

Preliminary constraints

1. Entity: Profile
 - ProfileID is the primary key.
 - Any particular profile belongs to only 1 User (key and participation constraint for user and unconstrained for profile)
 - Any particular profile belongs to only 1 Pet (key and participation constraint for pet and unconstrained for profile)
2. Entity: User
 - UserID is the primary key.
 - Covering constraint for users (pet owners, caretaker & PCS administrator) - all forms of users combined make the user base.
 - Has total participation constraint with exactly 1 account
 - Has total participation constraint with exactly 0 or 1 profile
 - Is a:
 - Pet Owner
 - Caretaker
 - PCS Administrator
3. Entity: Account
 - Email is the primary key.
 - Has total participation with exactly 1 user.
4. Entity: Pet Owner
 - UserID is the primary key.
 - Must own 1 or more pets (total participation constraint)
 - Pet Owner can choose not to bid for any advertisement of CareTaker or multiple advertisements of CareTaker (Unrestrained constraint)
5. Entity: Caretaker
 - Covering constraint for CareTaker (caretakers must be either full time or part time)
 - Is a
 - Full time Caretaker
 - Part time Caretaker
6. Entity: Full time Caretaker
 - Full time Caretaker receives at least 1 base daily price for a given pet category from the PCS administrator (total participation constraint)
 - Needs to work a minimum of 2 x 150 days a year. Full time caretaker should specify the days on leave. (preliminary constraint)
 - Constraint of taking care of a maximum of 5 pets at one time. (preliminary constraint)
 - Earns a minimum of 3000/month for 60 pet days (2 months) (preliminary constraint)

7. Entity: Part time Caretaker
 - Part time Caretaker can take care of up to 2 pets unless they have a good review, which they can take care of at most 5 pets (preliminary constraint)
 - 75% of the price of this caretaker's appointment is given as salary.
 - Can specify 0 or more available days (unconstrained).
8. Entity: PCS Administrator
 - PCS Administrator can specify 1 or more base daily prices of a given pet category (total participation constraint) for Full-Time Caretaker.
9. Entity: Pet
 - PetID is the primary key.
 - Pet has exactly 1 profile.
 - It is owned by exactly one owner.(key and total participation constraint)
10. Entity: Feedback
 - Rating compulsory when giving feedback, review given can be NULL
 - Primary key is feedbackID
 - A particular feedback is matched to a pet owner and caretaker(key and total participation constraint)
11. Entity: Transaction
 - Primary key is transactionID
 - 0 or 1 transactions take place in the bids_for relationship. If a transaction is present in the bids_for relationship, it means that the bid made was successful.
12. Entity: Advertisement
 - Primary key is advertisementID
 - Advertisement is created by Caretaker (unconstrained)
 - Advertisement can be bid by one or more pet owners (total participation constraint)
13. Entity: category_price_list
 - Each category_price_list belongs to exactly 1 advertisement
14. Entity: available_days
 - Primary keys are start_date, end_date and userID
 - Weak entity (identity dependency) as available_days cannot be identified in the table without the part-timer's userID.
15. Entity: leaves
 - Has a primary key of start date and end date
 - References the userID of the care-taker
 - Weak entity relationship (identity dependency) as the leaves cannot be identified without the userID of the full-time care-taker.

16. Entity: salary

- Primary key is date.
- It references the userID of the care taker
- It has a weak entity relationship (identity dependency) with care taker as salary of the caretaker cannot exist without the caretaker and the userID of the care_taker is required for unique identification.