CSCI 4220 Assignment 2

February 28, 2018

Zeroconf Rock Paper Scissors Game

Due Date: Tuesday, March 20, 11:59:59 PM

This is a team-based (max. 2) assignment. We've all played the game, "Rock Paper Scissors" (RPS). For this assignment, we will be building a RPS server we can `netcat` into. This will be dual-client only (i.e., two people can play at a time). Additionally, it should support Zeroconf/Bonjour.

How will you find the port information for your RPS game? It should use Zeroconf to register itself. Subsequently, you should be able to find the information about your service by resolving it. Make sure you can see this information appear on your Zeroconf browser. Please only use the `"local"` domain. During development the type of your server should be `"_rps._tcp"`. For the name, you should use your RCS/CS username.

Unlike most iterative servers, this one will require the use of the `select()` system call due to the requirement of Zeroconf/Bonjour. The sample code from the Zeroconf book and 6.21/6.22 of our textbook may be helpful.

The server should not exit upon finishing game. Instead, if should continue to wait for additional client connections.

Example output below. User input is in bold.

```
$ dns-sd -L laprej _rps._tcp local
Lookup laprej._rps._tcp.local
DATE: ---Wed 28 Feb 2018---
0:18:24.402 ...STARTING...
0:18:24.403 laprej._rps._tcp.local. can be reached at loki.local.:58336 (interface 8)
^C
$ nc localhost 58336
What is your name?
bob
Rock, paper, or scissors?
rock
PAPER covers ROCK! JUSTIN defeats BOB!
$ nc localhost 58336
What is your name?
bob
Rock, paper, or scissors?
scissors
ROCK smashes SCISSORS! JUSTIN defeats BOB!

Meanwhile, on another terminal, Justin saw this:

nc localhost 58336
What is your name?
```

```
justin
Rock, paper, or scissors?
paper
PAPER covers ROCK! JUSTIN defeats BOB!
$ nc localhost 58336
What is your name?
justin
Rock, paper, or scissors?
rock
ROCK smashes SCISSORS! JUSTIN defeats BOB!
```