

1. User
 - 1.1. **Users** are identified by uid and should be either pet owners or caretakers or both.
2. PO (pet owners)
 - 2.1. Credit card number may or may not be recorded for **pet owners**
 - 2.2. For each pet owner must own at least one pet
3. CT (care taker)
 - 3.1. Limit (of maximum number of pets that can be taken care of at one period) must be recorded for **caretakers**.
 - 3.2. Rating records the average ratings for past feedback received by the caretaker. If the caretaker has yet to receive any feedback, the rating is 0.
 - 3.3. Caretakers are either part time caretakers or full time caretakers but cannot be both.
 - 3.4. For each full time caretaker, the limit is 5.
 - 3.5. For each part time caretaker, the limit is 2 if his\her mean rating is below 4 or 5 otherwise; if the caretaker has not received any feedback, the rating is 0 by default.
4. Pet
 - 4.1. **Pets** are identified by pid, and special requirements must be recorded if any.
 - 4.2. **Pets** must belong to exactly one **category**.
 - 4.3. Every pet can be owned by exactly one pet owner.
 - 4.4. A pet is deleted if its owner is deleted.
5. Category
 - 5.1. **Category** is uniquely identified by name (of the category), and exactly one base daily price must be recorded for each name
6. Capable (CT & Category)
 - 6.1. For every **caretaker**, he\she must be capable of taking care of at least one pet **category**.
 - 6.2. For each category under every caretaker, there must be a daily price recorded. The daily price must not be lower than the base daily price of the category.
7. Availability (weak entity of CT)
 - 7.1. **Availability** must record the date on which the caretaker can work and the number of pets the caretaker is taking care of on that date.
 - 7.2. Once the caretaker is employed for a new job, the number of pets he/she is taking care of on that date is updated accordingly in **Availability**.
 - 7.3. For each **availability**, if a caretaker is deleted, there is no need to keep his\her availability anymore.
 - 7.4. For each full time caretaker, he\she must be available for 2 * 150 consecutive days a year.
 - 7.5. For each full time caretaker, he\she is assumed to be available if he\she does not take leave. He\she can apply leave on dates that they are not taking care of any pets and the corresponding dates will be removed from available.
 - 7.6. For each part time caretaker, he\she can specify the dates that they are available for the current and next year.

8. Bid (CT & PO & Pet & Service)
 - 8.1. A pet owner can bid for service from a caretaker for at least 24 hours in advance. If any of the conditions in 10.6 is not met, the bid is denied automatically. Otherwise, if the caretaker is a full time, the bid must be accepted; if the caretaker is a part time, the bid can be accepted for 24 hours, beyond which is automatically denied. Only accepted bids will have transactions.
9. Service
 - 9.1. Service is identified by sid. State records whether the service is successfully bidded.
10. Transaction (Pet & CT & PO & Service)
 - 10.1. Every transaction is identified by tid.
 - 10.2. For each caring service, one **Caretakers** can take care of one **pet** that belongs to one **pet owner**, and the start date, duration, cost, payment method and transfer method must be recorded.
 - 10.3. Transfer method of each care-taking record can either be (1) pet owner deliver, (2) caretaker pick up or (3) transfer through the physical building of PCS.
 - 10.4. Every pet can be taken care of by exactly one caretaker at a period of time.
 - 10.5. Every caretaker can take care of more than one pet at a period of time, as long as it is not exceeding the limit
 - 10.6. A pet can only be taken care of by a caretaker if all of the following are satisfied: (1) the caretaker is available (2) the number of pets he/she is taking care of on that day has not meet his/her limit (3) the category of the pet matches the caretaker's capability
 - 10.7. For each full time caretaker, he/she must accept a new job if all conditions in 10.6 are satisfied.
 - 10.8. For each caring service, the cost is obtained by duration * daily price. The money will be sent to the company.
 - 10.9. For each caring service, the pet owner must pay upfront, the payment method can either be by cash, if the pet owner doesn't have a pre-registered credit card, or by credit card.
11. Feedback (weak entity of Transaction)
 - 11.1. Feedback can be identified by tid of the transaction, and for each feedback, rating must be recorded as an integer ranging from 0 to 5, and comment is recorded if there is any.
 - 11.2. For each transaction made, there can be at most one feedback posted. If the transaction is deleted, there is no need to keep its corresponding feedback.
 - 11.3. All users can view any feedback.
12. Admin
 - 12.1. Admins are identified by aid.
 - 12.2. Admins set the base daily price for each category of pets.
13. Pay (Admin & Salary)
 - 13.1. is_paid records whether or not the salary for a caretaker for a specific month has been paid.
14. Salary

- 14.1. Salary is identified by uid (caretaker) and time (year-month), and the amount paid must be recorded. If the caretaker is full time, pet-day must be recorded.
- 14.2. The default salary is 3000 for a full time caretaker and 0 for a part time caretaker.
- 14.3. The default pet-day is 0 for a full time caretaker before the start of each month.
- 15. Increase (Transaction & Salary)
 - 15.1. If the caretaker is part time, for each caring service, the amount of salary for that month increases by 75% of the cost of service
 - 15.2. If the caretaker is full time, while his\her pet-day < 60, for each day of servicing each pet, increase his\her pet-day by 1; after his\her pet-day reaches 60, for each day of caring service, the amount of salary increases by 80% of the cost of service. (3000 + plus)