

E – Trading Signal Adviser System based on GCM Services

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Abstract— The E - Trading Signal Adviser system promises the possibility of convenient, easy and safe way to provide advisory service message about Equity, Commodity and FOREX to registered users this system implemented based on GCM (Google Cloud Messaging). Now a day smart mobile terminal is closely integrate with all business, information system this research project provides solution for instant trade marketing system using Android terminal. This android application helps user to access their registered trading service message to a virtual location and where user can immediately react to buy or sell shares from their smart phones. The android terminal is used to develop an E-Trading Signal Adviser System. Google cloud messaging used to send push notifications to registered device. GCM technique provided to efficiently manage security and privacy issues. This paper discusses how traditional advisory system method of pulling can keep a data synchronization over Android terminal and server side. All android terminals have to poll server for updates, which waste a lot of network traffic and mobile phone battery consumption. The result shows that efficiency, effectiveness of information passed over internet is improved; time delay is reduced in proposed system also reduces android terminal power, these messages are provided as notification then stored two days in mobile database for user reference.

Key words: Google Cloud Messaging (GCM), Cloud Computing, Electronic Trading Signal Adviser, One time password (OTP), Mobile computing, Information System, Advisory research

I. INTRODUCTION

Modern finance industries are fully relying on mobile technology. Information and communication technology ICT for finance decision making and advisory is still a challenging task. In fact, the out dated technological concepts for these industries have many drawbacks and could therefore be responsible. Financial Organisations all over the world are using web based trading systems , for it has some striking advantages over traditional system, including security in share, trading accuracy of measuring and analysing shares, options to view shares or buy and sell shares in a centralised manner, etc are in [8]. The reasons why the e-trading technology has not matured to equivalent levels as known for business activities lies mostly in an inherent lack of trust and fear of electronic threats. While most organisations are still conceptualising or testing mobile based trading systems. Yahoo finance, Google finance is having successful development of mobile applications for trading to its full technological maturity for mobile devices. The user can use Internet connection to connect the application through a mobile device with the trading service application. The mobile device used to get instant notification, user profile and details description that are given in the trading service provider database [3]. Figure 1.1

shows the general block diagram of the system is presented into following way to connect with application designed for this e-trading signal adviser also checking with the Google Server to get availability of Play services as in [1] – [2]. GCM implemented for both client application and server application it fetch the message and corresponding mobile number to send fetched message.

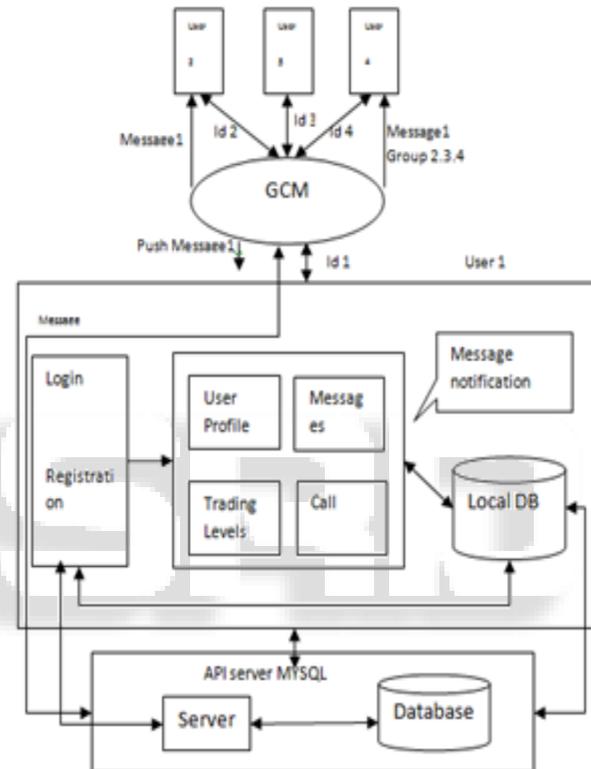


Fig. 1: Block diagram of the e-trading signal Adviser system

GCM Google Cloud Messaging described as in [6] used to push the notification to mobile phones this is very efficient way to transfer messages over internet. Messages are sending from API server to GCM these messages are in encrypted form.

Trading advisory message can be received only to Android system described as in [4]. Service details can be viewed by the application also user can update their profile using the application. Administrator from server side only can manage messaging service so it's a secured system.

II. E-TRADING SIGNAL ADVISER SYSTEM SURVEYS

Android E-Trading system application on smart phone user get message for their registered trading services, an application with an interface for consultation to a page offers the main question to be answered, and together to this page has buttons to click and view message, view user profile and view technical levels. Administrator can see the message transaction a process acceding to the registered

service is received to mobile device. Also check for repeated messages with updates. The user can respond to the message over clicking another button to call and book the share to buy or sell. System can maintain the data about the user like Name, Mobile number, Device id, City, Opted services. Even though the system enables users to view the trading service message anywhere. Initially user has to provide their mobile number for authenticating process. Authentication code will be generate automatically and send to user mobile phone number to authenticate themselves and establish that is (OTP) one time password.

The aim of this work is to design and implement an electronic trading signal adviser application for the Android terminal that will enable people to get trading advisory message securely from anywhere. The application as a whole is aimed at being compatible with devices from many manufacturers and running in different versions of the operating system. The E-trading signal adviser project came to develop a new trading services application in order to prevent a recurrence of the problem in message service providing using API server. The report assesses the magnitude of the problems, root causes and how technology can reduce them. Recent survey address a wide range of “What is” issues including trading service procedures, trading research tools, trade user registration, trading services, service blockage security, providing message instantly, cost and public finance, etc. I propose a novel framework for trading service technology using monolithic trading service provider structures, with Google cloud messaging (GCM) services and propose that a process for innovation be set-up. Also the report provides a set of short-term and long-term recommendation on the various issues related to trading service.

In “Electronic trading signal adviser”, rivets addresses some issues like the “secure platform problem” and” Push notification”. Also provides some personal opinions on a host of issues including the striking dissimilarity between e-commerce and e-trading, the dangers of adversaries performing automated, and wide-scale attacks while trading from home.

A. Yahoo Finance

The Yahoo Finance Internet trading Report addresses the feasibility of different forms of Internet trading services from both the technical and social science perspectives, and defines a research agenda to pursue if Internet trading services is to be viable in the future. It groups Internet trading systems into following category:

B. Remote Internet Trading

It maximise the convenience and access the traders by enabling their services from virtually any location that is internet accessible. While this concept is attractive and offers significant benefits, it also poses substantial security risks.

The report presents some findings on the feasibility of each of these categories and provides research recommendations for the long-term future. It then identifies criteria for trading systems. Finally, it addresses the technological issues like system vulnerabilities, reliability, testing, certification and standards, specifications of source code, platform compatibility and secrecy, etc.

C. MSN Money

The MSN money Internet Trading report suggest of evolutionary rather than revolutionary change towards achieving the goal of providing trading advice service with the opportunity to the user to get their advice at any time from any place via the Internet. The report defines that the Internet trading models – Internet trading at trade market, Internet trading at trading companies, remote internet trading from computer and the corresponding technical and design requirements that must be met when implementing any of the stages. It addresses the advantages, implementation and security issues of each of the above stages. They believe that additional technical innovations are necessary before remote Internet trading adviser service can be widely implemented as a useful tool to improve the trading process and that current technology however would allow for the implementation of new trading adviser systems that would allow user to get trade service message over the Internet from a computer at any one of a number of company-controlled trading services places in a company to a user.

Finally, MSN money presents the findings and recommendations of the task force on policy issues. The report contains a technical analysis of the communication and security issues inherent in Internet trading, along with recommended privacy and security requirements for any Internet trading systems. It also deals with potential Internet-based trading user registration systems and, briefly, with internet feed-back and call back systems as well.

The Free E–Trading Signal Adviser project is dedicated to creating the GNU. FREE Internet trading Adviser system and also advocating Free Software, which is partisan and commercial in origin. Presents a system for secure electronic trading advisory service message provider which does not rely on persistent network connections between user device and the service provider server.

III. E- TRADING SIGNAL ADVISER SYSTEM DESIGN

The system design is very important in most of the system in the world. The limitation of existing system contains reputation about trading services, then not on time notification receiving. For example due to slow internet connection or server down the service message not received to registered device it cause loss to user.

So initially it checks for working internet connection then provide notification alert that new service message has arrived with device services like sound and vibration alerts.

A. Internet Trading using Android and GCM

The user can get trading advice through the mobile as notification where ever the device is located with internet connection. This advice tips can be stored in mobile database for future references this may take less amount of space in mobile memory. It also verify the table and change value in database whether the tips received or not and checked tips read or un-read. Then user can check their advisory graph levels in technical level part if the graph level is in support level then user can buy or sell shares with the tips when can book the share slot.

Tools that used for design the website are:

- 1) Android programming for front end.
- 2) Python script for the middle ware.

3) Mysql as a back end.

Following picture represent the GCM design and connectivity to API server.

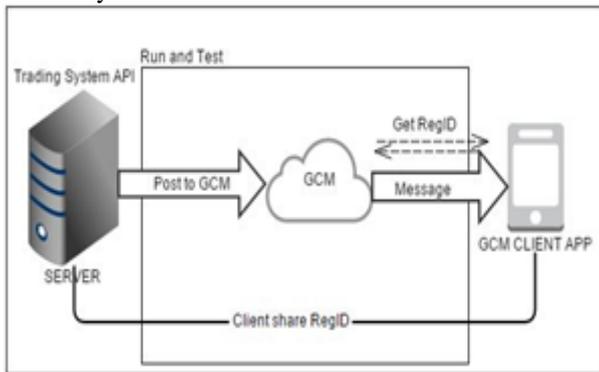


Fig. 2: Google Cloud Messaging API Interaction

B. Advantages of the Proposed E-Trading Signal Adviser System:

The system minimizes the risk of ambiguities as the traders make their choice by touching the screen. E-trading signal adviser could also minimize the need for reports as everything is monitored by computer. It has user friendly interface, very useful data, real time information and No use of Papers and standing in stock market display.

C. Disadvantages of the Proposed E-Trading Signal Adviser System:

Even more accurate advisory tips need to provide to user, electronic failure might occur with such system. The efficient e-trading signal adviser system that I developed is tested with more than 50 traders holding different network from different countries like India, Singapore and Malaysia who registered trading services. The result shows that this system is very efficient and easy to use.

IV. E – TRADING SIGNAL ADVISER SYSTEM SECURITY LEVELS

For the security, a trading adviser system has one time password verification with the registered mobile number and administrator can check whether the registered number connected to the server to receive notifications. Also one of the main reasons this system is secured to transfer service advisory message over internet is because of GCM. The Google Cloud Messaging system has its server to push the notification to registered mobile device. Previously cloud to device message C2DM used to connect with Google play services and send messages. Here the major advantage is notification message is secured and reliable also available at any time even when the system server is not able to communicate from GCM the mobile device received a registration key that will store in system server for further communication. Each time when a device is connected to GCM a message is sent to server that a device is connected as background service to make the communication more secure.

One time password security level in this research is specified for authenticating user and device to connect with the server. Also this OTP stored in database for user reference for further communication it also has connected and not connected values in database. All the server

communication with website and android device are encrypted using base64 encryption standards.

V. REAL TIME TEST RESULT

The System is tested in real time with this result shows that efficiency of the system is depending on the internet bandwidth also reduced application size. System provides accurate technical level values about the company shares then this system works in all the android versions.

VI. CONCLUSION

This research paper proposed a real time efficient e-trading signal adviser system based on Android phone. The system first analyzed Android application based. The usability of this system is very high if it will use in real time share market trading process. It will definitely helpful to the user who wishes to do the trading with their mobile phone very efficiently. Also this system help user to get advisory service message about the shares instantly with notification alert so the process will be made easy by using this application.

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