schema using the ER diagram, we made sure to fact check all the relationships between each entity.

For the user supertype, we created the main table called 'users' which stores all the necessary basic info needed for identification of the person. Then we added all the separate subtype tables for students, staff and porters. Each of these has the same key users and a foreign key back to users. This is so that each category of people is automatically a user.

We talked it over and decided to remove certain unnecessary attributes like the year level or shift times because they weren't very relevant to this project.

As for locations, we used the same ISA idea. There is a table with the main locations including an address, and then further details in the separate tables for building, room, and outdoor. Each of those tables also linking back to locations with the same id.

For items, there is a main items table with a description and photo area, and then subtypes for electronics, clothing and accessories, which were our categories of the lost items. We changed the clothing table so it includes brand, size and colour, rather than fabric as this is easier to identify. Electronics just has brand and model as serial number is often not necessary, and accessories has just material and type.

The lost item reports table uses a foreign key to connect to students. It contains the description of the lost item, date it was lost, location, and the contact preferences. The found items table then also connects to the porters, items, and locations. We then used a Boolean for 'is collected' to show if the item has been picked up.

Depending on the description needed we varied the number of characters available for input to optimise the space more realistically.

We accounted for constrains by ensuring appropriate return type for each section: e.g. we made keys for each subtype so that we don't have repeat entities, certain answers must be unique (such as matriculation number), and that some fields are required (like name and item description) to prevent missing information.