Smart Trading Widgets for Traders

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Abstract - Trade is the action or activity of buying and selling goods and services. The actual situation of all the business trends have expanded business into online transaction of goods and services and literally it has a great impact on sale of business. Online trading was introduced in the beginning of 21st century. By today it has become one of the most popular activities in the modern society. Although many people tend to become traders, it may not be suitable for everyone. It takes a lot of time, effort and knowledge to perform a trade in an accurate way. This area is still in need of monitoring past trading patterns, current situation, market researches etc. The prudent use of trade can boost a country's development and create absolute gains for the trading partners involved. But complexities such as confusion, lack of confidence, being stuck in a circle, taking improper actions etc. may lead to failure. With the busy lifestyle of people, time has become a valuable aspect. This research describes a methodology to solve the above mentioned problems by addressing trading markets with the use of interactive widgets. With the use of this system users will be able to identify profitable markets, do analysis and make a profit through trading. First, this include the survey, held to get an idea about existing systems results and the conclusion of the survey. Rest of the paper contains solution specification, solution design with the Top level architecture, implementation, evaluation, limitations and further work.

Key words -Online trading, trading patterns

I.   INTRODUCTION

Treading simply means exchange item for another. This process is understood to be the exchanging of goods for money or in other words, simply buying something [6]. With the technological development many people tend to become traders. Although it is not suitable for everyone. This need better knowledge and good business sense to get profit through trading. Monitoring past trading patterns, current situation, market researches are helpful for traders in decision making process. Time is very important aspect for them when trading. Although it is hard to manage with the busy lifestyle of people.

Trader has to think twice about future, available options and capabilities before make a decision. Confusion, lack of confidence, being stuck in a circle, taking

improper actions may lead to failures. And also they have lack of knowledge when they first enter into the field. New traders may lose valuable assets due to bad decisions they take. Investors, who enter into trading for the first time, try to go with the flow and get immersed in technology and forget that they are actually using their real money [4]. Even though there are many new technologies to help traders still it takes some what of extra effort when working with them. Therefore they have to get knowledge through hard working to be successful and adapted to the market system and start making profits.

A solution for the above mentioned problems is discuss through this paper which may useful for traders to identify profitable markets, do analysis and make profit through trading.

II.   RELATED WORK

Because of the importance of this field there are considerable number of similar systems to address the problems faced by traders when trading. But those have different features and have some drawbacks.

eToro is one of those systems which was started as RetailFX in 2006. This provide user friendly interface and platform to do online Currencies, Indices, Stocks and Commodities. Trader's trading accounts can be monitored and interaction with other traders in the social network is possible. Although this provide wide range of facilities, it charges a deposit amount to create an account and does not show the full history of a trader.

TradingView has five basic features, platform independence, solid charts, easy

multi-timeframe analysis, access to other markets and great charting feature[7]. They have 8 types of widgets namely real-time chart widget, market overview widget, fundamental chart widget, market mover's widget, economic calendar widget, ticker widget, symbol overview widget, forex cross rate widget [5]. Complexity in the process of opening new account, do not support android and iOS, complex interface are some of the disadvantages of this system[9].

Alta Vista Trading Limited introduced IQ option in 2013 with the goal of providing fun trading experience. Home page is consist of 3D charts with candles and quotes. The platform used is similar to a real dedicated trading platform. User able to view history and this uses simple interface. This contains an education system filled with training videos. This supports Android and iOS. Although this provide such facilities, this system restricted to a small number of countries in the world and also this contains less number of chart types.

Bittrex is a crypto trading platform built and operated in United States. Special features in this system can listed as more reliable security technologies, custom trading engine, faster execution of orders and this provide complete REST API for developers. But this do not have unique mobile application which provide features as web. This is the most significant drawback of this system.

III   SURVEY, ITS RESULTS AND CONCLUSION

A survey was carried out to identify the features that users requires from a trading system. Some of these systems lack in most important functions a trading system should have. Most of these systems have focused on customer attraction but not

much on operations. Limited availability, slowness in operation, system crashes, complexity of the system are some common problems of existing systems. Customizability, Android and iOS support, variety of chart types, review history, simple interface are some features traders requires[3].

IV   SOLUTION SPECIFICATION

According to the requirements of traders following specifications can be extracted for the proposed system:

- User Account
- Customizability
- Android and iOS support
- Variety of chart types
- Review History
- Simple Interface
- Open source

V   SOLUTION DESIGN

The system consist of four modules namely User Login Module, Graphical Module, Trading Module and Data Input Module. The main module consist of four sections as data tier, logic tier, business tier and application tier. Figure 1 show the modules in proposed system.
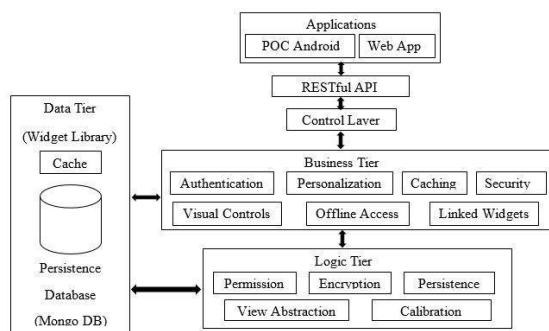

Figure 1 : Top Level Architecture of the system

A. User Login Module

In this module user able to login or sign up into the system. If the user is already a member, user can login. If the user is not a member he/she can sign up by providing his/her information into the system.

B. Graphical Module

Stock details are displayed to the user with widgets. Users can see the graphs about Stock prices, percentage changes etc.

C. Trading Module

In this module user can select shares from companies and add to favorites as they wish. Also they can remove a particular share which is in favorites.

D. Data Input Module

In this module the developer (database manager) can enter the data into the database. Such as User details (Name, User ID, password, email), Developer details (Name, Developer ID)

VI   IMPLEMENTATION

For the first time user can open an account by providing relevant information and information will be validated before create an account. Next time user can log to the system by providing email and password. When user logged to the system he/she can view account, update and terminate the account. User can see

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trading details as widgets. They are able to add to favorites and remove from favorites. The administrator of the system is able to view the summary and manage accounts. There is a guide page to add tutorials. The mobile application of the system implemented using Ionic 2 and the database developed by using Mongo DB[8]. AngularJS had used to create user interfaces and connect software components. To transfer data between the server and web application done through JSON[2] which is flexible and easier to use especially when working with JavaScript. Web development had done by HTML 5[1].

VII   EVALUATION

A product assessment makes it conceivable to decide whether the item would be useful to the customer or if some mix of programming items would serve to better preferred standpoint[28]. This system had evaluate in two ways as module testing and user feedback analysis. The test cases that have been used to check the system are as follows. Email should be valid in a format, password should be with 8 characters at least one number, one lowercase and one upper case, reentered password should be same as the entered password, all fields in the

signup, email update and password update should filled and when updating email, previously registered email cannot be used. A questionnaire was designed in order to obtain user feedback from user. This contained seven evaluation aspects and five different rating categories. Separate section for additional comments also included in this questionnaire. The seven evolution aspects are as follows:

- Software's ease of use
- Performance of its intended task
- Reacting speed of the application
- Reliability of the application
- Accuracy of the application
- Look and feel of the software
- Effectiveness of the software

This had used 40 traders to evaluate the system. The graphical summary of user feedback analysis is given in figure 2.
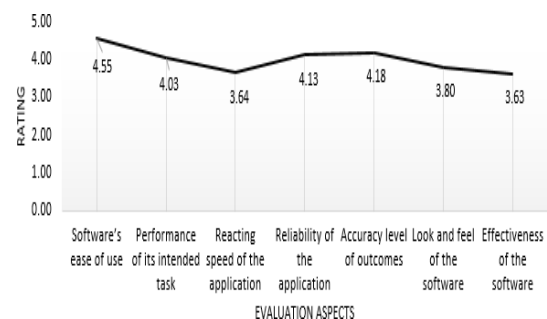

Figure 2 : Graphical Summary of User
Feedback Analysis

After analyzing of feedbacks the overall average rating has obtained as 4. Many users look for software which can easily use. It is difficult to deal with complex software. In this evaluation average rating for Software's ease of use obtained as 4.55. And also users look for high performance software. The average rating for Performance of the intended task obtained as 4.03, 3.64 for Reacting speed of the application, 4.13 for Reliability of the application, 3.78 for Look and feel of the software and 3.63 for Effectiveness of the system. Though there are many aspects that needs to fulfill the accuracy of a software can consider as the most important among those. Accuracy level of outcomes of this software obtained as 4.18.

VIII   LIMITATIONS

There are some limitations in this proposed system. A trader cannot purchase or sell bit coins from market using the system. Currently the data is obtained from Bittrex API so there is only a limited access to trading market. A trader will only be able to maintain a watch list with his/her favorite markets. Notification system need to be added to the system to notify users when an important change happens in the market.

IX   FURTHER WORK

In order to address the worldwide market the proposed system can be further improved. Money handling process needs to be included so a trader will be able to buy and sell stocks. A notification module can be added to the system to give notifications to traders through messages.

X   CONCLUSION

Trading is becoming popular day by day. There are large amount of people engaging in the field and there are many people who are willing to enter to this field. It is important to have clear idea about the field to perform well. But it takes lot of time, effort and knowledge to trade in accurate way. This paper contained an effort of developing a widget based trading platform and a mobile application. This allow to show and control multiple components of a trading application on one screen. The developed platform is useful for traders to identify profitable markets, do analysis and make profit through trading.

ACKNOWLEDGEMENT

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