

SW Engineering CSC 648/848 Fall 2019

CATDOG

Group Number 5

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1- Data Definitions V2

Admin: A user chosen by the leaders of CatDog team that has access to all the client and worker's contact information and booking information in case of any problems or emergencies. Admin's main job would be overseeing all the posts and bookings that is happening on the website, and in case of any misconduct or policy violation admin has the right to ban the user till further notice

Registered User: A Client or Worker who has signed up into our website with proper information and necessary documentations and has access to different functionality depending on his role.

- **Client:** A registered user who is looking for a worker for a pet sitting service. The Client has access to contact the available workers or wait for them to request and lastly to book a worker for the job. Client has access to the support also in case of any problems or change of plans.
- **Worker:** A registered user who provides pet sitting service. Worker needs to be a certified pet sitter to be able to accept jobs on our website. Worker has access to search for clients based on the availability and location, and also the worker has access to our support in case of any problems.

Guest: An unregistered user who does not have an account on the website. User can view some of the posts on the site and the functionality of the application. Guest user would also be able to read some reviews from former or current users on the website. But guest does not have access to contact or post anything till signing up on the site.

Pet: A client's pet cat or dog that potentially needs to be taken care of by the worker.

Post: A client's post seeks a pet sitting service from workers by notifying them, and it includes the date period and location for the service.

Post a review: Clients evaluate and score the pet sitting provided by workers after the job is done.

Report:

- **Report a Worker:** Client writing a report to send to an admin about the worker if any misconduct or policy violation happened during the job
- **Report a Client:** Worker writing a report to send to an admin about the Client if any misconduct or policy violation happened during the booking or the job.

Book a Client: The worker would book a client's post, and it notifies the client for potential workers. Client can look through the available workers who booked the post and chooses one.

Accept a Worker: The client can choose from a list of potential workers to choose the best option available to them from the list.

Demo: An interactive tutorial for Guest users to be able to get an understanding of how clients and workers are using the website and the functionality of the site.

Support: Service to help all levels of users on the site in case of any help the user needs or if any problems occurred. Support is also available to unregistered user in case of any questions.

Profile: Information about the user such as the Client or the Worker or the pet.

- **Client:** Required information needed about the Client itself and some information in regards of their pet for the pet profile.
- **Worker:** Required information about the Worker itself, and a short bio to inform or explain themselves to the Clients. And also any necessary information for the clients to read such as job experiences.
- **Pet:** Information about the pet provided by the client in regards of the personality of the dog. Such as likes and dislikes to make the pet sitting for the worker easier.

Pet inquiries: This is mainly used by the worker as help book in case of any problems. Required information for setting up the pet profile for the clients. Client needs to answer some question in regards of the pet's health insurance, diet restriction, pet interactions with other dogs and any other information that the worker needs in case of any problem with the pet.

Certification: Workers needs to have valid Pet Sitting Certification which can be acquired by any valid institution in order to sign up and work on our site.

2- Functional Requirements V2

Priority 1:

Guest:

1. Guests shall be able to sign up and create an account on the website:
 - 1.1. Guests shall be able to sign up as a client.
 - 1.2. Guests shall be able to sign up as a worker.
2. Guests shall be able to get support from admin.
3. Guests shall be able to access a demo tour of the website.
4. Guests shall be able to read clients reviews.
5. Guests shall be able to skip the demo.
6. Guests shall be able to use search bar:
 - 6.1. Filter workers reviews by location.
 - 6.2. Filter workers by price range.
 - 6.3. Filter workers by pet preference (cat/dog).
 - 6.4 Filter workers by numbers of star reviews.

Client:

7. Clients shall be able to sign into the website.
8. Clients shall be able to log out from the website.
9. Clients shall be able to get support from admin.
10. Clients shall be able to create posts.
 - 10.1 Client should include the date period for the post.
11. Clients shall be able to book a worker.
12. Clients shall be able to create Pet profiles.
 - 12.1 Client should answer the pet inquiry questions.
13. Clients shall be able to delete Pet profile.
14. Clients shall be able to report a worker.
15. Clients shall be able to use search bar:
 - 15.1. Filter workers reviews by location.
 - 15.2. Filter workers by price range.
 - 15.3. Filter workers by pet preference (cat/dog).
 - 15.4 Filter workers by numbers of star reviews.
16. Clients shall be able to change their password.
17. Clients shall be able to cancel booking.

Workers:

- 18. Workers shall be able to sign into the website.
- 19. Workers shall be able to log out from the website.
- 20. Workers shall be able to access notification.
- 21. Workers shall be able to get support.
- 22. Workers shall be able to book a client's post.
- 23. Workers shall be able to report a client.
- 24. Workers shall be able to use search bar:
 - 24.1. Filter clients' posts by location.
 - 24.2. Filter clients' posts by date period.
 - 24.3. Filter clients' posts by pet (cat/dog).
- 25. Workers shall be able to change their password.

Administrator:

- 26. Administrators shall be able to sign in to the website.
- 27. Administrators shall be able to log out from the website.
- 28. Administrators shall be able to cancel a booking.
- 29. Administrators shall be able to ban worker/client users.
- 30. Administrators shall be able to contact worker/client users.
- 31. Administrators shall be able to review/accept client's pet inquiries.
- 32. Administrators shall be able to accept or deny a worker's registration.

Priority 2:**Guest:**

- 33. Guest can inquire about a sitter to customer support
- 33. Guest can report a sitter to customer support

Client:

- 34. Clients shall be able to review a worker.
- 35. Clients shall be able to pay the worker through the website.
- 36. Clients shall be able to sort their searching results.
- 37. Clients shall be able to filter workers by payment preference.
- 38. Clients
- 39. Client shall be able to receive picture updates from sitter
- 40. Client shall be able to have text notifications from sitter

Workers:

- 41. Workers shall be able to receive their payments through the website.
- 42. Workers shall be able to sort their searching results.
- 43. Worker shall be able to accesses a notification system to communicate with Clients.
- 44. Worker shall be able to narrow down their preferences by animal size and breed.
- 45. Workers shall have a system that guarantees CatDog find a new sitter in case of emergency

Administrator:

- 46. Administrator shall be able to reimburse Clients
- 47. Administrator shall be able to demonetize workers (lower rates)
- 48. Administrator shall be able to generate earnings estimate for the worker
- 49. Administrator shall be able to view direct messages between clients and workers

Priority 3:**Client:**

- 50. Clients shall be able to have service history.
- 51. Client shall be able to view previous sitters
- 52. Client shall be able to be notified of new reviews from past sitters
- 53. Client shall be able to check in on pet via video chat
- 54. Client shall be able to receive end of day summary from Worker via CatDog inbox
- 55. Workers shall be able to have service history.

Workers:

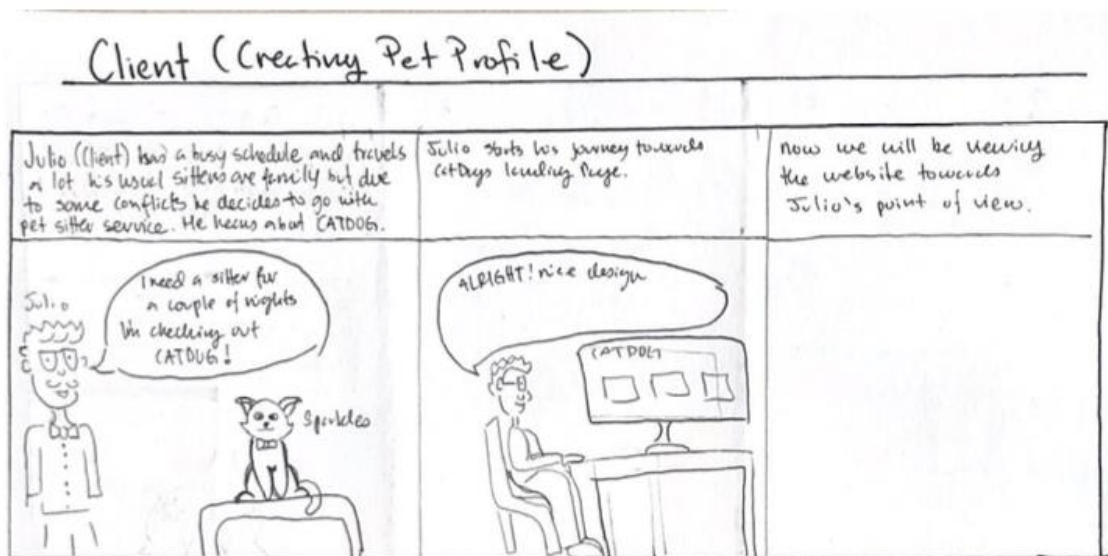
- 56. Worker shall be able to view rates of other sitters
- 57. Worker shall be able to raise rates
- 58. Worker shall be able to have live video chat with Client
- 59. Worker shall be able to send end of day summary to Client via CatDog inbox

3- UI Mockups and Storyboards

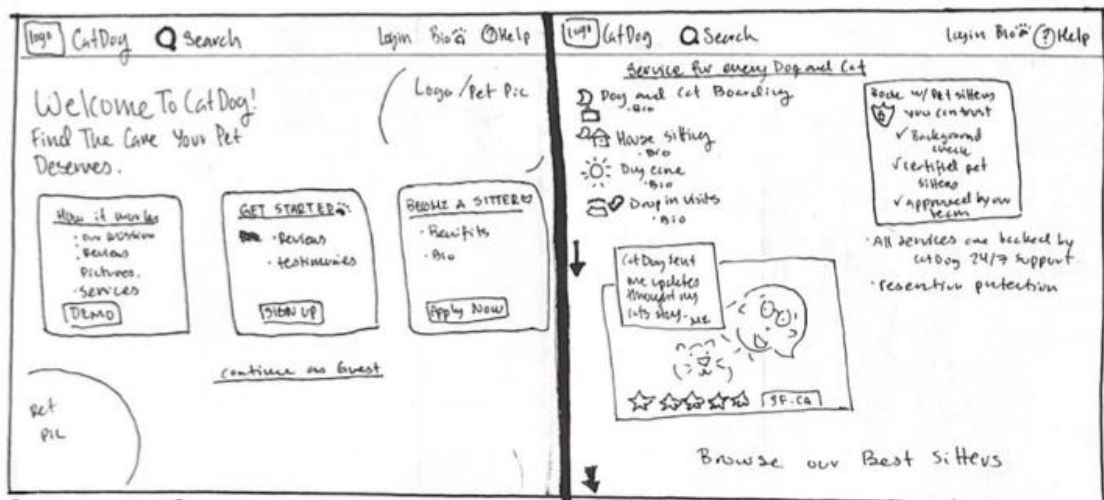
Admin - Privileges/Technical Support/Customer Support:



Client (Creating Pet Profile):



After deciding to check out the website to find the perfect care for his pet.

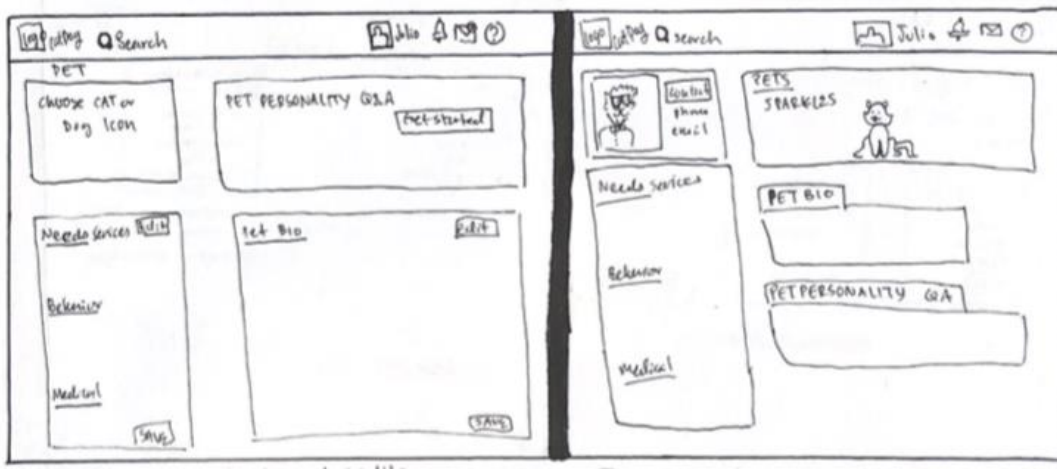
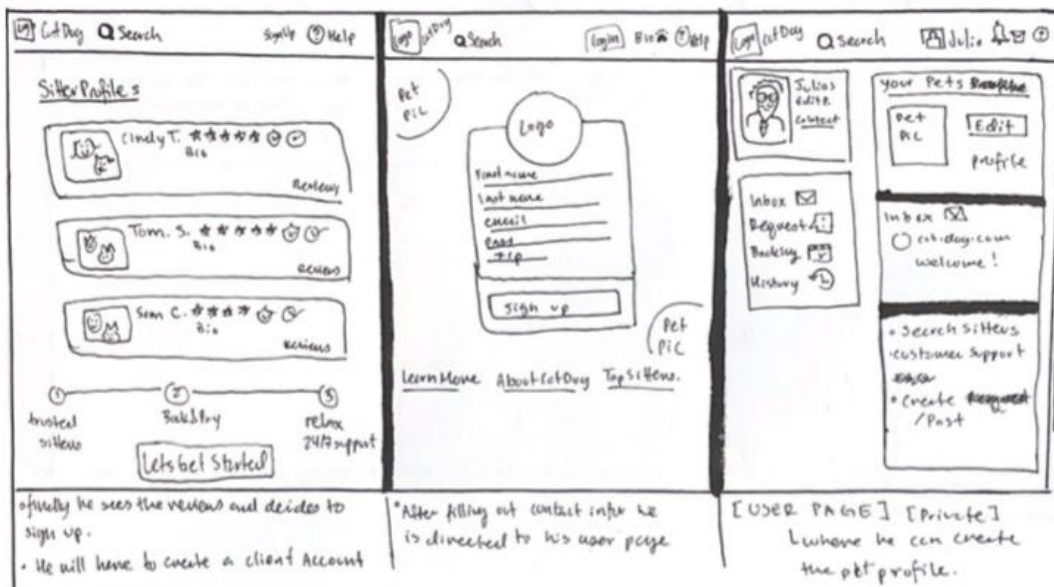


[LANDING PAGE]

- Julio decides to go through the Demo
 - Where we explain how our service works
 - How we bridge pet lovers to their pet
 - The security we offer.
 - He is able to view our best reviews
 - He is able to browse our best sitters.

[DEMO PAGE]

- After viewing the services & reviews he continues to Browse the sitters profile.



Client (Booking Worker for Specific Days):

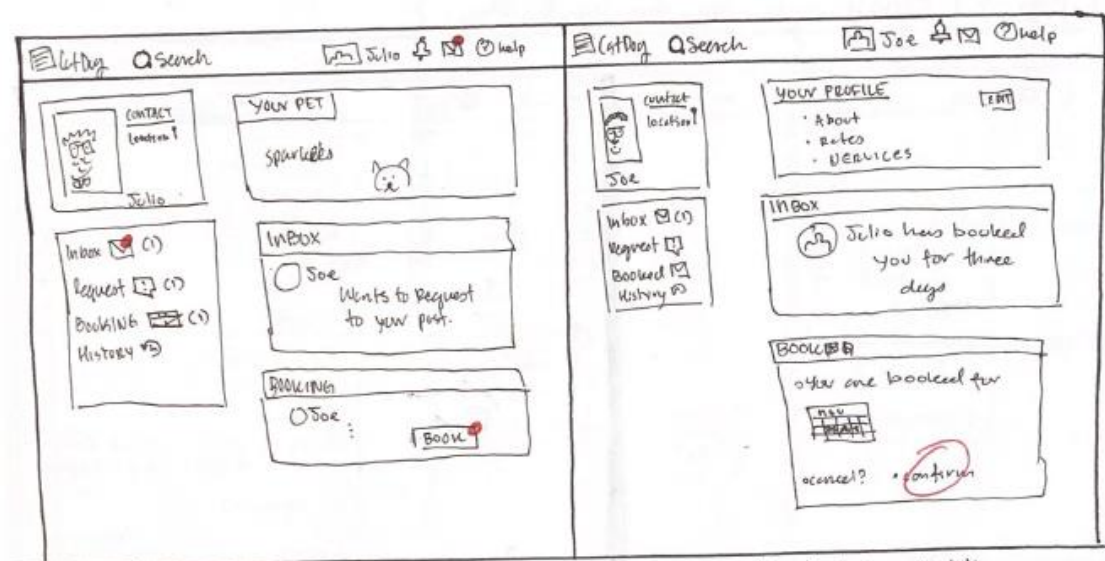
Client (Booking Worker for Specific Days)

The wireframes illustrate the user flow for a pet booking application. The first wireframe shows the login page with fields for email and password, and a 'Log-in' button. The second wireframe shows the user profile page with a 'Request' button and a 'START FORM' for booking. The third wireframe shows the pet profile page with fields for location, dates, and pickup/drop-off. The fourth wireframe shows the worker's profile page with fields for services, pet bio, and availability.

- Julio (client) has a trip coming up that will be 3 days. He decides to login and create a book request.
- [Log-in Page]
- Julio (client) is logged in, now he can continue to work towards creating a booking request.
- USER PROFILE PRIVATE
- fills out Request Form / completes Request
- posts Request Form

The second wireframe shows the user profile page with a 'Request' button and a 'START FORM' for booking. The third wireframe shows the pet profile page with fields for location, dates, and pickup/drop-off. The fourth wireframe shows the worker's profile page with fields for services, pet bio, and availability.

- His post is now available for workers/sitters to view
- with the pet profile attached.
- [POST PAGE] Public
- Joe (worker/sitter) decides he has free time and decides to look at the post. He decides that he is available to help Julio out and request to book
- [Joe PROFILE]
- Julio receives a notification that someone (Joe) has requested to be considered.
- Julio goes on his profile to view reviews.



• Julio Books Joe.

• Joe confirms the booking on his worker/sitter profile.

Worker (Request Client Booking):

Worker (Request Client Booking)

Joe S. location? Contact phone email OPEN

YOUR PROFILE EDIT

- ABOUT
- RATES
- SERVICES
- AVAILABILITY
- OPEN

INBOX

CatDog Thank you for opening up!

REQUEST BOOKED HISTORY

PET PIC logo

- Workers/sitter profile
- Joe changes his availability to OPEN
- now he can receive notifications.

- He has a Request
- So he decides to view The Pet Profile
- ADD decides to request the booking

Joe S. location? Contact phone email OPEN

YOUR PROFILE EDIT

- ABOUT
- RATES
- SERVICES
- AVAILABILITY
- OPEN

INBOX

CatDog Joe confirmed to petsit your cat.

REQUEST BOOKED HISTORY

PET PIC logo


- Joe has been booked and can now approve / confirm

- Julio receives a message that Joe has confirmed.

Guest (Register/Sign Up as Worker):Guest (Registered/Sign Up)

<p>Connie</p> <p>I have so much free time this semester. Extra money would be nice!</p> <p>you should try CatDay!</p> <p>Connie decides to check out CatDay and see if she would sign up.</p>	<p>Oh! I like the design. I'll try the demo!</p> <p>Welcome to CatDay</p> <p>continue as guest</p> <p>Connie decides to first browse the website as a guest. She reads about the company and the benefits of CatDay.</p>	<p>logo CatDay Search Login Bio Help</p> <p>Welcome to CatDay! Find the care your pet deserves.</p> <p>How it works Get Started Become a Sitter</p> <p>continue as guest</p> <p>logo/pic</p> <p>Now we will view the website in Connie's perspective. She decides to sign up.</p>
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<p>Get Paid to Play with furry animals CatDay makes it easy by making you animal lover spirit to the best pet parents.</p> <p>make your own money & schedule</p> <p>Become a Sitter</p> <p>Get Pic Background</p> <p>Flexibility puts you in control</p> <p>The tools you need to succeed</p> <ul style="list-style-type: none"> ✓ set your own schedule ✓ your services are protected ✓ create your own offers ✓ Manage your own business ✓ set pet preferences that work for you ✓ 24/7 support <p>• Connie sees the benefits</p>	<p>logo CatDay Search Login Bio Help</p> <p>It's easy to make myself available when I want. Get it?</p> <p>CatDay allows me to get my business on my own terms. Kitty's it</p> <p>How it works</p> <p>1 create your profile 2 verify 3 accept request 4 method</p> <p>Safety first Always</p> <p>CatDay Services We work to ensure it's keep making</p> <p>Start create your profile</p> <p>• Connie sees the reviews.</p>
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log CatDog Q Search login Bio ①	log CatDog Q Search login Bio ②	log CatDog Q Search login Bio ③
<p>Account Info Services & Rules Silver Profile Calendar</p> <p>Tell us about yourself? Thank you for your interest in CatDog!</p> <p>Why are you becoming a Silver?</p> <p><input type="text" value="select answer"/></p> <p>Do you have Pets?</p> <p><input type="text" value="select answer"/></p> <p>Let's start with the Basics</p> <p>Add address</p> <p><input type="text" value="address"/></p> <p>email: <input type="text" value=""/></p> <p>step 1</p> <p>Connie Begins the registration process</p>	<p>Require a Photo for Profile</p> <p><input type="button" value="upload"/> </p> <p>Birthday <input type="text" value=""/></p> <p>Phone number <input type="text" value=""/></p> <p>Emergency contact <input type="text" value=""/></p> <p>number <input type="text" value=""/></p> <p>Members of House Hold <input type="text" value=""/></p> <p>What Services would you like to offer?</p> <p><input type="button" value="SAVE"/></p> <p>step 2</p> <p>Connie can specify what she would like turned on for services.</p>	<p><input type="checkbox"/> CatDog Walks <input type="checkbox"/> 5</p> <p><input type="checkbox"/> CatDog Boarding <input type="checkbox"/> 5</p> <p><input type="checkbox"/> CatDog house sitting <input type="checkbox"/> 5</p> <p><input type="checkbox"/> CatDog Visits <input type="checkbox"/> 5</p> <p><input type="checkbox"/> CatDog Daycare <input type="checkbox"/> 5</p> <p>need Help?</p> <p><input type="button" value="SAVE"/></p> <p>step 3</p>

log CatDog Q Search login Bio ④	log CatDog Q Search login Bio ⑤	log CatDog Q Search login Bio ⑥
<p>Do you have Preferences?</p> <p><input type="checkbox"/> Cats <input type="checkbox"/> Dogs</p> <p>Create "About Me"</p> <p><input type="text" value=""/></p> <p><input type="button" value="SAVE"/></p> <p>Let's Get Verified!</p> <p>• In order to continue on with creating a profile you must upload a verification certificate</p> <p><input type="button" value="upload"/> <input type="button" value="continue"/></p>	<p>Background Check</p> <p>license # <input type="text" value=""/></p> <p><input type="button" value="submit"/></p> <p>YAY! Almost there</p> <p>Terms & conditions <input type="checkbox"/></p> <p>Rules & Regulations <input type="checkbox"/></p> <p>e-signature <u>Connie K.</u></p> <p><input type="button" value="DONE"/></p>	<p>Thank You ☺</p> <p>please check your email for approval and verification to continue.</p> <p>What's Next?</p> <p>After being approved you'll be able to come back and sign in to info to your profile that was generated from your response.</p> <p>See You Soon ☺</p>

- Connie checks her preferences
- creates an about me
- gets a message she needs to
- upload a certificate or verification
- proof of pet lover / likes or testimony

- Does Background check
- agrees to rules
- e-signature
- message sent to Admin

- Connie is all done
- now she waits for a confirmation email
- After that all her wages will be on CatDog.

4- High level database architecture and organization

Business Rules

Admin:

1. Admin can have access to Client full information.
2. Admin can have access to Worker full information.

Registered User:

3. Client can have multiple pet profiles.
4. Client can have only one post at a time.
5. Client can accept only one worker for a job.
6. Client can have only one profile.
7. Worker can request multiple bookings.
8. Worker can be accepted for only one booking.
9. Worker can have only one profile

Important/Weak Data:

10. There could be multiple post available from different clients.
11. There can multiple reports from each client and worker. (support)
12. There can only be one pet inquiries per pet.
13. There can be only one certification per worker.

Entities

Client:

Attributes:

1. ClientUser **PK**
2. Name: (FirstName + LastName)
3. Address: (Street + State + ZipCode)
4. Email
5. petId **FK**
6. PetQuantity

Worker:

Attributes:

1. WorkerUser **PK**
2. Name: (FirstName + LastName)
3. Address: (Street + State + ZipCode)
4. Email
3. Certification

Pet:

Attributes:

1. petId **PK**
2. clientUser **FK**

3. Name:
4. petInquires
5. bio

Post:

Attributes:

1. postId **PK**
2. clientUser **FK**
3. datePosted
4. dateRequested
5. lengthRequested

Booking:

Attributes:

1. bookingId **PK**
2. workerUser **FK**
3. clientUser **FK**
4. petId **FK**
5. postId **FK**
6. dateBooked

ClientProfile:

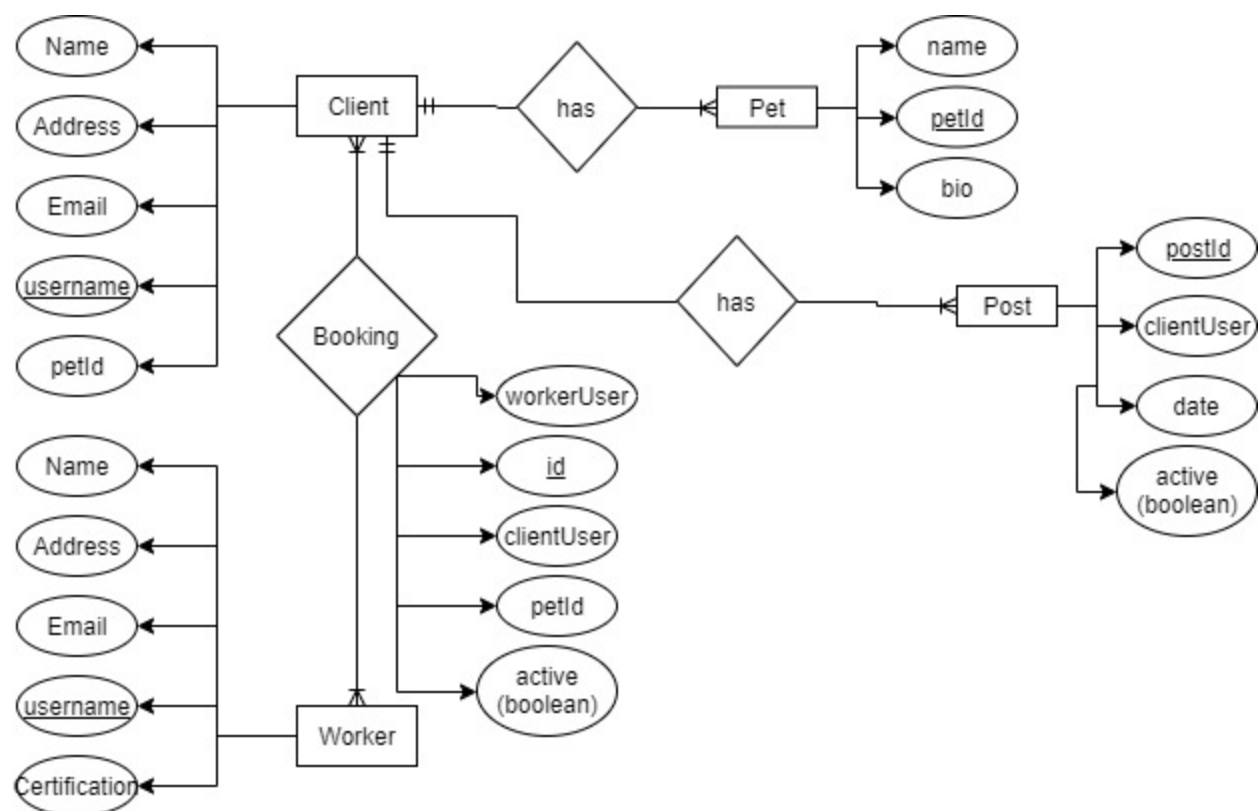
Attributes:

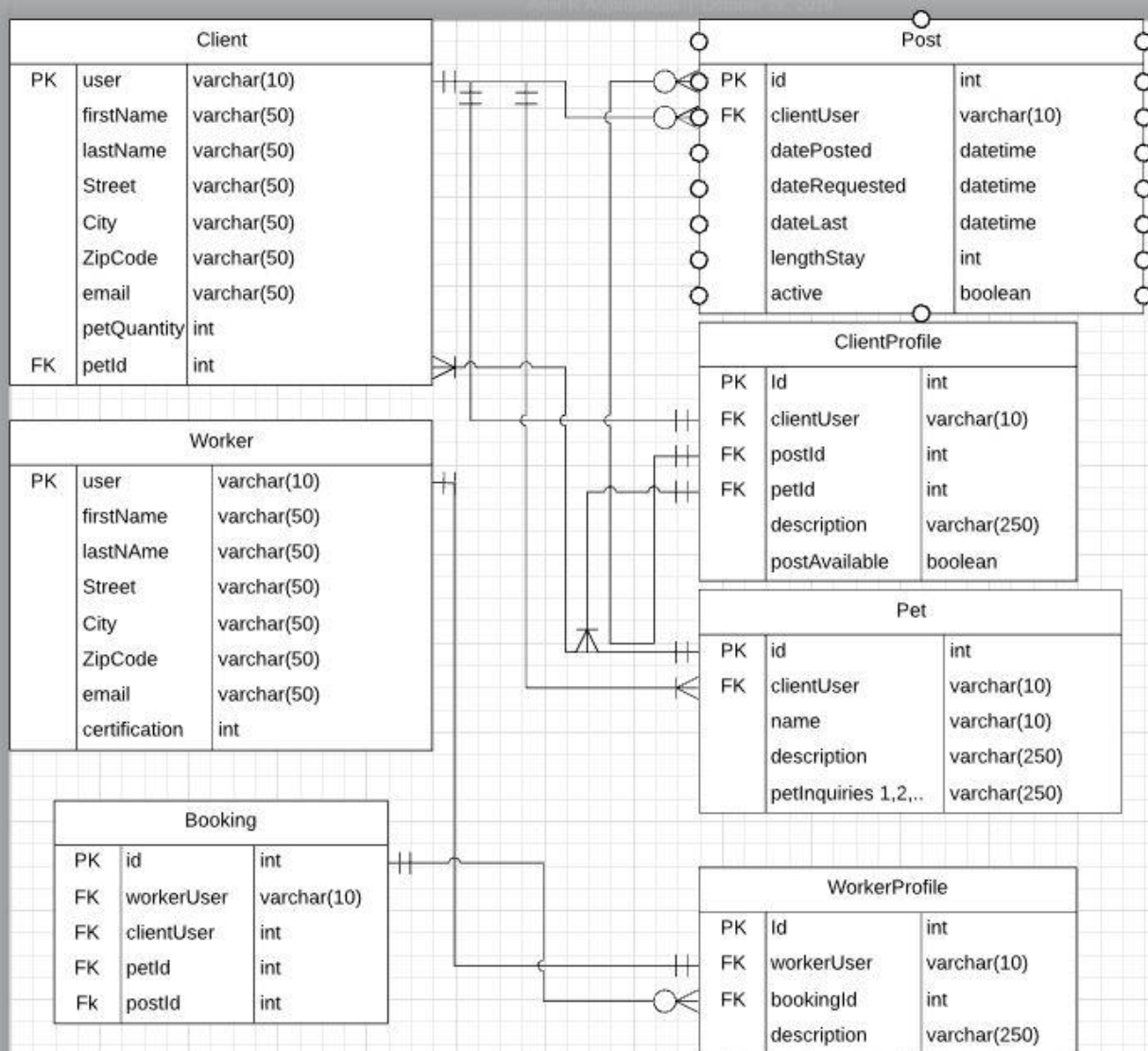
1. clientUser **PK**
2. postId
3. postAvaliable
4. bio

WorkerProfile:

Attributes:

1. workerUser **PK**
2. workHistory [booking] **FK**
3. bio





5- High Level APIs and Main Algorithms

5.1 APIs:

Below are some general application programming interface (API) that will be implemented by back-end engineers. Some general features can be explained as follows:

- The “xxx” ahead of each API notifies the corresponding database model, and therefore will be replaced by real model name (e.g., client, worker, etc.) during the development process.
- Each API is completely in lower-case format, without any white spaces in between.
- “/” separates the name of API and the required parameter.
- “id” is always numeric value, to reduce the time complexity of searching algorithm within database.

The back-end team is developing the end points for the front-end to communicate with the client and send the script over to back-end. All the api’s would be path toward /api/

high-level explanation for the APIs:

1) /api/search

- This post request to the api, has a body from the front-end which sends over the user input for the search and an also lets the back end know if they are looking for clients post or workers availability.

2) /api/createClient

- This post request to the back end sends over a body from the front end containing all the information for signing up a client to our website.

3) /api/clientProfile

- This post request is when the client is filling out the information for their profile, also contains information about the client.

4) /api/createWorker

- This post request to the back end sends over a body from the front end containing all the information for signing up a worker to our website.

5) /api/workerProfile

- This post request is when the worker is filling out the information about themselves for their profile. And contains any experiences and certification.

6) /profile?user=xxx

- This get request sends the username of the client or worker and depending on the role back end would generate all the necessary data the front end needs to show their profile. (Both client and worker)

7) /api/deletePost 8) /api/cancelBooking

- Depending on the client or worker, they can cancel a post or booking and these post request would let the back end know to remove the data from the live site and just recorded them.

Search Algorithm and our goal for it:

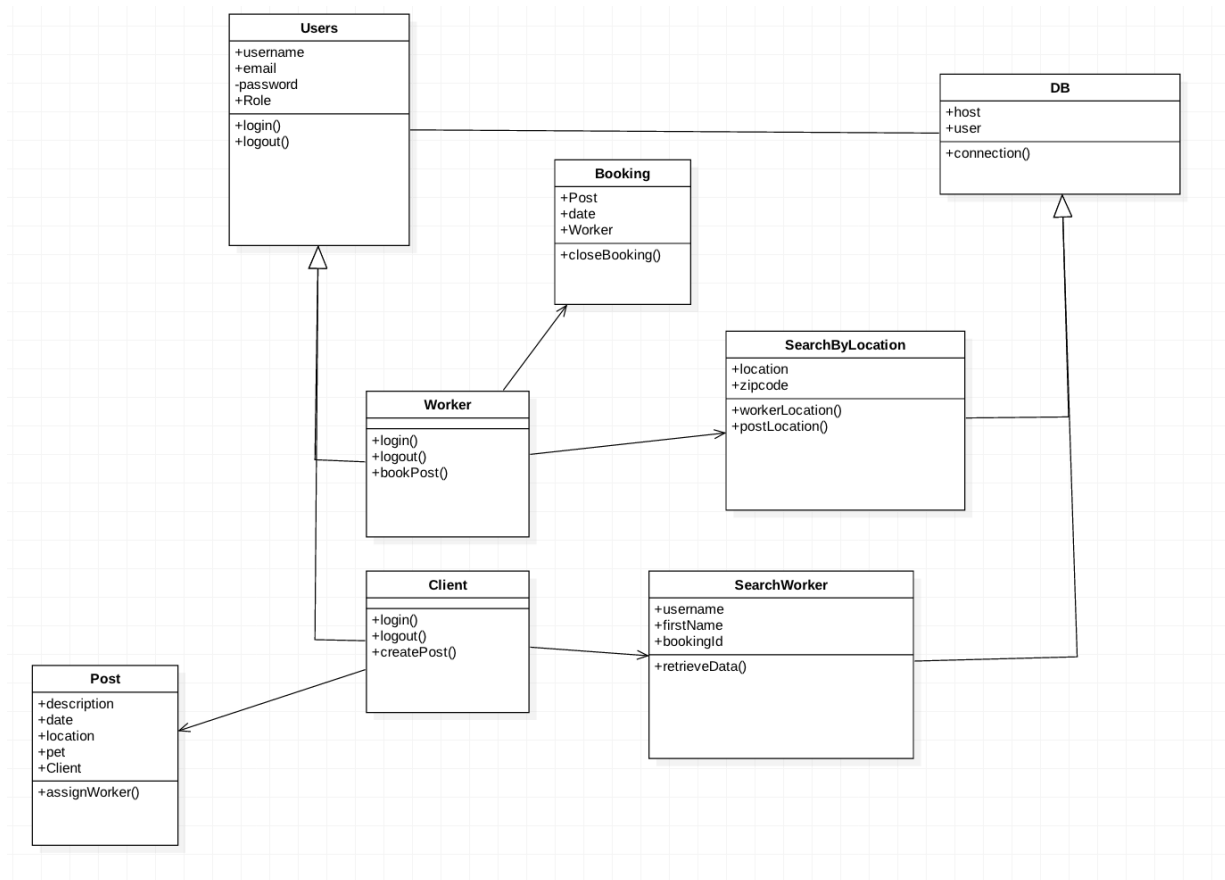
1) Simple Search from the worker point of view:

- The worker has a search bar available to them to be able to search for available post by clients near to them. The user can search by location or zip code and depending on the available posts inside the data base table posts I could check the zip code or location and show the worker the list of post available to book.

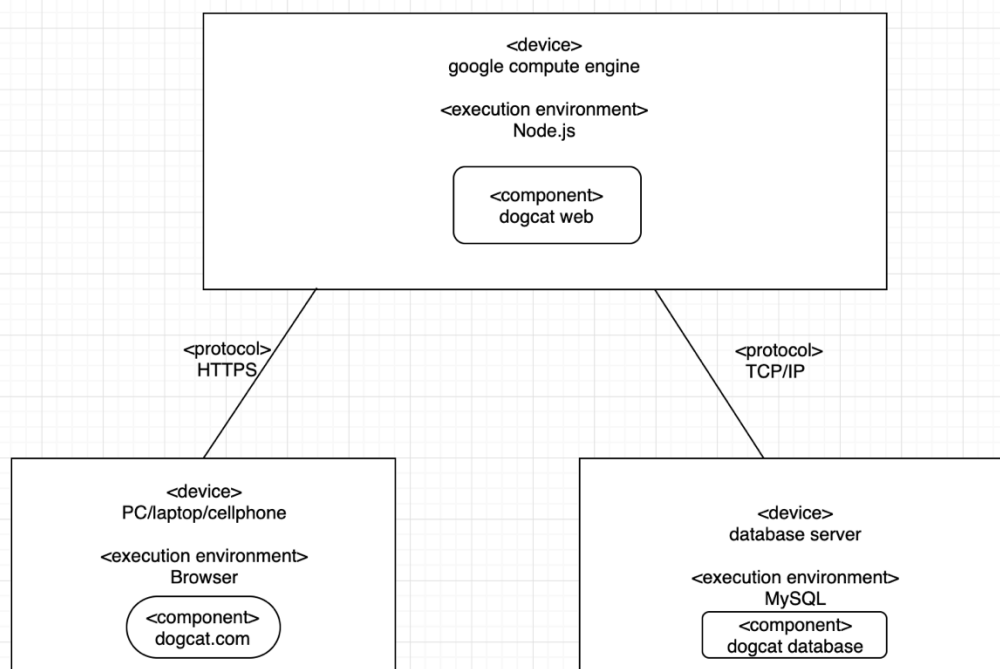
2) Simple Search from the client point of view:

- The client can search in the search bar for workers by searching their name or username or booking id. The result would be back end checking if the user input a name, it would grab all the available names matching to the search and presenting them. If user searches by username it would be easier and faster response because it can be only one result inside the database containing the username cause it's the primary key. And if the user searches for a booking id, back end would just check into the booking table and find the worker from that table and grab all the necessary information and present them.

6- High Level UML Diagrams

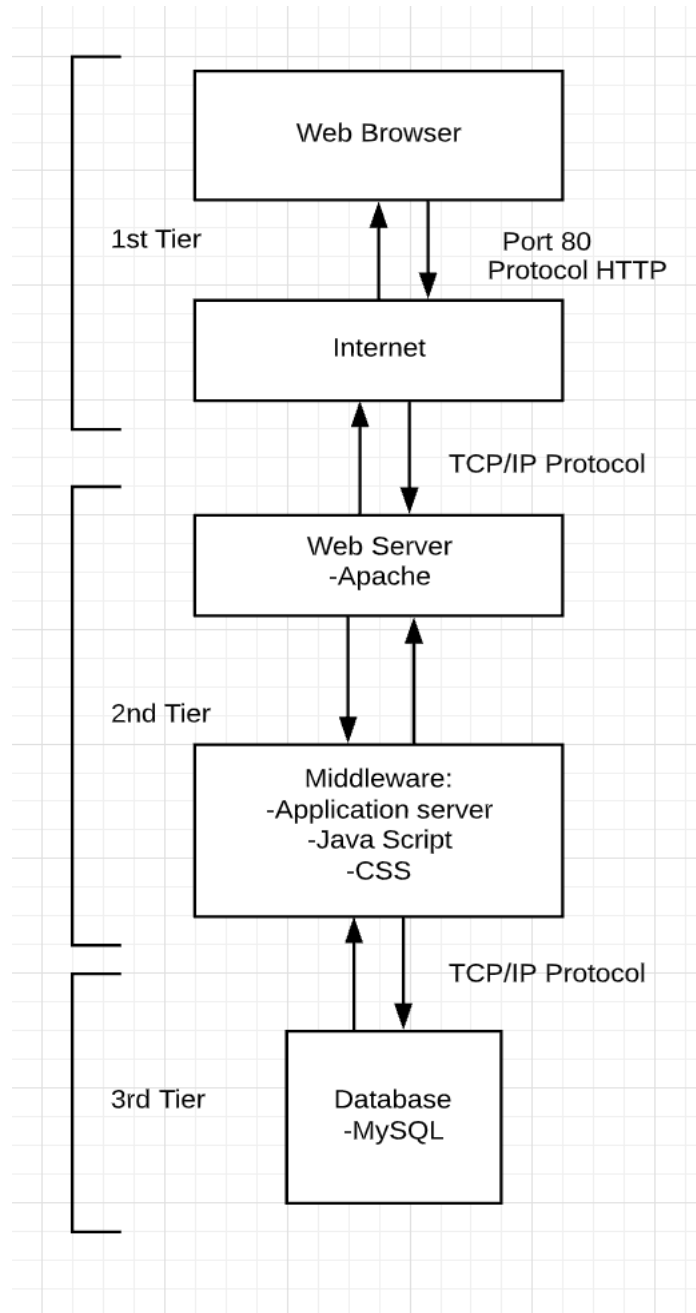


-Class Diagram



Deployment Diagram

7- High Level Application Network and Deployment Diagrams



-Application network Diagram

8- key risks

Currently for our project there are a few risks we have encountered, and we have also analyzed future concerns we may come across during our development. For our skills risk our team has been working hard on developing a strong foundation in understanding the core of our application because we all did start at a more intermediate level. We have pushed ourselves to gain the proper skills by watching tutorials and helping each other. The risk we run is not everyone being at the same level technically and it may lead to confusion or problems when merging. To be able to cope with our different skill levels we have created a system of conference calls that each one of us can take advantage of and ask for help or clarification on any topic discussed so far and on the future teamwork.

As for schedule risks we have really committed ourselves to certain days and times dedicated to the sole focus of our project. The risk we run with our schedules for the future, is related to other schoolwork and test that may interfere with the times we have selected. In order to stay on top of our schedules we have created a time sheet that we keep updated that way as a team we are able to

Our technical risks are communicating properly with our database because of the large amount of data we require from the user. Another issue we may run into is our backend connection to the sever we may run into issues and need to work and ask for help from our backend leader to help the front end create a more streamline connection. This is currently being resolves by having the front end and backend working closely together.

For teamwork risks we did have some issues in the beginning, but we have resolved them and are working great together. With the use of Trello we have been able to keep all our task organized and maintained this has allowed us all to be held accountable as well as on track. We will continue to take advantage of Trello, hangout, and slack to keep our team on track to deliver.

Legal content risks include giving the correct copy right to ownership for any software we use. We are avoiding this be making sure to give credit where it is due. As a team we have already come a long way and are excited to continue working alongside to work and overcome any obstacle as a team.

9- Project management:

This milestone was managed in a much more efficient and collaborative manner than our previous one. We achieved a harmonious distribution of tasks by having our team use Trello to help organize our project. This tool allowed us to set up tasks with deadlines that we all were able to agree on. Another tool we've been utilizing the most is Google's Hangout. During these calls we update the team on where each individual is in regard to their progress and offering help in any aspect of production. The school library has become our headquarters where we conduct weekly in person meetings. During these in person meetings the team sets the groundwork and brainstorms on the ideas. We also work out problems that have been encountered by working together to generate a solution. By having these meetings, we can clarify any confusion and bring our ideas together and create a game plan for the week. Also, our main source of communication is done on a regular basis using our Slack channel where our team communicates daily. For the future we will continue to use all these tools to tackle tasks and conduct our communication. These tools have allowed our team to stay on track and have a streamlined process thus far.