PingPongNet

CPTR_328, Fall, 2025: Alden Thacker

Description

The goal of this project is to design and implement an application-layer protocol that will allow two devices to play a live game of Pong (ping pong) until a certain score is reached.

The protocol will include instructions for formatting packets containing connection attributes, ball and paddle position, as well as score updates. The game will use a client-server architecture. One machine will run the game server to maintain one source of information that is distributed to the connected devices. The project will include simple graphics written in C#.

Research Component

The project will involve researching approaches to real-time multiplayer game networking including strategies for low-latency communication, how to format packets (either using binary or JSON formats), how to create simple graphics to represent the game, and how to simulate proper ball velocity and movement of the paddles.

Deliverables

Project deliverables will include:

1. Executable Client and Server Applications written in C#
2. All source code for the project
3. A report detailing design choices, research findings, and performance observations
4. A presentation combining all of the important previous details which most encapsulate the project.