Project Title: Stock analysis and support in quick decision-making process for individual investors and institutions

Mohammed Faizur Rahman
Id: 012151020

A Project

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Approval Certificate

This project titled **"Stock analysis and support in quick decision-making process for individual investors and institutions"** submitted by Mohammed Faizur Rahman, Student ID: 012151020, has been accepted as satisfactory in fulfillment of the requirement for the degree of Master of Science in Computer Science and Engineering on June,2019.

Board of Examiners

1.

_____   Supervisor
Dr. Hasan Sarwar
Professor
Dept. of Computer Science and Engineering,
United International University
United City, Madani Avenue, Dhaka-1212

2.

_____   Examiner
Suman Ahmmed
Assistant Professor
Dept. of Computer Science and Engineering,
United International University
United City, Madani Avenue, Dhaka-1212

3.

_____   Ex-Officio
Dr. Mohammad Nurul Huda
Professor & Director-MSCSE Program
Dept. of Computer Science and Engineering,
United International University
United City, Madani Avenue, Dhaka-1212

Declaration

This is to certify that the work entitled "**Stock analysis and support in quick decision-making process for individual investors and institutions** " is the outcome of the project carried out by me under the supervision of Dr. Hasan Sarwar, Professor, MSCSE, United International University.

_____

Mohammed Faizur Rahman
ID: 012151020
MSCSE Program
Dept. of Computer Science and Engineering,
United International University
United City, Madani Avenue, Dhaka-1212

In my capacity as supervisor of the candidate's project, I certify that the above statements are true to the best of my knowledge.

_____

Dr. Hasan Sarwar
Professor
Dept. of Computer Science and Engineering,
United International University
United City, Madani Avenue, Dhaka-1212

Abstract

We must think about investors who are investing their money in the capital market and losing money due to wrong decisions and lack of information for proper decision making. Investors can manage his/her investment through the system and can perform analysis of investment and decision making based on fundamental & market data analysis. System should be capable to integrate with Dhaka Stock Exchange (DSE) and collect latest market price and trade data to help the investor for decision making based on current market status.

There are two primary methods used to analyze securities and make investment decisions: fundamental analysis and technical analysis. Fundamental analysis involves analyzing a company's financial statements to determine the fair value of the business, while technical analysis assumes that a security's price already reflects all publicly-available information and instead focuses on the statistical analysis of price movements.

A fundamental analysis is all about getting an understanding of a company, the health of its business and its prospects. It includes reading and analyzing annual reports and financial statements to get an understanding of the company's comparative advantages, competitors and its market environment. Fundamental analysis is built on the idea that the stock market may price a company wrong from time to time. Profits can be made by finding underpriced stocks and waiting for the market to adjust the valuation of the company. By analyzing the financial reports from companies, we will get an understanding of the value of different companies and understand the pricing in the stock market. After analyzing these factor's, we have a better understanding of whether the price of the stock is undervalued or overvalued at the current market price.

Acknowledgement

Mohammed Faizur Rahman
ID: 012151020
MSCSE Program
Dept. of Computer Science and Engineering,
United International University
United City, Madani Avenue, Dhaka-1212

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Chapter 1

1.1 Background and Literature Review

Fundamental analysis of a stock is used to determine the health of a company. It's recommended to do a proper fundamental analysis of the stock before investing if you are planning for long term investment.

Technical analysis is good to find the entry and exit time in a stock for Intraday or short term. However, if you want to find a multi bagger stock to invest, then the fundamental analysis is the best tool that you can utilize.

To get multiple times return, you need to remain invested in a stock for long term. While the technical indicators will show you exit signs on short term downtrends, however you can remain invested in that stock if the company is fundamentally strong.

In such cases, you will be confident that the stock will grow and give good returns in the future. Short-term market fluctuations, external factors or mis-happenings won't affect the fundamentals of the strong company in long term.

Most retail investors do not bother about research and analysis while they take decisions on stock market investment. They also do not do any research or analysis, nor do they study the research reports prepared by specialist researchers belonging to various institutions. This is, because, most investors do not know how to analysis research reports nor are they capable of preparing their own ones. In most cases, they are market-movers. Question may arise as to how they go about with stock market investment. The answer is, most retail investors are day traders; they bother little of stocks' fundamentals. At best, what they do is to follow the price trends or try to use technical analysis even though they did not attend any class on or read about technical analysis. This tool will help them a lot to see the company performance in the market and financial strength of the company.

I have reviewed various application related to stock analysis like BLUMBERG, ZacTrader, Stock Bangladesh & DSE to check benchmark products related to this domain.

Chapter 2

2.1 Introduction

A capital market is a market for securities; both debt and equity, from where the business enterprises and the government can raise long-term funds by selling securities. It is defined as a market in which money is provided for periods longer than a year while money market provides funds for shorter period of one year. The capital market includes:

➢ The Stock Market (For equity securities)
➢ The Bond Market (For debt securities)

Financial regulators, such as the Bangladesh Financial Services Authority or the Bangladesh Securities and Exchange Commission (SEC), governs the capital markets according to their jurisdictions to ensure that investors are protected against fraud, among other duties.

Capital markets may also be classified as:

➢ Primary Market
➢ Secondary Market

In primary markets, new stock or debt issues are sold to investors through underwriting process. While already securities of existing companies are sold and bought among investors or traders, usually on a securities exchange, over-the-counter, or elsewhere.

The goal of the markets is to increase investor confidence by more active participation. The markets require a free flow of information to run smoothly and efficiently and the internet can be used for up-to the minute trade information. The market is also act as a significant source of funds for the business firms.

After the massive surge of 2010-11, share markets of Bangladesh have maintained steady growth over the last few years. This progress has been made possible through the regulatory acts and restructure of stock exchanges. During 2015-2016 period there was various

adjustment in the monetary and fiscal policies which affected the market. Nevertheless, capital market witnessed growth, but the usual pace of growth was hampered due to the slow approach of the institutional and individual investors.

Investor investing their money in the capital market. They received portfolio statement from Brokers or Merchant Banks at the end of the day. Broker/Merchant banks received trade execution file from exchange at 2:30 to 3:00 PM and process through back office system and send report to investor's over email or hand to hand @4 to 8 PM which is time consuming and huge dependency with various stakeholders. Investor cannot analysis of stocks due to lack of information. So, The system will capable to provide all the information in one place and access to real time data from Dhaka Stock Exchange (DSE). Investors or institutions of Capital Market can perform analysis based on fundamental and technical data and make proper decision through the system.

2.2 Software Requirement Specification

2.2.1 Scope of The Project

- ➢ Investor Registration
- ➢ Listed Company Information
- ➢ Preserve Company Fundamental Data
- ➢ Preserve Market Data from Dhaka Stock Exchange (DSE)
- ➢ Portfolio Data Access from Broker System
- ➢ Fundamental Analysis
- ➢ Technical Analysis
- ➢ Portfolio Analysis

2.2.2 Project Objectives

- To minimize investment risk and maximize profit
- To make decision based on various analysis
- To see real time market update & quick decision making
- To access from anywhere any place
- To enable solution for all (individual investors/institutions/brokers/merchant banks/asset management company)

2.2.3 Functional Requirements

- There will be an investors registration system.
- Company basic information, Fundamental information will be captured through the system
- System able to capture market data/company daily price data from DSE web site
- Investor can analysis based on his holding stock or preference
- Investor can see the performance of company in the market

2.2.4 Non-Functional Requirements

- The application will run on common browsers.
- The application will run on 24*7 in cloud or on premises server and accessible from any time any place

2.2.5 Environmental Requirements

- OS: Need windows server 2012 or Higher
- IIS: IIS 7 or Higher
- DB: SQL Server 2012 of Higher

2.2.6 User Classes & Characteristics

User Classes	Characteristic	Use Cases
Admin	System admin capable to create and maintain investor information, Company information, Market data & fundamental data processing.	1. Maintain Investor Information (UC-01) 2. Maintain listed company information (UC-02) 3. Maintain company fundamental & Market data (UC-03)
General Investor's	General investors can perform analysis based on fundamental data and market data and make decision.	4. Manage Portfolio (UC-04) 5. Perform data analysis (UC-05)
Corporate Investor's/Institute	Corporate investors can perform analysis based on fundamental data and market data and make decision.	6. Manage Portfolio (UC0-4) 7. Perform data analysis (UC-05)

2.2.7 Business Rules

ID No.	Rule Name	Description	Type of Rule	Static / Dynamic	Source
BREQ-01	Investor Portfolio & Analysis	Investor can perform analysis based on his/her holding stock and current market process. One person can maintain multiple portfolio, but analysis will be based on investor code.	Facts	Dynamic	Market Practice

BREQ-02	Fundamental information & Data Source	Fundamental information will be preserve based on yearly/half yearly/quarterly performance of the company and published report of the company. Data will be collected from various sources like DSE, Published reports and web sites.	Facts	Static	DSE
BREQ-03	Captured Market Data	DSE not yet implemented any API to collect real time market data. So, There will be service to collect data from DSE web site every 2 minutes interval.	Facts	Dynamic	DSE
BREQ-04	Portfolio Management	System will be integrated with broker system and collect portfolio data for analysis with market data & fundamental performance	Dynamic	Dynamic	Corporate
BREQ-05	Data Comparison	System must be capable to compare one company to another company based on their performance in the market and fundamental achievements	Dynamic	Dynamic	Corporate

2.2.8 Use Cases

i. Create Investor Profile

Use Case ID:	UC-01
Priority:	High
Use Case Title:	Create Investor Profile
Author:	Faizur
Source:	BREQ-01
Creation Date:	01/06/2018
Primary Actor:	Admin of the system is the primary actor to setup investor information
Secondary Actor(s):	Front desk executive may perform the role as a secondary actor in absence of admin.

Frequency of Execution:	Investor information and maintenance is the day to day work to serve investors.
Scalability:	Multiple users of concurrent access probability is moderate.
Stakeholders and Interests:	This is the first step to register as a investor. Then investor can perform various analysis through the system.
Brief Description:	User provide following information to the system like Investor code, BO Code, Name, Opening date, Phone, Gender, Email, client type, Address. User able to see preserved information from list view and able to modify investor's information.
Pre-Conditions:	1. User have to login into the system and he has the authority to access the user interface
Basic flow of events:	1. User select investor information user interface from the menu 2. User input the Investor code, BO Code, Name, Opening date, Phone, Gender, Email, client type, Address (Ref BREQ-01 DS01). 3. User asks the system to preserve detail information. After checking user input validation, system preserves data and display a confirmation message. In case of invalid value, system display exception message to user. 4. After completing investor profile, User may leave investor profile user interface. 5. User asks the system to display the specific investor profile (if any exists) option. System display investor profile.
Alternative Flows:	Setup Multiple Investor Information (After Step 3): 1. To setup multiple investor profile, users need to return at step 2. Modification of investor information (After Step 1): 1. User search the investor from the list option. System display list of investor's and user modify necessary change. 2. User asks the system to preserve the modified information into the system. 3. The system preserves the necessary changes to the system
Post-Conditions:	Investor information should be captured into the system.

Business Rule(s):	Ref. BREQ-01
Exception:	1.1 Investor Code inputted (blank) then system display exception message to user and system will not allow preserving incomplete data into the system.
	1.2 BO ID inputted (blank) then system display exception message to user and system will not allow preserving incomplete data into the system.
	1.3 Name inputted (blank) then system display exception message to user and system will not allow preserving incomplete data into the system.
	1.4 Investor code must be unique, otherwise system will not allow to preserve the data
	1.5 System has to validate input data according to the data structure (BREQ-01-DS-01).
Remarks:	System provide message for successful saved or failure

ii. Create Company Information

Use Case ID:	UC-02
Priority:	High
Use Case Title:	Create Company Information
Author:	Faizur
Source:	BREQ-02
Creation Date:	01/06/2018
Primary Actor:	Admin of the system is the primary actor to setup company information
Secondary Actor(s):	Front desk executive may perform the role as a secondary actor in absence of admin.
Frequency of Execution:	Company information is the initial setup of existing company and maintenance is the day to day work to modify/update and create new company information.
Scalability:	Multiple users of concurrent access probability is very low.
Stakeholders and Interests:	This is the main source of capture listed company information, preserve company fundamentals information and analysis based on company performance
Brief Description:	User provide following information to the system. **Basic Information:**

	Company Name, ISIN, Group of Company, Sector, Corporate Address, Factory address, Fax, Telephone, web sites, Share holding structure & Contact profile **Instrument Information:** Short Name, Group, Fiscal year, Instrument type, market lot, no. of securities, Face value, Offer price, status, Listed date **Company fundamental information:** • Financial balance sheet data • Financial cash flow data • Financial income statement data
Pre-Conditions:	1. User have to login into the system and he has the authority to access the user interface 2. Group of company information is required 3. Designation profile is required

Basic flow of events:	1. User select Company information user interface from the menu
	2. User inputted company basic information Company Name, ISIN, Group of Company, Sector, Corporate Address, Factory address, Fax, Telephone, web sites, Share holding structure & Contact profile
	3. User inputted Instrument Information Short Name, Group, Fiscal year, Instrument type, market lot, no. of securities, Face value, Offer price, status, Listed date
	4. Company fundamental information:
	   I. Financial balance sheet data
	  II. Financial cash flow data
	 III. Financial income statement data
	
	5. User asks the system to preserve detail information. After checking user input validation, system preserves data and display a confirmation message.
	    a. In case of invalid value, system display exception message to the user.
	
	6. User asks the system to display the specific company Information. If exists system display company information.

Alternative Flows:	Setup Multiple company Information (After Step 5):

	2. To capture multiple company profile, users need to return at step 2. Modification of existing company information (After Step 1): 4. User search the company name from the list option. System display the list of company's and user modify necessary change. 5. User asks the system to preserve the modified information into the system. 6. The system preserve the necessary changes to the system
Post-Conditions:	1. Company information should be captured into the system.
Business Rule(s):	Ref. BREQ-02
Exception:	1.1 Company name inputted (blank) then system display exception message to user and system will not allow preserving incomplete data into the system. 1.2 ISIN inputted (blank) then system display exception message to user and system will not allow preserving incomplete data into the system. 1.3 Short Name inputted (blank) then system display exception message to user and system will not allow preserving incomplete data into the system. 1.4 Short Name inputted (blank) then system display exception message to user and system will not allow preserving incomplete data into the system. 1.5 Group, fiscal year, Instrument type, Security market, market lot, No. of securities, Face value & listed date inputted (blank) then system display exception message to user and system will not allow preserving incomplete data into the system. 1.6 System has to validate input data according to the data structure.
Remarks:	System provide message for successful saved or failure

iii.   Maintain Market Data

Use Case ID:	UC-03
Priority:	High
Use Case Title:	Maintain Market Data
Author:	Faizur
Source:	BREQ-03
Creation Date:	01/06/2018
Primary Actor:	Admin of the system is the primary actor to setup investor information
Secondary Actor(s):	Front desk executive may perform the role as a secondary actor in absence of admin.
Frequency of Execution:	There will be a backend service for collecting data from market every 2 minutes interval when trading performed.
Scalability:	Multiple users of concurrent access probability is low.
Stakeholders and Interests:	All are the stakeholders of the service like Investors, Institutions & Users. This is very vital information for intraday analysis.
Brief Description:	System must be capable to collect market data from DSE web site and preserve in the system every 2 minutes interval when trading is performed.
Pre-Conditions:	1. Web site of DSE should be up and running otherwise trading data collection is impossible. 2. Company information should be in the system
Basic flow of events:	1. User configure the service from the system 2. System collect company wise data every 2 minutes interval 3. After checking & validation system preserve the data In case of invalid value, system display exception message to user. 4. User may use data for intra-day analysis
Alternative Flows:	There is no alternative flow
Post-Conditions:	Company Intra-day market data should be captured into the system.
Business Rule(s):	Ref. BREQ-03
Exception:	System has to validate input data according to the data structure.
Remarks:	N/A

iv. Manage Portfolio

Use Case ID:	UC-04
Priority:	High
Use Case Title:	Manage Portfolio
Author:	Faizur
Source:	BREQ-04
Creation Date:	10/06/2018
Primary Actor:	Admin of the system is the primary actor for various type of analysis
Secondary Actor(s):	System will act as an actor to collect data from broker system through DB Service/Link Server
Frequency of Execution:	There will be hit in every seconds and concurrency is very high
Scalability:	Multiple users of concurrent access probability is very high.
Stakeholders and Interests:	All are the stakeholders of the service like Investors, Institutions & Users.
Brief Description:	System must be capable to collect specific portfolio data from broker system based on investors request.
Pre-Conditions:	1. Company information should be in the system 2. Company Fundamental data should be in the system 3. Market data should be in the system 4. Portfolio information should be in the broker system 5. Proper data connectivity required with broker DB
Basic flow of events:	1. User select investor information user interface from the menu 2. User request to the system for portfolio data 3. System collect data from broker system
Alternative Flows:	Collect data from broker at the end of the day.
Post-Conditions:	System display data through user interface
Business Rule(s):	Ref. BREQ-04
Exception:	Proper data connectivity required with broker system otherwise system can't collect data from broker end.
Remarks:	N/A

v. Perform Analysis

Use Case ID:	UC-05
Priority:	High
Use Case Title:	Perform Analysis
Author:	Faizur
Source:	BREQ-05
Creation Date:	10/06/2018
Primary Actor:	Investor of the system is the primary actor for various type of analysis
Secondary Actor(s):	Institutes/Broker/Merchant Banks may perform compressive analysis.
Frequency of Execution:	There will be hit in every seconds and concurrency is very high
Scalability:	Multiple users of concurrent access probability is very high.
Stakeholders and Interests:	All are the stakeholders of the service like Investors, Institutions & Users.
Brief Description:	Investor may perform analysis based on his holding shares. Also see the market & fundamental performance of any company. He/She can compare performance one company to another company
Pre-Conditions:	1. Company information should be in the system 2. Company Fundamental data should be in the system 3. Market data should be in the system 4. Portfolio information should be in the system 5. Proper data connectivity required with broker DB
Basic flow of events:	1. Investor select his/her portfolio 2. Investor can see the market performance of the specific company 3. Investor can see the general information, Company financial information, News of specific company and analyst opnion 4. Investor can compare one company performance with another company 5. Investor can decide what to do next?
Alternative Flows:	Investor can perform analysis in various ways with the support of historical information
Post-Conditions:	Based on analysis investor capable to make better decision.
Business Rule(s):	Ref. BREQ-05
Exception:	N/A
Remarks:	N/A

2.2.9 Data Structure

i. Investor Profile

ID	Entity Name				Reference						
BRE Q01-DS-01	Investor Profile				Use Case				Functionality		
					UC-01				Capture and maintain investor information		
	Definition	**Data Type**	**Length**	**Default Value**	**Mandatory**	**Case Sensitive**	**Allow Special Characters**	**Value Range (-/+)**		**Auto Increment**	**Sample Data**
Investor Code	User defined Investor code	Varchar (10)	10 Characters	N/A	Yes	No	No	N/A		No	A12345
BO Code	BO id of investors	Numeric (16,0)	16 Characters	N/A	Yes	No	No	Max 16 digits		No	1200000000000034
Name	Name of investor	Varchar(100)	100 Characters	N/A	Yes	No	N/A	N/A		No	Md. Faizur Rahman
Opening Date	Account opening date	Datetime	10 Characters	Current Date	Yes	No	No	N/A		No	12/12/2018
Phone	Phone number/Mobile number of investor	Varchar(20)	20 Characters	N/A	No	No	Yes	N/A		No	+8801784101857
Gender	Gender	Varchar(10)	10 Characters	N/A	Yes	No	No	N/A		No	Female/Male
Email	Email address	Varchar(50)	50 Characters	N/A	No	No	Yes	N/A		No	abcdd@gmail.com
Client Type	Type of client	Varchar (50)	50 Characters	N/A	No	No	No	N/A		No	Corporate
Address	Address of the client	Varchar (100)	100 Characters	N/A	No	No	No	N/A		No	100, Naya Paltan, 5th Floor, Dhaka-1000.

2.2.10 System Diagram

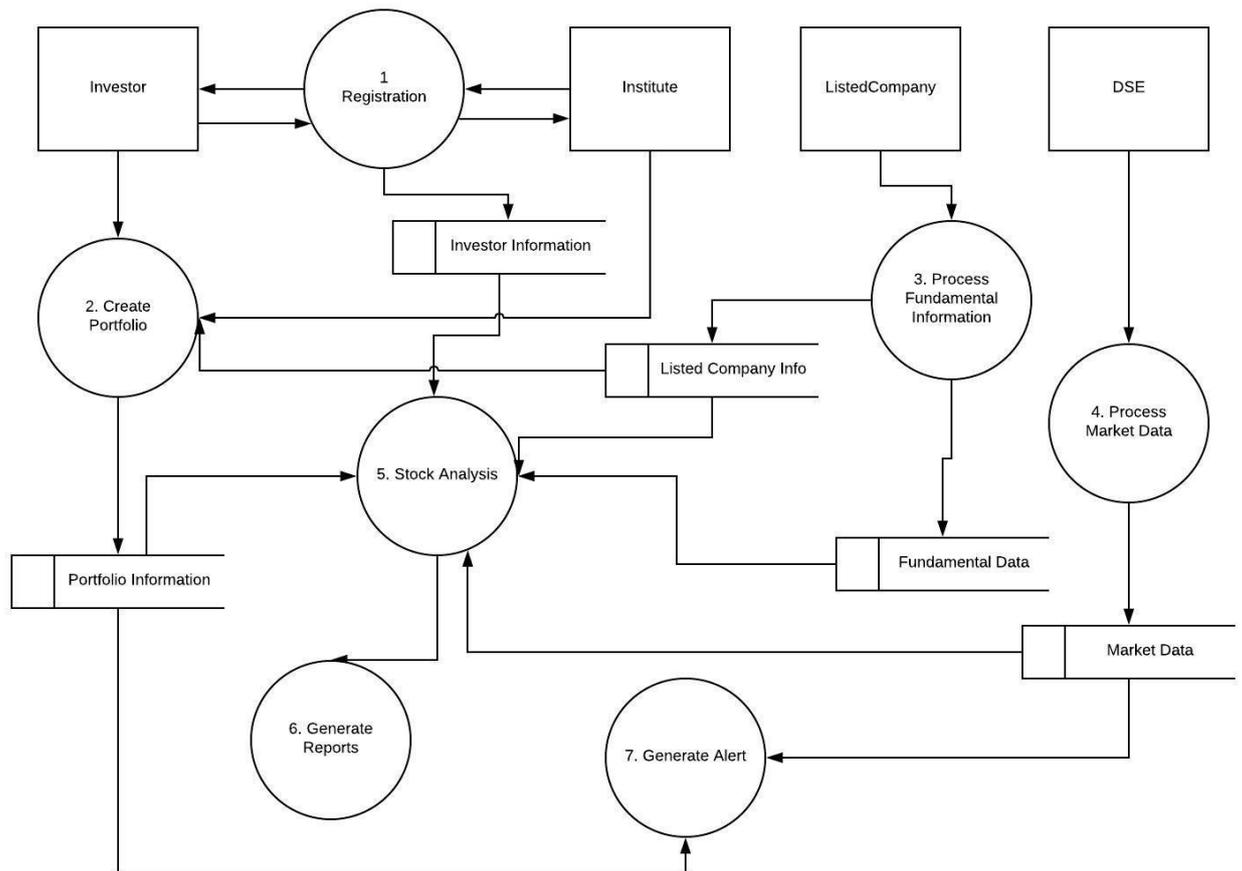### i. Data Flow Diagram (DFD)

Figure-1: Data Flow Diagram of the System

i. Use-Case Diagram
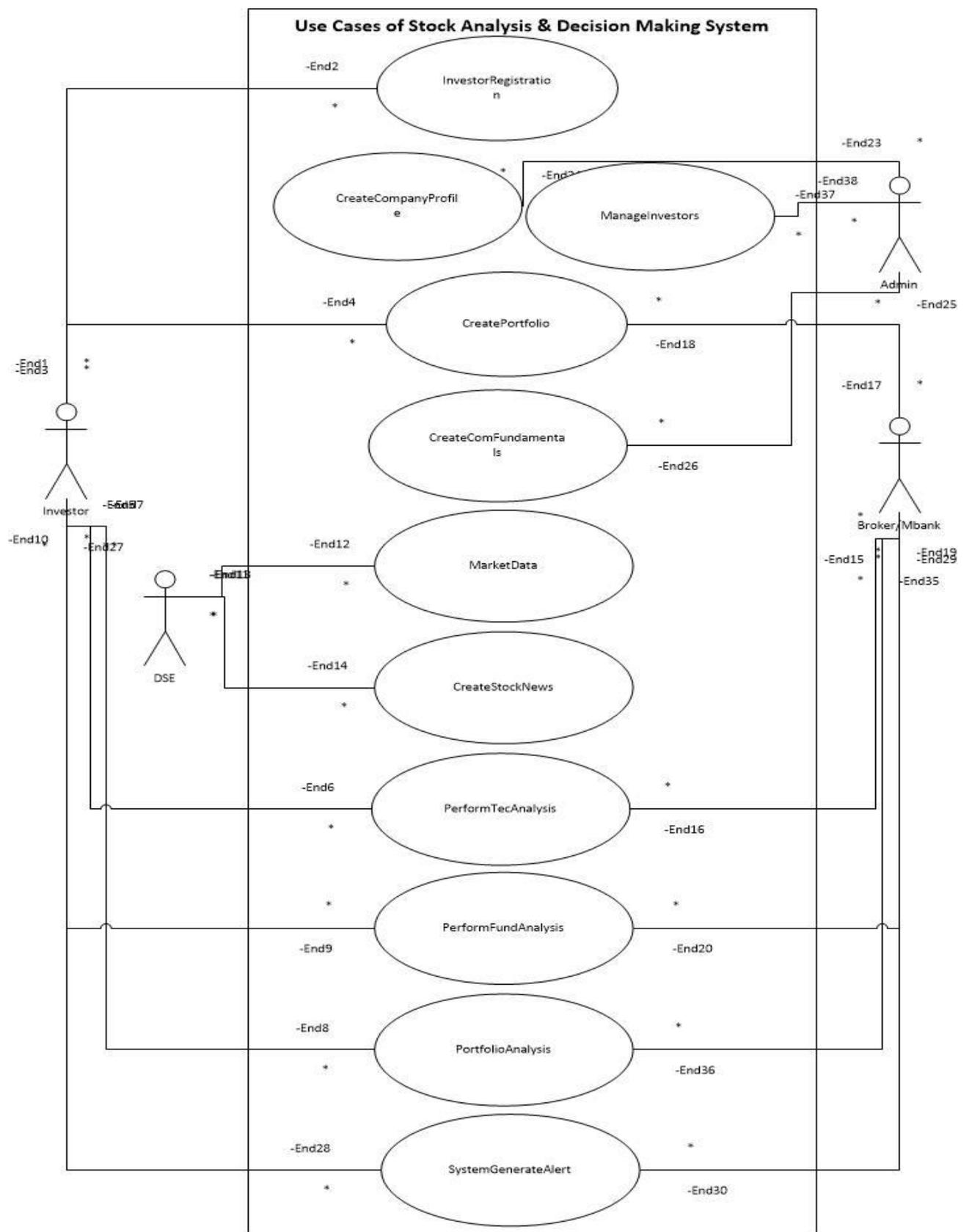
Figure-2: Use Case Diagram of the System
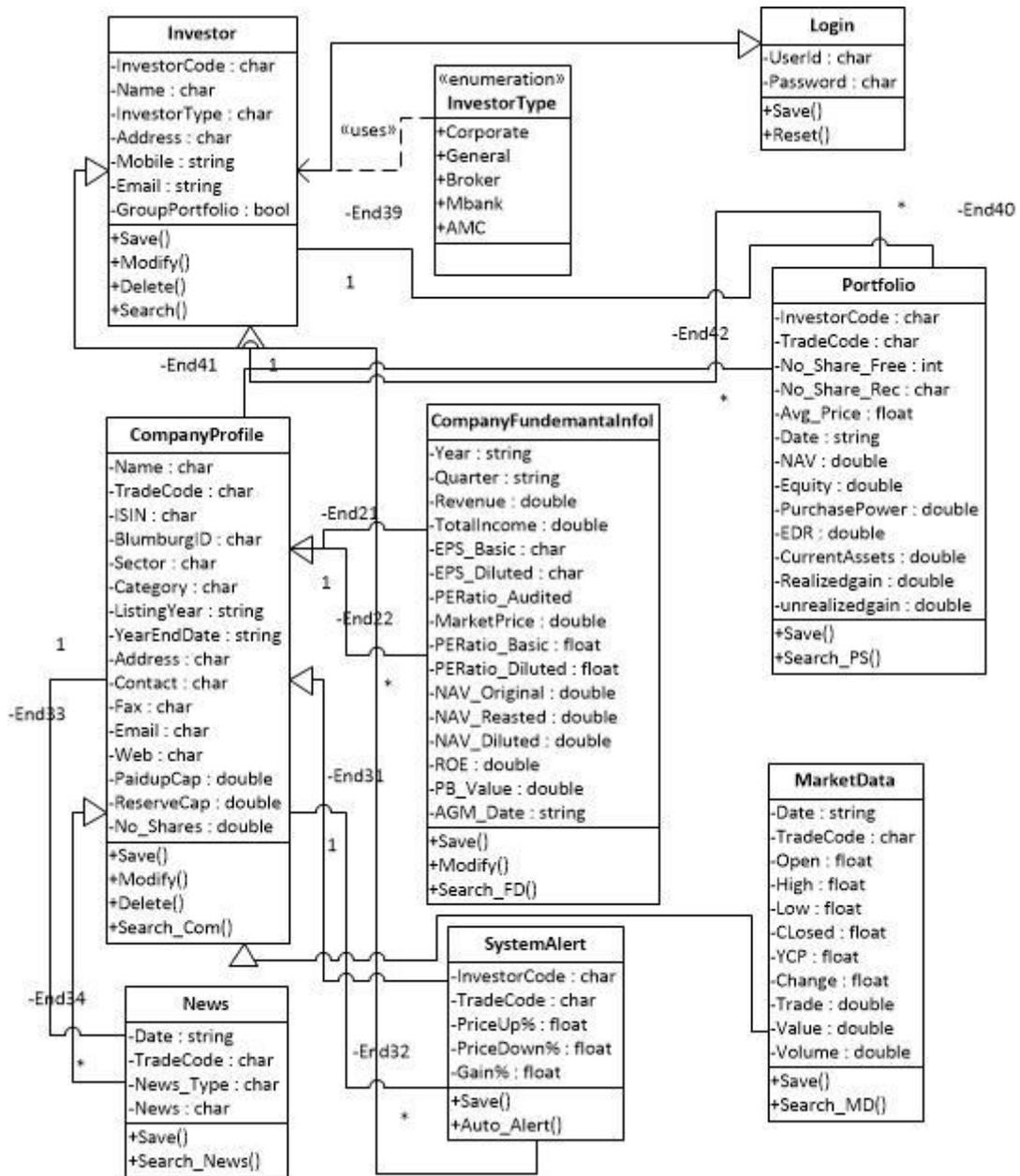
ii.   Class Diagram

Figure-3: Class Diagram of the System

Chapter 3

3.1 System Design

3.1.1 Software Architecture

The system will support n-Tier logical architecture which can be mapped to n-Tier physical architecture.

The logical tiers are:

1. Presentation Layer
2. Business Layer
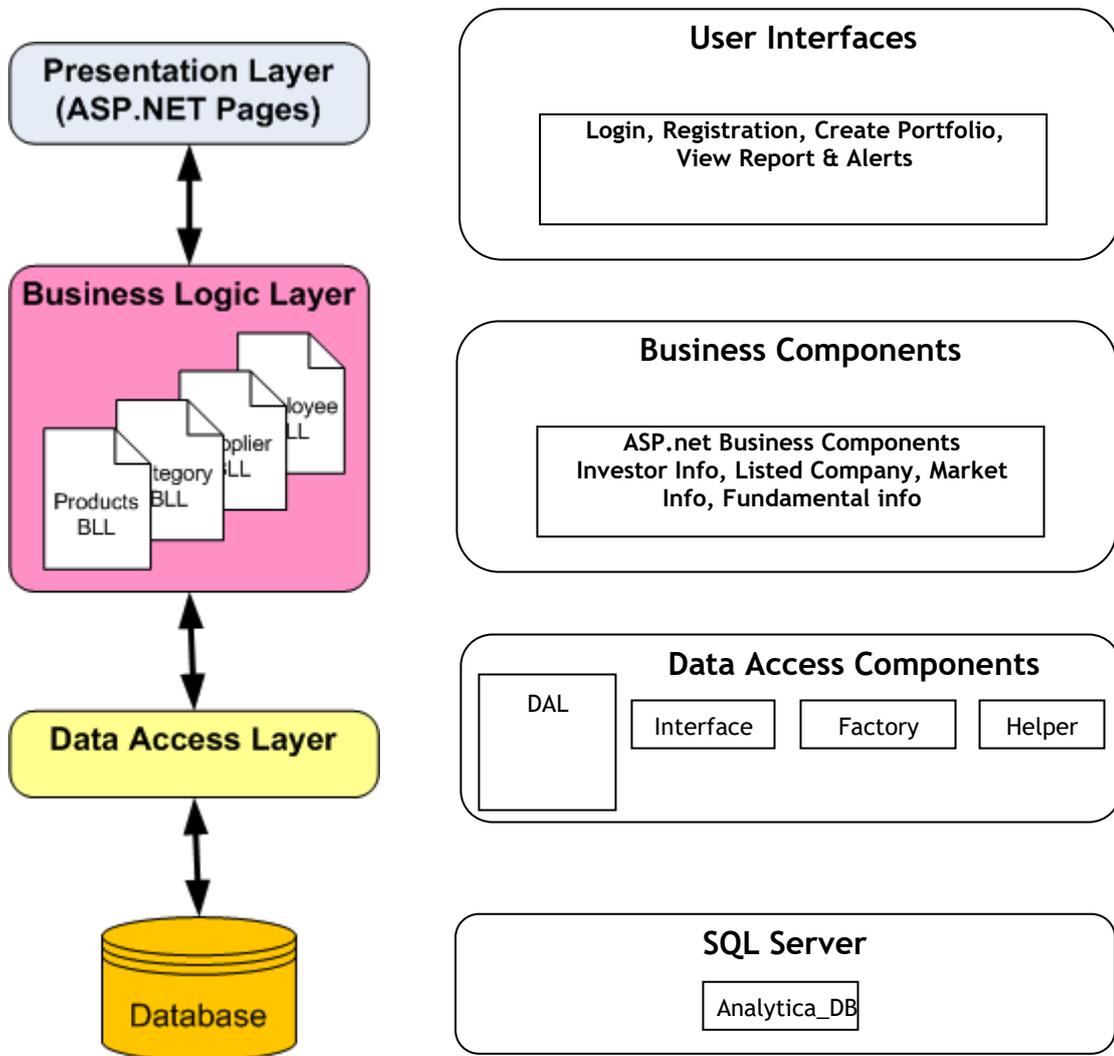3. Data Access Layer
4. Database Layer

Figure-4: System Architecture

3.2 Database Tables

3.2.1 Company

Field Name	Data Type	Null/Not Null
company_id	Smallint	Not Null
company_f_name	varchar(100)	Not Null
Isin	varchar(12)	Not Null
goc_id	Smallint	Null
sector_id	Smallint	Not Null
Country	varchar(50)	Not Null
corporate_address	varchar(500)	Null
factory_address	varchar(500)	Null
Fax	varchar(20)	Null
Telephone	varchar(20)	Null
Web	varchar(100)	Null
com_desc	nvarchar(MAX)	Null
govt_per	numeric(5, 2)	Not Null
inst_per	numeric(5, 2)	Not Null
foreign_per	numeric(5, 2)	Not Null
public_per	numeric(5, 2)	Not Null
sponsor_per	numeric(5, 2)	Not Null

3.2.2 Company Instrument

Field Name	Data Type	Null/Not Null
instrument_id	Smallint	Not Null
instrument_s_name	varchar(20)	Not Null
company_id	Smallint	Not Null
group_id	Smallint	Not Null
market_lot	numeric(4, 0)	Not Null
Qty	numeric(15, 0)	Not Null
market_price	numeric(15, 4)	Not Null
Rank	numeric(4, 0)	Not Null
listed_dt	Datetime	Not Null
electronic_dt	datetime	Not Null
active_st	numeric(1, 0)	Not Null
face_value	numeric(5, 0)	Null
Premium	numeric(15, 4)	Null

Field Name	Data Type	Null/Not Null
Discount	numeric(15, 4)	Null
instrument_type_id	smallint	Not Null
security_market_id	smallint	Not Null
fiscal_year	varchar(10)	Null
total_scale_point	numeric(7, 4)	Null

3.2.3 Company Contact Person

Field Name	Data Type	Null/Not Null
contact_person_id	Smallint	Not Null
company_id	Smallint	Not Null
contact_person_name	varchar(100)	Not Null
contact_person_designation	Smallint	Not Null
IsDirectors	Bit	Not Null

3.2.4 Analyst Opinion

Field Name	Data Type	Null/Not Null
opinion_id	numeric(18, 0)	Not Null
instrument_id	Smallint	Not Null
about_company	nvarchar(MAX)	Not Null
current_thought	nvarchar(MAX)	Not Null
Catalyst	nvarchar(MAX)	Not Null
opinion_dt	Datetime	Not Null
active_st	numeric(1, 0)	Not Null

3.2.5 Closing Price

Field Name	Data Type	Null/Not Null
closing_price_id	numeric(9, 0)	Not Null
trans_dt	Datetime	Not Null
instrument_id	Smallint	Not Null
open_price	numeric(15, 4)	Not Null
low_price	numeric(15, 4)	Not Null
high_price	numeric(15, 4)	Not Null
close_price	numeric(15, 4)	Not Null
Trade	numeric(25, 4)	Not Null

Volume	numeric(35, 4)	Not Null
per_chng	numeric(5, 2)	Not Null
Value	numeric(19, 6)	Not Null
issued_share	numeric(30, 0)	Not Null

3.2.6 Investor Account

Field Name	Data Type	Null/Not Null
investor_Code	varchar(10)	Not Null
bo_Code	varchar(20)	Not Null
Name	varchar(70)	Not Null
opening_Dt	Smalldatetime	Null
Mobile	varchar(50)	Null
Email	varchar(50)	Null
Gender	varchar(1)	Null
active_St	numeric(1, 0)	Not Null
Client_Type	varchar(3)	Null
pre_Address	varchar(200)	Null

3.2.7 News

Field Name	Data Type	Null/Not Null
news_id	numeric(18, 0)	Not Null
trans_dt	Datetime	Not Null
instrument_id	Smallint	Not Null
Announcement	nvarchar(MAX)	Not Null
expiry_dt	Datetime	Not Null
Summary	varchar(100)	Not Null

Chapter 4

4.1 Methodology

4.1.1 Fundamental analysis source of information:

➢ Annual report of the company

➢ Balance Sheet

➢ Profit Loss Account

➢ Company Announcement

➢ Competitors

➢ Changes in the regulation of laws that can impact the price of the stock

➢ News related to industry sector to which the company belongs or any economic reform.

4.1.2 Source of technical information:

➢ Dhaka stock exchange is the main source of technical data.

In my application i used waterfall model because waterfall model is a sequential design process and in which process is seen as flowing steadily downwards. I also used use case and test case approaches for this application. Using use cases I am trying to define the interactions between a user and a system to achieve the goal.

I have define project scope, set objective of the project, define functional & Non functional requirements, Environmental requirements, User classes & Characteristics, define use cases, data structure, draw use case & class diagram, draw system architecture, database design and complete the development of the project.

Chapter 5

5.1 Results

Investor can perform analysis of any company based on fundamental and market data and can compare with one company's performance to other company. Some screenshots of the application given here:

### 5.1.1 Performance of the Company at a Glance
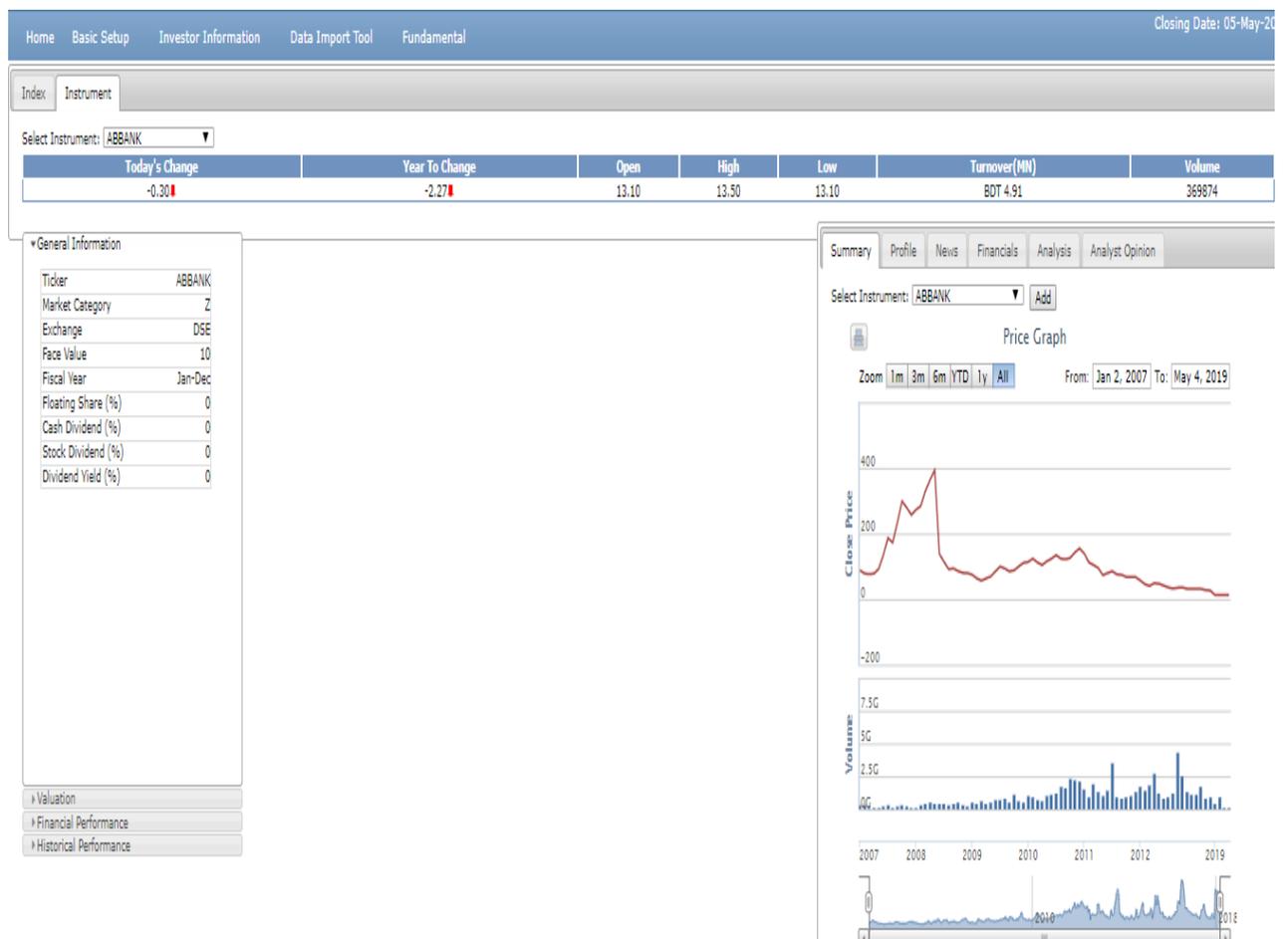
User can see the performance of any company by selecting the instrument name on the top . He/she also can see market price movement, Company profile, News of a particular company, Analysis of Balance sheet, Cash flow statement, Profit loss analysis, Analyst opinion.

5.1.2 Market Information- Price & Volume Summary
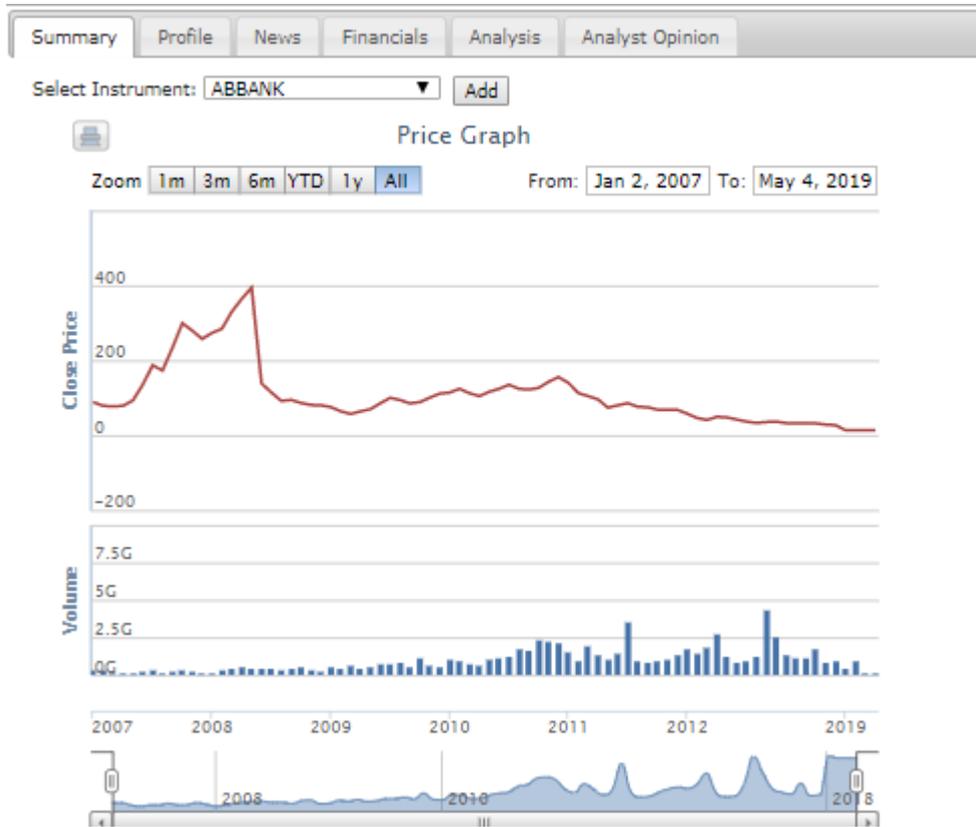
User can see price movement and volume of trade 1m, 3m, 6m, YTD, 1 y, All interval. He/She can decide buy/sell decision based on technical graph/price graph. He/She can also view graph in the following interval 1 month, 3 month, 6 month, Year to Date, 1 Year etc
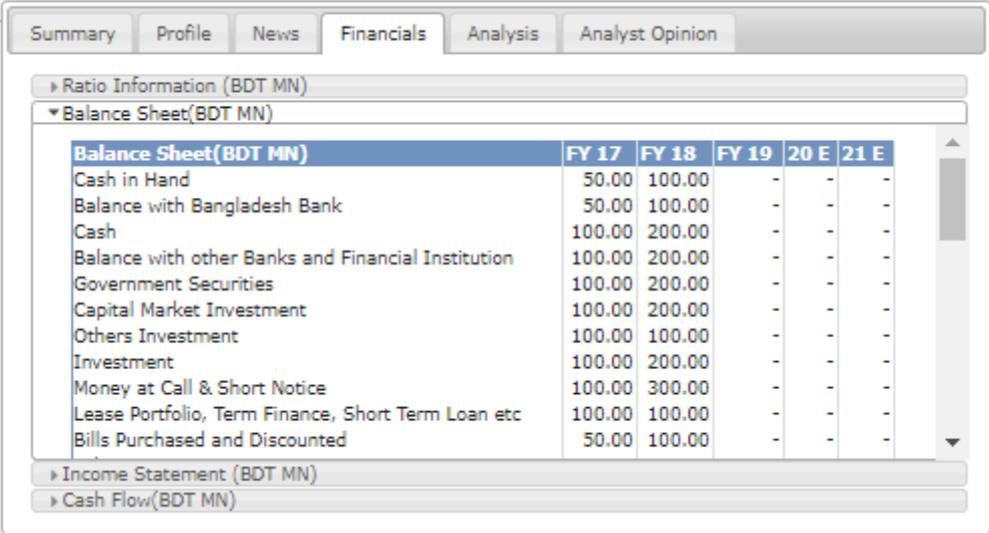
5.1.3 Shareholders Profile
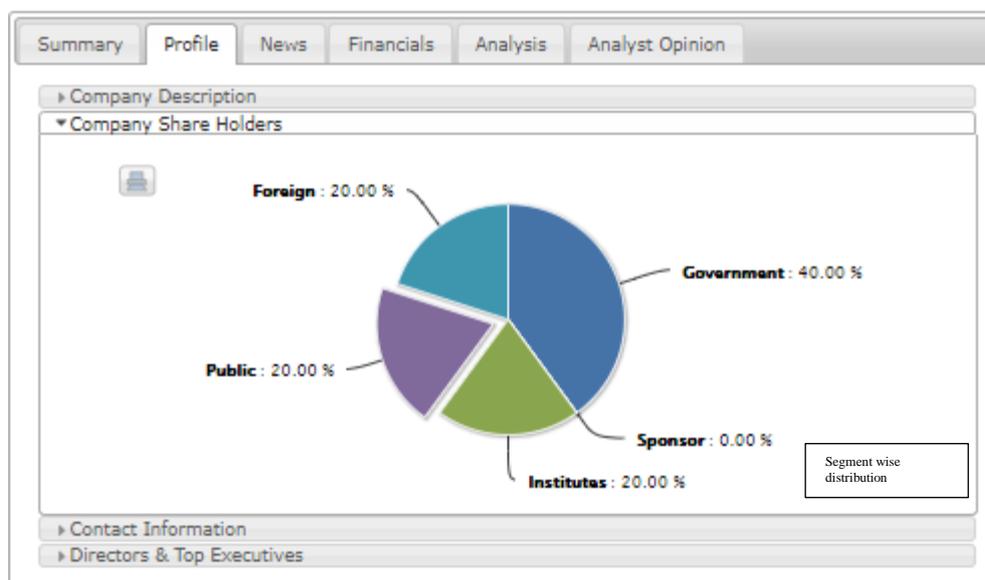
User can see shareholding structure of any particular company in the following segment.

- Public
- Foreign
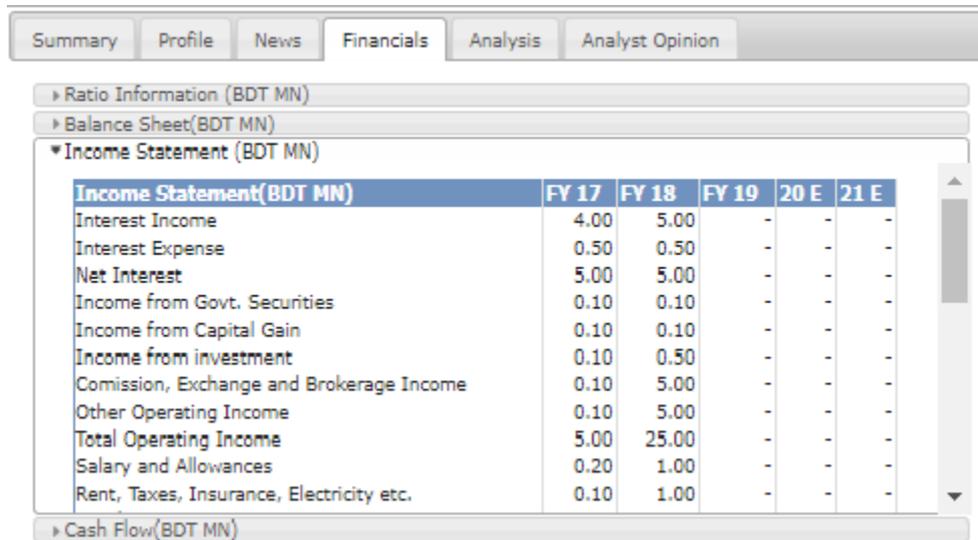- Government
- Sponsor And
- Institutions

5. 1.4 Comparative Balance Sheet

Summary	Profile	News	Financials	Analysis	Analyst Opinion

▸ Ratio Information (BDT MN)
▾ Balance Sheet(BDT MN)

Balance Sheet(BDT MN)	FY 17	FY 18	FY 19	20 E	21 E
Cash in Hand	50.00	100.00	-	-	-
Balance with Bangladesh Bank	50.00	100.00	-	-	-
Cash	100.00	200.00	-	-	-
Balance with other Banks and Financial Institution	100.00	200.00	-	-	-
Government Securities	100.00	200.00	-	-	-
Capital Market Investment	100.00	200.00	-	-	-
Others Investment	100.00	100.00	-	-	-
Investment	100.00	200.00	-	-	-
Money at Call & Short Notice	100.00	300.00	-	-	-
Lease Portfolio, Term Finance, Short Term Loan etc	100.00	100.00	-	-	-
Bills Purchased and Discounted	50.00	100.00	-	-	-

▸ Income Statement (BDT MN)
▸ Cash Flow(BDT MN)

User can see comparative balance sheet and can compare year to year to see the company performance.

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5.1.5 Comparative Income Statement

Summary	Profile	News	Financials	Analysis	Analyst Opinion

▸ Ratio Information (BDT MN)
▸ Balance Sheet(BDT MN)
▾ Income Statement (BDT MN)

Income Statement(BDT MN)	FY 17	FY 18	FY 19	20 E	21 E
Interest Income	4.00	5.00	-	-	-
Interest Expense	0.50	0.50	-	-	-
Net Interest	5.00	5.00	-	-	-
Income from Govt. Securities	0.10	0.10	-	-	-
Income from Capital Gain	0.10	0.10	-	-	-
Income from investment	0.10	0.50	-	-	-
Comission, Exchange and Brokerage Income	0.10	5.00	-	-	-
Other Operating Income	0.10	5.00	-	-	-
Total Operating Income	5.00	25.00	-	-	-
Salary and Allowances	0.20	1.00	-	-	-
Rent, Taxes, Insurance, Electricity etc.	0.10	1.00	-	-	-

▸ Cash Flow(BDT MN)

User can see comparative income statement and compare year to year to see the performance.

5.1.6 Comparative Cash Flow Statement
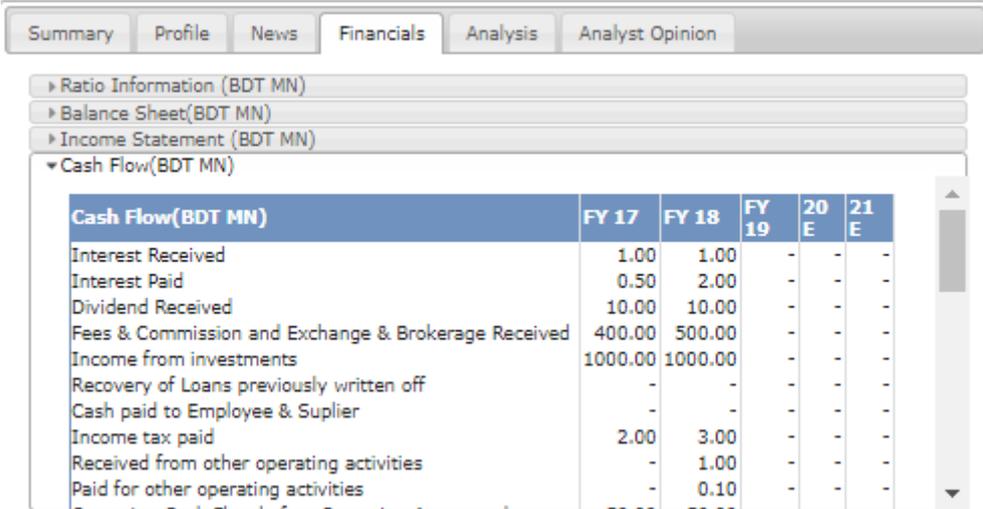
| Summary	Profile	News	Financials	Analysis	Analyst Opinion

▸ Ratio Information (BDT MN)
▸ Balance Sheet(BDT MN)
▸ Income Statement (BDT MN)
▾ Cash Flow(BDT MN)

Cash Flow(BDT MN)	FY 17	FY 18	FY 19	20 E	21 E
Interest Received	1.00	1.00	-	-	-
Interest Paid	0.50	2.00	-	-	-
Dividend Received	10.00	10.00	-	-	-
Fees & Commission and Exchange & Brokerage Received	400.00	500.00	-	-	-
Income from investments	1000.00	1000.00	-	-	-
Recovery of Loans previously written off	-	-	-	-	-
Cash paid to Employee & Suplier	-	-	-	-	-
Income tax paid	2.00	3.00	-	-	-
Received from other operating activities	-	1.00	-	-	-
Paid for other operating activities	-	0.10	-	-	-

User can see comparative Cash Flow Statement and can compare year to year and see the performance.

5.1.7 Ratio Analysis
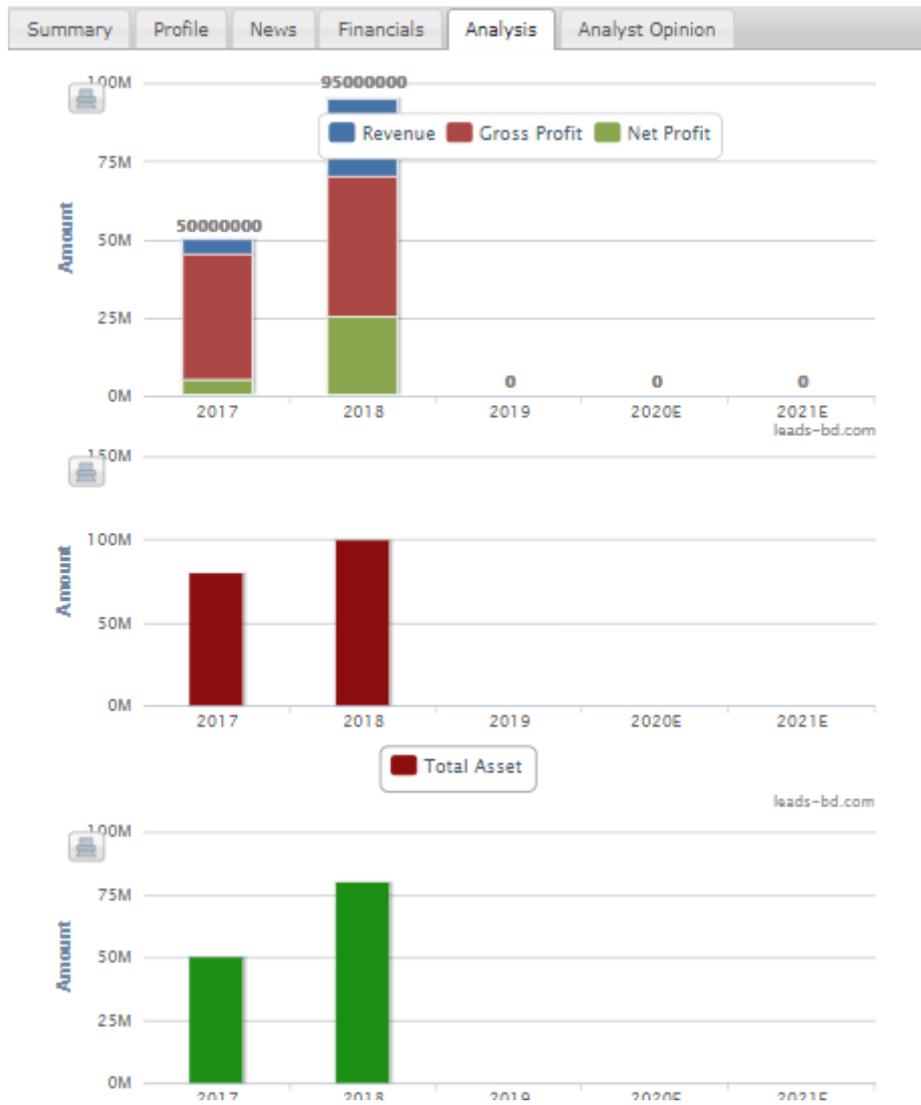
Comparative analysis of revenue, gross profit, net profit, total assets and make decision based on historical information.

100M
75M
50M
25M
0M

Amount

2017   2018   2019   2020E   2021E

Total Liabilities

leads-bd.com

100M
75M
50M
25M
0M

Amount

2017   2018   2019   2020E   2021E

Total Equity

leads-bd.com

30M
20M
10M
0M

Amount

2017   2018   2019   2020E   2021E

Revenue

Comparative analysis of Liability, Total Equity, Revenue and make decision based on historical information.

5.1.8 Analyst Opinion

| Summary | Profile | News | Financials | Analysis | Analyst Opinion |

Archive

Date: 03/03/2019

AB Bank Limited, the first private sector bank under Joint Venture with Dubai Bank Limited, UAE incorporated in Bangladesh on 31st December 1981 and started its operation with effect from April 12, 1982.As of December 31, 2006; the Authorized Capital and the Equity (Paid up Capital and Reserve) of the Bank are BDT 2700 million and BDT 3110.76 million respectively. The Sponsor-Shareholders hold 50% of the Share Capital; the General Public Shareholders hold 49.43% and the rest 0.57% Shares are held by the Government of the People's Republic of Bangladesh. However, no individual sponsor shareholder of AB Bank holds more than 10% of its total shares. During the last 26 years, AB Bank Limited has opened 71 Branches in different Business Centers of the country, one foreign Branch in Mumbai, India, two Representative Offices in London and Yangon, Myanmar respectively and also established a wholly owned Subsidiary Finance Company in Hong Kong in the name of AB International Finance Limited. ATM booth is 24 and employees are 1700.

ABBL should also copy up with globalization as it had already been improved itself in post reform environment.

Primary and secondary data were collected very sincerely and efficiently. Collected data were analyzed; interpreted and essential findings were presented through appropriate research techniques. The study has identified a series of issues to incorporate and take up with the current process and procedure relating the mentioned subject After the introduction of financial sector reform and Banking Company Act 1991, changes in banking sector of the country are very remarkable.

1.) In today's world we consider time as money. So it needs prompt action in making disbursement and collection of payment. In ABBL introduction of Speed Cash / Western Union money transfer system of Foreign Remittance may resolve this problem. I recommend introducing of Speed Cash/ Western Union money transfer system at the earliest to expedite payment of remittance.

2.) ABBL has Online banking System for which they can provide customer service promptly. Acquiring Foreign Remittance depends on prompt customer
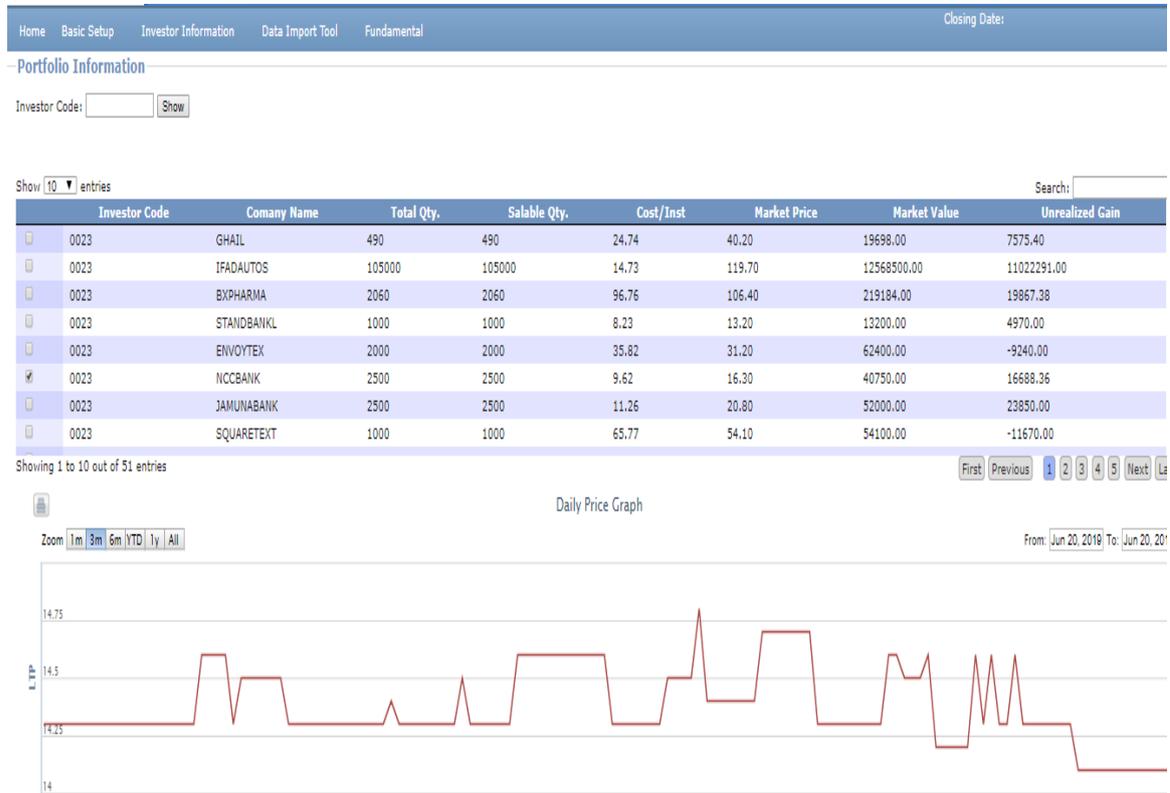
Analyst can provide opinion based on market update and fundamental information.

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5.1.9 Investor Profile

Investor information will be captured through the system

5.1.10 Portfolio Analysis

	Investor Code	Comany Name	Total Qty.	Salable Qty.	Cost/Inst	Market Price	Market Value	Unrealized Gain
	0023	GHAIL	490	490	24.74	40.20	19698.00	7575.40
	0023	IFADAUTOS	105000	105000	14.73	119.70	12568500.00	11022291.00
	0023	BXPHARMA	2060	2060	96.76	106.40	219184.00	19867.38
	0023	STANDBANKL	1000	1000	8.23	13.20	13200.00	4970.00
	0023	ENVOYTEX	2000	2000	35.82	31.20	62400.00	-9240.00
	0023	NCCBANK	2500	2500	9.62	16.30	40750.00	16688.36
	0023	JAMUNABANK	2500	2500	11.26	20.80	52000.00	23850.00
	0023	SQUARETEXT	1000	1000	65.77	54.10	54100.00	-11670.00

Investor can see his/her stock details through the system and can compare with the current market price. Based on current market he can decide buy/sell decision.

Chapter 6

6.1 Conclusion

This is the analytical tool for the general and corporate investors who are investing their money in the stock market. Investor can perform analysis based on his or her portfolio/holdings stock and see the financial performance of any company. Also, they can compare one company to another company.

Finally, my recommendation is we can do further improvement of the system which will be predict or forecast future performance based on fundamental information & market data.

6.2 References

- https://www.bloomberg.com/asia
- https://stockbangladesh.com/
- www.stockcharts.com
- www.dsebd.org
- www.csebd.com
- www.sec.gov.bd
- Fundamental Analysis -Varsity by Zerodha
- Technical Analysis from A to Z by Stevn B. Achelis