

Teaching Case – Student Materials

Paddles for Paws: Development of a Pickleball Tournament Event Management Database for a Cool Cause

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Hook

Whispering Hills' Animal Shelter workers are hot under the collar... literally. Whispering Hills' Animal Shelter's air conditioner has had electrical problems and needs significant repair and possible replacement so the animals and workers can chill out. Volunteers at the facility plan to host a pickleball tournament event in hopes of raising much needed funds. The shelter needs our help to develop an event management system that they can use to track tournament players and volunteers.

Abstract

The unprecedented increase in popularity of pickleball has driven Whispering Hills' Animal Shelter to consider offering a pickleball tournament to raise funds to repair the shelter's air conditioner. In this teaching case, students engage with a simulated client requirements interview process to design and develop a database system for a pickleball tournament fundraiser. This immersive approach allows students to practice eliciting and documenting system needs and requirements for an event management system, focusing on players, teams, and volunteers. The case can be used in a systems analysis and design or database development course. Multiple assignment options are provided allowing instructors to select an assignment based upon course material coverage. Suggested assignments include the development of process modeling diagrams such as data flow and swim lane diagrams, database design diagrams such as UML diagrams or ERDs, and database artifacts such as tables, queries, and reports.

Keywords: Teaching Case, Process Design, Swimlane Diagrams, Database Design, Tournament Event Management

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1. CASE STUDIES

Case studies provide faculty with the opportunity to incorporate simulated experiential learning opportunities into the classroom to allow students to practically apply course learning (Jenkins & Allen, 2017). Case studies engage students in the learning process and support higher order thinking as well as the development of several skills including, analytical, creative problem-solving, interpersonal, communication, and teamwork (Cappel & Schwager, 2002; Freeman & Zhang, 2022).

Although working with community clients would be a more ideal approach to hands-on learning, finding appropriate projects and working with willing clients can prove difficult and adds to the complexity of content coverage. (Wharton & Parry, 2012). Written case studies, like this manuscript, provide instructors with the opportunity to provide real world-type experiences to students without the additional concerns associated with meeting the expectations of an external client.

The pickleball tournament scenario was selected due to the burgeoning interest in pickleball. The case and associated assignments were developed to give students the opportunity to apply concepts addressed over the course of the semester to a simulated real-world environment. The author uses case studies each semester in her MBA MIS course. She has written several similar cases addressing business case writing and systems design and development concepts using different scenarios for the fictional community of Whispering Hills.

2. INTRODUCTION

Nonprofit organizations, such as animal shelters, often operate on limited budgets. Many of these facilities are in communities in which a significant proportion of the population earns below the median U.S. household income level (Alley Cat Allies, 2025). Although yearly budgets may be prepared to cover some unexpected expenses, the discretionary dollars available may be significantly limited. In this case, Whispering Hills'

Animal Shelter has experienced the extraordinary expense of a broken air conditioner and are turning to a pickleball tournament to help generate some additional funds. The administrators of the shelter would like to develop a pickleball registration database that can be used to register participants, keep track of tournament play and volunteer assignments, and communicate with players and volunteers before and after the event.

3. SETTING THE STAGE

Whispering Hills Animal Shelter is a donation-supported animal shelter in Missouri. Like many facilities, they rely on local volunteers to help run and support operations. Lisa and Mark Williams are strong community supporters with Lisa serving on the shelter's board as well as volunteering. As we begin the case, Lisa is at home, pouring over the shelter's budget in search of extra funds to allocate for an unexpected air conditioning problem. Her husband, Mark, has just finished playing pickleball at Pickleball Pete's Pickleball Complex and is excited to share his good news about a possible fund raising pickleball tournament opportunity. Sandy, an MBA student who has helped them with system development needs in the past, will be brought onboard to interview Pete about the pickleball tournament process as well as the data and reports that would need to be collected and generated to make the event a success.

4. THE BROKEN AIR CONDITIONER

"Okay, Pete's on board!" Mark excitedly exclaimed as he shut the front door and set his racket on the dining room table.

"What are you talking about?" his wife Lisa asked as she looked up from her spreadsheet.

"When I left the house this morning to play pickleball with my friends, weren't you combing the Whispering Hills' Animal Shelter's budget to find some places you could trim to cover the broken air conditioner?"

"Yes," Lisa sighed, "that's what I am still doing. Summer will be here before you know it and we've got to get the air conditioner problem fixed before we need it."

5. THE PICKLEBALL SOLUTION

Mark smiled, "I think I have a solution. As I was driving to the Pickleball Pete's Pickleball Complex, I started thinking about how we could raise money to cover the costs of getting a new air conditioner or, at the very least, repair the old one. I happened to run into Pete, the complex owner, and we started talking about the shelter and it's air conditioning issue. Pete offered to allow us to use the complex for a pickleball tournament. He thought it could provide some great exposure for the facility while helping a good cause. What do you think?"

"Wow!" Lisa exclaimed. "As popular as pickleball has become and with the soft spot that the animal shelter holds in our community, I think it's a great idea! However, I'll bet there's a lot of data that will need to be managed with the participant registrations, volunteers, and tournament play. I don't know anything about tournaments. Do you think that Pete would be willing to meet with Sandy, our MBA intern to explain the pickleball tournament process and the data that we would need to collect?"

"I'll give Pete a call while you contact Sandy," Mark offered. "He said he would do whatever he could to help, so it's just a matter of finding a time that works best for them to meet."

6. THE MEETING

"Thank you for finding time so quickly to meet with me," Sandy said to Pete as she took a seat in the snack bar of the pickleball complex the next day. I don't really know anything about pickleball or holding a pickleball tournament and all it entails. Would you mind giving me an overview?

Registration Form

"Of course," Pete began. "Before you start advertising the event, you will want to create a tournament registration form that players can fill out to participate. I think I have an old one that you can use as a template (Appendix 1). You will also want to have the players fill out a liability release form so that neither the shelter nor the pickleball complex are liable should someone get hurt. That is a standard form that we give out to anyone who plays at our facility, so, I will provide you with that. You will want to collect those and make sure that you give them to me before the

event. The only thing that you might want to record in your database regarding the liability release form is whether the player submitted it.

I suggest that you have players submit their forms and registration fees to the shelter about five days before the event so that the office staff will have time to enter player data, deposit fees, set up the brackets, and submit last-minute t-shirts orders. Once you have the brackets set up, you can enter the data for your first round of tournament play into your database. Office staff can run a report for the first round that can be used to direct players to their appropriate court when they check-in on for the event. I'll give you a copy of a bracket that you can use." (Appendix 2).

"While the tournaments are running, your event administrators will need to maintain the brackets and update round progress in your database based upon the reports that they receive from the runners. This information will be helpful throughout the event and when you create awards and certificates at the end."

Pickleball Games

"Each game is typically played to 11 points with the winner needing a two-point lead," Pete began. "If a game is tied at 10-10, play is continued until one player gets a two-point lead. Each match usually consists of a best-of-three games with the winner advancing after two games are won. Tournaments are usually set-up as double elimination. Thus, a team is no longer in the tournament after they have lost two matches. With double elimination, every team is guaranteed to play four games, thus making the cost of the tournament more economical to the player.

Since this is your first pickleball tournament, I would suggest that you only offer doubles tournaments, or games in which two-player teams compete against each other. You can offer beginner and advanced tournaments for men's doubles, women's doubles, and mixed teams doubles which consist of a man and a woman. You can reserve eight courts for your tournament, so you will be limited to sixteen teams playing simultaneously. Thus, you may want to use four courts for the men's tournament and four courts for the women's. The mixed doubles tournament will need to be offered at a separate time since you will probably have several of the same players participating.

Although pickleball play is generally self-officiated, you will probably want to have one

referee per game as a neutral set of eyes. Although this is supposed to be just a casual tournament for fun and fundraising, some of these pickleball players take their game play seriously, so having a referee for each game would be a nice courtesy to provide."

7. EVENT MANAGEMENT

"As popular as pickleball is," Pete began, "you can probably find some cloud-based programs that will fit your needs. I think you may want to investigate purchasing access to some pickleball tournament software before you invest your time in designing and creating a database?"

"That's a great idea," Sandy started. "The shelter's budget is pretty tight, though. I am not what they can afford... but, it wouldn't hurt to find out what is out there, how much it costs, and what it looks like. However, since we are here, can you tell me a little bit about the type of data that is collected for pickleball tournaments, how it is used, and the reports that are needed to put on a pickleball tournament fundraiser?"

"Of course," Pete began. "I'm no database expert," Pete added, "but I did have a couple of programming classes when I was in college, so I will try to talk in terms of the data you will need to collect and use.

Trying to code the process of managing the brackets could get a little complicated. You may want to just focus your database on management of the event in general and participants rather than assigning teams to matches and courts. You can use paper brackets to manually keep track of teams and courts as they advance through the tournament matches and rounds this year. There is plenty of data you are going to have to collect and reports you will want to create regarding players, rounds, and volunteers without having to worry about brackets, too.

Timeline: Before the event starts, you will want to record data about the event, the tournaments, the players, the teams, the volunteers, and the volunteer job roles. After each round, you will want to record the rounds' data for each team that played which would include two records per court. I've participated in a pickleball tournament or two, so let me try to break down the event and roles for you a bit.

Event: Assuming this event is successfully, you may want to use your database for future tournaments. Thus, you may want to include an event table that can help with future planning.

The table would contain fields that could be completed before the event began such as an event ID, the start and end dates, the start and end times, the name of the event, and a description. You might also want to include the location name and address as well as a description of the event that you can use for future flyers and advertisements. The event manager's ID should be included, too, so you will know who is responsible for the event. You would also want to include some fields that would be completed after the event such as total costs, amount raised, and a notes field for any additional details that you would like to record. The notes field might be helpful to include for each entity on which you are collecting data.

Tournament: Since you plan to have women's, men's, and mixed tournaments for intermediate and advanced players, you will want to collect information on your tournaments as well. You will want to include a type field to distinguish the different types of tournaments: men's, women's, or mixed. However, in the future you may want to add additional options to this field to include tournaments for youth and singles' tournaments. If the tournament is as popular as I anticipate, it may stretch across multiple days in the future, so you may also want to include a date field. Thus, the fields you might want to include for this entity are the event ID, tournament ID, type of tournament, date, skill level, and notes.

Players: Data collected about the players will mostly come from the registration forms and include their first and last names, address, city, state, zip code, cell phone, email address, skill level, age class, gender, t-shirt size, emergency contact information, payment and form of payment, and whether the liability form was included. You will also want to include the event ID field and create a player ID field to uniquely identify each player.

Teams: The role of the Teams table is to identify the teams and their members as well as the tournament of play and skill level. Thus, this table will include the event ID, a generated team ID, team member 1's ID, team member 2's ID, the skill level of the strongest player, and the tournament ID in which the team plans to participate. A player may be listed in two records if they participate in the men's or women's tournament as well as a mixed doubles tournament. You might also want to include a notes field to record any data that would be helpful to reference in the future.

Worker: The people who work the event will probably include shelter administration and staff as well as community volunteers. I have an example of a volunteer registration form that can give you an idea of the type of data that is collected. (Appendix 3) The volunteer registration form will contain the volunteers' data such as their first name, last name, address, city, state, zip code, cell phone, email address, age, role with the facility (such as an administrator, employee, or volunteer), job preference, work timeframe availability, guardian's name and cell phone (if applicable), t-shirt size, job preference, if liability release form was included, and notes. You will also want to include the event ID and create a worker ID number to uniquely identify each worker.

Worker Roles: Some of the roles that you may need for the tournament are setup, registration desk, snack table, referees, runner, administration, and clean-up. The runners will collect match results throughout the event and relay this information to administration. Administration will oversee maintaining the brackets and assigning teams to courts for each round. Some of the fields that you might collect to describe this area would be role ID, role name, role description, and a notes field.

Worker Assignment: You will want to use this table to match your workers to their roles, their tournament, and for some, their court. Thus, you may want to include the event ID, tournament ID, worker ID, role ID, court ID, and notes. The notes field might be used to store reminders for the event, or it could be used after the event to record notes about role performance or concerns the volunteer voiced about the role.

Rounds: For each round in the tournament, you will want to record the event ID, tournament ID, round ID, court ID, round date, and round time. You might also want to include a notes field to record anything that might be helpful to know about rounds for future events.

Match: Each round would have multiple matches playing simultaneously on multiple courts. The match table would consist of the event ID, round ID, match ID, court ID, winning team ID, and, again, a notes field to record anything you might need to know for the future.

Games: There are at least three games in each match since a team must win two games to win the match. This table will identify the teams, scores, and winners of each game. The fields that you might want to include in this table are Event

ID, round ID, match ID, game ID, team 1 ID, team 2 ID, team 1 score, team 2 score, the winning team's ID, and any notes you would like to remember."

Pete paused for a moment to give Sandy time to finish writing her notes. "Now that we have thought through the data that you will need to collect, let's think about the reports."

8. REPORTS

"From the game play perspective," Pete continued, "since you will handle tournament court and team assignment using a bracket, there probably will not be a lot of reports.

Team Rosters

You will probably want to create a roster of teams and their members to use before and during the event. This might include the team ID number, the team member names, their skill level, and the tournament in which they are playing.

Round Results

You might also want to create a Round Results report that would include information such as the tournament ID, round, court, team IDs, team member last names, scores, and result. This report might be run multiple times throughout the event as well as at the end for displaying the final results. (Appendix 4)

Volunteer Assignment Lists

You may also want to use the database to keep track and generate lists of volunteers and the roles they are assigned. For instance, along with the referee that you will need for each court, you will want to have volunteers to help setup, at registration, some on the floor making sure that the players have water and snacks in the rest area, runners to handle any issues and to relay round results to the tournament administrators, and tournament administrators. This report might include the tournament ID, volunteer ID, their name, their phone number, when they can work, and the role that they will play at the tournament."

Participation Certificates and Emails

Sandy looked thoughtful, "I guess we could use the database to create awards and participation certificates for the tournament winners, players and volunteers as well as send out courtesy reminders before the event to remind everyone of the location and starting time." (Appendix 5) "We could also inform the volunteers of their role assignment for the event in their email. After the event is over, we could send out thank you notes

to both the participants and the volunteers. Hopefully, the event will be so successful that we will want to host it next year and can use it in the future to invite people to participate in the bigger and better multi-day second annual event!"

9. WRAPPING UP

Sandy paused for a moment. "Wow, Pete! You've been a great help! Thank you for your expertise. Your knowledge of pickleball and databases has really given me a jumpstart into this project. If you don't mind, I would like to meet with you again after I have had some time to read through my notes and diagram out the process and database model to see if there is anything that I missed or did not understand before moving forward."

10. ASSIGNMENTS

This project could take multiple paths depending on the role and activities your instructor has in mind for you. Clarify with your instructor the role that you will play.

Process Model Diagrams

Assume the role of Sandy, the MBA-student. Draw out the functional process steps for the player registration and volunteer registration and role assignment process to verify that you have identified all of the steps and understand how the pickleball tournament event management process works.

1. Create a diagram modeling the event management process.
2. Write a short narrative to accompany your diagram to verify and support your interpretation of the process.
3. Once the narrative is written:
 - a. Compare the narrative to the diagram to identify and/or clarify missing steps in the process.
 - b. Compare the narrative to the actual description in the case to identify missing steps in the diagram or areas needing clarification.
4. As the diagram is developed, record any assumptions or interpretations you make, regarding the process, in a separate document.

Data Flow Diagrams

Assume the role of Sandy, the MBA-student. Create a data flow diagram to illustrate the flow of data through the pickleball tournament event management process to verify that you

understand how the data is collected, processed, stored, and disseminated.

1. Create a diagram modeling the flow of data through the process.
2. Write a short narrative to accompany your diagram to verify and support your interpretation of the process.
3. Once the narrative is written:
 - a. Compare the narrative to the diagram to identify and/or clarify missing steps in the process.
 - b. Compare the narrative to the actual description in the case to identify missing steps in the diagram or areas needing clarification.
4. As the diagram is developed, record any assumptions you make, regarding the processes, in a separate document.

Research Commercially Available Software Packages

Assume the role of Sandy and use AI as a starting point to help you research commercially available pickleball tournament management systems. Be sure to verify the accuracy of the results provided and delve deeper into the system recommendations. Write a short memo to Lisa describing the two best products available. In your memo, provide:

- the name of the software;
- the URL to the software's website;
- the cost;
- how the software is accessed (cloud-based or installed locally);
- a brief description of the software and its capabilities;
- pros and cons of the software; and
- your recommendation, buy or build and if buy which one.

Systems Analysis Design and Database Development

Assume the role of Sandy, the MBA-student in building the database.

1. Accumulate the functional and technical requirements for the system.
2. Prioritize the requirements.
3. Create system development diagrams.
4. Create a data dictionary.
5. Create the database.
6. Create queries to generate records needed for player and volunteer check-in, team rosters, round results, volunteer assignments, and data needed for various mail-merged emails (e.g., participation certificates, winner award certificates,

thank you letters, and general communication).

7. Create reports for the queries including attendance, team rosters, round results, volunteer assignments, and informational emails and letters to players and volunteers.
8. Sandy needs to incorporate privacy, security, and data error handling measures throughout the database. Include a brief written report describing:
 - a. the measures that were taken,
 - b. the data those measures will protect, and
 - c. how those measures will protect the data.
9. Use AI to generate records to populate your database.
10. As the database is developed, record any assumptions made in a short report.

Future System Enhancements

Once the initial system has been developed, future updates can be made to further enhance its capabilities such as:

1. Version 2.0 enhancements such as automated bracket team assignment, automated court assignment, and the addition of singles and youth tournaments,
2. Automation of reports and messages,
3. Enhanced privacy and security measures,
4. Integration with other systems,
5. Scalability, and
6. Data analytics.

Students may want to:

1. Write a short narrative explaining how one or more of the capabilities could be incorporated into their system and the value they would provide to the organization.
2. Incorporate one or more of the capabilities into your system.

11. POTENTIAL CHALLENGES & OBSTACLES

System Complexity

The tournament management system is somewhat complex. Students should focus on creating the people-oriented portions first (players and volunteers) and then incorporating more of the tournament management details.

Time Management

Projects normally take longer than one would expect. Breaking the project down into small goals to be completed over a period of time will allow time for asking the instructor questions that may arise.

Diagrams and Symbols

Should a student be unfamiliar with business process mapping or data flow diagrams, there are many resources available online that describe the diagrams and provide examples of the diagrams and their symbols including:

- Creately Business Process Modeling Techniques with Examples: <https://creately.com/blog/bpm/business-process-modeling-techniques/>
- Asana's Guide to Process Mapping Process Mapping <https://asana.com/resources/process-mapping>
- The tutorials associated with business modeling software such as Lucidchart, draw.io, smartdraw.com, and Visio.

12. CONCLUSION

After Sandy developed her database vision, diagrams, and mock-ups, she met again with Pete to review the details. Once she felt comfortable with the plan, she met with the shelter's board to discuss what she had found.

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APPENDIX 1
Player Registration Form

Organization Name

Pickleball Tournament Fundraiser

Player Registration Form

First Name: _____ Last Name: _____

Address: _____

City/State: _____ Zip Code: _____

Email: _____ Cell phone: _____

Skill Level: (Circle one) Intermediate Advanced Gender: ____ Male ____ Female

T-Shirt Size: (Circle one) S M L XL XXL Age Class: ____ Teen ____ Adult ____ Senior

Emergency Contact

Name: _____ Cell phone: _____

Events

_____ Men's Doubles Partner Name _____

Need Partner: ____ Yes ____ No Partner Skill Level: _____

_____ Women's Doubles Partner Name _____

Need Partner: ____ Yes ____ No Partner Skill Level: _____

_____ Mixed's Doubles Partner Name _____

Need Partner: ____ Yes ____ No Partner Skill Level: _____

The tournament is a double elimination tournament. You must play in the higher skill level if partners are not the same skill level. The tournament will be double elimination. Top bracket matches will be 2 out of 3 games to 11 points with a win by 2.

Fees:

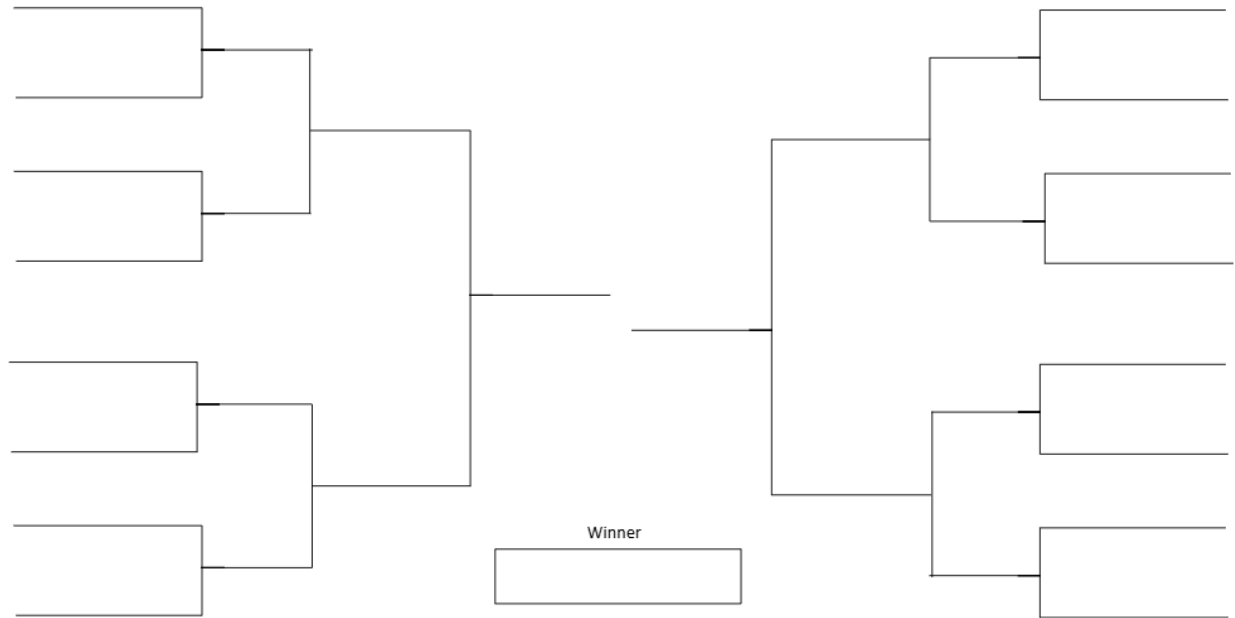
\$25 per person for first tournament

\$10 per person for the second

Make checks payable to Whispering Hills Animal Shelter. Amount included: _____

Liability release form included: ____ Yes ____ No

APPENDIX 2 Bracket Example



APPENDIX 3
Volunteer Registration Form

Organization Name

Pickleball Tournament Fundraiser

Volunteer Registration Form

First Name: _____ Last Name: _____

Address: _____

City/State: _____ Zip code: _____

Email: _____ Cell phone: _____

Age: _____ Gender: ☐ Male ☐ Female

Shelter Relationship: (Circle One) Volunteer Employee Administrator

T-Shirt Size: (Circle one) S M L XL XXL XXXL

Guardian Contact Info (If under 18 years old.)

Name: _____ Cell phone: _____

Emergency Contact

Name: _____ Cell phone: _____

Volunteer Interest

Time Availability of Event: ☐ Morning ☐ Afternoon ☐ All Day

Job Role Preference (Please rank 1 to 3 with one being top interest)

☐ Setup ☐ Registration ☐ Snacks ☐ Referee ☐ Runner ☐ Cleanup

APPENDIX 4 Pickleball Round Results Report Example

Round Results

June 2025 Doubles Pickleball Tournament

	Tournament ID	Round	Court ID	Team ID	Team Names	Score	Results
1	MenInt01	Rnd01	Crt01	MID01	Anderson/Wilson	2/3	Won
2	MenInt02	Rnd01	Crt02	MID02	Brown/James	2/3	Lost
3	MenAdv01	Rnd01	Crt03	MID03	Smith/Carter	2/3	Won
4	MenAdv02	Rnd01	Crt04	MID04	Thomas/Robins	2/3	Lost
5	WomInt01	Rnd01	Crt05	WID01	Davidson/Jones	3/5	Lost
6	WomInt02	Rnd01	Crt06	WID02	Warren/Miller	3/5	Won
7	WomAdv01	Rnd01	Crt06	WID03	Brown/Thomas	2/3	Won
8	WomAdv02	Rnd01	Crt08	WID04	Anderson/Wilson	2/3	Lost
9	MixInt01	Rnd01	Crt01	XID01	Wilson/Wilson	3/5	Won
10	MixInt01	Rnd01	Crt02	XID01	Brown/Brown	3/5	Lost

Appendix 5 - Email to Volunteer Report Example

Whispering Hills

Dear Amanda,

Thank you so very much for volunteering to help at the Whispering Hills' Animal Shelter pickleball tournament. The Shelter would not be able to continue without supporters like you. We are so grateful for you and your assistance.

Just a reminder, the event will start at 8:00 a.m. on Saturday, June 7th. We are asking volunteers assigned to registration to arrive 1 hour before the event starts and all other volunteers to arrive 30 minutes before their shift starts to sign in and get instructions.

You will be helping with: **Snack bar**

Just a reminder, Pickleball Pete's is located in Whispering Hills, MO at
1000 Main Street

For questions, please contact the office at (555) 555-2222.

Sincerely,

Lisa

Whispering Hills' Animal Shelter

Tel (XXX) 555-2222	100 Shelter Lane
Fax Fax (XXX) 555-2223	Whispering Hills, MO 63901
