DBMS-Final Project
組名：#我要種肌肉
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專題題目：肌肉培養系統

一、專題詳細說明

Working out has gradually become an indispensable role in modern lifestyle, indicating people value their health more than ever. Beginning with the view of working out, we hope to be the one to make a progress on people's way to fitness, by monitoring their active status when working out as well as the static body status in daily routine.

But how exactly can we make this come true?

With a personal health management database system that stores data to keep track of user's training, diet, and medical history, users can gain insights from the personal data they input, such as some of the following examples:

- Workout Performance Evaluation
  Ensure the efforts on diet and workout are on the right track toward specific fitness goal.

- Diet
  Calculate personal Total Daily Energy Expenditure (TDEE) with the attributes in database, including body fat rate, sex, height, weight.[1] If the intake is more than TDEE, notice on diet plan adjustment can be given.

Besides general users, our business partners can also take advantage of this database system by extracting figures:

- Operation Management
  Discover the correlation between the distance among user's place and workout venues and workout frequency, which may provide fitness centers some advices, e.g., figures show that the neighborhood account for most of the entrants to a fitness center, the manager of the fitness center can reevaluate the spending on advertising, raising the proportion of that on potential customers from the neighborhood. Making the most of financial resources of the fitness center.

- Health Management
  Provide real data for versatile medical studies, e.g., analyse the correlation between chronic diseases and workout (muscular) performances.

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[1] TDEE Calculation, The Katch-McArdle BMR Formula

二、系統功能分析

1. Member works out in train houses.
2. Member can work out in different train houses.
3. Member eats more than one meals per day.
4. Member can workout more than once per day.
5. Body composition for a person must be no less than two records so that body composition change exists.

三、資料需求分析

1. We store member's personal ID, gender, age, height, address and entered day.
2. Every member is no less than 18 years old, so their heights remain the same.
3. We record the training place that people go to and also the fee.
4. We record every member's daily meals with fat, carbon hydrate and protein.
5. We record every member's training history including training parts, reps, sets, weight, and training place.
6. We record every member's body composition including weight and body fat rate.
7. We record every member's chronic diseases, blood sugar, lipid, blood pressure.
8. Member's weight change and body fat rate change are recorded on the relationship of member and body composition.