CHRIST
(DEEMED TO BE UNIVERSITY)
BENGALURU · INDIA

MAN OF NOTES

by

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I. Overview

One of the major problems faced by the students especially in University is to find the notes for their subjects. The unavailability of finding the appropriate resources makes it difficult for the students to prepare rigorously for their exams and thus not able to perform well. An open community driven forum to promote the sharing of resources among peers and involving in a productive discussion can help the students to prepare better for their subjects.

Man of Notes is a platform that focuses on providing notes to its users. This will allow users to browse documents and links that are available online and all are saved in one place. The repository will develop over time and will get richer as users can upload their documents too. This allows the application to be unique and will help other users to get better fabricated notes.

This platform will use google text analysis tools to rate the documents and links, hence will filter and bring the best content out of the repository.
Apart from the repository, the platform will have a forum where they can chat or discuss topics privately or publicly. That means if a user wants to ask specific question to another user, it can be facilitated easily or if his/her topics are open, they can directly share it publicly and other users can respond to it.

II. Project Study

1. Existing System

1.1.   BYJU [4]

BYJU'S-The Learning App is an app for school students with 16 million registered students on its platform. The app offers comprehensive learning programs in Math and Science for students between classes 4th-12th. It also has test prep courses for competitive exams like CAT, NEET & JEE, IAS, GRE & GMAT etc.

Limitations [8]

- **Doesn't focus on providing notes created by the community.**
  The notes provided on BYJU's app are created by themselves. They charge initial amount and then in app purchase increases over time depending on the day to day usage of the application and the content provided by the company.

- **Learning outcome only derived after in-app purchases.**
  BYJU's is an organisation whose revenue model primarily depends on the users paying them for the content provided. Thus only few low quality, trail version notes are provided to the new users. Learning outcome is only possible if the users pay for their service.

- **Notes provided only to students enrolled.**
  BYJU's content is exclusively available to enrolled students who have either bought the content through in-app purchases or paid enrolment fees to continuously get the updated notes. Thus, it doesn't focus on the community who wants notes for free or those who don't have a high budget.
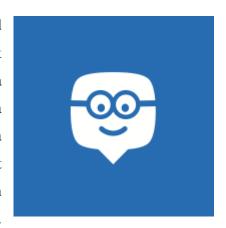
- **Extremely high enrolment fees.**

  Even if students choose to enroll for the courses, they aren't feasible in the long-term for most students at least in India. The average price for a single subject content varies around ₹45000-₹60000. Thus, only rich kids can afford to enroll in BYJU's learning app.

- **Only BYJU's curated notes available.**

  The BYJU's platform provides only those notes that are created only by their team of content creators. Thus, latest and most accurate hand written notes will not be available unless the content team choses to update them.

1.2.   EDMODO [6]

Edmodo helps reach student in a class. Students can login and participate from any phone, tablet or computer, and can check assignments from within the app. Facilitate discussion within a single class group or browse topics for resources related to a subject. Share and discover new lessons and resources across a school, district, or any teacher's connections. Edmodo makes it easy to share anything on a phone. The improved home stream means user can find dozens of educational resources all at once. [7]

Limitations

- **Contains Ads.**

Edmodo contains numerous advertisements that decreases the ease of use of app and overall experience. Too much of ads also slows down Edmodo. Sometimes users have to wait for '30 Second Ads' before they can engage with the content. This breaks their link with the content which was being used.

- **No sorting algorithm to upload and classify the notes.**

Edmodo has huge amount of resources. Although this might sound good but it has cluttered the app and play store reviews suggests that the users are unable to find their desired notes on the Edmodo platform.

- **One sided communication from teachers to students.**

Numerous play store reviews have reported that the communication within the app platform is only limited to the message being one-sided i.e only teachers can send a message in the form of announcement to their students. This is poses a huge limitation to Edmodo as students can't ask question, contribute content or engage in any other form. Also Edmodo only gives access to resources that are prepared by the faculty and not by the students themselves.

- **Students cannot control their accounts and need consent from their parent/guardian or teachers.**

Once a student registers his/her account on the Edmodo platform they have to take approval from their teachers to gain access to a particular resource. The students are treated as minors by the app itself and cannot even change their account passwords without the confirmation from their faculty.

1.3. SCHOOLGY [5]

Manage classroom, create and submit assignments, participate in interactive discussions, perform assessments, collaborate with peers Have rich and engaging academic experiences anytime, anywhere with the official Schoology Android App. [9]

Limitations

- **Too much spamming from notifications.**

After using the application for a brief period of time, users of Schoology start getting notifications related to new content being uploaded, a discussion being started or a resource being assessed . Although this does sound like a useful feature but the number of notifications being triggered average to 3 notifications an hour or 72 notification in a day. This disturbs the users of the phone. Most of these notifications aren't useful to the users and are not likely to be engaged with.

- **Website version app thus slow to load.**

Schoology app is built on PhoneGap platform. It is a form of app development that uses HTML, CSS & Bootstrap concepts to basically squeeze a website into a mobile application form. Due this, the application has lots of bugs and becomes unresponsive after prolonged use due to improper cache dump.

- **Focuses only on school content.**

One of the major limitations of Schoology is that the content, quizzes provided by the application only focuses on school academics such as CBSE or ICSE board. There are numerous applications that deal with the same content in a better way but there are no apps that provide the same experience to share and upload notes for university students.

- **Technical glitches and bugs as reported by the users.**

Schoology app has lot of technical glitches and bugs within the app. Crashes, download fails, failing to connect to internet are very common to this app. This poses a huge limitation to the

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users who have to deal with it on a frequent basis. It also disengages them from the actual application content.

- **No communication between the users of the app.**

One of the major limitations of the app is that it only helps peers to collaborate to share notes but not engage in any form of written communication. Communication is an important aspect in an educational application where the users can interact, share, learn new concepts from each other. This is totally absent in Schoology.

2. Proposed System

Man of notes is the proposed system which will help a user get his/her desired notes with ease in a non-disturbing-ad environment. It is an android application which the users can easily download through google play store. Once installed, the users can view, download and search documents with ease and the application will suggest documents inspired by user's preferences which updates over time. This platform will also allow users to upload their documents too. This will help other users to get access to content which is not often shared online and hence will make the repository unique. The platform will evaluate each document and will grade them by calculating properties like relativeness to the subject, plagiarism and category.

Features:
2.1.   Free for the users.
2.2.   Access to Wide range of notes
2.3.   Personalized content
2.4.   Chat with other scholars/mentors
2.5.   Preference based quizzes

Benefits:

2.1.   Community Content:
Other websites, application and services like BYJU'S, EDMODO, SCHOOLOGY provide content curated by them. Its highly expensive to enrol into such services. Man of notes provides free content and supports the community by allowing them to share what they have to other users. Its content is community driven and will be available to everyone.

2.2.   No In-app Purchases
Every app these days has some special offer for people who are ready to pay extra for some special benefits, but not here as there are no in-application purchases, hence the users don't have to pay anything to continue using the services. It is free of cost and

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will earn through google Ad Mob. All the users considered equally, and content is not filtered based on a user but on his/her preference.

2.3. Free of Cost

It is a free application, and anyone can simply download it over play-store without paying any one-time charges either. It is made for the community and will be free of cost and will not have any in-app purchases either. The revenue of the application comes from the advertisements it will host but up to a limit where it does not affect the users.

2.4. Smart Notes

The Notes / content provided by this application is different for different users. It considers user's interest and its past activities and then using that data it fetches notes. Finding notes couldn't get easier than this. It's a smart implementation in the search option and will benefit the users to get similar content to what they have read or will read.

2.5. Feedback

As a community driven app, it must listen to the community too. Unlike other education providing applications, it has a very open forum for all the users where they can request a specific note or can upload their own notes. This will allow users to get content which is not in the current repository hence the repository will grow over time and users will get content which other paid apps don't have.

2.6. Offline & Online compatibility

The application is online based, this requires the application to have internet access when new documents are to be searched or downloaded, a user has to upload a document or chat with other users, but the app can be still used to maintain the documents downloaded through the application. Hence users can download the documents and keep it in their phones and can access it even without the internet.

2.7. Supports Scholars and other users

Man of notes support its users and will award users if they upload content on its repository. The users will get the reward based on their grade given by the algorithm.

This will support new scholars, graduates, teachers and others who wish to share content, this will also motivate them to upload more of the content hence other users who required content will get content.

III. Literature Review

There are numerous applications that try to give solutions to the above problems like providing their own curated resources or allowing the teachers to communicate with the students. These applications have huge limitations as discussed above.

Applications like BYJU's provide content to students that are prepared by their content team for university and school students. The major problem their platform is that it is extremely expensive for majority of students at-least in India with average price of their content for school students ranging around ₹15000. [1]

LMS based applications like Schoology & Edmodo aims at better communications between the students and teachers with sharing of resources, collaborations etc. but they are not refined. As reported by the users these applications are difficult to use and content is not easily discoverable. These applications are not properly tweaked for mobile and poses a lot of bugs and crashes when used for a prolonged period. [2]

Edmodo has provided a way for communication, but it is only a one-way communication where students cannot reach out to their teachers via the application platform. [3].

This leaves a room for an application that relies on its community itself to continuity provide reliable and updated notes to its users on a frequent basis. The quiz content which is also curated by the community makes it easy to keep the users engaged and the content continuously updated at the same time. A chat system allows the users to share private content, ask questions to senior members, peers extremely easy.

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IV. Functional Requirements

The functional requirements define what is needed for an application to do its core job. This section includes the data and functional process requirements.

1. **Module Functionality:**

   1.1. USER

   This module will have all the details and information regarding the user. (example: Email, interests etc.)

   This module will have functionalities:

   1.1.1. **Register:** Users will be requested to link their google account with the application before proceeding.

   1.1.2. **Login:** Access to other modules (Once logged in, the users can access functionality of other modules.)

   1.1.3. **Search:** Alpha-numeric text, each word is treated as a keyword for searching documents in the repository.

   1.2. NOTES

   This will be a repository which will work with the search functionality of the user module. The keywords used in the search function will be used as features the required document must contain.

   Input: Search Keywords. Notes that are assigned with a specific keyword will be searched within the database.

   Output: List of matching documents

   This module will have functionalities:

   1.2.1. **Request:** A text defining document to be requested. The inserted keyword will be used in order to find the matching document within the database

   1.2.2. **Upload:** A compatible file to be uploaded. The file uploaded wills be assigned with a set of keywords. The file uploaded in the database will have those keywords as attributes to make them searchable to the rest of the users.

   1.3. **CHAT**

Users can interact with each other. Core Functionality is to allow one user communicate with other using firebase real time database to share data live. This will help users to ask questions, solve queries by chatting with other users in real time.

Input: Selected user. A list of users will be displayed to chat with. Upon selection, the user can chat with that person in Realtime, send attachments, ask questions etc.

Output: Message. A message or chat box is opened with the credentials of the person.

1.4. Advertisement

Advertisements are the backbone for this application as it's the sole revenue earning source. Ad-mob ads also target the ads based on the user's interest. Functionalities include:

1.4.1. Click on Ads. The ads such as banner, interstitial ads can be used in order to make the users engage with them. Revenue is generated on the Impressions per user or the display time of the ads. Income generation is also possible when a user engages with the ad by clicking on them.

1.4.2. Skip Ads. Interstitial ads tend to break a link between the user and the app content. A Skip button can be used by the user to directly jump into the actual content.

1.5. QUIZ

A challenge for users to take multiple choice questions and solve them in limited time. This module will have functionalities:

1.5.1. Time

1.5.2. Complexity

1.5.3. Category

1.5.4. Questions

1.6. GOOGLE API

Will allow simple tasks like processing data and communicating with google ai.

The core functionality is to maintain communication with google machine learning console and generate and update user interests and document grades.

2. Interface Requirements:

2.1 Field Amount accepts only numeric entries.

2.2 Field Text accepts both alpha numeric entries.

2.3 Long Press on screen will select the object.

2.4 Single touch is accepted as open.

3. Security Requirements

3.1. The system will only allow Gmail users for authentication.

3.2. The database will be open, anyone can access it.

3.3. Access to phone permissions is required.

4. Other Requirements

4.1. Data must be entered before a request can be approved and should cross check.

4.2. Only registered user has access to the application.

4.3. Once the data is cross checked, then only request from end user is accepted and processed.

4.4. In case any error in data entered by user, respective messages should be prompted on screen

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V. Software & Hardware Requirement

1. **Hardware Requirement**

   System Type: Android Device

Component	Minimum Requirement	Maximum Requirement
RAM	2GB	Or above
Processor	CPU Clock Speed: Up to 1.8 GHz	CPU Clock Speed: Up to 2.2 GHz
	CPU Cores: Hexa-core CPU, 2x ARM Cortex A72, 4x ARM Cortex A53	CPU Cores: Quad-core CPU, 4x Qualcomm® Kryo™ CPU
	CPU Bit Architecture: 64-bit	CPU Bit Architecture: 64-bit
	Existing processors with this or higher specifications: Snapdragon 650/ Helio P10/ Exynos 5433	Existing processors with this or higher specifications: Snapdragon 800 or higher / Helio P20 or higher / Exynos 7420 or higher
Memory	Memory speed: 933MHz	Memory speed: 1866MHz
	Memory Type: Dual-Channel, LPDDR3	Memory Type: Dual-Channel, LPDDR4

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2. Software Requirement

Component Type	Requirement
System Version	Android Version 6.0 Marshmallow or above
Size	20MB Approx.
	Free Space as download may require extra space depending upon the notes.
Cache Storage	16mb Running Max.
Permissions	Storage permissions, notifications, google play, contacts & phone.

VI. System Model Diagram and Description

Man Of Notes

Description:

In the use case diagram of man of notes. The app has authentication, database, users and API that affect the working of the application. The user plays the vital role in this model as it is made for the users to interact with the repository and with other users too. The 1st stage is the authentication which is validated by google through firebase. Hence firebase will allow direct authentication with Gmail and then the app can continue its working. The app offers 3 major options – Notes, Quiz & Chat. These three have different functionalities but they all require user. The notes are stored in the online database with a certain rank which is determined by the google API which will categories data and keep it in a related form. The users can access the notes with their certain preferences and can also upload the documents too. The users can also use the quiz to test their knowledge in that interest. The users also get an option to chat with other users and resolve other issues informally over the application. They can also download the documents and keep it for offline use.

VII. References

[1] - https://byjus.com/products/all-products/cbse-icse/

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[3]- https://play.google.com/store/apps/details?id=com.fusionprojects.edmodo&hl=en

[4] - https://www.mouthshut.com/product-reviews/BYJUS-The-Learning-App-reviews-925899219

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[6] - https://www.trustradius.com/products/edmodo/reviews

[7] - https://www.g2crowd.com/products/edmodo/reviews

[8] - https://www.quora.com/topic/BYJUS-company

[9] -- https://edshelf.com/tool/schoology/

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