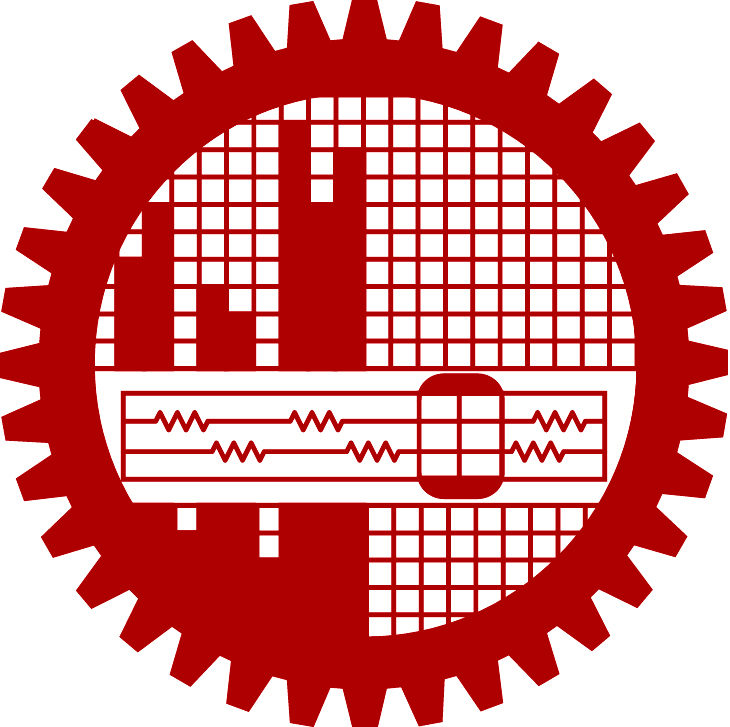
**eStockBroker**

**Stock Market Analysis and Trading Software**

**(Scope Definition)**



**Information System Design Project**

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**1. Existing System Analysis:**

**a. Operating Mechanism:**

To study the current situation of the stock market in Bangladesh, we visited the Dhaka Stock Exchange and interviewed some Board Members as well as stock-brokers and stock-traders who work there. We also interviewed the owner of a brokerage firm called Midway Securities Ltd. to get an idea about the internal workings of the stock market.

Under the prevailing situation, much of the work handled by the stock exchange and brokerage firms are still done manually. If one wishes to buy or sell stocks, he has to make calls to various cronies in the stock exchange and ask them to make the transaction for him. Usually, they charge a service fee for each transaction and lack of automation prolongs the process.

Furthermore, if one wishes to reliably know the current stock market listings, he or she must call someone who is inside the stock exchange to inform him or look at the stock market ticker on the business news which only telecasts a few times per day.

**b. Problems:**

In the existing system, as mentioned above, the lack of technological modernization has led to a prevalence of cronyism in the stock sector as well as rampant corruption.

The Dhaka Stock Market crash of 2010-11 occurred due to a lack of transparency and accountability in the stock market. None of the transactions are presently logged or taken account of.

One can not sit at home and buy or sell his stocks without the use of middlemen which is in stark contrast to comparable developing countries where the process is entirely automated.

The difficulty of accessing up-to-date stock listings has increased the propensity of cheating and bribery in the marketplace.

**c. Automation Status:**

Currently there are two stock exchanges in Bangladesh, the DSE and the CSE. Though they have limited online listings, their prices are that of the previous day and the data is collected manually by assigned workers.

Furthermore, there is no opportunity to buy or sell stocks online, whether directly or through brokerage firms.

All these steps have to be done by hand or by making phone calls to cronies who do not work without incentive(bribe).

**2. Scope Discovery**

**a. What we shall implement:**

We are basically going to implement three things, viz-

* **Real-time Stock Listing:**

This will provide stock traders with a listing of all companies trading in the share market along with accurate-to-the-second prices of each share. Expected dividend, day-end price of previous days and previous weeks will also be provided.

* **Graphical Visualization:**

The system will analyze the long-term performance of a share starting from a specified date and visualize the ups-and-downs on a graph up-to the present day price so as to help traders decide whether or not the stock is a viable investment.

* **Online trading:**

The option to buy or sell stocks online will be provided to customers who have provided requisite bank details so that they do not have to face the hassle of calling people to do it for them. Each transaction will be logged and stored on the server and the user will get an online receipt.

* **Cancelling invalid orders:**

If a user mistakenly makes an order to buy or sell, or perhaps enters an erroneous amount into the sales-end, he will have a fixed interval of time(specified by broker firm) to cancel that order as it will be enqueued in the user’s profile as long as it does not check-out or gets verified.

**b. What we shall not implement:**

For want of resources, we will not be able to realize some features-

* **Personalized Watchlists:**

The user will not be able to add a particular stock to a watch-list so that he is periodically given updates about that stock by e-mail or SMS.

* **SMS updates:**

We will not be implementing stock queries by SMS.

* **No confidential data:**

The listed companies provide the stock exchange with various confidential data to get accepted into the listing which is not publicly available. We shall not be collecting this data.

**3. Assessment of Project Worthiness:**

**a. Is our project worth implementing?**

After surveying the current situation and our proposed solutions, it is quite evident that the realization project of our project would ease the hassles of the stock exchange, stock-traders and brokerage firms alike manifold.

**b. Contributions and benefits:**

The main beneficiaries of the system will the stock-traders, brokerage firms and the stock exchanges.

**Stock Exchange:**

* Automation of process will facilitate trade
* Will attract more buyers
* Logging of transactions will help preventing scams and stock market crashes
* The role of middlemen and bribery will be curtailed significantly

**Stock Trader:**

* Ability to buy and sell stocks with the hassle of involving a third party.
* No money will have to change hands other than for the purchase and sale of shares
* Can not get cheated as he will get online receipt with every transaction.
* Need for cash transaction is eliminated, leading to safer trading.

**Broker House:**

* As they will be the ones offering the service, they will get more customers
* Reputation will increase
* Profits will rise due to increased trade

**4. Possible roadblocks:**

* **Server access problem:**

If by some unavoidable circumstance the server is forced to shut down, the user will not be able to access the real-time stock data of that day. Likewise, he will not be able to buy or sell.

* **Insider Trading:**

Employees of the private companies have confidential information about the company which is not publicly available. So they can predict when the price of shares of that company will rise and fall. That person can share this information with his acquaintances, giving them an unfair advantage in share-trading.

* **Hacking:**

No system in the world is completely secure. Even the CIA and NSA are susceptible to security breaches. As user data and the user panel are very sensitive aspects, a major hacking attack could result in a huge monetary loss.

**5. Solutions:**

* In case the main server experiences down-time, we will keep a back-up server that will hold the latest available stock information before the server crash.
* Insider trading must be curtailed by rigid enforcement of law, lawsuits and instilment of strong moral values. Though insider trading is something outside the scope of our project, the brokerage firm can discourage it by penalizing companies found complicit in such activities.
* Since there is no surefire way to prevent hacking, it is best to follow mitigating procedures. Whenever a security breach is detected or unauthorized access is gained by an outside party, the sales and list systems will shut-down immediately and send a distress alarm to the stock exchange. Furthermore, blacklisting known malicious IP addresses can also reduce the risk.