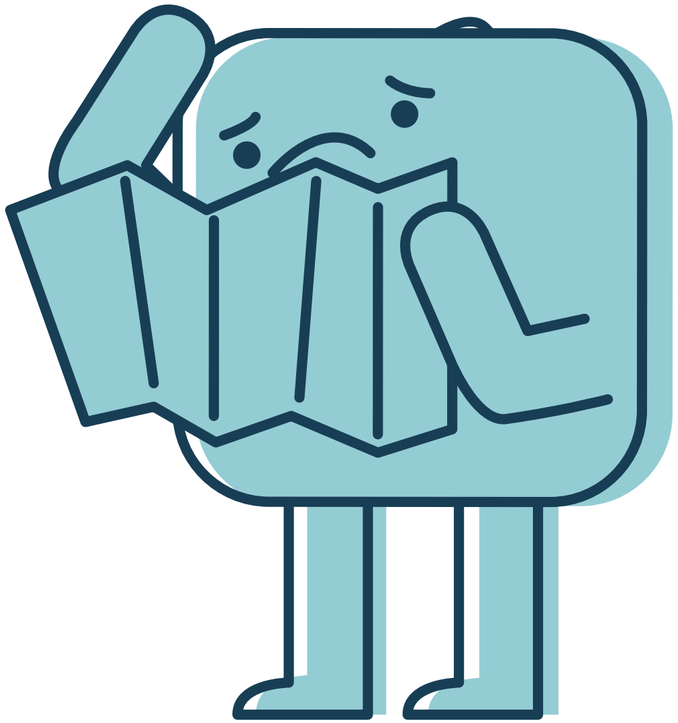
COMPUTER NETWORKING

404
NOT FOUND

PRESENTATION BY

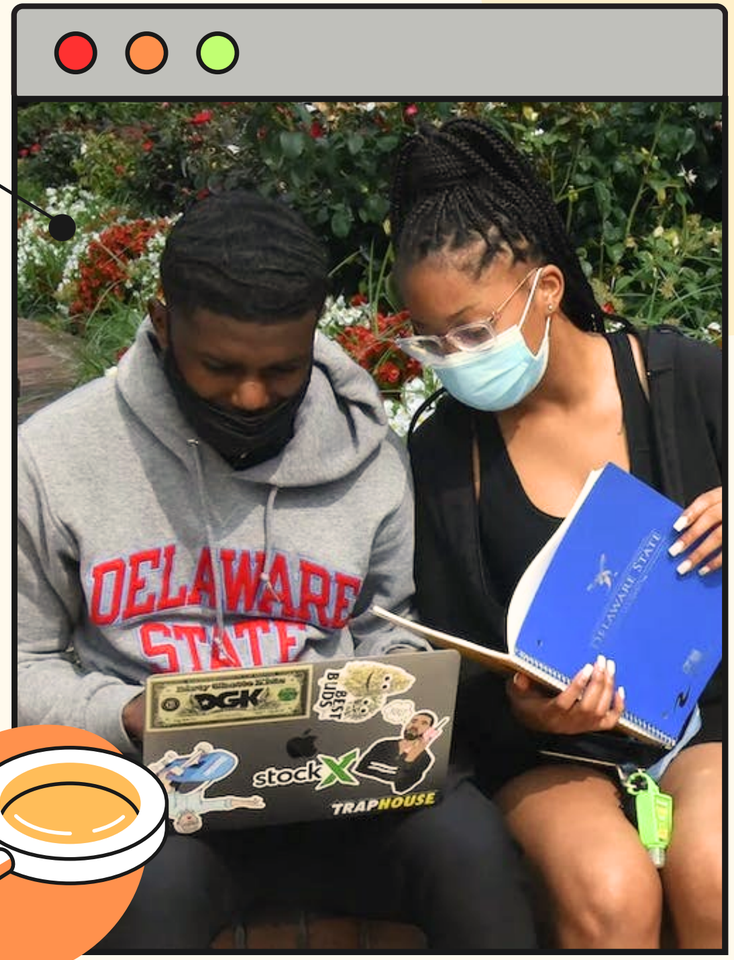
Darian Johnson, Q'Lae Mann, Tavianne Maultsby, Akai Minor, Jessica Perez

INTRODUCTION



PROBLEM STATEMENT

DSU Freshmen need a fun scavenger hunt game that will introduce them to the offerings and services on the campus, because it will allow them to familiarize themselves with the campus for the near future.



CONCEPT

Scavenger Hunt for incoming DSU students

SCRUM METHODOLOGY

BRAINSTORM

As a group, collectively coming up with an effective use for a P2P network here at DSU

HOW MIGHT WE

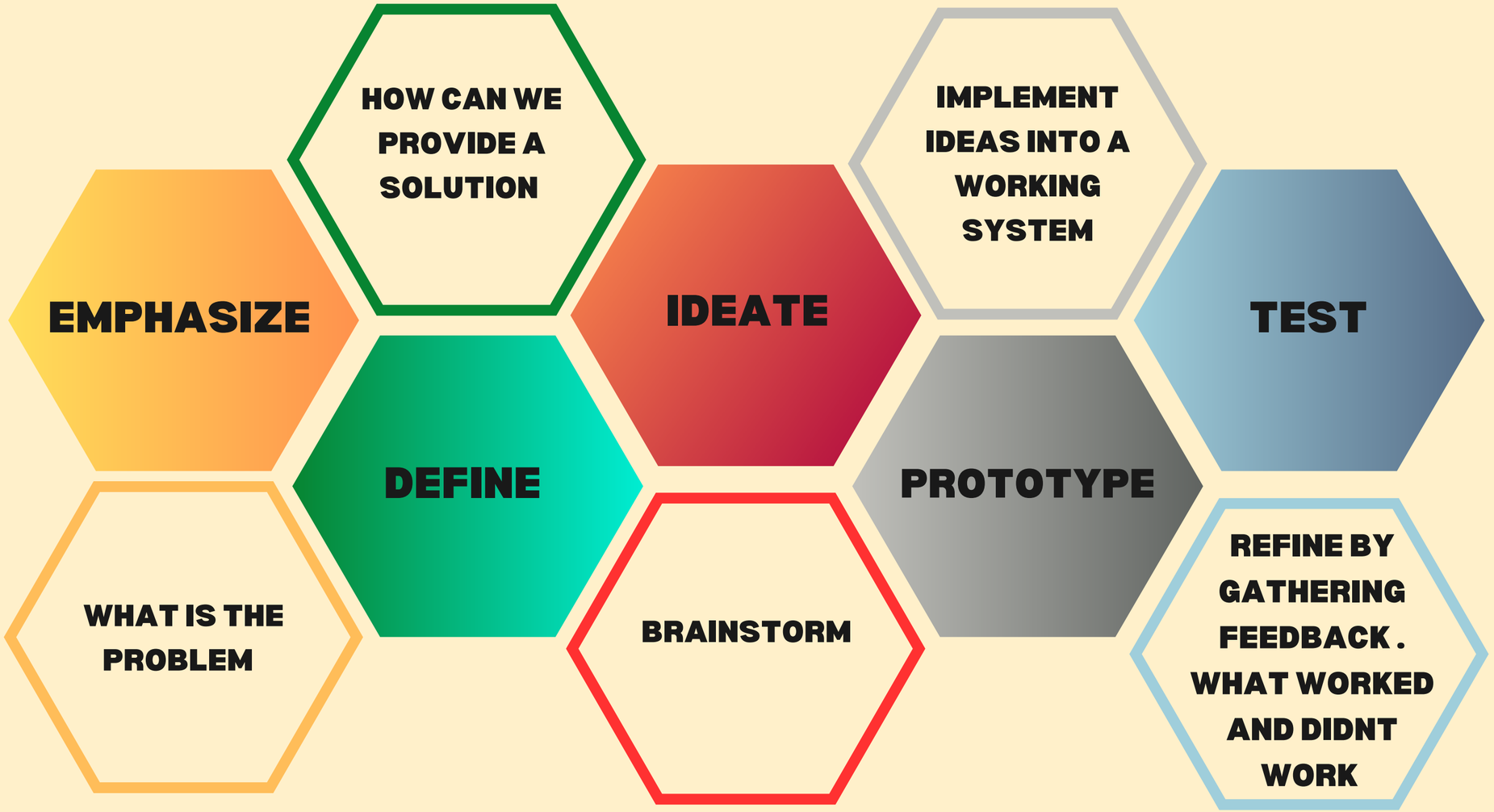
Taking the time to develop How Might We questions to assess each step of our creative process.

USER STORIES

Creating thorough user stories that lead us to first steps in the build of our Scavenger Hunt

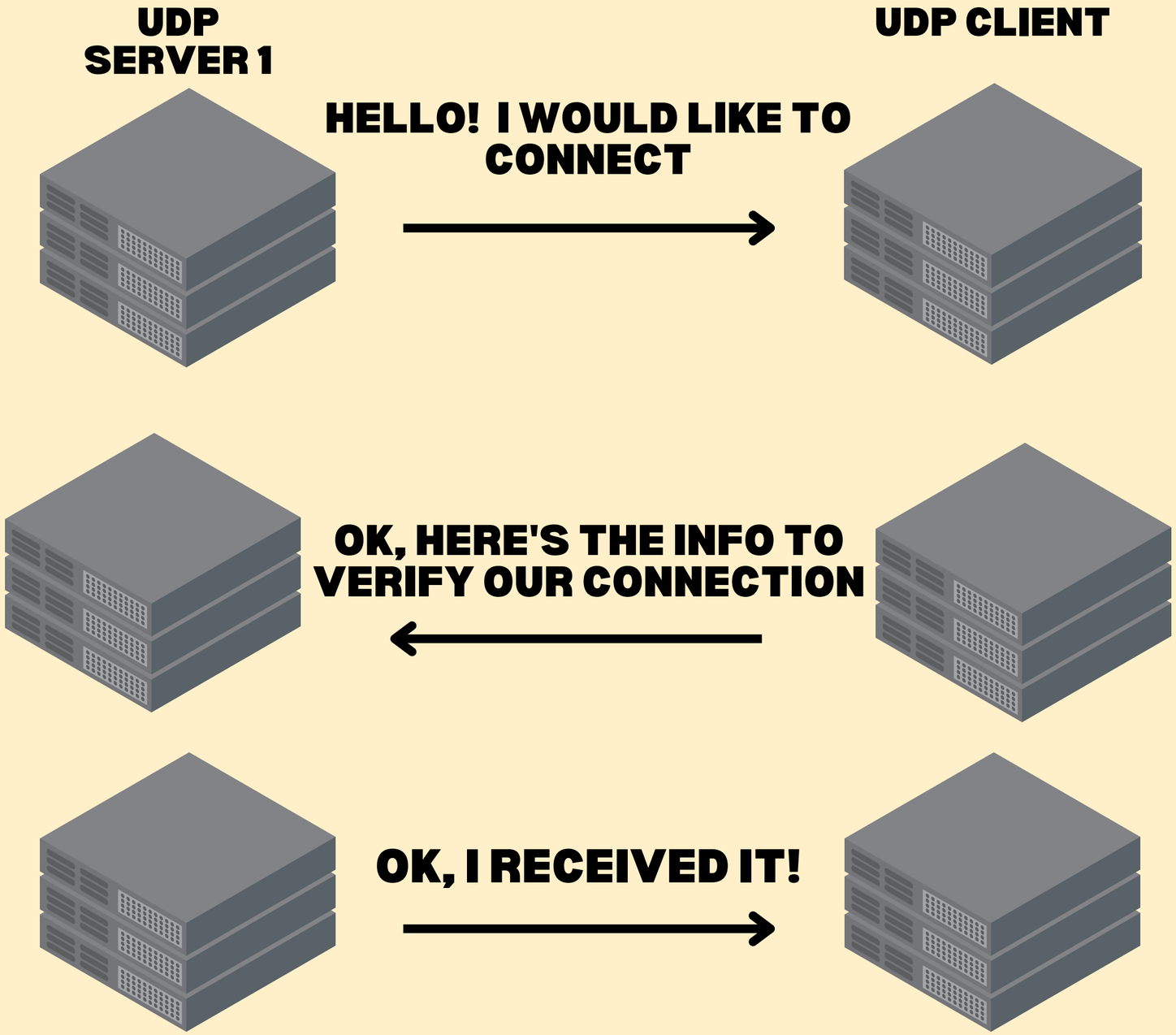
Sprint Planning

DESIGN THINKING



DESIGN PROTOCOLS

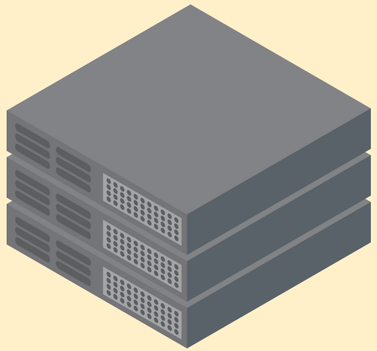
INITIAL CONNECTION



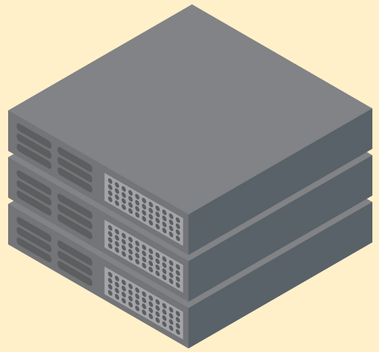
INITIAL CONNECTION

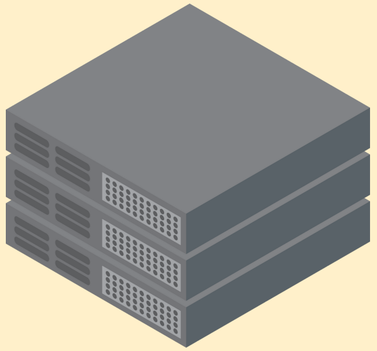
UDP
SERVER 1

UDP
CLIENT

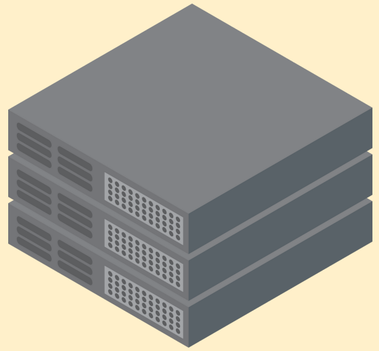


NICE, HERE'S
THE INFO ON
THE PEER, &
THE QUESTION
THEY ARE ON





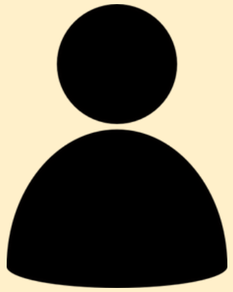
OK, I GOT THE INFO!!



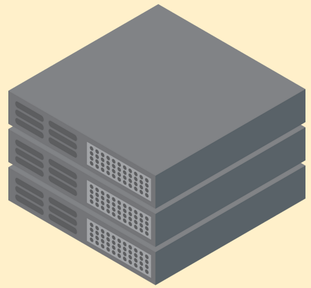
CORRECT RESPONSE

STUDENT

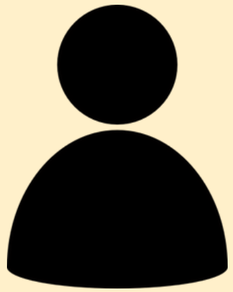
SERVER

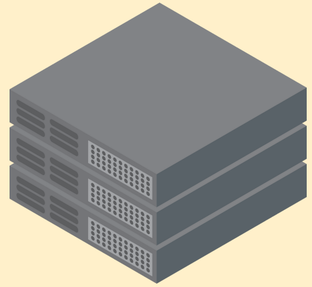


HELLO, I'M GOING TO SEND MY VERIFICATION

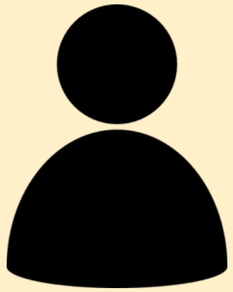


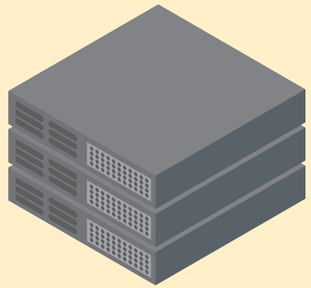
OK, GOT IT WHAT IS YOUR ANSWER TO *THIS* QUESTION?





ANSWER GIVEN.



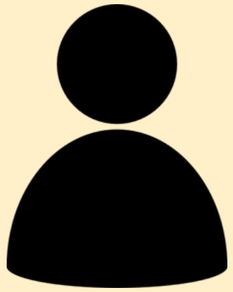


THAT'S RIGHT.

INCORRECT RESPONSE

STUDENT

SERVER



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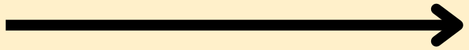

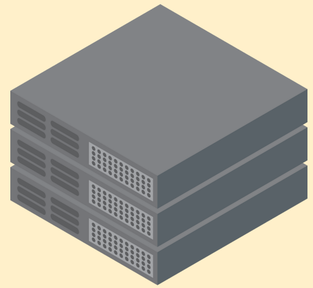

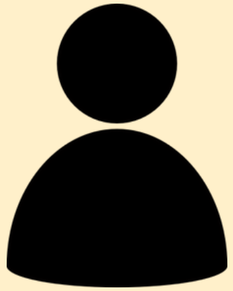

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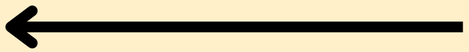
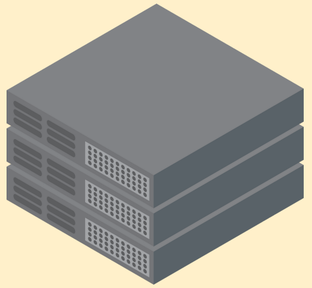
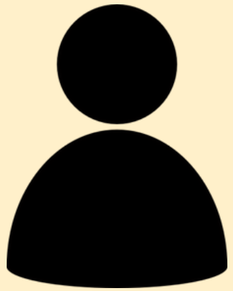
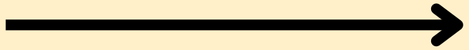
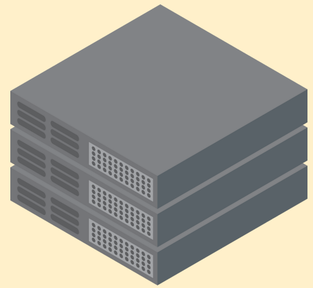




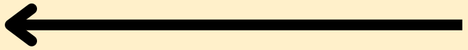


ANSWER GIVEN.





NO,SORRY, TRY AGAIN.



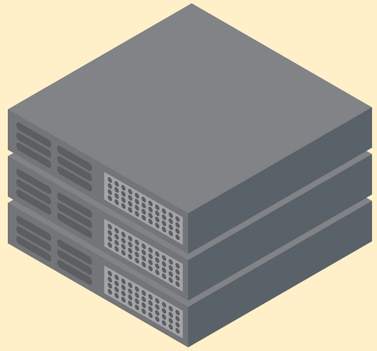
CLOSE SOCKET

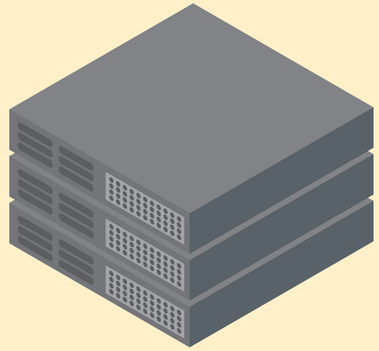
UDP
SERVER 1

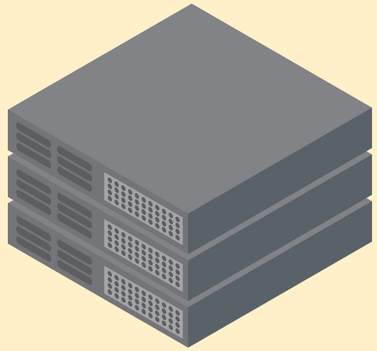
HEY, ALL
QUESTIONS HAVE
BEEN COMPLETED.

YOU CAN
SHUTDOWN OUR
CONNECTION

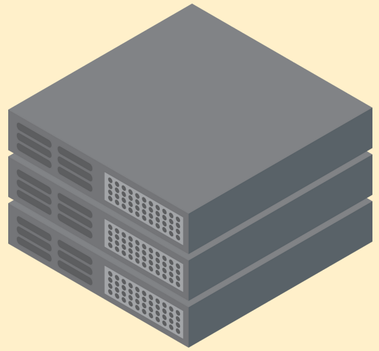
UDP
CLIENT







OK, WILL DO.
SHUTTING
DOWN OUR
CONNECTION



SYSTEM ARCHITECHURE P2P

STUDENT

has unique ip, port & asks server:

BOTTLE

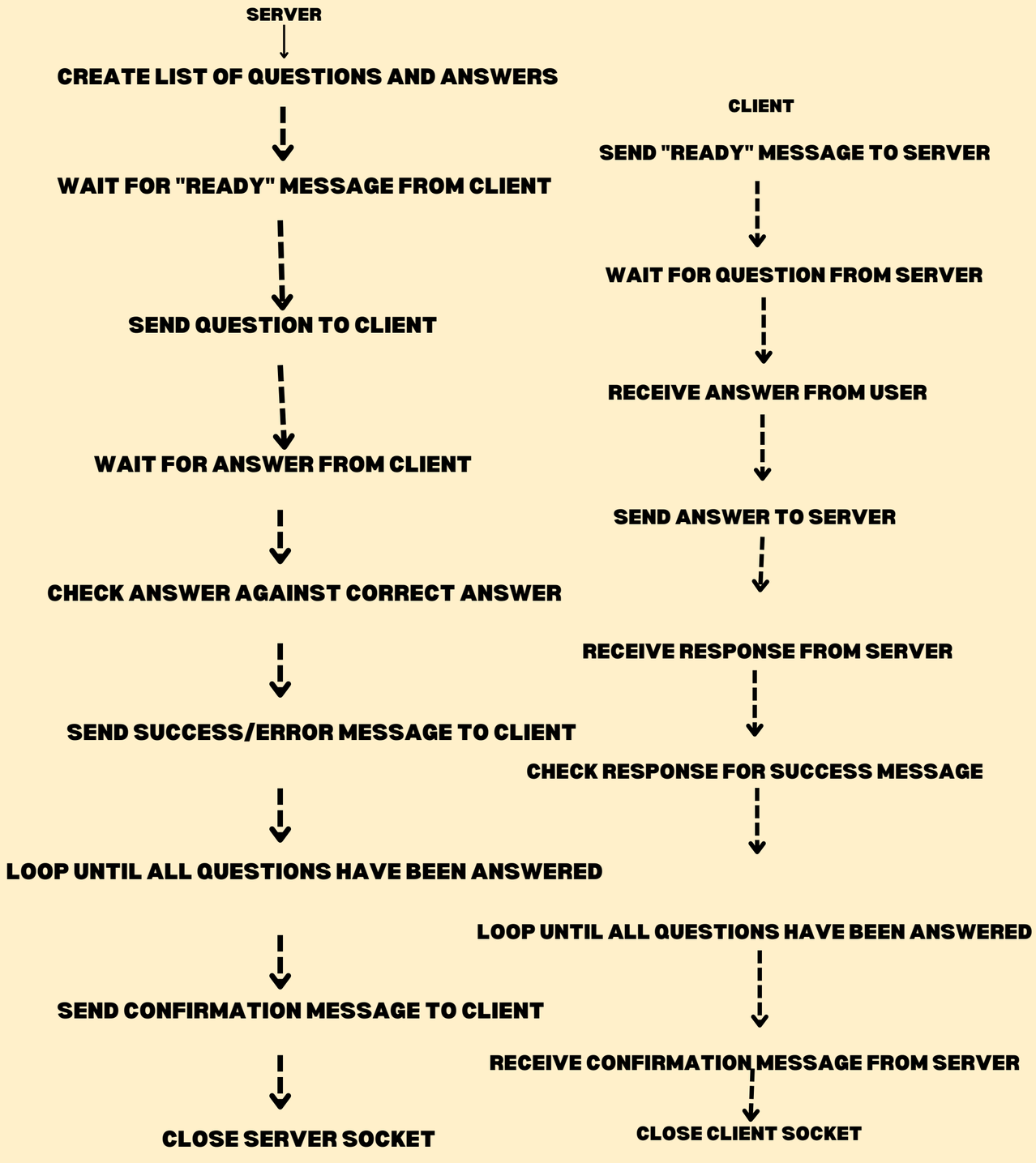
generate question, awaits correct response from user

SERVER 1

generate question, awaits correct response from user

SERVER 2

generates question ONLY after receiving correct response from user's server 1 question


SERVER
CREATE LIST OF QUESTIONS AND ANSWERS
WAIT FOR "READY" MESSAGE FROM CLIENT
SEND QUESTION TO CLIENT
WAIT FOR ANSWER FROM CLIENT
CHECK ANSWER AGAINST CORRECT ANSWER
SEND SUCCESS/ERROR MESSAGE TO CLIENT
LOOP UNTIL ALL QUESTIONS HAVE BEEN ANSWERED
SEND CONFIRMATION MESSAGE TO CLIENT
CLOSE SERVER SOCKET
CLIENT
SEND "READY" MESSAGE TO SERVER
WAIT FOR QUESTION FROM SERVER
RECEIVE ANSWER FROM USER
SEND ANSWER TO SERVER
RECEIVE RESPONSE FROM SERVER
CHECK RESPONSE FOR SUCCESS MESSAGE
LOOP UNTIL ALL QUESTIONS HAVE BEEN ANSWERED
RECEIVE CONFIRMATION MESSAGE FROM SERVER
CLOSE CLIENT SOCKET

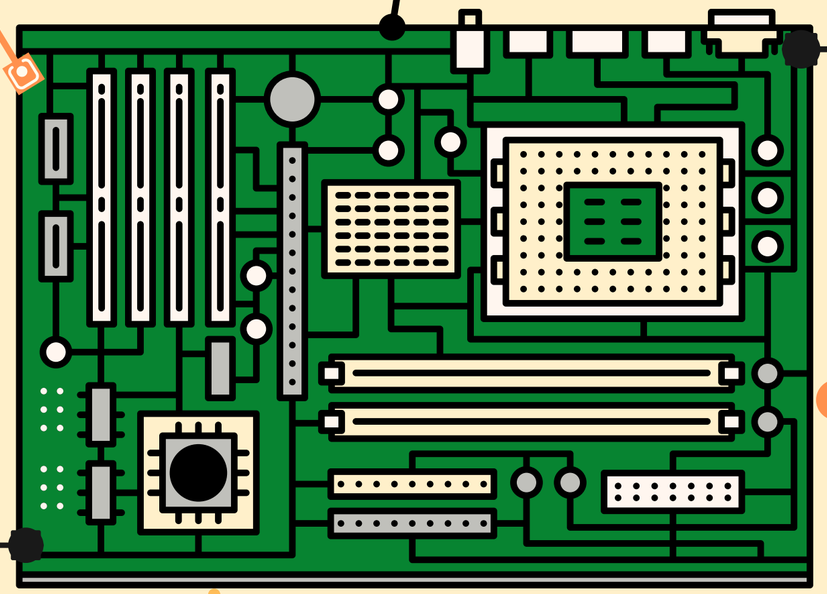
DEMO

CHALLENGES ENCOUNTERED

WEB SERVER

design thinking

Raspberry Pi Kiosk



bottle/flask

updating sprint planning

TCP / UDP connections

ROLES

TAVIANNE

design protocol, Bottle framework, user stories

AKAI

coding function for questions

DARIAN

Bottle/flask, Design Protocol, Server/Client, Setup Kiosk

JESSICA

User stories, how might we

Q'LAE

Coding the UDP servers for the scavenger hunt

CONCLUSIONS

There are many ways of utilizing a P2P network at DSU, and we decided it would be best used to inform and teach incoming students about the campus and its history in a fun way.

- Understanding UDP and TCP uses/functions
- researching methods of implementation
- collaborating amongst one another

Thank you