DEVELOPMENT OF HOTEL SYSTEM LEARNING APPLICATION: TE HOTEL SIMULATOR

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Abstract

Hotel system learning at the secondary and higher education levels in Indonesia is currently still use manual system, that is not suitable with the current digital technological development used by the hotel industry. Some of current hotel information system learning simulation softwares that has been developed tend to be too expensive and unaffordable by educational institutions in Indonesia. The purpose of developing this application is to be used in the world of tourism and hospitality education in Indonesia. Research and Development approach we use to develop this application. This study develops a hotel information system learning application called TE Hotel Simulator that uses a role-playing system for its users. The existing roles are as a reservation officer, front office clerk and housekeeping officer. This application works with the Android operating system that can be accessed using a mobile phone or tablet. This application is supported by a backend system through the website www.tesim.id. TE Hotel Simulator is still on beta version and should be developed into more interactive application so the learning process could gain more experience for students.

Keywords: tourism education, tourism application, hotel system

Abstrak

Pembelajaran sistem perhotelan pada jenjang pendidikan menengah dan tinggi di Indonesia saat ini masih menggunakan sistem manual, yang tidak sesuai dengan perkembangan teknologi digital saat ini yang digunakan oleh industri perhotelan. Beberapa software simulasi pembelajaran sistem informasi hotel yang telah dikembangkan saat ini cenderung terlalu mahal dan tidak terjangkau oleh institusi pendidikan di Indonesia. Tujuan dari pengembangan aplikasi ini adalah untuk digunakan dalam dunia pendidikan pariwisata dan perhotelan di Indonesia. Pendekatan Research and Development kami gunakan untuk mengembangkan aplikasi ini. Penelitian ini mengembangkan aplikasi pembelajaran sistem informasi hotel bernama TE Hotel Simulator yang menggunakan sistem role-playing bagi penggunanya. Peran yang ada adalah sebagai petugas reservasi, petugas front office dan petugas housekeeping. Aplikasi ini bekerja dengan sistem operasi Android yang dapat diakses menggunakan ponsel atau tablet. Aplikasi ini didukung dengan sistem backend melalui website

www.tesim.id. TE Hotel Simulator masih dalam versi beta dan perlu dikembangkan menjadi aplikasi yang lebih interaktif sehingga proses pembelajaran dapat menambah pengalaman bagi siswa.

Kata kunci: edukasi pariwisata, aplikasi pariwisata, sistem hotel

Introduction

In education system, the learning process is not only carried out by students. There are several components that influence the learning process, including teachers, media and learning strategies, curriculum, and learning resources (Khanifatul, 2013). A teacher is required to master various learning methods so that he/she will be able to provide more understanding for his/her students. The most suitable learning method will produce better learning outcomes (Shadek et al., 2017). Learning media that are easy to use, more interesting, and more informative will increase students' interest in processing the material so that it is easier to understand the lessons that have been explained by the teacher (Syawaluddin et al., 2019). The percentage of information received and absorbed by students comes from watching TV or other electronic media is higher than reading textbooks. This may assume that learning from electronic media is easier to understand than reading books nowadays, do not attract student's interest to read them. Understanding the contents from text reading is still very low among students in Indonesia (Etwan, 2011). With the use of digital learning media, the limitations of teacher skills or unperfect learning condition can also be overcome (Rahayuningsih, 2017).

The utilization of mobile devices such as smartphones and tablets for learning in tourism education field continues to attract interest from tourism researchers and educators (Hürst et al., 2007; Tortorella & Graf, 2017). The usage of mobile devices by teachers and students in high school in Indonesia shows that 91% of teachers and 95% of students do use mobile devices as learning tools (Rianto, 2010). Learning using mobile application can improve student learning performance because the nature of student engagement by interaction in the mobile application (Chu et al., 2010; Liu et al., n.d.). The benefit of mobile learning software is the flexibility of time while learning because mobile learning methods could give option for student to conduct self-learning (Arrasyid et al., 2020). The flexibility of using mobile devices allows students to learn anytime and anywhere (Baran, 2014; Motiwalla, 2007).

Tourism education in Indonesia is supported by secondary education in the fields of vocational education, vocational higher education and academic higher education. The tourism education in Indonesia for secondary and higher education is in the areas of accommodation services, food and beverage services and travel services. Secondary tourism education and higher education in Indonesia are closely related to hospitality education which focuses on service skills in the tourism sector. Most of the hospitality learning models in Indonesia still use the expository method in the classroom and practicum in the laboratory and industry. The absorption of technology in the tourism education process in Indonesia still low, as impact of the lack of innovation in the field of tourism education in Indonesia. The condition of the Covid-19 pandemic is a turning point for academics that engaged in tourism education. They realized that learning innovations in the tourism sector were urgently needed to be able to catch up with the delays that occurred due to the temporary closure of tourism schools while cases of Covid-19 transmission were still high.

One of the innovations developed in this study is an application for learning in the field of tourism, especially to introduce information systems that occur in hotels industry. The process of hotel service information systems that occur starting from the

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time the reservation process occurs. When making a reservation, information about tourists is requested in the form of guest data, choice of room type, number of rooms, and arrival time. Furthermore, when guests come to the hotel, they will do check in, provide data, and take keys so that it reduces the capacity of the hotel room. The last stage when guests check out, information about what is consumed by guests, how much money they must be paid, using any payment method, and closing guest bills are also part of the services provided by hotel staff.

The tourism learning application that was developed in this study is called TE Hotel Simulator by TESIM, which is an application that works with the Android operating system. The principle of using this application is a role-playing system, where users will act as reservation officers, front office officers and housekeeping officers. This application is supported by a backend system that works through the www.tesim.id which can be accessed by school teachers who are in charge of hotel operational course. This study develops the first version of the TE Hotel Simulator system and hopes can fulfil the basic needs of learning hotel information systems at secondary and higher education levels in Indonesia. While this article written, the TE Hotel Simulator still under developing in final progress. So it will not yet released at Playstore.

Method

This study conducts a qualitative research by R&D methods principals. TE Hotel Simulator application at ideal design will be an interactive multimedia system that will use text, graphics, sound and video while operates. Multimedia is a combination or combination of various existing elements such as text, graphics, sound, video, and animation. A multimedia will be said to be interactive if the user has the flexibility to control the media (T, 2008). The method used in designing an interactive media application can use the Interactive Multimedia System Development (IMSD) method which consists of the system requirements analysis stage, the design stage, the creation and implementation stage, and the evaluation stage (Yosanny et al., 2011). In this study, we will discuss about design and implementation stages only. While the other stages will be presented in another study.

Result and Discussion

The design of the beta version of the TE Hotel Simulator learning application emphasizes the flow of data between the three roles in the hotel. An information system with data exchange from three interrelated areas in the hotel, namely reservations, front office and housekeeping related to hotel room management. In this simple beta version of the simulator, it was developed for the benefit of practical hotel operations at the secondary school and higher education levels. Where students are needed to understand how the process of serving guests who make reservations, check in hotels and check out hotels.

General TE Hotel Simulator Application Flow

The TE Hotel Simulator application works on the Android operating system. With a backend system that is controlled through the website www.tesim.id. Figure 1 below shows how the data flow occurs in the TE Hotel Simulator application that uses three user role plays, namely reservation officer, front office officer and housekeeping officer. Meanwhile, teacher login can only be done on the website page to be able to see the entire student learning process, by assessing whether the student is right in carrying out his role. The teacher will develop several story questions as a simulation of the arrival of

guests at the hotel. Assessment takes place when students finish playing at least one role in this simulator.
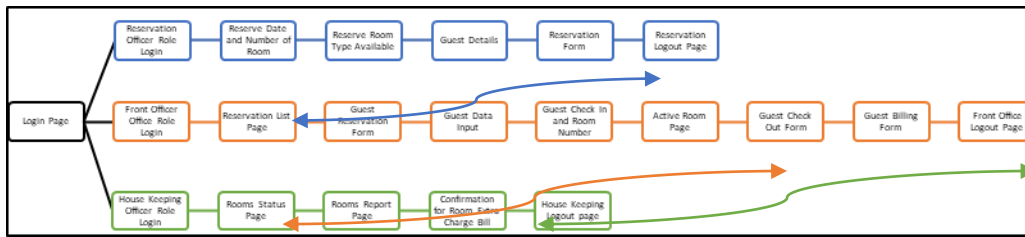

Figure 1 Data Flow Diagram on TE Hotel Simulator Application System

TE Hotel Simulator Flow Based on Role Play

TE Hotel Simulator can later be downloaded on the Playstore for free for users. However, to gain access, you must have registered accounts on the website whose access keys can only be opened by the admin. In figure 2 below is the login page of the TE Hotel Simulator application. Next, we will discuss the features that can be accessed by each role in the developed application.

Figure 2 Login Page on TE Hotel Simulator Application

Reservation Officer Role

The first role is as a reservation officer. Where students will act as reservation officers who receive hotel guest orders by telephone. In this beta version of the application, orders are received from guests according to the simulation of story questions given by the teacher. What is assessed in the reservation officer's role is the suitability of guest orders with reservations made. The reservation clerk must first log into the account as a reservation. Then the clerk will accept the guest order and must choose the option according to the guest order. The inputted data relates to the check-in date, check-out date, number of rooms, and the choice of room type. The data entered in the reservation details includes special requests, guest contact data, and hotel room payments. After all the data is inputted, a reservation form will appear which will be given to guests via email. This data will also be included in the reservation list that can be accessed by the front office staff.
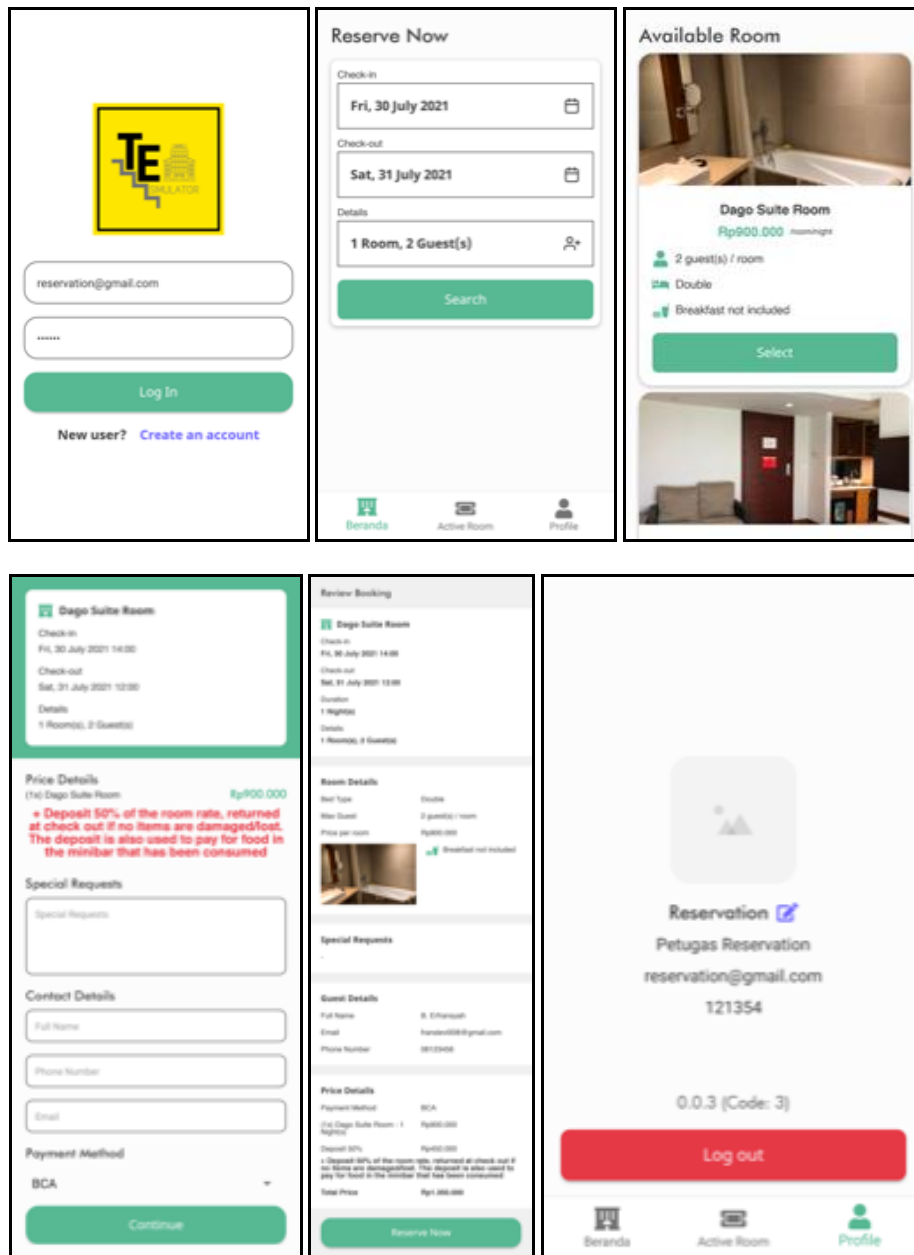
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Figure 3 Pages for Reservation Officer Role

Front Officer Role

The second role is as a front officer. Where students will act as a receptions who receive guests checking in at the hotel. Check-in guests will bring a reservation form that is matched with the reservation list on the page that can be accessed by the front office staff. When checking in guests are expected to bring completeness such as an ID card and fill out the check-in form. Front office staff can access the active room page to find out which rooms are being used by guests. The thing that is assessed in the role of the front officer is the time when receiving guests check in and check out. The front officer must first log in to the account as a front office. Then the officer checks the existing reservation list and opens room access according to the arrival of guests who check in on that day. The inputted data relates to opening room access according to the

reservation form, inputting guest details such as photo ID cards, providing the correct room access code according to the check-in form. The front officer is also in charge of serving guests who check out. When checking out the main task of the front officer is to do guest billing. Guest billing will be issued if the front officer has received a room status report from the housekeeping staff regarding extra charges such as minibar and damage and loss of hotel room property. The guest bill can be printed in pdf format and sent via email to the guest's address.
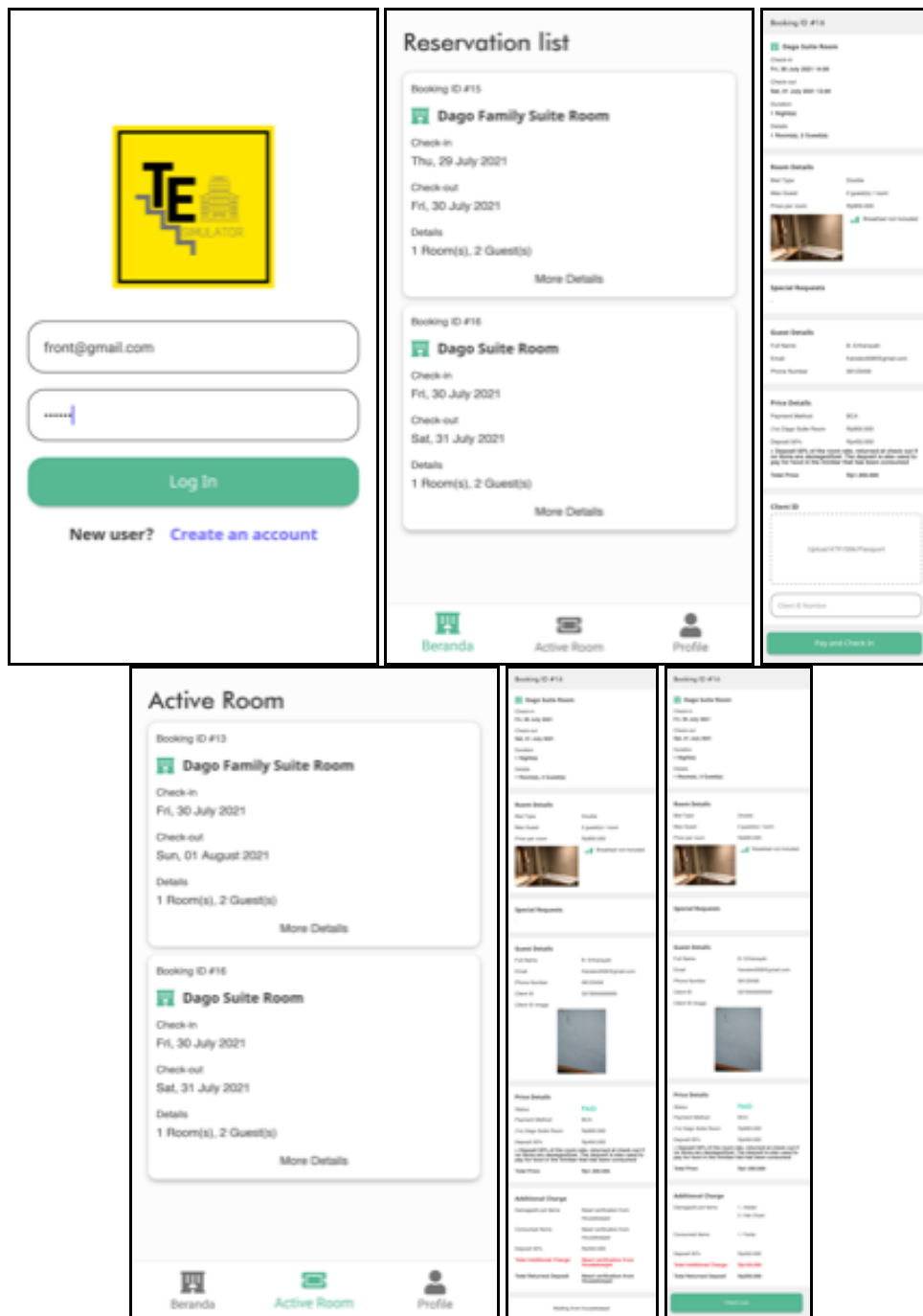

Figure 4 Pages for Front Officer Role

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Housekeeping Role

The third role is as a Housekeeping officer. Where students will act as housekeeping officers who are in charge of checking and cleaning rooms when guests are going to check out. Housekeeping officers will be able to access the active room page, rooms that need to be cleaned page, fill in the data for the list of parts of the room that have been cleaned page, fill in the list of damaged or lost items, fill in the list of items consumed by guests (minibar). After that the housekeeping officer confirmed the data which would be connected to the guest billing data at the front office. The thing that is assessed in the role of the housekeeping officer is the suitability of the inputted data with the story questions given by the teacher. If there is a room whose data has not been inputted by the housekeeping officer, then the room cannot be printed on guest billing at check out.
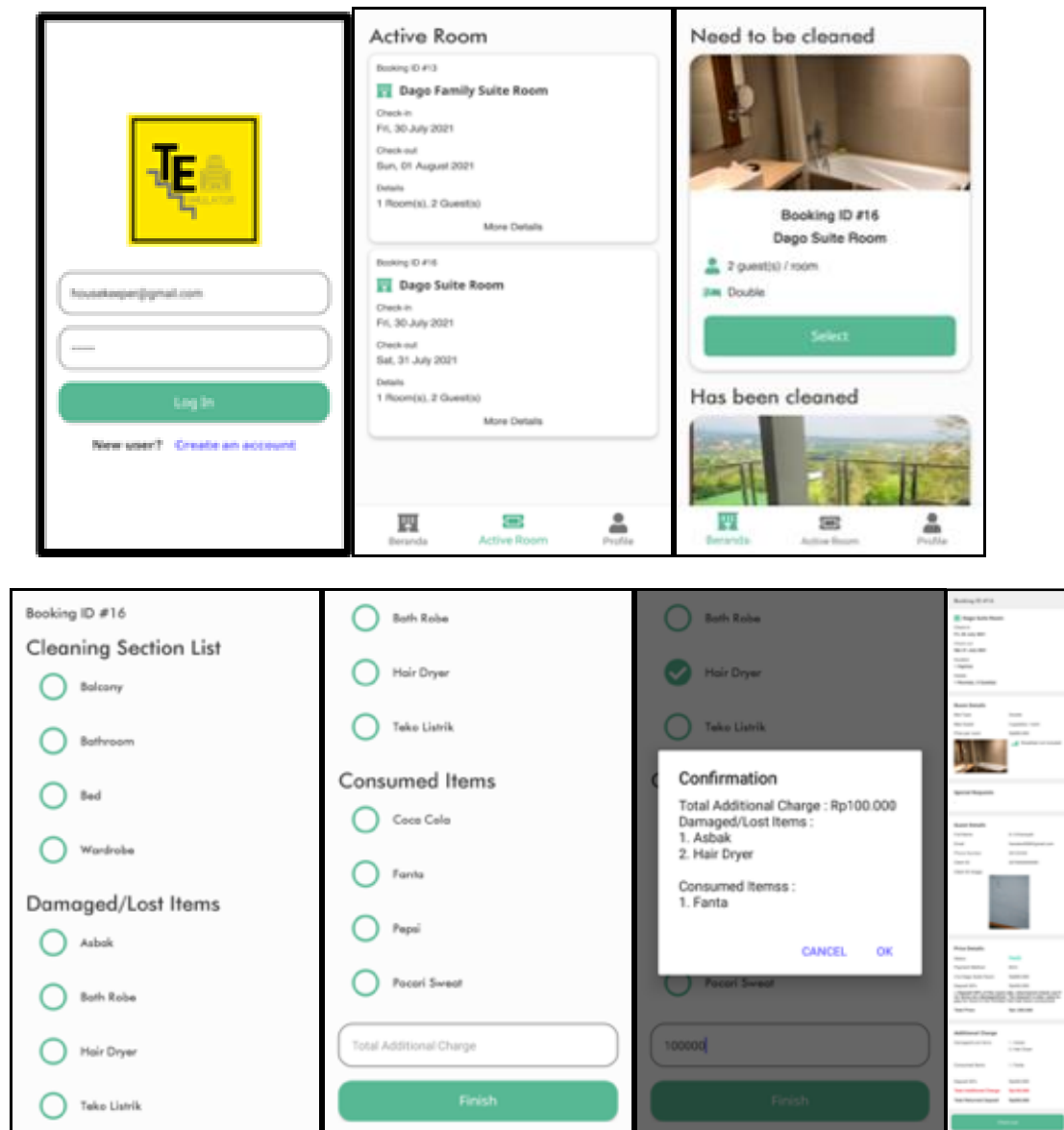

Figure 5 Pages for Housekeeping Officer Role

Conclusion

The Development TE Hotel Simulator application study is still in the finalization stage, especially the backend system through the website www.tesim.id. The system testing phase must be carried out with a number of system testers, and a panel of experts in developing this application into a more perfect in function. Further studies will be carried out in improving the function of the learning simulator by developing story questions that can work automatically, up to the gamification stage to make it easier for teachers to directly obtain data on student scores who access this application. The multimedia feature should be developed in order to gain more interesting experience for user. Tests related to user experience from both the student and teacher side also need to be carried out in order to test the function of the features in the TE Hotel Simulator application whether they are in already meet with the learning outcomes required by middle-level students and higher education levels in the tourism education sector.

Reference

Arrasyid, R., Ruhimat, M., Ubad, C., Suwandi, A., & Raka, H. (2020). DESIGN, DEVELOPMENT, AND EVALUATION OF A MOBILE LEARNING APPLICATION FOR TOURISM EDUCATION. 15, 17.

Baran, E. (2014). A Review of Research on Mobile Learning in Teacher Education. International Forum of Educational Technology & Society, Vol. 17, No. 4(Educational Technology&Society), 17–32.

Chu, H.-C., Hwang, G.-J., Tsai, C.-C., & Tseng, J. C. R. (2010). A two-tier test approach to developing location-aware mobile learning systems for natural science courses. Computers & Education, 55(4), 1618–1627. https://doi.org/10.1016/j.compedu.2010.07.004

Etwan, K. A. (2011). Analisis dan Perancangan Multimedia Pembelajaran Teknologi Informasi dan Komunikasi Pada SMA 1 Sambit Ponorogo. Naskah Publikasi Jurusan Sistem Informasi STMIK AMIKOM Yogyakarta.

Hürst, W., Götz, G., & Welte, M. (2007). Interactive video browsing on mobile devices. Proceedings of the 15th International Conference on Multimedia - MULTIMEDIA '07, 247. https://doi.org/10.1145/1291233.1291284

Khanifatul. (2013). Pembelajaran Inovatif. Ar-Ruzz Media.

Liu, T.-C., Peng, H., Wu, W.-H., & Lin, M.-S. (n.d.). The Effects of Mobile Natural-science Learning Based on the 5E Learning Cycle: A Case Study. International Forum of Educational Technology & Society, Vol. 12, No. 4(Educational Technology&Society), 344–358.

Motiwalla, L. F. (2007). Mobile learning: A framework and evaluation. Computers & Education, 49(3), 581–596. https://doi.org/10.1016/j.compedu.2005.10.011

Rahayuningsih, P. (2017). Aplikasi Media Pembelajaran Tajwid Berbasis Multimedia Bagi Siswa Sekolah Dasar. Simki-Techsain: Universitas Nusantara PGRI Kediri, 1(5).

Rianto, S. (2010). MAKNA TELEPON GENGGAM DI KALANGAN MAHASISWA STKIP PGRI SUMATERA BARAT. Jurnal Pelangi, 3(1). https://doi.org/10.22202/jp.2010.v3i1.42

[1]Endah Fitriyani, [2]I.I. Pratiwi, [3]B. Erfransyah Levi Darmawan

Shadek, Fadjar, T., & Swastika, R. (2017). Pengembangan Aplikasi Sistem E-learning Pada Seluruh Mata Kuliah Dengan Menggunakan Program Hypertext Prepocessor (Php) Dalam Rangka Peningkatan Mutu Proses dan Hasil Pembelajaran. Jurnal ProTekinfo, Vol. 4, 1–18.

Syawaluddin, Makkasau, A., & Fitrayani Jamal, I. (2019). Pengembangan Media Pembelajaran Berbasis Aplikasi Lectora Inspire Pada Mata Pelajaran IPS Kelas V di SDN 197 Sapolohe Kecamatan Bontobahari Kabupaten Bulukumba. JIKAP PGSD: Jurnal Ilmiah Ilmu Kependidikan, Vol. 3, No 3, 294–306.

T, V. (2008). Multimedia: Making It Work. McGraw-Hill Companies, Inc.

Tortorella, R. A. W., & Graf, S. (2017). Considering learning styles and context-awareness for mobile adaptive learning. Education and Information Technologies, 22(1), 297–315. https://doi.org/10.1007/s10639-015-9445-x

Yosanny, A., Pradipta, A., & Viles, D. (2011). APLIKASI PEMBELAJARAN TABLE MANNERS BERBASIS MULTIMEDIA. 6.