

Table of Contents

- **3 EXECUTIVE SUMMARY**
- 4-5 INTRODUCTION
 - **5 RESEARCH METHODS**
- 6-8 Competitive Analysis
- 9-10 Contextual Inquiry & Interviews
- 11-15 Extracting Insights
 - Insight 1: The main goal of animal rescue is to educate, not confiscate.
 - Insight 2: Laws are complicated and don't match assumptions.
 - Insight 3: Animal rescue involves people, not just animals.
 - Insight 4: Animal rescue operations are collaborative.
 - Insight 5: Misreporting has serious consequences.
 - Insight 6: For citizen reporters, lack of feedback is frustrating.

16-22 **APPENDIX**

Executive Summary

The newly merged Pittsburgh's Animal Rescue League (ARL) and Western Pennsylvania Humane Society (WPHS) hopes to better promote animal welfare by expanding their humane investigations department. In our research, we aimed to understand the current process of reporting and investigating humane cases to identify opportunities for the newly combined ARL/WPHS to improve their humane services. In order to gain a better understanding of the problem space we conducted contextual inquiry, competitive analysis, and key stakeholder interviews. As a result of this work, we developed several key insights:

- The main goal of animal rescue is to educate, not confiscate
- Laws are complicated and don't match people's assumptions
- Animal rescue is like social work; it involves people, not just animals
- Animal rescue operations are collaborative and co-dependent
- Misreporting can have serious consequences for the organization, people, and animals involved
- For citizen reporters, lack of feedback after reporting is frustrating and disheartening

Based on these insights, we hope to improve humane reporting in a way that mitigates the strain caused by misreporting, supports citizens after reporting, and provides Humane Officers with better resources and information to investigate humane cases.

Introduction

Background

In January 2017, Pittsburgh's Animal Rescue League (ARL) and Western Pennsylvania Humane Society (WPHS) merged to form one of the largest open-door shelter in Pennsylvania. In combining shelters, these organizations hope to better promote animal welfare by expanding their humane investigations department and hiring a new Humane Police Officer (HO) in May. Humane investigations range from cases of neglect, hoarding, cruelty, and even dog fighting operations. Humane officers conduct these investigations and are responsible for preventing, intervening, and prosecuting in these cases.

Humane officers must work the public — taking reports of animal abuse from concerned citizens and responding to them. However, "humane investigations are complicated in Pennsylvania, and especially in Pittsburgh. Depending on the situation, federal, state, county and municipal laws may need to be enforced by different agencies with sometimes overlapping responsibilities, including police and municipal animal control employees in addition to Humane officers. Concerned, well-meaning citizens inevitably get confused, often contact the wrong authority, too late, and without the necessary evidence, which can prevent officers from taking action and successfully prosecuting criminal cases." With these issues in mind, we intended to understand the current process of humane investigations, focusing specifically on the way that Humane Officers and staff conduct an investigation in addition to the citizen's experience reporting a case.

Clients & Stakeholders

For this project, we are specifically working with the Animal Rescue League. Due to the complicated nature and network of relationships involved in animal rescue and humane investigation, primary stakeholders consist of the ARL/WPHS, Pittsburgh humane officers, and Pittsburgh citizens. Secondary stakeholders also includes external agencies such as Pittsburgh Animal Control, Police, the Wildlife Commission, and Pittsburgh judiciary system. Ultimately, our design and research stand to benefit all of these parties.

Introduction

Hunt Statement

We are designing a solution that simplifies the humane investigation reporting process for both concerned citizens and staff at the Animal Rescue League/ Western PA Humane Society. To reach this solution, we will explore the current obstacles and incentives for citizens to recognize and report animal abuse, as well as understand the current animal rescue process as conducted by the Pittsburgh animal rescue community. Additionally, we aim to identify the key pain points humane officers and face in investigating and managing humane cases.

LITERATURE REVIEW & COMPETITIVE ANALYSIS

Since there are no direct technological competitors for us to examine in regards to our project, we decided to dive deep into five separate topics to gain knowledge that may be relevant to our project: PA Animal Cruelty Laws, Child Abuse, Citizen Science, Municipal Reporting, and Bystander Intervention.

PA Animal Cruelty Laws

Animal cruelty legislation exists both on the state and county level. This leads to complications such as contradicting regulations and ambiguity across county lines. Animal Cruelty laws also differentiate between more severe criminal offenses and less severe fines. Ultimately, humane Officers serve as deputizes law officers that enforce these cruelty laws and identify where a case falls on this spectrum. However, when actually investigating a case, Humane Officers are not permitted to enter private residences without permission or a search warrant. Likewise, they cannot seize animals without proper cause.

regulations are complicated. While this literature gives us a clearer understanding of what legally constitutes animal cruelty and Humane Officer responsibilities, it highlights how citizens need an understanding of a complex legal system to truly understand what actually constitutes as animal abuse.

Child / Domestic Abuse

We looked into ways technology is utilized to handle child abuse cases. The main function was to take and store client notes. In some cases, the implementation of technology has changed the way in which social workers interact with clients. A few social workers have started implementing FaceTime and Skype to conduct counseling sessions.

In instances of child abuse, there is often collaboration with different organizations (i.e. police, hospitals, lawyers). There is a strong need for efficiency in broadly disseminating information internally and externally. To serve these need of organizing and sharing resources, some social workers utilize systems such as Google Drive, Slack, or Trello. Through our research, we also found that technology was very useful in business operations and management such as monitoring personnel, creating programs, communicating with professional organizations, government entities, stakeholders, and employees.

LITERATURE REVIEW & COMPETITIVE ANALYSIS

The largest pain point that social workers expressed was not being able to connect to important client data and information when they are outside of the office visiting a client. They often had to rely on only the documents they brought with them at the time.

Citizen Science

Citizen science, also known as crowd science or crowd-sourced science, is defined as scientific research conducted, in whole or in part, by amateur or nonprofessional scientists. Technology is credited as one of the main drivers of the recent explosion of citizen science activity, where public participation in scientific research has increased significantly. Although citizen scientists are passionate and eager to help, there are definite limitations on the validity of volunteer-generated data, where volunteers can lack proper training in research and introduce bias into the data, or even lie about the data in order to get a promised reward for the task. We were unable to find any existing citizen science projects specifically geared toward animal abuse, but there is evidence that crowdsourcing has helped crime investigations in the past few years and therefore points to potential success in using crowdsourcing to help animal abuse investigations.

Municipal Reporting

The City of Pittsburgh has a 311 Response Center that utilizes various different forms of technology to make reporting non-emergency issues easier for residents. Using the "MyBurgh" mobile application, users can submit a report with an optional photo and/or GPS location and receive status updates as the job is completed. With the application, users can report issues such as graffiti, potholes, missed garbage pickup, and overgrown grass. Other ways for residents to get in touch with the city's 311 Response Center are via live operators on their phone line, via text message, via TeleTYpewriter (TTY) line, via Twitter, and via a web form. Users can submit reports anonymously if they do not require a response, and all service requests sent with a valid email address with be provided a ticket number and possibly a service request ID number. One interesting factor is that in the types of issue that users may select on the mobile application and the web form, "animal issues" such as animal waste, check conditions, dead animal, loose dogs, and rodent control are included on the list. However, it seems that these reports filed to the 311 Response Center will go directly to the Pittsburgh's Animal Care & Control office, and not to shelters around the city.

LITERATURE REVIEW & COMPETITIVE ANALYSIS

The existing web form and "MyBurgh" mobile application seem fairly robust but it is unclear how many users they have and whether or not they are actually helping users feel better about reporting issues to be resolved quickly. These existing technologies may prove helpful for our project as we may use them to help us conduct usability research and pinpoint problems with the current reporting mechanism and places for our team to ideate and improve upon.

Bystander Intervention

We looked into research concerning the bystander effect in order to understand on a psychological level how citizens may be de-incentivized to report or respond to animal abuse. The bystander effect is a well-studied psychological phenomenon wherein individuals observing a case of abuse/violence/emergency are less likely to help the victim if others are present, such that the likelihood of help is inversely related to the number of bystanders. Latane and Darley's (1970) 5-stage model breaks down the sequence of intervention into 5 concrete steps, which also illuminates the moments when breakdowns can occur and a bystander chooses inaction.

- 1. Notice the event
- 2. Recognize it as an emergency
- 3. Take responsibility
- 4. Know/decide how to respond
- 5. Have the confidence to respond

In the event that we choose to target citizen awareness and response, we can use this model as a foundation for identifying and focusing on moments in the reporting process when breakdowns are most likely to occur.

CONTEXTUAL INQUIRY & INTERVIEWS

To gather rich data about the current animal rescue process, we interviewed experts in the process and used contextual inquiry methods. Our interviews employed some guiding questions that would lead to more in-depth recounting of experiences. The contextual inquiry method involved more immersion in the actual processes of ARL by observation and in-the-moment questions. Interview protocols can be found in the Appendix. Though we did not interview our clients Janice and Steffi, they were also valuable sources of information in the initial stages of the project, in providing us with expert information about the stakeholders involved, the relationships between them, and key anecdotes about the reporting process.

Humane Officer/Shelter Staff

Humane officers are state agents who are affiliated with a shelter or rescue, and act to enforce Pennsylvania's Animal Cruelty Laws. In this sense, they have full police power and can take an investigative role with regards to situations that breach those laws. In contrast, shelter staff are more concerned with the daily operation of the shelter and may have differing experience with how often they encounter animal abuse situations. While we originally intended to research humane officers and shelter staff separately, the particular interviewees we chose had experiences that overlapped more than we expected. We therefore present as a collective in this report.

Debbie U.

Debbie is a retired humane officer and lifelong animal rescuer from Butler County. She was notably involved with the Tiger Ranch case in 2008, during which she acted as an undercover volunteer.

Lois C.

Lois is currently working as a staff member at the Animal Rescue League. She has also had two years previous experience working as a humane officer for Beaver County.

Rachel L.

Rachel has worked at the Humane League shelter for five years conducting behavioral work, intakes and importantly dealing with humane cases. While not a certified humane officer, she directly assisted the previous humane officer, including triaging cases and shadowing on site visits.

CONTEXTUAL INQUIRY & INTERVIEWS

Pittsburgh Animal Control

Animal Care and Control is a city department whose jurisdiction often overlaps with that of animal shelters like the ARL and humane officer duties. More significantly, citizens often contact ACC and other animal-related organizations indiscriminately when responding to an animal-related case. For this reason, we also contacted ACC in order to learn more about their involvement in animal abuse cases.

Taylor S.

Taylor served as both an agent and supervisor for Pittsburgh's Bureau of Animal Care & Control. Taylor handled cases that fell under Animal Care jurisdiction. During her tenure, she had experience working with both Pittsburgh Police and humane officers for cases that crossed jurisdiction.

Wildlife Officer

Wildlife officers are the counterpart to humane officers who help enforce wildlife and game laws. However, the Pennsylvania Game Commission oversees wildlife issues of all types and therefore has the official jurisdiction over wildlife cases. Even though there are significant difference between the roles of humane officers and wildlife officers, we hoped to gather similarities and parallels between wildlife and domestic animal abuse cases that may help our research and solution design.

Rebecca R.

Rebecca is a current certified volunteer wildlife officer at the ARL Wildlife Center in Verona, PA. She deals with wildlife injury and abuse cases and helps assess situations on-site as well as capturing and rehabilitating animals.

Community Members

While we focused on shelter staff members and humane officers during this phase of the project, we also interviewed four community members who have reported animal abuse cases in the past in order to gain a general understanding of what happens when a case is reported and what problems may occur. We asked each interviewee to walk us through their process of witnessing, recognizing, and reporting animal abuse, as well as any follow-ups that may have occurred afterwards.

Community members interviewed: Natalie A., Laura B., Kelly H., and Kerri S.

Through our stakeholder interviews, we gained numerous insights and discovered many complex issues regarding animal abuse cases. Therefore, we made an affinity diagram in order to group all relevant ideas with similarities and describe them with overarching concepts. We also created models to illustrate the relationships between stakeholders and the details of the animal abuse case process. Pictures from our process can be found in the Appendix. The key insights we extracted from our research consolidation are listed below.

Insight 1

The main goal of animal rescue is to educate, not confiscate

One piece of information we heard repeatedly is that a humane officer's primary role is to educate by giving people the resources necessary to care for their animals. Actually taking the animal away is always considered a "last resort" type of situation. Debbie, Lois, and Rachel all highlighted cases where they gave as many resources to the animal owner as possible, rather than immediately taking the animal. We also learned that animals are property under law, and that they can only be surrendered willingly by an owner or seized with a warrant. This further emphasizes the importance of developing cooperative relationships with owners and taking an educational role when possible.

Design Opportunities

- Create tool to aid humane officers in educating citizens quickly and effectively.
- Facilitate shared decision making process between Humane Officer and citizens to empower them to find ways to improve the situation.

Insight 2

Laws are complicated and don't match people's assumptions

There are currently several levels of laws (national, state, county, municipal) regarding animal welfare. Laws also apply differently to different species of animals. Because citizens don't know what legally constitutes animal abuse, they will make complaints that do not fall under animal cruelty law. Furthermore, people don't understand which legal responsibilities fall under which agencies. This leads to citizens reporting to the wrong agency. In some cases, they don't even

know that humane officers exist specifically to deal with humane investigations. When citizens' misunderstanding of laws impacts their reporting behaviors, valuable time and resources are wasted for all parties involved.

Citizens may take it upon themselves to remedy situations they perceive to be animal abuse, sometimes in illegal ways. Interviews with Lois and Rachel revealed that there are many cases where individuals see animals and take the animal from their owner. Because animals are legally considered property in PA, this type of action is illegal despite the citizen's good intentions. When well-meaning citizens are told that what they are doing is illegal, we learned that they feel disappointed and let down. Furthermore, our interviewees revealed that negative emotions can arise when citizens want humane officers to make actions that are beyond their legal jurisdiction. While citizens assume that humane officers can immediately seize animals out of a bad situation, they become disappointed when humane officers must deal with legal protocols before proceeding.

Design Opportunities

 Help collect necessary information needed from reporters to improve humane officer's understanding about the severity of the case and whether it constitutes as animal abuse.

Insight 3

Animal rescue is like social work; it involves people, not just animals.

A recurring theme from our interviews is that people, and social work, is an integral part of animal abuse cases. One notable finding is that animal abuse can occur due to altercations between people - a domestic incident can result in the harm of a pet, for example. Humane officers need to work closely with owners to provide solutions for both the people and animals involved. Furthermore, false reporting can also be a direct consequence of animosity between neighbors, or a targeted attack against an individual. Social behavior cannot be taken out of the equation when thinking about animal rescue.

Design Opportunities

 Facilitate better communication and methods for humane officers to follow up with animal owners

Insight 4

Animal rescue operations are collaborative and co-dependent.

In conducting interviews with various stakeholder, we learned that sometimes cases aren't a matter of just animal abuse. Instances of animal abuse can co-occur with other crimes and violations that necessitate continued investigation by and communication between various agencies. Ultimately, overlapping jurisdiction over cases require various agencies including Animal Control, humane officers, and Pittsburgh Police to work together to investigate cases. In general, communication between these parties are mediated by simple technologies: phone calls and email. Furthermore, most cases are processed and managed with paperwork rather than technology.

Considering the collaborative nature of animal rescue operations, communication and cooperation breakdowns points have serious effects on the way that investigations are carried out. We discovered one particular breakdown between humane officers and Pittsburgh Police. HOs rely heavily on police to actually make arrests and attain warrants. However, interviews revealed that police are sometimes unwilling to dedicate adequate time and resources into humane investigations. Ultimately, Pittsburgh Police and humane officers have different priorities when it comes to investigations. This difference leads to problems. Ultimately, these type of breakdowns will be important to consider when going forward.

Design Opportunities

- Support clear shared information and evidence gathering across organizations and stakeholders.
- Design for multiple types of users with differentiated access and control at stages of the process.

Insight 5

Misreporting can have serious consequences for the organization, people, and animals involved.

Humane Officers and Animal Shelters have few resources in dealing with a high volume of daily cases. When a report comes in, the HO cannot rely on potentially bias reporters to accurately and truthfully describe the situation, therefore in most cases they need to make a site visit to assess the situation fully. At this point, HO's must evaluate the severity (emergency vs. non emergency) of the situation, and the willingness and ability for the accused to be cooperative. This can be highly stressful and high pressure, as they are in the state of constantly attempting to maximize their resources towards the most severe, life threatening situations, with minimal information at hand. Misreporting can be a serious drain on the already limited resources of the humane officer.

Design Opportunities

- Support education on what constitutes animal abuse.
- Increase barrier for false reporting.
- Give reporters tools to provide more valuable tools to collect evidence that will help HOs determine abuse before a visit.

Insight 6

For citizen reporters, lack of feedback after reporting is frustrating and disheartening.

Community members who report animal abuse are often emotionally attached and wish to be updated on the status of the animal and investigation, but there seems to be no current mechanism to allow follow-ups on animal abuse cases after they are opened. As a result, citizens become "concerned that nothing is being done". Citizen reporters may attempt to get updates from the shelter or humane officer multiple times to no avail, become disheartened, and possibly discouraged from reporting cases in the future. Citizens strive to understand whether their actions have actually impacted the situation.

Design Opportunities

- Enable clear communication back to citizens through a more transparent tracking/numbering system for animal abuse cases.
- Keep citizens in the loop through automatic updates for reporters of animal abuse cases.

Conclusion

Based on our research, we've identified key breakdowns and insights regarding the reporting and investigation of humane cases. With a better understanding of how the current process works for both humane officers, citizens, and related agencies, we aim pursue opportunities outlined in our above findings to help ARL/WPHS improve their humane services. As we move forward, we will continue to focus on creating a reporting system that will support humane officers and shelter staff in the investigation and management of humane investigations. However, we also hope to tackle the newly discovered issue of misreporting in addition to addressing the relationship between investigators and citizens after a report has been made.

APPENDIX: INTERVIEW PROTOCOLS

We used three distinct interview protocols in our contextual inquiry:

ARL Staff

Problem Statement

ARL staff must learn how to address and respond to cases of animal abuse.

Objectives: Understand how ARL staff identify and respond to potential animal abuse cases

Methods: Onsite Semi-Structured Interview (If possible, shadowing their work context)

Collection Techniques

Audio Recorder Digital Notes

Script & Questions

[Introduction]: Thanks for agreeing to meet with us today. We are students from CMU's HCII department. My name is X and I will be interviewing you. My teammate Y will be taking notes. We're hoping to get an understanding of how ARL and humane officers handle animal abuse cases. We're really interested in getting a general understanding of what happens when a case is reported and what problems occur.

[Consent]: If it's alright with you, we'll be taking an audio recording. If you don't feel comfortable with this feel free to say so. If you have any questions before we begin, feel free to ask.

[Background Information]

How long have you been working at ARL?

What is your role at ARL?

What technologies do you currently use at work? What types of records are kept within the shelter (paper or digital)?

Can you tell me a story about the last time you handled an animal abuse case as a staff member (i.e. working with an abused animal, providing evidence to an investigation, receiving a call about animal abuse)?

What was your role? What actions could you take? What actions did you take?

How did you feel in this experience?

How did you recognize the animal abuse?

What kind of emotions were you feeling?

What resources did you use?

If you notice any pain points in the story, follow up and get more detail.

Have you ever personally witnessed or reported an animal abuse case?

Can you tell me a story about the last time you personally witnessed or reported a possible humane case?

If reported:

How did you recognize the animal abuse?

How did you feel?

What resources did you use?

If not reported:

How did you recognize the animal abuse?

How did you feel?

Why didn't you report the case?

APPENDIX: INTERVIEW PROTOCOLS

Humane Officer

Problem Statement: Map out a humane officers' workflow when managing an animal abuse case and identify breakpoints.

Objectives:

Identify opportunities to make it more efficient for Humane Officers to manage cases Identify evidence that Humane Officers require to prosecute animal abuse cases

Methods: Semi-Structured Interview

Collection Techniques

Audio Recorder Digital Notes

Script & Questions

[Introduction]: Thanks for agreeing to meet with us today. We are students from CMU's HCII department. My name is X and I will be interviewing you. My teammate Y will be taking notes. We're hoping to get an understanding of how ARL and humane officers handle animal abuse cases. We're really interesting in getting a general understanding of what happens when a case is reported and what problems occur.

[Consent]: If it's alright with you, we'll be taking an audio recording. If you don't feel comfortable with this feel free to say so. If you have any questions before we begin, feel free to ask.

[Background Information]

How long have you been working as a humane officer?/ How did you become a humane officer?

What did you do before?

Can you explain the special roles and responsibilities that you have as a humane officer?

Can you walk me through the last time you were investigating an animal abuse case? (Are you familiar with handling this sort of case?)

How did the case get to you?

What information did you receive?

How long did it take to respond? What resources were necessary to respond?

What tools/technology do you use to collect evidence? How does it work?

What tools/technology do you use to organize evidence? How does it work?

What records are kept?

What actions did you take in response to the case?

Actions for "betterment" and education

What's the threshold for taking an animal away or going to trial?

Can you recount the last time you brought a case to trial?

What materials did you have as evidence?

Could you give an example of a case that went really well?

Could you give an example of a case that went really poorly?

What type of evidence would have made the case more robust?

APPENDIX: INTERVIEW PROTOCOLS

Community Member/Resident Reporters

Objectives:

Identify obstacles that reporter face when trying to report an animal abuse case Understand the factors that lead reports to actually report an animal abuse case Determine background knowledge and context that lead to the recognition of animal abuse

Collection Techniques

Audio Recorder Digital Notes

Script & Questions

[Introduction]: Thanks for agreeing to meet with us today. We are students from CMU's HCII department. My name is X and I will be interviewing you. My teammate Y will be taking notes. We're hoping to get an understanding of how ARL and humane officers handle animal abuse cases. We're really intereste in getting a general understanding of what happens when a case is reported and what problems occur.

[Consent]: If it's alright with you, we'll be taking an audio recording. If you don't feel comfortable with this feel free to say so. If you have any questions before we begin, feel free to ask.

[Background Information]

Have you ever witnessed animal abuse?
If so, have you ever reported animal abuse?
If so, can you walk me through a story of how you reported it?
Where were you? What did you see? How did you recognize it as animal abuse?
What actions did you take? (call? Who did you call?)
What happened at the end? Did you get any updates about your report?

APPENDIX: CONTEXTUAL INQUIRY

We visited the new Animal Shelter for observations and meetings three times.



Animal Control delivering to the shelter.



ARL Staff at intake desk.



Humane Officer with evidence photos from case.



Staff member entering intake data.



Dog in adoption showroom.



Cat in cage, recently in from abuse case.

APPENDIX: MODELS

We organized our qualitative data into related concepts, ideas and problems.



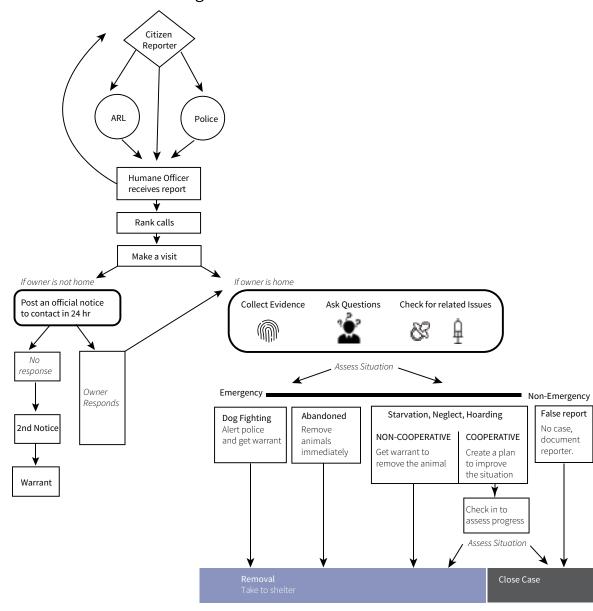
Our affinity diagram highlighted our findings and discoveries.



APPENDIX: MODELS

In order to understand the role of being a Humane Officer, we mapped out how a HO manages a case, focusing on the actions and decisions that they make.

Humane Officer Case Diagram



APPENDIX: MODELS

We created a diagram of how a case interacts with a variety of stakeholders as a collaborative process.

