COMP3005 B Final Project V2 Report
Mackioka Health & Fitness System

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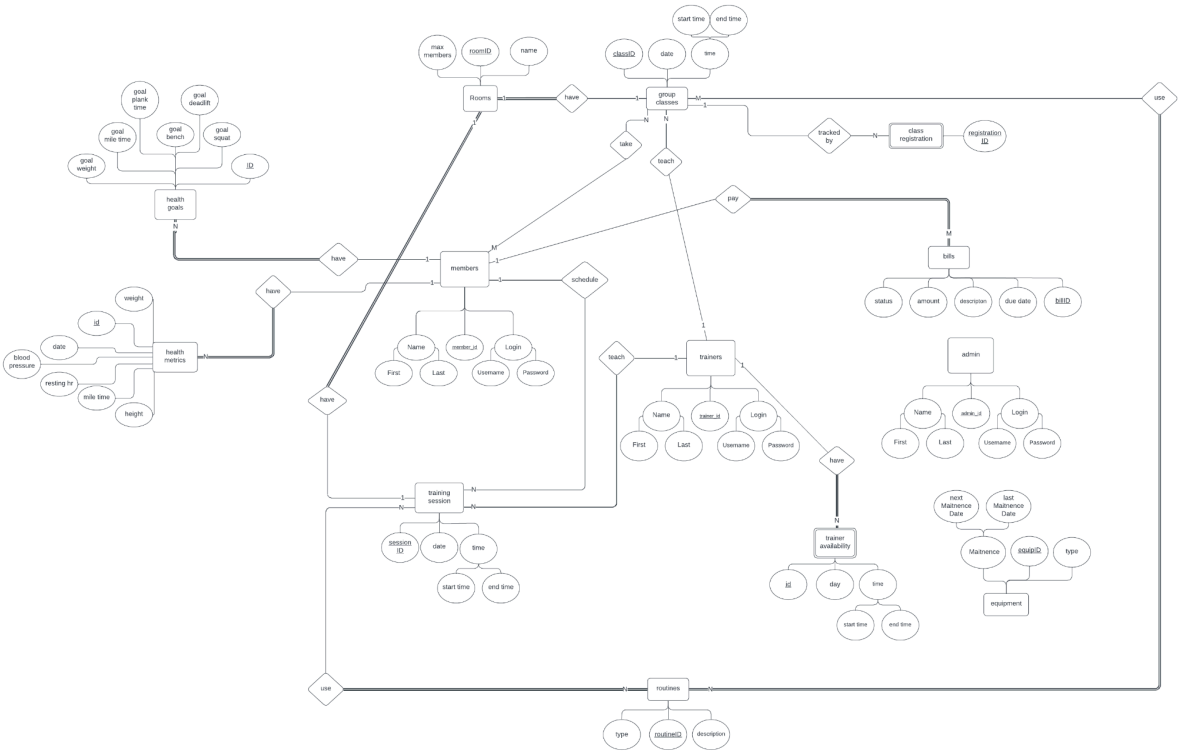
Conceptual Design

A higher resolution image can be located within the github repository, in the diagrams folder.
https://github.com/mackenziemartins/COMP3005_FINAL-PROJECT/tree/main/diagrams



Assumptions by Table:

Members: members, upon registration, are expected to fill out the health metric and goals table, making the relationships total participation.
Health_Metrics: Health metrics are a multivalued trait of members, and thus have their own table. Each member can have multiple entries into the table, making the relationship 1 to many.
Goals: Health Goals are a multivalued trait of members, and thus have their own table. Each member can have multiple entries into the table, making the relationship 1 to many.
Billing: billing is only related to members as bills are linked to a members account, admin manage bills but there is no direct relationship. Thus, members and billing have a total participation relationship as every member is billed.
Admins create bills for users manually.
Trainers: It's assumed trainers can not register, and must be created within postgreSQL
Trainer Availability: Trainers set their availability per day, and it's a weak relationship related to the trainer table. Since every trainer must have a schedule, the relationship is total participation.
Equipment: It's assumed all Equipment is not assigned to a room, and can be moved around, thus has no direct relationships within the database.
Admin: It's assumed admin can not register, and must be created within postgreSQL.
It's assumed admin have no direct connections to any tables, but within the application are given the ability to manage things like billing, class schedules, etc.
Group Classes: Group classes have members, and registrations are monitored in a join table called "Class Registration" - thus the many-to-many relationship between members and classes.
Personal Training: Members are not limited to the number of sessions they can book, as long as the trainer responsible is available. Personal Training sessions are defaulted to the MAIN gym room - this cannot be changed.
Rooms: Rooms are used in relationships with training and classes, and rooms are able to be double booked when it comes to training sessions. Since every class and training session must have a room, these have total participation relationships
Routines: are used in training sessions and classes, both of which can use multiple routines at once. Since every class and personal training session must have a routine, the relationships are both total participation.

Relational Schema

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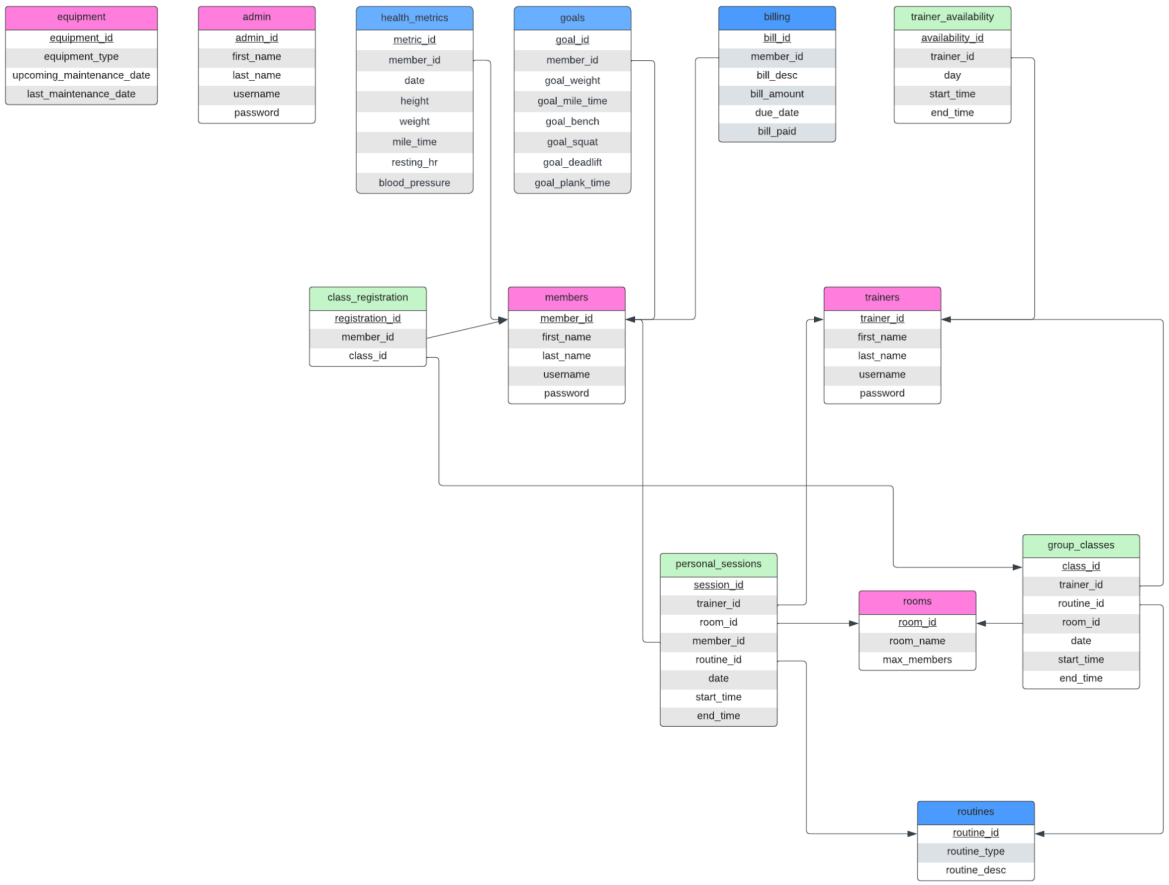

DDL and DML Files

The DDL and DML files for the database can both be found in the github repository in the SQL_files folder:

https://github.com/mackenziemartins/COMP3005_FINAL-PROJECT/tree/main/sql_files

Implementation

The application was implemented in python, using the psycopg2 database adapter.
It is a command line-interface, with a main function that prompts the user for inputs.

Bonus Features

We implemented a few bonus features, including:

- Member Login and Verification
- Logout functions
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Github Repository

https://github.com/mackenziemartins/COMP3005_FINAL-PROJECT

Youtube Link

https://youtu.be/IaB_4ZjQHX8