

An Implementation of Code Division Multiple Access

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One of the major problems in communications is how to deal with multiple people transmitting data at the same time. Many different techniques have been developed to work around this. For my project I will explore one of these, Code Division Multiple Access (CDMA).

To demonstrate what I have learned about this, I will create an implementation of CDMA in software. The first iteration of my implementation, will be solely in simulation. The second iteration will utilize the speaker and microphone on our laptops as transmitters and receivers for an audio implementation of CDMA. Both of these will be done in python.

For the written deliverable, I will have a website with information on CDMA, along with access to both implementations on the site.

Deliverables

- Local Simulation of CDMA
- Audio Transmitter and Receiver using CDMA
- Website

Extensions

- Web app with the audio transmitter and Receiver so that many people can transmit without downloading and running the code.