

TOP SCORER - Improving user data and information access on Android application using Search based Algorithms

^[1] M.Parthiban, ^[2] A.Priyanka, ^[3] K.Abinaya, ^[4] P.Esther Felsiya Sherlin, ^[5] A.Arul Merlin

^{[1][2][3][4][5]} Department of Computer Science Engineering, VSB Engineering College, Karur, Tamil Nadu. INDIA.

Abstract – The Android is a growing technology, which has started to fulfil need with lots of application to make things handy. Top scorer application deals with both the faculty members and the students, and make the notes become more portable and handy. In our application faculty member by using their login, they upload or maintain the notes in web server through mobile. These notes can be able to view or downloaded by the students who had already registered and saved in the form of pdf in android mobiles. By using web methods, we upload and download data from the web server through internet. We also provide chat application to the registered students to ask any queries from their respective staff to upload the notes in the web server. Our application will be more compact and it is supported by most of the android mobiles.

INTRODUCTION

Recently, in our world have the explosive growth of the mobile application market has created a vast and complicated set of alternatives for developers because of an increasingly important role in everyone's life. Consumers are moving to Smartphone mobile devices that are Internet enabled for work and play and, most importantly, with family, friends and colleagues. The mobile software technology consists a wide variety of platforms, technologies, and architecture choices. Therefore, it makes mobile application development easier and cost-effective. Application developers must address both business and technical issues in deciding which platforms to support. There are number of platforms are there to build applications.

Research is in Google's Android and Apple's iOS (short for iPhone Operating System). Research will directly to do a survey of application developers to understand their processes to decide the platform(s) for whom they would like to develop applications and learn about the development processes. Mobile apps have brought tremendous impact to businesses, social, and lifestyle in recent years. Various app markets offer a wide range of apps from entertainment, business, health care and social life. Android app markets, which share the largest user base, have gained a tremendous momentum since its first launch in 2008. According to the report by Android Google Play Store, the number of apps in the store has reached 197 billion in June 2017, surpassing its major competitor Apple App Store. The rise of Android phones brought the proliferation of Android apps, resulting in an ever-growing application ecosystem. As users rely more on mobile devices and apps, the privacy and security

concerns become prominent. Malicious third-party apps not only steal private information, such as contact list, text messages, online accounts, and location from their users, but also cause financial loss to users by making secretive premium-rate phone calls and text messages. At the same time, the rapid growth in the number of apps makes it impractical for app market places, such as Google App Store, to thoroughly verify if an app is malicious or not. As a result, mobile users are left to decide whether an app is safe to use or not. This approach leaves little obstacle for malicious apps to be installed by users.

More specifically, beginning in Android, user grants permissions to apps while the apps are running. Users can also manually revoke permissions from any app, even the ones designed for old versions of Android. Unauthorized communications among apps are prohibited. Android is open source and Google releases the code beneath the Apache License. This open-source code and permissive licensing permits the computer code to be freely changed and distributed by device manufacturers, wireless carriers and enthusiast developers. The information is stored in cloud. Cloud computing refers to usage of high performance computing resources by any web enabled device. The data once stored in the cloud can be accessed from anywhere irrespective of wherever the server is located. The main feature of cloud is that it is a 'Pay as you go' service.

The proposed "TOP SCORER" is to create a qualified android application, which could take control of exam time of the students. In this proposed android application, the students can manage their educational subjects and to improve their knowledge and skills. This application also

provides two facilities to the user. They are, the user can navigate to chitter-chatter menu or group-chat menu. In chitter-chatter menu, he or she can talk with his or her friend. In the group-chat menu, they can make group discussion among their friends and gather more information about a particular topic. Here we integrated Boolean algorithm and Wild card algorithm for user to access the mobile data's and information's.

II. RELATED WORKS:

This related works studies past work in Android versatile applications. A typical topic in a lot of this work is to store essential messages and application data in cloud. M. Kaijali et al., [1] distinguished different vulnerabilities that may damage exam security in e-learning conditions and to plan the suitable security administrations and countermeasures that can be set up to guarantee exam security. It additionally plans to incorporate the subsequent secure exam framework with a current, open-source and broadly acknowledged Learning Management System (LMS) and its administration expansion to the e-learning condition

A. Shukla et al., [2] characterized as there has been no administrations accessible which enables us to store imperative messages and application data to cloud instead of putting away it to telephone itself so we can recoup them whenever at whatever point our cell isn't with us or gets harm or any disaster. The application we created give the usefulness to store messages to cloud and anybody whenever can recover those messages, gave he/she knows the key. Likewise, the client can store the applications data introduced in gadget and recover them at whatever point there is a need. A. Dhale et al., [3] said that College System is to give more less demanding route to the clients to include and recover data rapidly. Understudies can adaptably scan for other understudy and view College timetable and subtle elements, and associate with other understudy and furthermore instructor by means of informing. Instructive establishments or schools to keep up the records of understudies can utilize it.

S. Chakole et al., [4] characterized as grounds condition and understudies can recover data at whenever and at any area. The Android based versatile grounds is utilized to give office to understudies simply like data in regards to library due dates any situation exercises, general notification, participation and imprints points of interest. This data ought to be given to understudies in a financially well-informed way. Understudies can get to

this data utilizing their Android empowered mobiles. R. Zitny et al., [5] identified as the bunch investigation and primary segment examination (PCA), we consider the portable advances as data channels, which conveys learning to understudies. The point of this exploration is assessment of specific information and discovering rules between segments of utilizing versatile innovation by understudies and mapping the execution. The point of our examination is assessment of specific information and discovering rules between segments of utilizing portable innovation by understudies and mapping the execution.

Lopez, J.P et al., [6] said in this project is a pioneer in the introduction and usage of new technologies in e-learning and mobile education. The app enables the users to collaborate in the improving the platform sending their own questions and opinions about the development. G. B. Satrya et al., [7] executed in this paper, remnant information from private visit, mystery talk, and shrouded talk in social errand person applications for Android. We give elucidations of created messages and how they identify with each other. In light of the examination after effects of Android legal sciences and examination in this paper, an examiner or specialist will have the capacity to peruse, reproduce, and introduce the sequence of the messages, which have been made by the client.

O. Urunkar et al., [8] said in this paper, A dynamic system get to arrangement must be created and connected on every understudy's gadget as indicated by predefined conditions. Utilizing a character based firewall with dynamic access strategy is by all accounts a decent answer for be embraced in such a situation. Y. Chen et al., [9] depicted a review of online instruction, which endeavours to decide online training suppliers' attention to potential security risks and the insurance measures that will diminish them. The creators utilize a blend of two strategies: blog mining and a customary writing seek. N. Ayaati Mohd Alwi et al., [10] said in this paper the favorable position and development of e-learning is clarified. This paper thinks the security components wanted in e-learning. Moreover, clarifies the situation and existing examination on security in e-learning.

Data security administration is encouraged to contribute in setting up the secured e-learning condition. The Quiz Engine installed in Moodle is not constructed in view of Service Oriented Architecture. It is executed as a greater part of PHP code which must be gotten to through standard web programs that are a bit moderate on cell

phones and cannot address the exam security issues that exist in m-learning condition. Moodle administrations augmentation to Moodle does not touch the Moodle's Quiz Engine. Drawbacks of existing system Moderate administrations. There is a security issues for exam, Not benefit arranged.

In our proposed system "TOP SCORER", we worked on the application to making the notes handy. Most existing work requires system or laptop to view the notes, but in an application we could able, to carry the notes handy through an android device, which does not gives a heavy burden of carrying laptop or pc to view notes. We develop our application as an android application so that it is supported by most of the mobile users. Our application needs an Internet connection to make communication with the web server. We provide a chat application to the registered students to ask any queries in case of notes uploaded by the staffs.

III. TOP SCORER

In login page, the user get login in to TOP SCORER application with the help of user name and login id. In department menu, the users can select their department in this module. Here various departments of engineering courses are given and they users are easily choosing one department from it. In that year, users can choose their respective year and semester. In subject menu, users can choose their subject and related topics from this module. This module split into two sections 1. Study material. 2. Discussion forum Study material block provides information regarding the topics given by the users. It will help during the time of examination. In discussion forum module, users are sharing their ideas and their thoughts. Users can get different ideas about a particular topic. Chitter-chatter helps users to communicate two users separately.

IV. ALGORITHM DESCRIPTION:

Here we integrated Boolean algorithm and Wild card algorithm for user to access the mobile data's and information's. Here we incorporated Boolean calculation and Wild card calculation for client to get to the versatile information's and information's.

Boolean model:

- The Boolean model is one of the most punctual and least complex data recovery models.

- It utilizes the idea of correct coordinating to coordinate archives to the client inquiry.
- Both the question and the recovery depend on Boolean algebra.

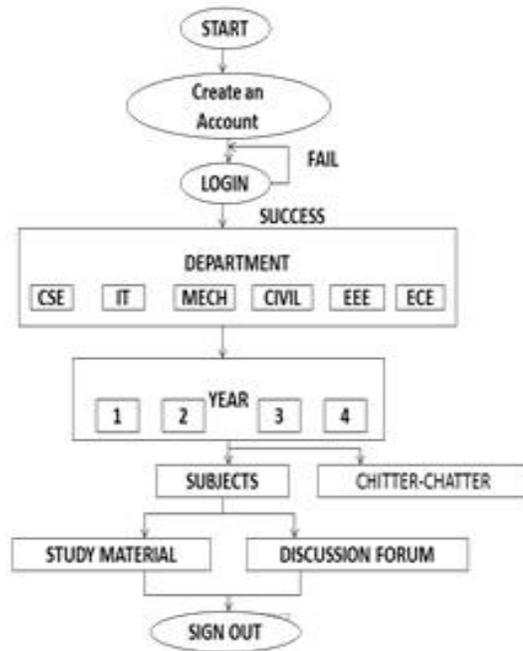


Fig 1: Top Scorer Flow Diagram

In the Boolean model, documents and questions are represented as sets of terms. That is, each term is just viewed as present or missing in an archive. Utilizing the vector portrayal of the record, the weight $w_{ij} \in \{0,1\}$ of term t_i in report d_j is 1 if t_i shows up in archive d_j , and 0 generally, I.e., $W_{ij} = \{1 \text{ if } t_i \text{ shows up in } d_j, 0 \text{ generally}\}$. Inquiry terms are joined legitimately utilizing the Boolean operators AND, OR, NOT which have their standard semantics in rationale.

Special case Algorithm: For a case, content has been given. The trump card design executes the special case design coordinating calculation that finds if special case design is precisely coordinated with content. The coordinating should cover all the whole content (not halfway content).

The trump card example can incorporate the characters '?' and '*'

'?' – coordinates any single character

'*' – Matches any arrangement of characters (counting the vacant succession)

For instance,

Content = "baaabab",

Example = "*****ba*****ab", yield : genuine

Example = "baaa?ab", yield : genuine

Example = "ba*a?", yield : genuine

Example = "a*ab", yield : false

// C++ program to implement wildcard

```
#include <bits/stdc++.h>
Using namespace std;
bool strmach(char str[], burn pattern[], int n, int m)
{
    On the off chance that (m == 0)
    return (n == 0);
    Bool lookup[n + 1][m + 1];
    memset (lookup, false, sizeof (lookup));
    lookup [0][0] = genuine;
    for (int j = 1; j <= m; j++)
    on the off chance that (pattern[j - 1] == '*')
    lookup[0][j] = lookup[0][j - 1];
    for (int I = 1; I <= n; i++)
    {
        for (int j = 1; j <= m; j++)
        {
            on the off chance that (pattern[j - 1] == '*')
            lookup[i][j] = lookup[i][j - 1] ||
            lookup[i - 1][j];
            else if (pattern[j - 1] == '?' ||str[i - 1] == pattern[j - 1])
            lookup[i][j] = lookup[i - 1][j - 1];
            else
            lookup[i][j] = false;
        }
    }
    return lookup[n][m];
}
int primary()
{
    scorch str[] = "baaabab";
    scorch pattern[] = "*****ba*****ab";
    /scorch pattern[] = "ba*****ab";
    /scorch pattern[] = "ba*ab";
    /scorch pattern[] = "a*ab";
```

```
/scorch pattern[] = "a*****ab";
/scorch pattern[] = "*a*****ab";
/scorch pattern[] = "ba*ab*****";
/scorch pattern[] = "*****";
/scorch pattern[] = "*";
/scorch pattern[] = "aa?ab";
/scorch pattern[] = "b*b";
/scorch pattern[] = "a*a";
/scorch pattern[] = "baaabab";
/scorch pattern[] = "?baaabab";
/scorch pattern[] = "*baaaba*";
in the event that (strmatch(str, design, strlen(str),
strlen(pattern)))
cout << "Yes" << endl;
else
cout << "No" << endl;
return 0;
```

Sometimes there is a chance to our get damaged otherwise mobile phones are lost. That time data stored in our phone also get lost. In order to avoid it, we use could computing. We can easily access the data from the cloud.

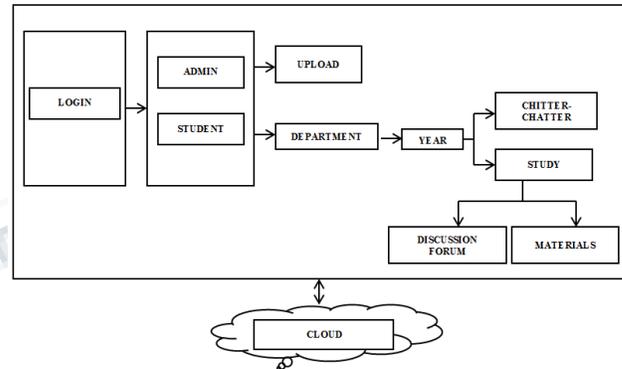


Fig 2: Top Scorer

Cloud computing is group of resources and services offered through the net. Cloud services are handed over from facts middle is placed throughout the earth. Cloud computing helps its users by making ready machine-based resources via the net. However, working well knowledge for computers system of care for trade and strong encryption in the cloud is possible and ready (to be used) through a number of cloud answers.

Here we are using s3 cloud for storing the mobile app information. Amazon Simple Storage Service (Amazon S3) gives secure, sturdy, exceedingly versatile question stockpiling in the cloud. Utilizing the AWS Mobile SDK,

you can straightforwardly get to Amazon S3 from your portable application.

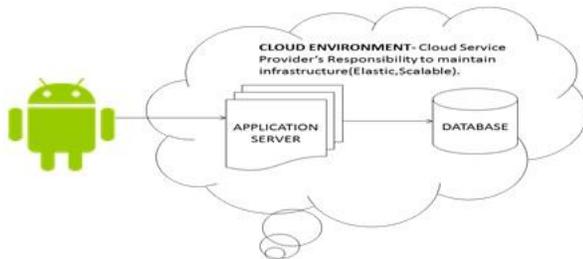


Fig 3: S3 Cloud Environment

The AWS Mobile SDK enables you to devour the Amazon S3 benefit in your versatile application by means of the S3 Transfer Utility. Amazon S3 (Simple Storage Service) is a web service offered by Amazon Web Services (AWS). Amazon S3 provides storage through web services interfaces (REST, SOAP, and Bit Torrent). It safes knowledge for computers place for storing in cloud. Here we separate the facts in cloud for safe place for storing using RSA algorithm. The user knowledge for computers is encrypted using RSA and separated into number times another gets in the way of and stored on different cloud computers. The division of knowledge for computers in the cloud general condition for safe knowledge for computers place for storing gets done safety as well as right not to be public to user facts and gives greater value to the doing a play by copying techniques.

RSA algorithm includes three stages Key Generation, Encryption, Unscrambling. Key Generation: Prior to the information is scrambled, Key age ought to be finished. This procedure is done between the Cloud specialist co-op and the client. The plain content is encoded in obstructs, with each piece having a twofold esteem not as much as some number n i.e., for square size I bits, $2i < n < 2i+1$, Info: None. Calculations: Select two generally prime numbers p and q . Where $n=p*q$ and $v-(p-1)*(q-1)$. - Compute the whole number d with the end goal that $(d*e)%v=1$. - e is the number. Yield: n , e and d . Encryption Input: Whole numbers n , e , M - M is whole number portrayal of the plain content. Calculation: let C be the whole number portrayal of the figure content. $C=(Me \text{ mod } n)$, Yield: Encrypted content or figure content C . 3. Decoding Input: d , n , C - C is the figure content. Calculation: - let D be the unscrambled content with the end goal that $D=(Cd \text{ Mod } n)$ Output: D is the decoded message. Open Key: $\{e, n\}$ Private Key: $\{d, n\}$

V. CONCLUSION

Our system primarily focuses on building an efficient and user-friendly communication system for the educational institutions. Apart from that, the application would support strong user authentication and quick transmission of data via the cloud computing. Another noticeable feature of the entire application would be that no data would be displayed on the system posted by any user before the admin approval. As it is a college-based application, more modules, which are related to students and college such as semester mark sheet, Attendance, Admission etc, can be developed. In our future work, the project is designed for global level over cloud computing environment.

REFERENCES

- [1] Shukla, A., Shrivastava, P., Yadav, P. and Kumar, A., 2015, April. Backup manager—An Android application for storing messages and apps information online. In Communication Technologies (GCCT), 2015 Global Conference on (pp. 45-48). IEEE.
- [2] López, J.P., Cerezo, A., Menéndez, J.M. and Ballesteros, J.P., 2015, June. Usage of mobile devices as collaborative tools for education and preparation of official exams. In Consumer Electronics (ISCE), 2015 IEEE International Symposium on (pp. 1-2). IEEE.
- [3] Žitný, R., Szabó, T., Pšenáková, I., Illés, Z. and Bakonyi, V.H., 2016, November. Using mobile technologies in university education. In Emerging eLearning Technologies and Applications (ICETA), 2016 International Conference on (pp. 387-392). IEEE.
- [4] Satrya, G.B., Daely, P.T. and Shin, S.Y., 2016, July. Android forensics analysis: Private chat on social messenger. In Ubiquitous and Future Networks (ICUFN), 2016 Eighth International Conference on (pp. 430-435). IEEE.

- [5] Jennings, R.B., Nahum, E.M., Olshefski, D.P., Saha, D., Shae, Z.Y. and Waters, C., 2006. A study of internet instant messaging and chat protocols. *IEEE Network*, 20(4), pp.16-21.
- [6] Chakole, S., Chandrikapure, A. and Jambhulkar, P., 2015. Android based information in campus environment.
- [7] Dhale, A., Mistry, M. and Zore, T., 2014. A Survey on "SMART CONNECT" an Android and Web Based Application for College Management System.
- [8] López, J.P., Cerezo, A., Menéndez, J.M. and Ballesteros, J.P., 2015, June. Usage of mobile devices as collaborative tools for education and preparation of official exams. In *Consumer Electronics (ISCE), 2015 IEEE International Symposium on* (pp. 1-2). IEEE.
- [9] Jagtap, S.S. and Hanchate, D.B., 2017. Development of Android Based Mobile App for PrestaShop eCommerce.
- [10] Prendes Espinosa, M.P., 2009. *Platforms de campus virtual con herramientas de software libre: Analisis comparativo de la situación actual en las universidades españolas. Informe del Proyecto EA-2008-0257 de la Secretaría de Estado de Universidades e Investigación.* Disponible en.
- [11] Wexler, S., Dublin, L., Grey, N., Jagannathan, S., Karrer, T., Martinez, M., Mosher, B., Oakes, K. and Barneveld, A.V., 2008. *Learning Management Systems. The good, the bad, the ugly,... and the truth.* E-learning Guild.
- [12] Wexler, S., Dublin, L., Grey, N., Jagannathan, S., Karrer, T., Martinez, M., Mosher, B., Oakes, K. and Barneveld, A.V., 2008. *LEARNING MANAGEMENT SYSTEMS. The good, the bad, the ugly,... and the truth.* E-learning Guild.
- [13] Weippl, E.R. and Ebner, M., 2008, November. Security privacy challenges in e-learning 2.0. In *E-Learn: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education* (pp. 4001-4007). Association for the Advancement of Computing in Education (AACE).
- [14] Alwi, N.H.M. and Fan, I.S., 2010. E-learning and information security management. *International Journal of Digital Society (IJDS)*, 1(2), pp.148-156.
- [15] Chen, Y. and He, W., 2013. Security risks and protection in online learning: A survey. *The International Review of Research in Open and Distributed Learning*, 14(5).
- [16] Yağci, M. and Ünal, M., 2014. Designing and implementing an adaptive online examination system. *Procedia-Social and Behavioral Sciences*, 116, pp.3079-3083.
- [17] Gao, Q., 2012. Biometric authentication to prevent e-cheating. *Instructional Technology*, 3.
- [18] Gao, Q., 2012. Biometric authentication to prevent e-cheating. *Instructional Technology*, 3.
- [19] Marais, E., Argles, D. and von Solms, B., 2006. Security issues specific to e-assessments.
- [20] Apampa, K.M., Wills G. and Argles, D., 2010. User security issues in summative e-assessment security. *International Journal of Digital Society (IJDS)*, 1(2), pp.1-13.
- [21] Frank, A.J., 2010, July. Dependable distributed testing: Can the online proctor be reliably computerized?. In *e-Business (ICE-B), Proceedings of the 2010 International Conference on* (pp. 1-10). IEEE.
-

- [22] Frankl, G., Schartner, P. and Zebedin, G., 2012, April. Secure online exams using students' devices. In Global Engineering Education Conference (EDUCON), 2012 IEEE (pp. 1-7). IEEE.
- [23] Yamamoto, G. and Aydin, C.H., 2010. E-learning in turkey: Past, present and future. E-Learning practices, 2, pp.961-987.
- [24] Weippl, E.R., 2007. Security considerations in m-learning: threats and countermeasures. Advanced Technology for Learning, 4(2), pp.99-105.

