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Instant Messaging

Description

The goal of the project is to develop a security-oriented peer-to-peer instant messaging protocol. The program should mask all of the back-end in order to provide an experience similar to that of more common centralised instant messaging systems. The interface should mirror the functionality of these more common systems for easier adaptation.

Target Users

The target users are anyone who is able to set up port-forwarding when given instructions. The initial target will be users who are concerned about the security of their communications, but planning should be done to expand beyond this scope.

Similar Existing Systems

There are several systems that are similar in function to our proposed system, but nearly all are dependant on a tracking server of some kind and are not peer-to-peer. These are XMPP with Off-The-Record and SILC, mostly due to the focus on security of communication. Interfaces are similar between nearly all instant messaging clients.

Benefits of this System

This system will provide a secure, encrypted peer-to-peer communication medium that is resistant to network damage. All communications will be encrypted with RSA public key encryption.

Constraints

There are a few constraints on this system:

- There will be no built-in support for people unable to read text on a screen. Testing should be done with screen readers to ensure compatibility.
- The back-end will be written in Java which, while granting cross-platform capabilities, limits potential applications (such as iProducts).

Website

The project website can be found at http://syddraf-cray.github.com/distributed-im/ which includes instructions for obtaining the source code.

Notes

Since the backend for this project is being used for a Computer Networks class, that component will have work from Lauren Arpin. To maintain the integrity of the classes, we will make every effort to ensure that she does not work on the interface.

Proposed Schedule

Major bullets indicate the larger turn-in requirements. Sub-items indicate more specific tasks that should be completed by that turn-in.

- 02/07 : Requirements Documents
    - Complete Interface Design
    - Complete Backend
- 02/14 : Data Analysis Results and Prototyping Plan
- 02/23 : Prototype Demonstrations
    - Complete Interface Implementation
    - Complete Working Prototype
- 03/01 : User Test Plan
    - Select User Groups for Testing
- 03/13 : User Testing Begins
- 03/29 : User Testing Ends
    - Analyse Feedback
- 04/03 : Project and Supporting Documentation
    - Make Changes Based on User Responses
    - Finalise any Bugs and Features