CS 444/544 Spring 2018 Lab 3

Lab 3 is due by 11:59pm on Friday, April 20th. Don't plan on any extensions, Lab 4 will also need a substantial amount of time. Lab 3 actually has two parts (each worth 50 points): one is a paragraph you'll turn in to me about your participation in games as a player. The other is a group presentation where you talk about the games you ran as moderator with your group. Those presentations will be 5 minutes long and will be on April 23rd, 25th, and 27th.

You should form your own group of <u>no more and no less than three</u> people. Once you have a group of 3, email me.

<u>Part 1:</u>
Submit part 1 as an email to crandall@cs.unm.edu. You should write no more or no less than one paragraph. Do not include any attachments or links or anything, simply include in the body of the email a paragraph with an affirmation that you participated in at least 5 games and a description what you learned/did. The rubric for grading for Part 1 will be:

20 points for participation: Did you play as a player in at least 5 games or not? If so, 20 points. If not, 0 points (even if you participated in 4, if you don't meet the minimum of 5 it's 0 points). **Note: All 5 games that you count towards this minimum have to be run by different moderators/groups.**
20 points for learning what the moderator is trying to teach you: You don't have to describe what you learned in each of the 5+ games you played, but in 2-3 sentences give me the highlights, *i.e.*, the most interesting things you learned.
10 points for going above and beyond: **If you're not cheating, you're not trying.** To get from 40 to 50 points, you need to come up with your own exploits or strategies, or at least try to do something that was not prescribed to you by the moderators or me. Describe what you did in 2-3 sentences.

If you want to tell me more, send a separate email with all the attachments and text you want, but in terms of grading I'll just go off of the turn-in email. (In general, you can email me any length of email about anything any time and I'll be happy to read it and discuss it, the one paragraph limitation is for the email that's for grading purposes only.)

<u>Part 2:</u>
Part 2 is a group grade. There is no rubric, every group will get 50 points as long as they do what they're supposed to (run three games, teach the players something, make their presentation). Every group must run two (2) games, each with a minimum of 7 players. I recommend planning on having more than 7 players, in case some don't show up. Keep a roll call of who actually participates in each game and email it to me (that's not part of your grade, but I need it to make sure people don't cheat by saying they took part in games they didn't take part in). You must create some kind of materials (and potentially also specifically configure your server) to convey some concept. You can choose an existing vulnerability in Werewolves and re-enable it, find a new one, focus on information flow instead of exploits, or whatever. The materials you create can be a text file, a video, live instruction, a cartoon, or whatever you want, but there must be something tangible that you can email to me if I ask for it. For the presentation, focus on saying what you did and how the games went, as well as conveying the concept for the rest of the class that didn't participate on your server. We'll present in random order, so be prepared to present any of the three days scheduled for presentations. One group member can present, or all three, or whatever. If a group member has an excused absence planned that week let me know ahead of time.

Stuff you should read:

You are expected to do your own work as a player in the games, and do your share of the work as a moderator in your group. You are encouraged to discuss the assignment with your classmates, even low-level details and sharing of source code is okay. But in terms of a strategy or specific attack as a player, you should develop your own unique one (even if it's just a modification to a bash command out of the CSET or 3GSE papers that's okay, but you should invent something new even if it's just a new way of using the command). As a reminder of the course policy, if you cheat on any assignment in this class including this assignment (cheating includes, but is not limited to, representing somebody else's work as your own or fabricating files or text to make it look like you completed the assignment) you will receive an F in the class. However, to the extent that cheating means trying to gain an advantage in a Werewolves game in a way that is consistent with University policy, course policies, law, *etc.* cheating is strongly encouraged.

You are only authorized to carry out attacks within the virtual machines. No network-based attacks (*e.g.*, port scans, network side channels, man-in-the-middle, ARP poisoning, *etc.*) are allowed, and you are not authorized to carry out any kind of attack at all on any machine other than the virtual machines designated for gameplay. *E.g.*, do not try to spy on people on the b146-* machines.

On the designated virtual machines you can carry out any attack you want and try to gain the privileges of any user you want (even moderator or root), modulo a few caveats:

- No denial-of-service attacks of any kind, or any behavior that prevents others from playing the game. Fork bombs are too easy to do and not fun for anybody.
- If you want to carry out any kind of social engineering attack, shoulder surfing, *etc.* that is not 100% contained within the designated virtual machines, check with me first before attempting it.
- Do not use passwords you care about on the designated virtual machines, or upload any files or secret info that you don't want the whole class to see. Remember that the group running the server all have root on the machine, and other students might gain root privileges, too.

If a game does not complete (i.*e.*, either the werewolves or the townspeople win), it doesn't count as either a moderated game for the group or a played game for the players unless the group moderating the game gets in touch with me and gets my permission to count it. I may let games that didn't complete count in cases where most of a game was played and then someone crashed the server, or something like that. Note that you should never try to crash the server on purpose.

We will probably set aside a few days for games to happen, but most games will need to happen outside the regular class period. People can play from home, from any lab on campus, or wherever. I would recommend that the group sets up some out-of-band channel for all the players, like a Google hangouts session or something along those lines. Every group is responsible for recruiting players for their 2 games, setting things up, setting up a time, giving players accounts on the system, and so on. I would recommend just creating 20 or more players from the beginning and having one account per person (you'll need at least 14 different people to play as players on your server). Feel free to use nets-chat, but not too heavily. *E.g.*, send a Doodle poll link for a game, but don't start a 100-email thread trying to schedule a game.

If you do find an exploit or strategy that makes you dominant in the game, please still allow each game to progress. It'll be more fun to toy with people than to swing the game in one direction or another, and

cheating and having fun are more important than winning.

Don't just do the bare minimum (2 games as a moderator/group and 7 games as an individual/player). Not just for general cheesy “I need to talk about your flair” reasons, but in terms of the way the math works out if everyone tries to do the minimum there will be individuals who can't find games to play in and/or (hopefully or) games that don't have enough players. Once you've reached the minimum consider moderating one more game or playing in a couple more to help others reach the minimum requirements.