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Survey on Cloud Storage Integration on Mobile Application and Message Passing Using XMPP protocol

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ABSTRACT: A mobile application which integrate students and lecturers in a unique platform for efficient learning. In this platform professors can provide lecture notes and important notifications to students. In this, ubiquitous computing technology helps students to view learning resources in cloud storage. In existing application students required to pay for utilizing learning resources, cloud storage space is also limited and HTTP protocol for message passing, hence the proposed system uses XMPP protocol to send message faster and provide unlimited cloud storage for resource sharing (notes, lecturers, videos, etc.), it also provides a discussion forum for professors and students. This application include security of unique login using Base64 encoding to avoid passive attacks.

KEYWORDS: Notes providing; Secure unique login; Notifications; Quiz conducting; Student-Faculty discussion forum.

I. INTRODUCTION

Education is a powerful tool that is used in the contemporary world to improve our skills and knowledge. It is important because it is used to apply solutions most of the challenges faced in life. The knowledge that is gained through education helps open doors to a lot of opportunities for better prospects in career growth. In order to attain the right grade in your education, there are certain things to be done through the learning process. Only class notes is not enough to develop our knowledge out of the syllabus, we need many reference from faculty such as lecturer's videos, notes and important study materials. In this modern time, every student as smart phones, this can help to provide a platform for students and faculty to access it anywhere at any time.

Android is a mobile operating system builded using a linux open source kernel, later it is bought by Google Inc. It has become a popular operating system in mobile devices, multiple applications can be ran in android OS. The android include OS with some system applications and driver software which are necessary to run basic hardware like camera, GPS, Proximity sensor etc. It also provide set of useful libraries to build applications easily. Thus user can use android applications developed and at times of emergency, one can save them. There many applications developed to provide learning utilities through notes and videos.

Cloud storage is a technique where data resources are stored and maintained remotely, it also termed as IAAS(Infrastructure as service), this service enables client users to store data to online from anywhere at any time, hence it also can be accessed from anywhere by the authenticated user. Cloud storage services can be accessed by a cloud computer service, a [web service](#) Application Programming Interface (API) or by mobile applications. Cloud storage is a hosted object storage service, other types of data storage available as service are block storage. This service can be used in an application to store study resources at online.

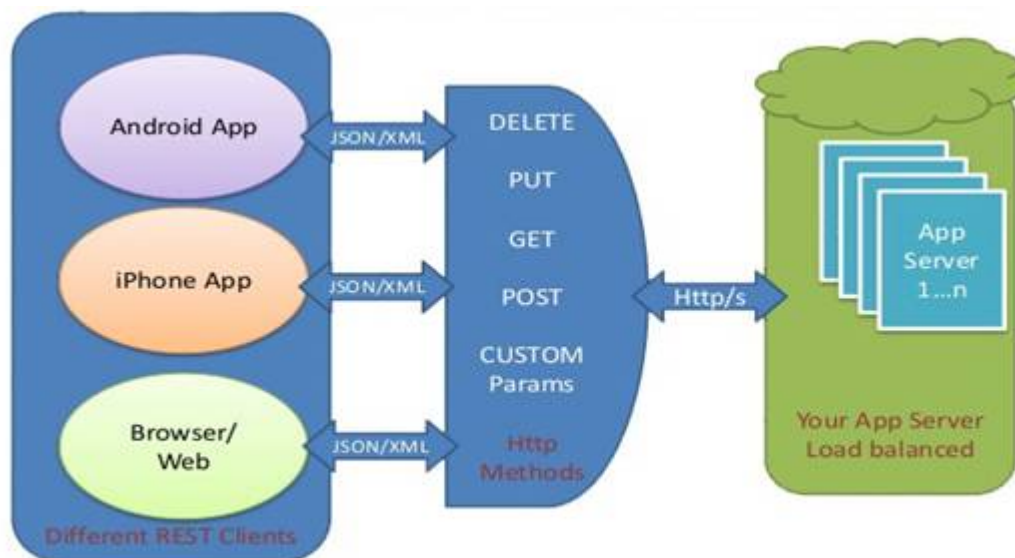
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RESTful API is a communication technique used in client server architecture, this is used to access cloud storage from client applications. The service is identified using a specific URL and accessed using HttpURLConnection method.



Fig(1)

Extensible Messaging and Presence Protocol (XMPP) is an open XML technology for real-time communication, used for instant messaging, it is an alternative for HTTP protocol, where Http protocol is used in client server architecture which means client needs to request the server whenever it needs data, In instant messaging this protocol won't be applicable, hence XMPP protocol is used, this enables client as server and provide server to server communication which delivers the message faster than Http protocol

Hence a system can be proposed as mobile application, it provides a unique login for each student and collect their educational information's (University Register number, Year, Section and Department) a separate web portal is provided for faculty to provide notes and notifications. When the faculty upload any document, the system stores the notes in cloud and notify the student that note has been uploaded by concern faculty. The application also provides a discussion forum for faculty and students to clarify the doubts in specific subject by the concern faculty members. When faculty needs to send any important information, they can send through web portal, it reach the mobile application through XMPP protocol.

II. RELATED WORK

EXTRAMARKS-THE LEARNING APP [1]: This app is used to provide learning solutions for classes k to 12. It provides rich and interesting materials for senior students from 6 to 12. It provides materials for subjects like Science, Maths, Social Science, English, English Core, Hindi, Economics, Political Science, Accountancy, Business Studies, Physics, Chemistry, etc. The advantage of this app is that, the students can customize their study time based on their strength and area of improvements. The disadvantage of this app is that, the students have to pay for the materials provided.

TOPPR-THE LEARNING APP FOR 5TH -12TH CLASS [2]: This app is used to provide materials for students from classes 5 - 12. The main objective of this app is to provide easy access to materials for students studying



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in school and to prepare for Engineering and medical entrance exams such as IIT JEE Main, IIT JEE Advanced, NEET, AIIMS, etc. It also provides materials for scholarship exams and board exams like NTSE, NSO, ICSE, IGCSE, etc.

UNACADEMY LEARNING APP [3]: This app provides more than 8000 online specialized courses to crack various competitive exams. It provides contents for competitive exams like UPSC, IBPS/SBI, GRE, CA, JEE, Railways Examinations and for students caliber development like Competitive Programming, Programming Languages, Personal Finance, etc.

NO.1 EXAM PREP APP: QUIZ, GK, PREVIOUS YEAR PAPERS [4]: It is an free examination app which strengthen students SSC preparation with the best SSC CGL and CHSL Exam Preparation App. It provides a platform to clear their doubts with other students and experts. It allows the user to study the materials in two languages - Hindi and English. Users are allowed to take daily mock tests, quizzes, etc. This app also provide notification of important government jobs and exams. This app mainly provides General intelligence and reasoning General awareness, Quantitative aptitude/ Maths, English.

AAKASH ITUTOR: NEET JEE [5]: It allows the students to stay abreast in every subject like Physics, Chemistry, Maths, Biology, etc. It also recorded videos such that the users can refer the video any time. These videos can also be used offline. The first 3 minutes of video lectures are not charged. The disadvantage of this app is that, study materials should be bought online which costs up to Rs. 10,899.

CAREERS360 MOCK TEST, EXAM, and COLLEGE [6]: The main objective of this app is to get college insight such as fees, courses, cutoffs, admissions, affiliations, etc. It also provides details about top ranked colleges in major cities like Delhi, Mumbai, Bangalore, Chennai, etc. This app provides Prep meter which is used to track the user's preparation level and to get improvement for the exams. It also has Result Predictor, which allows the user to know the results of exams like JEE Main, NEET, and CAT. This app has College Predictor and Path Finder which are useful for the users to select their colleges and branches based on their percentage in CAT, NEET, etc.

In [7], Yoo et al says that the learning analysis dashboard lacks on evaluation criteria. This made them to create certain evaluation frameworks which contains 11 sub categories. These subcategories in the framework where useful in the development of categorization framework in the literature review.

In [8], the author uses Spice architecture which works in a user centric manner. It is used to collect all the tweets on the user feed. These traces can be retrieved using the Twitter REST API which is located in the Twitter Wrapper controlled by the Task Scheduler. The retrieved data and user information are passed to Data Aggregator component.

In [9], a study was conducted to explore student's involvement to use mobile application for learning in two major universities. The results showed that students were willing to take the integration of mobile application with learning. The advantage of mobile learning is that, it saves learning time and becomes a replacement of web learning and traditional learning.

In [10], the client uses the client devices such as laptop, smartphones and desktop computers to access the cloud providers Virtual Machine. The client uses web browser to interact with the cloud provider. The cloud provider contains N Virtual Machines to serve several classes of clients.

In [10], they use Request Admission Control policy for resource adaptation control to meet different objectives. In this the RAC is used to accept every request sent by the client and allocates as many Virtual Machines as possible for the client's classes. When the client demand increases, some of the requests are rejected to meet the QoS of other clients.



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III. CONCLUSIONS

This paper describes an android application for bridging the gap between faculty and students through mobile platform. Thus this application be used by students to get the lecturer's notes at organized cloud storage. For future development a global chat and teacher review system can be integrated.

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