

Additional constraints not captured in the ER diagram:

1. A Caretaker should not take care of pets they cannot care for.
2. When a bid is made, Pet Owner's proposed start date and proposed end date should fall between the availability period of the caretaker and the Pet Owner's Pet must satisfy the Caretaker's requirements.
3. The cost of caring for a Pet is the number of days times the daily price of that specific pet type for the Caretaker. A Pet Owner needs to pay this cost upfront, which is the amount reflected in a Sales Transaction.
4. Each full-time Caretaker must work for a minimum of 2×150 consecutive days a year.
5. A full-time Caretaker cannot apply for leave if there is at least one Pet under their care.
6. A Full-time Caretaker has a limit of up to 5 pets at any one time.
7. When bid by any Pet Owner, a full-time or part-time Caretaker will always accept the job immediately if possible.
8. The Pet Owner that bids for a specific time slot for a specific Caretaker the earliest is successful.
9. For each part-time Caretaker, they should be able to specify their availability for the current year and the next year.
10. At any single point in time, a part-time Caretaker cannot take care of more than 2 Pet unless they have a good rating (e.g. 4 out of 5)
11. A part-time Caretaker cannot have more than 5 Pets regardless of rating.
Current daily price for a Caretaker increases with their rating but will never be below the base price for the animal type.
12. A full-time Caretaker will receive a salary of \$3000 per month for up to 60 pet-days. For any excess pet-day, they will receive 80% of their current daily price as bonus.
13. For a part-time Caretaker, the PCS will take 25% of their price as payment (i.e., the Caretaker receives 75% of their stated price).
14. A Caretaker's rating is the average of all of his/her past ratings.
15. In the Set Base Daily Price table, "Animal type" attribute is unique.
16. A caretaker's current daily price increases by 10% of the base price for each increment of rating by 1 point. For instance, a caretaker with a rating of 4 stars would have a current daily price of base salary price * 140%. If the rating drops to 2 stars, then the caretaker would have a current daily price of base salary price * 120%.
17. The current daily price seen by the Pet Owner at the point of bidding for a Caretaker is the daily price charged for transactions.
18. Any changes to the current daily price kicks into effect the next day.
19. All transactions have to be completed within the same calendar day as the bid. If the transaction is not completed within the same calendar day, the transaction and bid is voided, and the slot will be open for other Pet Owners.
20. Once a transaction is completed, a "Take Care" relation will be immediately established between the Pet Owner's Pet and the Caretaker.

21. If a Pet Owner decides to remove their account, all details related to the Pet Owner's pets will be deleted as well (Existential Dependency)