

MEDIA LEARNING AKSARA BESEMAH INTRODUCTION ON PRIMARY SCHOOL AT PAGARALAM CITY ANDROID BASED (CASE STUDY : SD N 55)

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ABSTRACT

Research conducted at SD Negeri 55 Kota Pagaram is building a media for learning weak alphabet for fifth grade elementary school students as a media for assisting in learning to write strong letters with media for introducing letters that aims to provide supporting media for teachers to explain the material of Besemah script and to provide media learning for students to help learn syllabic material when it is outside the school environment. The research methodology consisted of 3 (three) stages, namely problem identification, data collection (interviews, observations, and literature reviews), data analysis, software development using Luther Sutopo's Multimedia Development Life Cycle method, and also application testing. The application contains besemah script material and also games that can help students in learning. Based on the results of testing applications that have been built, it can be concluded that the learning media for the introduction of Besemah scripts can be a supporting media for teachers in delivering besemah literary material, in addition this application also helps students learn Besemah scripts when outside the school environment, so students can remember the material besemah letters conveyed at school.

Keyword : Android, Aksara Besemah, Game, Method MDLC, Multimedia

1. INTRODUCTION

Preservation as a cultural heritage which is our obligation as a weak community to take part in preserving it which is now increasingly extinct by an era, preservation of the weak alphabet is part of the task of the local government to preserve it by providing subjects with a weak script in each school. Literacy is a visual symbol used to express expressiveness in language, which is usually printed on paper and can also be located on stone, wood, leaves, cloth, etc. or can be interpreted as letters or graphic signs systems used by humans to communicate [1] Besemah script is a cultural heritage during the Dutch colonial era. Besemah is often referred to as ulu letter used on bark, leaves, shell, coconut, keratin bamboo and buffalo horns [2]. Besemah script (Malay) is different from other

Malay characters such as Maluku, Riau and others, because the Malay Weak script is a separate character in the South Sumatra area of Pagaram City.

Research conducted at SD N 55 Kota Pagaram located in South Sumatra Province Pagaram City Address Jl. Kombes H.Umar. Besemah Language Learning in schools is generally done using textbooks. The problem faced by students in learning of Besemah script is the difficulty in understanding the material of Besemah script.

Based on interviews with besemah script teachers in SD Negeri 55 Pagaram City, sustainable mothers as besemah script teachers, stated that besemah scripts are part of the nation's cultural wealth that needs to be preserved. Among them by introducing to future generations. Therefore, there are some problems which are found first, there are no supporting language books. The impact of the material is not fully understood by students. Secondly, it has never been introduced in the community environment and education reminds students of difficulties during the process of learning the language of Besemah script.

From the results of respondent class 5 students with a sample of 2 classes as many as 38 students, of 85% students had difficulty in understanding the instructional media conveyed by the teacher. Depictions in books are sometimes difficult to understand and also difficult to understand. Viewed from 38 student respondents, students agree if there is learning media as a tool in the learning process.

From the problems that have been explained, all teachers and students' media are needed in the teaching and learning process at SD Negeri 55 Kota Pagaram. First, the teacher can convey the material he wants to convey easily. Both ways students can learn scripts easily and can be preserved even though they are already outside the school environment such aids media are: "Learning Media Introduction to Besemah Literacy in Elementary Children in Pagaram City Based on Android".

2. RESEARCH CONTENTS

2.1 Theoretical Basis

2.1.1 Regional Languages

Language is a tool used by humans to convey information from speaker to interlocutor [3]. With the existence of language, communication and relationships between fellow human beings can be established well and neatly. Based on this understanding, it can diatrik the conclusion that the regional language is a particular tool used by humans to convey information from the speaker to the interlocutor in a blood [9]. Thus it can also be said that each region has its own special language or local language which can be used as a tool to convey information [3].

2.1.2 Literacy

used by humans to communicate and more or less represent words, characters are one of the characteristics of etiquette and a tool to unite ethnic groups, the weak community before knowing characters in their daily lives still looks simple, but after knowing the characters in people's lives it becomes more improved and advanced [4]. Script also shows besides national identity, it can be considered the limit of human life between prehistoric times to historical times [4].

Aksara is a Sangkerta letter which is different in each region and as a cultural heritage letter during Dutch exploration in Indonesia. Literacy is found in megalite stones and also the relics of statues during the Dutch colonial era, the scripts are also used to make letters during the Dutch colonial period [4].

2.1.3 Aksara Besemah

Besemah script is a term from the language of cultural heritage during the Dutch colonial era in Indonesia, besemah script or often referred to as the Malay script is used to make letters during the Dutch colonial period in the City of Pagaralam, South Sumatra Province [5]. The ulu script or better known as Surat ulu was used rapidly in the middle of the 13th century until the 19th century [5]. According to Yahmid, a Muhammadiyah shop from the hamlet of Nantigiri, the use of Surat Ulu is expected to begin to decrease during the era of growth and development of Islamic empires in the archipelago [5].

The following are besemah characters which can be seen in Table 1.

Table 1 Literacy

No	Nama	Huruf Aksara
1.	Ke	
2.	Ge	

No	Nama	Huruf Aksara
3.	Nge	
4.	Te	
5.	De	

2.1.4 Game

Game (game) in general is a recreational activity with the aim of having fun, free time, or light exercise. The game is usually done alone or together [6].

2.1.5 Learning Media

Learning media is a system that consists of various components that are connected to each other. The components include: objectives, material, methods and evaluation. Learning_ is the process of creating conditions that are conducive to interactions in communicating learning between teachers, students, and other components to achieve goals in learning [7].

2.1.6 Multimedia

Interactive multimedia is a multimedia that is equipped with a controller that can be operated by the user. In interactive multimedia, users can choose what they want for the next process [8].

2.1.7 Object Oriented Design Analysis

Object-oriented design or OOD changes a conceptual model that can be generated into object-oriented analysis by taking into account the constraints that are selected by the selected architecture and any constraints - technology and non-functional environments, such as programming languages, development environments, run-time platforms, responses time, or transaction throughput [9].

2.1.7.1 UML

UML serves as a bridge in communicating aspects that exist in the system through graphical elements that can be combined to become a diagram. Modeling that uses UML is visual and object-oriented modeling because it uses UML modeling which only focuses on defining static structures and dynamic system models rather than traditional development goals [10].

2.1.7.2 Use Case

Use case diagrams illustrate a system interaction namely user, internal system, and external system. In other words, an interaction between one or more actors with the system to be built [10].

2.1.7.3 Activity Diagram

Activity diagram illustrates an activity or workflow of business processes that exist in the software. Activity diagrams provide analysis to model processes in a system. Activity diagrams can be used as workflow models, decision logic contained in individual methods, or individual use cases [10].

2.1.7.4. Class Diagram

Class diagrams can be described as various types of objects in a system and various static relationships that exist. The class diagram also shows the operation and property of a constraint and the class contained in the relationship between objects [10].

2.1.7.5. Sequence diagram

Sequence diagrams can be said as object behavior at usecase which can be described as the life time of objects and messages sent and received between objects [10].

2.1.8 System Testing Methods

System testing method is used to determine the effectiveness of a software (software) that is used, in addition to providing the opportunity for users to check and operate reports generated through software. The system testing method uses Blackbox, Beta and Pre Test and Post Test.

2.1.8.1 Black Box Testing

Black box testing, also known as behavioral testing, is a software testing method where the internal structure, design, and implementation of the part being tested cannot be known by the examiner. In black box testing, the testing done is testing the functionality and non-functionality.

2.1.8.2 Beta Testing

Beta testing is done on the application to find out the responses and user ratings of the application, then a calculation is done using a Likert scale where the data is analyzed by calculating the average answer based on the scoring of the answers of respondents, then added up [10].

2.2 Research Methods

Research methodology is used as a guideline in conducting research so that the results achieved do not deviate from the objectives being carried out, and can be used to solve a problem. In this study the methodology used has stages that can be seen in Figure 1.



Figure 1. Research Methodology

2.2.1 Identification of Problems

Problem identification is the stage to find the problems that occur at the research site namely the Cicendo SLB Negeri Bandung. So from the existing problems will be determined what applications are needed by the State SLB Cicendo City of Bandung.

2.2.2 Data Collection Methods

Data collection techniques in this study used the interview method by conducting question and answer directly with Ms. Sri Lestari A.Md .. as a teacher of weak letters at SD Negeri 55, observations by teachers to students at SD Negeri 55 Pagaralam City, questionnaires, and literature review from previous researchers.

2.2.3 Software Development

The software development method used is the application development method of Multimedia Development Life Cycle, Luther - Sutopo [11]. The device development method takes processes systematically and sequentially, each process is carried out one by one, if it is going to do the next process then the previous process should be completed first. MDLC is used when the user needs are very clear and have clear rules, because each process is done in stages. The series of software development methods carried out can be seen in Figure 2.

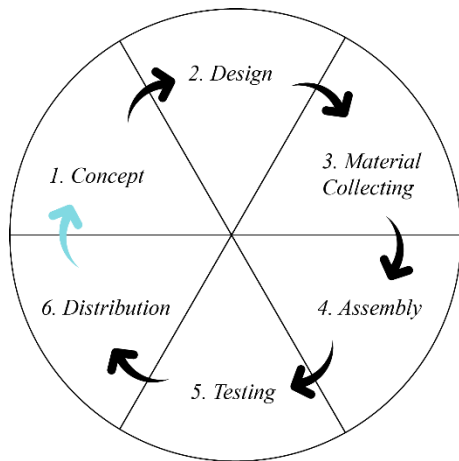


Figure 2. Development Method of Mulher Luther-Sutopo Application

2.2.4 Testing

The testing phase is an experimental application phase that has been built. This test aims to test applications that are built by observing application deficiencies. The system testing method uses BlackBox, pre test and post test.

2.3 Results and Discussion

2.3.1 Problem Analysis

Before doing system design, the first thing to do is analyze the problems or obstacles experienced by teachers and students at SD Negeri 55 Kota Pagaram. The problem can be identified as a question that is desired to be solved properly. Therefore, the first step that must be done is to identify the existing problems.

The first problem is the teacher needs supporting media so that the delivery of material to be delivered by the teacher is in accordance with the needs of students at SD Negeri 55 Kota Pagaram. That is because teachers at SD Negeri 55 Kota Pagaram sometimes have difficulty in delivering material, while students at SD Negeri Pagaram also have difficulty understanding material so they need supporting media.

2.3.2 Architectural Analysis

Architectural analysis of the system built can be seen in Figure 4.

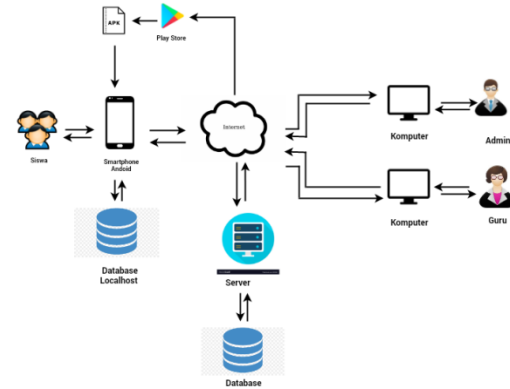


Figure 3. System Architecture

The application that will be built based on mobile, this application serves as a media aids for teachers in delivering the material to be delivered and helps students of SD N 55 Pagaram City in understanding the material delivered by teachers at school. In using this application the user uses a smartphone as a tool to run the application of the introduction of a weak script.

2.3.3 System Modeling

2.3.3.1 Analysis of Non-Functional Needs

Analysis of non-functional requirements can be described as system requirements that likens the users contained in the system, including user needs, hardware, software, as an analysis of the needs and deficiencies that must be met in the design of the applied system.

2.3.3.2 Functional Requirements Analysis

Functional requirements analysis is the process of describing the activities needed by a system for the system to be built to run well and in accordance with needs. System modeling is modeled using use case diagrams and class diagrams.

2.3.3.2.1 Use Case Diagram

The interaction between one or more with the system that will be built can be seen in Figure 5 below.

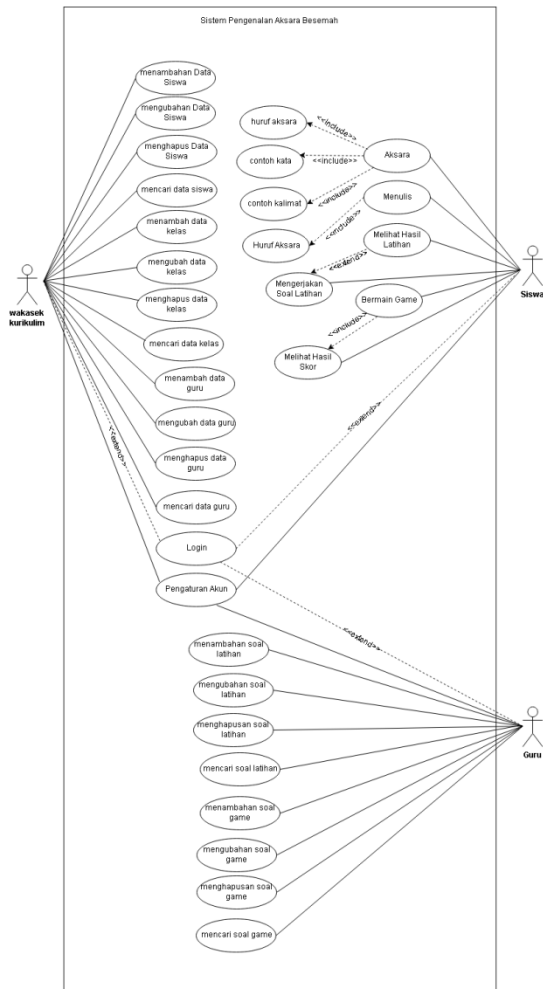


Figure 4. Use Case Diagram

2.3.3.2.2 Definition Actor

The following are the actors contained in the system that will be built.

Table 2. Definition Actor

No	Aktor	Description
1	Teacher	The teacher is the user of the application that will be built, namely the teacher at SD Negeri 55 Kota Pagaram who will use the application of learning media for the introduction of a weak script for elementary school children in the City of Pagaram as a media to help deliver a material.
2	Student	Students are users of the application to be built, they are students in SD Negeri 55 Kota Pagaram who use the application of learning media for the introduction of a weak

No	Aktor	Description
		script for elementary schools in Kota Pagaram as a learning medium when outside the school environment.
3.	Admin (wakasek)	Admin is a user of the website, namely the deputy headmaster at SD Negeri 55 Kota Pagaram who will use the website of Besemah script learning media for elementary school children in Kota Pagaram as a media to help process data.

2.3.3.2.3 Definisi Use Case

The following is the definition of the use case contained in the system to be built.

Table 3. Definition Use Case

No	Use Case	Description
1.	Script	It is a process of learning the weak alphabet using media speech recognition.
2.	Literacy	The process of learning letters.
3.	Example Words	The process of learning words.
4.	Example of sentences	The process of learning to write characters.
5.	Write	Writing process
6.	Literacy	The process of writing letters by combining dots.
7.	See Exercise Results	The process of seeing Lathan's results.
8.	Doing Exercise	The process of working on the problem.
9.	Playing games	The process of playing a game.
10.	See Score Results	The process of seeing the results of playing game scores.
11.	Adding Student Data	The process of adding student data.
12.	Changing Student Data	The process of changing student data.
13.	Erasing Student Data	The process of erasing student data.
14.	Finding Student Data	The process of finding student data.
15.	Add Class Data	The process of adding Class data.
16.	Changing Class Data	The process of changing Class data.
17.	Deleting Class	The process of deleting

No	Use Case	Description
	Data	Class data
18.	Looking for Class Data	The process of looking up Class data
19.	Adding Teacher Data	The process of adding teacher data
20.	Changing Teacher Data	The process of changing teacher data
21.	Erasing Teacher Data	The process of erasing teacher data
22.	Looking for Teacher Data	The process of finding teacher data
23.	Adding Practice Questions	The process of adding practice questions
24.	Change Practice Questions	The process of changing the practice questions
25.	Eliminating Exercise Questions	The process of eliminating practice questions
26.	Looking for Practice Questions	The process of finding practice questions
27.	Adding Game Questions	The process of adding questions about the game
28.	Change the Game Problem	The process of changing the game problem
29.	Erasing a Game Problem	The process of deleting a game problem
30.	Looking for Game Problems	The process of finding a game problem
31.	Account Settings	Account Settings Process
32.	Login	Login process

The following is the design of the interface interface can be seen in Figure 6.

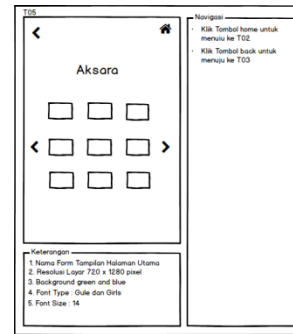


Figure 6. Script Interface

The following is the writing interface design can be seen in Figure 7.

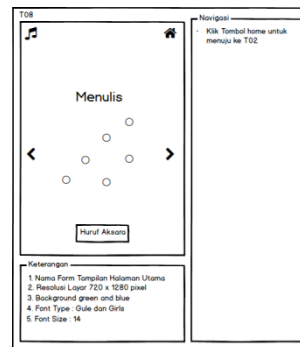
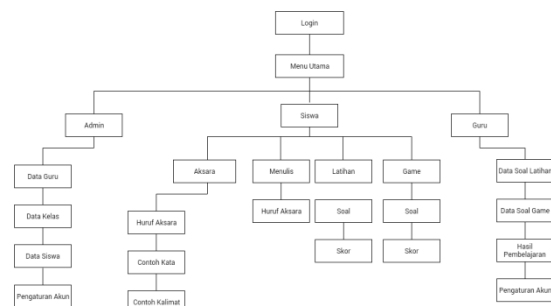


Figure 7 Writing interface

2.3.4.2 Menu Structure Design

The following is the design of the menu structure can be seen in Figure 8.



Gambar 8. Perancangan Struktur Menu

2.3.4 Design and Implementation

2.3.4.1 Interface Design

The following is the main menu interface design can be seen in Figure 5.

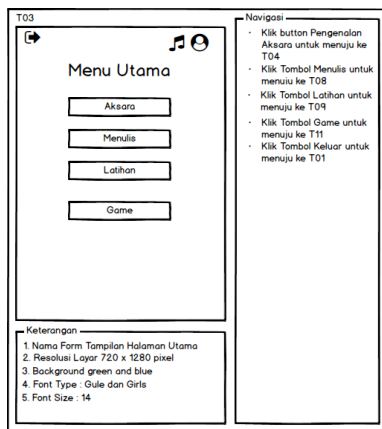


Figure 5. Main Menu Interface

2.3.4.3 Semantic Design

The following is the semantic design can be seen in Figure 9.

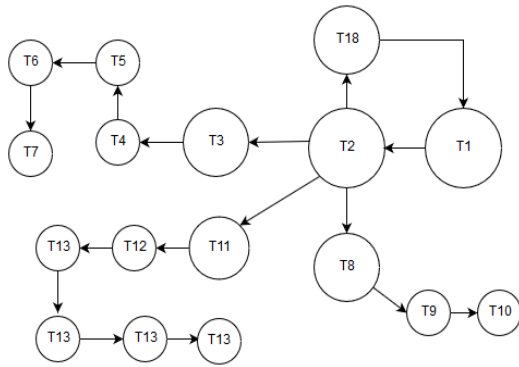


Figure 9. Semantic Design

2.3.4.4. Interface Implementation

The following is the implementation of the main menu interface that displays the menus in the Besemah Script application.



Figure 10. Implementation of the Main Menu Interface

Next is the implementation of the script interface. Aksara is a weak letter ulu which is often used to make letters that are usually located on paper, stone, cloth, trees and others.

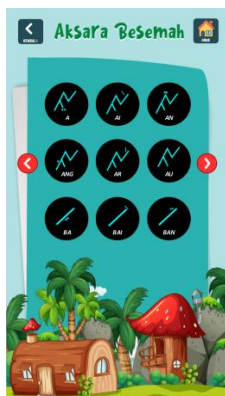


Figure 11. Script Implementation

The following is the implementation of the writing interface, where students can learn to write by following the numbers that are applied before using, please read the rules first.



Figure 12. Implementation of the Writing Interface

Following is the implementation of the exercise interface, with the practice students can learn by looking at the results of the incorrect and correct answers.



Figure 13. Implementation of the Exercise Interface

Next is the implementation of the game interface that displays the letters by filling in the blank buttons then checking whether the answers are true and false. While the passing button will appear a new problem and then the score will appear later.



Figure 14. Game Interface Implementation

2.4.5 Testing and Test Results

2.4.5.1 Blackbox Testing

Blackbox testing focuses on the functional requirements of the software being built. Stages of a functional test carried out include blackbox testing scenarios, cases, and test results.

2.4.5.1.2 Blackbox Testing Results

The results of blackbox testing that has been done can be concluded that the system has been running as expected. From all that has been done in this test is expected to represent testing the other functions in the system being built.

2.4.5.2 Testing pre test and post test

Pre-test and post-test is a pre-test which is done before explaining the material and post after explaining the material using the application.

2.4.5.2.1 Pre-test and post-test results

Pre-test and post-test is a pre-test which is done before explaining the material and post after explaining the material using the application.

3. PENUTUP

3.1 CONCLUSION

From the research, implementation and testing, the writer draws the conclusion that in the development of learning media applications for the introduction of besemah scripts in elementary school children in Pagaram City based on android, namely:

1. *Assist the teacher in delivering the weak script material in the teaching and learning process.*
2. *Assist students in learning besemah letters even though they are outside the school environment.*

3.2. Suggestion

To develop better interactive media applications, suggestions from the author are:

1. *Add a dictionary recognition so that users can easily find the weak alphabet by recording a voice first.*
2. *Equipped with the main features of moving animation and sound to direct the user before entering the application.*

BIBLIOGRAOHY

- [1] Turmudi, "Pengertian Aksara Menurut Para Ahli",2013.[online]
<https://www.indonesiastudents.com/pengertian-aksara-dan-contohnya-lengkap/>
- [2] T.S. Olah ,Huruf Besemah(Surat Ulu),
"Lembaga Adat Besemah", Pagaram,2015.
- [3] I. Wihanry, P. Chyan.2015. Perancangan Aplikasi Pembelajaran Aksara Lontara Dengan Metode Game Based Learning," Jurnal Tematika". 3(1) Pp1-8.
- [4] Neliti, Aksara, "Jurnal Bahasa dan Sastra",2019.20(1).
- [5] Yahmid, "Aksara Ulu Tradisi Tulisan Suku Besemah Yang Wajib Di Lestarikan",2015.[online]
<https://kurniawanpagaram.wordpress.com/2015/07/01/aksara-ulu-tradisi-tulisan-yang-wajib-dilestarikan/>
- [6] R. Wardhani, H.M. Yaqin 2013 Game Dasar-Dasar Hukum Islam Dalam Kitab Mabadi'ul Fiqh Jilid 1. " Jurnal Teknika". ISSN 2085-0859 Pp473-478.
- [7] O.Hamalik.2003.*Media Pendidikan*".Bandung: "PT.cipta Adiya Bakti".
- [8] S.B. Oetomo,"Teknologi dan Aplikasi Internet Pendidikan",Yogyakarta:Andi,2002.
- [9] Budiman, Yudha Arirf, dkk."Analisis dan Perancangan Sistem Social e- Learning untuk Mendukung Program Bandung Smart City",Jurnal Tugas Akhir, vol.2, no.1,pp.998 1003, April 2017.\
- [10] S.M.Yuni Sugiarti, Dasar-Dasar Pemograman Java Netbeans: Database UML dan Interface,Bandung:PT.Remaja Rosdakarya,2018.
- [11] Hanhan M, M A Aliska. Pembangunan Media Pembelajaran Interaktif Pada Mata Pelajaran Bahasa Inggris Kelas VII (Study Kasus SMP XYZ), "Majalah Ilmiah Unikom".vol .16 no.2.