

Conceptual Design

The database will contain many tables.

We could have put the User columns in each of the other three tables, for example the member table could have Passwords, however we wanted every user created to have a unique ID in the entire database. For example, there won't be a Member and an Admin with the same ID. This gives us more flexibility. for example, in the future if we want to promote a Member to a trainer, we can re-use that same id.

Cardinality

- One-to-one: Each Member-User, Admin-User, Trainer-User is a one-to-one relationship.
- Many-to-many: One event can have many different attendees, and one attendee can attend many different events
- One-to-many: One trainer can lead many different events, but each event can only have one trainer leading it.

Assumptions

Some assumptions made:

- Admin will have to create rooms and set that room's availability before someone can book it.
- Admins assign trainers to lead group fitness classes.
- Trainers can decide their own availability.
- Equipment can only be maintained at specific intervals (daily, weekly, etc...) Not every 7th week.
- The database will likely have to be reset weekly or something similar, to ensure completed classes are removed from the database once the scheduled time has passed.
- The gym is free unless you book a class.

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Entity Relationship Diagram

<https://drive.google.com/file/d/15S4-Cp30zAx6cSbJuGvORABpQvmakh2B/view?usp=sharing>

Can also be found in the root directory of the repo.

Relational Database Schema

<https://drive.google.com/file/d/1PcRSKCuXbFDdfpB90lunBriXVatrEfAx/view?usp=sharing>

Can also be found in the root directory of the repo.

Bonus

1. Hashing of passwords
2. Flask interface with beautiful UI
3. AI Generated profile pictures from <https://thispersondoesnotexist.com/>

Youtube Video

<https://youtu.be/rP7uBgN46z0>

The Repo

<https://github.com/frederickberube0/COMP3005-Final2>

Note: We both worked together using many vscode liveshare sessions, and fred pushed the final project to a github repository at the end. We equally shared the tasks.