Final Project Design and Plan

**Team members:** Connor Stevens – Server Info, Yen Le – Client Connection/GUI

**Link to project Github repo**: create your own following this template: <https://github.com/cstevens0609/Stock_WebScraper>

# Introduction (10 pts)

Our final project is a stock web scraper that will use Socket programming to help server and client communicate on what information needs to be sent/received.

# Features (10 pts)

1. Server will sort info from stock website
2. Server will then ask client questions on what they want to see
3. User can ask to see specific company
4. User can ask to see specific company numbers
5. User can ask to see biggest “winner” at the time

# Design (70 pts)

## System Architecture (20 pts)

Client-Server architecture of a Stock Web Scraper

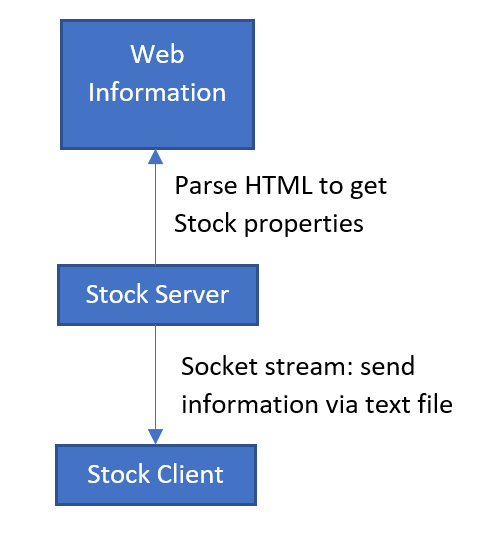


Figure 1. Stock Scraper client-server architecture

### Details:

Web Scraper Server:

TCP server that uses web scraping to get information from a stock website ([https://markets.businessinsider.com](https://markets.businessinsider.com/)). The server is responsible for:

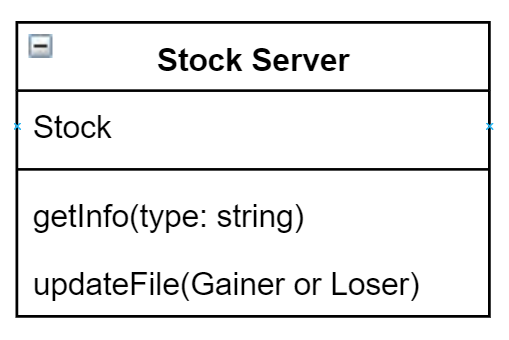
1. Reading and sorting the information from the stock website
2. Reading in inputs from the client
3. Finding the information the client wants and sending it back to them

Web Scraper Client:

TCP Client that will be:

1. Prompted for what info they would like to receive (company specific numbers, or which company’s stock grew the most)
2. Asked for a given time (the website uses the time periods of today, 3 months, 6 months, and 1 year)
3. Responsible for receiving all the information back from the client.

## Class Diagram (20 pts) **UML**

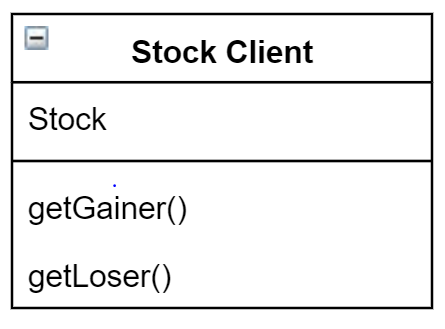


**Fields**

* + StockInfo (name, lastest price, low, high, tradetime, 3month, 6month, 1year): to store stock information from website

**Methods**

* + getInfo(): parse HTML of Stock website and save information to StockInfo
  + updateFile(): update gainer and loser stock



**Fields**

* + StockInfo (name, lastest price, low, high, tradetime, 3month, 6month, 1year): to store stock information from file

**Methods**

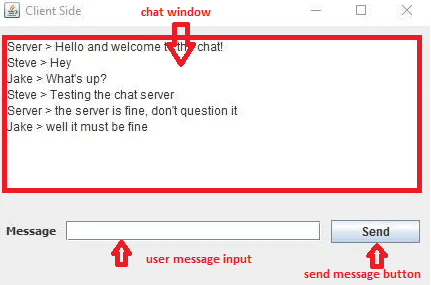
* + getGainer (): show gainer stocks
  + getLoser(): show loser stocks

## GUI (10 pts)

Provide a sketch of the GUI (if any) and explain all the elements on the GUI.

Note: GUI doesn’t need to be polish. You can sketch it on paper, whiteboard and take pictures of it and paste it here. Make sure to highlight all elements on the GUI and explain what they are.

E.g., Chat Client



## Workflow (20 pts)

List all the use cases and illustrate each with a workflow.

E.g.,

Use case 1: User can join the chat room

**Flowchart**

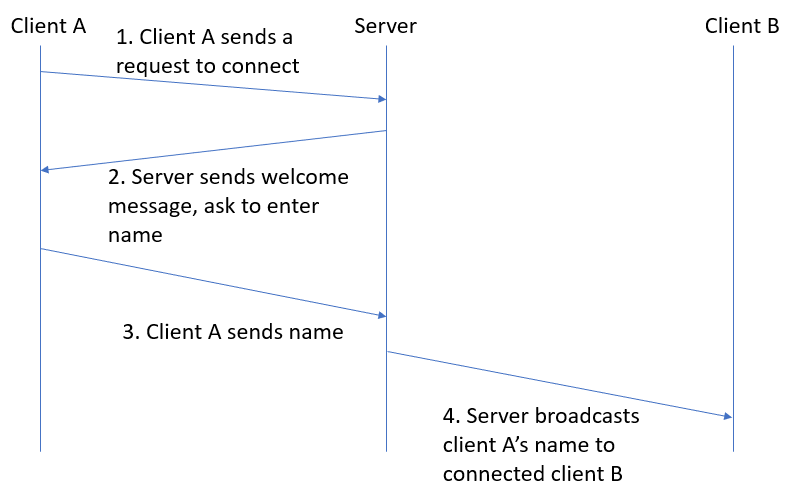
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Figure 2. User joins chat room flow

# Tools (5 pts)

## Hardware:

* Laptop

## Software

* Python socket library
* Business Insider Stock Website

# Weekly Plan (5 pts)

|  |  |
| --- | --- |
| What to have done | Due date |
| Finish lab 5 and submit project outline | 10/25 |
| Have server process HTML information | 11/1 |
| Have server sort HTML information | 11/8 |
| Set up TCP connection | 11/15 |
| Get inputs from client to server and send back desired info | 11/22 |
| Fix bugs/GUI | 11/29 |
| Fix bugs/GUI | 12/6 |