

Development of Mobile Application for Accounting Subject

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Abstract: This study aims to develop a mobile application called "On-Lejar" to assist Form 4 students in learning the Ledger (Lejar) topic in accounting. The application addresses the limited availability of online study aids for accounting, which has led to difficulties in mastering the Ledger topic. Traditional teaching methods, which often rely solely on direct instruction from teachers, can hinder student engagement and interest in accounting. By incorporating multimedia and information technology elements, the On-Lejar application seeks to enhance the learning experience for both students and educators. The Agile Model guided the application's development, and functionality tests conducted with 10 respondents through questionnaires indicated high satisfaction with the app's overall performance, encouraging further learning and use. Additionally, the study highlights the role of Open Distance Learning (ODL) in ensuring continuity in education, especially during the COVID-19 pandemic. Educational applications, including the On-Lejar app, have become vital in facilitating home teaching and learning activities, promoting student engagement and flexible access to resources. Future recommendations include continuous innovation in educational applications to maintain user interest. Overall, the research underscores that engaging learning experiences can be achieved beyond the traditional classroom setting through well-developed mobile applications.

Keywords: Agile, Learning Tools, Technology Integration, Mobile Application, Open Distance Learning.



1. Introduction

In this era, we have witnessed various developments and technological advances that have greatly transformed human society. One of the most significant of these advancements is in information and communication technology (ICT). ICT encompasses a range of technologies that facilitate the creation, dissemination, and management of information. This rapid evolution in technology has revolutionized how we communicate, learn, and interact with the world around us. As a result, we have seen a shift in educational paradigms, with technology playing an increasingly integral role in the learning process. The advancements in ICT have not only made information more accessible but have also changed the dynamics of traditional education [1].

Among the myriad of technologies developed, computers and smartphones stand out as essential tools in our daily lives. These devices have become synonymous with modern living, serving as gateways to a wealth of information and resources. With just a few taps on a screen, users can access educational content, connect with peers and instructors, and participate in learning activities from virtually anywhere. However, while these technologies offer tremendous benefits, they also come with challenges. The overreliance on digital devices can lead to distractions and decreased face-to-face interactions, affecting social skills and the quality of education [2]. Thus, it is crucial to balance technology use with traditional learning methods to maximize the benefits while mitigating potential drawbacks.

One of the positive effects of technology, particularly in the realm of education, is the rapid availability of information. Students today have the ability to access a vast array of knowledge at their fingertips, which can enhance their learning experiences. This immediate access to information fosters independent research and promotes critical thinking skills, as students are encouraged to explore topics beyond the confines of their textbooks. Moreover, technology enables personalized learning, where students can progress at their own pace, catering to individual learning styles and needs [3]. This tailored approach is especially beneficial in diverse classrooms, where students may have varying levels of understanding and learning preferences.

In recent years, the rise of educational applications has further transformed the learning landscape. Smartphone applications such as Google Classroom, Kahoot, and Quizlet have emerged as valuable tools for both teachers and students. These applications provide interactive and engaging ways to facilitate learning, allowing for real-time feedback and assessment. For instance, Google Classroom enables educators to create a virtual classroom environment where assignments, resources, and announcements can be shared efficiently [4]. Meanwhile, Kahoot offers a gamified approach to learning, making it fun and engaging for students to review concepts and test their knowledge. Such applications not only enhance the learning experience but also encourage collaboration and communication among students [5].

The integration of educational applications opens up opportunities for developing innovative tools specifically aimed at enhancing the teaching and learning of subjects like accounting. These apps can provide interactive features such as video tutorials, practice quizzes, and simulation exercises that cater to the unique challenges of learning accounting concepts. By leveraging technology, educators can create a more engaging curriculum that addresses the practical aspects of accounting, such as journal entries, ledgers, and financial statements [6]. This technological support can be particularly beneficial in preparing students for real-world applications and industry requirements, ensuring that they are equipped with the necessary skills and knowledge.

In conclusion, the advancements in information and communication technology have fundamentally altered the educational landscape, offering both opportunities and challenges. While technologies such as computers and smartphones have facilitated access to information and improved communication, it is essential to maintain a balanced approach to learning. The emergence of educational applications presents a valuable opportunity to enhance the learning experience, particularly in subjects like accounting. As educators continue to embrace technology, there is potential for creating more effective, engaging, and personalized learning environments that empower students to thrive academically and professionally. The journey of integrating technology into education is ongoing, and with thoughtful implementation, it can lead to significant improvements in educational outcomes for students worldwide [7].

2. Literature Review

2.1. Mobile Application

Mobile applications significantly enhance student life by providing easy access to specific topics and new information. These applications serve as valuable tools for students, enabling them to engage with

content that goes beyond the limitations of traditional textbooks. By utilizing educational apps, learners can explore diverse subjects, access multimedia resources, and participate in interactive learning experiences that foster a deeper understanding of the material [8]. This immediacy of information is crucial in today's fast-paced academic environment, where students are expected to stay updated on various topics and trends.

Developing critical thinking skills is essential for students seeking to improve their knowledge and academic performance. The vast amount of information available on the internet encourages students to analyze, evaluate, and synthesize data from multiple sources. This process not only enhances their understanding but also cultivates a mindset geared toward inquiry and exploration [9]. By engaging with different viewpoints and evidence-based content, students can develop a more nuanced understanding of complex topics, preparing them for real-world challenges that require analytical thinking.

In contrast, traditional education often relies heavily on textbooks provided by schools to complete the syllabus. While these resources are important, they may limit students' exposure to broader perspectives and up-to-date information [10]. Students typically refer to these texts only during exercises or assignments, which may restrict their ability to connect theory with practice. By integrating mobile applications into their learning routines, students can augment their educational experiences, thereby enriching their knowledge and fostering a more proactive approach to learning. The combination of conventional resources and modern technology can create a more balanced and effective educational environment.

2.2. The Importance of Education Application

Since the pandemic around the world, many sectors have been affected, including the education sector. The widespread disruption caused by COVID-19 necessitated a swift transition to Open Distance Learning (ODL), enabling education to continue amidst lockdowns and social distancing measures. Instructors adapted to this new reality by utilizing various applications and websites, creating Home Teaching and Learning Activities that align with educational objectives [11]. This shift highlighted the resilience of the education sector, demonstrating how technology can facilitate learning even in challenging circumstances.

The transition to ODL was not without its challenges. Many institutions were forced to quickly adapt to entirely online teaching and learning environments, relying heavily on e-learning portals and online lecture systems. According to Jaber et al. [12], the pandemic has fundamentally altered the landscape of higher education, making it imperative for universities to embrace digital solutions to maintain educational continuity. This rapid pivot underscores the importance of flexibility and adaptability in educational institutions, which must be equipped to respond to unforeseen circumstances effectively.

In this context, maintaining the quality of education is paramount. Education must continue even during a crisis because knowledge is one of the most valuable resources available. The use of online learning platforms allows for the dissemination of knowledge to a broader audience, ensuring that students do not fall behind in their studies. Educators are now exploring various methodologies to enhance the learning experience. One of the successful approaches has been the implementation of Massive Open Online Courses (MOOCs), which provide a flexible and accessible way for learners to acquire new skills and knowledge [13].

The effectiveness of MOOCs as a learning tool has been widely recognized. According to Barba et al. [14], the more time students spend engaging with these courses, the more knowledge and skills they can acquire, making MOOCs an invaluable resource in an increasingly digital education landscape. This model not only democratizes access to education but also encourages self-directed learning, allowing individuals to pursue their interests at their own pace. Consequently, the integration of MOOC platforms into formal education systems can play a crucial role in enhancing student engagement and motivation.

Moreover, the importance of education websites and applications has become even more pronounced during the pandemic. These digital tools facilitate collaboration and interaction among students and educators, fostering a sense of community despite physical distance. They also provide opportunities for personalized learning experiences, catering to the diverse needs of students in different educational contexts [15]. This adaptability is essential for ensuring that the education sector does not fall behind, as technology continues to evolve and shape the future of learning.

In conclusion, the ongoing developments in technology and education have transformed the way knowledge is shared and acquired. The shift to ODL and the rise of MOOCs represent significant milestones in educational innovation, highlighting the need for institutions to embrace digital tools and methodologies. As we move forward, it is crucial for educators and policymakers to invest in these technologies to create more effective, inclusive, and resilient educational environments. The lessons learned during the pandemic can serve as a foundation for future educational practices, ensuring that learning continues to thrive in any circumstances.

2.3. Accounting Subject

In Malaysia, elective subjects are introduced in upper secondary school, with students selecting between science and literary streams. Accounting falls under the literary stream, where students are taught fundamental concepts such as journals, ledgers, trial balances, and financial statements. Mastery of journals and ledgers is essential, as they form the foundation of accounting knowledge. Specifically, students must understand how to manage debit and credit transactions related to assets, liabilities, and equity. A lack of proficiency in these basic topics can hinder students' ability to grasp more advanced accounting concepts, as subsequent topics rely heavily on the skills acquired in handling journal entries and ledgers to prepare trial balances and financial statements [16] [17].

The higher education students often encounter challenges during their internship semesters, particularly in applying Computerized Accounting Software, which is increasingly used in the industry. To bridge this gap and enhance the Accounting Programme, it is crucial to conduct workshops focused on the importance and benefits of such software. By providing students with hands-on experience and practical knowledge of Computerized Accounting Software, educators can better prepare them for real-world applications and meet industry demands. This proactive approach will not only strengthen students' understanding of accounting principles but also equip them with the necessary skills to thrive in their future careers [18] [19].

3. Methodology

There are few types of Software Development Life Cycle and the Agile Development from Software Development Life Cycle should be the best suitable methodologies for this system. This is because face-to-face conversation can be performed with agile method and it is the best form of communication with agile method. This model also can adapt to regular changing circumstances also late changes in requirements will not cause a problem. Each process will be described in detail through this methodology, and the process will be seen in more detail.



Figure 1. Agile Model Flow

4. Finding and Discussion

4.1. Interface

The interaction of the On-Lejar divide into two interaction which is “Nota” interaction and “Latihan” interaction. Based on the Figure 2 is the interaction of “Nota” interface. The first page that user need to start with is “Nota” button. Then the application will display sub-topic of the ledger and user need to choose which sub-topic they want to learn and click the sub-topic button. Finally, the application will display the notes of the selected sub-topics.

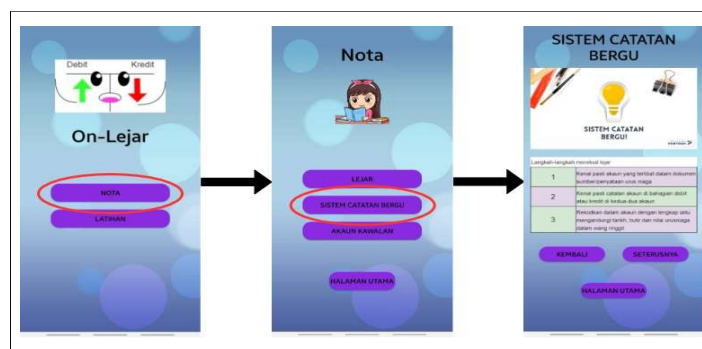


Figure 2. Interface Interaction

Figure 3 shows the interface for the is the interaction of “Latihan” interface. The first page that user need to start with is “Latihan” button. Then the application will display sub-topic of the ledger and user need to choose which sub-topic they want to test and click the sub-topic button. The application will display question instruction and user need to read carefully and click “Mula” button to start the test. Finally, the application will display the questions and user may begin to answer the question.

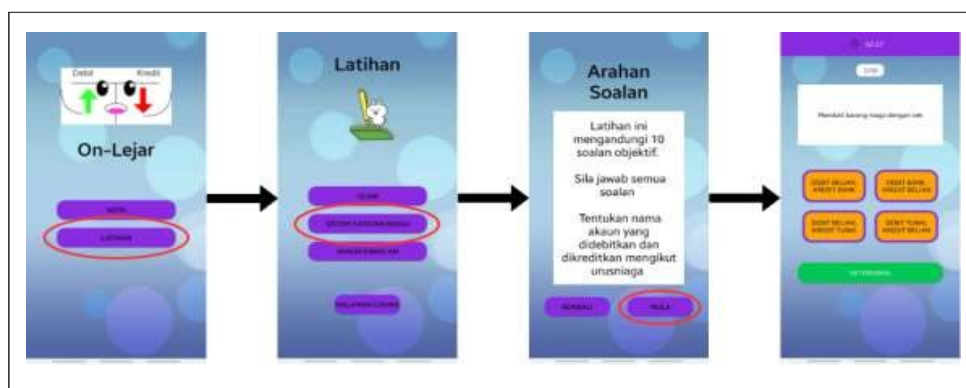


Figure 3. Interface Interaction of “Latihan”

4.2. Discussion

Insights into user interaction and educational effectiveness are revealed through the designed interfaces of the On-Lejar application. The app contains two main sections for interaction: "Nota" (Notes) and "Latihan" (Exercises), both designed to improve accounting learning.

The main entrance for users to reach educational content is through the "Nota" interface. When users click on the "Nota" button, they will see a list of sub-topics about the ledger, which helps them concentrate on their learning. The design of the interface enables users to easily navigate and choose the specific area they want to study. After selecting a specific sub-topic, precise notes related to that topic will be shown, making it easier to quickly find information. This efficient method not only strengthens theoretical comprehension but also accommodates different learning speeds, enabling users to review notes whenever necessary.

The initial user testing feedback showed that the "Nota" interface's simplicity helped reduce cognitive strain, allowing students to focus on absorbing content instead of navigating the interface. This discovery supports well-known educational theories that indicate clear, structured delivery of information can improve learning results.

The "Latihan" module is created for evaluating user understanding via engaging exercises. Once users click on the "Practice" button, they can select a specific sub-category to assess their understanding. The interface provides clear instructions so learners can comprehend the testing process before starting. The presence of a "Mula" (Start) button further improves the user experience by beginning the exercise.

Preliminary observations and feedback from users suggested that the interactive quality of the "Latihan" interface not just encouraged learners, but also created a more immersive learning atmosphere. Users were able to pinpoint areas of improvement through instant feedback, which encouraged self-directed learning. In the realm of accounting education, having a strong grasp of basic principles like journal entries and ledgers is crucial for understanding advanced subjects.

The incorporation of mobile apps in education, especially in fields such as accounting, has shown to be advantageous in many ways. Traditional education methods, as outlined in the literature review, frequently restrict student involvement and availability of varied learning materials. On the other hand, the On-Lejar app makes learning more thorough by providing instant access to study resources and interactive activities.

The importance of mobile apps is highlighted by the need for ongoing education during the COVID-19 crisis. The shift to Open Distance Learning (ODL) emphasized the ability of technology to narrow educational disparities. Tools such as On-Lejar enable students to be in control of their education, promoting critical thinking and self-confidence, which are crucial for doing well in academics.

The results of this study emphasize the need for educational apps to be both easy to use and educationally effective. Future studies should concentrate on improving interface layouts to improve user experience by incorporating feedback from both students and educators.

Additionally, enriching the learning experience can be achieved by including advanced topics and real-world accounting scenarios in the content of the On-Lejar application. Working with accounting professionals to incorporate real-world examples and practical scenarios could give students a more comprehensive grasp of the topic.

To sum up, the On-Lejar app showcases how mobile technology can bring about significant changes in education, especially in areas such as accounting. Through user-friendly interfaces and interactive learning methods, the app boosts student engagement and fosters the growth of essential skills for academic and professional achievement. Additional research and progress in this field may result in notable improvements in educational methods, specifically in the realm of online learning settings.

5. Conclusion

The results of this research demonstrate how the On-Lejar app improves the learning journey of accounting students with its well-designed interfaces. The modules "Nota" and "Latihan" offer organized access to educational materials and interactive activities to meet various learning requirements. First feedback from users showed that the app's easy-to-use layout helped lessen mental strain, allowing students to concentrate on understanding the content instead of figuring out how to navigate. Moreover, the "Latihan" module's interactive features not only inspired students but also supported independent learning with immediate feedback, underscoring the app's importance in promoting a better grasp of basic accounting concepts.

In the future, it is important for research to improve the user experience of the On-Lejar application by incorporating feedback from students and educators. Adding more complex accounting subjects and practical situations could enhance the learning experience and better equip students for future professional obstacles. Working with accounting experts on creating case studies and real-world examples in the app could give students a thorough grasp of the content. Ongoing research in the field of mobile technology could result in valuable progress for educational practices, especially by improving access to high-quality learning materials in distant and underserved regions.

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