

CIS 505 - Software Systems

Project 3 - The Iterators

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Introduction

As part of the project, we will be implementing a fully ordered multicast chat server with a central sequencer/leader (chosen from among the current group members).

Implementation Plan

→ *Schedule of Work*

Timeline	Tasks To Be Completed
March 21 - March 28, 2016	Basic outline of the implementation of chat server, data structures to use and modules to create.
March 28 - April 3, 2016	Implementation of basic UDP client server model. Testing message send/receive.
April 4 - April 10, 2016	Adding user to chat group and implementing Naming module. Basic testing of UDP server with Naming module.
April 11 - April 17, 2016	Implementation of Total Ordering/Sequencer module. Testing basic functionality of the chat server. Outline for implementation of Recovery module.
April 18 - April 24, 2016	Implementation of Recovery module and end-to-end testing of complete chat server. Basic outline for implementation of Traffic Control, Fair Queueing, Message Priority. Adding basic GUI and encryption/decryption of messages to the chat server.
April 25 - April 28, 2016	Basic outline and attempt to implement decentralized total ordering, snapshot algorithm. End-to-end testing of the complete chat system using test cases.

→ **Division of Labor**

Weekending	Shashank	Parul	Aakriti
March 28, 2016	Discussion on the basic outline for project, data structures to be used, and modularization for the project		
	Design Spec doc	Design Spec doc	Schedule doc
April 3, 2016	Implementation for UDP server. Testing of send/receive messages	Implementation for UDP server.	Implementation for UDP client.
April 10, 2016	Implementing Naming Module	Adding and Deleting Clients from Server. Basic testing of client-server model.	Implementing Naming Module.
April 17, 2016	Implementation of Total Ordering of Multicast Protocol and end-to-end testing of chat server.		
April 24, 2016	Implementation of Message Failure Recovery Module	Implementation of Election Module. End-to-end testing of chat server using test cases.	Basic outline for implementation of Traffic Control, Fair Queueing, Message Priority. Adding basic GUI and encryption/decryption of messages to the chat server.
April 28, 2016	Attempt to implement decentralized total ordering.	Attempt to implement snapshot algorithm.	Attempt to implement decentralized total ordering.
	End-to-end testing of the complete project with various test cases.		

We will be using agile development methodology and will change the design spec iteratively. We will also be using pair programming practices where two programmers work together. One of them writes code while the other, reviews each line of code as it is typed in. We will switch these roles frequently so that each of them understands the design and implementation.

