Database and Web Services Project Assignment 3

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Mapping Approach

User:

We made username and email unique since that's how it works as a general rule. We made a composite unique key out of first and last name since we want to allow people with the same last name or same first name all while not allowing the same person (same last name and same first name) to figure more than once in the table. We can also specify if the user is a manager using a bool.

Employee:

Since we want each employee to be associated with one user account, we made uid as unique.

Team:

Each team name is to be mentioned once in the table so we made it unique. This table serves as a dictionary of all the available teams and can also be used to assign multiple users to the same task.

Role:

Each role name is unique just like the team name before.

Third_Party:

Here we made the company name unique since a company cannot be mentioned twice, to make up for that we used two bool attributes client and partner which can specify the different combinations. E.g: a TP can either be client or a partner and can also be both, but a TP cannot be neither, that's why we used a CHECK constraint to check for an OR condition. Note here that we optimized the ISA relationship.

Project:

Here we made sure that the project name is unique. We can also specify if the project is external with an is_external bool attribute.

helps_or_requests:

As the name indicate we merged two relationships into one. Here we did a composite unique key with tpid and pid so that a TP cannot handle the same project twice.

Task:

Here we wanted to give flexibility to the client, so multiple tasks can have the same name. For example there can be a recurrent task that happens every day.

Manager:

We made uid unique since a manager is associated with one user account. We used the combined unique key of mid and pid so that a manager cannot manage the same project twice but can manage multiple projects.

assigned:

Here we did a combined unique key of eid and task_id so that an employee cannot be assigned the same task twice. We also did another combined key with eid and rid so that an employee and his role won't be mentioned twice yet he can have more than one role.