



Research supported decentralized note taking app with the use of Blockchain

¹Dr. Mohammed Abdul Bari, ²Mohammed Rahmat Ali, ³Mohammed Faisal Ilyas ⁴Khaja Sameer Ahmed
⁵Khaja Raheemuddin

^{1,2} Assistant Professor, ^{3,4,5} Students

^{1,2,3,4,5} Department of CSE

ISL ENGINEERING COLLEGE

Abstract: Note-taking is an essential learning skill for college students to implement during and outside of class time. The potential of using technology to enhance note-taking activities has recently come under the spotlight. The notes recorded during a class lecture should be compiled of the important facts or ideas presented by the professor. Implementing a system of note-taking is important for several reasons. First, the faculty member may be presenting supplemental material not found in your textbook but critical for you to learn to make a connection to prior knowledge or introduce new material within your textbook. Secondly, the information presented within a lecture may be used for future assessments (quizzes, exams, reflection papers). Finally, a system of good note-taking is an important study strategy. Actively listening and taking notes during class increases the retention of the material. Reviewing the notes immediately after class to add additional points or to generate questions for clarification creates an opportunity for additional retention and understanding. Effective note-taking skills will assist in preparing for exams and future knowledge base of material.

Index Terms – HTML, CSS, JS, REACTJS, BLOCKCHAIN, NOTES, NOTETAKING, OFFLINE, STUDENT

I. INTRODUCTION

Students often complain about the balancing act they need to perform in a class by simultaneously trying to read from slides, listen to the lecturer, critically engage with new constructs, and write legible notes. The process of note-taking is cognitively demanding. University students and first-year students, in particular, have been battling with the question of how to capture and recall the flow of information in traditional lecture periods for many years. This may be because students who take notes need to pay attention, organize the information, and then record it understandably before it is forgotten. If the process of taking notes is so demanding, the obvious question is why lecturers do not simply provide students with sets of comprehensive and well-written notes. If notes are provided it is better to give students partial outlines only, as opposed to full sets of notes, as that enables them to add their own experiences and observations, and thereby expand on the existing information. The act of note-taking assists the student with learning and remembering information, and with storing it for later use. Even though many university lecturers have embraced innovative teaching methods such as peer teaching and flipped classrooms, some still spend most of their time in class, lecturing traditionally as they have always done. Therefore, it is perhaps not surprising that many students still frantically take notes in class in the twenty-first century. Note-taking is the one activity that lecturers do not need to actively encourage, as students seem to take notes automatically without being prompted to do so. Regardless of previous research that claims that computers can be used for note-taking many students still use the pen-and-paper method. Current researchers support this finding by confirming that if students take notes with a mobile device such as a laptop, they mechanically transcribe what the lecturer is saying, which results in shallow cognitive processes. Students in the twenty-first century are accustomed to using technology. They do not own only smartphones, but also other mobile devices such as tablets and laptops, and they often choose to use these devices during class time. Together with smartphones, these mobile devices offer lecturers and their students a wide variety of tools and functionalities with educational potential. For example, students can use cameras, microphones, and e-book readers for various learning purposes, and can receive instant feedback on their learning through a variety of messaging applications. In another example, tablets can be used to improve the sharing of ideas when students work in groups. It thus seems as if many of the brick-and-mortar classroom boundaries disappear when mobile devices are used in an educational setting, and, as a bonus, this learning environment without boundaries moves with the students wherever they go.

II. SYSTEM ANALYSIS

EXISTING SYSTEM:

Students in the twenty-first century are accustomed to using technology. They do not own only smartphones, but also other mobile devices such as tablets and laptops, and they often choose to use these devices during class time. Together with smartphones, these mobile devices offer lecturers and their students a wide variety of tools and functionalities with educational potential. For example, students can use cameras, microphones, and e-book readers for various learning purposes, and can receive instant feedback on their learning through a variety of messaging applications. In another example, tablets can be used to improve the sharing of ideas when students work in groups. It thus seems as if many of the brick-and-mortar classroom boundaries disappear when mobile devices are used in an educational setting, and, as a bonus, this learning environment without boundaries moves with the students wherever they go.

PROPOSED SYSTEM:

If notes are provided it is better to give students partial outlines only, as opposed to full sets of notes, as that enables them to add their own experiences and observations, and thereby expand on the existing information. The act of note-taking assists the student with learning and remembering information, and with storing it for later use. Even though many university lecturers have embraced innovative teaching methods such as peer teaching and flipped classrooms, some still spend most of their time in class, lecturing traditionally as they have always done. Therefore, it is perhaps not surprising that many students still frantically take notes in class in the twenty-first century. Note-taking is the one activity that lecturers do not need to actively encourage, as students seem to take notes automatically without being prompted to do so. Regardless of previous research that claims that computers can be used for note-taking many students still use the pen-and-paper method. Current researchers support this finding by confirming that if students take notes with a mobile device such as a laptop, they mechanically transcribe what the lecturer is saying, which results in shallow cognitive processes.

III. PROJECT OUTLINE AND METHODOLOGY

Working

Each part of the project was divided into particular phases to conquer the solution

Phase I

During the first phase, we reviewed and took notes using different note-making applications on different devices to determine what functions should be available in our app. Some desirable functions that were identified include an ability to drag, drop, and embed videos, text, and pictures from the internet into notes; and integration of quotations and sources (thus helping reduce potential plagiarism).

Phase II

The core concept of building a note taking app was to let students and teacher define what stands alone in an important aspect through studies and what can be made into a paragraph. With the function of editable blocks where either each paragraph could stand alone as a paragraph or it could be transformed into a block. We thought it would be best to build an application through research and development through a layered approach.

Phase III

Since this application would be heavily focused on note taking it needs to have basic features like text editing, deleting and even changing font. It also needs to have advanced features for better productivity like text highlighting. Lists like numbered, bullet lists, and toggle lists would be added to better define notes and their order per say.

Later Phases

During the final phases of the development and implementation we are planning on deploying a Relational Database capability for students and many more features like temporarily locking page from editing, password protection of the notebook, export and import feature. This would help student be much more capable to create notes and databases that would further help with their study.

Input and Output

The input design is the link between the information system and the user. It comprises the developing specification and procedures for data preparation and those steps are necessary to put transaction data in to a usable form for processing can be achieved by inspecting the computer to read data from a written or printed document or it can occur by having people keying the data directly into the system. The design of input focuses on controlling the amount of input required, controlling the errors, avoiding delay, avoiding extra steps and keeping the process simple.

Input Design considers the following things

- What data should be given as input
- How the data should be arranged or coded
- Methods for preparing input validations and steps to follow when error occur

Objectives

Input Design is the process of converting a user-oriented description of the input into a computer-based system. This design is important to avoid errors in the data input process and show the correct direction to the management for getting correct information from the computerized system.

Output Design

A quality output is one, which meets the requirements of the end user and presents the information clearly. In any system results of processing are communicated to the users and to other system through outputs. In output design it is determined how the information is to be displaced for immediate need and also the hard copy output. It is the most important and direct source information to the user. Efficient and intelligent output design improves the system's relationship to help user decision-making

IV. FUTURE ENHANCEMENT

With the blockchain being the most expensive part of this project, we plan on implementing it as soon as the prices either come down or we get a workaround on the decentralized note taking app. Blockchain in itself is the most interesting and ever-growing topic of this era and it helps to take advantage of this at an early point to understand the basic workings and wonderings of the new technology. The interesting thing about developing a note on blockchain is that once a note is generated it would be written in stone, hence making any new changes or even updating the notes would be a bit hectic. There could be a way to update the notes by making new copies of it every time the note gets updates but that would cause a long chain of notes and changes linked to the notes. That in itself is an advantage and a disadvantage. Advantage could be said as we could precisely see what was updated or removed and rectify it if incorrect. Disadvantage is that it would consume power and storage on internet and would have many logs of it.

V. CONCLUSION

The app, once completely developed, will be a unique tool to conduct research and develop note-making practices in different disciplines. Further objectives of this project are to use this app to empower researchers in their work; use it to deepen our understanding of student note-making, through sharing examples of notes; and to develop staff workshops to help teachers integrate the app into their lectures and seminars. Two examples of how the project could enhance research, teaching and learning are described as follows:

Research

Any type of academic work involves organizing one's ideas into intellectual themes. In relation to note-making, this is often done by producing numbered categories and manually inserting them at various points in the text. This enables researchers to bring far-flung information together under a common theme and thus helps them to structure their work. In practice, this can involve a lot of back-and-forth movement through the text as the researcher looks to create a mental map of the most relevant information in a particular category. This can be a taxing and time-consuming process, especially where notes are numerous. For that reason, the app's potential to automate this process reduces the amount of non-intellectual work for the researcher, and also reduces the likelihood that important information will be missed through an inability to keep a mental map of all of it in one's head.

In all, this will be a much more efficient means of presenting categorized content. This is especially the case where categories might be altered as the research progresses, an almost inevitable part of complex research projects, particularly in the humanities and social sciences. Doing this on paper-based notes can quickly lead to the messiness that results from numerous manual crossings-out and added information. An app like the one being developed can therefore provide much more flexibility in creating, removing and altering categories without the clutter associated with doing this manually.

Teaching and Learning

The app will provide teachers with empirical evidence of how students take notes, how they search online, and how these two can be integrated. Through this evidence, teachers can identify patterns as well as areas of concerns that can inform their teaching practices.

It follows that the interest of this study in note-making in language acquisition is a key benefit to teaching and learning theories and practices. In addition, with the specific attention paid to language learning, this project actively contributes to raising awareness of the significance of language learning and teaching for global citizenship. It does so by putting emphasis on the significance of conducting research into the level and quality of the support needed in the learning of English as a foreign language, as well as in learning languages other than English.

Overall, as the project draws together expertise from education, communications, language acquisition and computer science, it supports the development of pedagogical models as well as the application of these models for the creation of a digital artifact that aids teachers and learners to identify different needs in terms of note-making, and meet these needs through the app under development.

VI. REFERENCES

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