INVESTMENT PORTFOLIO MANAGER- MOBILE APPLICATION

A.N. ADAPANAWAR[1], VIKRANT KADAM[2], ARJUN RAVAL[3], ASHISH UJJAWAL[4], SAHIL MAGO[5]

[1,2,3,4,5] Department of Information Technology, STES's Sinhgad Academy of Engineering,
Pune-48, Maharashtra, India.
arjun.raval@gmail.com

Abstract

The application of this project is to help the user keep track of his investments and manage his portfolio anytime, anywhere. A system of this sort finds its applications in trading, keeping track of the user's/company's cumulative profit/loss from multiple investments in stocks, mutual funds or fixed income, helping the user keep an eye on the market fluctuations in real-time and aid in financial decision-making even when a user is on the move. The highly interactive and rich Interface of the application is both convenient and inviting to the user, while abstracting the underlying live fetching of data, manipulation and storage. Finally, the techniques will be implemented on standard available hardware without compromising on performance. It takes advantage of Android, the most successful and popular endeavors of Google till date thus offering great potential in a huge market.

Keywords : Portfolio Manager, Finance Aid, Stock Manager, Android Application.

I. INTRODUCTION

Over the past few years, the road to economic empowerment is succeeded by large-scale social and political change, hence the key to a stable society is found in understanding how to invest. The term portfolio refers to a compilation of financial assets such as stocks, bonds and cash. Portfolios may be maintained by individual investors or, as we go higher in the hierarchy, managed by financial professionals, hedge funds, multinational banks or any other institution. Portfolio Management is the art and science of applying your knowledge and making decisions about investments, matching investments to objectives, asset allocation, and balancing risk against performance. This is where Portfolio Manager steps in. It accumulates and displays a comprehensive balance sheet of an individual whereby it provides a list view of all existing and prospective investments and it does it at a negligible cost. It exploits the advantages offered by the Android OS (A Linux based light OS), features like a highly customizable application framework, a rich UI, structured database storage using SQLite and optimized graphics. [5] It performs real time manipulation after fetching raw data over the internet, transforms data into graphs and securely stores all information using SQLite. In the era of smart phones, tablets, mobile banking, high speed internet and Wi-fi services on phone it is more than a mere necessity for smart investors.

II. NEED AND USE OF TRACING LOCATION

Many people whether it be the working class, businessmen or investors have difficulty in keeping track of their assets and investments. Commissions to stockbrokers, gathering mutual funds, exceeded mobile bills, reserving time to pay visits to banks to gather information on bonds and fixed deposits, keeping track of solid and liquid assets. After doing all this a person is still not at ease. The urge to keep track on his own and conserving time at the same time has become a necessity. Smart-phones and the dominance of Android has given the opportunity for developers to develop tools which will help the end users to perform several tasks without the need for a computer, tasks like keeping track of their investments. Various investments can be viewed and updated while a person is mobile. This application will provide user, both domestic and brokers alike, a tool to keep a tab on their investments in real-time, and have more control over their assets. From both the personal perspective and the business perspective, one can easily understand the far-reaching benefits of this application.

The people that this application targets are those who are heavy players in the stock market, are busy and mostly on-the-go for a large part of their time, and are anxious about the value of their assets. A huge benefit of this application is the reduction of the element of human-induced error, which is observed in the traditional way of

an individual communicating his requirements to a broker. Also, this leads to a massive reduction in the expenses he has to endure relaying his ever changing requirements. The updated values of stocks and mutual funds can be checked within a moment provided the person has a GPRS/Edge/3G/Wi-fi connection. The fixed income part of the application lets a person keep a check on his fixed assets, as to when they will mature. Apart from being displayed in the portfolio, the application also places a reminder on the calendar indicating as to when a particular asset is ready for renewal or withdrawal.

III. MOTIVATION FOR THE WORK

The purpose of development of this application is to become acquainted with the required superior technical skills and gaining expertise in the mobile computing and mobile applications. The concept of the Investment Portfolio application came about on the day the Union Budget 2011-12 was released. We were discussing how our friends and relatives were all sitting with their eyes glued to the T.V. all day and making repeated calls to their brokers to enquire about subsequent market movements and affected stock prices. It was then that we conceived this idea to make life easy for the millions of investors out there. We shortlisted the Android OS from the various contenders after a small survey that suggested that it was the fastest growing mobile OS and the first choice of all smart phone buyers. By offering the ability to monitor fluctuations in stocks of interest along with a cumulative tally of other investments, our application offers every person with money in the market and an android phone in the pocket, complete peace of mind.

IV. LITERATURE REVIEW

A recent study by Ruder Finn revealed that many people around the globe are spending about three hours per day on their Smart-phones where they are not just learning, conducting business, managing finances, or emailing.[1] Another survey state that 56% of mobile users all over the world use an Android OS in their phones.[6][7] Furthermore, Android OS users in India are about 7 to 8 lacs (Survey dated Oct 2011). With companies like Micromax and Lava coming up with android devices worth as low as Rs.6000, and the service providers charging internet to users at less than Rs.100, this technology can be easily availed and be beneficial to even the common man. Mobiles are developing into a more and more convenient tool for getting work done on the go. With the advent of today's smart-phones, a mobile is gaining wider acceptance to be used a business tool. Management of assets is a very precise job, where there is no margin for error. Maximum stock related issues is done on computers but the trend of buying and selling has seen a big increase in mobile phones lately.

This application aims to increase the convenience of the user in terms of getting all his different types of assets all together in one place, giving them complete real-time values of their assets. To integrate such a complex site as the NSE website onto the phone requires superior technical skills and thorough mobile application development expertise. Thus one of the purposes of going ahead with this project is to master these skills and gain excellence in learning the mobile platform. The idea behind this project is to study the basic technologies along with existing technologies and to utilize these technologies into building a useful and user-friendly application. The main problem is of bundling the real-time data and providing it to the user in an effective format. This can be solved with superior coding through some application programming interface (API). [5]

Technologies available to cater the same concept:
1.Stock Manager (Blackberry)
2. My Portfolio (Symbian)
 3. Nasdaq Portfolio Manager (iPhone)

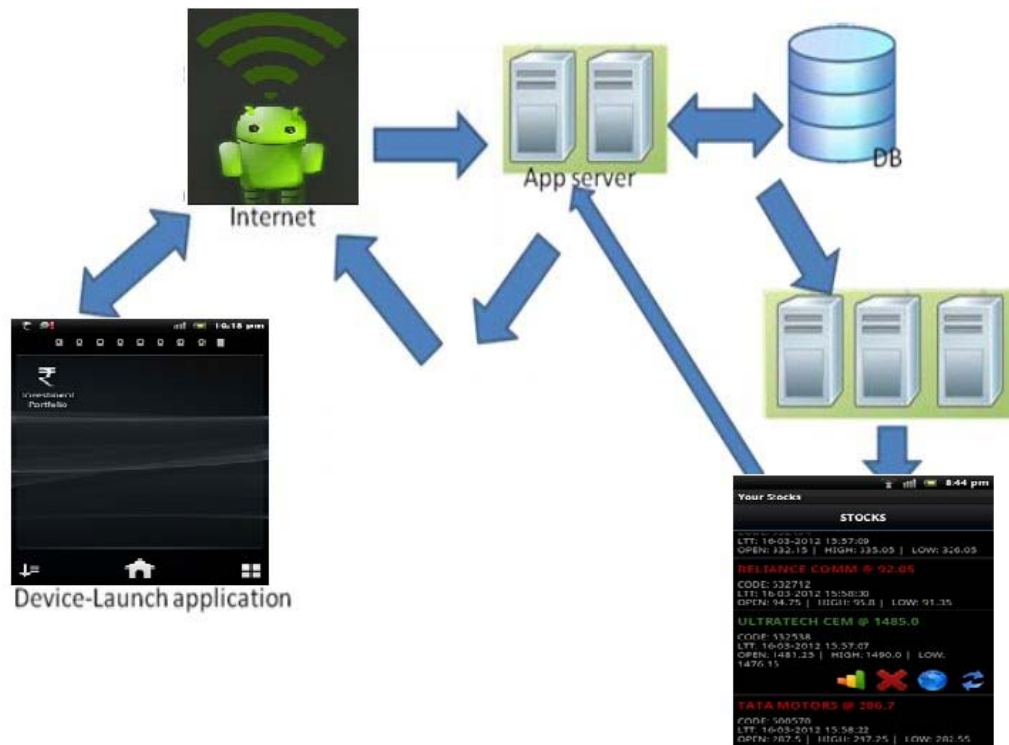## V. GETTING STARTED WITH THE APPLICATION

Figure 1. Real-time Streaming of Data from NSE Server

VI. EXPLANATION OF FLOW

1. The user logs into the application by entering the UserID and password that is cross-checked against values stored in the local database.

2. Once the user has logged into the application, the application checks for Internet connectivity using ConnectivityManager(). [3] [4]

3. If Internet connectivity is there, the application proceeds, otherwise throws an exception.

4. After getting connected to the Internet the application establishes a link to the NSE/BSE exchange server.

5. It continuously requests the foreign server for current values of the Exchange and updates the in-app Sensex display.

6. If the user selects Add stocks and chooses to search for a stock, the app queries the foreign server and returns the results (using simple http:post() and http:get() functions).

7. When a user confirms adding a stock, the current values and denominations entered by the user are stored onto the local SQLite database.

8. The application also uses global search to pull details about mutual funds searched and added by the user.

9. All details are displayed in the User Portfolio and regularly updated.

VII. THE FEATURES OF THIS APPLICATION

The Portfolio manager has 4 main features:
[1] Shares- It allows the user to add, edit the number of stocks and delete stocks to your portfolio. The user also has the facility of maintaining a watch-list that contains stocks of interest which are not a part of his/her portfolio. A graphical representation of the fluctuations in the particular stock price is also available. [2] It will calculate keeping the base value as the price at which you added it and plot a graph accordingly to current scenario.
[2] Mutual Funds- This application provides you with the facility of adding and modifying units of mutual fund/s to your portfolio.
[3]Fixed Income- The user can also add a particular type of fixed income (Fixed Deposit or Public Provident Fund) to the portfolio wherein a reminder is set to the phone's calendar to notify the user one week in advance of his/her fixed income's maturity
[4] Cumulative Portfolio- Ii cumulates the interest rates and the profit /loss from the stocks, mutual funds and the fixed income and displays it to the user in a tabular and pleasant format.
[5] The application uses real-time streaming of data from the NSE/BSE Servers. Hence the values as well as the fluctuations in their values delivered to the user are accurate and always up to date.
[6] The application uses a structured local database called Sqlite hence providing speedy modification and retrieval of data.
[7] The values of stocks and mutual funds in your watch-list as well as portfolio are updated every 5 minutes.

VIII. UTILITIES AND CHARACTERISTICS OF THE PROPOSED WORK

User Class: The single User class of the application is the Investor i.e. the owner of the Smartphone device.
Properties: It may vary from frequently using the software every 20 minutes to an extended amount of time.
Technical Expertise: User must be aware of how to use the Android OS and its features. User must also be well acquainted with using a smart-phone.
 Educational Level: User must have adequate knowledge about investments in the stock-market or in mutual funds or in fixed incomes.
This application will allow the user to access his/her shares list/mutual funds list/ fixed income list from his main portfolio.
The investor will have access to the DB where he can modify his Portfolio to his desires.
The Shares and Mutual Fund values are modified from the main NSE and BSE Servers and this cannot be modified by the user.
Buttons would be placed in such a way that the user finds it easy to learn and control the application.

IX. CONCLUSIONS

Thus we can conclude that the Portfolio Manager is powerful and highly advantageous. Developing this system will prove to be beneficial to the users. This project would save a lot of time and concerns of the users using this application. It also gives the Users an exact knowledge and an easy method of managing his/her Portfolio. We would like to extend our deepest to everyone who supported us.

REFERENCES

[1] S.L. Bangare, A. Jaju, R. Lonari, P.S. Bangare, "Tracing Real Time Location of a friend in Mobile System", International Journal on Computer Science and Engineering (IJCSE), Vol. 4 No. 3 PUB ID: 103-501-202 ISSN: 0975-3397
[2] IEEE Paper: A service-based approach to developing Android Mobile Internet Device (MID) Applications
[3] Learning Android by Marko Gargenta
[4] Beginning Android Application Development by Wei Meing Lee
[5] "http://www.developer.android.com"
[6] "http://www.android.net"
[7] "http://www.stackoverflow.com"