BUILDING SAFETY RIDING MULTIMEDIA APPLICATION AS MEDIA SOCIALIZATION FOR TWO-WHEEL RIDERS (CASE STUDY OF POLRES BANDUNG)

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ABSTRACT

The behavior of motorists who pay more attention to whether it is for safety, conformity and adherence to traffic rules are known by the term safety riding. Polres Bandung has been doing educational program socialization safety riding to raise awareness and knowledge of the community particularly in the school environment. Media socialization that is done is by conventional means, namely, by explaining orally. It is difficult to understand the students' overall educational programs and material safety riding. Multimedia application Safety Riding using the method of CAI (Computer Assisted Instruction) with model Tutorial, Drill and Practice, and Simulation. In the Multimedia application Safety Riding there are 5 main menu i.e. menu material (containing the criminal section, the types of traffic signs, the introduction of basic safety drive, the drive letter and type), the menu contains a simulation (simulation of preparation of riders and simulation of traffic), application info, menu settings menu menu applications and practice. Testing was done with testing and blackbox testing against users (interviews and questionnaire).

Keywords : *Safety Riding, CAI (Computer Assisted Instruction)*

1. INTRODUCTION

Safety riding is more attentive to the rider's behavior be it for security, convenience and compliance with traffic rules to prevent the risk of the occurrence of traffic accidents, as was done to give priority to safety for the driver or passengers [1]. Data traffic accident unit Polres Bandung recorded the number of traffic accidents from January to December of the year 2016 happen 310 events that comprised 83 227 died, victims of minor injuries. 16-20 year-old rider was ranked highest by percentage of 31% involved traffic accidents, then riders aged 21-30 years of 20% [2]. The cause of the accident due to the undisciplined motorists errors when traffic, reckless, inconsiderate in the street, and breaking traffic lights and others.

Efforts to minimize the human factor in tackling traffic offences, Polres Bandung has been doing educational program socialization safety riding through Dikmas Then (community education Field Traffic) that have been implemented in the form of the activities of the Police Goes To School, the MCC (School Safety Patrol), PSA (the police friend of children), Saka Bhayangkara. Safety riding education program to raise awareness and knowledge of the community particularly in the school environment.

Based on the results of the interview with Mr. IPTU (One Police Inspector) Kiki Supriadi as Units Dikyasa Polres Bandung and programs of work safety riding, States that socialization in some school environment including high school still explained orally. Where, according to Mr. IPTU (One Police Inspector) Kiki Supriadi explained orally it still has drawbacks i.e. students who are not paying attention to the focus and do not understand the material that is being delivered due to lack of student interaction against material and also a lack of simulation tools directly so that students difficulty to practice riding safety activities.

Based on the results of the questionnaires was done at SMK Negeri 1 Soreang can note that 35 students of class XII of 50 students who fill out a questionnaire and are in the CMS State 1 Go don't know program safety riding and its activities, so that this lead still does not know the student education program safety riding and its activities. Therefore it

takes media to multimedia-based socialization so media socialization would be more interactive.

Based on the exposure needed a solution that can simplify the delivery of content and media socialization skills as safety riding on school environment.

1.1 Purpose dan Objectives

The purpose of this research is to build a multimedia application about safety riding as a medium to introduce criminal section, the types of traffic signs, the introduction of basic safety information and pass on the drive function Introduction to security for safety when driving.

The objectives to be achieved in the research that will be done is as follows :

1. *Help Units Dikyasa Polres Bandung in disseminating safety riding by using media that is more interesting and interactive.*
2. *Provide multimedia application safety riding on a criminal article, the types of traffic signs and a basic introduction to the safety drive.*
3. *Provide knowledge safety riding along with the basic techniques of a good drive to high school students.*

1.2 Research Methodology Flow

The following is the flow of research methodology on multimedia application safety riding. As for the plot of his research as follows :

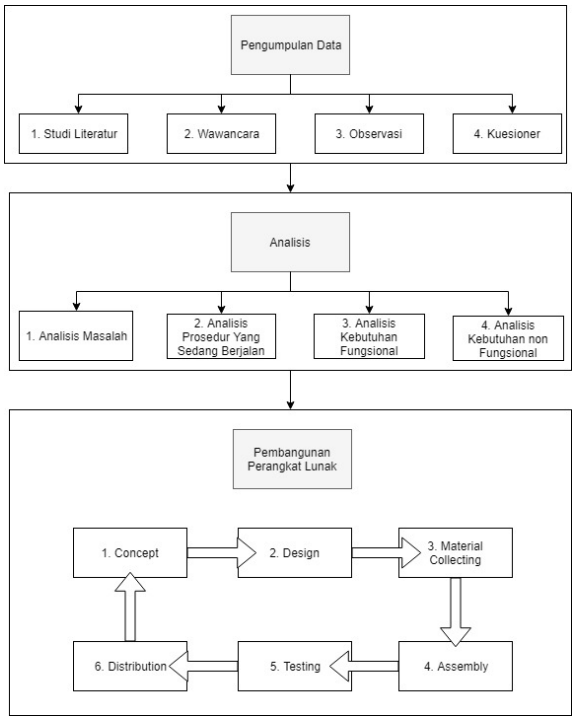


Figure 1. The Flow Of Research Methodology

2. CONTENT of the STUDY

2.1 Safety Riding

Safety riding is an attempt or behaviors that drive made in paying more attention to the danger level to minimize and maximize security in drive, in order to create a condition are on the point of not endangering other riders and aware of the possibility of danger which can as well as an understanding of the prevention and penanggulangannya [1]. Implementation of the above sense i.e., while driving a vehicle, then created a foundation for thinking seriously and prioritizes safety, either for yourself or for others.

2.2 Multimedia

Multimedia is a means of (media) which contained a mix of (a combination of) the various forms of element information, such as text, graphics, animation, video, sound or interactive as supporters to reach the goal that is delivered information or to provide entertainment for the target audience. Multimedia used in entertainment such as games. Multimedia word itself comes from the word multi (Latin) which means a lot and katamedia (Latin) which means something that is used to convey something [7].

Multimedia can be categorized into two kinds, namely mulitimedia linear and interactive multimedia. Linear multimedia is a multimedia tool is not equipped with any controller that can be operated by the user.

2.3 Method Computer Assisted Instruction (CAI)

Kaput and Thompson points out that CAI is defined as a form of learning form that puts a computer in the role of the teacher. The subject matter that are already hard-wired can be served simultaneously between the components of the images, text, color, and sound. Meanwhile, the use of computers in the CAI was more directed at the use of the computer as "the means or media learn" that can help the teacher's task in the presented a concept to students, as well as to train students in the skills the desired. In the CAI, the role of teachers in delivering a material can be replaced by a computer program. With the advantage, the computer has the ability to fill in the deficiencies of the teacher [6].

There are four types of CAI who often used are :

1. Tutorial

This Tutorial presents the type of material that has been taught or presenting new material that will be studied. This program gives the opportunity to add subject matter which have been studied or that have yet to be studied in accordance with the existing curriculum [6]. A good tutorial is give you a help screen to provide further description or illustration. And also to explain all information to present and

how to present it. When we evaluate the Tutorial, we need to evaluate if the Tutorial is not only present information but also must explain the answers wrong. While this program explains the answers wrong, the program must have the ability to continue the lessons of points by giving feedback on the information that was misunderstood before proceeding to new information.

2. Drill and Practice

Type Drill and Practice presenting the subject matter to be studied repeatedly. This program type is suitable to be used during the practice presents a teaching problem with feedback [6]. This type of software is often used to add lessons on mathematics or factual. During the execution of the practice on Drill and Practice problem, computers can store the wrong answers, reports, examples of the wrong answers and repetition with examples of problems that have been answered incorrectly.

3. Simulation

This type of simulation provides an opportunity to test the ability of real applications by creating situations that involve students to act in those situations [6]. Simulations are used to teaching procedural knowledge such as learning how to fly an airplane or driving a car. A good simulation program can provide an environment for the practice of the situation it is not possible to do in a classroom or reduce the risk of accidents on the environment.

4. Instructional / Educational Game

Games is a program that creates the ability on the game environment. The game was given as a tool to motivate students and make the game procedure to go through carefully to develop their abilities [6].

2.4 Material Analysis

The analysis of multimedia application material safety riding it will be depicted based on the respective material pertaining to. Here is an explanation of the stages on the material can be seen in table 1.

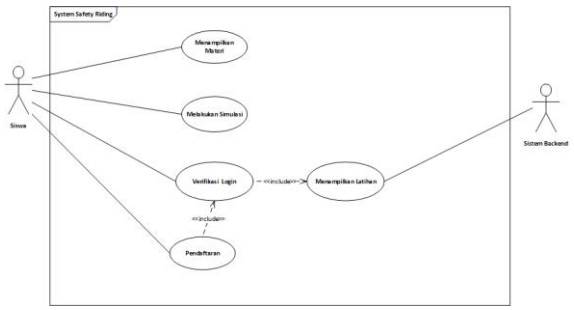
Table 1. Material Analys

No	Material	Indicator
1	*Criminal Section*	*a. Discuss the articles of the criminal law traffic* *b. Types of criminal article*
2	*The Warning Signs*	*a. Discuss the warning signs* *b. Types of warning signs*
	Prohibition Signs	*a. Discuss prohibition signs* *b. Types of prohibition*
	Command Signs	*a. Discuss signs command* b. *Types of signs command*
	The Signs Instructions	*a. Discuss the signs instructions* *b. Types of signs instructions*
3	*Preparation of Riders*	*Types of preparation of riders*
	Checks the Condition of the Motorcycle	*Types of checks the condition of the motorcycles*
	Driving Posture	*Types of driving posture*
4	*Drive Letter*	*Types of drive letter*

2.5 Functional Analysis

Describe the process of functional needs analysis activities will be implemented in a system and explain the necessary needs of the system so that the system can run well and in accordance with their needs. The analysis is done using modelled UML (Unified Modeling Language).

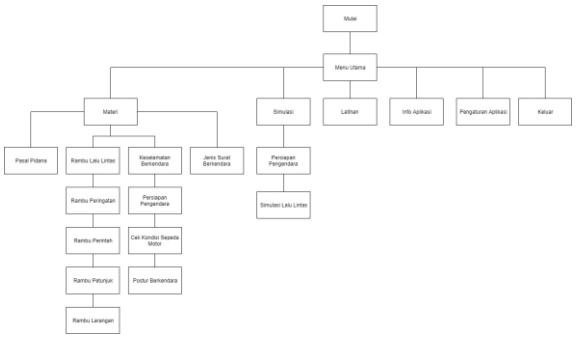
a. *Usecase Diagrams*



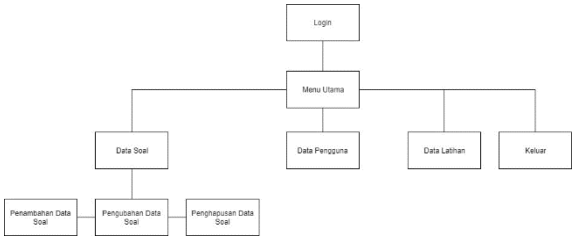
Picture 1. Usecase Diagrams

2.6 Menu Structure

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 multimedia applications in the menu structure safety riding can be seen in Figure 2 and Figure 3.



Picture 2. Student Menu Structure



Picture 3. Unit Dikyasa Menu Structure

2.7 The Hardware Implementation

Table 2. The Hardware Implementation

No	Hardware	Spesifications
1	*Processor*	*Processor with a speed* 1.8 Ghz
2	*Monitor*	*Monitor with a resolution* 1024 x 768 *pixels*
3	*Graphic Card*	VGA *with minimum speed* 64 MB
4	*Harddisk*	Minimum 500 MB *of free space*
5	*Memory*	RAM 1 GB
6	*Mouse*	*Standard*

2.8 Software Implementation

Tabel 3. Implementasi Perangkat Lunak

No	Software	Spesifications
1	*The Operatyng System*	*Windows 10*
2	*Tools*	Adobe Flash
3	*Builder*	Professional CS6

2.9 Implementation of Interface

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

2.9.1 Welcomescreen Interface Implementation



Picture 4.Interface of Welcomescreen

2.9.2 Implementation of Interface Main Menu



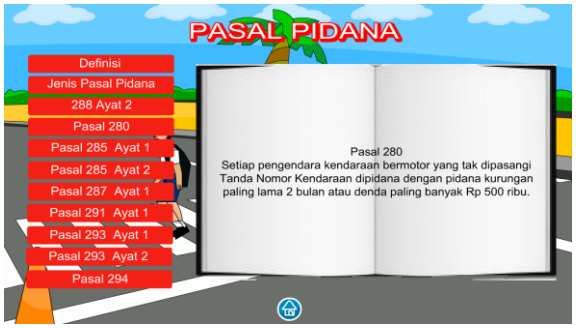
Picture 5. Interface of Main Menu

2.9.3 Implementatation of Interface Material Menu



Picture 6. *Interface of Material Menu*

2.9.4 Implementation of Interface Material Criminal Article



Picture 7. Interface of Material Article

2.9.5 Implementation of Interface Material Traffic Signs



Picture 8. Interface of Material Traffic Signs

2.9.6 Implementation of Interface Material Safety Drive



Picture 9. Interface of Material Safety Drive

2.9.7 Implementation of Interface Material Type The Letter Drive



Picture 10. Interface of Material Type The Letter Drive

2.9.8 Implementation of Interface Simulation Menu



Picture 11. Interface of Simulation Menu

2.9.9 Implementation of Interface Simulation Preparation Riders



Picture 12. Interface of Simulation Preparation Riders

2.9.10 Implementation of Interface Traffic Simulation



Picture 13. Interface of Traffic Simulation

2.9.11 Implementation of Interface Student Login



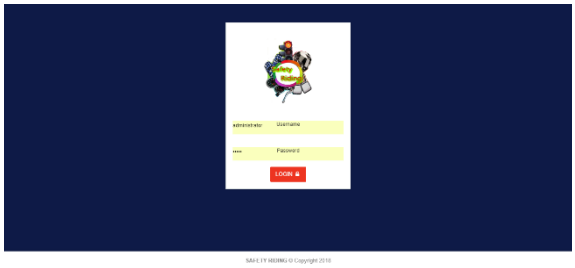
Picture 14. Inteface of Student Login

2.9.12 Implementation of Interface Practice



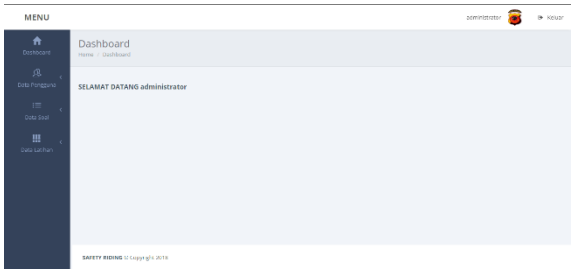
Picture 15. Interface of Practice

2.9.13 Implementation of Interface Units Dikyasa Login



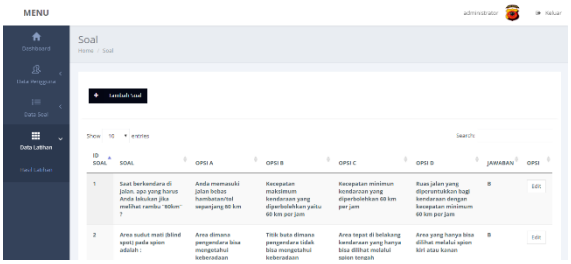
Picture 16. Interface of Units Dikyasa Login

2.9.14 Implementation of Interface The Dashboard



Picture 17. Interface of The Dashboard

2.9.15 Implementation of Interface Question Data



Picture 18. Interface of Question Data

2.10 System Testing

Testing the system aims to find out the mistakes or shortcomings, whatever there is on application development Media Multimedia Safety Riding tested. Testing is intended to find out which system is made meets the criteria and in accordance with the goals of the design.

2.10.1 Testing against Units Dikyasa

The interview was conducted with Mr. IPTU (One Police Inspector) Kiki Supriadi as Polres Dikyasa Unit Bandung who work directly in the process of socialization of educational programs and work Units Dikyasa Polres Bandung to the

community and the school environment. This is done so that the Unit Dikyasa Polres Bandung can assess the suitability of the Multimedia application Safety Riding with the needs of the Unit Dikyasa Polres Bandung in disseminating safety riding school surroundings.

1. *What media socialization safety riding helps the process of teaching and learning?*
   Answer : very helpful, because most students feel helped by the existence of the media briefing.
2. *How to display multimedia application safety riding I get up?*
   Answer : it looks appealing plus the presence of audio that makes students feel happy to learn by using this application.
3. *What is a multimedia application safety riding this can enhance the learning interest of students?*
   Answer : with the multimedia application safety riding these students have more interest in learning, students are more active in following the spirit and socializing with different methods than ever before.
4. *Are there any difficulties in the process of teaching and learning using multimedia application safety riding this?*
   Answer : multimedia application safety riding is not difficult to grasp in using it, so that in the process of socialization was not getting trouble means.
5. *What are the advantages of multimedia applications and safety riding this?*
   Answer : the benefits are easily accessible as well as the dikyasa unit can help in providing exercise questions without having to use the book.
6. *What should be added in order for the program to become better in the future?*
   Answer: the expanded material, and again made clear again in the delivery simulation.

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 Builders of Multimedia application Safety Riding as a medium of dissemination to users of two-wheeled IE as follows :

1. *Add to the appeal of the students in the program learn about safety riding more particularly on material that is described in this research.*
2. *Make it easy for students to understand the materials described in this application.*
3. *Assist and facilitate unit dikyasa in explaining the program, including safety riding especially in the materials described in this application.*

3.2 Suggestions

Multimedia Application Builder Safety Riding is still insufficient, therefore needed some development to create applications for the better. As for the suggestions to the development of applications for the future that is as follows :

1. *Add some games, so students do not feel bored while studying with the use of this application.*
2. *Animation created 3D (three dimensional) to better attract the attention of students and look more real.*
3. *The appearance made more attractive again so that the students could have more passion for learning.*

BIBLIOGRAPHY

[1] Kosandy, Hendy. *Pembangunan Game Edukasi Safety Riding Untuk Menerapkan Keselamatan Berlalu Lintas Berbasis Desktop*. Bandung : Universitas Komputer Indonesia, 2014.

[2] Indonesia, Polres Bandung. *Data Sat Laka Lantas Polres Bandung Tahun 2016*. Kabupaten Bandung : Sat Laka Lantas Polres Bandung, 2016.

[3] Sutopo, Ariesto Hadi. *Multimedia Interaktif Dengan Flash*, Yogyakarta: Graha Ilmu, 2003.

[4] O. Hamalik, *Media Pendidikan*, Bandung: Cipta Adiya Bakti, 2003.

[5] Rahadian, Yusep. *Pembangunan Aplikasi Media Pembelajaran Teknik Otomotif Pemeliharaan Penerangan dan Final Drive Gardan untuk Kelas XII*. Bandung : Universitas Komputer Indonesia, 2014.

[6] Gifalytwinsa. *Model Pembelajaran CAI dan Penerapannya di SD*. 2010.

[7] Danang Waskito. *Media Pembelajaran Interaktif Matematika Bagi Sekolah Dasar Kelas 6 Berbasis Multimedia*. Vol. 9, No. 1, 2017.

[8] Iswahyudi, Yunanto Happi Urbani. *Pembuatan Media Pembelajaran Ilmu Pengetahuan Alam kelas 5 Sekolah Dasar Negeri Dagen 1 Jaten*. Vol. 2, No. 1, 2013.

[9] Rouf, Abdul. *Pengujian Perangkat Lunak dengan Menggunakan Metode White Box dan Black Box*. Jurnal Sistem Informasi, Semarang, vol. I, p.4, 2009.

[10] Rusman. *Model-model Pembelajaran Mengembangkan Profesionalsme Guru*. Jakarta: Rajawali Pers, 2011.

[11] Somantri, Ating. *Aplikasi Statistika dalam Penelitian. Pustaka Setia*, p.40, 2006.

[12] Sofwan, Akhmad. *Belajar MySQL dengan Phpmyadmin*.

[13] Sunyoto, Andi. *Adobe Flash + Multimedia = Rich Multimedia Application*, Edisi Pertama ed., Yogyakarta : C.V Andi Offset, 2010.

[14] M. Fowler, *UML Distilled*, 3 penyunt., Yogyakarta: Andi, 2005.

[15] A. Rosa dan S. M, *Rekaysa Perangkat Lunak*, Bandung: Informatika, 2015.

[16] B. Hariyanto, *Rekayasa Sistem Berorientasi Objek*, Bandung: Informatika, Bandung, 2004.

[17] Munawar, *Pemodelan Visual dengan UML*, Jakarta: Graha Ilmu, 2005.

[18] Valade, *PHP 5 For Dummies*, Indiana-USA: Wiley Publishing, 2004.