

Constraints

1. Users can be identified by their username, and must have a name, password and location.
2. Users must be at least one of the following roles: administrator, caretaker and pet owners and can be more than one of them (covering + overlap constraints must be met).
3. Users can register at most 1 credit card at a time, but can change the card number registered.
4. Caretakers must be either Part-time or Full-time and can only be either one of these roles (Covering satisfied but not overlap).
5. All caretakes must have an average rating, equal to the average of ratings in their review.
6. Part-time caretakers can have multiple periods of availability, and are otherwise considered as unavailable.
7. Full-time caretakers can have multiple periods of leave, and are otherwise considered as available.
8. Each full-time caretaker must work for a minimum of 2x150 days a year.
9. Pets must have a name, type and the services they requires
10. Pets are uniquely identified by their name and their owner's username. The name of pets uniquely identifies it among other pets owned by the same pet owner.
11. Pets cannot exist without an owner.
12. Each pet type is uniquely identified by the name of the animal, and is associated with a base price that is set by an admin.
13. Caretakers must handle at least 1 type of pet and provide at least 1 service for each type of pet they handle.
14. For each pet type caretakers handle, they can charge their own price which can be greater than or equal to the base price of handling that pet type, increasing as the average rating of caretakers increases.
15. Full-time caretakers cannot apply for leave during periods where there are one or more pets under their care.
16. Full-time caretakers can only have a limit of up to 5 pets at any one time.

17. Full-time caretakers will always accept a job if the bid matches the requirements.
18. Full-time caretakers can apply for leaves only in the current year and the next year.
19. Part-time caretakers can specify their availability only in the current year and the next year.
20. Part time caretakers can only take care of more than 2 pets unless they have a good rating, with a hard limit of 5 pets.
21. Bookings can only be created and accepted in time periods when the caretaker is available (see constraints 6 and 7), and if it does not violate the capacity of the caretaker (see constraints 16 and 20) at the given point of time. Pending and rejected bookings do not count towards these constraints.
22. Bookings with full-time caretakers are automatically accepted if the caretaker has not had 60 pet-days in that month.
23. Pending bookings are automatically rejected if the caretaker is no longer available, or has reached their capacity.
24. The bid price of the booking must be greater than the asking price of the caretaker for the respective pet type.
25. For each booking associated with pets owned by a pet owner, the pet owner may submit up to 1 review, including a rating and remarks.

Note: Some information such as salary is not stored in our database, and the constraints of those fields are therefore not written here.