



- All of the relations are in 3rd Normal form
- We made the assumption that when a user requests a job site, the job site is in the database immediately, and there will be a few null values. This means that requests are a junction table with User and Job site foreign keys. Status is an enum variable of requests as well, so it branches off and has a 1 to M relationship.
- A User can also volunteer at many job sites. So a volunteer junction table was created for volunteers with the job site and user foreign keys. This makes it very efficient to query to find users and what job sites they volunteered for.
- The user has a surrogate key to save memory because it gets copied around a lot.
- We decided not to use a surrogate key for JobSite and keep it as the address to make queries easier and more efficient.
- The tree species table only has one foreign key, so we decided not to have a surrogate key. This decision was also based on the website where they have a table of every tree species and all of the attributes in our database, and they didn't have a surrogate key, so this was part of our decision not to have a surrogate key.
- We made the assumption that pictures before the tree planting would be taken by an employee when they visit and employees can visit many sites we decided that sites could possibly have multiple visits so we decided to make a junction table that also had a photo of the job site before the tree was planted as that is when the photo would be taken.
- We made the assumption that multiple employees could oversee a job site, which means that there is a many-to-many relationship between the job site and the employee.
- The employee has a surrogate key to save on memory because of how many foreign keys relate back to employee. In addition, the role attribute of employee is an enum value so it branches off and has a 1 to M relationship. The user attribute of employee also serves as a FK and CK because of its inheritance with the user class.

- While the neighborhood only has one foreign key relating to it, the neighborhood strings were very long, so we decided to give it a surrogate key to save on space and to lessen the chance of someone making a typo when inputting the Neighborhood ID in Job Site. Neighborhood name is an enum variable of jobsite as well, so it branches off and has a 1 to M relationship.

Lucid RDB Link:

https://lucid.app/lucidchart/21a41608-d091-4bbc-8625-afdedac4e3bd/edit?existing=1&docId=21a41608-d091-4bbc-8625-afdedac4e3bd&shared=true&invitationId=inv_1d466451-170e-4e36-b14a-df99cdc49855&page=0tA2.YkM6jz4#

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