

# CSCI 466: Networks

Lecture 1: Introduction, Syllabus, and Logistics

Reese Pearsall  
Fall 2022

# Communication in the Digital Era



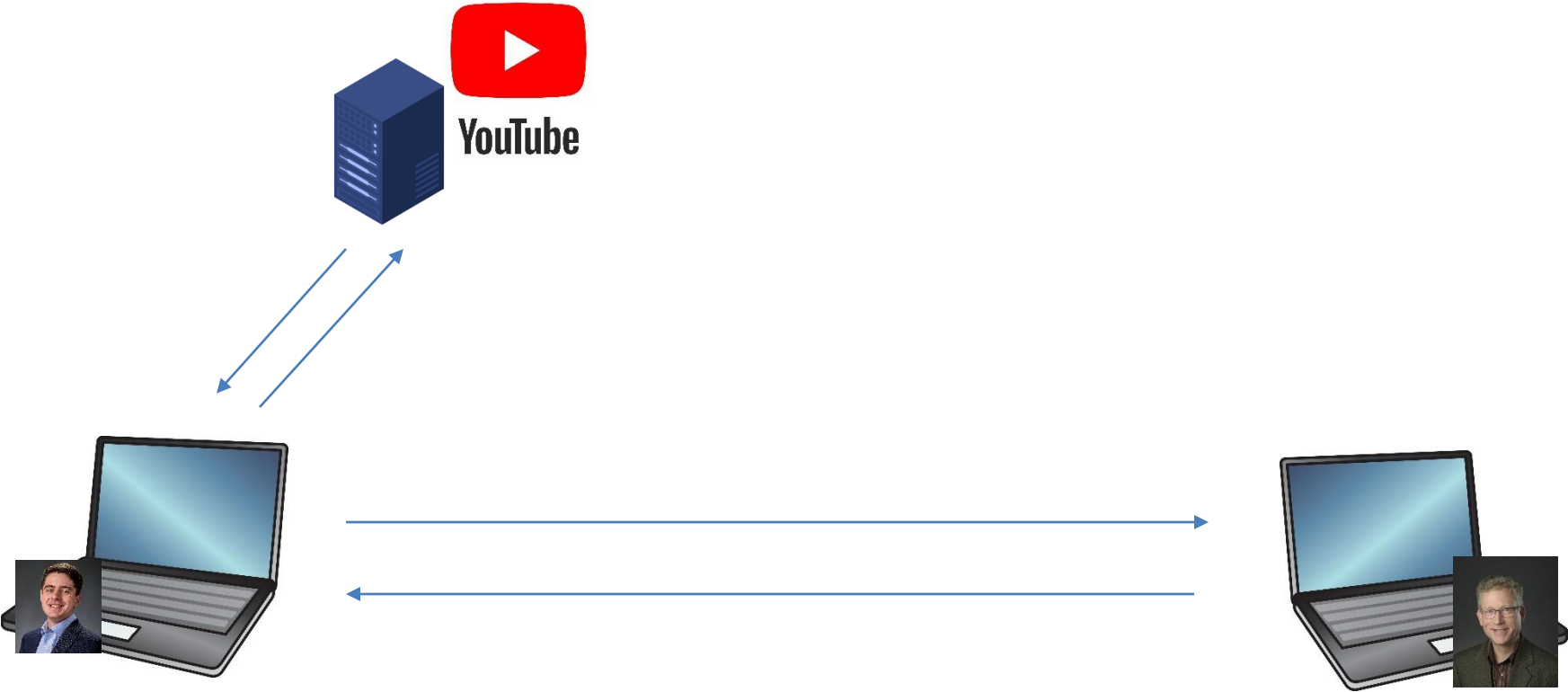
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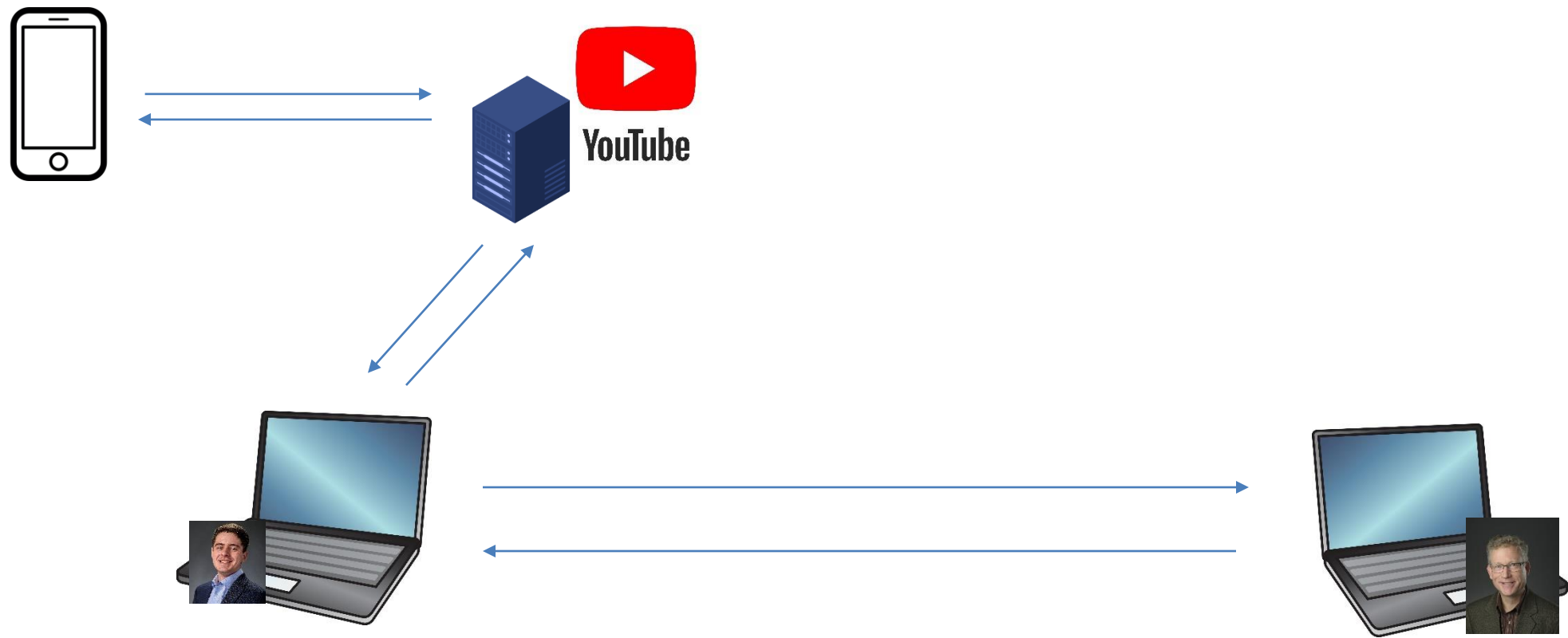
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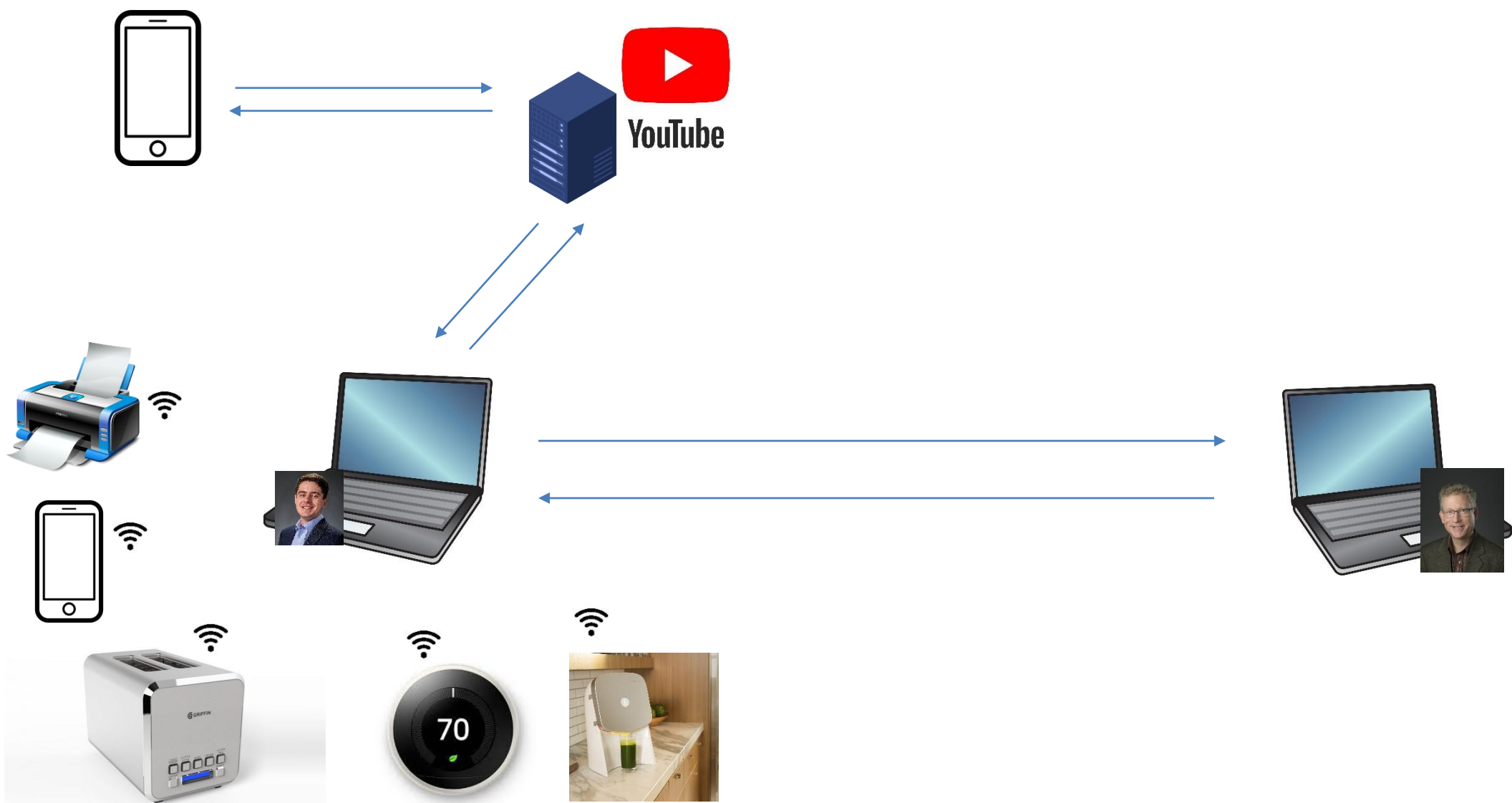
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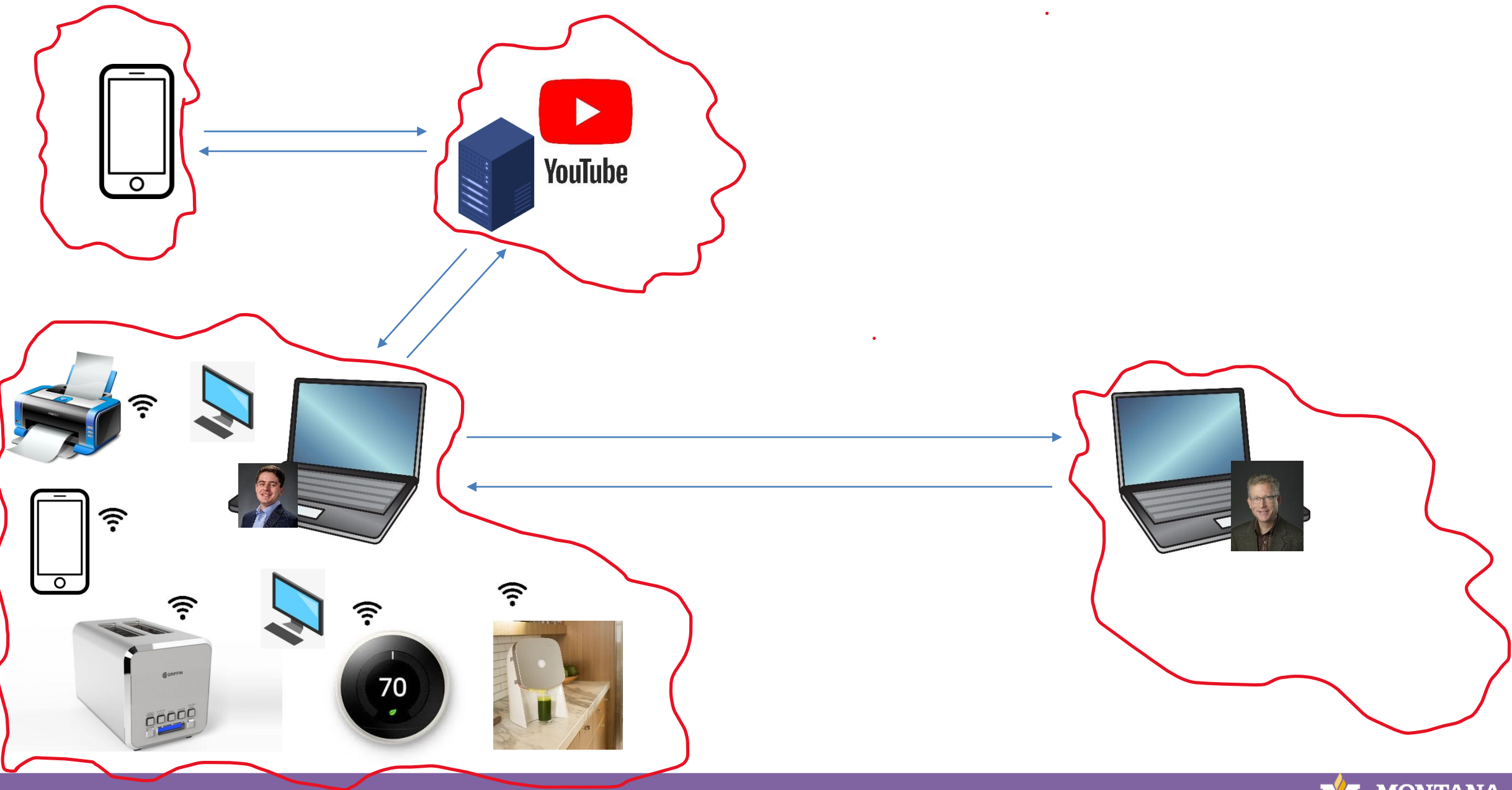
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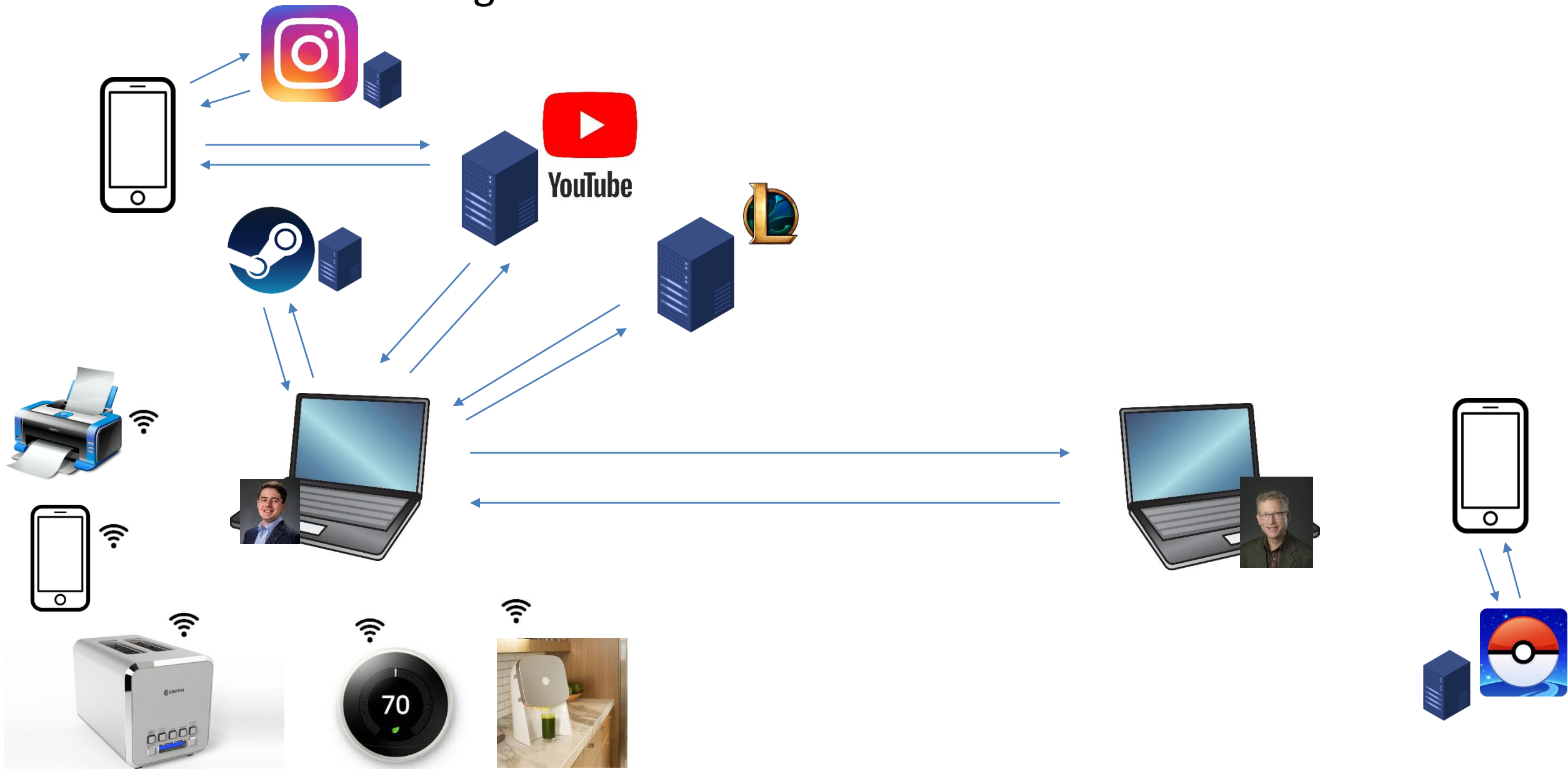


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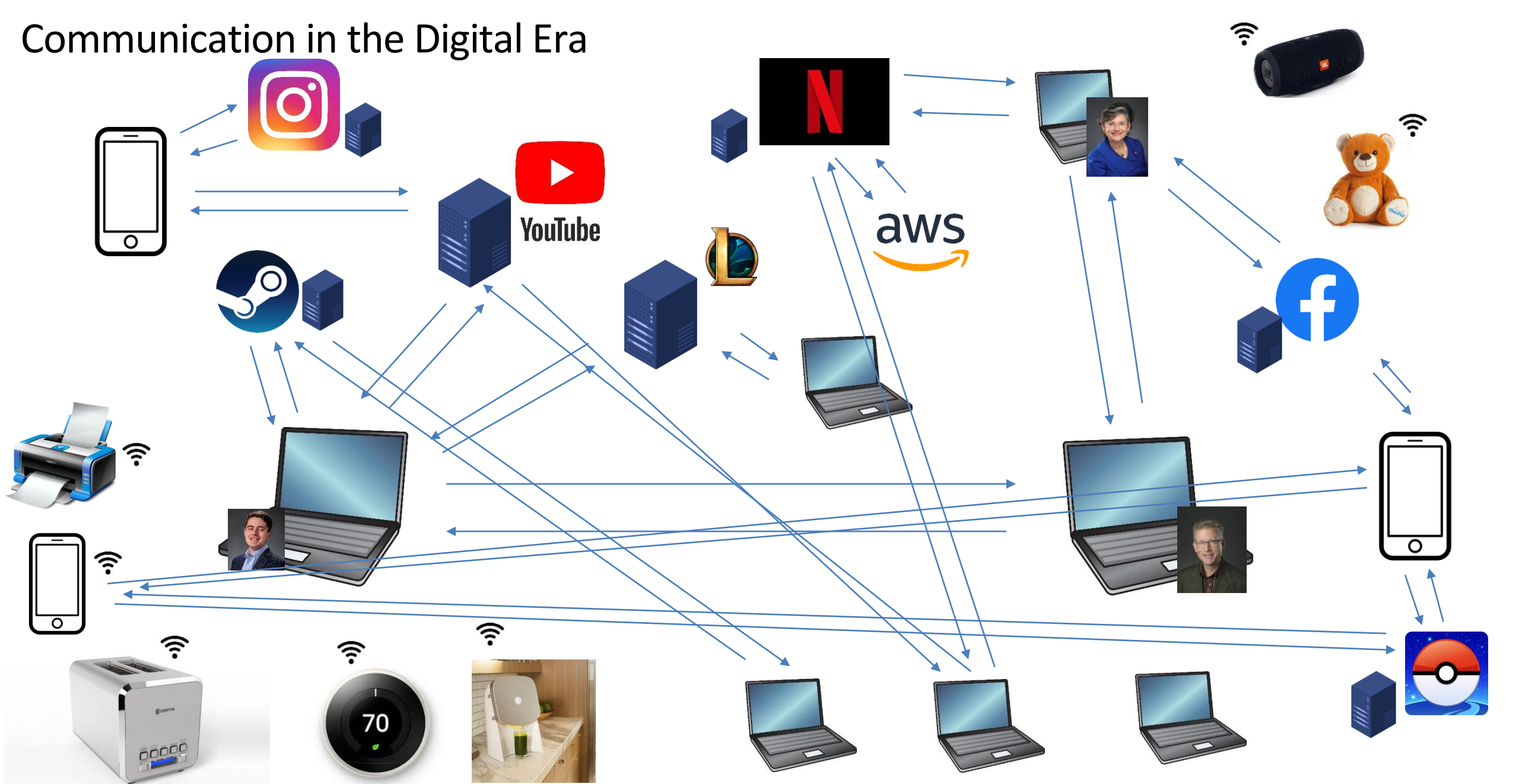




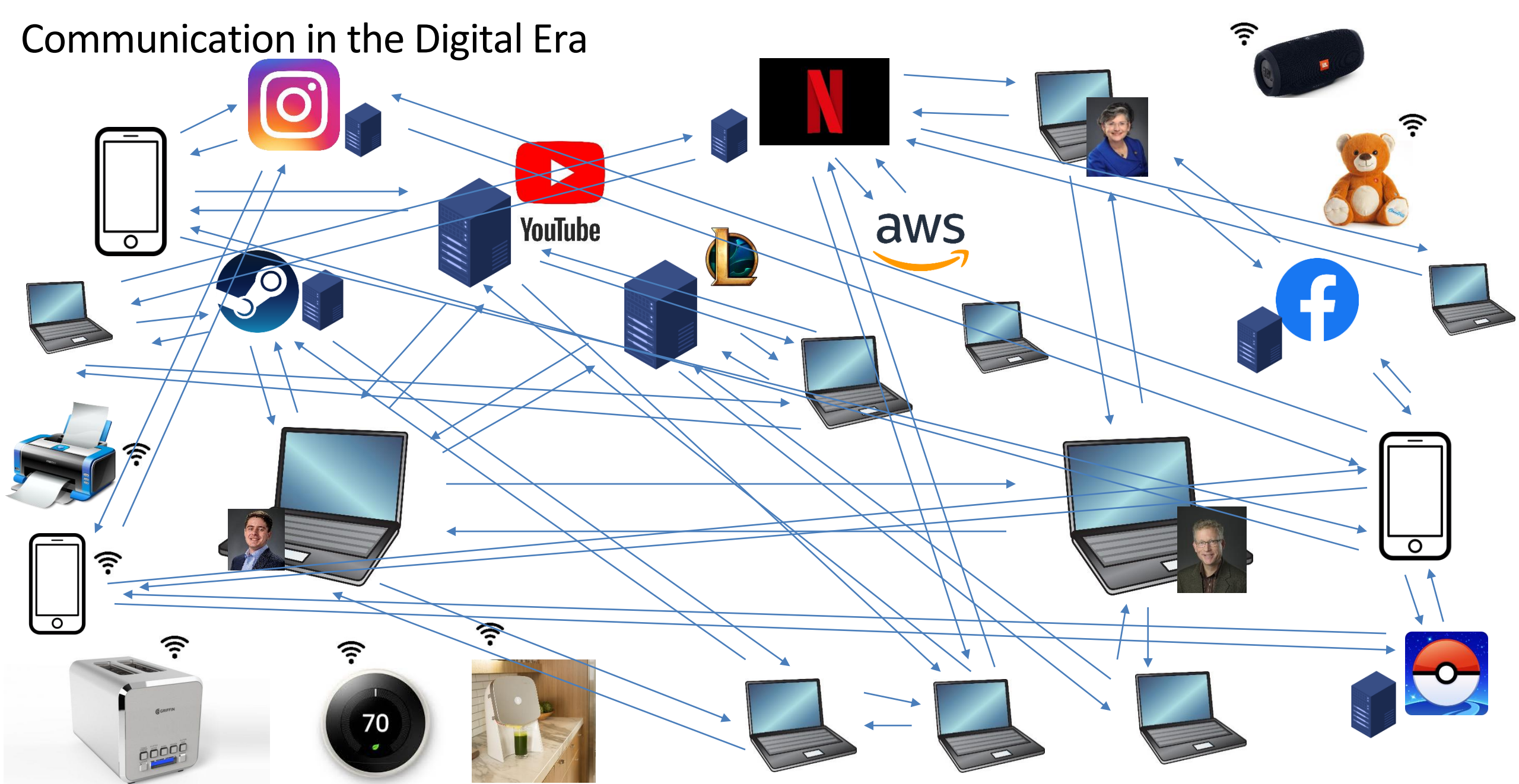
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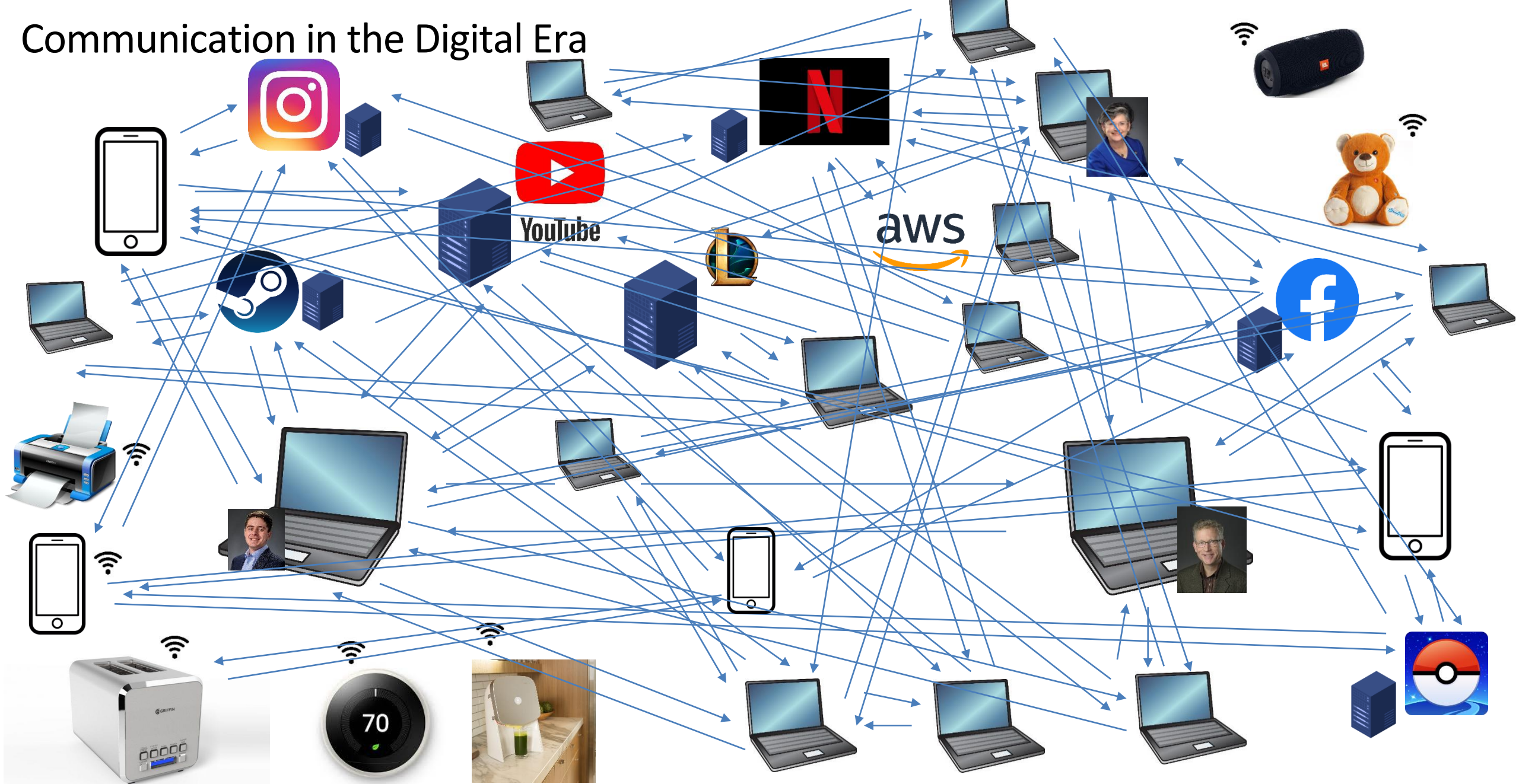


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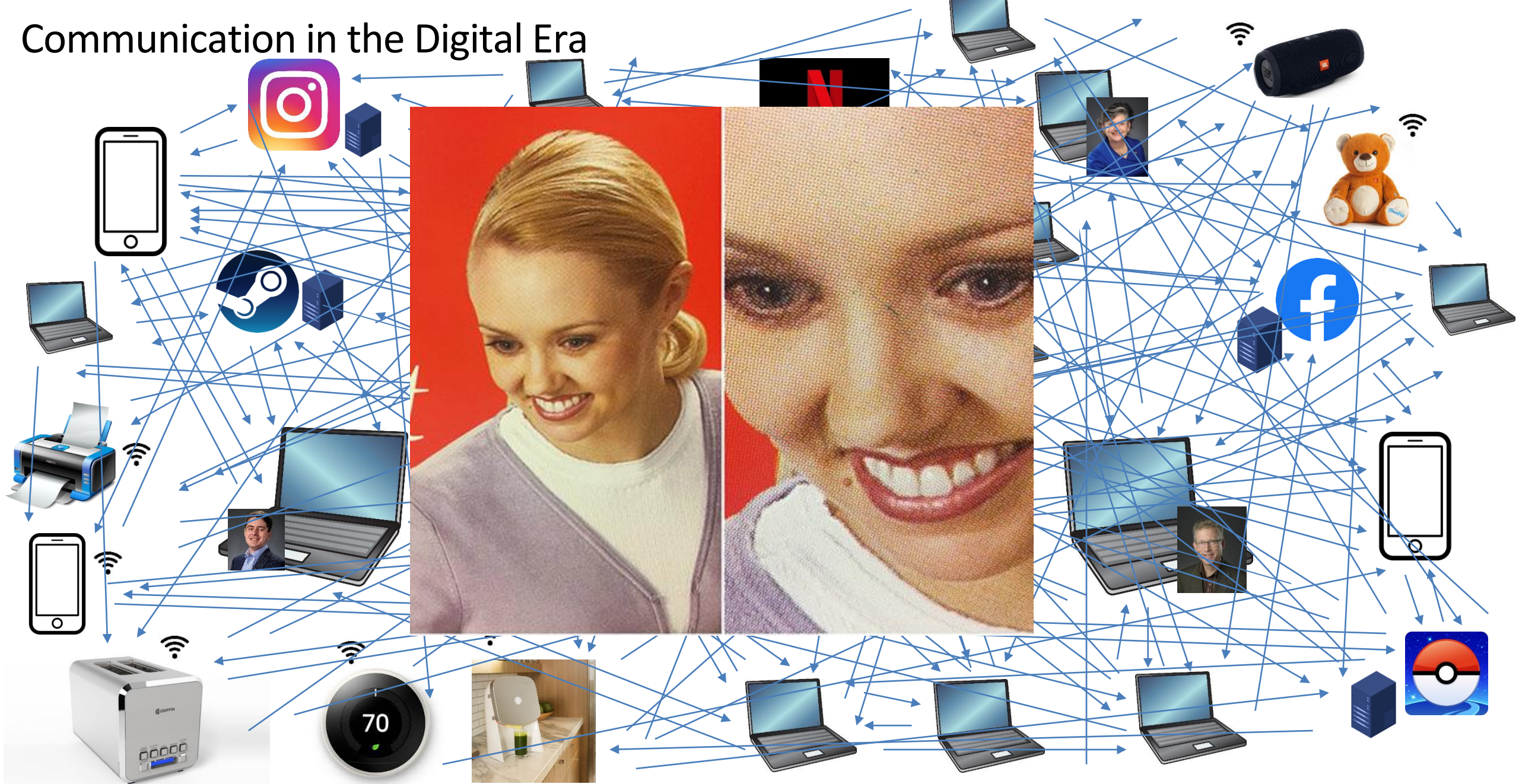
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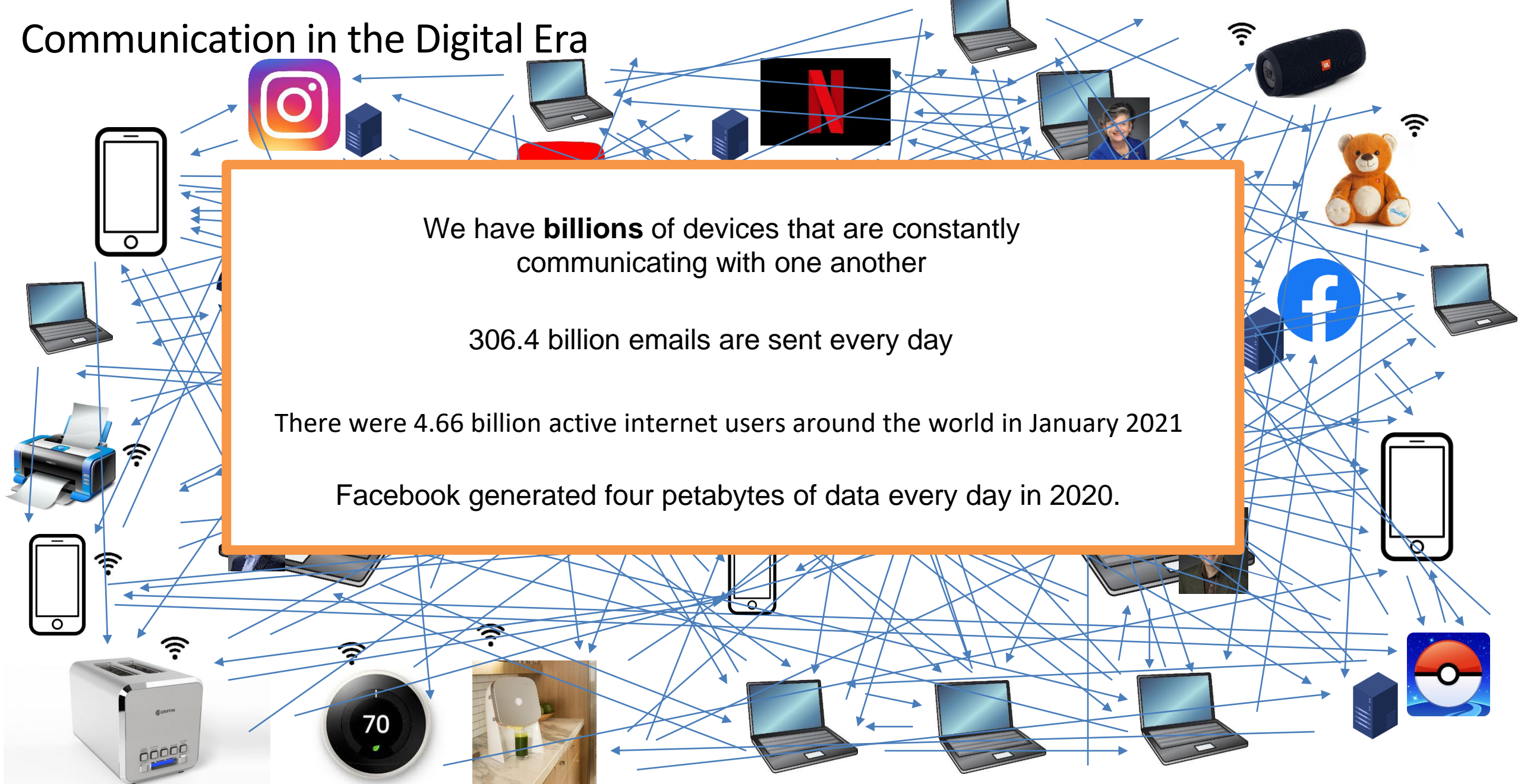
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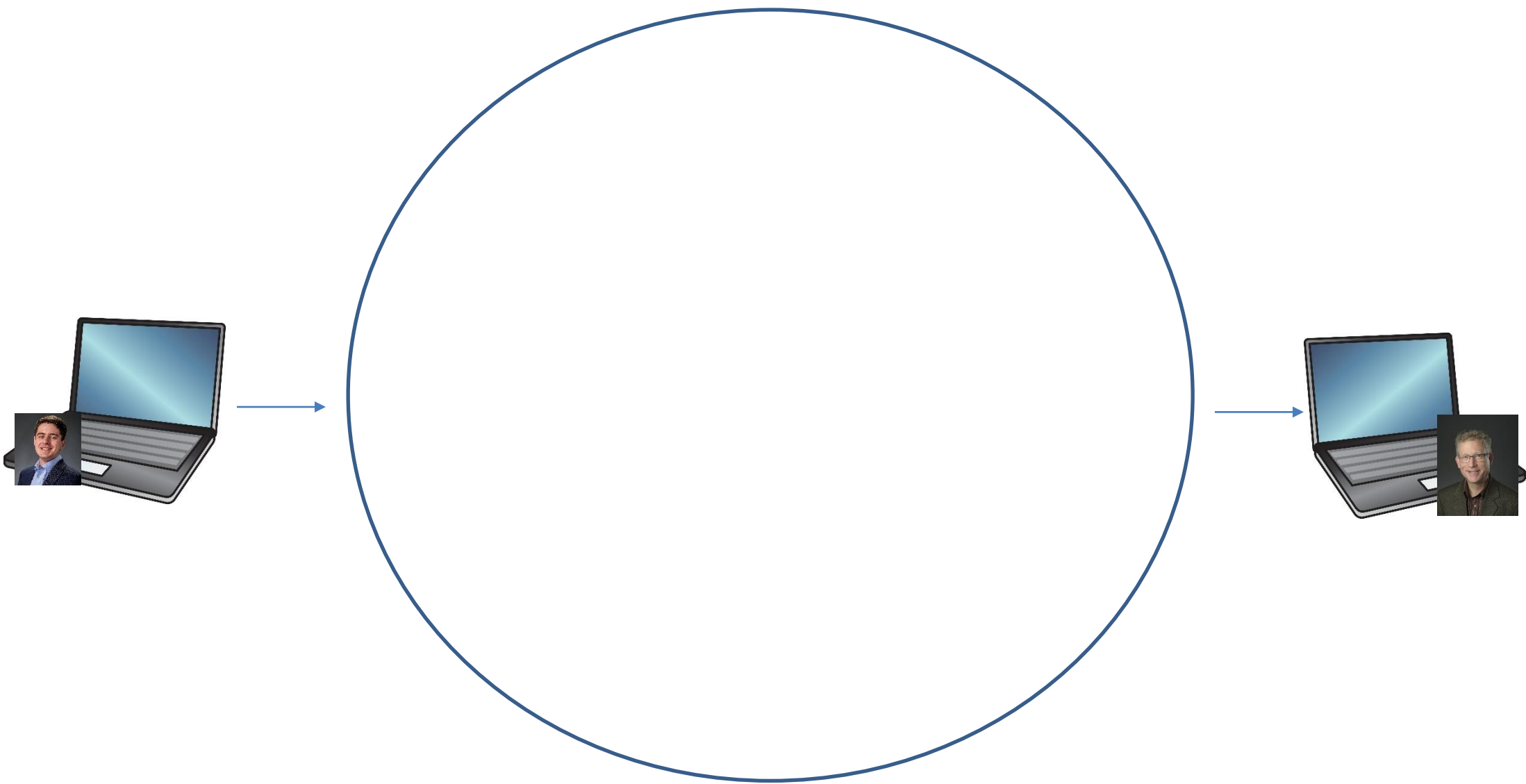


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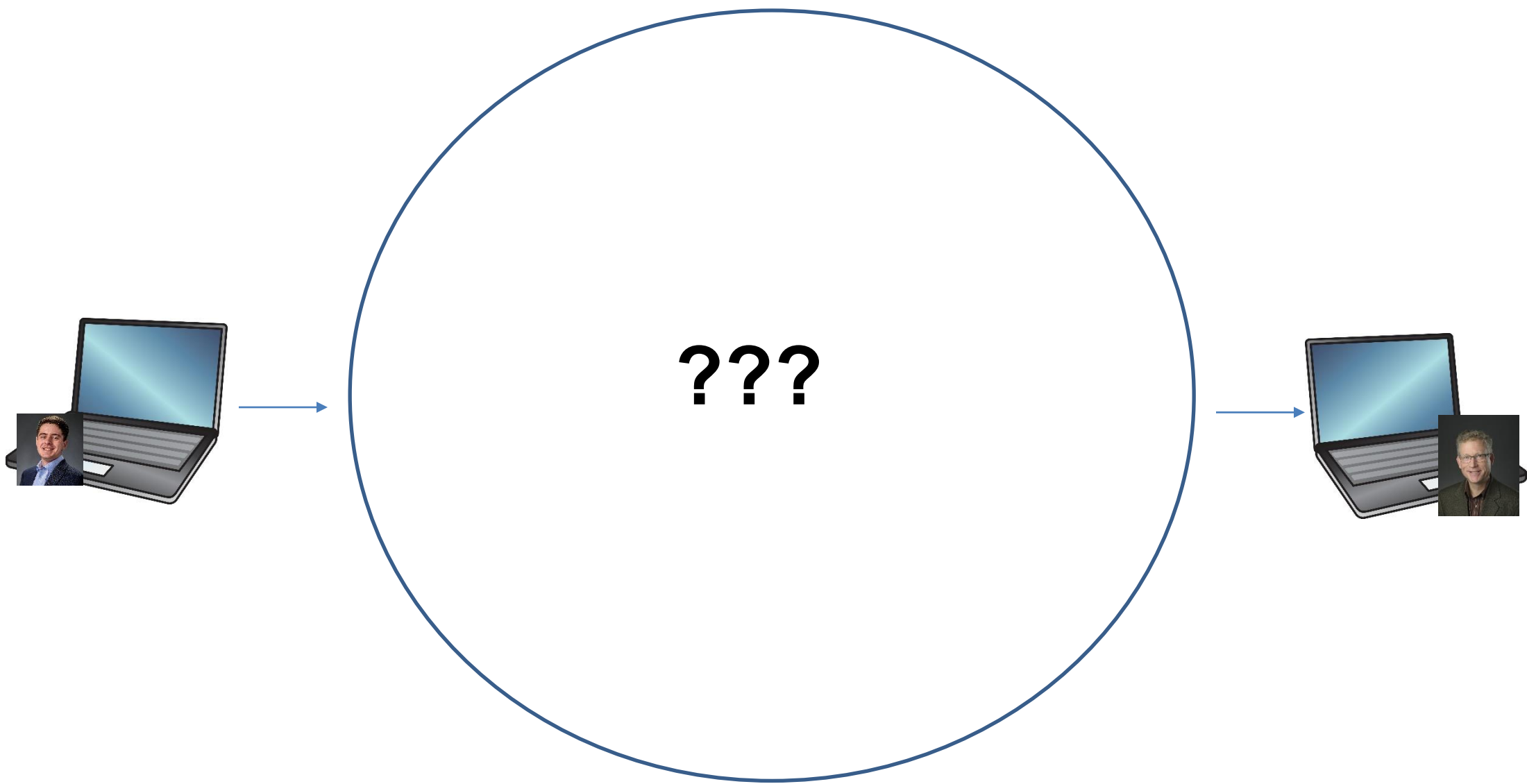


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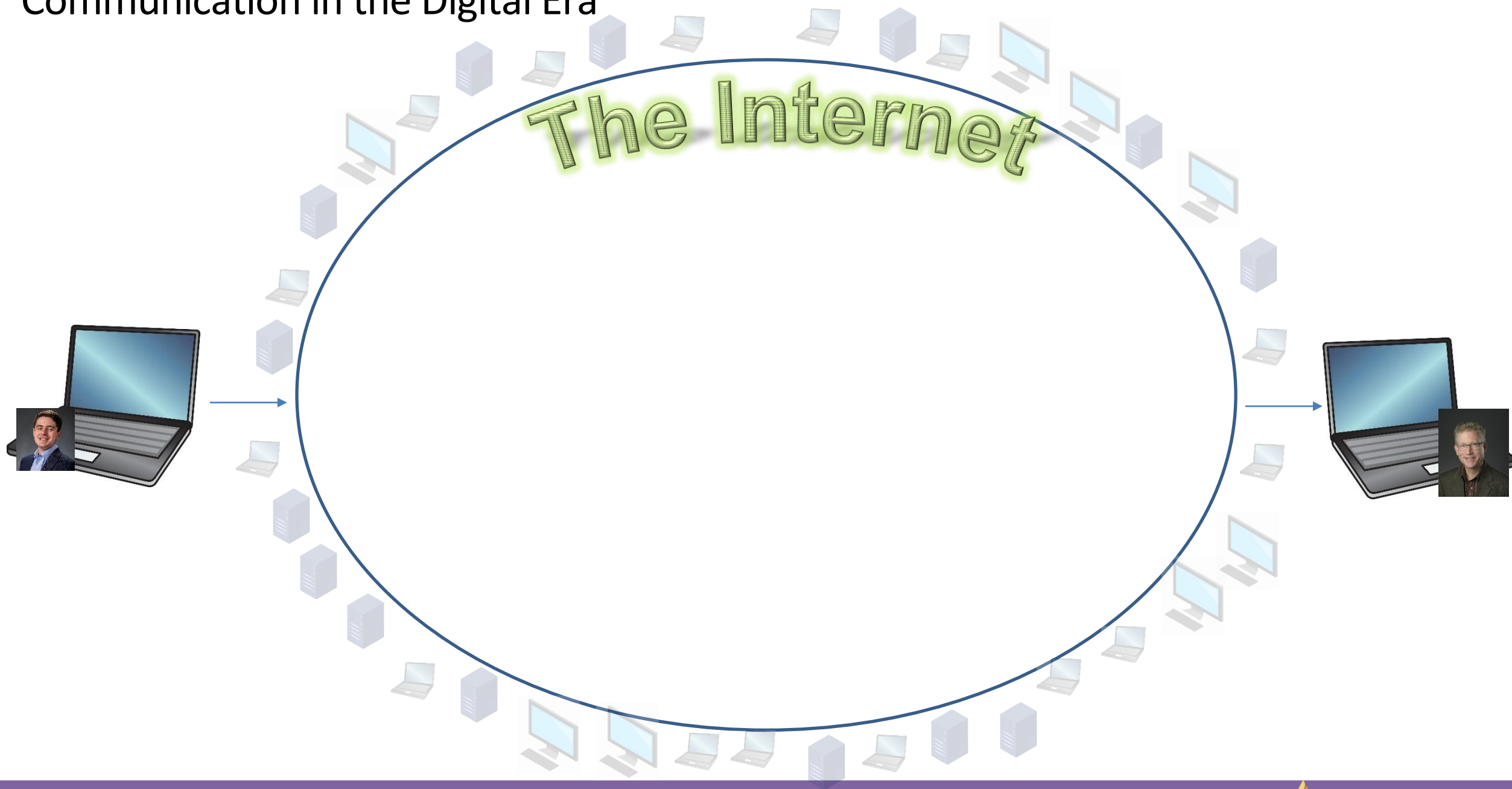




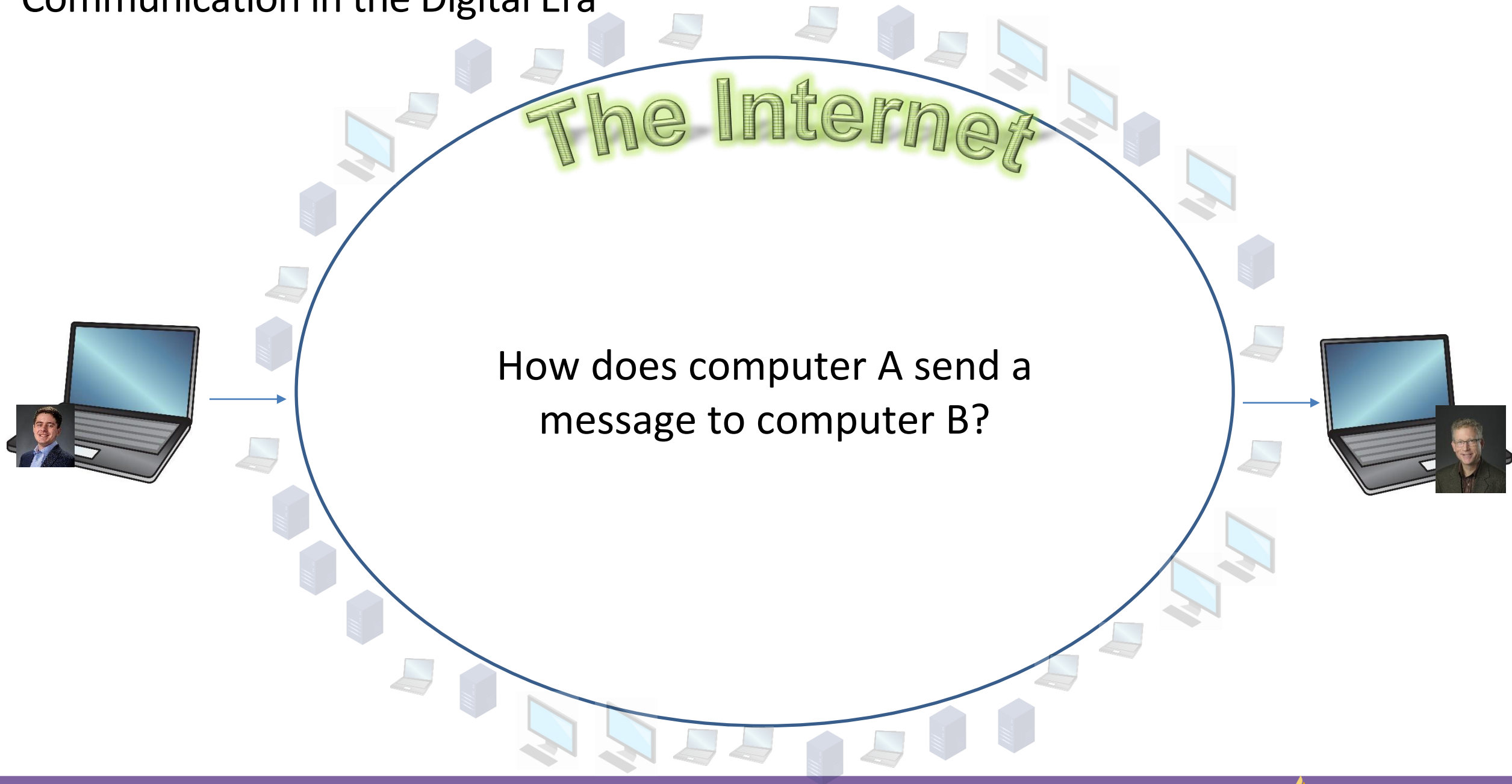
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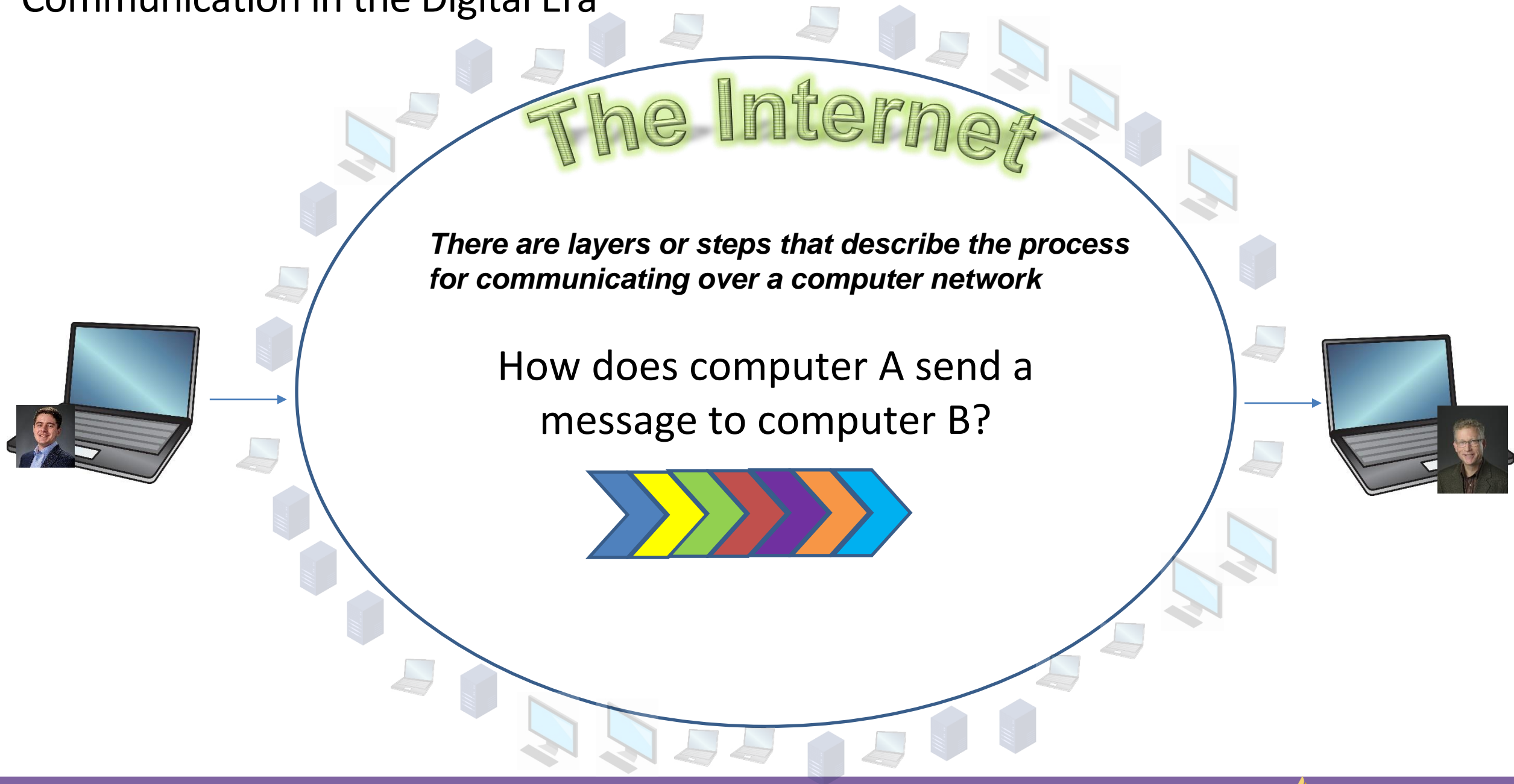
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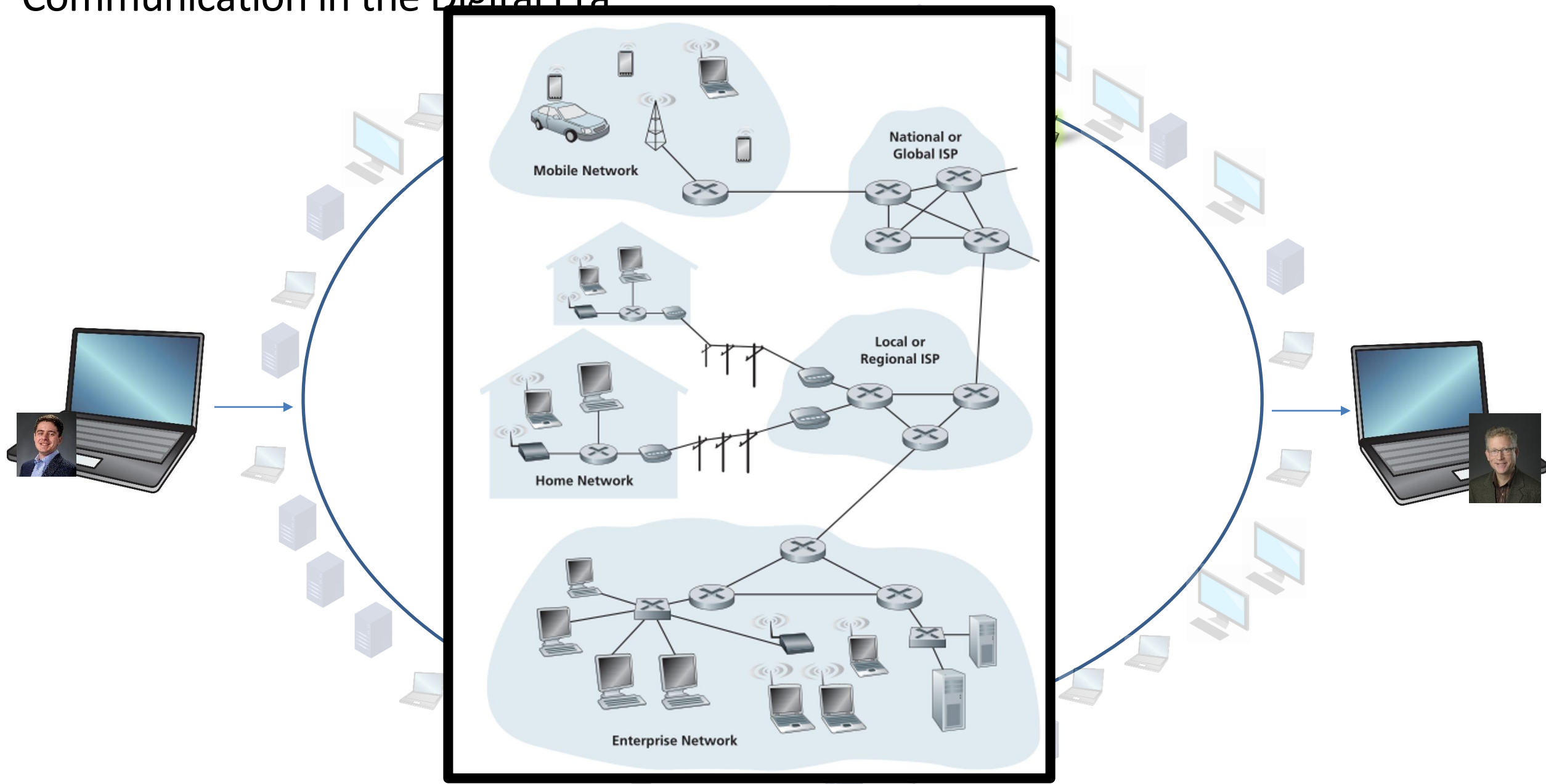
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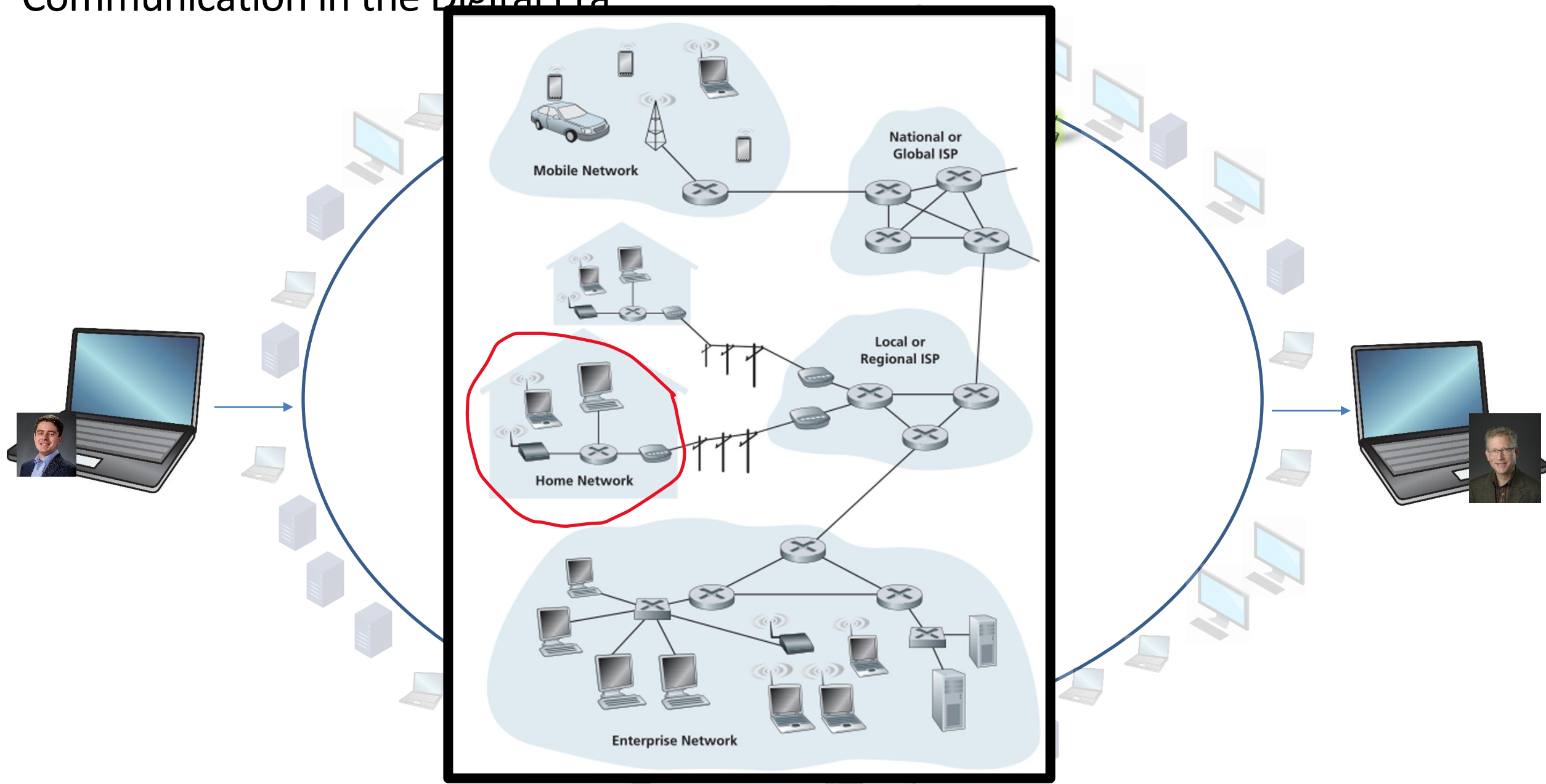
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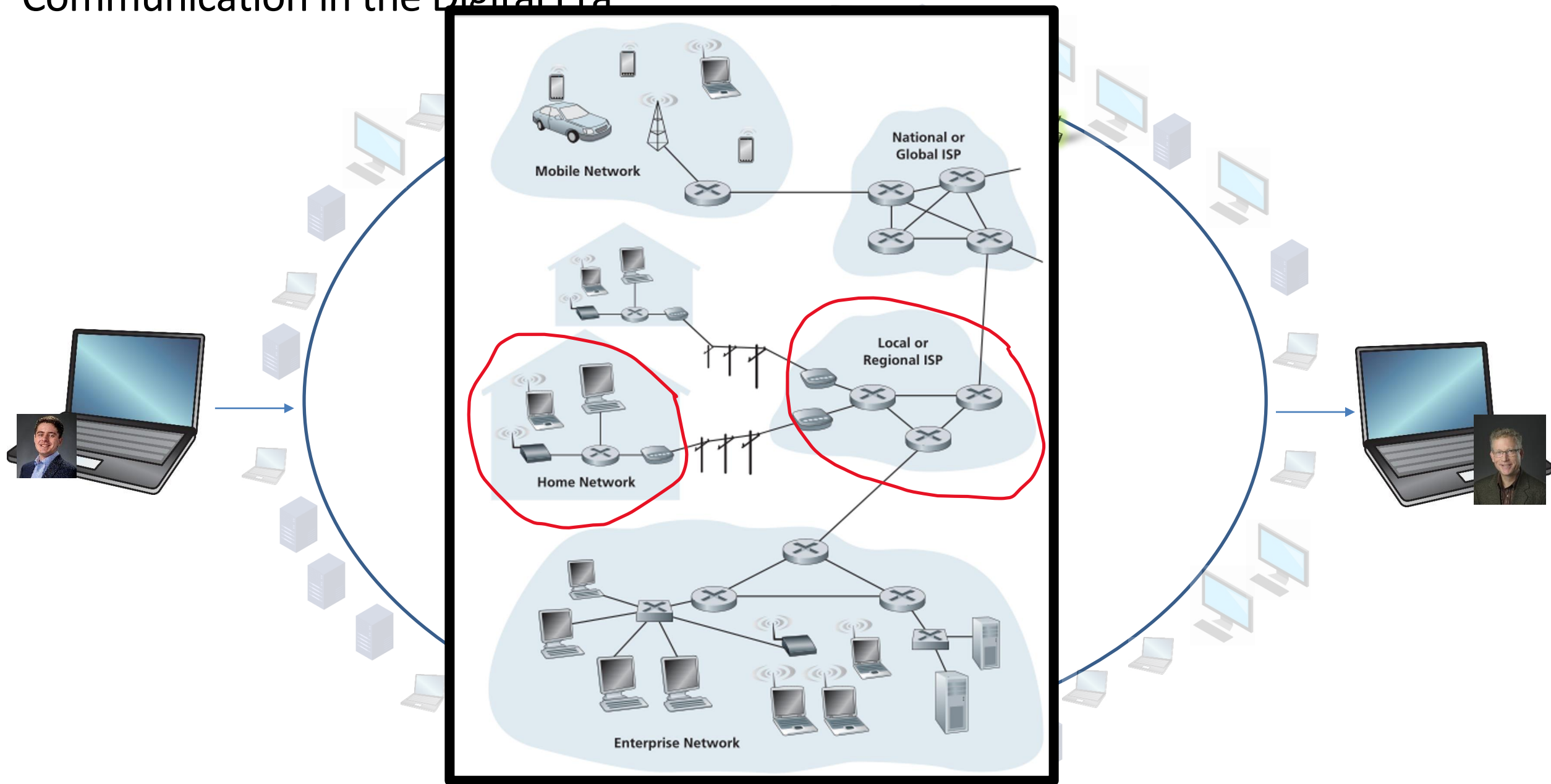


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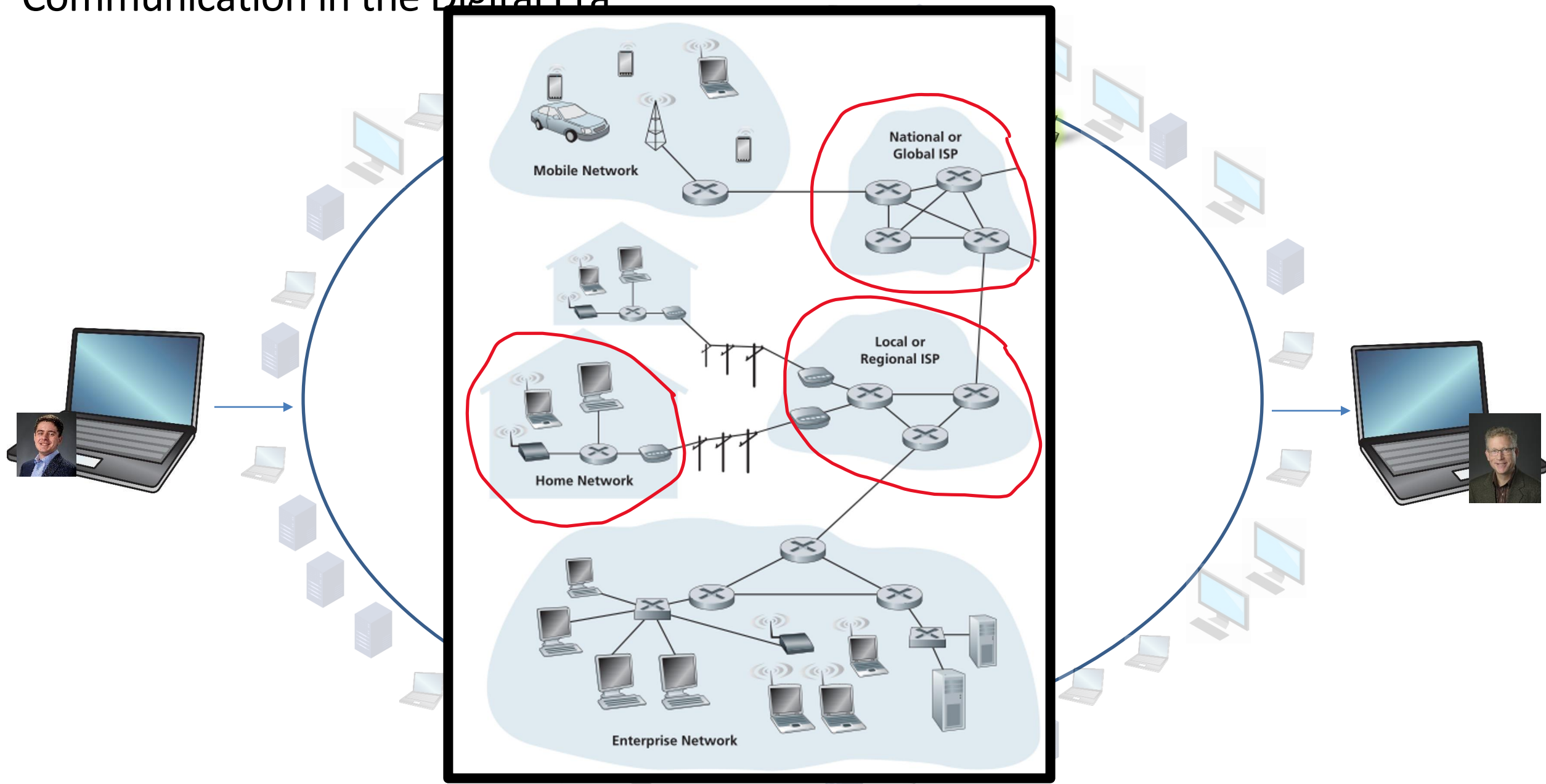




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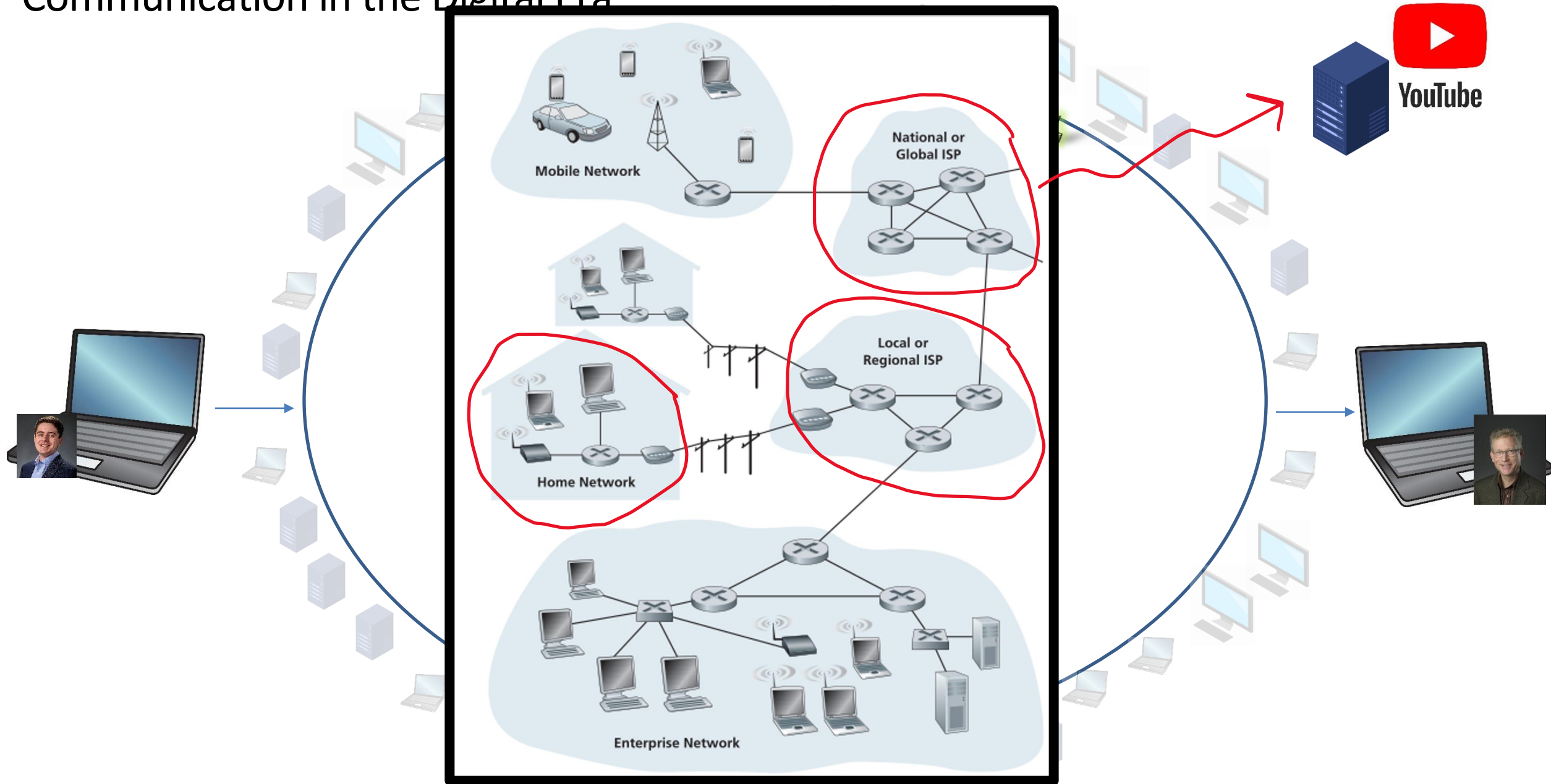


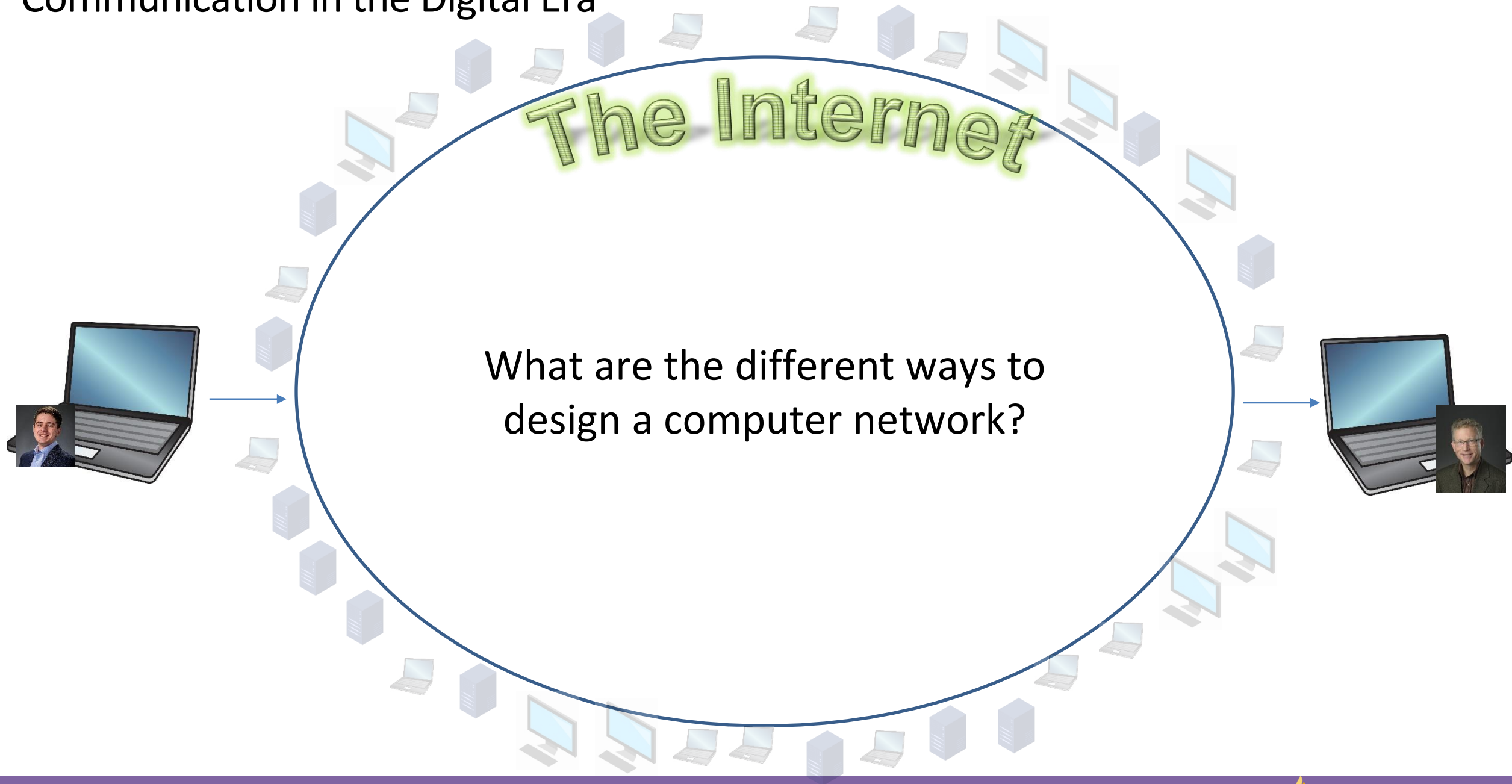
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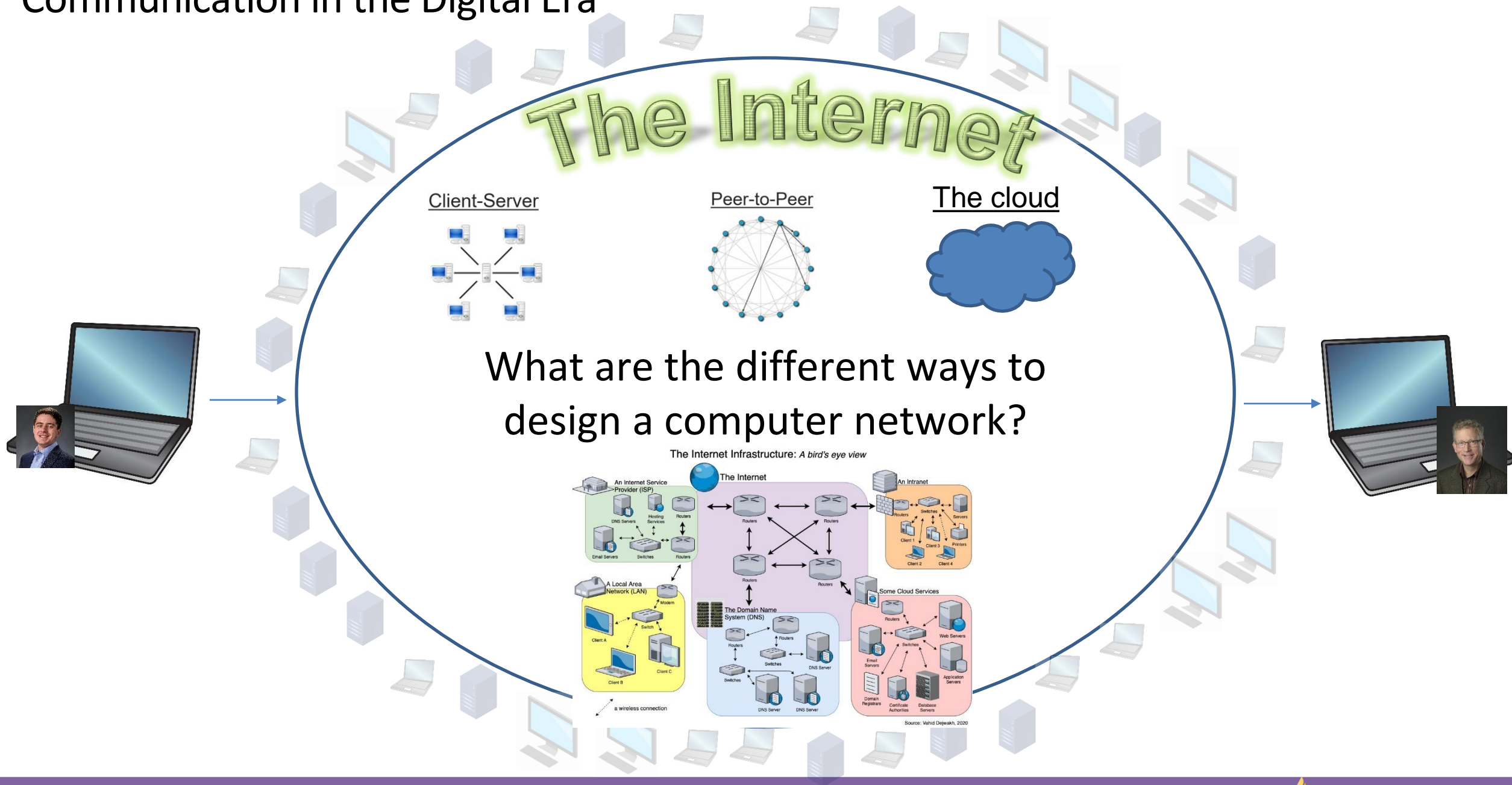


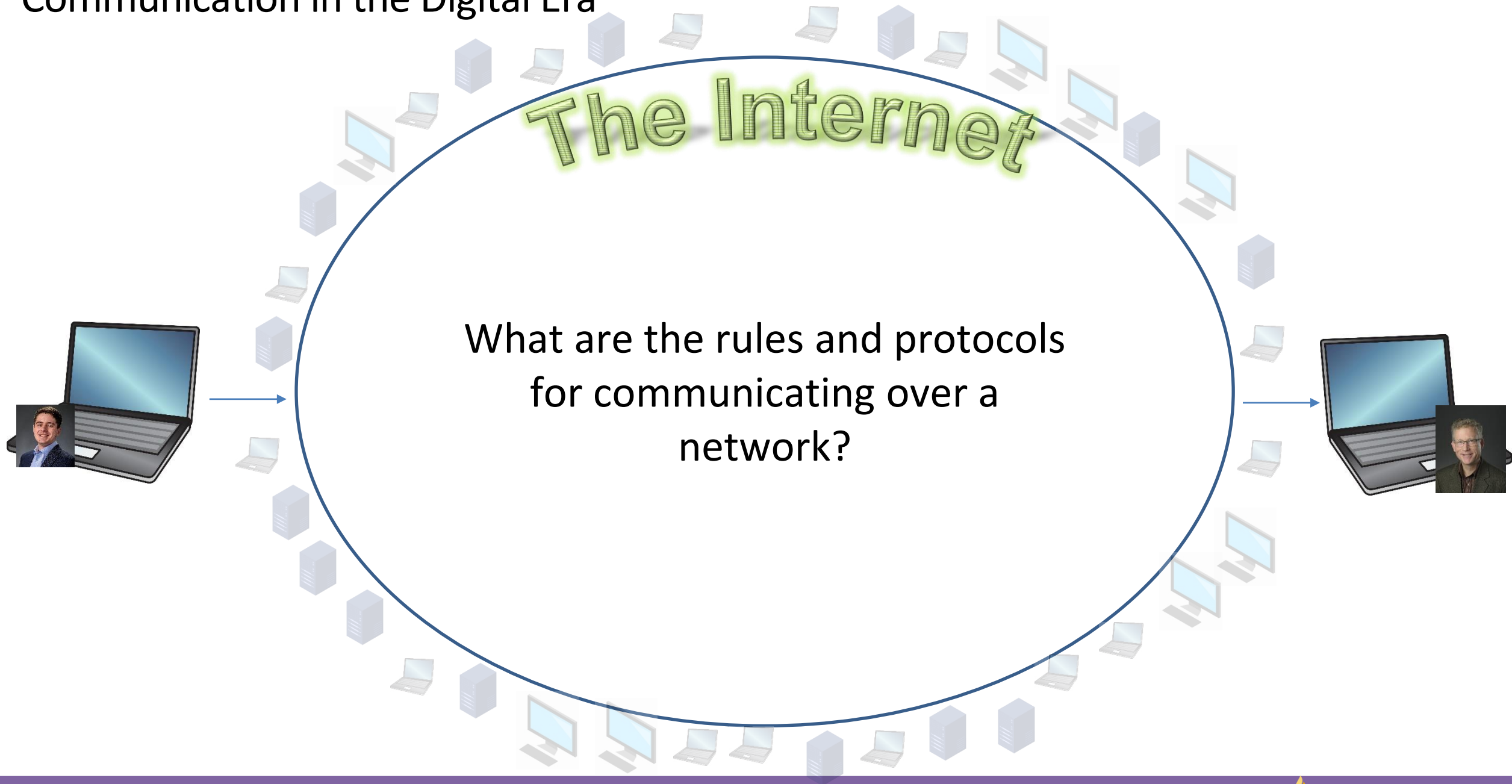
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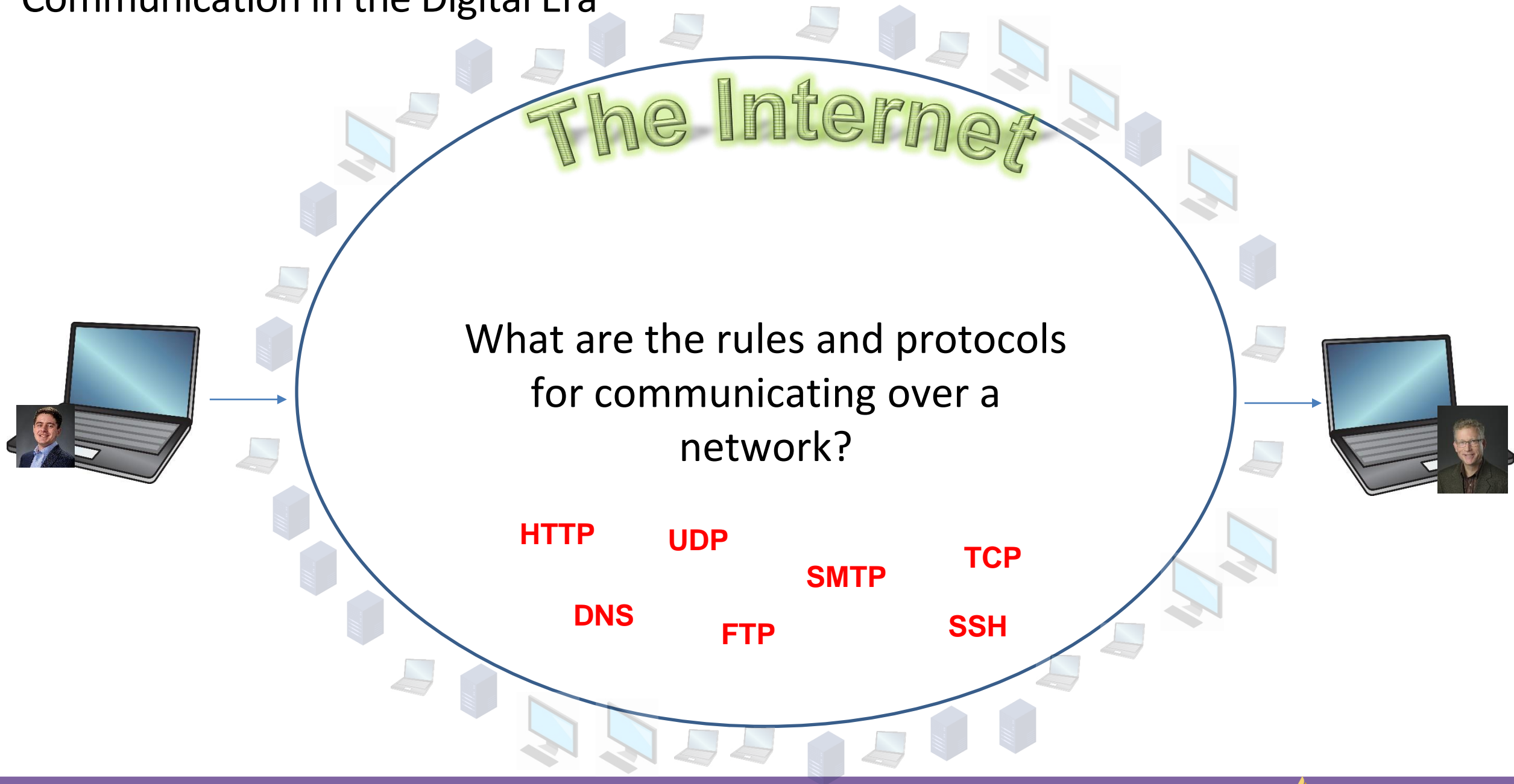




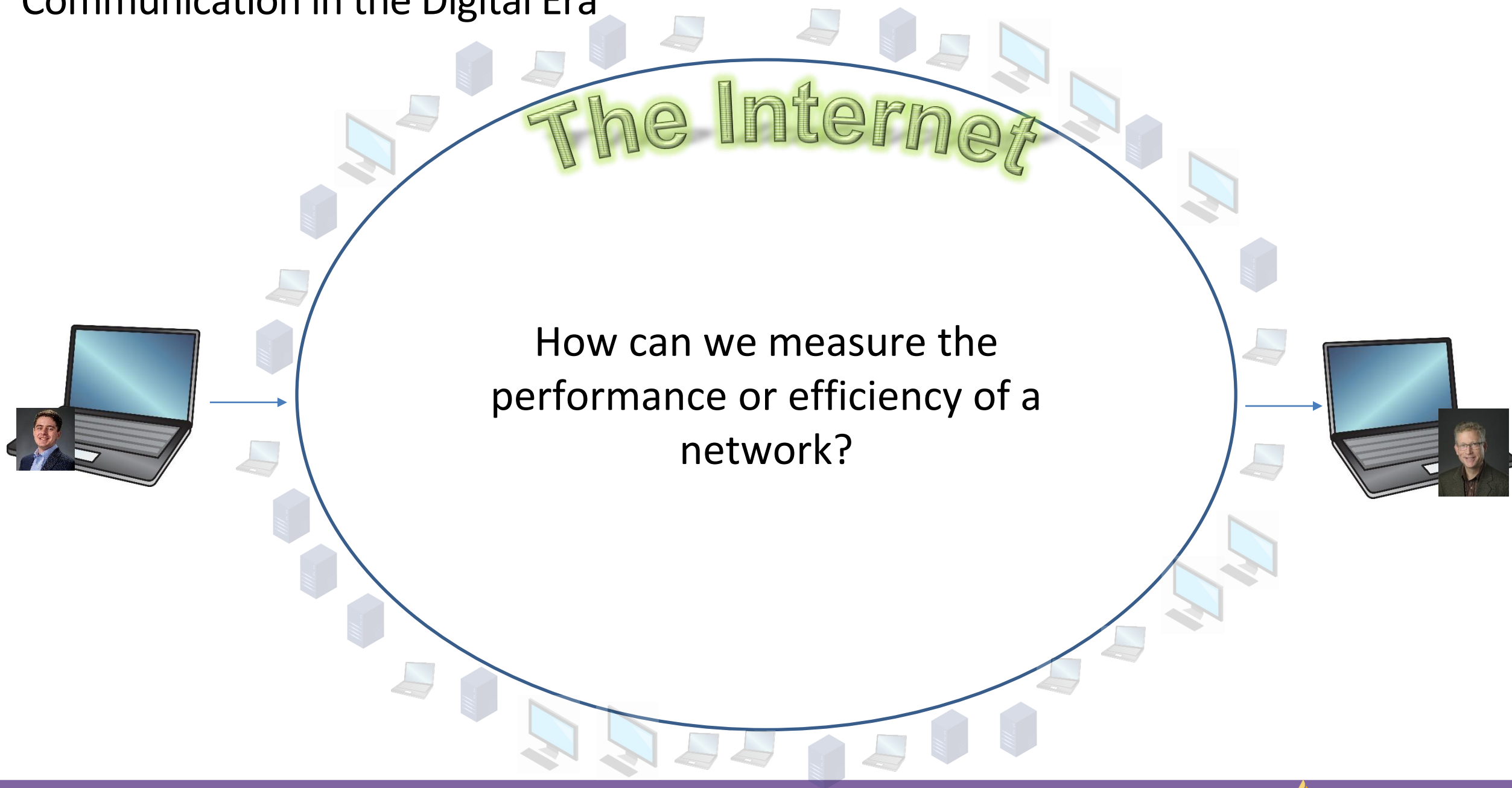
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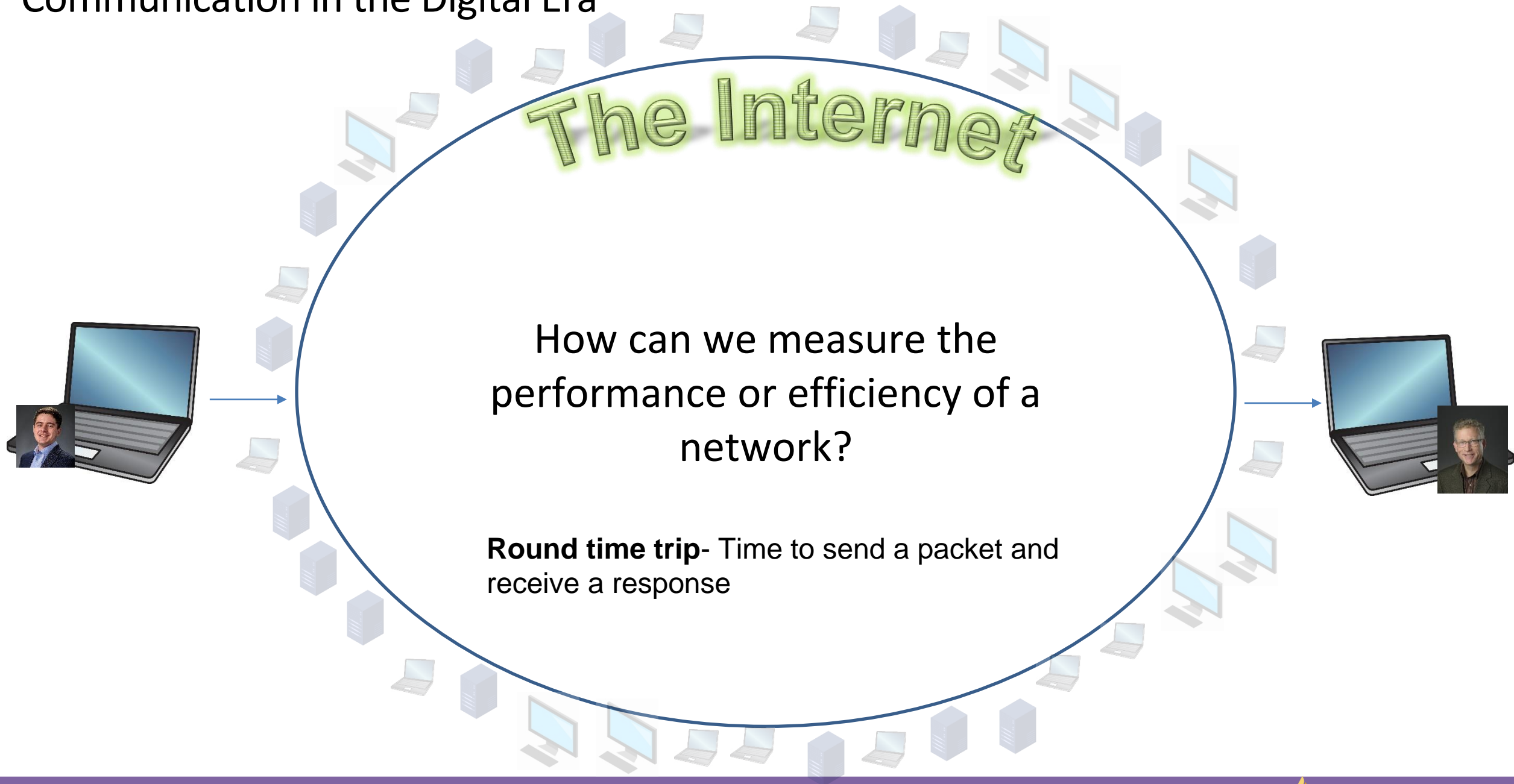
















# CSCI 466- Course Outcomes

- List the network layers and explain their function in end-to-end communications
- Explain different network architectures and tradeoffs in the design decisions
- Explain the functions of various Network protocols (HTTP, DNS, TCP/IP, FTP, etc)
- Design and implement network application
- Analyze network traffic
- Measure network performance
- Explore security issues in networks and understand important defense mechanisms



# Reese Pearsall (pierce-all)

First year Instructor @MSU  
B.S & M.S @ MSU

## Interests

- Cybersecurity
- Malware analysis and detection
- Cybercrime
- Computer Science Education

## Experience

- Software Engineer and Tester, Techlink (Bozeman)
- Software Engineer, United States Air Force (Hill AFB, Utah)
- Software Engineer, Hoplite Industries (Bozeman)
- Graduate Researcher, MSU (Bozeman)

## Outside of academia

- Video games, New England Patriots, Fantasy Football, Movies, Memes, *The Bachelor*, Naps

## Hometown

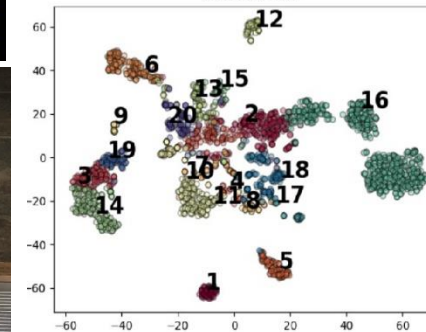
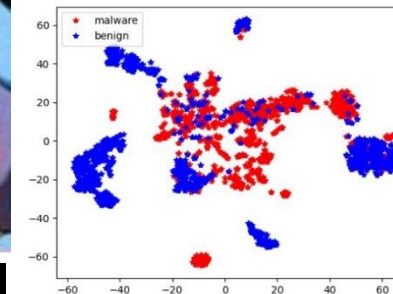
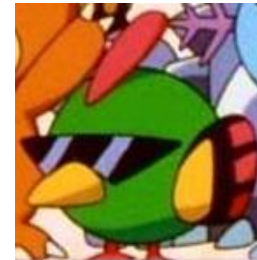
- Billings, MT

## Teaching

- CSCI 466
- CSCI 476

## Preferred Variable Naming method

- Snake case



# My Experience

*This is my first time teaching this class:*

*Things will not be perfect...*

*There will be things I don't know...*

*I will be stressed...*

But I will **always** be on your side, and I want to do whatever it takes to help you succeed!

I appreciate your patience, flexibility, and tolerance

# My Experience

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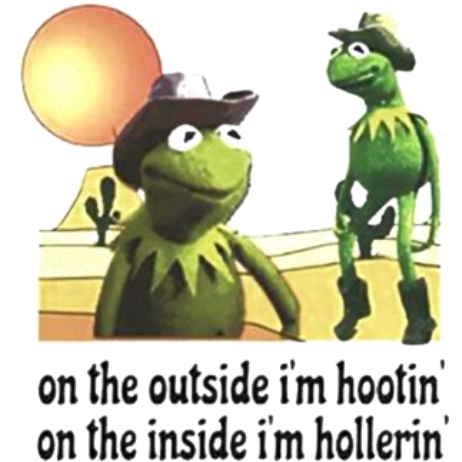
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# Contact

**Email:** [reesepearsall@montana.edu](mailto:reesepearsall@montana.edu) (I will respond as soon as I can)

**Office Hours:** Monday, Wednesday, Friday 10:00 – 11:00 AM  
Thursday 1:00-2:30 PM

**Office:** Barnard Hall 361

The current state  
of my office

When you email your professor at 2am and they respond within a minute



kat hasty  
@kathasty

Follow

guys really live in apartments like this  
and don't see any issue



8:15 PM - 12 Dec 2018

# Logistics






## Class Meetings

MWF: 12:00 – 12:50

Reid Hall 202

### CSCI 466: Networks

Fall 2022

 Date	 Topic	 Reading	 Slides	 Assignment
Wednesday August 24th	Syllabus		Slides	Please Fill out the Course Questionnaire!
Friday August 26th	Networks and the Internet			
Monday August 29th	Data Forwarding and network performance			
Wednesday August 31st	Wireshark Demo			
Friday September 2nd	Application Layer and HTTP			HW1 Assigned
Monday September 5th	OFF NO CLASS			
Wednesday September 7th	HTTP and Socket Programming			
Friday September 9th	Socket Programming and			PA1 Assigned, HW1 Due
Monday September 12th	Protocol Hell (DNS, FTP, SMTP, CDN)			
Wednesday September 14th	Transport Layer			
Friday September 16th	TCP/UDP			Lab 1 Due
Monday September 19th	TCP Congestion			
Wednesday September 21st	Network Layer: Data Forwarding Methods			



Course Website: <https://www.cs.montana.edu/pearsall/classes/fall2022/466/main.html>

We will be using Discord for class communication and for announcements



# Prerequisites

- CSCI 232- Data Structures and Algorithms
- ~~CSCI 112- Programming with C~~
- CSCI 366- Computer Systems (recommended)

Before taking this class, I expect you to be comfortable with

- Python
- Writing and debugging programs of moderate complexity
- Git & Github (*we will likely review this*)

# Schedule







# Course Questionnaire

## Fall 2022- CSCI 466 Course Questionnaire

This information will help me get to know you better and your experience with various tools and topics

 reesepearsall@montana.edu (not shared) [Switch account](#) 

\* Required

What is your email address? (I will use this email if I need to contact you) \*

Your answer

Please tell me your FIRST name as it appears in MSU's system \*

Your answer

Please tell me your LAST name as it appears in MSU'S system \*

Your answer

Please take some time to do the course questionnaire today or tomorrow

Your answers are important to me and will help make this class a better experience 🤖

Part of your grade for HW1 will be for completing the questionnaire

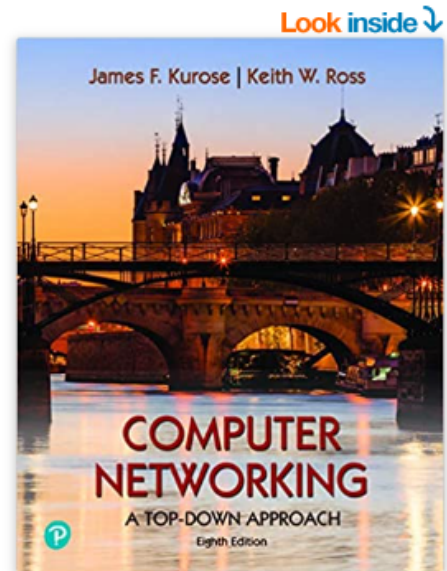
# Textbook

Kindle Store › Kindle eBooks › Computers & Technology

## Computer Networking 8th Edition, Kindle Edition

by James F. Kurose (Author), Keith Ross (Author) | Format: Kindle Edition

★★★★☆ 15 ratings



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\$74.99

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- I will **not** require you to get the textbook, but it is a great resource for learning the material and doing the assignments

# Grading

- 40% Programming Assignments (4)
- 20% Wireshark Labs (3)
- 25% Homework (?)
- 15% ~~Final Exam~~ **Final Knowledge Check**

# Grading

- **40% Programming Assignments (4)**
  - Create network applications using **Python**.
  - Requires a good chunk of your time
  - You will place your assignments in a *private GitHub* repository and submit the repo link on D2L
  - You will record a short video demo showcasing the functionality of your program

Groups of 2 are allowed



# Grading

- **20% Wireshark Labs (3)**

- Analyze real network traffic and see network concepts and protocols in action
- Follow instructions using Wireshark and document your output and observations
- Submitted to D2L as a PDF

Groups of 2 are allowed

# Grading

- **25% Homework (?)**
  - Tests your knowledge on basic concepts we talk about in lecture
  - Shouldn't take very long to complete
  - Submit *typed* answers to D2L



# Grading

- 15% ~~Final Exam~~ **Final Knowledge Check**
  - Cumulative quiz that evaluates your knowledge of *important* topics from the course
  - Consists of short answer questions
  - You will be asked to document and label the layers and aspects of the OSI model
  - Note sheet not allowed
  - Some questions will be pulled straight from the homework

# Late Assignment Policy

**You will be given 1 virtual late pass.** Late passes allow you to submit an program, lab, or homework up to 48 hours late with NO penalty-- no excuse required.

To use a late pass, you must indicate in your submission that you are electing to use a late pass (e.g. in a comment on your submission in D2L).

Note that you cannot change this decision later. You cannot use a late pass on the last programming assignment (PA4)

If you do not use a late pass, the penalties for late submissions are as follows:

- < 24 hours: 25%
- < 48 Hours 50%
- > 48 hours: no credit.

# Grading Scale

- 93+: A
- 90+: A-
- 87+: B+
- 83+: B
- 80+: B-
- 77+: C+
- 73+: C
- 70+: C-
- 67+: D+
- 63: D
- 60: D-

At the end of the semester, if you are within 1% of the next letter grade, I will bump you up

I will not curve exams or final grades unless it is needed



juju 💰  
@ihyjuju

in college you gotta get over L's real quick because the next one is due at 11:59

## Plagiarism and Academic Misconduct

Plagiarism and cheating is very not cool

# Plagiarism and Academic Misconduct

Plagiarism and cheating is very not cool

You are **not** allowed to submit something that is not your own, and you are not allowed to steal solutions from other groups and modify it

I have a Chegg and Course Hero membership. **Don't do it**

Using small snippets of code from the internet is acceptable, but you should leave a reference in the comments

# MSU Resources

- Diversity
- Counseling
- Disabilities



## How to do well in this class

- Don't wait until the last night to do an assignment
- Get help when you need it
- Come to class and office hours



# How to do well in this class

- Don't wait until the last night to do an assignment
- Get help when you need it
- Come to class and office hours
- Try to have fun



# Questions?