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Mobile Computing

**Project Report**   
on

**Notes App**

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# **Introduction**

# **1.1 Motivation**

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# Note-taking is one of the more common and ever-present learning activities that form an important part of all students’ daily lives. The potential of using technology to enhance note-taking activities has recently come under the spotlight.

# However, while mobile technologies may be applauded for their mobility and the value they can add to students’ learning experience, they could easily become a distracting factor, rather than the improvement they were intended to be. In this qualitative study, eight students volunteered to experiment with various mobile devices for a period of 6 weeks, and to share their experiences in a series of five group interviews.

# Despite the fact that 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 in the traditional way as they have always done. Therefore, it is perhaps not surprising that many students still franticly 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. The dilemma faced by lecturers is that students are constantly attached to their mobile devices and that it therefore seems worthwhile to explore ways in which those mobile devices can be used for educational purposes.

# While students attend classes they have to take proper notes that capture the true essence of the class. In some practical classes it is also not possible to sit down and write legible notes while a lecturer is busy with a demonstration. Therefore, since mobile devices such as laptops, tablets and smartphones are popular and available, their ability to support students with note-taking should be explored. It might be too optimistic to assume that all possible functionalities that students need to take efficient notes in all learning environments and for all learning purposes could be available in a single application on a single device 1 day. However, it may be worthwhile to explore the current affordances of mobile devices and applications that have the potential to support cognitively demanding note-taking in a variety of learning environments.

# **Problem Definition**

# Many of our students have faced problems maintaining their notes in one place over the years. Managing their daily notes and referring to them faster in the future is one of the challenges they face every day. Mobile Application is one of the major developments in the field of technology, which plays a large role in everyday life activities. As they are widely used and are easy to access, mobile applications can be used effectively for this job.

# **3.Technology Used**

# 3.1 Hardware and Software Requirement

# ❖ Software: android studio

# ❖ Hardware: None

# **3.2 Description of packages/libraries used**

* The App has a very simple and interactive interface which helps the students maintain their notes and keep it at one place for future references. Following are few android concepts used to achieve the functionalities in app :
* Constraint Layout : Most of the activities in the app uses a flexible constraint layout, which is easy to handle for different screen sizes.
* Simple & Easy Views Design : Use of familiar audience Edit Text with hints and interactive buttons made it easier for students to interact without providing any detailed instructions pages. Apps also uses App Navigation to switch between different screens.
* Recycler View : To present the list of the notes taken by the user.

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# **4.Implementations:**

# We used the android studio to develop this note making app, Android Studio is the official integrated development environment for Google's Android operating system, built on JetBrains' IntelliJ IDEA software and designed specifically for Android development. It is available for download on Windows, macOS and Linux based operating systems.

# Installation of the required Software and Libraries: For Make notes and saving data to the local device we use the room database to to so. Google Firebase is used for the user authentication by Email and password.

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# **Figure 1: Android Studio interface**

# **4.1 Design prototype:**

To accomplish this streamlined experience, we’ll frame the product with the following requirements:

* Home screen is new note canvas
* Title and Body fields auto-select (title > body)
* Primary Interaction: Long-press and dictate voice-to-text
* Secondary Interactions: List, Share, Keyboard and New\*
* Notes auto-saved upon completion (can be deleted in List view)

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# **Figure 2: App Sign In Page**

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# **Figure 3: notes writing interface**

# **4.3 Back-end Technology:**

# We used Google Firebase is used for the user authentication by Email and password. Frist, we register the app. The data of client got store in Google Firebase. After Registration user have to login using same email id or user name he selected at the time of registration and password provide by user. After login user can add the data on application. for data storing local storage used.

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# Figure 4: Firebase interface database

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# Figure 5: Sign In database

**5. Result Discussion & Techniques**

To confirm the usage of mobile devices at this university, the participants were asked in the first phase of the study to indicate what mobile devices they were using at that time. In the electronic questionnaire, 96.6% of the students indicated that they were using mobile devices. Students also specified that they use their mobile devices for both social and academic purposes.

Whereas now with the Samsung and its stylus it is one of the first ones they have actually brought out where the palm recognition is correct and it does not make lines all over the page and that really has made it a lot easier. I did download a stylus beta app to try and use the stylus but your finger recognition is a lot better than the stylus. Then when it tries to convert the handwriting to text its one big mission so I just decided to rather type.

However, according to the literature, the use of the keyboard could potentially hinder cognitively demanding processes, and only allow students to transcribe verbatim what the lecturer was saying (Mueller and Oppenheimer 2014). Therefore, although the keyboard is the most common way of entering information on a mobile device, it might add value for cognitively demanding note-taking purposes if the mobile device could have a dedicated stylus. All the students agreed that a stylus would enable them to take notes in the way they wanted to.

# **Conclusion & Future Scope**

# While the students struggled in some instances to use mobile devices and applications for note-taking purposes, they certainly also gained from using those devices and applications. These educational gains are reflected in the discussion above and in the comments students made at the end of the research study. For example, when taking notes on mobile devices, students can combine typed notes with handwritten notes as well as incorporating media such as pictures and videos. When doing so, all their notes on a particular topic are saved in one location. Furthermore, students mentioned that their notes were available anywhere and at any time because they had those notes on their mobile devices. If they also had electronic versions of their textbooks, it would be possible to have their books and notes available on one mobile device that moves with them wherever they go, whether it is a classroom, hospital or veterinary practice. As one student mentioned “to have my slideshows with me and to have mobile books and stuff all in the same convenient small little thing. Because lugging a book like that around is a nightmare, and I am somebody that if I don’t understand something I want to look it up now, because you tend to forget, or you think it’s not that important you end up not looking at it.”

# **References :**

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# [**https://www.researchgate.net/publication/322250376\_Affordances\_of\_mobile\_devices\_and\_note-taking\_apps\_to\_support\_cognitively\_demanding\_note-taking**](https://www.researchgate.net/publication/322250376_Affordances_of_mobile_devices_and_note-taking_apps_to_support_cognitively_demanding_note-taking)