“Five in a Row” Class Project

CS43600 Principles of Computer Networking

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The goal of this project is to create a peer-to-peer networking application that two peers can use to play Gomoku or the “Five in a Row” game. The game needs to use HTTP protocol to implement the game in real-time and also Wireshark needs to be used to keep record of the network protocol activities for both players during the game.

We used Node.js in our implementation of the game. Node.js is an open source, cross-platform Javascript development environment with many tools and libraries that make this a feasible approach to making this network application. Node.js is event-driven which seems natural to use in a click-based game where there are many input/output operations with real-time communication between the peers. Node.js is compatible across OS X, Linux, Windows and other operating systems. Node.js is also lightweight and efficient which makes it convenient to code in especially with so many open source libraries we have access to. The library that we are interested in is the websocket library. WebSockets are a bi-directional and persistent connection from a web browser to a server that we will use to implement the network side of the application between the peers. This allows us to communicate with any number of open connections at a time since the websocket initiates a single running server, but for our purposes we will only need two connections. We are using GitHub to host and manage our project. Git is very useful in terms of version control, feature requests and error tracking. Using this application to host our project allows us to work more seamlessly as a group and is also convenient.

We decided to design the game using a simple game engine developed by Mr. Andy Harris at Indiana University-Purdue University of Indianapolis. As said previously, the peer-to-peer aspect will be handled using Node.js and the node.js websocket library.

Wireshark was used in our project to analyze the network protocols in our application and what exactly was going on between the peers.

P4: Roadblocks(checking win conditions, websocket implementation as peer to peer)

Conclusion