MULTIMEDIA APPLICATION DEVELOPMENT ENVIRONMENT BANDUNG RESIK FOR SCHOOL AS MEDIA SOSIALIZATION (CASE STUDY OF SANITARY AGENCY BANDUNG

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ABSTRACT

Kangpisman (reduce, separate, use garbage) is an educational program for waste management. Bandung Local Companies Cleanliness want to educate the kangpisman program to the school environment. Media socialization is done in the conventional way, ie to explain orally and distribute flyers kangpisman. This has made it difficult for students to understand the whole matter of the educational program kangpisman. This applications aimed to helped Bandung Sanitary Agency to socialized kangpisman educational programs using the media more interesting and interactive to maximize the delivery of messages (knowledge and skills) kangpisman to the school environment.
Application Multimedia Bandung Resik using tutorial models and simulation models in conveying the message. In Application Multimedia Bandung Resik there are 5 main menu application information, materials, simulation (containing simulation reduce waste, sorting the waste and use of waste), exercise and settings. Testing is done by testing the Alfa (blackbox) and Beta (interviews and questionnaires).

Keywords : Multimedia Applications Development Environment Bandung Resik, Kangpisman

1. INTRODUCTION

Garbage is a problem in the face of almost the entire city in Indonesia. Bandung is a city which had problems due to the large number of still persampahan waste management that are less than optimal in its realization. Waste management socialization (kangpisman) that is less than optimal timbulan problem led to the garbage that failed to finish. and have an impact on environmental degradation and decline in the quality of public health. This condition is the responsibility of the regional Hygiene Company.

Educational programs educational programs the company is Kangpisman an area of cleanliness to increase awareness and knowledge of the community particularly in the school environment in addressing and tackling garbage. Kangpisman is the length of the cut, separate, take advantage of garbage. Subtract the word in the acronym Kangpisman is reducing the presence of trash before the products used to be garbage. for example, reduce the use of disposable materials such as plastic waste. The word Separate Kangpisman is sorting out the abbreviation in organic waste and inorganic for discarded at the appropriate space provided. for example, sorting out the organic waste in the trash hiau color. Words take advantage of the junk in the abbreviation Kangpisman is make use of the junk that's been broken into items of value. for example, take advantage of inorganic garbage into organic toys and become compost.

Based on the results of the interview with Mr. Hangga Tri S Complaint Affairs as head of the Legal and public relations Company in the area of Hygiene on 6 September 1999, stated that the media is socializing at some school environment including the elementary school are still explaining orally and spread brochures. Where did Mr. Hangga Tri S explained orally and spread brochures still have a weakness that is students who are not paying attention to the focus and do not understand the material that is being delivered due to the lack of interaction of the students against the material and also a lack of simulation tools directly so that students difficulty to practice the activities kangpisman.

Based on the results of the questionnaire was done in SD Mekarsari on September 8, 2016 can be known that out of the 30 students who are in grade V SD kangpisman program not knowing Mekarsari and its activities, so that this cause is still the presence of students who do not know the kangpisman education program and its activities. Therefore it takes media to multimedia-based socialization so media socialization would be more interactive.

Learning computer-assisted or Computer-Assisted Instruction (CAI) is a form of learning in computer usage. Many studies show that learning by utilizing the CAI will be more efekif than with other methods. In addition through CAI can increase motivation and self-confidence because of the creation of an atmosphere of learning and feedback immediately. This type of learning method for CAI

include Tutorial, Drill and practice, simulated and gaming. Method of Computer-Assisted Instruction (CAI) and supported by the multimedia facilities is expected to be a medium of dissemination are more interesting.

Based on the exposure of the problem required a solution tool that can simplify the delivery of socialization. One of the technologies that can help solve the problem of socialization is using the technology leap motion on multimedia application bandung dress rehearsal. Leap motion is a hardware device that can detect the movement of the fingers and allows the user to interact with a computer by way of moving the fingers or waving hands without having to touch or using the mouse.

1.1 Purpose and Objectives

The purpose of this research is to develop educational programs kangpisman who have been there to further increase again deepening material and skills in order to realized late in life everyday.
The objectives to be achieved in the research that will be done is as follows:
a. Assist the regional Hygiene Company Publicist Bandung in disseminating Kangpisman by using a medium that is more interesting and interactive.
b. Provide multimedia applications knowledge of dress rehearsal Kangpisman bandung (Reduce, separate and make use of Rubbish) as well as the tools to control the application.
c. provide a knowledge kangpisman (Subtract, divide them and make use of Rubbish) along with its activities to elementary school students.

2. RESEARCH CONTENT

2.1 Development

The development is a systematic assessment against the restyling, development and evaluation of programs, processes and products of learning should meet the criteria of validity, practicality, and effectiveness [9].

2.2 Multimedia

Multimedia is the delivery of information using a combination of text, graphics, sound, video, and animation [12]. Multimedia is a tool that can create a dynamic and interactive presentations that combine text, graphics, animation, audio and video [13]. Multimedia is the utilization of the computer to create and combine text, graphics, audio, moving images (video and animation) and merge the links and tools that let users navigate, interact, create and communicate. The advantages of multimedia is exciting the senses and interest, because it is a combination of sight, sound and motion. Research institutions and publishing computer, that Computer Technology Reseach (CTR), stating that people are able to remember only 20% of the visits and 30% of callers. But people can remember 50% of that seen and heard and 80% of that see, hear and do at once [14]. Then the multimedia is very effective. Multimedia becomes a powerful tool for teaching and education and to achieve the competitive advantage of the company.

2.3 Leap Motion Analysis

Application of Multimedia has been widely developed in the various platforms, however application developed by default users can only control object with the mouse without any interaction directly like control object by using the hands and fingers.

Leap motion is enhancements that can be connected to a computer and can then be used to replace the mouse and keyboard function.

The form of this motion-sized leap small box so that it is easy to carry everywhere. The workings of this motion is the leap user connects the device to the computer, and then simply put it on the front of the monitor or near computers certainly don't get beyond the reach of the cord. Then leap motion will detect the presence of a hand or finger which further users can use hand gestures or finger movement as well as the desired combination is set up. Technology leap motion can be seen in Figure 1.



Gambar 1. Leap Motion

2.3 Material Analysis

Analysis of application of multimedia material in bandung this dress rehearsal will be described on the basis of the respective material pertaining to. Here is an explanation of the stages on the material can be seen in table 1.

Table 1 Material Analysis

No	Material	The Material Covered
1	Litter Reduced	a. reuse items which can still be used b. reduce the use of plastic bags, plastic, stereofoam and other materials difficult cleaved by nature c. xCarrying bags of shopping, eating and drinking on its own when travelling d. Spending and not leaving food waste can be
2	Sorting Out The Trash	a. Green for junk food and stroke page b. the color red for dangerous or toxic waste B3 households, such as lamps, batteries, electronics, pads, diapers, medicine and also chemicals c. Gray for other waste
3	Utilizing Waste	a. processing of waste into the compost with a composter and takakura b. Processing organic waste into liquid fertiliser and biogas for cooking c. inorganic garbage handling Do become useful stuff
4	Organic Waste	a. the sense of organic waste b. organic waste that cannot be recycled and examples c. organic waste that can be recycled for example
5	Waste Inorganic	a. Understanding of organic waste b. Organic waste which can be recycled and example c. Inorganic waste which can not be recycled
6	Waste B3	a. Understanding of B3 waste b. B3 garbage hazard and example

2.4 Character Analysis

Multimedia application in bandung dress rehearsal there is the main character of the man who came from the tribe of sunda sunda or girdle, and totopong. Reference characters such as image image image character and results of 2 in Picture 3.



Picture 2 Reference Picture Character



Picture 3 Result Picture Character

2.5Analysis of the collection material

Analysis of the collection material is information resource materials that are used in application development. The material is created and retrieved the file consists of pictures, text, audio, etc. Materials used can be seen in table 2.

Table 2 Analysis of the collection material

No	Component Material	File Types	Source
1	Picture apel	Vektor	Made using Adobe Flash CS6
2	Picture corn	Vektor	Made using Adobe Flash CS6
3	Picture cake	Vektor	Made using Adobe Flash CS6
4	Picture vegetarian	Vektor	Made using Adobe Flash CS6
5	Picture tin	Vektor	Made using Adobe Flash CS6
6	Picture bottle plastic	Vektor	Made using Adobe Flash CS6
7	Picture bottle brown	Vektor	Made using Adobe Flash CS6
8	Picture human	Vektor	Made using Adobe Flash CS6
9	Picture tong sampah	Vektor	Made using Adobe Flash CS6

No	Component Material	File Types	Source
10	Picture exit	Vektor	Made using Adobe Flash CS6
11	Picture book	Vektor	Made using Adobe Flash CS6
12	Picture kangpisman	Vektor	Made using Adobe Flash CS6
13	Picture grass	Vektor	Made using Adobe Flash CS6
14	Picture leaf	Vektor	Made using Adobe Flash CS6
15	Picture ranting	Vektor	Made using Adobe Flash CS6
16	Picture dew	Vektor	Made using Adobe Flash CS6
17	Picture watermelon	Vektor	Made using Adobe Flash CS6
18	Picture eggshell	Vektor	Made using Adobe Flash CS6
19	Picture beef	Vektor	Made using Adobe Flash CS6
20	Picture soil	Vektor	Made using Adobe Flash CS6
21	Picture tree	Vektor	Source: google.com
22	Picture background	Vektor	Source: google.com
23	Picture background sim1	Vektor	Source: google.com
24	Picture r home	Vektor	Made using Adobe Flash CS6
25	Picture hoel	Vektor	Made using Adobe Flash CS6
26	Picture arit	Vektor	Made using Adobe Flash CS6
27	Picture rub	Vektor	Made using Adobe Flash CS6
28	Picture strobery	Png	Source Picture Google. Desain Photoshop CS4
29	Picture sedotan	Vektor	Made using Adobe Flash CS6
30	Picture razor blade	Vektor	Made using Adobe Flash CS6
31	Picture ball pingpong	Vektor	Made using Adobe Flash CS6
32	Picture needle	Vektor	Made using Adobe Flash CS6
33	Picture lem	Vektor	Made using Adobe Flash CS6
34	Picture table	Vektor	Made using Adobe Flash CS6
35	Picture black board	Vektor	Made using Adobe Flash CS6
36	Picture stone	Vektor	Made using Adobe Flash CS6
37	Picture root of the tree	Vektor	Made using Adobe Flash CS6
38	Picture langkit	Vektor	Made using Adobe Flash CS6
39	Picture wortel	PNG	Source: Google.com Desain Corel Draw.
40	Picture dead fish	PNG	Source : Google.com Desain Corel Draw.
41	Picture drink place	Vektor	Made using Adobe Flash CS6
42	Picture clear bottle	Vektor	Made using Adobe Flash CS6
43	Picture glass	Vektor	Made using Adobe Flash CS6
44	Picture refrigerator	Vektor	Made using Adobe Flash CS6
45	Picture pani	Vektor	Made using Adobe Flash CS6
46	Picture lamp	Vektor	Made using Adobe Flash CS6
47	Picture CD	Vector	Made using Adobe Flash CS6

No	Component Material	File Types	Source
48	Button	Vektor	Made using Adobe Flash CS6
49	Material Educational	Text (.txt)	Material Kangpisman.
50	Soal evaluasi	Text (.txt)	Material Kangpisman.
51	Audio backsound music	Audio (.mp3)	Source : Google.com
52	Huruf	Text (.txt)	Default font Adobe CS6.

2.5 Analisis Hardware

Table 3 Analisis Hardware

No	Hardware	Specification
1	Processor	Processor with speed 2.0 Ghz
2	Monitor	Monitor with resolution 1024 x 768 pixel
3	Graphic Card	VGA 512 MB
4	Harddisk	Free Space 1 GB
5	Memory	RAM 2GB
6	Mouse	Standar

2.6 Analysis Software

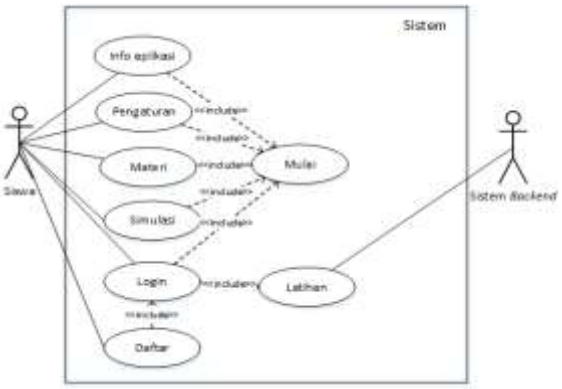
Table 4 Analysis Software

No	Software	Specification
1	Operating System	Microsoft Windows 7
2	Tools Compiler	Adobe flash player 11
3	Web Browser	Google Chrome

2.7 Analisis Fungsional

A functional needs analysis is the analysis of the needs of the application being developed. On multimedia application development, bandung-based modeling dress rehearsal modelled using object for the frontend is illustrated using diagrams of UML (Unified Modeling Language) and is structured for the backend are modelled using DFD (Data Flow diagrams) and DFD Data Dictionary

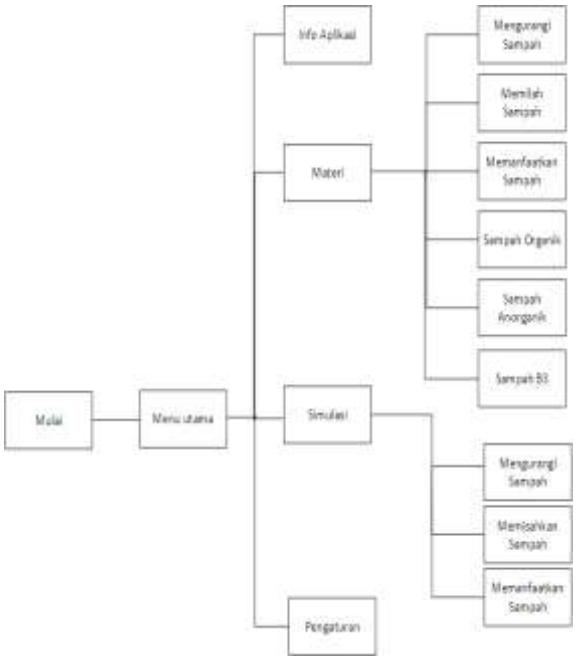
a. Usecase Diagram Frontend



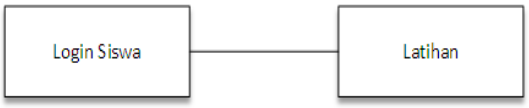
Picture 4 Usecase Diagram Frontend

2.3 Structure Menu

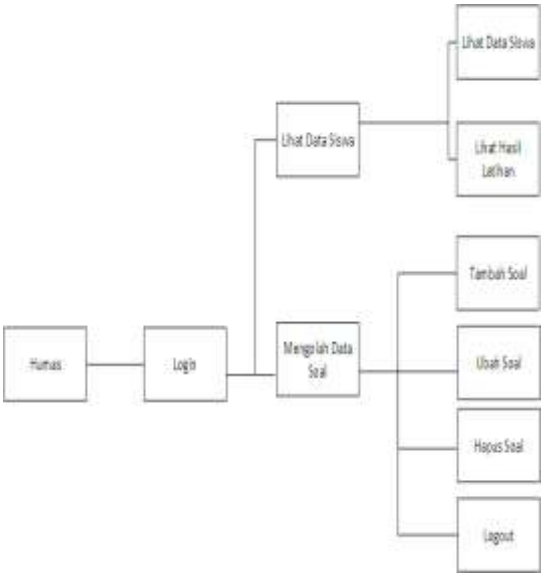
On the design of an application required menu structure that contains the menu and submenus that serves to facilitate users in use. The design of the menu structure on the application multimedia bandung dress rehearsal can be seen in picture 5 and picture 6..



Picture 5 Structure Menu Student



Picture 6 Structure Menu Latihan



Picture 7 Structure Menu Humas

2.4 Interface Implementation

Implementation of the interface is the interface of the application interface design.

2.4.1 Interface Implementation Welcomescreen



Gambar 8 Interface Implementation Welcomescreen

2.4.2 Interface Implementation Main



Picture 9 Interface Implementation Main

2.4.3 Interface Implementation Material Page



Picture 10 Interface Implementation Material Page

2.4.5 Interface Implementation Simulation Reduce Waste



Picture 11 Interface Implementation Simulation Reduce Waste

2.4.6 Implementation of simulation interface separating garbage



Picture 12 Interface Implementation Simulation Sorting Waste

2.4.7 Interface Implementation Simulasi Memanfaatkan sampah



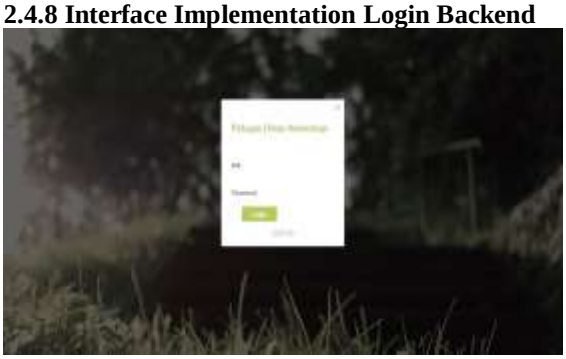
Picture 13 Interface Implementation Simulation Utilize Waste

2.4.8 Interface Implementation Evaluation



Picture 14 Interface Implementation Evaluation

2.4.8 Interface Implementation Login Backend



Picture 15 Interface Implementation Login Backend

2.4.8 Interface Implementation Dashboard



Picture 16 Interface Implementation Dashboard

2.4.8 Interface Implementation Backend Student



Picture 17 Interface Implementation Backend Student

3. CLOSING

3.1 Conclusion

Based on the results of the test questionnaires and interviews already done, then the conclusion of the final project entitled development of a Multimedia application Environment on a dress rehearsal of Bandung school as Media Socialization that is as follows.

1. Multimedia application environment on a dress rehearsal of Bandung school as socialization media can help public relations companies in bandung city hygiene areas serving media socialization a more interesting and interactive compared to conventional methods.
2. Multimedia application Bandung dress rehearsal at the school environment has fulfilled his needs in media convey socializing with using tools leap motion about kangpisman education program (reduce, separate and make use of garbage).
3. Increasing knowledge of elementary school students about the education program kangpisman (subtract, divide them and make use of rubbish) along with its activities after using the Multimedia application Bandung dress rehearsal.

3.2 Suggestion

Multimedia application developers Bandung dress rehearsal at the school environment as a medium of socialization still had shortcomings, therefore needed some development to create applications for the better. As for the suggestions to the development of applications in the future that is as follows.

1. Add the feature game, so that students can develop knowledge more.
2.3D Animation created to better attract the attention of students and the interaction between objects with more motion leap look real.
3. Leap Motion can detect 5 fingers so that students can control the application with ease.
4. The simulation used more in eksplore so that more students understand the material presented.
5. Leap Motion can menginputkan key keyboard so that at the time of login students do not need to type on the keyboard manually.

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