

LB/DON/32/2012

LIBRARY  
UNIVERSITY OF MORATUWA, SRI LANKA  
MORATUWA

# INVESTOR GUIDE AND PORTFOLIO MANAGEMENT SYSTEM

B.M.T.Chanddike



University of Moratuwa, Sri Lanka.  
08/10032  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

University of Moratuwa



102527

Faculty of Information Technology

University of Moratuwa.

August 2011

004 "11"  
004 (043)

TH

102527

102527

# INVESTOR GUIDE AND PORTFOLIO MANAGEMENT SYSTEM

B.M.T.Chanddike

08/10032



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

Dissertation submitted to the Faculty of Information Technology, University of Moratuwa, Sri Lanka for the partial fulfillment of the requirements of the Honours Degree of Master of Science in Information Technology.

**August 2011**

## Declaration

We declare that this thesis is our own work and has not been submitted in any form for another degree or diploma at any university or other institution of tertiary education. Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references is given.

B.M.T.Chandike

**Name of Student**



**Signature of Student**

Date: 15/09/2011

Supervised by



Dr. Prasad Wimalaratna

**Name of Supervisor**

University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)



**Signature of Supervisor**

## Dedication

**I dedicate my whole efforts in working this project to**

“My affectionate & kind parents, Lectures, family members and to all people who guided me, helped me & provided information related to stock exchange”



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

## Acknowledgements

I would like to thank the people who have helped and contributed to the completion of this project. Firstly, I would like to express my sincere thanks to Dr. Prasad Wimalarathna supervisor of this project. Since first approaching him about the project, he has given immense encouragement, his consistent guidance and motivation throughout the project helped make it a success.

My sincere gratitude should also be expressed to Mr. Saminda Premarathne, Coordinator of Msc(IT) programme for his guidance and support. Further I have to thank Mrs.B.L.Chandrawathi who has done proof reading of this report.

Last but not least I want to thank my co-staff at the Advanced Technological Institute and my classmates for their invaluable advice and constructive criticisms. Heartfelt thanks also have to go to my family for their support and limitless patience.



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

## Abstract

The project describes the development of a software application that is implemented as a Java application. The functionality of the application includes the ability to manage individual investor's portfolio as well as get some help to make good investment decisions. It includes some graphics such as candlestick charts, price comparisons and price movements.

The purpose of this software is to help individual investor to track and analyze investment portfolios composed of stocks and help them to make good investment decisions. In addition to that this software describe a methodology to make investment tips (which would be useful to make investment decisions) and provide facility to manage portfolio of an investor. The aim of this study was giving a software solution for the problem of maximizes the gain from stock market transactions and keeps transaction records in a useful manner of an Investor.

The interaction between the user and program will occur through a Graphical User Interface, which will be based on Java's Swing Application Programming Interface.

This software was developed to give the user an environment to keep track of their portfolio in an efficient manner and help them to make good investment decisions. Through the use of Java and mysql, this has been achieved

## Contents

	Page
Chapter 1 – Introduction	01
1.1. Background	01
1.2. Purpose	03
1.3. Motivation	04
1.4. Aim and Objective	07
1.5. Scope	08
1.6. Structure of the report	08
Chapter 2 –Literature Review	10
2.1 Introduction	10
2.2 Overview of Others approaches	10
2.3 Summary	13
Chapter 3 – Technology Adopted	14
3.1 Introduction	14
3.2 Why these technologies are appropriate	14
3.3 The basics of Japanese candlesticks	16
3.4 Summary	21
Chapter 4 – Analysis and Design	22
4.1 Introduction	22
4.2 SWOT Analysis	22
4.3 Functional requirements	23
4.4 Non functional requirements	24
4.5 User characteristics	24
4.6 Deployment diagram	25
4.7 Architectural design	25
4.8 Use case diagram	28
4.9 Use case specifications	30
Chapter 5 – Implementation	39
5.1 Introduction	39
5.2 Choosing an IDE	39
5.3 Tools used to develop the system	39
5.4 Main menu	40
5.5 Modules of IGPMS	41

5.6	Pseudo codes	42
5.7	Summary	43
<b>Chapter 6 – Evaluation</b>		<b>44</b>
6.1	Introduction	44
6.2	Basic details of the participants	44
6.3	Design of the questioner	44
6.4	Main findings	45
6.5	Overall evaluation	48
6.6	Summary	48
<b>Chapter 7 – Conclusion and Further Work</b>		<b>49</b>
7.1	Introduction	49
7.2	Conclusion	49
7.3	Further Work	50
<b>8.0 List of References</b>		<b>51</b>
<b>9.0 Appendixes</b>		
9.1	Appendix A – Source code of the main class	52
9.2	Appendix B – Questioner for evaluation of IGPMs	68
9.3	Appendix C – List of Abbreviations	72





## List of Figures

		Page
Figure 1.1	All Share Price Index 200 to 2010	4
Figure 1.2	Inflation rate in Sri Lanka during 2008 and 2009	6
Figure 1.3	Interest Rate 2008 to 2009	6
Figure 1.4	Stock market performance comparisons 2009	7
Figure 3.1	Java 2 Platform Standard Edition	14
Figure 3.2	Bullish and Bearish Candles	17
Figure 3.3	Bearish Dark cloud cover Candle	18
Figure 3.4	Doji Pattern	19
Figure 3.5	Four price Doji pattern	20
Figure 4.1	Deployment Diagram	25
Figure 4.2	Architectural Design of the System	27
Figure 4.3	Interactions between main components	27
Figure 4.4	Use case diagram for IGPMs	29
Figure 4.5	Activity diagram for the use case "Login"	30
Figure 4.6	Screen Prototype for use case "Login"	31
Figure 4.7	Screen Prototype for use case "Add/Edit/Delete Transaction"	32
Figure 4.8	Activity Diagram for use case" Add/Edit/delete Transaction"	33
Figure 4.9	Activity diagram for the use case "Change tax policy"	35

Figure 4.10	Screen Prototype for use case “change tax policy”	35
Figure 4.11	Screen Prototype for use case “change password”	36
Figure 4.12	Screen Prototype for use case “Stock Calculator”	37
Figure 4.13	Screen Prototype for use case “Perform price comparison”	38
Figure 4.14	Sample Output of “Perform price comparison”	38
Figure 5.1	Main menu of the IGPMS	40
Figure 6.1	Usability of the system	45
Figure 6.2	User response for the investment tips	46
Figure 6.3	User Interface satisfactions	47
Figure 6.4	Overall evaluation results	48



## List of Tables

		<b>Page</b>
Table 4.1	SWOT Analysis	22
Table 4.2	Major Components of the System	26
Table 4.2	Main use cases	28
Table 6.1	Evaluation result summary	47



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)