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Interactive Learning: Human Anatomy Mobile Application for Elementary Students

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Abstract *- Student has a different method. One interesting learning method that can increase student interest is by utilizing multimedia. Multimedia applications in learning methods are quite interesting because they contain colored images, sound and even animation. Learning using multimedia makes a student not very dependent on the presence of a teacher. Where a teacher or lecturer only acts as a mediator and facilitator who helps the learning process of students or students to run well. A researcher can be carried out correctly by choosing a method to guide research activities. The process of collecting data then analyzing the data to conclude the research results. Method of observation in data search by observing directly at the research object. The method involves asking teachers and students questions about the anatomy of the human body in science lessons. The library method is carried out by collecting information according to the topic of the problem. This Android-based human anatomy learning application program for elementary school students was created using Android Studio for the display and processes running in it. Based on the results of the research and discussion, it can be concluded that this mobile learning application for human body anatomy for elementary school children can be achieved using the MDLC (Multimedia Development Life Cycle) method which is carried out to the testing stage and using developer tests with the Black box testing method, so that the application Mobile-based learning for elementary school children.*

Keywords : *Human Anatomy, Digital, 3D Moduls, Elementary*

I. INTRODUCTION

Learning activities can be done by anyone, especially by someone who is still a student. To improve learning success, each student has a different method. One interesting learning method that can increase student interest is by utilizing multimedia. Multimedia applications in learning methods are quite interesting because they contain colored images, sound and even animation. Learning using multimedia makes a student not very dependent on the presence of a teacher. Where a teacher or lecturer only acts as a mediator and facilitator who helps the learning process of students or students to run well.

Information technology is aimed at help with work by providing information and perform various tasks related to information processing (Hanum & Saifudin, 2019). along with development of Android technology in media communication and information providing convenience in everything (Istiyanto, 2013). Android Operating System on mobile devices such as smartphones and tablet computers (Yundatama, 2015). This operating system is open to application developers for mobile device. Google Inc buys Android Inc as development for mobile device. Google Play has several categories to make it easier for users explore the app. Among others are categories Art, automotive, beauty, business,

The use of smartphones today is not only as a tool communication alone but can also be used as a learning medium (Hingide et al, 2021; Tangkowit et al, 2021). However, the problem is sometimes the application is correct – that really suits our needs is still rare or even impossible to get. The many applications currently circulating are dominated by targeted applications to adults, while the application is useful and intended specifically for. There are still relatively few elementary school children and the material is still limited. Why The author prefers to use the Android platform because Android is complete platform starting from operating systems, applications, developing tools, application markets, support from mobile industry vendors, even support from the open system community.

School has many subjects that need to be mastered by students, in particular three main subjects namely Mathematics, Indonesian, and Natural Sciences. Natural science teaching materials contain material for studying nature. Material natural knowledge for elementary school students beneficial for students to have process skills and interest in nature around. Students are also expected to be scientific, able to apply concepts to life as well love nature. Understand the existence of strengths and One of them is the glory of God understand the anatomy of the human body. Learning natural knowledge material inElementary schools are required not to be too academic and verbalistic (Maisyaroh, 2016).

Anatomy or anatomy studies the structure of the body and the relationship of its parts to each other.

Regional anatomy studies the geographic location of body parts. Each region or area, for example the arms, legs, head, chest, and so on apparently consists of a number of structures or arrangements that are common to all regions. These structures include bones, muscles, nerves, blood vessels and so on. Based on this review, it can be found in different network systems. These are grouped together and explained in the systematic anatomy chapter.

Physiology studies the function or work of the human body under normal circumstances. This science is closely related to the knowledge about all living things covered in biology lessons. Apart from that, this science is also closely related to the duties of the cytologist who studies it. Terms used in anatomy. Many body parts are located symmetrically, for example the eyes and ears, lungs and kidneys. However, there are also many asymmetries in body structure. The lymph is located on the right, the pancreas is partially located on the left and partially on the right. (Evelyn C. Pearce).

Human body anatomy is a main pillar in health education. Some health majors include: medicine, nursing, pharmacy, midwifery, public health. Each major studies the anatomy of the human body. Anatomy courses in every health department generally have the same subject matter, studied in the first semester.

The materials taught study the structures that make up the human body and the working functions of each body structure. At the initial level, the material teaches the understanding of anatomy, various terms related to anatomy and the history of the anatomy of the human body. Human composition and components teach about the smallest structure of body parts at the cell and tissue level along with the function of each cell organ. reality on the ground, delivery Cognitive learning materials in elementary schools still use methods conventional teaching that is not effective in classroom learning process. Trying to be there improvements in learning methods are becoming more make it effective so that all learning materials can be obtained presented in an interesting way. The research aims are: create an application to help make it easier students in studying Body Anatomy Man using android application. So that students get the method effective and fast learning in the process Study.

II. RESEARCH METHOD

A researcher can be carried out correctly by choosing a method to guide research activities. The process of collecting data then analyzing the data to conclude the research results. Method of observation in data search by observing directly at the research object. The method involves asking teachers and students questions about the anatomy of the human body in science lessons. The library method is carried out by collecting information according to the topic of the problem. This activity is carried out by reading books, papers, lecture materials and articles. The field research method is a method of visiting elementary schools (SD) by looking at the students' responses, whether they are able to understand how the anatomy of the human body works using Android to be able to follow it well.

Data collection techniques are by means of analysis. This research will also find out the function of the Adobe Flash application in learning in elementary schools. Then use the direct teaching system method in elementary schools using Adobe Flash. Adobe Flash is an application that is widely used by web professionals because of its amazing ability to display multimedia, combining elements of text, graphics, animation, sound and interactivity for users of internet animation programs.[4] Nowadays, Adobe Flash has become a favorite for web designers as a vehicle for creating attractive and interactive websites. According to Adobe Flash, it is software that can be used to create animations, games, presentations, websites, learning animations and films.[5] The animation obtained by Adobe Flash is in the form of animated Movie archive files which are produced in the form of graphics or text. Apart from that, Adobe Flash has the ability to import sound, video and image files from other applications [6].

The method used in developing this learning media is the Multimedia Development Life Cycle. The development of this multimedia method was carried out based on six stages, namely: Concept, Design, Obtaining content material/material collecting, Assembly, Testing, Distribution. These six stages do not have to be sequential in practice, they can interchange positions. Even so, the concept stage must be the first thing to be don

III. RESULT AND ANALYSIS

The results of the study should be written clearly and concisely. The discussion should describe the importance of the results of the study, not repeat it.

3.1 Problem Analysis

The influence of cellphones is currently very large for society and also for the world of education, very quickly with advances in cellphone

technology nowadays, many people use cellphones to study, including health students, for this reason the author created an application as a medium to help students learn about anatomy using Android, to make it easier for students to study when they don't bring books.

3.2 Concept

Android-based learning application in science subjects. This nature was created to be used in the learning process. This application provides learning material on natural science subjects on digestion, five senses and respiration. Apart from that, this application provides multimedia features namely, Images, Text and Audio. This Android-based learning application aims to help teachers, parents and students in the learning process. The initial concept of this learning application is to display a display interesting according to the learning material, namely "Digestion, five senses, and Breathing." The first page has 2 buttons, namely the enter and exit buttons. Knob The enter function is to enter the sub menu and the exit button is used to exit from learning applications. Each page accessed is made so that it can be returned to main menu or homepage via a button.

This aims to make users more flexible in using this learning application. The purpose of this learning application is to help the learning process atelemelementary school, especially in the eyes of Natural Sciences. End user from this learning application are elementary students. Material pages are created in the form of presentation animations and text materials. The goal namely so that users don't get bored when opening material in the form of static text, thus reducing interest in learning from this learning application. To create this learning application, researchers used structure menu hierarchy to make it easier to create storyboards or designs. Structure Hierarchy of Android-based learning application menus for science subjects.

3.3 Design System

The Design or planning stage is the next stage after going through concept stage. Researchers create an application design for each scene in the form of a sketch (mock up) in the form of a UI design. This stage includes display design and placement text and bottom.

The main menu is the first display when the application is run, which displays the lesson menus which can be seen in Figure 1

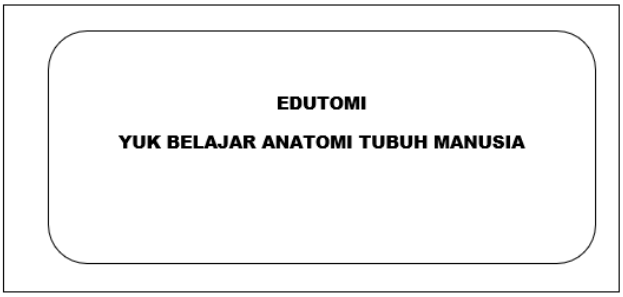

Figure 1. Design of Welcome Menu

The basic anatomy science menu is a display that shows material about body anatomy as seen in Figure. The following 2:

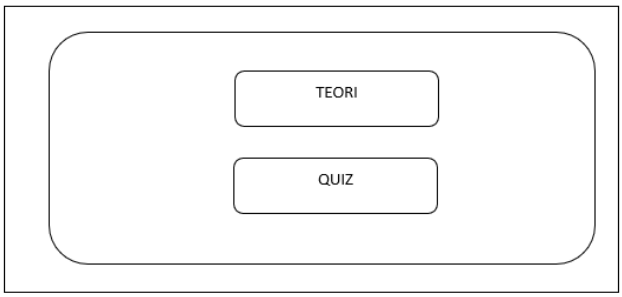

Figure 2. Design of Main Menu

The human body system menu interface is a display that shows material about the three body systems shown in Figure 4 below:

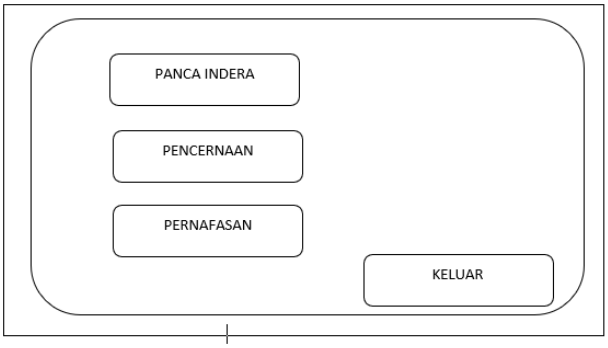

Figure 3. Design of Human Body System

Five senses Menu display design, namely the page will appear when the number menu button in the sub menu is pressed. On the menu page the five senses section has a menu that explains the material shown in figure 5 below:

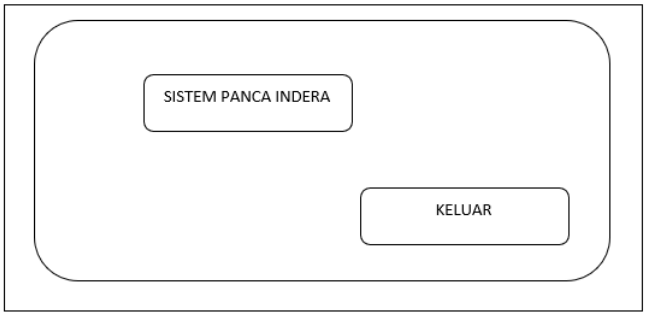

Figure 4. Design of Five Senses Menu

Respiratory Menu display design, namely the page will appear when the number menu button in the sub menu is pressed. On the menu page the respiratory has a menu that explains the material shown in figure 6 below:

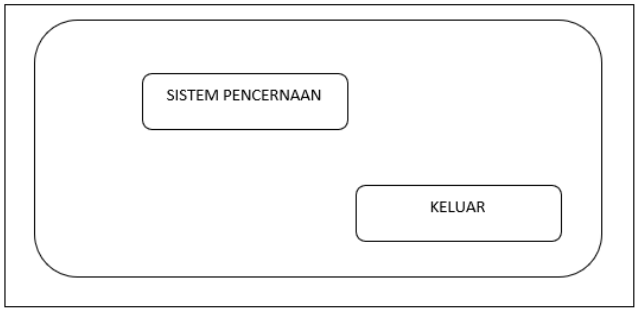

Figure 5. Design of Five Senses Menu

Digestive Menu display design, namely the page will appear when the number menu button in the sub menu is pressed. On the menu page the digestive has a menu that explains the material shown in figure 6 below:

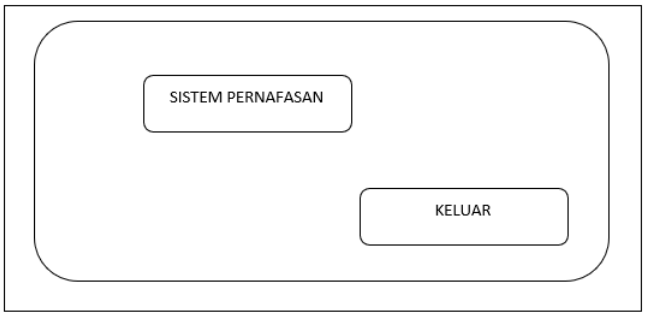

Figure 6. Design of Digestive

3.4 Assembly

3.4.1. Initial Display

The initial display of this learning application only displays animations opener that displays the logo and text. based on the design results in the picture 7 then the initial display of interactive learning: Human anatomy Mobile application for Elementary Students will be like in figure 7:

Figure 7. Page of Opening Menu

3.4.2. Sub Menu Display

in figure 8 where there are 2 buttons, namely: the theory menu button and the quiz menu

Figure 8. Design of Sub Menu

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3.4.2. Sub Menu Display

in figure 9 where there are 3 buttons, namely: reprisatory, digestive and five senses.

Figure 9. Page of Sub Menu

3.4.2. Initial Five Senses

This page according to figure 10 contains a picture of one of the organs with a detailed descriptionfrom that organ. Helpful description the user understands the anatomy of the five senses.

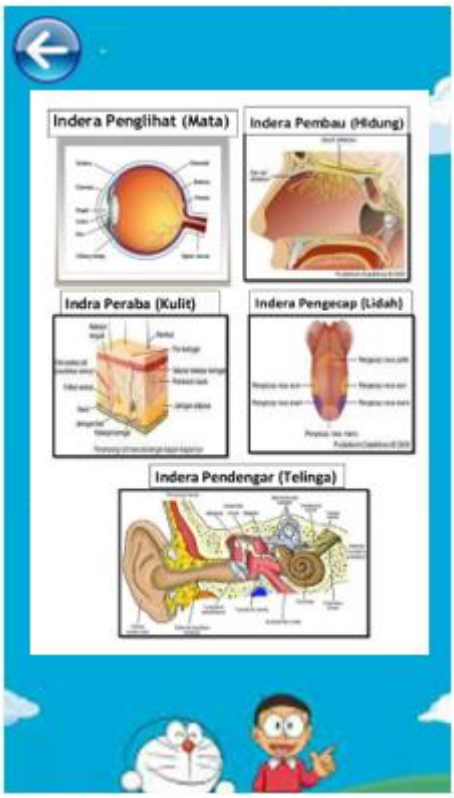

Figure 10. Page of Sub Menu

3.4.2. Digestive Display

Figure 11 is what this page contains image of respiratory organs. There are seventeen number keys used to move to a more detailed organ image page.

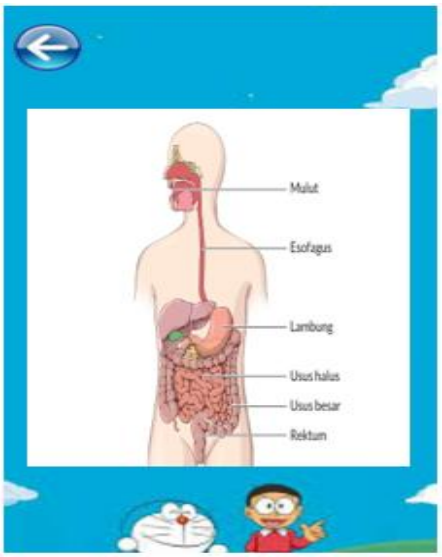

Figure 11. Page of Digestive Menu

3.4.2. Initial refrisatory

Figure 12 explains the content page a picture of an organ with seventeen buttons the number used to move to More detailed organ image pages.

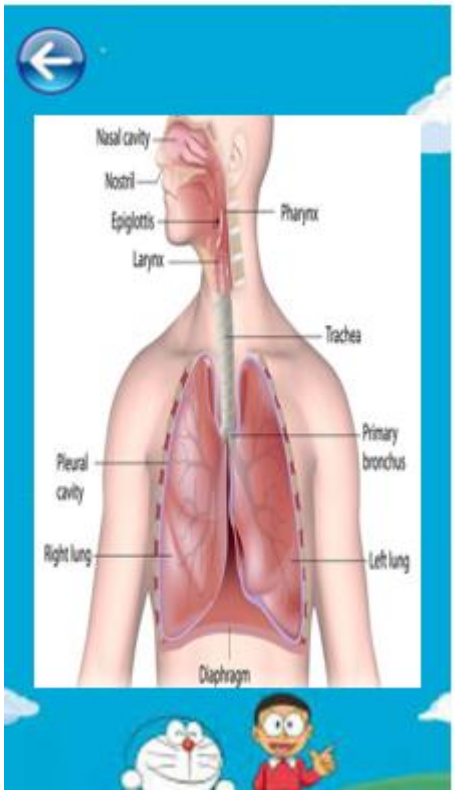

Figure 12. Page of Sub Menu

VI. CONCLUSION

This Android-based human anatomy learning application program for elementary school students was created using Android Studio for the display and processes running in it. Based on the results of the research and discussion, it can be concluded that this mobile learning application for human body anatomy for elementary school children can be achieved using the MDLC (Multimedia Development Life Cycle) method which is carried out to the testing stage and using developer tests with the Black box testing method, so that the application Mobile-based learning for elementary school children can help teachers and parents in the process of presenting material and can be a learning tool for students. Apart from that, this learning application is suitable for use after passing testing. From the explanation it can be concluded that: (1) This Android-based human anatomy learning application for elementary school students makes it easier for teachers to convey cognitive material to students in elementary schools. (2) With this application of cognitive learning material, children become interested in following the lesson. (3) This application maximizes the use of existing learning facilities at school.

THANK-YOU NOTE

Titles for thanks and references are not numbered. Thank you to the IJCIS Team for taking the time to create this template.

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