# An Interactive Qualifying Project Report: submitted to the Faculty of WORCESTER POLYTECHNIC INSTITUTE <br> In partial fulfillment of the requirements for the Degree of Bachelor of Science By 

Alix Orton

Alexander Chang $\qquad$

Wayne Partington

George Mungai
$\qquad$

Submitted:
February 26, 2008

Approved by Professor Dalin Tang, Project Advisor


#### Abstract

Overview of the stock market and other types of investments along with the development of analytical tools, trading techniques, and researching skills were performed using the Investopedia's on-line stock market simulator. A ten-week stock market simulation was conducted to gain investment and trading experience. Weekly records of four traders covering short-term penny stock, momentum - growth, fundamental, and value investing trading strategies were compared to discover ways of maximizing profit. The experience learned will help the traders to become intelligent investors and to gain more fundamental knowledge of the stock market.


## Table of Contents

Abstract ..... 2
Table of Contents ..... 3
List of Tables ..... 8
List of Figures ..... 10

1. Introduction ..... 12
1.1 Goals ..... 12
1.2 Stock Market History ..... 12
1.3 Synopsis of the Stock Market ..... 13
2. Types of Investment ..... 14
2.1 Mutual Funds ..... 14
2.2 Certificates of Deposit ..... 15
2.3 Bonds ..... 16
2.4 Real Estate ..... 18
2.5 Gold ..... 19
2.6 Gambling ..... 20
3. Stock Market Simulation. ..... 22
3.1 What is a stock market simulation? ..... 22
3.2 Investopedia Stock Market Simulation ..... 22
3.3 Overview of the Experiment ..... 23
4. Short-Term Penny Stock Trading ..... 24
4.1 Description of Strategy ..... 24
4.2 Week 1 ..... 25
4.2.1 Researched stocks ..... 25
4.2.2 Course of Action ..... 26
4.2.3 Results ..... 26
4.3 Week 2 ..... 28
4.3.1 Researched stocks ..... 28
4.3.2 Course of Action ..... 28
4.3.3 Results ..... 29
4.4 Week 3 ..... 30
4.4.1 Researched stocks ..... 30
4.4.2 Course of Action ..... 30
4.4.3 Results ..... 31
4.5 Week 4 ..... 31
4.5.1 Researched stocks ..... 31
4.5.2 Course of Action ..... 32
4.5.3 Results ..... 32
4.6 Week 5 ..... 33
4.6.1 Researched stocks ..... 33
4.6.2 Course of Action ..... 33
4.6.3 Results ..... 34
4.7 Week 6. ..... 34
4.7.1 Researched stocks ..... 34
4.7.2 Course of Action ..... 35
4.7.3 Results ..... 35
4.8 Week 7. ..... 36
4.8.1 Researched stocks ..... 36
4.8.2 Course of Action ..... 36
4.8.3 Results ..... 36
4.9 Week 8 ..... 37
4.9.1 Researched stocks ..... 37
4.9.2 Course of Action ..... 37
4.9.3 Results ..... 37
4.10 Week 9 ..... 38
4.10.1 Researched stocks ..... 38
4.10.2 Course of Action ..... 38
4.10.3 Results ..... 38
4.11 Week 10 ..... 39
4.11.1 Researched stocks ..... 39
4.11.2 Course of Action ..... 39
4.11.3 Results ..... 39
5. Fundamental Trading ..... 47
5.1 Description of Strategy ..... 47
5.2 Week 1 ..... 49
5.2.1 Researched stocks ..... 49
5.2.2 Course of Action ..... 56
5.2.3 Results ..... 57
5.3 Week 2 ..... 59
5.3.1 Researched stocks ..... 59
5.3.2 Course of Action ..... 61
5.3.3 Results ..... 62
5.4 Week 3 ..... 64
5.4.1 Researched stocks ..... 64
5.4.2 Course of Action ..... 65
5.4.3 Results ..... 65
5.5 Week 4 ..... 67
5.5.1 Researched stocks ..... 67
5.5.2 Course of Action ..... 67
5.5.3 Results ..... 68
5.6 Week 5 ..... 69
5.6.1 Researched stocks ..... 69
5.6.2 Course of Action ..... 71
5.6.3 Results ..... 72
5.7 Week 6 ..... 74
5.5.1 Researched stocks ..... 74
5.5.2 Course of Action ..... 74
5.5.3 Results ..... 74
5.8 Week 7 ..... 75
5.8.1 Researched stocks ..... 75
5.8.2 Course of Action ..... 75
5.8.3 Results ..... 74
5.9 Week 8 ..... 77
5.9.1 Researched stocks ..... 77
5.9.2 Course of Action ..... 78
5.9.3 Results ..... 79
5.10 Week 9 ..... 82
5.10.1 Researched stocks ..... 82
5.10.2 Course of Action ..... 82
5.10.3 Results ..... 83
5.11 Week 10 . ..... 84
5.11.1 Researched stocks ..... 84
5.11.2 Course of Action ..... 84
5.11.3 Results. ..... 83
6. Momentum - Growth Trading ..... 86
6.1 Description of Strategy ..... 86
6.2 Week 1 ..... 88
6.2.1 Researched stocks ..... 88
6.2.2 Course of Action ..... 94
6.2.3 Results ..... 96
6.3 Week 2 ..... 96
6.3.1 Researched stocks ..... 96
6.3.2 Course of Action ..... 96
6.3.3 Results ..... 97
6.4 Week 3 ..... 98
6.4.1 Researched stocks ..... 98
6.4.2 Course of Action ..... 100
6.4.3 Results ..... 101
6.5 Week 4 ..... 102
6.5.1 Researched stocks ..... 102
6.5.2 Course of Action ..... 104
6.5.3 Results ..... 104
6.6 Week 5 ..... 105
6.6.1 Researched stocks ..... 106
6.6.2 Course of Action ..... 106
6.6.3 Results ..... 107
6.7 Week 6 ..... 107
6.7.1 Researched stocks ..... 107
6.7.2 Course of Action ..... 107
6.7.3 Results ..... 108
6.8 Week 7 ..... 108
6.8.1 Researched stocks ..... 108
6.8.2 Course of Action ..... 109
6.8.3 Results ..... 109
6.9 Week 8 ..... 110
6.9.1 Researched stocks ..... 110
6.9.2 Course of Action ..... 113
6.9.3 Results ..... 113
6.10 Week 9 ..... 115
6.10.1 Researched stocks ..... 115
6.10.2 Course of Action ..... 115
6.10.3 Results ..... 115
6.11 Week 10 ..... 116
6.11.1 Researched stocks ..... 116
6.11.2 Course of Action ..... 116
6.11.3 Results ..... 116
7. Value Investing ..... 118
7.1 Description of Strategy ..... 118
7.2 Week 1 ..... 120
7.2.1 Researched stocks ..... 120
7.2.2 Course of Action ..... 122
7.2.3 Results ..... 122
7.3 Week 2 ..... 123
7.3.1 Researched stocks ..... 123
7.3.2 Course of Action ..... 124
7.3.3 Results ..... 125
7.4 Week 3 ..... 126
7.4.1 Researched stocks ..... 126
7.4.2 Course of Action ..... 127
7.4.3 Results ..... 127
7.5 Week 4 ..... 128
7.5.1 Researched stocks ..... 128
7.5.2 Course of Action ..... 130
7.5.3 Results ..... 130
7.6 Week 5 ..... 131
7.6.1 Researched stocks ..... 132
7.6.2 Course of Action ..... 133
7.6.3 Results ..... 133
7.7 Week 6 ..... 134
7.7.1 Researched stocks ..... 134
7.7.2 Course of Action ..... 135
7.7.3 Results ..... 136
7.8 Week 7. ..... 137
7.8.1 Researched stocks ..... 137
7.8.2 Course of Action ..... 137
7.8.3 Results ..... 138
7.9 Week 8 ..... 139
7.9.1 Researched stocks ..... 139
7.9.2 Course of Action ..... 140
7.9.3 Results ..... 140
7.10 Week 9 ..... 141
7.10.1 Researched stocks ..... 141
7.10.2 Course of Action ..... 142
7.10.3 Results ..... 142
7.11 Week 10 ..... 143
7.11.1 Researched stocks ..... 143
7.11.2 Course of Action ..... 143
7.11.3 Results ..... 142
8. Analysis and Comparison ..... 143
8.1 Comparison of Strategies ..... 143
8.2 Benefits of Strategies ..... 144
8.2.1 Fundamental Trading ..... 144
8.2.2 Value Investing ..... 145
8.2.3 Growth-Momentum ..... 145
8.2.4 Penny-Stock. ..... 146
8.3 Disadvantages of Strategies ..... 146
8.3.1 Fundamental Trading ..... 147
8.3.2 Value Investing ..... 148
8.3.3 Growth-Momentum ..... 149
8.3.4 Penny-Stock. ..... 149
9. Conclusion ..... 150
9.1 Review of Investopedia ..... 150
9.2 Final Thoughts ..... 150
Bibliography ..... 152

## List of Tables

Table 4.2.3.1: Week 1 Transactions 10/8-10/12 ..... 27
Table 4.2.3.2: Week 1 Portfolio Value 10/8-10/12. ..... 27
Table 4.3.3: Week 2 Portfolio Value 10/15-10/19 ..... 29
Table 4.4.3.1: Week 3 Transactions 10/22-10/26. ..... 31
Table 4.4.3.2: Week 3 Portfolio Value 10/22-10/26 ..... 31
Table 4.5.3.1: Week 4 Transactions 10/29-11/02. ..... 32
Table 4.5.3.2: Week 4 Portfolio Value 10/29-11/02. ..... 33
Table 4.6.3: Week 5 Portfolio Value 11/05-11/09 ..... 34
Table 4.7.3: Week 6 Portfolio Value 11/12-1 1/16 ..... 36
Table 4.8.3: Week 7 Portfolio Value 11/19-1 1/23 ..... 37
Table 4.9.3: Week 8 Portfolio Value 11/26-11/30 ..... 38
Table 4.10.3: Week 9 Portfolio Value 12/03-12/07 ..... 39
Table 4.11.3.1: Week 10 Transaction 12/10-12/14 ..... 46
Table 4.11.3.2: Week 10 Portfolio Value 12/10-12/14 ..... 46
Table 5.2.3.1: Week 1 Transactions 10/08-10/12. ..... 58
Table 5.2.3.2: Week 1 Portfolio Value 10/8-10/12. ..... 59
Table 5.3.3.1: Week 2 Transactions 10/15-10/19. ..... 64
Table 5.3.3.2: Week 2 Portfolio Value 10/15-10/19 ..... 64
Table 5.4.3.1: Week 3 Transactions 10/22-10/26.... ..... 67
Table 5.4.3.2: Week 3 Portfolio Value 10/22-10/26. ..... 67
Table 5.5.3.1: Week 4 Transactions 10/29-11/02 ..... 69
Table 5.5.3.2: Week 4 Portfolio Value 10/29-11/02. ..... 69
Table 5.6.3.1: Week 5 Transactions 11/05-11/09. ..... 73
Table 5.6.3.2: Week 5 Portfolio Value 11/05-11/09 ..... 74
Table 5.7.3: Week 6 Portfolio Value 11/12-11/16 ..... 75
Table 5.8.3: Week 7 Portfolio Value 11/19-11/23 ..... 77
Table 5.9.3.1: Week 8 Transactions 11/26-11/30. ..... 82
Table 5.9.3.2: Week 8 Portfolio Value 11/26-11/30 ..... 82
Table 5.10.3: Week 9 Portfolio Value 12/03-12/07 ..... 84
Table 5.11.3.1: Week 10 Transactions 12/10-12/14 ..... 85
Table 5.11.3.2: Week 10 Portfolio Value 12/10-12/14. ..... 85
Table 6.2.3.1: Week 1 Transactions 10/8-10/12 ..... 95
Table 6.2.3.2: Week 1 Portfolio Value 10/8-10/12 ..... 95
Table 6.3.3: Week 2 Portfolio Value 10/15-10/19 ..... 97
Table 6.4.3.1: Week 3 Transactions 10/22-10/26. ..... 101
Table 6.4.3.2: Week 3 Portfolio Value 10/22-10/26. ..... 101
Table 6.5.3.1: Week 4 Transactions 10/29-11/02. ..... 105
Table 6.5.3.2: Week 4 Portfolio Value 10/29-11/02 ..... 105
Table 6.6.3: Week 5 Portfolio Value 11/05-1 1/09 ..... 106
Table 6.7.3: Week 6 Portfolio Value 11/12-1 1/16 ..... 108
Table 6.8.3: Week 7 Portfolio Value 11/19-11/23 ..... 109
Table 6.9.3.1: Week 8 Transactions 11/26-11/30. ..... 114
Table 6.9.3.2: Week 8 Portfolio Value 11/26-11/30 ..... 114
Table 6.10.3: Week 9 Portfolio Value 12/03-12/07 ..... 115
Table 6.11.3.1: Week 10 Transactions 12/10-12/14. ..... 117
Table 6.11.3.2: Week 10 Portfolio Value 12/10-12/14. ..... 117
Table 7.2.3.1: Week 1 Transactions 10/08-10/12.... ..... 123
Table 7.2.3.2: Week 1 Portfolio Value 10/8-10/12 ..... 123
Table 7.3.3.1: Week 2 Transactions 10/15-10/19 ..... 125
Table 7.3.3.2: Week 2 Portfolio Value 10/15-10/19. ..... 125
Table 7.4.3.1: Week 3 Transactions 10/22-10/26.... ..... 127
Table 7.4.3.2: Week 3 Portfolio Value 10/22-10/26. ..... 127
Table 7.5.3.1: Week 4 Transactions 10/29-11/02. ..... 128
Table 7.5.3.2: Week 4 Portfolio Value 10/29-11/02. ..... 128
Table 7.6.3: Week 5 Portfolio Value 11/05-11/09 ..... 133
Table 7.7.3.1: Week 6 Transactions 11/12-11/16. ..... 135
Table 7.7.3.2: Week 6 Portfolio Value 11/12-11/16. ..... 135
Table 7.8.3.1: Week 7 Portfolio Value 11/19-11/23 ..... 137
Table 7.6.3.2: Week 7 Transactions 11/19-11/23.... ..... 137
Table 7.9.3: Week 8 Portfolio Value 11/26-11/30 ..... 139
Table 7.10.3.1: Week 9 Transactions 12/03-12/07 ..... 140
Table 7.10.3.2: Week 9 Portfolio Value 12/03-12/07. ..... 140
Table 7.11.3.1: Week 10 Transactions 12/10-12/14. ..... 141
Table 7.11.3.2: Week 10 Portfolio Value 12/10-12/14. ..... 141
Table 8.1: Weekly Portfolio Values. ..... 143

## List of Figures

Figure 4.2.3: Week 1 Stocks Values ..... 28
Figure 4.3.3: Week 2 Stock Prices ..... 29
Figure 4.11.3.1: GSX Stock Price 10/08/07-12/14/07 ..... 40
Figure 4.11.3.2: CHTR Stock Price 10/08/07-12/14/07 ..... 41
Figure 4.11.3.3: BPMA Stock Price 10/08/07-12/14/07 ..... 41
Figure 4.11.3.4: SIRV Stock Price 10/08/07-12/14/07 ..... 42
Figure 4.11.3.5: XOMA Stock Price 10/08/07-12/14/07 ..... 42
Figure 4.11.3.6: HSBC Stock Price 10/08/07-12/14/07 ..... 43
Figure 4.11.3.7: LIPD Stock Price 10/08/07-12/14/07 ..... 43
Figure 4.11.3.8: CLME Stock Price 10/08/07-12/14/07 ..... 43
Figure 4.11.3.9: HSXI Stock Price 10/08/07-12/14/07 ..... 44
Figure 4.11.3.10: VG Stock Price 10/08/07-12/14/07 ..... 45
Figure 4.11.3.11: DJIA 9/07-2/08 ..... 45
Figure 5.2.1.1: VMware Quotes IPO-Oct 07 ..... 52
Figure 5.2.1.2: EMC Quotes Jan 07-Oct 07 ..... 54
Figure 5.2.1.3: AAI Quotes Jan 07-Oct 07. ..... 56
Figure 5.3.1: INTC Quotes Jan 07-Oct 07 ..... 61
Figure 5.3.3: AAI Stock Value from 10/8-10/19 ..... 63
Figure 5.6.1: NVDA Quotes Jan 07-Nov 07. ..... 71
Figure 5.9.1: Dell Quotes Jan 07-Nov 07 ..... 79
Figure 5.9.3: VMW Quotes from 10/08-11/30 ..... 81
Figure 6.2.1.1: RIMM Quotes Jun 27 - Oct 25 ..... 89
Figure 6.2.1.2: 3M Quotes 7/02-10/01 ..... 91
Figure 6.2.1.3: CSCO Quotes 7/26-9/27 ..... 92
Figure 6.2.1.4: HSR Quotes Jun 27 - Oct 25 ..... 94
Figure 6.2.3: Week 1 Stock Prices ..... 96
Figure 6.3.3: Week 2 Stock Values ..... 97
Figure 6.4.1.1: Ford Quotes 7/10 - 10/9 ..... 99
Figure 6.4.1.2: PPA Quotes 7/26-10/4 ..... 100
Figure 6.4.3: Week 3 Stock Prices ..... 101
Figure 6.5.1: MSFT Quotes 7/27-10/26 ..... 102
Figure 6.5.3: Week 4 Price Values ..... 104
Figure 6.6.3: Week 5 Stock Values ..... 105
Figure 6.7.3: Week 6 Stock Prices ..... 107
Figure 6.8.3: Week 7 Stock Values ..... 108
Figure 6.9.1.1: Dell Quotes 8/23-11/22 ..... 110
Figure 6.9.1.2: Dell Quotes 9/26-11/21 ..... 111
Figure 6.9.3: Week 8 Stock Values ..... 113
Figure 6.10.3: Week 9 Stock Values ..... 114
Figure 6.11.3: Week 10 Stock Prices ..... 117
Figure 7.2.1.1: FDO quote as of 10/15/2007 ..... 120
Figure 7.2.1.2: CMCSA quote as of 10/8/07 ..... 121
Figure 7.3.1: Detailed Quote on FDO ..... 124
Figure 7.4.1: CMCSA Quote April-August 2007. ..... 126

Figure 7.5.1: TGT quote as of 10/23/2007 ........................................................ 129
Figure 7.6.1.1: CMCSA quote as of 11/8/07 ....................................................... 131
Figure 7.6.1.2: TGT quote as of 11/8/07 .......................................................... 132
Figure 7.7.1: BBY quote as of 11/8/07 .......................................................... 134
Figure 7.9.1.1: TGT Quote as of 11/27/07.......................................................... 138
Figure 7.9.1.2: BBY Quote as of 11/27/07.......................................................... 138
Figure 8.1: Portfolio Values............................................................................. 142

## 1. Introduction

### 1.1 Goals

Our main goal is to gain knowledge of as many aspects of the stock market as we can in the limited time that we have. We hope that through experience we will be able to learn effective ways to research individual companies. We will attempt to use our researched data to predict positive or negative outcomes of the researched companies stocks. Through our project, we will attempt to develop profitable strategies to utilize in the stock market. We will try to develop analytical skills through tracking our stocks. Finally, we will attempt decipher trends in the market by monitoring market fluctuations.

### 1.2 Stock Market History

The stock market has been around for roughly 200 years. It started in colonial times with the government selling bonds to finance the war. They sold bonds and promised to pay them back at a profit to investors. Private banking institutions began to sell shares to increase there size and money. This was for mostly wealthy investors. In 1792 twenty-four large companies met and decided to sell shares daily at Wall street and hence the New York Stock exchange was born. It took quite a few years for things to catch on and for more investors and more companies to become involved. Companies realized that investors would be interested in only small shares of companies and this would increase the size of the company. Investors found it a profitable way to use their money.

The stock market moved inside off Wall Street in 1921. By then, millions of dollars were invested into the stock market. Many investors found that it was becoming
increasingly profitable to buy stocks and resell them to other investors who thought the company was going to do well. The stock market had a drastic decline in 1929. It took many years for the market to regain its strength. Today there are numerous markets all around the world. In America, today, there are a few main markets; NYSE, NASDAQ, and AMEX. There are many smaller markets but these are the major ones. Since, the crash in 1929 the market has grown and now there are thousands of companies that an investor can invest into.

After the crash, in 1934 the American government passed the Securities and Exchange Act. This put regulations on the markets as well as the companies and created a commission to oversee the markets. It made the company assets and profits as well as numerous other things accessible to potential investors. The stock market has risen to where it is today. Many people use the stock market as their main source of investment. Much of our economy depends upon the stock market. Most large companies are traded in the market [1].

### 1.3 Synopsis of Stock Market

The stock market currently in September of 2007, is booming. Markets are very high and companies are doing well. The economy has been slowly declining but, the market seems to continue going strong. The NYSE is currently at about 10,250 . NASDAQ is at about 2,800 . The Dow Jones Index is almost at 14,100 which is a record high. The current market is going to be a tricky time for people trying to invest in companies over a long term period. The stock market is at all time highs and in a lot of opinions what is up must come down.

## 2. Types of Investments

In the world market there are numerous types of investments. Some types of investments are mutual funds, real estate, certificate of deposit, bonds, gold and gambling. Each investment bears its own individual advantages and disadvantages. The choice of investments is usually dictated by the amount of risk involved.

### 2.1 Mutual Funds

A mutual fund is a professionally-managed form of collective investments that pools money from various sources that comprise numerous investors and invests it in stocks, bonds, short-term money market instruments as well as other securities in the money market. The securities within a mutual fund are monitored by a fund manager, also known as a portfolio manager, who undertakes the responsibility of trading the fund's underlying securities, realizing capital gains or losses, and collects the dividend or interest income. The gains or proceeds that are realized through the various investments of the funds are then distributed to the investors in proportions relative to their individual investments. The value of a share of the mutual fund, known as the net asset value per share (NAV), is calculated daily based on the total value of the fund divided by the number of shares currently issued and outstanding.

Legally known as an "open-end company" under the Investment Company Act of 1940, which is the primary regulatory statute governing investment companies, a mutual fund is one of the basic types of investment companies available in the United States. The term "mutual fund" maybe used as a generic term for various types of collective investment vehicles in other countries. In the United Kingdom and Western Europe other
forms of collective investment vehicle are prevalent, including unit trusts, open-ended investment companies and unitized insurance funds. However, in countries like Australia and New Zealand, the term "mutual fund" is generally not used, the name "managed fund" is used instead.

They are a "safe" investment tool because the fund is professionally managed by highly qualified people who devote their resources into growing the magnitude of the investments. Investors who may not have the time or the knowledge to embark on dealing in the stock market may highly benefit from this pool of money. They may tend to be slower than other methods of investments but they have a good reputation of being successful. The fact that it is a low-risk investment necessitates low gains, as the risk is spread out in various investment instruments [2].

### 2.2 Certificates of Deposit

A certificate of deposit or CD is a time deposit, an investment opportunity offered by banks, thrift institutions, and credit unions. This investment is quite similar to savings account because it is insured and thus virtually risk-free. The difference between a savings account and a CD however is that a CD has a specific, fixed term (often three months, six months, or one to five years), and, usually, a fixed interest rate. It is intended that the CD be held until maturity, at which time the money may be withdrawn together with the accrued interest. Interest rates are generally higher than that of saving accounts because you are required to keep the money in the account for a fixed amount of time and the rates generally vary depending on the following things:

- The larger the principal, the higher the interest rate.
- The longer the term, the higher the interest rate.
- The smaller the bank, the higher the interest rate.
- Personal CD accounts receive higher interest rates than business CD accounts [3].


### 2.3 Bonds

A bond is a debt security. Purchasing a bond entails lending money to a government, municipality, corporation, federal agency or other entity known as the issuer. In return for the loan, the issuer promises to pay you a specified rate of interest during the life of the bond and to repay the face value of the bond, the principal, when it "matures," or comes due.

There are various types of bonds which include U.S. government securities, municipal bonds, corporate bonds, mortgage and asset-backed securities, federal agency securities and foreign government bonds.

Bonds typically have a predictable stream of payments and repayment of principal which encourages people to invest in them to preserve and increase their capital or to receive dependable interest income. The diversity of fixed-income securities presents investors with a wide variety of choices to tailor investments to their individual financial objectives.

There are a number of key variables to look at when investing in bonds such as the bond's maturity, redemption features, credit quality, interest rate, price, and yield and tax status. Together, these factors help determine the value of your bond investment and the degree to which it matches your financial objectives.

Bonds pay interest that can be fixed, floating or payable at maturity. Most debt securities carry an interest rate that stays fixed until maturity and is a percentage of the
face or principal amount. However, some sellers and buyers of debt securities prefer having an interest rate that is adjustable which more closely tracks prevailing market rates. The interest rate on a floating rate bond is reset periodically in line with changes in a base interest rate index, such as the rate on Treasury bills. Some bonds have no periodic interest payments.

A bond's maturity refers to the specific future date on which the investor's principal will be repaid. Bond maturities generally range from one day up to 30 years. In some cases, bonds have been issued for terms of up to 100 years. Maturity ranges are often categorized as short-term notes: maturities of up to five years, intermediate notes/bonds: maturities of five to 12 years and long-term bonds: maturities of 12 or more years.

Redemption features give bonds a structure that can substantially changes the expected life of the investment. They include 'call provisions' that allow payment before maturity and 'puts' which permit the issuer to repurchase the bonds at specified times prior to maturity.

Bond choices range from the highest credit quality U.S. Treasury securities, which are backed by the full faith and credit of the U.S. government, to bonds that are below investment grade and are considered speculative. Since a bond may not be redeemed, or reach maturity, for years or even decades credit quality is another important consideration when you're evaluating a fixed income investment. When a bond is issued, the issuer is responsible for providing details as to its financial soundness and creditworthiness. This information is contained in a document known as an offering document, prospectus or official statement, which will be provided to you by your
investment advisor. Rating agencies assign ratings to many bonds when they are issued and monitor developments during the bond's lifetime. Securities firms and banks also maintain research staffs which monitor the ability and willingness of the various companies, governments and other issuers to make their interest and principal payments when due. Your investment advisor or the issuer of the bond can supply you with current research on the issuer and on the characteristics of the specific bond you are considering. There are several ways to invest in bonds. A person can buy individual bonds, bond funds or unit investment trusts [4].

### 2.4 Real Estate

Real estate investing is accomplished by putting your money into a real estate as an asset. The idea is that over time the real estate will be worth more money and your assets will be greater and thus your total value of money is higher. Profits can be made by selling the real estate at a higher price then what you bought it. This can be accomplished by waiting until the real estate market is at a higher demand, or the land value increases. Another approach is to slowly gain profit by renting out the real estate over a long period of time.

In general there are three types of real estate to consider, land, residential buildings, and commercial buildings. When buying land one looks to find a spot that he or she thinks will become a great opportunity for a business, or a resident, or another land buying investor. The land's value will increase based on location and people in general will pay more based on need. When buying a residential building there are two things to consider. One being do you want to resell the building for more money, or rent it for a
long period of time and then resell it. If you plan to resell it, you should consider how much money you have to put into it, and how much time you are willing to spend on it because you still have mortgage payments, taxes, and other fees due each month. If you plan to rent it out, then you would look for apartment type buildings or duplex, because your can make rent cheaper and more attractive by dividing the total renting value you want by the number of residents. When purchasing commercial type buildings you are either looking to create a business, or sell this building to person looking to start a business location is the key factor in this investment. Is this building in a spot where the specified business is in need? Are there any competitors around this location? Is the population high in this location? These questions are very important when looking to buy commercial buildings. In general when looking to invest in real estate there are many things to consider this is why it is more of a profession then a general investment [5].

### 2.5 Gold

The price of gold changes all the time and is directly affected by supply and demand. One can buy gold in bars, coins, jewelry, certificates, and many other forms. Buying gold is much like buying stocks in a stock market, and there are many different options and strategies. In general one buys gold based on some fundamental analysis and decides to hold the gold in hopes that eventually the price of gold will rise and a profit can be made, the gold can be held either with a bank or in a personal safe. If chosen to have the bank hold it, there are two options that directly affect what happens with the gold. The gold can also be placed in allocated (also known as non-fungible), or unallocated (fungible or pooled) storage with a bank or dealer. In the case bankruptcy, the
client will be unable to claim the gold and would become a general creditor, whereas gold held in allocated storage should be returned to the client in full. However even with gold held in allocated storage, many gold investors would still choose their storage provider carefully, making sure of high net worth [6].

### 2.6 Gambling

Gambling is defined as playing at any game of chance for stakes. To stake or risk money, or anything of value, on the outcome of something involving chance whereas investing refers to putting money to use, by purchase or expenditure, in something offering profitable returns.

People engage in gambling activities hoping that they have an edge, for example in blackjack, whereby the laws of probability may tend to favor them. On the other hand, investing could be regarded as a planned strategy of wealth-building for specific future goals which is certainly true of some types of investing.

Risk-taking is intrinsic to both gambling and investing. Gambling bears a huge amount of risk which makes it highly unlikely to succeed. There are plenty of investments that don't entail risk, such as fixed annuities and government bonds held to maturity. The major difference between the two groups seems to be the participant's relative willingness to accept risk. Investors tend to avoid risk unless adequately compensated for taking it, but gamblers don't. In simple terms, investors take only the risks they should take, while gamblers also take many risks they shouldn't take.

However, this characterization of gamblers as risk-takers applies only to nonprofessional gamblers, people who visit Atlantic City for a weekend for entertainment
purposes. Professional gamblers who have managed to tip the odds in their favor behave more like investors, shying away from risk unless the reward is sufficient to justify taking the chance. In fact, one could make the argument that investors generally take on more risk than professional gamblers, because of the uncertainly inherent in the financial markets [7].

## 3. Stock Market Simulation

### 3.1 What is a stock market simulation?

A stock market simulation is a simulator on software or the internet that allows players to trade stocks in a simulated stock market. The simulator itself is a program or application which attempts to be based on a live or virtual stock market. One of the key features of a simulation are to practice trading strategies or trading stocks without the financial risk involved. The simulation can be part of an educational purpose for newcomers or for future potential brokers and traders.

### 3.2 Investopedia's Stock Market Simulator

The Investopedia stock market simulation is an online simulator based on the real time stock market. The simulator used in this experiment can be accessed through the internet at www.investopedia.com. The simulator also has many features typical to other simulators online. The features the simulation offer are creating an online portfolio, option trading, stock trading, trading on margin, watch list, commission prices and much more. Beside these features, they also have tools for researching companies for historical price charts, financial statements and a sticker symbol lookup tool. One standard features is the 20 minute delayed data feedback from the stock exchange. With delayed data, a quote you get now actually reflects the price of the stock 20 minutes ago. As a result, filling trade orders also take a 20 minute delay to make all trades more realistic and to prevent cheating [8].

### 3.3 Overview of the Experiment

The experiment is to use the Investopedia Stock Market Simulator to compare different trading strategies. The trading strategies being covered are growth, momentum, value investing, fundamental, and scalping trading. In order to compare these strategies accurately the following settings were implemented in the simulation. The procedure is to only to sell and buy stocks at market price with a commission price of $\$ 10.00$ per trade. The advance settings of trading with margin, short selling, option trading, margin interests, and other options were all disabled. Each player in this experiment will have a portfolio account of $\$ 100,000$ to begin with and responsibility of using their strategy. The simulation will last 10 weeks and each player will use their strategy effectively to maximize profit within the current economy.

## 4. Short-Term Penny Stock Trading

### 4.1 Description of Strategy

After much research, this investor has chosen to use a combination of multiple strategies to be successful. He will follow the idea of short-term traders. The investor will use extensive research as well as ideas from the momentum strategy to achieve profits through penny stocks.

The idea of short-term trading is to not keep any stock for more than four to five days. This should help to minimize the inherent risks in penny stocks. Short-term traders and scalpers do not hold onto stocks for long and try to gain big profits through multiple small transactions.

The momentum strategy will also be used to try to minimize risks and will try to keep losses low by analyzing data about stocks before buying. Part of the analysis will be based on a stocks short term success. If any stock has been doing poorly in the shortterm history no chance will be taken on such stocks. Many times with penny stocks a small news article can briefly raise the price of the stock. This would be momentum gathering in the stock and would be a good time to buy. The idea will not be to buy a minimum and sell at a maximum but rather, just sell higher than bought at. Even if this is ten cents on a one dollar stock this will be a ten percent gain.

Penny stocks are known to be very volatile and more of gambling than investing. This investor hope to prove with proper research and riding small momentum waves it will be possible to offset these chances [9].

### 4.2 Week 1: 10/8/07-10/12/07

### 4.2.1 Researched stocks

During this week, this investor researched stocks. Among the researched stocks was a company named Lipid Sciences Inc (LIPD). LIPD is a biomedical company specializing in treating cardiovascular diseases and HIV. Through research, the investor determined that this company was worth investing in. Also researched was a company named Colusa Biomass Energy Corporation (CLME). CLME is a company in California that specializes in creating environmentally friendly fuels. After researching this stock and watching the stocks price trends it was decided that this stock was a worthy investment. Another researched company was HealthSonix International (HSXI). This company is also a biomedical company that specializes in pain relief in many aspects of medicine including arthritis. This research had shown that investing was a good decision. Vonage Holdings Corporation (VG) was also researched. After watching the trends of the day's stock, it had shown that this company had much momentum its corner and was worth investing in. The investor researched XOMA Ltd. (XOMA) and after analyzing its growth in the past and reading current articles on the stock determined it was a good investment. Research that was evaluated on Human Biosystems (HBSC) also proved to show a good chance to become profitable. This company is involved in preservation of human tissues. The final researched stock that was used this week in the simulation was Gasco Energy Corporation (GSX). After completing research on GSX a decision was that the company would increase its stock prices.

### 4.2.2 Course of Action

Since this was the first week of the simulation obviously some action would need to be taken. The investor is still trying to refine his strategy to try to meet the goals that were set. On the first day of the simulation $10 / 8$ LIPD, CLME, HSXI, and VG were purchased. VG after researching it looked to be a very volatile company and had much risk involved. It was growing drastically on the pay purchased and had already started to lose momentum by the close of the day. For this reason, the stock was sold early on 10/9 for a profit. LIPD, CLME, and HSXI were sold on the following day $10 / 10$ some for losses and some for gains. Overall, there was a net game at this point so more companies were purchased on 10/10. XOMA, HBSC, and GSX were purchased on this day. These companies were held for the remainder of the week.

### 4.2.3 Results

After this week this investor had a net loss. Some stocks did make profits but one stock in particular had proven to be a poor investment. This wrecked what other stocks had made in profits.

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 8-Oct | LIPD | Buy | 24,155 | 1.38 | $33,343.90$ |  |
| 8-Oct | CLME | Buy | 75,000 | 0.23 | $17,260.00$ |  |
| 8-Oct | HSXI | Buy | 100,000 | 0.21 | $21,010.00$ |  |
| 8-Oct | VG | Buy | 10,000 | 2.20 | $22,010.00$ |  |
| 9-Oct | VG | Sell | 10,000 | 2.29 | $22,890.00$ | 880.00 |
| 10-Oct | CLME | Sell | 75,000 | 0.29 | $21,740.00$ | $4,480.00$ |
| 10-Oct | HSXI | Sell | 100,000 | 0.21 | $20,990.00$ | 20.00 |
| 10-Oct | LIPD | Sell | 24,155 | 1.31 | $31,633.05$ | $1,710.85$ |
| 10-Oct | XOMA | Buy | 12,500 | 4.16 | $52,010.00$ |  |
| 10-Oct | HBSC | Buy | 999,999 | 0.04 | $40,009.96$ |  |
| 10-Oct | GSX | Buy | 5,100 | 1.91 | $9,751.00$ |  |
| Total Profit |  |  |  |  | $3,629.15$ |  |

Table 4.2.3.1: Week 1 Transactions 10/8-10/12
\$10/trade commission included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| XOMA | 12,500 | 4.27 | $53,375.00$ |
| HBSC | 999,999 | 0.03 | $29,999.97$ |
| GSX | 5,100 | 1.90 | $9,690.00$ |
| Cash |  |  | $1,858.19$ |
| Total Portfolio Value | $94,923.16$ |  |  |

Table 4.2.3.2: Week 1 Portfolio Value 10/8-10/12


Figure 4.2.3: Week 1 Stocks Values

The tables show the change in the stocks during the week. The graph doesn't show mirror what the table shows for profits and gains. This is due to time differences. The graph shows the closing cost of the stock and none of the stocks were bought late in the afternoon. This is the discrepancy.

### 4.3 Week 2: 10/15/07-10/19/07

### 4.3.1 Researched stocks

During this week, any analyzed stocks were proven to be bad investments.

### 4.3.2 Course of Action

There were no actions directly taken during this week as far as trading stocks. All stocks were observed on there fluctuations.

### 4.3.3 Results

The results of this week were poor. Two of the three stocks showed losses. HBSC was again the big loser losing as much as it did the week before.

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| XOMA | 12,500 | 3.59 | $44,875.00$ |
| HBSC | 999,999 | 0.03 | $29,999.97$ |
| GSX | 5,100 | 2.05 | $10,455.00$ |
| Cash |  |  | $1,858.19$ |
| Total Portfolio Value |  | $87,188.16$ |  |

Table 4.3.3: Week 2 Portfolio Value 10/15-10/19
\$10/trade commission included


Figure 4.3.3: Week 2 Stock Prices

The table and graph show the gains and loses of the three companies invested in. HBSC was by far the biggest loser. It ended the week with $\$ 0.03$ which a loss of $25 \%$ of
the investment. Most of the week, HBSC was even worse with a $50 \%$ loss. XOMA proved also to be falling but hope was still there from the research. GSX was doing well and the research was proving to be correct.

### 4.4 Week 3: 10/22/07-10/26/07

### 4.4.1 Researched stocks

During the third week, this investor did not find any stocks worth investing in. After researching some of the stocks this investor currently had in his portfolio he decided to sell. He decided it was time to cut his losses with HBSC. It had dropped 50\% since it was purchased. It was teetering between .02 and .03 cents from day to day. XOMA also seemed like it was not going to increase to where he had bought it at. It was time to sell. GSX was still doing well and seemed like it would continue increasing.

### 4.4.2 Course of Action

He sold HBSC and XOMA this week at .02 and 3.80 respectively. Loses were suffered on both stocks. HBSC resulted in a $50 \%$ loss. Both stocks may increase over time over the value purchased at, but not over a 10 week timeframe. For this reason, they needed to be unloaded. GSX was held because he thought the research was showing it is going to continue to increase.

### 4.4.3 Results

Week three results are grim. They show massive losses and excessive cash on hand. Cash on hand is money not being invested and therefore minimizing the amount of profit to be attained. HBSC is by far the poorest investment made.

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 23-Oct | XOMA | Sell | 12,500 | 3.80 | $47,490.00$ | $4,520.00$ |
| 23-Oct | HBSC | Sell | 999,999 | 0.02 | $19,989.98$ | $20,019.98$ |
| Total Profit |  |  |  |  | $24,539.98$ |  |

Table 4.4.3.1: Week 3 Transactions 10/22-10/26
\$10/trade commission included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| GSX | 5,100 | 2.50 | $12,750.00$ |
| Cash |  |  | $69,338.17$ |
| Total Portfolio Value |  | $82,088.17$ |  |

Table 4.4.3.2: Week 3 Portfolio Value 10/22-10/26

### 4.5 Week 4: 10/29/07-11/02/07

### 4.5.1 Researched stocks

During this week, many stocks were researched. The investor had seen that GSX had what he believes was its peak. He also found a few new companies that look to be good investments. At allpennystocks.com there was quite the hype about how profitable Benda Pharmaceuticals (BPMA) is going to be. After reading up on the company and what they do. The investor decided they were worth investing in. He also found many private reports on Charter Communications (CHTR). Looking at the graphs it also
showed that Charter has been pretty consistent. The stock price is much lower than where it should be. It can really only go up.

### 4.5.2 Course of Action

Early on Monday, this investor sold GSX to take the profits that he could from it. All proceeds were put into CHTR and SIR. After finishing all the purchasing, the investor ran into a new company that he decided to research. He found after all his researching to sell some of his stocks of SIR and buy some of BPMA. The investor held onto all these stocks for the remainder of the week.

### 4.5.3 Results

This week a net profit was made. Money was lost on one of the new investments, SIR. It dropped .05 which would equate to a loss of 2135.00 . He decides to sell it even though it was for a loss because he thinks that BPMA is a better investment. At the end of the week, SIR was up .11 and was looking like it was a good investment. BPMA went down but the investor is still confident it will go up. CHTR is also down but it's still been a short period of time. The investor is still confident in these stocks.

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 29-Oct | GSX | Sell | 5,100 | 2.58 | $13,148.00$ | $3,397.00$ |
| 29-Oct | CHTR | Buy | 19,000 | 2.09 | $39,720.00$ |  |
| 29-Oct | SIR | Buy | 75,000 | 0.50 | $37,510.00$ |  |
| 30-Oct | SIR | Sell | 42,500 | 0.45 | $19,115.00$ | $2,135.00$ |
| 30-Oct | BPMA | Buy | 8,600 | 2.53 | $21,768.00$ |  |
| Total Profit |  |  |  |  | $1,262.00$ |  |

Table 4.5.3.1: Week 4 Transactions 10/29-11/02
\$10/trade commission included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| CHTR | 19,000 | 1.99 | $37,810.00$ |
| SIR | 32,500 | 0.61 | $19,825.00$ |
| BPMA | 8,600 | 2.42 | $20,812.00$ |
| Cash |  |  | $2,603.17$ |
| Total Portfolio Value | $81,050.17$ |  |  |

Table 4.5.3.2: Week 4 Portfolio Value 10/29-11/02

### 4.6 Week 5: 11/05/07-11/09/07

### 4.6.1 Researched stocks

During this week, the only stocks researched were the currently held stocks. The research performed showed that these stocks should all be in for rises. The investor is also influenced by the trends that he had seen with his trading strategy. It always seems that he either sells too early or sells too late. He is going to try to prolong the amount of time that he holds onto his stocks. At the beginning of the week CHTR was trading at 1.99 which according to Allpennystocks.com was much too low. Part of his strategy is to follow the hype of the stocks. It doesn't necessarily need to do anything as long as everyone thinks it does. SIR is still up from where it was bought. The investor took a loss selling part of it earlier last week to buy BPMA so the investor thinks he will hold onto that as well. The investor sold it too soon.

### 4.6.2 Course of Action

His actions this week only entailed watching my stocks and checking up on them in the news and on the websites where he gets his data.

### 4.6.3 Results

The results are grim. This week was very hard on this investor. All the stocks went down in value. CHTR went down by over 0.80 . This was a devastating blow considering the investor has 19,000 shares. SIR went down again. It has been going up and down since he bought it so this investor is not too concerned. It will probably be back up. There's a lot of hype for it still so the investor thinks others will see its low price and drive it back up. BPMA also went down by 0.38 . The data on this stock still tells the investor it will be profitable so he is going to hang onto it. His strategy of holding onto stocks to a predetermined amount of time seems by nature to be a poor decision. Stocks are going to change all the time. The investor can't set a time for when to sell but rather a value.

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| CHTR | 19,000 | 1.14 | $21,660.00$ |
| SIR | 32,500 | 0.35 | $11,375.00$ |
| BPMA | 8,600 | 2.08 | $17,888.00$ |
| Cash |  | $2,603.17$ |  |
| Total Portfolio Value |  |  | $53,526.17$ |

Table 4.6.3: Week 5 Portfolio Value 11/05-11/09

### 4.7 Week 6: 11/12/07-11/16/07

### 4.7.1 Researched stocks

This week he decided he was going to hang onto his stocks until either they went bankrupt or they became profitable again. He thinks this is going to help him with his tendency to sell too early. His stocks are already so far down compared to the other
partners that he doesn't think this investor stands a chance. He basically just researched what his stocks were doing this week. He watched the stocks and watched the hype. The hype on my stocks is still decent so the investor thinks they may still rise to where they were. If they return he will sell them.

### 4.7.2 Course of Action

No trades were performed this week. The investors' actions were strictly to hold onto his stocks and watch them in the market.

### 4.7.3 Results

CHTR came up 0.12 from last week. The investor hopes it will continue to rise. He will keep his eye on it. BPMA dropped .95 on Monday. It already lost him so much money he feels he needs to hold onto it to try to regain some of what he lost. This investor is so surprised by this. The hype on this stock was great. The investor even sold some of his other stocks at first to buy more of BPMA. This has proved to be a very poor investment thus far. SIRV continues to be up and down. It was up in the middle of the week and now down at the end. He is still confident in SIRV. The investor is unconfident in BPMA. CHTR may still prove to be profitable. The stock market has been doing poorly and it is really taking a toll on my investments. The Dow Jones Industrial Average (DJIA) was at 14,234 when we started this project and it is now down to under 13,000 . This is a hard market to trade penny stocks in.

| Symbol | Volume | Week Closing | Value |
| :--- | :--- | :--- | :--- |
| CHTR | 19,000 | 1.26 | $23,940.00$ |
| SIR | 32,500 | 0.32 | $10,400.00$ |
| BPMA | 8,600 | 0.91 | $7,826.00$ |
| Cash |  |  | $2,603.17$ |
| Total Portfolio Value |  | $44,769.17$ |  |

Table 4.7.3: Week 6 Portfolio Value 11/12-11/16

### 4.8 Week 7: 11/19/07-11/23/07

### 4.8.1 Researched Stocks

The investor research was limited to the stocks he had previously purchased. All that was researched was the trends on those stocks.

### 4.8.2 Course of Action

His actions were restricted to checking stock prices and updating charts. The investor has whole heartedly decided that he has passed the point of no return and he is riding these stocks until they go bankrupt or return to a profitable area.

### 4.8.3 Results

CHTR fell down again but this time only by .02 on the week. Compared to the other two stocks that was invested in that isn't too bad. SIR is now down to .40 since it was bought. This is an $80 \%$ decrease. The investor doesn't think it can get any worse. The investor thinks it has no where to go but up. BPMA is in the same category. The investor bought it at 2.53 and it is now down to .85 . This investor is just riding the wave.

The DJIA is now down to 12,803 . The more it falls the more his stocks will fall. He doesn't know if switching his stocks would be anymore profitable.

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| CHTR | 19,000 | 1.24 | $23,560.00$ |
| SIR | 32,500 | 0.10 | $3,250.00$ |
| BPMA | 8,600 | 0.85 | $7,310.00$ |
| Cash |  |  | $2,603.17$ |
| Total Portfolio Value |  | $36,723.17$ |  |

Table 4.8.3: Week 7 Portfolio Value 11/19-11/23

### 4.9 Week 8: 11/26/07-11/30/07

### 4.9.1 Researched stocks

The research was limited to the stocks he had previously purchased. All that was researched were the trends on those stocks. Research has shown that they can't get much worse than they are. Whether he switches to different stocks and they grow or the ones he already owns grow He will still be in a net loss. These have hit the bottom.

### 4.9.2 Course of Action

His actions were to hold onto CHTR, SIR, and BPMA. They are all at all time lows.

### 4.9.3 Results

CHTR has he believes started to grow. It has gone up .08 since the close of last week. SIR has increased $50 \%$ since last weeks close. The investor knows if you were to
compare to the buying price it looks bad but, a $50 \%$ increase is always good. BPMA continued to fall. It dropped .05 since the close of last week. The investor has gotten accustomed to losing money so a small loss like that doesn't seem so bad.

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| CHTR | 19,000 | 1.32 | $25,080.00$ |
| SIR | 32,500 | 0.15 | $4,875.00$ |
| BPMA | 8,600 | 0.80 | $6,880.00$ |
| Cash |  |  | $2,603.17$ |
| Total Portfolio Value |  | $39,408.17$ |  |

Table 4.9.3: Week 8 Portfolio Value 11/26-11/30

### 4.10 Week 9: 12/03/07-12/07/07

### 4.10.1 Researched stocks

The research was limited to the stocks he had previously purchased. All that was researched were the trends on those stocks.

### 4.10.2 Course of Action

Actions were limited to checking stock prices.

### 4.10.3 Results

CHTR increased another .09 from last week. The investor believes it will continue to grow. SIR also increased another .02 from its $50 \%$ growth last week. BPMA dropped again. It is now down to .67 . The DJIA is now at 13,514 . Its increase is a direct
correlation to my stocks increase. If it continues to rise the investor predicts they will continue to rise.

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| CHTR | 19,000 | 1.41 | $26,790.00$ |
| SIR | 32,500 | 0.17 | $5,525.00$ |
| BPMA | 8,600 | 0.67 | $5,762.00$ |
| Cash |  |  | $2,603.17$ |
| Total Portfolio Value |  | $40,680.17$ |  |

Table 4.10.3: Week 9 Portfolio Value 12/03-12/07

### 4.11 Week 10: 12/10/07-12/14/07

### 4.11.1 Researched stocks

His research this week involved watching the DJIA. He has seen that as it increases or decreases my odds of success also grow or fall. The DJIA went down slightly from last week.

### 4.11.2 Course of Action

This is the last week of the simulation so all stocks were sold.

### 4.11.3 Results

This investor results were grim. All stocks purchased during the simulation except for one dropped in value over the course of the simulation. GSX rose slightly in value as shown below. It is the single profitable stock this investor purchased.


Figure 4.11.3.1: GSX Stock Price 10/08/07-12/14/07

The remaining stocks all had loses. HBSC lost the most money followed by CHTR, BPMA, and SIRVA. All of which reduced my portfolio by no less than $\$ 10,000$ each. The following graphs show the decrease of all stocks invested in.


Figure 4.11.3.2: CHTR Stock Price 10/08/07-12/14/07


Figure 4.11.3.3: BPMA Stock Price 10/08/07-12/14/07


Figure 4.11.3.4: SIRV Stock Price 10/08/07-12/14/07


Figure 4.11.3.5: XOMA Stock Price 10/08/07-12/14/07


Figure 4.11.3.6: HSBC Stock Price 10/08/07-12/14/07


Figure 4.11.3.7: LIPD Stock Price 10/08/07-12/14/07


Figure 4.11.3.8: CLME Stock Price 10/08/07-12/14/07


Figure 4.11.3.9: HSXI Stock Price 10/08/07-12/14/07


Figure 4.11.3.10: VG Stock Price 10/08/07-12/14/07

The simulation started on Oct. $8^{\text {th }}$ and ended Dec. $14^{\text {th }}$. If you follow the chart for the DJIA then you can see the stock prices all seem to follow the trend of the DJIA.


Figure 4.11.3.11: DJIA 9/07-2/08

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 14-Dec | CHTR | Sell | 19,000 | 1.25 | $23,740.00$ | $15,980.00$ |
| 14-Dec | SIR | Sell | 32,500 | 0.18 | $5,840.00$ | $10,420.00$ |
| 14-Dec | BPMA | Sell | 8,600 | 0.75 | $6,440.00$ | $15,328.00$ |
| Total Profit |  |  |  |  | $41,728.00$ |  |

Table 4.11.3.1: Week 10 Transaction 12/10-12/14
\$10/trade commission included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| Cash |  | $2,603.17$ |  |
| Total Portfolio Value |  | $38,623.17$ |  |

Table 4.11.3.2: Week 10 Portfolio Value 12/10-12/14

## 5. Fundamental Trading

### 5.1 Description of Strategy

Fundamental trading is a method in which the trader focuses on and examines company-specific events such as an actual or anticipated earnings reports, stock splits, financial reports, reorganizations, or acquisitions. Trading on fundamentals is more closely involved with mid or long term trading than short-term trading. There are certain specific instances in which using fundamental trading can generate some nice profits in a short period because of unexpected mergers, splits, increased earning reports and etc. Using such information as an edge in trading is very difficult because there are also many others looking for the same edge.

One of the closely watched fundamental factors for traders and investors everywhere are earnings announcements. Earning announcement is very important because it's the period of time when the company will state whether it exceeded or failed to meet their earning expectations in term of yearly or quarterly. Depending on the announcement a short-term momentum will occur, and this is an opportunity for a trader to immediately participate and take advantage of. A failure to meet earning expectation announcement can result in lower stock prices, while exceed or meet earning expectation can result in higher stock prices.

Fundamental traders also focus on stock splits as a fundamental factor. Stock splits are when the stock splits, an example is $2-1$, therefore the company have double the number of outstanding shares but at half the stock price. The reason for stock splits is to entice more investors because of the lower price per stock. Fundamental traders can successfully make profit on stock splits because they correctly identify the phase at which
the stock is currently trading, because history has proven that before and after a stock split announcement, trading patterns will occur. The different trading patterns that will occur are a short-term buying opportunities in the pre-announcement phase and the presplit run up because of price appreciation. While shorting opportunities will occur in the post announcement and post-split depression because of price depreciation. An experienced split trader by identifying these phases can successfully trade in and out of the same stocks before and after the split to make a profit.

Another fundamental factor is acquisitions, reorganizations, and takeovers. During these times a stock can experience an extreme price increase because of speculation phase leading to the event, while after the event is announced the price of the stock can significantly decline. Rumors and speculation are risky trading proposition because it may cause extreme stock price volatility. The volatility of the stock with the potential rapid price movement can potentially provide lucrative available opportunities for fundamentals traders.

Many Fundamental traders also use fundamental data such as financial and earning reports. Through fundamental analysis, the traders can process the reports to calculate revenue, earnings per share, cash flow, return on equity, debt to equity and other quantitative factors. The traders may use such quantitative data to identify trading opportunities and try to make a profit.

Fundamentalist based their trading on fundamental analysis instead of technical or qualitative analysis because of the lack of mathematical sophistication. Fundamental analysis is a method of evaluating a security by examining the management, financial report, economic indicators, annual earning reports, and other qualitative and quantitative
factors to measure its intrinsic value. Fundamentalist can also analyze the macroeconomic factors that can affect the security's intrinsic value. The analysis is performed on current or past data, but with the goal to make financial predictions and projections. One of the end result of performing fundamental analysis is to conclude a value that an investor or trader can compare with the security's current price in an attempt of figuring out what sort of action to take with that security. Some possible actions is to buy when the intrinsic value is under-priced or if the value is over-priced it is wisely to sell or short sell [10].

### 5.2 Week 1: 10/8/07-10/12/07

### 5.2.1 Researched stocks

Prior to the simulation, and during the first week, the stocks researched are VMW, AAI, and EMC. VMW stand for VMware Incorporated, EMC stands for EMC Corporation, and AAI stands for AirTran Holdings Incorporated.

VMware Incorporated is a public listed company that develops proprietary virtualization software for computers. The company is one of the global leaders in virtualization solution. EMC Corporation purchased VMW on December 15, 2003 when it was still a private holding. "But on 8-14-2007 EMC Corporation released $10 \%$ of the company shares in an initial public offering on the New York Stock Exchange. The stock was debuted at $29 \$$ per share, and ended the day at roughly $51 \$$ per share, a substantial increase of $22 \$ "$ [11].

VMware develops software for both desktop and server foundations. The software is commercially available and freeware versions are also present. The range from large corporations to small corporations purchases the virtualization software. These corporations rely on VMware to reduce capital and operating expenses, ensure business continuity, strengthen security, and conserve energy. Virtualization solutions are vital for present day, since technology and information age are upon us.
"VMware's broad and proven suite of virtualization solutions addresses a range of complex challenges facing IT organizations, including:

- Server Consolidation \& Infrastructure Optimization: VMware technology including the industry's only complete virtual infrastructure -- helps organizations consolidate servers and increase utilization rates, greatly reduce power and cooling costs, and manage and automate IT processes for maximum availability, performance and scalability.
- Business Continuity: With exclusive features such as automated load balancing and live migration of virtual machines, VMware technology enables organizations to increase uptime and reduce the cost and complexity of meeting high availability and disaster recovery objectives.
- Software Lifecycle Automation: Developers and other IT professionals use VMware solutions to streamline the software development and testing process, reduce server provisioning time, and improve software quality.
- Enterprise Desktop Management: Enabling enterprises to better manage and control their desktop systems, VMware helps customers speed deployments,
administer systems from a central location, and provide end-users with a satisfying physical-PC experience" [12].

Showing such strong progress from its initial public offerings to October of 07, this investor decided to purchase the stock in the upcoming simulation. Since the Q3 financial reports were reported in Sept 07, this investor would have to wait for the Q4 earning reports. The Q4 quarterly financial report is due in December of 07, with projected higher earnings and increasing stock value over the past weeks, this should cause an exceed expectation report. Therefore exceed or meet earning expectations can result in higher stock prices. In the end, this investor will hope in the upcoming month till Dec 07, a good financial report will cause an increase in stock value, in return higher profit. The chart below represents the stocks value from its IPO to October of 07 (Created in Yahoo Finance).


Figure 5.2.1.1: VMware Quotes IPO-Oct 07

Secondly, besides VMware, EMC Corporation was also researched. EMC Corporation is also publicly listed on the NYSE. The company manufactures software and systems for information and storage. In the early years of the company, it first produced memory boards, and then proceeded to look forward and enter the disk drive sector. The current EMC produces a range of enterprise storage products, including hardware disk arrays and storage management software. The company has been transitioning from a purely hardware driven company to a mix of hardware, software and professional services over the past years. The acquisition of VMware, Invista and other
companies greatly pushed EMC's profile into the virtualization product sector. Presently, the series of acquisitions and partnerships provided to help grow EMC to the largest provider of data storage platforms in the world.
"EMC Corporation and its partners develop, deliver and support information infrastructure technologies and solutions that are designed to help individuals and businesses handle their digital information needs. EMC's systems, software, and services support its customers' critical business processes by assisting them build information infrastructures from the systems available to store, manage and protect information at the right service levels. EMC's information management software and solutions help customers to capture, manage and leverage structured and unstructured information, documents, images or emails, to support their business processes. Its resource management software allows organizations to understand, manage and automate the operation of their information infrastructure." $\left.{ }^{\text {[ }} 13\right]$

Since EMC is the parent company of VMware, this investor believes the increase in VMware will directly help EMC increase its value also. EMC Corporation's Q3 quarterly reports were posted in Sept 07; it shows great growth and increase revenue, net income, and etc from the Q1, and Q2. Therefore this investor believes the Q4 quarterly financial report in Dec 07, will exceed the Q3 financial report, in return hoping there is a chance in a surge of share price. The chart below represents the stocks value from Jan 07 to October of 07 (Created in Yahoo Finance).


Figure 5.2.1.2: EMC Quotes Jan 07-Oct 07

The last research stock prior to the simulation is AAI, AAI is known as AirTran Holdings Incorporated. The corporation mainly functions as an airline holding company. Some of the subsidiaries it holds are AirTran Airways, Galena Corp, and Galena Acquisition Corp. AirTran Airways is the main asset of the company, which was formally known as Conquest Sun Airlines. AirTran Airways is a low cost airline that mainly operates in the Midwest and the eastern United States. The airliner offers more than 700 daily flights in over 50 locations in the US. The low fares appeal to many business personal and regular travelers. AirTran Airways was also the first airline to install XM Satellite Radio on a commercial plane and the
only airline with Business Class seating on every flight. Also the AirTran operates one of the youngest Boeing fleets in the industry at the moment. The Airliner consist of only 87 Boeing 717-200 and 50 Boeing 737-700, totaling 137 aircrafts in its fleet. The Boring 717-200 seats approximately 117 and the Boring 737-700 seats 137 passengers and crew.

During the past year of 2007, AAI have been aggressively proposing mergers and acquisitions of other airlines, such as Midwest Air Group and others. When rumors first came on surface about AAI proposing to purchase Midwest Air Group, it caused an increase value of the shares. From learning about basic Fundamental Trading, mergers and acquisitions can cause surges or increases in stock price and value. Then in the end, short-term profits can be made. Therefore this investor will take a risk in hope AAI can acquire or merge with other airline companies. The chart below represents the stocks value from Jan 07 to October of 07 (Created in Yahoo Finance).


Figure 5.2.1.3: AAI Quotes Jan 07-Oct 07

### 5.2.2 Course of Action

On the second day of the simulation week; October 9, 2007, this investor bought 500 shares of VMW at the price of $\$ 96.71$ per share. Besides VMW, 2,000 shares of AAI were purchased at the price of $\$ 10.39$ per share, and also 1,000 share of EMC at a price of $\$ 21.53$ per share. With the commission price $\$ 10$ per trade, the investor is left with $\$ 8,855.00$ cash balance. The investor decided to purchase VMW because of all the positive analysts and expert traders' reviews and reports. Therefore this investor decided to ride the momentum curve with VMW, while the stocks are greatly increasing weekly. The investor also decided to purchase EMC because analysts have undervalued the
company and the slight steady increase of the stock in the past weeks. In the next few weeks, the investor is looking forward to the Q3 financial and earning reports of EMC and VMW to decide where to sell or hold. On the other hand, the investor decided to venture outside the technology sector and purchase AAI, with the rumors of mergers with other airlines. The investor hope to gain some short term profits because mergers can create a period of momentum, which helps increase the value of the stock, leading to greater profit.

### 5.2.3 Results

At the end of the simulation Week 1, both VMW and EMC's shares increased in value, while AAI's shares decreased in value. VMW's shares greatly increased from $\$ 96.71$ to record high $\$ 102.98$ at the end of the week. Since EMC is the parent company of VMW, EMC's shares also had a slight increase from $\$ 21.53$ to $\$ 21.81$ at the end of the week. Therefore in the portfolio VMW and EMC gained much value from the price of purchase.

The shares of VMW were soaring higher and higher prior to the first week of the simulation, and it is still soaring higher. Many analysts and expert traders are predicting that the shares of VMW will increase greatly in the future weeks because of more demand of virtualization solutions. Some analysts and traders say that "buying EMC is a cheaper method to invest in VMW" [14], causing an increase investment in EMC. The increase in value of VMW's shares directly help increase the value of EMC's shares since EMC is the parent company of VMW. With the rise of the technology sector and modernization of the world, both stocks help complete each other because EMC makes
and sells data-storage devices/software while VMW provides software and virtualization that allows data centers to use their servers more efficiently.

While EMC and VMW's shares increased in price, AAI's shares decreased in price everyday in the simulation week. The value of the stocks decreased from $\$ 10.39$ to $\$ 10.00$, resulting in loss value for the week in the portfolio. The prior several weeks of merger talks and rumors helped create a mid-term momentum period for AAI's shares but as time passed the stock have reached its peak momentum and is steadily decreasing in value in the past couple weeks. In conclusion, the momentum period had ended and the investor is afraid it has jumped on the momentum period too late and will continue to slide in price.

At the end of the week the portfolio was valued at $\$ 103,155.00$, a net value of $\$ 3,355.00$ compared to the staring amount of $\$ 100,000.00$. The table below shows the total value of the portfolio and the course of action and results of the week:

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 9-Oct | VMW | Buy | 500 | 97.61 | $48,815.00$ | - |
| 9-Oct | EMC | Buy | 1000 | 21.53 | $21,540.00$ | - |
| 9-Oct | AAI | Buy | 2000 | 10.39 | $20,790.00$ | - |
| Total Profit |  |  |  |  | - |  |

Table 5.2.3.1: Week 1 Transactions 10/08-10/12
\$10/trade commission included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| VMW | 500 | 102.98 | $51,490.00$ |
| EMC | 1000 | 22.81 | $22,810.00$ |
| AAI | 2000 | 10.00 | $20,000.00$ |
| Cash |  | $8,855.00$ |  |
| Total Portfolio Value |  | $103,155.00$ |  |

Table 5.2.3.2: Week 1 Portfolio Value 10/8-10/12

### 5.3 Week 2: 10/15/07-10/19/07

### 5.3.1 Researched stocks

During the process of Week 2 this investor researched the stock INTC. The stock INTC is known as Intel Corporation. The corporation is publicly traded on the NASDAQ in the sector of semiconductors. "Intel Corporation incorporated in 1968, is a semiconductor chip maker, developing advanced integrated digital technology platforms and components, primarily integrated circuits, for the computing and communications industries. Intel's products include chips, boards and other semiconductor products that are the building blocks integral to computers, servers, handheld devices, and networking and communications products. Its component-level products consist of integrated circuits used to process information, including microprocessors, chipsets and flash memory."'[15] Intel Corporation is one of the leading companies in innovation of newer and higher advances in technologies.

Intel is a household name at the moment, common people owning simple home computers and technologies involving PC hardware have one point in their lives heard of Intel. Many have said Intel and other companions helped bring the computers to the consumer sector. Nowadays computers and other PC hardware are common and a necessity in today's society of information and technology.

But during the lifespan of the corporation, it has been slapped with anti-trust, anticompetition, and patent infringement lawsuits. If prosecuted, the company can be fined for millions, therefore less net gross or income. Rumors of lawsuits and successful prosecution can lead to a drop of stock value and price. Intel achieved its all-time high closing stock price on August 31, 2000 at $\$ 74.87$. Since then, it reached a low closing price of $\$ 14.62$ on September 23, 2002. Currently the stock had been fluctuating in the range of $\$ 19.00-\$ 26.00$. Intel Q3 quarterly reports proved to exceed expectations, causing an increased in stock value. The previous Q2 also proved to surpass the expectation of analyst; therefore this investor will purchase the stock with the hope its Q4 report will exceed expectations and causing a short momentum period to profit from. The figure below represents the stock value over the course of Jan 07 to Oct 07 (Created in Yahoo Finance).


Figure 5.3.1: INTC Quotes Jan 07-Oct 07

### 5.3.2 Course of Action

During the $2^{\text {nd }}$ week of the simulation, October 18,2007 the investor decided to purchase INTC's stock because of the successful earning reports of the company. October $16^{\text {th }}, 2007$ Intel Corporation released its earning/financial reports. Prior to the reports, on September 28, 2007 INTC's shares hit a 52 week high of $\$ 27.71$ but were steadily decreasing as the week's progress. But Intel Corporation financial/earning reports showed record Q 3 revenue, with net income of $\$ 1.9$ billion and also up $16 \%$ compared to the previous year. The combination of new and successful products with a strong and worldwide demand and other factors helped cause an increase in revenue.

Therefore the investor decided to use the available cash balanced and purchased 300 INTC's shares. The purchase price per share was $\$ 26.51$, and with the $\$ 10$ commission fee per trade, in total the stock cost $\$ 7,962.00$ and the available cash balance is left with $\$ 892.00$. The investor is predicting the successful earning repots might develop a shortterm momentum period which will increase the value of the share.

The investor also decided to "Hold" on to the shares of EMC, VMW, and AAI. The shares of VMW and EMC are showing promise of going higher rather than decreasing. The investor is hoping the AAI's s shares will rebound and was wrong on earlier analysis the stock has already reached its peak momentum period and will continue to decrease.

### 5.3.3 Results

At the end of the simulation Week 2, INTC's shares closed at \$26.30, VMW closed at $\$ 97.74$, EMC closed at $\$ 22.38$, and AAI closed at $\$ 9.53$. The stocks VMW, EMC, and AAI resulted in decrease value compared to Week 1 price values, but compared to the purchased prices, VMW and EMC still gained in value while AAI is still below purchase price. The earlier prediction that INTC's successful earning/financial reports will develop a momentum period could be wrong. Since the price of the shares did not fluctuate volatile or increase at all, the investor will wait till next week to see if the shares are part of the momentum curve or not. Then the investor will make a decision to hold or sell the stocks and if sell, the investor will research more stocks to try to make profit.

The previous analysis that AAI's stocks had already reached its peak momentum period and will continue to decrease was right on the spot. The investor purchased the share at $\$ 10.39$ and it continued to decrease in value through week 1 and week 2 of the simulation. Therefore the investor will sell all shares next week when the market opens and just cut its losses rather than lose more. The Figure (Created in Yahoo Finance) below depicts the decreasing stock price for the past 2 weeks:


Figure 5.3.3: AAI Stock Value from 10/8-10/19

While EMC and VMW's shares may have decreased compared to Week 1 but are still higher than the purchased price the investor had bought them for. The investor still believes with other analysts and expert traders that EMC and VMW still have potential to
increase in value, Week's 2 slight decrease in price may just be a bump in the road. The investor predicts the shares are still on the long-term momentum curve and have not yet reached its peak.

At the end of the week the portfolio was valued at $\$ 99,092.00$, a loss value of $\$ 908.00$ compared to the starting amount $\$ 100,000$ or a loss value of $\$ 4,063.00$ compared to Week 1. The table below shows the total value of the portfolio and the course of action and results of the week:

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 18-Oct $\quad$ INTC | Buy | 300 | 26.51 | $7,963.00$ | - |  |
| Total Profit |  |  |  |  | - |  |

Table 5.3.3.1: Week 2 Transactions 10/15-10/19
\$10/trade commission included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| VMW | 500 | 102.98 | $48,870.00$ |
| EMC | 1000 | 22.81 | $22,380.00$ |
| AAI | 2000 | 10.00 | $19,060.00$ |
| INTC | 300 | 26.30 | $7,890.00$ |
| Cash |  |  | 892.00 |
| Total Portfolio Value |  | $99,092.00$ |  |

Table 5.3.3.2: Week 2 Portfolio Value 10/15-10/19

### 5.4 Week 3: 10/22/07-10/26/07

### 5.4.1 Researched stocks

The investor did not research any new stocks during the week.

### 5.4.2 Course of Action

During the $3^{\text {rd }}$ week of the simulation, the investor concluded to sell all of the AAI shares since they have been decreasing everyday in the past few weeks. The investor sold 2,000 AAI's shares at a price of $\$ 9.48$ per share, totaling $\$ 18,950.00$ added to the cash balance. At the end of the week, the cash balance totaled $\$ 19,842.00$ which included the $\$ 10$ commission trade fee.

The investor also decided to "Hold" on to the shares of EMC, VMW, and INTC. The shares of VMW and EMC began to rise rapidly during the week, so therefore the investor decided to keep the stocks. The reason why the investor held on to the INTC's shares because the investor felt it still might be part of a momentum curve and rise in value in the upcoming days.

### 5.4.3 Results

At the end of the simulation Week 3, INTC's shares closed at \$25.94, VMW closed at $\$ 112.09$, and EMC closed at $\$ 24.53$. The shares of VMW and EMC resulted in increase value compared to Week 2 price values and compared to the purchased prices, VMW and EMC gained huge value while INTC is still below purchase price. Compared to the purchased price, in the portfolio the stocks value of VMW gained \$7,240, EMC
gained $\$ 3,000$ and INTC loss of $\$ 171$ for the week 3. Since the investor sold all of AAI's shares below the purchase price, the result netted a total loss of $\$ 1,840$.

The strategy of holding INTC stocks because the investor felt it still might hit a momentum curve and rise in value, proved to have a non-favorable result. The price of the shares continued to drop slightly from week 2 to week 3 . Therefore the prediction that the successful earnings/financial reports will cause a short-term momentum period was invalid. The investor concluded the short-term momentum period through historical data occurred only during the first and second day after the earning announcements. Since the investor bought the stock on the $3^{\text {rd }}$ day after the earning announcement and reports, the investor missed the momentum peak and rise, and is currently part of the down curve.

On the other hand, the strategy of holding EMC and VMW stocks resulted in very favorable gains. Both stocks value increased from the previous week price value, and from the purchased price value. The investor still believes both of these stocks are on long-term momentum curves and will continue to increase in value in the future upcoming weeks.

At the end of the week the portfolio was valued at $\$ 108,199.00$, a net value of $\$ 8,199.00$ compared to $\$ 100,000$ or a net value of $\$ 9,107.00$ compared to Week 2. The table below shows the total value of the portfolio and the course of action and results of the week:

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 18-Oct | AAI | Sell | 2000 | 9.48 | $18,950.00$ | $1,840.00$ |
| Total Profit |  |  |  |  | $1,840.00$ |  |

Table 5.4.3.1: Week 3 Transactions 10/22-10/26
\$10/trade commission included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| VMW | 500 | 112.09 | $56,045.00$ |
| EMC | 1000 | 24.53 | $24,530.00$ |
| INTC | 300 | 25.94 | $7,782.00$ |
| Cash |  | $19,842.00$ |  |
| Total Portfolio Value |  | $108,199.00$ |  |

Table 5.4.3.2: Week 3 Portfolio Value 10/22-10/26

### 5.5 Week 4: 10/29/07-11/02/07

### 5.5.1 Researched stocks

The investor did not research any new stocks during the week.

### 5.5.2 Course of Action

During the $4^{\text {th }}$ week of the simulation, the investor concluded to sell all INTC's shares since they have been stagnant in the past few days. The investor sold 300 INTC's stocks at a price of $\$ 26.58$ per share, totaling $\$ 7,964$ added to the cash balance. At the end of the week, the cash balance totaled $\$ 27,806$ which included the $\$ 10$ commission
trade fee. The investor also decided to "Hold" on to the stocks of EMC and VMW. The shares of VMW and EMC began to rise steadily during the week again, so therefore the investor kept the stocks and continue to ride the momentum curve.

### 5.5.3 Results

At the end of simulation Week 4, both shares of EMC and VMW continued to rise in value. The value per shares of EMC closed at $\$ 24.55$ and VMW closed at $\$ 117.02$, these stock price values are the highest it has been so far. Since the investor sold all of the INTC stocks at a price of $\$ 26.58$ per share and with a purchase price of $\$ 26.51$ per share, the portfolio netted a total profit of just $\$ 1.00$.

The investor decided to sell all the shares of INTC because the stocks were stagnant in the past couple weeks. The earlier prediction that maybe the shares will continue to rise and still part of the momentum curve were incorrect. The investor concluded that the shares have hit there peak earlier and will continue to slide in the upcoming weeks if held on to the stocks, instead of selling.

The investor decision to "Hold" the stocks of EMC and VMW paid off greatly. The strategy of holding EMC and VMW stocks resulted in very favorable gains. Both stocks increased from the previous week price value, and from the purchased price value. On 10/25 VMW released its earning reports for Q3, and the results greatly toppled expectations. This was the corporation's first financial report since its IPO in August. With the successful earning report, the results was a surge in stock value during the week The investor still believes both of these stocks are still on long-term momentum curves and will continue to increase in value in the future weeks.

At the end of the $4^{\text {th }}$ week, the portfolio is valued at $\$ 110,866$, a net value of $\$ 10,866$ compared to $\$ 100,000$. The tables below show the total value of the portfolio and the course of action:

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 2-Nov INTC | Sell | 300 | 26.58 | $7,964.00$ | 1.00 |  |
| Total Profit |  |  |  |  | 1.00 |  |

Table 5.5.3.1: Week 4 Transactions 10/29-11/02
\$10/trade commission included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| VMW | 500 | 117.02 | $580,510.00$ |
| EMC | 1000 | 24.55 | $24,550.00$ |
| Cash |  |  | $27,806.00$ |
| Total Portfolio Value |  | $110,899.00$ |  |

Table 5.5.3.2 Week 4 Portfolio Value 10/29-11/02

### 5.6 Week 5: 11/05/07-11/09/07

### 5.6.1 Researched stocks

NVDA stock is publicly traded on the NASDAQ. The symbol stands for Nvidia Corporation. The corporation is the "world leader in visual computing technologies and the inventor of the GPU, a high-performance processor which generates breathtaking, interactive graphics on workstations, personal computers, game consoles, and mobile
devices. NVIDIA serves the entertainment and consumer market with its GeForce ${ }^{\circledR}$ products, the professional design and visualization market with its Quadro ${ }^{\mathrm{TM}}$ products, and the high-performance computing market with its Tesla ${ }^{\mathrm{TM}}$ products. These products are transforming visually-rich and computationally-intensive applications such as video games, film production, broadcasting, industrial design, financial modeling, space exploration, and medical imaging." [16] Since the founding of the corporation in 1993, it has gained much recognition and created a name for itself in the industry.

In this current information and technology age many common people are going to or already had purchased a personal computer or laptops. Also the increase of companies/businesses will lead to purchasing workstations and desktops for the company. With the rise of cell phone availability and advance technology, this leads to greater demand of mobile processors. Since Nvidia Corporation specialized in manufacturing of graphic-processor technologies for desktops, workstations, game consoles, and hand-held devices, the corporation help fuel the need for their technology. Overall Nvidia has maintained its position as the second-largest supplier of PC graphic shipments, which includes both integrated and discrete GPUs, with $33.9 \%$ market share, their highest in many years, which puts them just behind Intel's $38 \%$.

Throughout 2006 and early 2007, the annual quarterly financial reports of Nvidia have all exceeded estimates of analysts. The company in the past $5+$ years has increased in profit and value. Through looking at historical charts and past stock value, the stocks have steadily increased from Jan 07 - Nov 07, the Figure below (Created in Yahoo Finance) depicts the stock value during these range of months. Like the other quarterly reports, this investors believes the Q4 will greatly exceed expectations and cause a short
momentum period for profit because Christmas period has the highest consumer spending.


Figure 5.6.1: NVDA Quotes Jan 07-Nov 07

### 5.6.2 Course of Action

During the $5^{\text {th }}$ week of the simulation, the investor decided to purchase 600 shares of NVDA at a price of $\$ 34.55$ per share on $11 / 09$. The investor concluded to purchase the shares of NVDA because the company announced record fiscal expectations for the $3^{\text {rd }}$ quarter of 2008. On 11/07 NVIDIA announced a projected revenue record of $\$ 1.12$ billion in the future $3^{\text {rd }}$ quarter of 2008. During the past few years the company has been
greatly increasing in revenue and beating their projected profits. The rise in demand of graphics processing units, media and communications processors in the consumer, business and professional markets help increase the revenue of the company. The earning reports of NVIDIA respectively show the growth of the company and the increase income.

Like the previous weeks of the simulation, the investor decided to "Hold" on to the shares EMC and VMW because during the past couple weeks they have been greatly increasing in value. The investor is predicting the momentum of these stocks will continue, which will result in greater profit for the portfolio.

### 5.6.3 Results

At the end of the $5^{\text {th }}$ week in the simulation, the total portfolio value greatly decreased from the previous week. This was due to all the stocks in the portfolio closed much lower than the previous week and lower than the purchased price. The value per shares of VMW closed at $\$ 87.74$, EMC at $\$ 19.91$ and NVDA at $\$ 33.36$. Compared to the previous week, VMW decreased in $\$ 30$ per share and EMC at $\$ 5$ per share.

The drop in the shares of VMW might have been due to "competitions catching onto VMware". When it first had its IPO, VMware had near exclusive claim on the idea of virtualization, but once its competitors caught on, investors realized the firm was going to be just one player in the larger virtualization market. Competitions duplicating VMware are selling their products cheaper, which greatly hurts the sales of VMware. Since EMC owns $85 \%$ of VMware, the slide of VMW shares also reflects that of EMC shares. Right now VMware is the only company which concentrates solely on server
virtualization, where as its competitors bundle virtualization software with their products. Therefore the investor believes the VMW shares with EMC will rebound and hold strong again in the upcoming weeks.

The stocks of NVDA dropped slightly during the week; although the investor believes NVDA is part of a long momentum curve. When looking at charts of NVDA, the price per share have been increasing since last year. Slight fluctuations of stocks are normal and healthy for the company.

At the end of the $5^{\text {th }}$ week in the simulation, the total portfolio value is $\$ 90,862$. Compared to the previous 4 weeks, the value is the lowest it has been. The tables below show the total value of the portfolio and the course of action:

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 9-Nov | NVDA | Buy | 600 | 34.55 | $20,740.00$ | - |
| Total Profit |  |  |  |  | - |  |

Table 5.6.3.1: Week 5 Transactions 11/05-11/09
\$10/trade commission included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| VMW | 500 | 87.74 | $43,870.00$ |
| EMC | 1000 | 19.91 | $19,910.00$ |
| NVDA | 600 | 33.36 | $20,016.00$ |
| Cash |  | $7,066.00$ |  |
| Total Portfolio Value |  | $90,862.00$ |  |

Table 5.6.3.2: Week 5 Portfolio Value 11/05-11/09

### 5.7 Week 6: 11/12/07-11/16/07

### 5.7.1 Researched stocks

The investor did not research any stocks during the week.

### 5.7.2 Course of Action

During the $6^{\text {th }}$ week of the simulation, the investor did not purchase or sell any stocks. The investor decided to "Hold" all 3 stocks during this week. If the investor did choose to sell the shares of EMC and VMW during the week, it would have recorded a loss rather than a profit because the shares would have been sold below the purchase price. The investor is predicting for the shares of VMW and EMC to rise again and rebound from the previous week lows. While hoping for the rebound of EMC and VMW shares, the investor is still thinking the shares of NVDA is part of a long momentum curve, and therefore decided to hold on the stock.

### 5.7.3 Results

At the end of the $6^{\text {th }}$ week in the simulation, the total portfolio value decreased in value again compared to the previous week. All 3 stocks like last week dropped in value again. The price per shares of VMW closed at $\$ 85.25$, EMC closed at $\$ 19.64$, and NVDA closed at $\$ 32.45$. The decreases in prices might have been caused by extra competitions from its rival companies and also the huge drop in DJIA, S\&P 500, and NASDAQ during the week. Sometimes substantial drop in the market, can directly affect the stocks themselves because the market reflects the economy and etc. The total portfolio value hit an all time low at $\$ 88,801$, the table below shows the total value of the portfolio and the value of the shares:

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| VMW | 500 | 85.25 | $42,625.00$ |
| EMC | 1000 | 19.64 | $19,640.00$ |
| NVDA | 600 | 32.45 | $19,470.00$ |
| Cash |  | $7,066.00$ |  |
| Total Portfolio Value |  | $88,801.00$ |  |

Table 5.7.3: Week 6 Portfolio Value 11/12-11/16
5.7 Week 7: 11/19/07-11/23/07

### 5.8.1 Researched stocks

The investor did not research any stocks during the week.

### 5.8.2 Course of Action

During the $7^{\text {th }}$ week in the simulation, the investor did not purchase or sell any stocks again. The investor again decided to "Hold" all 3 stocks for the week. The course of action is exactly the same as the previous week. If the investor did sell the shares of EMC, VMW, and NVDA during the week, it would have recorded a substantial loss rather than a profit because the shares would have been sold much lower than the purchase price. Like the previous week, the investor predicts for the shares of VMW and EMC to rise and rebound from the previous week lows as the market might began to rebound. The investor is hoping for the market to rebound, which therefore can indirectly help the stock values increase.

### 5.8.3 Results

At the end of the $7^{\text {th }}$ week in the simulation, the total portfolio value decreased again compared to the previous week. All three stocks like last week dropped in value per share again. The value per shares of VMW closed at $\$ 78.84$, EMC closed at $\$ 18.45$, and NVDA closed at $\$ 30.22$. The earlier prediction that the stocks were going to rebound, was totally wrong in the end. Like the shares, the market itself did not rebound and is continuing to slide down. The end of week 7 is another all time low so far in the simulation, the total portfolio value is $\$ 83,068$, about $\$ 5,733$ less than previous all time low. Therefore the investor is currently down about $17 \%$ for the simulation. Also during this week, the market dropped in lows again, DJIA dropped below 13,000 and etc. The drop in the market and the scare of inflation could have directly caused the drop in the values of the 3 stocks. Another explanation of lower stock values can also caused from
"competitions catching onto VMware." Competitions duplicating VMware are selling their products cheaper, which greatly hurts the sales of VMware. Since EMC is the parent company of VMW, the slide on VMW can also be reflected in the slide of EMC's stock value. The table below reflects the total value of the portfolio and value of the stocks:

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :---: | :--- |
| VMW | 500 | 78.84 | $39,420.00$ |
| EMC | 1000 | 18.45 | $18,450.00$ |
| NVDA | 600 | 30.22 | $18,132.00$ |
| Cash |  | $7,066.00$ |  |
| Total Portfolio Value |  | $83,068.00$ |  |

Table 5.8.3: Week 7 Portfolio Value 11/19-11/23

### 5.9 Week 8: 11/26/07-11/30/07

### 5.9.1 Researched stocks

The symbol DELL is publicly traded on the NASDAQ, in the industry sector of Technology. The symbol stands for the Dell Incorporated, founded in 1984. "Dell Incorporated is a technology company, which offers a range of product categories, including desktop computer systems, storage, servers and networking products, mobility products, software and peripherals, and enhanced services. Dell markets and sells its products and services directly to its customers, who include large corporate, government,
healthcare, and education accounts, as well as small-to-medium businesses and individual customers." ${ }^{[17]}$

In 2006, Fortune magazine ranked Dell as the 25 th-largest company in the Fortune 500 list, 8th on its annual Top 20 list of the most-admired companies in the United States. In 2007 Dell ranked 34th and 8th respectively on the equivalent lists for the year. Some of the corporation's subsidiaries are Alienware, ASAP Software, and EqualLogic. The subsidiaries helped bring Dell into the advance gaming computer sector, and acquire more software and other technologies.

The quarterly reports of Dell in the year of 2007 have all exceeded expectations but the profit is still lower than it was the previous year. Also during the past 2 years, Dell has been actively purchasing and acquiring computer hardware and software companies. If Dell exceeds expectations for Q4 report and plans to acquire/purchase more companies, the effects are it might help cause a short momentum period. The short momentum period will cause an increase in stock value and lead to greater profit. The Figure below shows the stock values from Jan 07 - Nov 07. (Created in Yahoo Finance)


Figure 5.9.1: Dell Quotes Jan 07-Nov 07

### 5.9.2 Course of Action

During the $8^{\text {th }}$ week of the simulation, on $11 / 30$ the investor purchased 200 DELL shares at a price of $\$ 25.15$ per share. With the commission price of $\$ 10$, the cost to purchase the stock total $\$ 5,040$, therefore the cash balance is left with $\$ 2,026$. The investor decided to purchase the stocks because of the successful earning reports on $11 / 29$ and the acquisition of other companies. The successful earning report shows great promise for the stock. Also on 11/12 announced that it has completed the acquisition of ASAP Software, a software solutions and licensing services provider and a former subsidiary of Corporate Express. The purchase price was approximately $\$ 340$ million.

On $11 / 05$ and $11 / 16$ Dell plans to acquire/purchase EqualLogic and EverDream Corporation respectively, if successful the acquisitions would further help Dell grow and expand its own technologies. Therefore all these factors can lead to a higher increase in stock value and might create a short momentum period for some profit.

Also like the previous week, the investor again decided to "Hold" all 3 stocks of NVDA, EMC, and VMW. Like the previous week, the investor hopes for the shares of VMW and EMC to rise and rebound from the previous week lows as the market is showing signs of recovery during the early week. The investor is hoping for the market to rebound and recover, which therefore can indirectly help the stocks values increase.

### 5.9.3 Results

At the conclusion of the $8^{\text {th }}$ week of the simulation, the portfolio is showing promise of recovering from lost value. Compared to last week, the portfolio value gained about $\$ 7,000$ but it is still in negative margin. The stock of VMW greatly contributed to the portfolio recovery by rebounding from $\$ 78.84$ to $\$ 91.51$ in the process during the week. The Figure below represents the recovery of VMW stock during the Week 8 of Nov 26-Nov 30. But the stock value is still much below its high during simulation Week 4: Oct 29 - Nov 02 when VMW hit record \$125.00+.


Figure 5.9.3: VMW Quotes from 10/08-11/30

The total portfolio is valued at $\$ 90,833$ even though the shares of Dell the investor bought decreased in value. The investor purchased 200 shares of Dell at $\$ 25.15$, but at the end of the week it was valued at $\$ 24.54$. The stock market is slowly beginning to rise again; therefore it can indirectly help boost the shares in the portfolio. This could have explained the increase portfolio value for this week. The table below reflects the total value of the portfolio and value of the stocks:

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 30-Nov | DELL | Buy | 200 | 25.15 | $5,040.00$ | - |
| Total Profit |  |  |  |  | - |  |

Table 5.9.3.1: Week 8 Transactions 11/26-11/30
\$10/trade commission include

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| VMW | 500 | 91.51 | $45,755.00$ |
| EMC | 1000 | 19.22 | $19,220.00$ |
| NVDA | 600 | 31.54 | $18,924.00$ |
| Dell | 200 | 24.54 | $4,908.00$ |
| Cash |  | $2,026.00$ |  |
| Total Portfolio Value |  | $90,833.00$ |  |

Table 5.9.3.2: Week 8 Portfolio Value 11/26-11/30

### 5.10 Week 9: 12/03/07-12/07/07

### 5.10.1 Researched stocks

The investor did not research any stocks during the week.

### 5.10.2 Course of Action

During the course of the $9^{\text {th }}$ week in the simulation, the investor concluded to hold all the shares of VMW, EMC, NVDA, and DELL. The investor decided to hold all the shares instead of selling or purchasing other shares because the market is steadily showing promise of rising again. During Week 8 , the stocks were slowing beginning to
rise, therefore the investor hopes the stocks will continue to rise, and maybe hit the high marks again like during Week 4.

### 5.10.3 Results

At the conclusion of the $9^{\text {th }}$ week in the simulation, the portfolio again increased in value about $\$ 1,300$ compared to the previous week. The course of action the investor took during the week paid off, 3 out of the 4 shares in the portfolio rose in value, while VMW just slightly decreased in value. But even though the portfolio is currently at $\$ 91,323$ in value, it is still greatly lower than it was during the early weeks of the simulation, when it peaked over $\$ 110,000$. The investor concluded so far the shares of EMC and VMW could have already reached the momentum peak, which was during Week 4. During the Week 4, VMW and EMC soared past $\$ 125$ and $\$ 25$ respectively, therefore the investor concluded it "Hold" on these shares for far 2 long. Instead, the stocks should have been sold during Week 4, but the overconfidence that the shares were still on their upward momentum curve caused severe consequences in the following weeks. But instead, the stocks already reached its peak and were showing proceeding down the momentum curve. The following tables represent the portfolio value of Week 9 during the Simulation.

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| VMW | 500 | 88.85 | $44,425.00$ |
| EMC | 1000 | 19.53 | $19,530.00$ |
| NVDA | 600 | 33.88 | $20,328.00$ |
| Dell | 200 | 25.07 | $5,014.00$ |
| Cash |  |  | $2,026.00$ |
| Total Portfolio Value |  | $91,323.00$ |  |

Table 5.10.3: Week 9 Portfolio Value 12/03-12/07

### 5.11 Week 10: 12/10/07-12/14/07

### 5.11.1 Researched stocks

The investor did not research any stocks during the week.

### 5.11.2 Course of Action

For the stock simulator, Week 10 is the conclusion for the simulation. Therefore on Dec-12 the investor sold all the shares of EMC, VMW, NVDA, and Dell.

### 5.11.3 Results

At the end of the simulation, the portfolio is valued at $\$ 97,582$ therefore netting a total lose of $\$ 2,418$. The shares of EMC alone caused the portfolio to lose $\$ 1,720$, and during Week 3 when the investor sold all of the AAI shares also caused negative profit of $\$ 1,840$. On the other hand, VMW and NVDA helped increase the portfolio with the net gain of $\$ 475$ and $\$ 814$ respectively. The results of the 10 week simulation for the trading strategy failed, instead of gaining money, the investor ended up losing money. During
the course of the past 10 weeks, this investor missed many opportunities to sell stocks or shares when they were at their peak. Instead, choosing to "hold" the stocks because thinking it was still on the upward momentum curve proved to have severe consequences. Especially during the Week 4, VMW and EMC soared past $\$ 125$ and $\$ 25$ respectively; the investor should have sold these stocks. Therefore the stocks of VMW and EMC could have greatly increased in profit for the portfolio. In the end, the fundamental strategy proved to be in successful in finding stocks that can profit greatly from, but did not because of the poor judgment of the investor itself.

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Dec-12 | VMW | Sell | 500 | 98.60 | $49,290.00$ | 475.00 |
| Dec-12 | EMC | Sell | 1000 | 19.83 | $19,820.00$ | $1,720.00$ |
| Dec-12 | NVDA | Sell | 600 | 35.94 | $21,554.00$ | 814.00 |
| Dec-12 | Dell | Sell | 200 | 24.51 | $4,892.00$ | 148.00 |
| Total Profit |  |  |  |  | 579.00 |  |

Table 5.11.3.1: Week 10 Transactions 12/10-12/14
\$10/trade commission included

| Symbol Volume $\quad$ Week Closing | Asset Value |  |
| :--- | :--- | :--- |
| Cash |  | $97,582.00$ |
| Total Portfolio Value |  | $97,582.00$ |

Table 5.11.3.2: Week 10 Portfolio Value 12/10-12/14

## 6. Momentum - Growth Strategy

### 6.1 Description of Strategy

After conducting extensive research, this investor chose to utilize a combination of two strategies:

- growth strategy
- momentum strategy

The idea behind the momentum approach is that investments that have been doing well in the past and have gathered "momentum" are likely to continue doing well. This entails monitoring of the trends of the stock and identifying when it is best suited for the investor to 'ride the momentum wave.' However, it is necessary to figure out when the momentum will slow down or come to a halt through analysis of the activity of the stock as well as the activity of the company.

The momentum strategy aims to capitalize on the continuance of existing trends in the stock market. Momentum investors rely on the notion that large increases in the price of a stock will be followed by additional gains. The flip side of this is also true because large decrements in the price of a stock will be followed by additional fall in price.

This strategy looks to capture gains by riding "hot" stocks and selling "cold" ones. To participate in momentum investing, a trader will take a long position in a stock, which has displayed an upward trending price. On the other hand, one should sell a stock that has been in a downward trend. The basic idea is that once a trend is established, it is more likely to continue in that direction than to move against the trend.

There is a significant amount of speculation which is backed-up by research on the company. For example an upward trend could follow after the merger of a company with a larger company, which is a good indicator of continuance of a positive trend. In contrast, an acquired company's stock may decline if it is divided up and sold off. This will cause a perpetuating negative downward trend, which is a 'sell' indicator.

The growth strategy is whereby an investor seeks out stocks with what they deem as good growth potential. In most cases a growth stock could be defined as a company whose earnings are expected to grow at an above-average rate than its industry, or the overall market.

Growth investors often call growth investing a capital growth strategy, since investors seek to maximize their capital gains. This involves research in newly introduced stocks into the market with numerous potential. These companies have been known to either sky-rocket in value or do extremely poorly. Hence, it is a high risk strategy which is not favorable to many investors though it may bring about high returns. Growth stocks could also tend to be dormant in their introductory phase due to 'cold feet' that investors may have. As soon as demand for their products is realized, investors may gain confidence in the stock and purchase huge volumes. This causes the stock to grow exponentially, bringing about huge gains.

Investors who employ the growth strategy are basically looking at one thing: What is this company's potential for future earnings? The underlying assumption behind the growth investment strategy for stocks is that increased earnings will lead to higher stock valuations. In turn, this should also bring about higher dividends which mean higher revenue streams and larger capital gains when the stocks are liquidated. While
current or past earnings are indicators, they do not necessarily tell the entire tale as far as the growth strategy is concerned. Other factors to be considered when using this strategy to make stock purchase decisions are annual growth, overall revenue, and earnings per share [18].

### 6.2 Week 1: 10/8/07-10/12/07

### 6.2.1 Researched stocks

The first stock that was researched on was Research In Motion. Research In Motion Limited engages in the design, manufacture, and marketing of wireless solutions for the mobile communications market worldwide. It provides platforms and solutions for access to email, phone, short messaging service, Internet, and Intranet-based applications. The company offers technology that enables third party developers and manufacturers to enhance their products and services with wireless connectivity to data. Its portfolio of products includes BlackBerry wireless platform, the RIM Wireless Handhelds product line, software development tools, radio-modems, and other hardware and software products. The company's BlackBerry wireless solution comprises wireless devices, software, and services. It also enables the use of personal information management functions, such as calendar, address book, task list, and other functions associated with personal organizers. The company also offers BlackBerry Mobile Data System that allows users to access data from enterprise applications and the Internet; and BlackBerry Internet Service, which allows the integration of up to 10 supported email accounts on the same BlackBerry smart-phone. Research In Motion also licenses BES software, as well
as offers client access licenses, technical support, and upgrades. The company distributes its products through carrier partners and resellers. Research In Motion was founded in 1984 and is headquartered in Waterloo, Canada [19].

The graph below outlines the performance of this stock over the previous three months. The stock price plunged in mid August and started to steadily climb throughout the rest of August, September and the beginning of October. The investor selected this stock as it displayed trends that were in line with the momentum and growth strategy.


Figure 6.2.1.1: RIMM Quotes Jun 27 - Oct 25

The second company that was invested in was 3 M Company. 3 M Company operates as a diversified technology company. It operates in six segments which include industrial and transportation services, health care, display and graphics, consumer and office, safety, security, and protection services, in addition to electronics and communications. The industrial and transportation segment offers tapes, coated and non-
woven abrasives, adhesives, specialty materials, supply chain execution software solutions, closures for disposable diapers, and components and products that are used in the manufacture, repair, and maintenance of automotive, marine, aircraft, and specialty vehicles. The health care segment provides medical and surgical supplies, skin health and infection prevention products, drug delivery systems, dental and orthodontic products, health information systems, and microbiology products. The display and graphics segment offers optical film and lens solutions for electronic displays, touch screens and touch monitors, computer screen filters, reflective sheeting for transportation safety, and commercial graphics systems. The consumer and office segment provides office supply products which include stationery products, construction and home improvement products, home care products, protective material products, including consumer health care products, such as bandages and visual systems products. The safety, security, and protection segment offers personal protection products, safety and security products, energy control products, cleaning and protection products for commercial establishments, and roofing granules for asphalt shingles. Electro and Communications segment offers electronic and interconnect solutions, micro interconnect systems, high-performance fluids, high-temperature and display tapes, telecommunications products, and electrical products. 3M, formerly known as Minnesota Mining and Manufacturing Company, was founded in 1902. The company is based in St. Paul, Minnesota [20].

The graph below shows how this stock has steadily risen in price over the past three months. This influenced the investor to purchase the stock so as to ride the momentum wave while it lasted. The price of the stock declined slightly towards the end of August but has had a climbing trend since then.


Figure 6.2.1.2: 3M Quotes 7/02-10/01

The third company was Cisco Systems, Inc. which designs, manufactures, and sells Internet Protocol-based networking and other products relating to the communications and information technology industry worldwide. The company offers routers that interconnect computer networks and moving information between networks which include switching systems, which provide connectivity to end users, workstations, and servers. The application networking solutions are used to deploy and deliver business applications. Home networking products are diverse such as voice and data modems, network cards, media adapters, Internet video cameras, network storage, and USB adapters. The hosted small-business systems include integrated voice and data products. Cisco security solutions are used to protect information systems. It also provides storage area networking products that deliver connectivity between servers and storage systems. The unified communication products integrate voice, video, data, and mobile applications
on fixed and mobile networks. Further, the company offers cable access, service provider VoIP services, and optical networking products. It provides its products and services through its direct sales force, systems integrators, service providers, resellers, distributors, and retail partners to large enterprises, small and medium-sized businesses, and small/home offices. Cisco Systems has strategic alliances with Accenture, Ltd.; AT\&T, Inc.; BearingPoint, Inc.; Cap Gemini S.A.; Electronic Data Systems Corporation; EMC Corporation; Fujitsu Limited; Hewlett-Packard Company; Intel Corporation; International Business Machines Corporation; Italtel SpA; Microsoft Corporation; Nokia; Nokia Siemens Networks; Siemens AG; Sitronics Telecom Solutions, Czech Republic a.s.; Sprint Nextel Corporation; and Wipro Limited. The company was founded in 1984 and is headquartered in San Jose, California [21].

The graph below outlines the performance of the stock price within the previous three months which depicts an overall steady increase. This encouraged the investor to partake in this investment as it displayed potential profitability.


Figure 6.2.1.3: CSCO Quotes 7/26-9/27

The forth company was Hi-Shear Technology Corporation which designs and manufactures high pyrotechnic, mechanical, and electronic products for the aerospace industry, the military, and the National Aeronautics and Space Administration in the United States. The company's products include cartridges, cutters, pin pullers, separation nuts, and separation bolts used in the functioning of satellites and the vehicles, which launch them into space. It also designs and manufactures electronic firing systems that control and sequentially fire the pyrotechnic devices according to pre-programmed parameters. The company's products are primarily used in space satellites and satellite launch vehicles, exploration missions, strategic missiles, tactical weapons, advanced fighter aircraft, and military systems. Hi-Shear's customers include the military, satellite manufacturers, launch vehicle assemblers, the U.S. government departments and agencies, and foreign space agencies. The company was founded in 1950 and is based in Torrance, California [22].

The performance of the stock over the past three months outlined below has an upward trend which follows the momentum and growth strategy of the investor. The company gave the investor a sense prospective future profits which influenced the decision to invest in the stock.


Figure 6.2.1.4: HSR Quotes Jun 27 - Oct 25

### 6.2.2 Course of Action

The trader chose to invest in the afore named stocks as they are tied into the "momentum" and "growth" strategy that he employed. The idea behind the momentum approach is that investments that have been doing well in the past and have gathered "momentum" are likely to continue doing well. This entails monitoring of the trends of the stock and identifying when it is best suited for the investor to 'ride the momentum wave.' However, it is necessary to figure out when the momentum will slow down or come to a halt through analysis of the activity of the stock as well as the activity of the company. The growth strategy is whereby an investor seeks out stocks with what they deem as good growth potential. In most cases a growth stock could be defined as a company whose earnings are expected to grow at an above-average rate than its industry, or the overall market.

### 6.2.3 Results

The results from the first week are outlined below. Only purchases were made during the first week and no trading took place. By the end of the week the MMM, CSCO and HSR stocks declined slightly while the RIMM stock price slightly went up.

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 8-Oct | RIMM | Buy | 300 | 116.74 | $35,032.00$ | - |
| 8-Oct | MMM | Buy | 200 | 95.12 | $19,034.00$ | - |
| 8-Oct | CSCO | Buy | 700 | 32.82 | $22,984.00$ | - |
| 10-Oct | HSR | Buy | 1,500 | 13.26 | $19,900.00$ | - |
| Total Profit |  |  |  |  | - |  |

Table 6.2.3.1: Week 1 Transactions 10/8-10/12
\$10/Trade commission included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| RIMM | 300 | 113.91 | $34,173.00$ |
| MMM | 200 | 94.17 | $18,834.00$ |
| CSCO | 700 | 32.92 | $23,044.00$ |
| HSR | 1,500 | 12.07 | $18,105.00$ |
| Cash |  |  | $3,050.00$ |
| Total Portfolio Value |  | $97,206.00$ |  |

Table 6.2.3.2: Week 1 Portfolio Value 10/8-10/12


Figure 6.2.3: Week 1 Stock Prices

### 6.3 Week 2: 10/15/07-10/19/07

### 6.3.1 Researched stocks

There were no stocks that were researched on over the course of the second week. The investor felt confident about the stocks and closely monitored their performance in eager anticipation of their growth.

### 6.3.2 Course of Action

The trader chose to maintain the stocks that he had invested in anticipation of a rise in their prices. There was speculation in the market that these stocks were to improve as there was demand for them.

### 6.3.3 Results

The value of the stocks declined over the course of the week as depicted by the chart and graph below. This was in contrast to the expected out-come however the demand for these stocks was eminent in the stock market.

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| RIMM | 300 | 114.97 | $34,491.00$ |
| MMM | 200 | 86.62 | $17,324.00$ |
| CSCO | 700 | 31.50 | $22,050.00$ |
| HSR | 1,500 | 12.21 | $18,315.00$ |
| Cash |  | $3,050.00$ |  |
| Total Portfolio Value |  | $95,230.00$ |  |

Table 6.3.3: Week 2 Portfolio Value 10/15-10/19


Figure 6.3.3: Week 2 Stock Values

### 6.4 Week 3: 10/8/07-10/12/07

### 6.4.1 Researched stocks

The first stock was Ford Motor Company. Ford Motor Company and its subsidiaries design, develop, manufacture, and service cars, trucks, and parts worldwide. The company operates through two sectors: Automotive and Financial Services. The Automotive sector sells cars, trucks, and parts under Ford, Mercury, Lincoln, Volvo, Land Rover, Jaguar, and Aston Martin brand names. This sector markets its products through retail dealers in North America, and through distributors and dealers outside of North America. In addition, it sells cars and trucks to dealers for sale to fleet customers, including daily rental car companies, commercial fleet customers, leasing companies, and governments. This sector also provides a range of after-the-sale vehicle services and products, maintenance and light repair, heavy repair, collision, vehicle accessories, and extended service warranty. The Finance Services sector offers various automotive financing products to and through automotive dealers worldwide. It offers retail financing, wholesale financing, and other financing, such as making loans to dealers for working capital, improvements to dealership facilities, and the acquisition and refinancing of dealership real estate. This sector services the finance receivables and leases that it originates and purchases, makes loans to affiliates, purchases receivables, and provides insurance services related to its financing programs. The company was founded in 1903 and is based in Dearborn, Michigan [23].

The graph below outlines the performance of this stock over the previous three months. The stock price plunged in mid August and started to steadily climb
throughout the rest of August, September and October. The investor selected this stock as it displayed trends that favored the momentum and growth strategy.


Figure 6.4.1.1: Ford Quotes 7/10-10/9

The second was PowerShares Aerospace and Defense is an investment fund that invests in large growth Aerospace and Defense companies which include Boeing, Raytheon, General Dynamics, Honeywell Intl, Lockheed Martin, Northorp Holdings, United Technologies, Direct TV Group and Garmin Ltd. The investment seeks results that correspond generally to the price and yield (before the Fund's fees and expenses) of an equity index called the $\operatorname{SPADE}(\mathrm{TM})$ Defense index. The fund normally invests at least $80 \%$ of total assets in common stocks of aerospace and defense companies. It may invest at least $90 \%$ of total assets in common stocks that comprise the SPADE(TM) Defense Index. The fund seeks to match the performance of the $\operatorname{SPADE}(\mathrm{TM})$ Defense index. It is non-diversified [24].

The graph below outlines the performance of this stock over the previous three months. The stock price steadily climbed throughout August, September and October. The investor selected this stock as it displayed trends that were in line with the momentum and growth strategy.


Figure 6.4.1.2: PPA Quotes 7/26-10/4

### 6.4.2 Course of Action

The trader sold off the stocks that were not performing as expected in relation to the trade strategy that he chose. The stocks that he sold were 3M Company, Cisco Ltd and High Shear Technology Corporation. The trader chose to retain Research In Motion stock because its performance continues to comply with the strategy of the trader. The trader invested in Ford Motor Company and PowerShares Aerospace and Defense stock which have recently displayed a climbing trend in regards to the momentum strategy. In addition, these are companies that had grown in the recent past, which was also in tune with the growth strategy.

### 6.4.3 Results

The stocks that the trader invested in continued to show promising progress over the course of the week as depicted by the chart and graph below. The investor maintained the Research in Motion stock as the company had made some recent innovations on one of their products, the Black-Berry Mobile Data System, which was destined to generate significant earnings for the company.

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 22-Oct | MMM | Sell | 200 | 85.59 | $17,108.00$ | $1,926.00$ |
| 22-Oct | CSCO | Sell | 700 | 31.33 | $21,921.00$ | $1,034.00$ |
| 22-Oct | HSR | Sell | 1,500 | 12.06 | $18,080.00$ | $1,800.00$ |
| 22-Oct | F | Buy | 2,200 | 8.45 | $18,600.00$ |  |
| 22-Oct | PPA | Buy | 1,500 | 23.27 | $34,915.00$ |  |
| Total Profit |  |  |  |  | $4,760.00$ |  |

Table 6.4.3.1: Week 3 Transactions 10/22-10/26
\$10/Trade commission included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | ---: | ---: | :--- |
| RIMM | 300 | 119.81 | $35,943.00$ |
| MMM | 200 | 86.62 | $17,324.00$ |
| CSCO | 700 | 31.50 | $22,050.00$ |
| HSR | 1,500 | 12.21 | $18,315.00$ |
| F | 2,200 | 8.67 | $19,074.00$ |
| PPA | 1,500 | 23.76 | $35,640.00$ |
| Cash |  |  | $6,644.00$ |
| Total Portfolio Value |  | $97,301.00$ |  |

Table 6.4.3.2: Week 3 Portfolio Value 10/22-10/26


Figure 6.4.3: Week 3 Stock Prices

### 6.5 Week 4: 10/29/07-11/02/07

### 6.5.1 Researched stocks

Microsoft Corporation provides software products for computing devices worldwide. Its Client segment engages in technical architecture, engineering, and product delivery of Windows product family comprising Windows Vista, Windows XP Professional and Home, Media Center Edition, Tablet PC Edition and other Windows operating systems. The Server and Tools segment offers integrated server infrastructure and middleware software that support software applications and tools built on the Windows Server operating system. Its products include Windows Server operating system, Microsoft SQL Server, Microsoft Enterprise Services, product support services, Visual Studio, System Center products, Forefront Security products, Biz Talk Server, MSDN and TechNet. The Online Services Business segment offers personal communications services, such as email and instant messaging, online information
through MSN Search, MapPoint, MSN Internet Access, MSN Premium Web Services, Windows Live and MSN Mobile Services. The Microsoft Business Division offers Microsoft office product set comprising enterprise content management, collaboration, unified communications, and business intelligence products. Microsoft Dynamics products offer business solutions for financial management, customer relationship management, supply chain management, and analytics applications. The Entertainment and Devices Division develops the Xbox video game system, such as consoles and accessories, third-party games, games published under the Microsoft brand, and Xbox Live operations. It also offers Zune digital music and entertainment device. Other products include PC software games, online games and Mediaroom, an Internet protocol television software. Further, Microsoft offers online advertising and publishing solutions. It has strategic alliance with Siemens VDO Automotive AG, Phase One A/S, LogicaCMG plc and AudioCodes, Ltd. Microsoft was founded in 1975 and is headquartered in Redmond, Washington [25].

The graph below outlines the performance of this stock over the previous three months. The stock price steadily climbed throughout September and the beginning of October. The investor selected this stock as it displayed trends that were compatible with the momentum and growth strategy.


Figure 6.5.1: MSFT Quotes 7/27-10/26

### 6.5.2 Course of Action

The investor chose to sell off the PowerShares Aerospace and Defense stock which was not performing well and chose to invest in Microsoft which had been experiencing a steady increase in price and had reflected trends that followed the momentum and growth strategy.

### 6.5.3 Results

This week was fairly successful with a steady increase in the total value of the portfolio. The Research In Motion stock experienced a rise in price with the rest of the stock remaining fairly constant. The tables and chart below represent the performance and results of the week.

| Date | Symbol | Action | Volume | Price | Cost/Proceed | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1-Nov | PPA | Sell | 1,500 | 23.66 | $35,480.00$ | 565.00 |
| 1-Nov | MSFT | Buy | 1,122 | 34.7 | 38933.40 | - |
| Total Profit |  |  |  |  | 565.00 |  |

Table 6.5.3.1: Week 4 Transactions 10/29-11/02
\$10/Trade commission included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| RIMM | 300 | 126.95 | $38,085.00$ |
| F | 2,200 | 8.67 | $19,074.00$ |
| PPA | 1,500 | 23.76 | $35,640.00$ |
| MSFT | 1,122 | 37.06 | $41,581.00$ |
| Cash |  |  | 330.60 |
| Total Portfolio Value |  | $99,928.92$ |  |

Table 6.5.3.2: Week 4 Portfolio Value 10/29-11/02


Figure 6.5.3: Week 4 Price Values

### 6.6 Week 5: 11/05/07-11/09/07

### 6.6.1 Researched stocks

The market experienced a decline in performance over the course of the week which made the investor hesitant to make any trades. The investor researched and monitored the market performance waiting to see if it would improve.

### 6.6.2 Course of Action

The trader chose to maintain the stocks that he had invested in and did not make any trades. The market had been experiencing an overall steady decline in performance which made the investor hesitant to partake in any trades.

### 6.6.3 Results

The Table and Figure below shows and depicts the results during this week. The results in lower portfolio value compared to the previous week.

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| RIMM | 300 | 113.22 | $33,966.00$ |
| F | 2,200 | 8.20 | $18,040.00$ |
| MSFT | 1,122 | 33.73 | $37,845.06$ |
| Cash |  |  | 330.60 |
| Total Portfolio Value |  | $90,181.66$ |  |

Table 6.6.3: Week 5 Portfolio Value 11/05-11/09


Figure 6.6.3: Week 5 Stock Values

### 6.7 Week 6: 11/12/07-11/16/07

### 6.7.1 Researched stocks

The market still looked quite grim over the course of the week and as a result the investor did not conduct any research on stocks.

### 6.7.2 Course of Action

The trader chose to maintain the stocks that he had invested in as the market had not shown any notable progress throughout the week. An analysis of the market was conducted which did not reveal any stocks that followed the momentum and growth trends.

### 6.7.3 Results

The results of the week are outlined below which reveal a significant increase in portfolio value of $6.67 \%$ which was rather promising. Research In Motion fell in price by \$5.65, however, Ford and Microsoft increased in price significantly which compensated for the initial fall in the portfolio value.

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| RIMM | 300 | 107.57 | $32,271.00$ |
| F | 2,200 | 8.67 | $19,074.00$ |
| MSFT | 1,122 | 37.06 | $41,581.00$ |
| Cash |  |  | 330.60 |
| Total Portfolio Value |  | $93,256.60$ |  |

Table 6.7.3: Week 6 Portfolio Value 11/12-11/16


Figure 6.7.3: Week 6 Stock Prices

### 6.8 Week 7: 11/19/07-11/23/07

### 6.8.1 Researched stocks

There were no stocks that were researched on over the course of the week. The investor felt confident about the stocks that he had invested in and was anticipating an increase in their prices. The market activity began to rise and the investor felt that the share prices of the stocks were going to climb.

### 6.8.2 Course of Action

The trader chose to maintain the stocks that he had invested in and was expecting the share prices to increase over the course of the week.

### 6.8.3 Results

During the course of the week, the performance of the stocks fell drastically and so did the value of the portfolio as shown below.

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| RIMM | 300 | 113.58 | $34,074.00$ |
| F | 2,200 | 7.19 | $15,818.00$ |
| MSFT | 1,122 | 34.09 | $38,248.98$ |
| Cash |  |  | 330.60 |
| Total Portfolio Value |  | $88,471.58$ |  |

Table 6.8.3: Week 7 Portfolio Value 11/19-11/23


Figure 6.8.3: Week 7 Stock Values

### 6.9 Week 8: 11/26/07-11/30/07

### 6.9.1 Researched stocks

Dell, Inc. and its subsidiaries engage in the design, development, manufacture, marketing, sale, and support of various computer systems and services worldwide. It offers various products, including desktop computer systems and workstations; mobility products that consist of notebook computers, mobile workstations, and MP3 players. In addition to these products they also offer software and peripherals, such as printers, monitors, plasma and LCD televisions, and projectors, as well as third-party printers, televisions, software, and digital cameras. Some of their corporate packages include servers and networking products as well as storage devices. The company also provides infrastructure consulting services, deployment services, asset recovery and recycling services. Dell has a joint venture with CIT Group, Inc. to provide various financing
alternatives, asset management services, and other customer financial services. The company sells its products and services directly to large corporate, government, healthcare, and education accounts, as well as small-to-medium businesses and individual customers. The company was founded in 1984 under the name Dell Computer Corporation and changed its name to Dell, Inc. in 2003. This company minimizes on their cost of production through supplying desktops and notebooks straight to the customer after they are ordered. Their products are not sold at retail stores unlike most of their competitors which helps them to eliminate 'dead stock.' They pride themselves on their efficient customer care which is debatably the best.

The graph below outlines the performance of this stock over the previous three months. The stock price plunged in mid September and started to steadily climb throughout the rest of September and October. The investor selected this stock as it displayed trends that were in line with the momentum and growth strategy. The stock had future potential growth prospects.


Figure 6.9.1.1: Dell Quotes 8/23-11/22

Yahoo Inc. provides Internet services to users and businesses worldwide. It offers online properties and services to users through various tools and marketing solutions to businesses. The company's search products include Yahoo Search, Yahoo Toolbar, and Yahoo Search on Mobile, Yahoo Yellow Pages, and Yahoo Maps that allow users to navigate the Internet and search for information from their computer or mobile device. It also offers marketplace products that comprise Yahoo Shopping and Yahoo Auctions for shopping. Yahoo! Real Estate for real estate is highly utilized for information. Yahoo Travel, an online travel research and booking site as well as a travel search engine. Yahoo Autos is one of their most successful products which are used to price and compare cars online. Yahoo provides information products, such as Yahoo News that aggregates news stories, Yahoo Finance that offers financial resources and Yahoo Tech that offers information on consumer electronics. Their most popular products are their communications products which include Yahoo Mail and Yahoo Messenger. It has strategic partnerships with Seven Network Limited, eBay, AT\&T, Inc. and Verizon Communications, Inc. The company was founded in 1994 and is headquartered in Sunnyvale, California.

The graph below outlines the performance of this stock over the previous three months. The stock price declined in mid November but had risen steadily throughout September and October. The investor selected this stock as it displayed trends that were in line with the momentum and growth strategy as it had future growth potential.


Figure 6.9.1.2: Dell Quotes 9/26-11/21

### 6.9.2 Course of Action

The trader sold off the Research In Motion, Ford and Microsoft stock which were not performing in accordance with the trader's strategy. The purchased stocks were Dell Inc and Yahoo Inc which were showing a steady increase in their prices. The investor intends to ride the momentum wave until he deems the stocks non-profitable. The Dell and Yahoo stocks were acquired in anticipation of an increase in their sock prices.

### 6.9.3 Results

The results for the week are outlined below which depict a decrease in overall performance of the portfolio. The Tables and Charts below show the results of the week in an organized and clear manner.

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 26-Nov | RIMM | Sell | 300 | 115.50 | $34,640.00$ | 392.00 |
| 26-Nov | F | Sell | 2,200 | 7.06 | $15,522.00$ | $3,078.00$ |
| 26-Nov | MSFT | Sell | 1,122 | 33.67 | $37,765.27$ | $4,207.53$ |
| 26-Nov | DELL | Buy | 1,000 | 26.30 | $26,300.00$ |  |
| 26-Nov | YHOO | Buy | 1,200 | 25.84 | $31,008.00$ |  |
| Total Profit |  |  |  |  | $7,677.53$ |  |

Table 6.9.3.1: Week 8 Transactions 11/26-11/30
\$10/Trade commission included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| DELL | 1,000 | 24.54 | $24,540.00$ |
| YHOO | 1,200 | 26.81 | $32,172.00$ |
| Cash |  |  | $30,754.00$ |
| Total Portfolio Value |  | $87,466.00$ |  |

Table 6.9.3.2: Week 8 Portfolio Value 11/26-11/30


Figure 6.9.3: Week 8 Stock Values

### 6.10 Week 9: 12/03/07-12/07/07

### 6.10.1 Researched stocks

The investor monitored the performance of the Dell and Yahoo stocks over the course of the week and was optimistic in a rise in their stock prices.

### 6.10.2 Course of Action

The investor chose to hold all the stocks and did not make any trades.

### 6.10.3 Results

The results for the week are outlined below which depict a decrease in overall performance of the portfolio.

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| DELL | 1,000 | 25.07 | $25,070.00$ |
| YHOO | 1,200 | 25.84 | $31,008.00$ |
| Cash |  |  | $30,754.00$ |
| Total Portfolio Value |  | $86,832.00$ |  |

Table 6.10.3: Week 9 Portfolio Value 12/03-12/07


Figure 6.10.3: Week 9 Stock Values

### 6.11 Week 10: 12/10/07-12/14/07

### 6.11.1 Researched stocks

There were no stocks that were researched over the course of this week as the simulation was ending at the end of this week.

### 6.11.2 Course of Action

The investor chose to sell off the Dell and Yahoo stocks which had declined in price. The simulation concluded at the end of the tenth week.

### 6.11.3 Results

The market performance decreased significantly, a trend which affected the performance of the stocks that were invested in. This necessitated the sale of Yahoo and

Dell stocks which showed no sign of rise in price as they were on a steady downward trend. There wasn't any profit made as the share price of both stocks fell by about $10 \%$ each.

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 14-Dec | DELL | Sell | 1,000 | 23.57 | $23,550.00$ | $2,755.00$ |
| 14-Dec | YHOO | Sell | 1,200 | 24.06 | $28,852.00$ | $2,167.44$ |
| Total Profit |  |  |  |  | $4,922.44$ |  |

Table 6.11.3.1: Week 10 Transactions 12/10-12/14
\$10/Trade commission

| Symbol Volume | Week Closing | Asset Value |
| :--- | :--- | :--- |
| Cash |  | $83,177.03$ |
| Total Portfolio Value |  | $83,177.03$ |

Table 6.11.3.2: Week 10 Portfolio Value 12/10-12/14


Figure 6.11.3: Week 10 Stock Prices

## 7. Value Investing

### 7.1 Description of strategy

Value investing uses fundamental analysis to determine an intrinsic value of a businesses share. Based on this estimated value, the investor can search for a discounted price within the current market. The main idea with this strategy is to find a company that is being underrated with high hopes that eventually, the company's real value will be projected in the stock market. When using this strategy the investor must distinguish a time period that they are willing to wait, how much money they are willing to use, and their estimated value of the companies at hand. If the selected stock does reach the estimated value, the investor has to decide to sell or hold. During this simulation, I am an Investor with $\$ 100,000$ to use, a period of 10 weeks, and a risk factor of zero! With out risk, I will judge how much money to put into a company based on my confidence in my research. With a time period of ten weeks I will only choose companies that I believe will rise to the estimated price within the remaining weeks of the simulation.

Finding a company's true value can be accomplished many different ways. Techniques vary from extremely complicated formulas, to extremely simple graph interpolations. Basically the main things that value investors look for can be given from the following information of a company:

1. Share price
2. $\mathrm{P} / \mathrm{E}$ ratios
3. PEG (Price/Earnings to Growth)
4. Book value
5. $\mathrm{D} /$ E ratio (Debt/Equity)

## 6. Current assets

7. Dividend yield
8. Earnings growth

The share price should be no more than two-thirds of intrinsic worth. Companies with $\mathrm{P} / \mathrm{E}$ ratios within the lowest $10 \%$ of all equity securities should be strongly considered. The PEG value should be less than one. The stock price should be no more than tangible book value. The $\mathrm{D} / \mathrm{E}$ ratio should be less than one; this means that the company's debt is less then their equity. Current assets should be two times current liabilities. Dividend yield should be at least two-thirds of the long-term AAA bond yield (AAA bond yield is the highest rating given on bonds). Earnings growth should be at least 7\% per annum compounded over the last 10 years.

These guidelines are the ideal but not a requirement. One could spend weeks looking for a company that meets everything mentioned, and if you believe that time is money then you spent too much time finding a company to invest into. This investor will approach this strategy by finding a company to invest in will begin by finding companies near, or at a 52 week low, or even at a low compared to more recent prices. This will have to be true if the company is undervalued. Once a company is found near, a low one can research the current takes on the stock, to learn if it is a good buy. By reading opinions of the top researchers in the market, it will make things a lot easier and by letting the sources do the hard work it will take a lot of stress of the investor [26].

### 7.2.1 Researched Stocks

During the fist week of the simulation this investor searched through the days, most active stocks and noticed a few stocks worth researching. Family Dollar Stores, Inc. a chain of retail discount stores had the following quote, see Figure 7.2.1.1.


Figure 7.2.1.1: FDO quote as of $10 / 15 / 2007$ (Provided by Yahoo Finance)

One may notice that FDO is currently projecting a bargain price, by looking at the stocks status in the last 3 months it is obvious that the stock may be undervalued
compared to its history. By doing more research on the company, a better understanding of the companies status in the market can be noticed. The following data was found in a news article, written on Oct.5, 2007 by Rich Duprey found on www.fool.com, this investor read that Family Dollar rose $20 \%$ this year so far heading into the summer, and is predicted to have a $37 \%$ return this year. Based on the current market price compared to the price of its past, the mentioned news article, and a pretty good buy rating, shares at these prices seem to be a bargain [27].

Another noticeable stock was Comcast Corp, CMCSA, a cable operator in the United States that offers video, high speed internet, and phone services had the following quote, see figure 7.2.1.2.


Figure 7.2.1.2: CMCSA quote as of 10/8/07 (Provided by Yahoo Finance)

Figure 7.2.1.2 shows a great picture for a value investor analyzing a graph. One can notice that from August through most of September the stock averaged around $\$ 25.00$. From July to Mid September, the stock plummeted and now one can notice a bargain price. Comcast is a strong company with an intrinsic value of around $\$ 26.00$ a share right now. The dangers of buying this stock are that it will keep falling, more research may be necessary in order to consider buying this stock.

### 7.2.2 Course of action

After further researching, this investor decided to trust the sources on FDO and his gut feelings on Comcast. The two companies are projecting a bargain price, a value worth considering and it is time to put this strategy to the test.

### 7.2.3 Results

By the end of week one, the research proved to be successful, the investors current assets have a value higher then they were when originally bought. The total cash value, found in Table 7.2.3.1, of the two transactions is the initial value of my assets; this value is found by adding the costs of each transaction, $\$ 89,755.00$. By the end of week 1 , the asset value was estimated at $\$ 90,835.00$, as in table 7.2.3.2. The investor's current portfolio is estimated at a higher price then the original $\$ 100,000$. This investor could now sell his shares to gain a profit or continue to hold his shares. The value investing approach would be to hold these stocks longer in hopes that the companies true value will emerge. Through estimation, this investor believes these companies are still marked at a bargain price.

| Date | Symbol | Action | Volume | Price | Cost/ Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 8-Oct | FDO | Buy | 2,000 | 26.98 | $53,970.00$ | - |
| 8-Oct | CMCSA | Buy | 1,500 | 23.85 | $35,785.00$ | - |
| Total Profit |  |  |  |  |  |  |

Table 7.2.3.1: Week 1 Transactions 10/8/07-10/12/07
\$10.00/Trade Commission Included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| FDO | 2,000 | 27.41 | $54,820.00$ |
| CMCSA | 1,500 | 24.01 | $36,015.00$ |
| Cash |  |  | $10,245.00$ |
| Total Portfolio Value | $101,080.00$ |  |  |

Table 7.2.3.2: Week 1 Portfolio Value 10/8/07-10/12/07

### 7.3 Week 2: 10/15/07-10/19/07

### 7.3.1 Research

During the beginning of week two, the stock market reached a record high and not many companies have shown bargain prices like FDO. FDO's shares are currently at a lower price then originally bought by this investor. This may be a signal for a downward trend but in the sake of value investing it could also mean that a bargain is still projecting, some may consider to drop this stock, but others may choose to buy more to get more of a bargain. Figure 7.3.1.1 shows that when the investor originally bought this stock it was at approx. $\$ 27.00$ by Oct 16 the share price has lowered to about $\$ 26.50$; however, one may also notice that by the $18^{\text {th }}$ the stock will drop to $\$ 25.25$, which means that this stock is going nowhere but down.


Figure 7.3.1: Detailed Quote on FDO (Provided by Yahoo Finance)

### 7.3.2 Course of action

On the $17^{\text {th }}$ of October, this investor decided to put more money into FDO in hopes that the bargain prices where still projecting. By the $18^{\text {th }}$, the stock had dropped too low for comfort and this investor decided that FDO was not a good investment.

### 7.3.3 Results

Family Dollars Inc proved to be a failure; the reason that this investor was unable to detect that was failure to research further. This investor should have watched this stock for a little while prior to investing into it. Doing this would have shown that the company was not doing as well as the media projected. This resulted in a loss of $\$ 3,546.25$ as shown in detail within table 7.3.3.1. Figure 7.3.3.2 shows that Comcast has also decreased in value since originally bought by the investor leaving a portfolio value much less, than it was when the account was opened.

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 16-Oct | FDO | Buy | 375 | 26.66 | $10,007.05$ | - |
| 18-Oct | FDO | Sell | 2,000 | 25.54 | $51,070.00$ | $2,900.00$ |
| 18-Oct | FDO | Sell | 375 | 24.99 | $9,361.25$ | 646.25 |
| Total Profit |  |  |  |  | $3,546.25$ |  |

Table 7.3.3.1: Week 2 Transactions 10/15-10/19
\$10.00/Trade Commission Included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| CMCSA | 1,500 | 23.46 | $35,190.00$ |
| Cash |  |  | $60,668.75$ |
| Total Portfolio Value | $95,858.75$ |  |  |

Table 7.3.3.2: Week 2 Portfolio Value 10/15-10/19

### 7.4 Week 3: 10/22/07-10/26/07

### 7.4.1 Researched Stocks

CMCSA has increased its quarterly earnings and it is at a low price. One can estimate its intrinsic value at around $\$ 27.00$. Analyzing the chart behavior of CMCSA from April until August, figure 7.4.1.1, it is quite noticeable that the stock is capable of a share price well over $\$ 27.00$. Although the stock has continued to fall, the outlook seems to be very positive.


Figure 7.4.1: CMCSA Quote April-August 2007 (Provided by Yahoo Finance)

### 7.4.2 Course of Action

CMCSA is at its all time low and the companies share is currently way below average right now. This Investor is going to take a chance, trust his research and invest most of the remaining cash in this company.

### 7.4.3 Results

Comcast is showing signs of a very bad investment. It is on a very steep downward trend, and ironically, the real investment would have been to short sell this supposedly under priced company. It is not evident on what would cause this company to drop this significantly. The market is in a dangerous state right now. A true value investor would try to hold this stock and see it out in hopes that these are extreme value prices. One with more money might even opt to buy more stocks when it starts to transition back upward again. This investor's strategy is to hold on and pray that he can make some money back on this stock. As one can see there is not much sign of an increase because the stocked closed at $\$ 21.23$, refer to Table 7.4.3.2. The company is worth more than this, and the share price cannot decrease forever, however working against the clock with this simulation may be the biggest downfall. This investor will place a sell stop on these shares at around $\$ 19.00$ just incase the market gets worse.

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 24-Oct | CMCSA | Buy | 2,425 | 23.60 | $57,240.00$ | - |
| Total Profit |  |  |  |  | - |  |

Table 7.4.3.1: Week 3 Transactions 10/22-10/26
\$10.00/Trade Commission Included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| CMCSA | 3,925 | 21.23 | $83,327.75$ |
| Cash |  |  | $3,428.75$ |
| Total Portfolio Value |  | $86,756.50$ |  |

Table 7.4.3.2: Week 3 Portfolio Value 10/22-10/26

### 7.5 Week 4: 10/29/07-11/02/07

### 7.5.1 Research

There are many ways to gain insight when researching for instance while watching TV a television series titled "Mad Money" hosted by Jim Cramer was on. Jim Cramer was a successful investor but is now retired and runs his own show aimed to help everyday investors make decisions [28]. During this particular show, he spent a good portion encouraging viewers to consider Target; he had many reasons on why Target was a great investment including the holiday season, great financial reports, and much more detailed analysis. This investor decided to do a little research into Target, TGT and learned that Target Corporation offers an assortment of general merchandise; its main competitor is Wal-Mart, along with other bargain retail stores. Target's management and organization are well maintained. The quote seems promising, see figure 7.5.1.1, and
target seems to be on the rise contrary to the stocks currently invested in. This investor has also noticed stores around the area packed full of customers. Target's 52 week high is $\$ 70.75$ and is currently around $\$ 62.00$, which is a nice bargain value, attractive to value investors. There is a chance that this investor could end up putting the rest of the cash remaining into this company. It is getting close to the biggest shopping time of the year and many retail stores do well in the market.


Figure 7.5.1: TGT quote as of 10/23/2007 (Provided by Yahoo finance)

### 7.5.2 Course of action

During week four of the simulation this investor bought a small amount of shares from Target with the rest of the account's cash based on his research and the insight
provided by Jim Cramer on the "Mad Money" television show. CMCSA shares will be held until it begins to turn around or the sell stop limit of $\$ 19.00$ is breached.

### 7.5.3 Results

Comcast is still falling in value and Target is heading in a downward trend as well. The market is tough right now; it seems to be hard to locate a stock that is projecting a bargain price because the market is higher than usual. This investor is suffering because of buying things to early. Although bargain prices are projecting on good companies, the low prices are due to something bad going on with the company. It is virtually impossible to tell if or when the share prices will rise to its predicted true value, which makes this strategy risky in the current market. Although things have proved to be bad, a lesson has been learned based on these results. From here on out, this investor is going to wait until an increase has started before buying at a low point.

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 30-Oct | TGT | Buy | 50 | 62.85 | $3,152.50$ | - |
| Total Profit |  |  |  |  | - |  |

Table 7.5.3.1: Week 4 Transactions 10/29-11/02
\$10.00/Trade Commission Included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| CMCSA | 3,925 | 20.55 | $80,658.75$ |
| TGT | 50 | 59.33 | $2,966.50$ |
| Cash |  |  | 276.25 |
| Total Portfolio Value |  | $83,901.50$ |  |

Table 7.5.3.2: Week 4 Portfolio Value 10/29-11/02

### 7.6 Week 5: 11/5/07-11/9/07

### 7.6.1 Research

Comcast is still falling, my sell stop limit of 19.00 may be reached soon, Figure 7.6.1.1 shows the CMCSA's quote as of $11 / 8 / 2007$. One can notice the amazing drop that this company encountered during the time it has been in the value investor's account. This stock has proven to be a tremendous failure and its going to damage the investors account quite significantly.


Figure 7.6.1.1: CMCSA quote as of $11 / 8 / 07$ provided by Yahoo Finance

TGT has been fluctuating and all though it has dropped since the first transaction, it may have been because the investor did not wait long enough before buying. Figure 7.6.1.2 shows TGT quote as of $11 / 08 / 07$. Now that the investor knows to wait, he is going to keep his eye on Target and if an increase is sighted it may be a good idea to put more money into the stock.


Figure 7.6.1.2: TGT quote as of 11/8/07 (Provided by Yahoo Finance)

### 7.6.2 Course of action

Week 5 has been a waiting game; Comcast is getting closer and closer to $\$ 19.00$ and until it reaches $\$ 19.00$, the investor has no cash. The Holiday season has led the
research into retail companies. While the investor waits, he will research further into this particular industry.

### 7.6.3 Results

After letting the week play out, Comcast seems to be approaching the $\$ 19.00$ limit, see Table 7.6.3. Target is also fluctuating around the $\$ 56.00$ mark. Unless there is a complete turn around within the next day or two with Comcast, the investor is going to invest all his stock in retail for the remainder of the simulation.

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| CMCSA | 3,925 | 19.38 | $76,066.50$ |
| TGT | 50 | 56.19 | $2,809.50$ |
| Cash |  |  | 276.25 |
| Total Portfolio Value |  | $79,152.25$ |  |

Table 7.6.3: Week 5 Portfolio Value 11/05/-11/09

### 7.7 Week 6: 11/12/07-11/16/07

### 7.7.1 Researched Stocks

"Best Buy, BBY ended the last trading session at $\$ 45.02$. So far, the stock has hit a 52 -week low of $\$ 41.85$ and 52 -week high of $\$ 56.69$. Best Buy stock has been averaging around $\$ 44.00$. Technical indicators for the stock are Bearish and $\mathrm{S} \& \mathrm{P}$ gives BBY a very positive 5 STAR (out of 5) strong buy rating it may be the time to start watching this stocks action." ${ }^{\text {[29] }}$ See Figure 7.7.1.1 for quote.


Figure 7.7.1: BBY quote as of 11/8/07 (Provided by Yahoo Finance)

### 7.7.2 Course of action

The sell stop limit was breached and Comcast was sold at $\$ 18.99$, TGT shares show signs of turning around, and it seems that Target has been doing quite well so far this holiday season. Further research is necessary for this value investor to consider what to invest in with the cash in the account.

### 7.7.3 Results

Comcast, CMCSA, ended in a loss $\$ 18,509.25$ as shown in Table 7.7.3.1 the value investor now has $\$ 74,792.00$ remanding in the account. The remainder of the cash is going to be invested into the retail industry, but further research is necessary.

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Nov-14 | CMCSA | Sell | 1,500 | 18.99 | $28,475.00$ | $7,310.00$ |
| Nov-14 | CMCSA | Sell | 2,425 | 18.99 | $46,040.75$ | $11,199.25$ |
| Total Profit |  |  |  |  |  | $18,509.25$ |

Table 7.7.3.1: Week 6 Transactions 11/12-11/16
\$10.00/Trade Commission Included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| TGT | 50 | 53.88 | $2,694.00$ |
| Cash |  |  | $74,792.00$ |
| Total Portfolio Value |  | $77,486.00$ |  |

Table 7.7.3.2: Week 6 Portfolio Value 11/12-11/16

### 7.8 Week 7: 11/19/07-11/23/07

### 7.8.1 Research

During week 7, this investor researched and found in a recent news article the following data on Target:
"News that Target has authorized a new $\$ 10$ billion share buyback program that at current prices would cover $20 \%$ of its outstanding shares leads me to believe that the stock prices may rise a bit. The company said it expects to complete the new share repurchase by the end of 2008. It is believed that the buyback would still
allow Target to maintain a strong investment-grade debt rating within a prudent range while allowing for substantial value to be returned to our shareholders." ${ }^{\text {" }} 30$ ]

This information shows that TGT is a stock worth buying more shares in, and that the research earlier was correct but the investor was inpatient and should have waited until something like this to prove his early insight on Target.

### 7.8.2 Course of action

The prior research provided all the information that a value trader needs to be confident in an investment. Target has a chance to make this investor money as well as Best Buy, which has also had positive reviews. During this week, the Investor put most of his money into TGT, and the remanding cash in BBY.

### 7.8.3 Results

Target has risen significantly and Best Buy has proved to be a good investment as well. After buying 1300 shares of TGT at $\$ 51.15$ by the end of the week, Target raised $\$ 6.02$ ! (See Table 7.8.3.2) The research has shown to be trusting, and now the investor has a great chance to make profit. By applying a sell stop limit at a price higher that the cost of the transactions earlier the investor will be safe from losing any money in the future, thus he will not have to constantly check up on the share price in order to know when to sell.

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 20-Nov | TGT | Buy | 1,300 | 51.15 | $66,505.00$ | - |
| 23-Nov | BBY | Buy | 150 | 47.95 | $7,202.50$ | - |
| Total Profit |  |  |  |  | - |  |

Table 7.8.3.1: Week 7 Transactions 11/12-11/16
\$10.00/Trade Commission Included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| BBY | 150 | 48.02 | $7,203.00$ |
| TGT | 1,350 | 57.17 | $77,179.50$ |
| Cash |  |  | $1,084.50$ |
| Total Portfolio Value |  | $85,467.00$ |  |

Table 7.8.3.2: Week 7 Portfolio Value 11/12-11/16

### 7.9 Week 8: 11/26/07-11/30/07

### 7.9.1 Research

No further research has been conducted. The value investor has been watching the status of Target and Best Buy below are the two quotes as of $11 / 27 / 07$. One can notice that both are rising however to be safe a sell stop will be added. This sell stop will have to be close enough to the current value for more profit, but with some room so the transaction is not sold prematurely due to common daily fluctuations.


Figure 7.9.1.1: TGT quote as of 11/27/07 (Provided by Yahoo Finance)


Figure 7.9.1.2: BBY quote as of 11/27/07 (Provided by Yahoo Finance)

### 7.9.2 Course of action

A Sell Stop Limit at $\$ 56.00$ has been made for target, and at $\$ 48.00$ for BBY, these stock will be sold immediately at market price once the limits are breached, if the stock rise enough these limits will be increased.

### 7.9.3 Results

During week 8 both stocks have increased in value, and the value investor is calculating the right limits to set on the sell stop feature. One can view the results on the table below.

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| BBY | 150 | 51.05 | $7,657.50$ |
| TGT | 1,350 | 59.97 | $80,959.50$ |
| Cash |  |  | $1,084.50$ |
| Total Portfolio Value |  | $85,467.00$ |  |

Table 7.9.3: Week 8 Portfolio Value 11/26-11/30

### 7.10 Week 9: 12/3/08-12/7/08

### 7.10.1 Research

No further research has been conducted. TGT has begun to lower toward the Sell stop limit, and best buy has remained stable around the $\$ 50.00$ mark. During the rest of this week and next week, the last week of the simulation, all of the shares will be sold and the total cash remanding will be the final portfolio value.

### 7.10.2 Course of action

TGT has lowered beyond its limit of $\$ 56.00$ and was sold at $\$ 55.79$; BBY was held and has continuing to increase on share price.

### 7.10.3 Results

A profit of $\$ 6,012.00$ was made from the 1300 shares of TGT bought at $\$ 51.15$ and a small loss of $\$ 373.00$ from the TGT shares bought prematurely earlier in the simulation.

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 7-Dec | TGT | Sell | 1,300 | 55.79 | $72,517.00$ | $6,012.00$ |
| 7-Dec TGT | Sell | 50 | 55.79 | $2,779.50$ | 373.00 |  |
| Total Profit |  |  |  |  | $5,639.00$ |  |

Table 7.10.3.1: Week 9 Transactions 12/03-12/07
\$10.00/Trade Commission Included

| Symbol | Volume | Week Closing | Asset Value |
| :--- | :--- | :--- | :--- |
| BBY | 150 | 52.71 | $7,906.50$ |
| Cash |  |  | $76,381.00$ |
| Total Portfolio Value |  | $84,287.50$ |  |

Table 7.10.3.2: Week 9 Portfolio Value 12/03-12/07

### 7.11 Week 10: 12/10/07-12/14/07

### 7.11.1 Research

No further research has been conducted.

### 7.11.2 Course of action

To end the simulation all of my Best Buy shares have been sold.

### 7.11.3 Results

Best Buy was sold at $\$ 51.88$ a share yielding a total profit of $\$ 569.50$, see Table 7.11.3.1. With a beginning Portfolio Value of $\$ 100,000$ and a final Portfolio Value of $\$ 84,153.00$ the total profit is $-\$ 15,847.00$ for the simulation. With out the two mistakes made in the beginning of the simulation, the strategy used in this experiment has proved to be successful and investors should be aware of the risks that are involved while using this strategy. This investor has learned that when a company is listed in the market at a bargain price, there is usually a reason, and the company may be on a downward trend, thus patience and watching the stocks behavior are crucial in becoming a better investor. The final results are shown below in Tables 7.11.3.1 and 2.

| Date | Symbol | Action | Volume | Price | Cost/Proceeds | Profit |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 11-Dec | BBY | Sell | 150 | 51.88 | $7,772.00$ | 569.50 |
| Total Profit |  |  |  |  | 569.50 |  |

Table 7.11.3.1: Week 10 Transactions 12/10-12/14
\$10.00/ Trade Commission Included

| Symbol Volume $\quad$ Week Closing | Asset Value |  |
| :--- | :--- | :--- |
| Cash |  | $84,153.00$ |
| Total Portfolio Value |  | $84,153.00$ |

Table 7.11.3.2: Week 10 Portfolio Value 12/10-12/14

## 8. Analysis and Comparison

### 8.1 Comparison of Strategies

Among the four strategies used in the simulation, the Fundamental Trading strategy had the best results in the long run. Although the strategy performed better than the others, the investor using it did not earn any additional money. Below are the standings of all the strategies at the end of the simulation, See Figure 8.1 and Table 8.1.

1. Fundamental $\$ 97,582.00$
2. Value Investing $\$ 84,153.00$
3. Growth/Momentum $\$ 83,177.03$
4. Penny Stock Trading $\$ 38,623.17$


Figure 8.1: Portfolio Values

|  | Value Investing | Fundamental | Growth/Momentum | Penny Stock |
| :--- | :--- | :--- | :--- | :--- |
| Week 1 | $101,080.00$ | $103,155.00$ | $97,206.00$ | $94,923.16$ |
| Week2 | $95,858.75$ | $99,092.00$ | $95,230.00$ | $87,188.16$ |
| Week 3 | $86,756.50$ | $108,199.00$ | $97,301.00$ | $82,088.17$ |
| Week 4 | $83,901.50$ | $110,899.00$ | $99,928.92$ | $81,050.17$ |
| Week 5 | $79,152.25$ | $90,862.00$ | $90,181.66$ | $53,526.17$ |
| Week 6 | $77,486.00$ | $88,801.00$ | $93,256.60$ | $44,769.17$ |
| Week 7 | $85,467.00$ | $83,068.00$ | $88,471.58$ | $36,723.17$ |
| Week 8 | $89,701.50$ | $90,833.00$ | $87,466.00$ | $39,408.17$ |
| Week 9 | $84,287.50$ | $91,323.00$ | $86,832.00$ | $40,680.17$ |
| Week 10 | $84,153.00$ | $97,582.00$ | $83,177.03$ | $38,623.17$ |

Table 8.1: Weekly Portfolio Values

### 8.2 Benefits of Strategies

### 8.2.1 Fundamental Trading

The Fundamental Trading approach was beneficial because some aspects of the strategy relied on information such as financial reports and earning reports that had been analyzed by other experts in the field. When using the strategy accordingly the risks involved are minimized, though not eliminated. Earning announcement and financial statements are very important because it's the period of time when the company will state whether it exceeded or failed to meet their earning expectations in term of yearly or quarterly. Depending on the reports a short-term momentum will occur, and this is an opportunity for a trader to immediately participate and take advantage of. A failure to meet earning expectation can result in lower stock prices, while exceed or meet earning expectation can result in higher stock prices. An example of this is NVDA, with its expected to increase its earning reports prediction for year 2008; it helped cause a short
period of momentum, therefore in the end selling for a profit. Another instance is VMW, the successful quarterly reports helped recover the stock from low $\$ 80$ 's back to the mid $\$ 90$ 's. When using the information accordingly, profits rather than losses are made.

### 8.2.2 Value Investing

The Value Investing trading approach had some benefits in this simulation. Because the approach can be used to find a bargain price, the use of common knowledge proved to provide alternate criteria for intrinsic value guesses. When the combined knowledge of retail facts, from yearly studies, was used to predict an estimated value of share prices for Best Buy and Target during the simulation. The investor was able to create profit of companies that weren't necessarily projecting a bargain price. These stocks however where proving to be less than average compared to the Christmas holiday during the previous year. Thus this approach was able to bring back a large chunk of cash to the investors account.

### 8.2.3 Growth-Momentum Trading

The Growth-Momentum strategy was fairly successful when the simulation commenced and progressively became less profitable over the ten week period of the simulation. This strategy relies on investments that have a good historical performance and are on an upward trend in terms of the stock price. It is a somewhat "safe" approach which targets companies that are growing or which have strong growth potential in terms of the products or services they offer. This strategy capitalizes on existing upward trends
as the investor rides the momentum wave and gets off right before it crashes. This proved to be successful in short term investments but was considerably poor in the long run.

### 8.2.4 Penny Stock Trading

The Penny Stock approach can be very advantageous to someone with limited funds looking to make a quick buck. In comparison to the other strategies used the change in profit/loss happens much more quickly. If you have a $\$ 0.10$ stock and it changes by even a penny you are going to make a $10 \%$ profit. If you have only $\$ 50,000$ to invest that is going to maximize your gains in a very short period of time. If you chose the right stocks and get out when the stocks are at there highest you can make vast amounts of money in the shortest period of time. On the first day of trading I had ended with a profit of over $\$ 10,000$. Had the stocks been sold then, the portfolio would have profited. If used properly and heavily researched with a little bit of luck you can make a bundle of money very quickly.

### 8.3 Disadvantages of Strategies

### 8.3.1 Fundamental Trading

The disadvantages of Fundamental Trading are dependence on information and rumors. Using such information as an edge in trading is very difficult because there are many others looking for the same edge. Also since many financial and earning reports are only announced in certain periods, Fundamental Trading is rather for mid/long term profits. Since trading on fundamentals is more closely involved with mid or long term
trading rather than short-term trading profits may or may not be successfully earned. Not knowing the outcome of earning/financial reports whether it failed, met, or exceeded expectations is another disadvantage. A failure to meet earning expectation can result in lower stock prices, leading to negative or lesser profits. There are certain specific instances in which using fundamental trading can generate some nice profits in a short period because of unexpected mergers, splits, increased earning reports and etc.

While earning and financial reports are annual/quarterly and can easily be researched or anticipated, finding information on mergers and stock-splits are very hard. Rumors and speculation of these certain events are risky trading proposition because it may cause extreme stock price volatility. Therefore selling and buying during the wrong phases, can result in losses rather than profit. An example is AAI earlier in the weeks of the simulation, speculative mergers help caused an increase of the stock, but it then soon quickly declined, in the end the stock was sold below purchase price therefore resulting in profit losses.

If a successful merger, stock-split, earning and financial reports happens to cause a momentum surge for a stock, the problem is when to sell. Throughout the simulation, many stocks in the portfolio greatly increased in value, i.e. VMW and EMC during Week 4 surged to $\$ 125$ and $\$ 25$ respectively. The problem occurred when this investor decided to "hold" to these stocks because thinking it will still increase and riding part of the momentum curve. The following weeks, the stock dropped considerably in value, the decreased was below the buying price, therefore a loss in profit. The miss opportunity to sell when the stocks when at its peak and the illusion of thinking the stock will recover which proceeded to have severe consequences. In the end, the fundamental strategy
proved to be in successful in finding some stocks that can profit greatly from, but did not because of the poor judgment and actions of the investor itself.

### 8.3.2 Value Investing

Many disadvantages surrounded the value investor during this simulation. One is the market itself. The market has been doing very well lately. In fact it has reached recorded highs during the ten week simulation. Because the prices have been so high lately one can never tell when a company is at its true value, or projecting a bargain more or less. Expert analysis could help provide accurate details on a company's true value, but as a new comer to the world of stocks this was out of question.

Another disadvantage that the value investor encountered during this simulation was the risks that were involved in buying bargain shares. These stocks were low for a reason and no one can tell when these share prices would rise. For instance, CMCSA had dropped considerable during the simulation; in fact it never increased again since the second week.

Let's just say that this investor has learned a great lesson from stocks like these. This investor has learned never to put money into a stock until you have watched it for awhile. Or, if you have high confidence, put a little money in, as done with TGT, then wait until one can notice a real change and invest the rest of the money into the companies' shares. This strategy proved to be successful as this investor took his time with TGT and ended with a net gain of $\$ 5,639.00$, the most profit made from all of the strategies in one transaction

### 8.3.3 Growth-Momentum Trading

The main disadvantage of the Momentum-Growth strategy was that it proved to be difficult to predict when the stock prices were going to drop. During the simulation some of the stock prices such as Microsoft drastically fell in a span of one day by $20 \%$. The strategy would be beneficial if the stock prices were to fall gradually as opposed to instantaneous drops such that the investor would be able to sell the stock at a higher price that the cost price. The inability to control the rate at which the prices drop was the main shortcoming. Due to this, the investor had to adjust the strategy and sell off stocks before they actually began to fall in price. As soon as the stock had made a significant climb that sustained a worthwhile profit, the investor would get off the momentum wave before it began to crash. This was a more conservative approach which made the investor lose out on profits. An example is the Research In Motion stock which progressively climbed in price throughout the ten week simulation. The investor had predicted a fall in its share price which never happened, making him lose out on a potential $\$ 7,000.00$ extra profit should he have chosen to hold on to the stock. He sold it too soon though he was comfortable with the profit it had generated thus far.

### 8.3.4 Penny Stock Trading

The Penny Stock strategy has shown in this IQP just how disadvantageous it can be. Penny stock trading is very volatile. Among all the strategies attempted penny stock trading proved to be the least successful. The goal of the IQP was to try to determine of the four strategies used which will be the most profitable. With the investments used for short-term penny stock trading there was no profit. It was all loss. In the very beginning
of the simulation there was profit. Week 1 had a profit of $\$ 3649.15$. Week 4 also showed a profit of $\$ 1772.00$. I ended the simulation with a loss of over $\$ 62,000$. That is over $\$ 6,000$ a week. I think that penny stocks are not as easy to deal with on a level that was used in this project. It takes an extensive knowledge of the stock market and a lot of time. A person must be able to trade almost any moment of any day to be able to make a profit. All that needs to happen to lose money of a penny stock is that it starts to go down even as little as a fraction of a penny and that starts others selling and the price drops. Most of penny stock trading is revolved around stock hype and not hard data. A stock can look like it will do awesome but that doesn't necessarily mean it is going to happen. Penny stock trading is a lot about luck.

Throughout the IQP the penny stocks chosen have all declined. Had any one of the stocks chosen in this IQP been bought and held from the very beginning every one would have lost money. Penny stocks are much too risky for a common investor to use. An investor who plans to be profitable in this market must know about the stock being invested in as well as how many others feel about this stock. Unlike a typical stock where if the company is showing profit the stock will typically grow, a penny stock this isn't always the case. It is more followed by trends. If the stock starts to rise people jump on the bandwagon and it will continue to rise. Just as fast as it rises it can plummet. All of which may have been triggered by a few single investors buying stocks on a hunch. For all these reasons we believe penny stocks are not worth the risk.

## 9. Conclusion

### 9.1 Review of Investopedia

Investopedia has proved to be a great resource to learn and educate new investors and students looking into the stock market. As a group we feel that the web site provided a lot of information for research and analyzing data. The simulator was as accurate as anyone can ask and there were very few problems along the way with the program. Investopedia allowed members to access news articles about any and every company, review trade history, strategy guides, user takes, professional opinions, watch stocks, place sell limits/ buy limits, and provided a commission cost to users to help simulate real life trading. Investopedia has really provided a great simulator for us to conduct our research with and we highly recommend the program to all people that what to learn, or would like to test strategies of their own.

### 9.2 Final Thoughts

After the ten week simulation it is safe to say that we accomplished our goals set forth before the project began. We learned analytical skills, how to research better, work together, and most importantly how to invest our money. The simulation provided tons of knowledge on the risks an individual must take to invest in the stock market, and the project led us to learn of the many other ways to invest money. Although the investors/traders in the simulation all had profit losses each strategy had strong points during the simulation. These profit losses were not from the strategies used, but as the result from poor judgment/actions by the investors. These strategies could have been used more effectively and resulted in a more successful outcome but because the
investors/traders were new to the stock market, mistakes were expected and lessons were learned. In the future we are confident that given another chance in a simulation or a real world situation the strategies would be used in a more successful manner using the lessons we learned from our experience.

## Bibliography

1. Stock Market History. 2004. RankUhigh.com. September 2007
<www.stockmarketinvestinginfo.com/smi_history.html.>.
2. Mutal Funds. 2008 February 2008. Wikipedia Foundation, Inc. 02 September 2007 <www.en.wikipedia.org/wiki/Mutual_Funds>.
3. Certificate of deposit. 13 February 2008. 02 September 2007
<www.en.wikipedia.org/wiki/Certificate_of_deposit>.
4. Bonds. 2 February 2008. 02 September 2007
<www.en.wikipedia.org/wiki/Bond_\(finance\)>.
5. Real Estate. 18 Feburary 2008. 02 September 2007 <www.en.wikipedia.org/wiki/Real_estate>.
6. Gold. 15 February 2008. 02 September 2007 <www.en.wikipedia.com/org/wiki/Gold>.
7. Gambling. 16 February 2008. 02 September 2007 <wwww.en.wikipedia.com/org/wiki/Gambling>.
8. Investopedia. 2008. 200728 August <www.investopedia.com>.
9. InvestopediaStaff. The Lowdown on Penny Stocks. 2008. 200720 August [http://www.investopedia.com/articles/03/050803.asp](http://www.investopedia.com/articles/03/050803.asp).
10.     - Introduction to Types of Trading: Fundamental Traders. 2008. 20 August 2007 <www.investopedia.com/articles/trading/02/100102.asp>.
11. VMW. 18 Feburary 2008. 02 September 2007
<www.en.wikipedia.org/wiki/Vmware>.
12. About Us. 2008. 25 September 2007 [http://vmw.com/company/](http://vmw.com/company/).
13. EMC Corp. 2008. October 2007
[http://stocks.us.reuters.com/stocks/fullDescription.asp?symbol=EMC](http://stocks.us.reuters.com/stocks/fullDescription.asp?symbol=EMC).
14. Tech Trader Daily. 2008. 19 August 2007
[http://blogs.barrons.com/techtraderdaily/2007/08/20/why-both-emc-and-vmware-are-cheap-right-now/](http://blogs.barrons.com/techtraderdaily/2007/08/20/why-both-emc-and-vmware-are-cheap-right-now/).
15. Intel Corp Stock Quote. 2008. 29 October 2007 [http://stocks.us.reuters.com/stocks/overview.asp?symbol=INTC.O](http://stocks.us.reuters.com/stocks/overview.asp?symbol=INTC.O).
16. Company Info. 2008. 10 November 2007
[http://www.nvidia.com/page/companyinfo.html](http://www.nvidia.com/page/companyinfo.html).
17. Dell Inc Stock Quote. 2008. November 2007
<http://stocks.us.reuters.com/stocks/overview.asp?symbol=Dell\&searchtype=sym bol>.
18. Bergen, Jason Van. Introduction to Type of Trading: Momentum Traders. 2008. 15 2007<www.investopedia.com/articles/trading/02/090302.asp>.
19. Research in Motion. 2008. October 2007 <www.finance.yahoo.com/q/pr?s=RIMM>.
20. 3M Co. 2008. 2 October 2007 <www.finance.yahoo/q/pr?s=MMM>.
21. Cisco. 2008. 4 October 2007 <www.finance.yahoo.com/q/pr?s=CSCO>.
22. Hi-Shear Technology Co. 2008. 5 October 2007 <www.finance.yahoo.com/q/pr?s=HSR>.
23. Ford Motor Co. 2008. 15 October 2007 <www.finance.yahoo.com/q/pr?s=F>.
24. Power Shares Defence. 2008. 15 October 2007 <www.finance.yahoo.com/q/pr?s=PPA>.
25. Microsoft. 2008. 25 October 2007 <www.finance.yahoo.com/q/pr?s=MSFT>.
26. Value Investing. 2008. 20 August 2007
[http://www.investopedia.com/terms/v/valueinvesting.asp](http://www.investopedia.com/terms/v/valueinvesting.asp).
27. Dupret, Rich. Pennies on the Dollar Tree. 2008. 5 October 2007 <www.fool.com/investing/value/2007/10/05/pennies-on-the-dollar-tree.aspx>.
28. Cramer, Jim. "Mad Money Television Series." CNNBC. 2007.
29. Observer, IHF-Investor. Best Buy Newsbite. 12 November 2007. 13 November 2007 [http://www.marketintelligencecenter.com/article.aspx?story=473928\&s=6161](http://www.marketintelligencecenter.com/article.aspx?story=473928%5C&s=6161).
30. Gutierrez, Carl. Target Misses Mark. 20 November 2007. 22 November 2007
<www.forbes.com/2007/11/20/target-retail-discount-marketscx_cg_1120markets20.html>.
