APPLICATION DEVELOPMENT AND SIMULATION 5S MEDIA TRAINING EXERCISE IN THE CENTER OF DEVELOPMENT WORK STATE (BBPLKDN) BANDUNG

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ABSTRACT

5S (Seiri, Seiton, Seiso, Seiketshu, Shitsuke) is one of the foundations of knowledge to shape human behavior that are applied in the Center for Development of Vocational Training of the Interior in the city of Bandung. In the process of learning with theory and practical delivery. In the auditorium the participants to listen and understand the Head of 5S in presenting the material. In the evaluation process participants introduced the places he had been doing simulation practice 5S (Seiri, Seiton, Seiso, Seiketshu, Shitsuke). While the lab at the Center for Development of Domestic Bandung Training participants still uncommon implement 5S (Seiri, Seiton, Seiso, Seiketshu, Shitsuke) because only through theory and in perkenalkannya 5S corner. By implementing computer-aided media multimedia-based training is expected to help the participants to understand the material 5S (Seiri, Seiton, Seiso, Seiketshu, Shitsuke). And allows the head of the 5S in giving an overview of the material and simulation 5S (Seiri, Seiton, Seiso, Seiketsu, Shitsuke) as well as facilitate the head of the 5S in its assessment through the questions given to the use of digital applications and simulations 5S (Seiri, Seiton , Seiso, Seiketshu, Shitsuke). Based on the results of research and Pengujan, digital applications and simulations 5S as media training is concluded that the application was built to help the participants understand the material 5S (Seiri, Seiton, Seiso, Seiketshu, Shitsuke) and allows the head of the 5S in peyampaian material 5S (Seiri, Seiton , Seiso, Seiketshu,

Keywords: Media Training, 5S (Seiri, Seiton, Seiso, Seiketshu, Shitsuke), Simulation

1. PRELIMINARY

Currently, the program 5S (Seiri, Seiton, Seiso, Seiketsu, Shitsuke), namely the selection of goods useful and useless (Seiri), arrangement of goods allows the easy and safe as well as in the given indication (Seiton), cleaning goods that have been laid out neatly so as not to dirty including the workplace and the environment and machinery (Seiso), keeping the work environment neat and clean already become a standard work (Seiketsu), will be the work ethic of self-realization (Shitsuke) has been widely used by various industries in various countries. 5S popularity was due to the success of Japanese industry that has been focused on the reduction of all waste (waste). 5S as a foundation to shape human behavior in order to have a habit (habit) reduce inefficiencies in the workplace.

Based on the interview to the Head of Department can be seen that with the method explained verbally, participants do not understand the theory presented. In addition, from the Chief prior to performing an evaluation of the participants have to prepare everything as sheets matter. At the time of practical activities can not be appropriate because of the conditions in the environment 5S Training Center for Development of the Interior (BBPLKDN) in Bandung. Therefore participants are still there who do not understand at the time as a result of the 5S process and hazards when not fully implement 5S. Because of the lack of media training and simulation as a tool for interactive simulation 5S implementation.

Some research has been done to make learning media to help students in the learning process. At Usman research showed that the media manufacture by utilizing computerized technology makes more interesting and interactive media to enhance learning motivation [1]. Likewise, another study conducted by the media application that can help students understand the material on how to learn the procedures for television repair sequence [2].

Based on the questionnaire disebakan to 25 participants Training Center for Development of Domestic Bandung explained that most of the participants do not know about 5S and activities. This explains vendors participated in 5S activities and needed more knowledge about 5S.

2. RESEARCH CONTENT

2.1 Basis Theory

2.1.1 The 5S concept (Seiri, Seiton, Seiso, Seiketsu, Shitsuke)

1.Seiri means to distinguish between necessary and unnecessary and discard unneeded. Seiri principle by using stratification and address causes problems.

2.Seiton is to determine the layout is neat that we always find the items needed. The principle of Seiton

is functional storage and eliminates the time to find stuff.

3.Seiso means eliminating waste dirt and foreign goods to obtain a cleaner workplace. Adalaha Seiso principle that the cleaning of all inspections and the level of cleanliness.

4.Seiketsu then this means maintaining the goods in an orderly, neat, clean and in a personal aspect and its relation to pokusi. Seiketsu principle adaah 5S visual management and stabilization.

5.Shitsuke means doing something right as a habit. Shitsuke principle is the formation of habits and good workplace **[3]**.

2.1.2 Multimedia

Multimedia terms used in this pembahasana means a program for overall delivery of digital content using anatara integrated combination of text, audio, images are two-dimensional (2D) and three dimensional (3D), video and animation. In its simplest form, multimedia is sometimes defined as the percentage content using a combination of media (text, sound, images (static, motion, animation, video)). In general, multimedia concept can be defined combination of various media texts, images, video and animations in a computer-based program that can facilitate interactive communication, as can be seen in Figure 1 **[4]**.
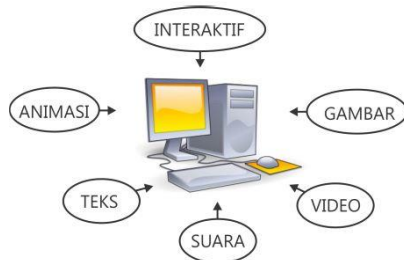
**Figure 1. Concept Multimedia**

2.1.3 Simulation

Simulation is a training method that mepertunjukkan a real state.interact and communicate within the group. Simula1si is the act of moving a real model, followed by experiments on a model to study the system. Simulations can also estimate a decision can be taken, nevertheless, still have to know where and when this simulation can be applied **[5]**

2.2 Analysis and Design
2.2.1 System Description

5S learning applications that will be built is based on the desktop using client server network, the system is built using the Computer Assisted intruction (CAI) to the concept tutorials, drill and practice, and Simulation.

2.2.2 The system architecture
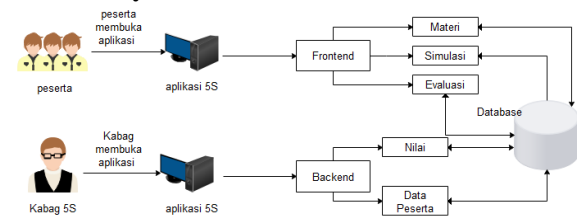
Figure 2. System Architecture

Explanation groove system architecture in Figure 2:
1. Head 5S input data and data about the material in the database.
2. Head Sending paserta input data to the desktop.
3. Database system receives input data from a web browser by sending data about the materials and data for display on a desktop system.
4. Desktop systems receive and display data about the materials and data that can be seen by the participants.
5. Participants participant input data and the data values into a desktop system.
6. Desktop system sends the input data to the database.
7. Database receiving input data from a desktop system and then send the entry and the data value at the head of the division 5S desktop.
8. Desktop head of the division 5S participants receive and display data and value data can be seen by the Head of 5S.

2.2.3 Network Analysis

Network analysis in computer lab Training Center for Development of Domestic Bandung is a client-server model and uses a star topology (star). This architecture puts computers that are dimeja head of the division as a server with the number 1 computer, whereas the computers of participants as its clients amounted to 15 computers. The total number of computers in the computer lab Training Center for Development of Domestic Bandung amounted to 16 computers.

2.2.4 Analysis of Material

5S digital material analysis applications will be described based on each of the related material. Here is an explanation of the stages of the material can be seen in table 1.

Table 1. Material Analysis

No.	Matter	Material covered
1	seiri	a. understanding Seiri b. Implementation steps -Memisahkan document used, rarely used and unused. -Menghancurkan and dispose of documents that are not in use.

No.	Matter	Steps being discussed
2	Seiton	a. understanding Seiton b. Steps penerpan -Meletakan similar book the same place. -Tempatkan similar items in place
3	Seiso	a. understanding Seiso b. Steps penerpan -Improve the objects that were damaged. -Cleaning place of filth and garbage.
4	Seiketsu	a. understanding Seiketsu b. Implementation steps -Separating document used, rarely used and unused. -Menghancurkan and dispose of documents that are not in use. -Meletakan similar book the same place. -Tempatkan similar items in place. -Improve the objects that were damaged. -Cleaning place of filth and garbage.
5	Shitsuke	a. understanding Shitsuke b. Step-by-Step Implementation - clean workspace before you leave the appropriate work - do not leave books, pens, and paper on the table at left.

2.2.5 Analysis Simulation

Shape Simulation which will be built in the digital 5S training applications using 3D objects in order to clarify perform simulations are given. Simulation built viewable table

Table 2. Analysis Simulation

No.	Matter	Steps being discussed
1	Seiri (good storage)	How to clean up the stages of document that is still unused, rarely used and unused in order to keep well and not waste space.
2.	Seiton (a good setup)	How do I put a similar item in the same place so easily found when necessary.
3.	Seiso (good riddance)	How does the cleaning goods that have been arranged with

No.	Matter	Steps being discussed
		neatly so as not to dirty and messy.
4.	Seiketsu (maintaining good)	How to maintain and control the conditions that are not normal.
5.	Shitsuke (Discipline)	Doing something right as a habit. Examples Wearing safety shoes that have been provided.

The analysis 2.2.6 Evaluation

Evaluation is a menu of testing the ability of participants which will provide practice questions based on the material provided. Each material studied has the evaluation questions. If you answer the question correctly will get a score and then will proceed to the next question but if one is not going to reduce the score. At the end of the evaluation will appear in the correct total score responsibility evaluation block diagram is shown in Figure 3.
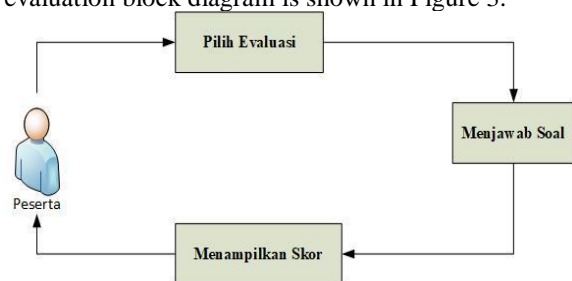
Figure 3. Block Diagram Evaluation

2.2.7 Collection of Materials

The collection contains material is any material that will be created and then used for such applications, as well as the source material from anywhere in the can. Materials used in the form of text, images, audio and animation. Here can be seen in Table 3.

Table 3. Collection Material

No.	material	File type	Source
1.	Logo 5S (Seiri, Seiton, Seiso, Seiketsu, Shitsuke)	PNG	Adobe Photoshop
2.	Background Splash Screen	PNG	Adobe Photoshop
3.	Background Main Menu	PNG	Adobe Photoshop
4.	Menu Background Material	PNG	Adobe Photoshop
5.	background Simulation	PNG	Adobe Photoshop
6.	background Evaluation	PNG	Adobe Photoshop
7.	Audio button	PNG	Adobe Photoshop

| No.	material	File type	Source
8.	Close button	PNG	Adobe Photoshop
9.	Top button	PNG	Adobe Photoshop
10.	Background music	mp3	
11.	3D Models Tables	FBX	blender
12.	3D Model Paper	FBX	blender
13.	3D Model of Storage	FBX	blender
14.	3D Model Machine Paper Shredders	FBX	blender
15.	3D models Trash	FBX	blender
16.	3D Model Bookshelf 1	FBX	blender
17.	Model 2 3D Bookshelf	FBX	blender
18.	3D Model Books	FBX	blender
19.	3D Model Nails	FBX	blender
20.	3D Model Palu	FBX	blender
21.	3D Model The Document	FBX	blender
22.	3D Model Pens	FBX	blender
23.	3D models of Laptops	FBX	blender
24.	3D Model Trash	FBX	blender
25.	Exercise	Text (.txt)	Problem 5S
26.	Matter	Text (.txt)	material 5S
27.	Audio	Audio (.waf)	
28.	Alphabet	Text (.txt)	

2.2.8 Use case
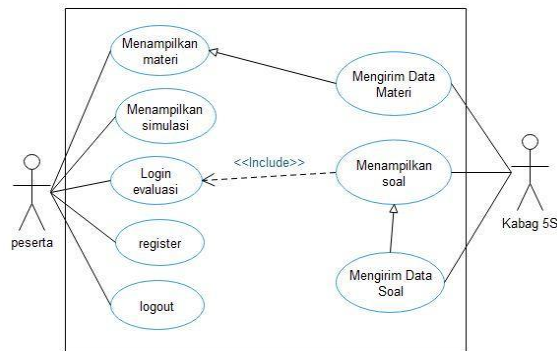
Figure 4. Use Case Diagram

2.2.9 Hardware Used

The hardware used to run applications instructional media can be seen in Table 4.

Table 4. Hardware Requirements

No.	Hardware	Specification
1	processor	Processor with a minimum speed of 2.0 GHz
2	monitor	Monitor with 1024 x 768 pixel resolution
3	Graphic Card	VGA with a minimum speed of 64 MB
4	memory	RAM 4 GB
5	Hard Drive	Free Space minimum 1 GB
6	Mouse	Standard

2.2.10 Software Used

BBPLKDN have the software, following the standard specification of software that can be used for digital applications 5S can be seen in Table 5.

Table 5. Software Used

No.	Software	Specification
1	Operating system	At least Microsoft Windows 8
2	tools Compiler	Minimal Unity V.8

3. IMPLEMENTATION AND TESTING
3.1 Implementation
3.1.1 Interface Implementation

Implementation of 5S digital training application interface is the interface of the application interface design. Here is a list of implementation of the interface that can be seen in Table 6.

Table 6. Implementation Interface

No.	interface name	Information	Name Frame / Display
1	Main page	Displays the application logo	T01- Home
2	Main course	Display menus that can be	Main Menu T02-

No.	interface name	Information	Name Frame / Display
		selected by the participants	
3	Material options page	Display menus material that can be chosen by the student	T03-Material Options
4	Weather Display Material	Displays the contents of the material that has been selected by the participants	T03-A-Show Materials
5	Simulation Options page	Display menus simulations could be selected by the participants	T04-Simulation Option
6	Simulation Display page	Showing simulations that have been selected by the participants	T04-A-Perform Simulation
7	Login page	Showing nip and password for participants	T05-Login
9	Evaluate page	Showing questions that can be chosen by the participants	T05-B-Problem
10	Weather question	Displays the contents of a matter by the participants	T05-C-Displays Problem

3.1.2 Alpha Testing Scenarios

Test scenario describes the sequence and tested in pengujia things done on the application. Scenario testing is done on aspects of data input. Here is an alpha test scenario can be seen in Table 7.

Table 7. Scenario Alpha Testing

No.	Tested Component	scenario Testing	types of Tests
1	Displaying Content	display material	BlackBox
2	Showing Simulation	Showing Simulation	BlackBox
3	Displays Problem	Displays Problem	BlackBox

4. COVER

4.1 Conclusion

Based on the results of the implementation and testing has been done, then the conclusion of a thesis entitled "Development of Digital Applications and Simulation 5S For Media Training Center Training besara Development of the Interior (BBPLKDN) Bandung" as follows:

1. Digital media applications 5S training can help improve the understanding of the participants on the understanding of 5S concept at the Center for Development of Vocational Training of the Interior (Bandung).
2. Digital media applications 5S training Guests sismulasi 3D objects to help participants get an overview of the 5S (Seiri, Seiton, Seiso, Seiketsu and Shitsuke).

4.2 Recommendations

In the development of digital media applications based desktop environment 5S training at the Center for Development of Vocational Training in Bandung State inimasih there are many shortcomings, therefore there is need to do some application development for the future is as follows:

1. Recommendations on future applications can be developed for simulation and evaluation questions tailored degan about vocational training at the Center for Development of Vocational Training of the Interior Bandung.

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