MULTIMEDIA APPLICATIONS DEVELOPMENT ENVIRONMENT URBAN FARMING AS MEDIA SOSIALIZATION FOR SCHOOL

Said Emir Faisal[1], Robi Tanzil Ganefi[2]

[1,2] Teknik Informatika – Universitas Komputer Indonesia
Jl. Dipatiukur 112-114 Bandung
E-mail : emirsaid2@gmail.com, robi.tanzil.g@gmail.com[2]

ABSTRAK

Urban Farming is an educational program in the utilization of vacant land on the school grounds. Food and Agriculture Agency of Bandung City to socialize urban farming education program in school environment. Media socialization is done by conventional way, that is to explain orally and spread brocade urban agriculture. This makes it difficult for students to understand the materials of urban education programs.

Urban Farming Multimedia Application uses tutorial model and simulation model in message broadcast. In Urban Farming Multimedia Applications there are 4 main menu that is application info, material, simulation (full of hydroponics, vertikultur, tabulampot, and aeroponic simulation), and practice. Testing is done by testing Alpa (blackbox) and Beta (interview and questionnaire)

.

Keywords: Urban Multimedia Applications, Urban Farming.

1. INTRODUCTION

Bedding is a problem faced by almost all cities in Indonesia. Bandung is one of the cities that have problem of sleeping land because there is still a lot of utilization of building yard which is not optimal in its realization. Urban Farming's less than optimal socialization leads to land issues that are not resolved. And impact on the high food raw materials. This condition is the responsibility of the Department of Agriculture and Food Security Bandung. Urban Farming education program is part of educational program of gardening village of Bandung Dispangtan to increase awareness and knowledge of the community, especially in the school environment in utilizing the land to sleep. Urban Farming itself is an educational program in which there are simple farming methods that can be used in school environments that have empty yard so it can be used as productive land, where the method used is, hydroponics, vertikultur, and tabulampot (planting fruit in pots).

Based on interviews with Ibu Sri Rezeki as Head of Section for Empowerment of Food and Agriculture Community, stated that socialization in some school environment including elementary school is still explained orally and spread brochures. Where according to Mrs. Sri Rezeki explain orally and spread this brochure still have weakness that is student who pay attention sometimes not focus and do not understand at the material that is being submitted because of lack of student interaction to the material and also lack of simulation tool directly so that student difficult to practice Urban farming activities.

Based on the results of questionnaires already done in SD Mekarsari it can be seen that from 25 students of class V from 40 students who fill the questionnaire and are in SD Mekarsari not knowing the urban farming program and its activities, so this causes the students who do not know urban farming education program and Activities. Therefore, it needs multimedia-based socialization media so that socialization media will be more interactive.

Based on the exposure required a solution that can facilitate the delivery of materials and skills as media urban farming soasialisasi on the school environment.

1.1 Purpose and objectives

The purpose of this research is to shoot applications that have been there to further improve the deepening of the material and skills to be realized in everyday life.

Objectives to be achieved on the research to be conducted are as follows:

a. *Help Dispangtan Bandung in socializing urban farming using a more interesting and interactive media.*
b. *Provide an urban farming application on hydroponics, vertikultur, and tabulampot methods*
c. *Provide knowledge of urban farming along with methods of cultivation to elementary school students.*

1. ISI PENELITIAN

2.1 Multimedia

Multimedia is the delivery of information using a combination of text, graphics, sound, video, and animation [6]. Multimedia is the use of computers to create and combine text, graphics, audio, motion pictures (video and animation) by combining links and tools that allow users to navigate, interact, create and communicate. The advantage of multimedia is to attract the senses and attract interest, because it is a combination of views, sounds and movement. The computer research and publishing body, the Computer Technology Reseach (CTR), states that people are only able to remember 20% of the views and 30% of what is heard. But one can remember 50% of the seen and heard and 80% of the seen, heard and performed all at once [7]. Then multimedia is very effective. Multimedia becomes a powerful tool for teaching and education as well as to achieve competitive advantage of the company.

2.2 Material Analysis

The analysis of Urban Farming multimedia application material will be described based on each related material. The following is an explanation of the stages of the material can be seen in table 1

Tabel 1. Analisis Materi

No	Materi	Materi yang dibahas
1	*Hydroponics Technique*	a. *Understanding hydroponics techniques* b. *What media is needed to use hydroponics techniques* c. *The advantages of hydroponics techniques* d. *Lack of hydroponic techniques*
2	*Vertikultur Technique*	a. *Understanding vertikultur techniques* b. *What media is needed to use vertikultur techniques* c. *The advantages of vertikultur techniques* d. *Lack of vertikultur techniques*
3	*Technique of Tabulampot*	a. *Understanding tabulampot techniques* b. *What media is needed to use tabulampot techniques* c. *The advantages of tabulampot techniques* d. *Lack of tabulampot techniques*
4	*Aeroponic Technique*	a. *Understanding aeroponic techniques* b. *What media is needed to use aeroponic techniques* c. *The advantages of aeroponic techniques* d. *Lack of aeroponic techniques*

2.3 Material Collection Analysis

Analysis Material collection is a description of the source of materials used in application development. Material created and obtained consists of image files, text, audio and so on. The material used can be seen in table 3.4.

Tabel 3. 4 Sumber Material Yang Digunakan

No	Bahan	Jenis file	sumber
1	Backround pada setiap halaman	Gambar	Sumber : Google
2	Gambar Tanaman, awan	vektor	Dibuat dengan Adobe Flash CS6
3	Gambar tombol mulai, keluar, home, next, back, audio, materi, soal latihan, simulasi	Gambar	Dibuat menggunakan adobe photoshop
4	Backsound	Audio	Sumber : Google
5	Audio pada halaman materi	Audio	Dibuat menggunakan adobe audition
6	Materi Pembelajaran	Text (.txt)	Materi *urban farming*
7	Huruf	Text (.txt)	*Default font* Adobe CS6

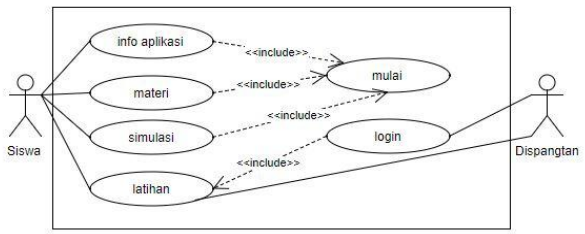
2.2 Hardware Analysis

No	Perangkat Keras	Spesifikasi
1	*Processor*	*Processor* dengan kecepatan 2.0 Ghz
2	Monitor	*Monitor* dengan resolusi 1024 x 768 pixel
3	Graphic Card	VGA 512 MB
4	*Harddisk*	*Free Space* 1 GB
5	*Memory*	RAM 2GB
6	*Mouse*	Standar

2.5 Functional Analysis

The functionality requirement analysis is a requirement analysis of the developed application. In the development of multimedia applications Urban Farming is modeled using object-based modeling for the frontend portion described using UML (Unified Modeling Language) diagrams.

a. Usecase Diagram



Gambar 3. 16 Usecase Diagram

2.3 Interface Implementation

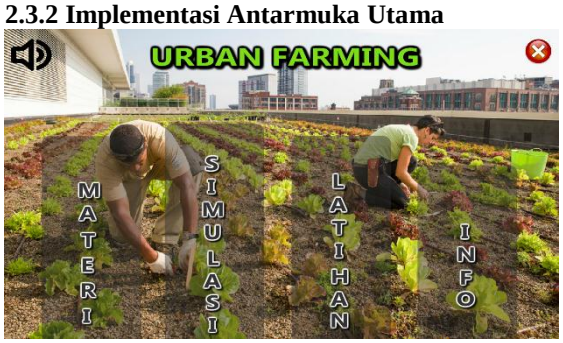
Implementation of the interface is the application of the interface from the design of the interface. Interface Implementation of Urban Farming Multimedia Application on School Environment as Socialization Media can be seen in tables 4.5 and 4.6

2.3.1 Implementasi Antarmuka *Welcomescreen*



Gambar 4. 1 Tampilan Antarmuka *Welcomescreen*

2.3.2 Implementasi Antarmuka Utama



Gambar 4. 4 Tampilan Antarmuka Materi

2.3.3 Implementasi Antarmuka Halaman Materi



Gambar 4. 5 Tampilan Antarmuka Materi

2.3.5 Implementasi Antarmuka Simulasi Hidroponik



Gambar 4. 19 Tampilan Antarmuka Simulasi Hidroponik

2.3.6 Implementasi Antarmuka Simulasi Vertikultur



Gambar 4. 20 Tampilan Antarmuka Vertikultur

2.3.7 Implementasi Antarmuka Aeroponik



Gambar 4. 21 Tampilan Antarmuka Simulasi Aeroponik

2.4 System Testing

Testing of Multimedia Application System Urban farming is a way to find errors or deficiencies in the software being tested. Testing is done to find out software that has been developed whether qualified in accordance with the purpose of designing the software.

2.4.1 Testing Against Dispangtan

The interview was conducted to the Head of Section of Empowerment of Food and Agriculture Community which was directly involved in the process of disseminating the education and work programs of Dispangtan Bandung City to the community and school environment. This is done in order to Dispangtan Bandung City to assess the suitability of Urban Multimedia Application farming with the needs of Dispangtan Bandung in socializing urban farming in the school environment

3. CLOSING

3.1 Conclusion

Based on the results of testing questionnaires and interviews that have been done, then the conclusion of the final task entitled Application Development Multimedia Urban Farming As Media Socialization In School Environment is as follows:

1. *Multimedia Application Multimedia Urban Farming Application As A Socialization Media In School Environment makes it easy for elementary school students Mekarsari to understand urban farming education program and its activities.*
2. *Application of Urban Farming Multimedia as a Socialization Media In School Environment has fulfilled its need in providing socialization media about Urban Faming education program.*
3. *Increased knowledge of elementary school students about Urban Farming education programs and their activities after using the Urban Farming Multimedia Application.*

3.2 Suggestions

Application of Urban Farming Multimedia as a Socialization Media In School Environment still has shortcomings, hence from that it needed some development to make application to be better. The suggestions on the development of future applications are as follows.

1. *Animation created 3D to attract more students and Using tools such as joystick in delivery so that the object is more visible.*
2. *Simulations are used more in explore so that students understand more about the material delivered.*

BIBLIOGRAPHY

[1] Engkos Kosasih, "5000 Ha Lahan Tidur Dipulihkan", 25 Februari 2017. [Online] Available: http://www.galamedianews.com/bandung-raya/134045/5000-ha-lahan-tidur-dipulihkan.html.

[2] Arman, S., Visi dan Misi Perusahaan, The Global Source for Summaries & Reviews: 2008. Diakses 20 Januari 2017

[3] David, Fred. R., Manajemen Strategis:Konsep-konsep, Jakarta: Salemba Empat, 2011.

[4] Gibson,Organisasi Perilaku Struktur Proses, Terjemahan Edisi V, Jakarta:Penerbit Erlangga, 2002.

[5] S. Rustan, Mendesain Logo, Jakarta: PT Gramedia, 2009.

[6] L. J. Najjar, Multimedia Information And Learning, 129-150 penyunt., USA: Atalanta, 1996.

[7] M. Suyanto, Multimedia Alat untuk Meningkatkan Keunggulan Bersaing, Yogyakarta: Andi, 2005.

[8] K. Sunarto, Pengantar Sosiologi (Edisi Revisi), Jakarta: Fakultas Ekonomi Universitas Indonesia, 2004.

[9] Enciety , "urban farming merubah kampung menjadi kampus", 15 Maret 2017. [Online] Available: http://enciety.com/news-item/urban-farming-merubah-kampung-menjadi-kampus.

[10] Balkey M, 2011. [Online] Available: www.berkebun-yuuk.blogspot.com.

[11] Splittgerber, Federic L., and Nobert A. Stirzaker., Computer Technology for Administrative Information and Instructional Management in School District, Educational Technology,1984.

[12] Alessi dan Stanley, Computer Based Instruction Method & Development, New Jersey: Prenice harr, 1985.

[13] Subiyantoro, Pemrograman Berorientasi Objek, Malang:Joko Pitono Editor,2013.

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

[15] M. Fowler, UML Distilled, Yogyakarta: Andi, 2005.

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

[17] H. Puspitasari, Adobe Flash CS4 Profesional, Yogyakarta: PT. Skripta Media Creative, 2010.

[18] T. A. Prabawati, Multimedia: Making It Work, Vaughan, 2004.

[19] R. Widiyanto, Teknik Profesional CorelDraw X3, Bandung: Informatika Bandung, 2006.