APPSHARE: SMS ALERT SYSTEM FOR STOCK INVESTORS

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ABSTRACT

Share-Market is a network of economic transactions for the trading of company shares. Every third person is investing in Share-market. Most of people are engaged in their daily professional activities and dealing with issues related to their work. It is really very difficult to manage time to surf internet or to watch business channels to monitor share market prices. In this paper, we are presenting share market price alert system, APPSHARE, which provides an alternative to stock investors to monitor their share prices. This system is developed to help stock investors to get information about their share prices which they are interested at correct time based on market conditions.

Keywords: Stock market, alert system, SMS service, SMS alert system.

1. INTRODUCTION

In early days stock exchange transactions were done using the phone through persons called as brokers. There were many issues faced by stock investors mainly availability of person for transactions on time where prices of share suddenly vary. This system is accessible to all customers who want to subscribe for this service. User will send company names or his share name he is holding along with two price at which he want to sell his commodity or want to get alert. APPSHARE system sends alerts to users at his predicated price. There are many event notification systems for asynchronous communication in distributed systems. Web services technology is dealing with heterogeneous distributed systems. The WS-based (Web services-based) event notification system manages both asynchronous and heterogeneous distributed system. Different Grid computing applications like logging, monitoring and auditing are handled by event notification system [8]. Pocket-X Stock Monitor is one of the commercial products available in the market which is implemented in
VB.Net language which is developed for Pocket PCs and PDAs. This is showing all stocks prices and notifying through popup window [5].

2. BACKGROUND STUDY

Stock Market:
A stock market is public network of economic transactions for the trading of company stock (shares) and derivatives at an agreed price and not a physical facility or discrete entity.

Stock Broker:
A stock broker is an individual/institution that is especially trained and certified to participate in the securities market on behalf of clients and gets a commission/brokerage when the deal is executed.

Stock exchanges are like clubs and they have members (i.e. brokers--only people who honor trades are joined as members). Brokers need to fulfill certain criteria in order to become member of stock exchange. Broker can be banks, financial institutions, independent brokers etc.

Function of Stock Exchange:
To match Lowest selling price with highest buying price matching priority is given first to price and then time. Means first price is matched and then priority is given to time.

For e.g. If there are two sell orders at same price comes in the system then system will check which order came first in the system and accordingly trades are matched (time).

Prominent Position:
Number of brokers increased as time passed and they need to shift from one place to another. They always overflowed the streets. At last, in 1974 the brokers found a permanent place and one that they could, quite literally, call their own. The new place was, aptly, called Dalal Street (Brokers' Street).

Bombay Stock Exchange (BSE):
BSE is Asia’s and one of India’s leading stock exchange groups. BSE established in 1875, BSE Ltd. (formerly known as Bombay Stock Exchange Ltd.) Over the past 137 years, BSE has facilitated the growth of the Indian corporate sector by providing it an efficient capital-raising platform [1].

- BSE launched the BSE IPO index and PSU website
- BSE revamped its website with wide range of new features like 'Live streaming quotes for SENSEX companies', 'Advanced Stock Reach', 'SENSEX View', 'Market Galaxy', and 'Members'
- Launched 'BSE SENSEX MOBILE STREAMER' [2]

In terms of an orderly growth, much before the actual legislations were enacted, BSE had formulated a comprehensive set of Rules and Regulations for the securities market.. It had also laid down best practices which were adopted subsequently by 23 stock exchanges which were set up after India gained its independence.

- First in India to launch Exchange Enabled Internet Trading Platform.
- BSE On-Line Trading System’ (BOLT) has been awarded the globally recognized the Information Security Management System standard BS7799-2:2002.
- First in India in the financial services sector to launch its website in Hindi and Gujarati.
BSE places a great deal of emphasis on Information Technology for its operations and performance. The 'Operations & Trading Department' at BSE continuously upgrades the hardware, software and networking systems, thus enabling BSE to enhance the quality and standards of service provided to its members, investors.

BSE strictly adheres to IS policies and IS Security policies and procedures for its day-to-day operations on 24x7 basis which has enabled it to achieve the BS7799 certification and the subsequent ISO 27001 certification. In addition, BSE has also been successful in maintaining systems and processes uptime of 99.99%.

1. **BSEWebx.co.in**
   BSE has also introduced the world's first centralized exchange based Internet trading system, BSEWEBx.co.in. The initiative enables investors anywhere in the world to trade on the BSE platform.

2. **Bseindia.com**
   BSE's website www.bseindia.com provides comprehensive information on the stock market. It is one of the most popular financial websites in India and is regularly visited by financial organizations and other stakeholders for updates [1].

**Other Technology-based Initiatives**
BSE, along with its strategic partners, have put into place several critical processes/systems such as
- Derivatives Trading & Settlement System (DTSS)
- Electronic Contract Notes (ECN)
- Unique Client Code registration (UCC)
- Real-time Data Dissemination System -
- Integrated Back-office System - CDB / IDB
- Book Building System (BBS)
- Reverse Book Building System (RBBS)
- Debt Market
- Director's Database

**A Large Private Network:**
BSE operates a large private network in India. The network uses following segments to cater to market intermediaries:

1) **BSE's Campus LAN:**
Connects market participant offices across 20 floors of BSE campus to BSE systems. BSE Campus comprises of 3 BSE buildings: P.J. Towers, Rotunda and Cama building

2) **BSE WAN:**
TDM / MPLS lines from different service providers cater to connectivity requirements of market participants across the country. Wired / Wireless media is used.

3) **VSATs:**
Satellite based communication system serves the connectivity requirements of market participants in remote areas. Services are provided through BSE's Satellite Communication Hub in Mumbai.

**3. COMPARITIVE STUDY OF SOFTWARE USED FOR TRADING AND ACCOUNTING IN SHARE MARKET**

1) **ODIN:**
ODIN™ - the Multi-Exchange, Multi-Currency Front Office trading and risk management system - makes trading on multiple markets easier through the use of a single application. It incorporates appealing features and works on advanced technology which facilitates higher accessibility, ensuring speedy performance and advanced risk management.
ODIN™, Financial Technologies' flagship product, has been the ‘Trading Platform of Choice’ for several years powering over 880 leading brokerage houses with more than 80% market share.

ODIN™ is a scalable solution that ensures high performance standards and which can be easily deployed across varied locations with relative ease. ODIN™ provides real time connectivity to the multiple exchanges offering highest order execution speed and operational stability. ODIN™ has extensive search and filtering options and that too with minimal investment and ease of manageability.

- Multi-exchange, multi-segment front office securities trading platform for equities, derivatives, and commodities markets – all on a single application
- Offers real time connectivity to the exchange and back office system with faster inter-segment trading
- Offers a complete trade and system audit trail, real-time price and position information, and real-time risk monitoring at all levels
- Fully customizable views at all levels besides extensive search and filtering options

2] ODIN™ Trader Work Station Highlights:

- Integrated Market Watch for multiple exchange and exchange segments
- Fast Order entry
- Basket trading
- Bulk Order entry
- Arbitrage Watch
- Spread Strategy Maker
- Derivatives chain
- Condition Generator for user defined query generation
- Expression Builder for customized formula creation
- Most Active Securities/Contract and Top Loser/Gainers
- Heat Map
- Charting with Line Tools and Indicators
- Dynamic portfolio
- MS excel export
- Panic Withdrawal for Bulk Square Off/Withdrawal of Trade/Orders
- Customized column profiles

3] ODIN™ Administrator Highlights

- User privileges
- Flexible client risk preferences settings
- Order based RMS
- Securities/ Contract basket creation
- Client wise/Scrip wise Max Margining
- Manual and Auto surveillance
- NRI and T2T surveillance
- Flexible Client -Dealer mapping
- MTM loss track
- Role based multiple admin creation
- Portfolio based risk management (FT Prime)
- Audit trail reports
- Messaging to trader work stations

Business Expansion:

- Extend trading across the country by using heterogeneous network
- Common dealing desk for multiple exchange segments with minimal investment and easy manageability
✓ Operational ease with extensive search and filtering options.

4. APPSHARE SYSTEM

APPSHARE is an alert system about share market price through which user can get alert messages for his predicated price of defined shares. This will be accessible to all customers who want to subscribe for this service. This system provides the following facilities: User will send company names (his share name he is holding) along with two price at which he want to sell his commodity or want to get alert.

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stock tracking without internet</td>
<td>Saving money</td>
</tr>
<tr>
<td>Any time pause alert</td>
<td>Flexible</td>
</tr>
<tr>
<td>Alert on user upper and lower limit</td>
<td>No unwanted alerts and disturbance</td>
</tr>
</tbody>
</table>

Table 1: Features and benefits

Requirement Specifications:
Following is the requirement specifications of APPSHARE system. Some example requirements are entered in to it to show how to use the template. Make sure that you enter even the smallest/most trivial requirements also.

<table>
<thead>
<tr>
<th>No.</th>
<th>Requirement</th>
<th>Essential or Desirable</th>
<th>Description of the Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS1</td>
<td>A Website is required for registration for the service and can send their portfolio from their account.</td>
<td>Essential</td>
<td>To keep user accounts and details.</td>
</tr>
<tr>
<td>RS2</td>
<td>A sms gateway service provider to send and receive sms.</td>
<td>Essential</td>
<td>To receive sms from portfolios user and to send sms alert price.</td>
</tr>
<tr>
<td>RS3</td>
<td>A database to import updated share market price values.</td>
<td>Essential</td>
<td>User can set their portfolios files in their accounts.</td>
</tr>
<tr>
<td>RS4</td>
<td>Apache Tomcat Server</td>
<td>Essential</td>
<td>To keep website running</td>
</tr>
</tbody>
</table>

Table 2: Requirement Specifications

Overview of APPSHARE System:

Figure 1: APPSHARE System Architecture
1. Receiving SMS from Mobile User to our Ozeki Gateway [4]
2. Ozeki Gateway redirected it to Database using SQL Queries for verification by Java Application [6].
3. If the user is valid then Application allows the received sms to store in database. This is general connection between different stages of projects and all stages must be identified by the type of message received.

We have created a website using Advance Java concepts like JSP, SERVLETS with providing JDBC connectivity for storing visitors account in our database. We prepared Ozeki [4] Setup database compatible to our database tables and applying database design concepts for executing SQL Queries successfully. This system imports data from auto updating MS-Excel sheet to our database and compare the prices. To Send and receive SMS using Ozeki, the Software is checking for new tuples in every 20sec. in outgoing SMS database, here need to implement SQL Queries to store and retrieve “Message” [6][7].

5. RESULTS AND SNAPSHOT OF APPSHARE SYSTEM

Login WEBSITE

It’s a login/home page of our website where customer can do login and visitor can sign-up. It contain live streaming from NSE-BSE and a gadget which shows top gainers and losers, graph of NSE intraday price live.
Receiving Portfolio in Website

After login user can see his portfolio status and ranges, even he can add new company name with upper and lower limit.

Dealing online or through SMS

This page of our website handle dealing of stock online sell and buy.
Live Market

This page is displaying stock prices imported directly from Yahoo [3].

Ozeki SMS Gateway Manager Screen

This is ozeki manager screen where GSM Provider and database installation, route and events can be monitored by the administrator.
Database Internet Connectivity

This is MS excel file connected to Internet for importing update prices in every 20sec. from finance.yahoo.com [3]

Ozeki SMS database Screen Shot

6. DISCUSSION AND FUTURE SCOPE

We have implemented APPSHARE system using java, jsp technology along with Ozeking gateway. MS-Access database used to store the data of different users. For live updating of the stock prices Visual Basic and MS-Excel is being used.
APPSHARE system is useful for the users who cannot access internet whole day and who pissed off of too much alerts by using other services.

The Global Flood Alert System (GFAS) was launched on a trial basis in the year 2006 in order to support flood forecasting and warning worldwide. The Japanese Ministry of Land, Infrastructure and Transport (MLIT) and the Japan Aerospace Exploration Agency (JAXA) have promoted this project. The Japanese Infrastructure Development Institute (IDI) has developed the internet-based information system, which is hosted by the International Flood Network (IFNet). GFAS provides flood forecasting and warning information in the form of downloadable data, global and regional rainfall maps as well as heavy rainfall information (based on precipitation probability estimates). In case real-time rainfall exceeds the estimated precipitation of a 5-year or 10-year return period in a given river basin, GFAS also sends e-mails to pre-registered meteorological or disaster management agencies to provide them with flood warning information. As data source, GFAS uses satellite information provided by NASA. GFAS information is used by registered meteorological and disaster management agencies as well as the general public.

Flood Alert System via SMS (FASvSMS) is a real-time system that is developed to provide SMS alert to residents whom living in flood-risks areas. This type of alerting system is established in Poyang lake of china. In this technology they have used optical fiber and the for detector devices and used the satellite communication technology to alert the common peoples. In this they have used Geographic Information System (GIS) to make reports about what is being analyzed during specific time interval and alerts will be sent based upon that.

REFERENCES

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[3] Yahoo’s financing and news system Available at : www.finance.yahoo.com