

File Transfer Application

Project Description

This project is a file transfer application written in C using sockets and the UDP protocol, wherein users will be able to upload files to the server for other clients to download. It will be implemented using the FreeBSD server Rabbit and the Vim text editor, but it should work on any unix system. The final goal of this project is to have a fast, reliable and simple system for sharing files between multiple users under unix.

Project Purpose

The primary goals of this project are convenience and scalability. The unix programmers of our organization need a quick and reliable way to transfer files between each other so that they can share code and other data without having to leave the command line. While current options do exist such as git and SCP, we want to have our own in-house solution, portable solution that we can easily extend with more features, use on other unix systems, and make changes to if need be. All of these things will be possible, all while keeping the system fast since the system will rely on nothing but C sockets and UDP. The system will also only implement features that our organization has a use for, so it will be as lightweight and bloat-free as possible. The end result will be a long term increase in productivity, as the system will be intuitive and fast and will require little to no training to use, and will allow our developers to more quickly and effectively share files.

Requirements

This project is going to fulfill many of our organization's business requirements, such as efficient use of developer time which will save money in the long term by getting future projects done faster, and having our own in-house, scalable

developer tools that we are able to easily make changes to in order to fit the needs of the organization. Overall, this project will make us less dependent on external systems to get our work done, and will improve our productivity in the long term.

Assumptions

The only assumptions that must be satisfied in order for this project to be fully realized is that it is approved by the organization, and our single developer who will be implementing the system is given enough time to design and implement it. The project will be implemented at the latest by May 11th, 2022, giving the developer plenty of time to work on it, and since the developer does not get paid a salary the project essentially has zero monetary cost and the only price the organization has to pay is in man-hours.

Constraints

One constraint of the project is our hard deadline date of May 11th, 2022. Since it will be implemented on the existing FreeBSD server Rabbit, our organization has everything it needs in order to ensure this project is complete and so there will be no extra cost, and no factors will affect the progress of the project unless the Rabbit server malfunctions in some way.

Project Deliverables

Upon completion of the project, our organization's developers will have a new, fast, easy to use and extendable tool for transferring files between each other. They will be able to upload files to the server, view a list of files currently on the server, remove unused files from the server, and download files from the server. Finally, multiple clients will be able to do these operations simultaneously without interrupting each other.