Intro to Computer Networking & P2P

Description

A story about how the internet was made resilient to nuclear attacks, why decentralization matters, and an introduction to peer-to-peer networks.

Learning Outcomes

After this workshop, you will be able to:

- Understand why the internet is structured the way it is today
- Evaluate tradeoffs between client-server and peer-to-peer models of communication
- Understand how peer to peer communication is established
- Use Y.js to recreate Figma's cursor chat

Prerequisite Knowledge

Basic working knowledge of a computer and ability to use git, basic JavaScript and HTML.

Pre-Workshop Checklist

Before the workshop, please make sure you complete the following items:

- Have a working IDE or text editor in which you are comfortable.
- Clone [this demo repository](#) onto your device

Technical Jargon and Definitions

- Client-server: A model of networking where many clients request and receive service from a centralized server.
- Peer-to-peer: A model of networking where all nodes in the network participate equally and serve each other.
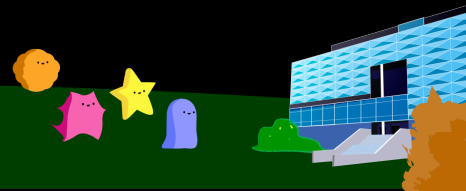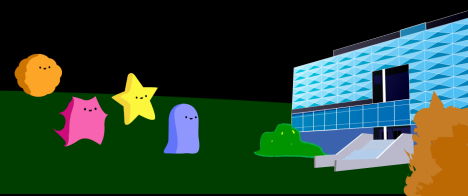
Timeline (60min)

Time	Module
5m	A brief history of the web
5m	The layers of the web
10m	Client-server vs Peer-to-peer
15m	Peer-to-peer today
25m	Recreating Figma Cursor Chat

Workshop Lead Contact

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Additional Resources

Hack the North Resources

Hack the North 2022 Event Schedule

Check this out to stay up-to-date on activities, workshops, and other key happenings this weekend.

Workshop-Specific Resources

Blog Post

Contains the materials of the talk portion of the workshop

GitHub repo

Starter code and finished product for the Y.js portion of the workshop. In particular, look at `steps.md` for intermediate steps if you get lost.