

Multimedia-Based Information System Students Presentation

Leon Andretti Abdillah
Program Studi Sistem Informasi
Universitas Bina Darma
Palembang, Indonesia
leon.abdillah@yahoo.com

Abstract—Current young college students was born with native knowledge in information technology field. They have inborn ability to sense and adopt the usefulness of information technology applications. Some of famous current information technology applications nowadays include social media (facebook), blog (wordpress), cloud repository (dropbox), video site (youtube), etc. This article discusses how lecturer involved multimedia-based presentation for those milleneal college students in information systems department. There are 147 sophomore students involved in the observation. Course subjects involved in this research are Supply Chain Management and System Analysis & Design. Both of those subjects consist of 16 (sixteen) weeks of meeting. Every student are asked to join a group and work in a specific theme. Each group must develop the multimedia presentation based on their choosen topic. The students develop their multimedia presentation by using free softwares and tools. At the end of the semester, every team musts present and reports their team project in the form of video presentation. Every student needs to present at least 4 (four) slides as part of group presentation, talk for at least 20 (twenty) seconds, use animation and sound. The results show that students' groups able to create multimedia-based presentation in the form of video by using various of softwares, formats, durations and sizes. Three most famous video software used by students are Windows Movie Maker, Sony Vegas, and Filmora. Video formats used by them are MP4 and WMV. The duration for their multimedia-based presentation is between 1 (one) minute and 15 seconds until 17 minutes and 14 seconds. The presentation size is between 8.2MB until 1.7GB. The groups that get an A score, are the groups that use: 1) Sony Vegas (MP4, WMV) in 6 (six) to 9 (nine) minutes, 2) Movie (MP4) in 7 (seven) minutes and 3) FreeMake (AVI) in 13 (thirteen) minutes.

Keywords—*Multimedia; Information Systems; Student Presentation.*

I. INTRODUCTION

Information-based globalization has led to a new phenomenon recorded in "snapshots" in Figure 1 . By 2017 predicted [1]: 1) The total population of the earth will reach 7.476 billion where 54 percent will live in urban areas, 2) Global internet users are about 3.77 billion (equaling 50 percent penetration), 3) Global social media users about 2.80 billion (equaling 37 percent penetration), 4) Global mobile users about 4.92 billion (equaling 66 percent penetration), 5)

Global mobile social media users about 2.56 billion (equaling 34 percent penetration) and 6) Global ecommerce users about 1.61 billion (equaling 22 percent penetration).

Fig. 1. Global digital snapshot (January 2017)



The development of information and communication technology (ICT) has been influenced the learning process nowadays in higher education or universities [2]. Social information technology (IT) such as Blog [3-5], Facebook [6-8] and even YouTube [2, 9, 10] already involved in current education environment.

Various past researches have been discussed the role of IT in education sector. Those researches are documented in: 1) Students learning center strategy based on e-learning and blogs [4], 2) Information and knowledge sharing cultures in higher educations institutions [11], 3) Student's blended learning through social media [7] and 4) Information technology course materials by using youtube [2]. Current article will continue the discussion of those articles. The focus of current research is multimedia-based presentation for information systems (IS) students' presentation.

Students in higher education sector need to perform the ability of creating new innovation and invention. They will compete in global era that involving IT as the main backbone. College student activities not only attend conventionally held lectures, but also conduct discussions with colleagues. After students are given with course material by using YouTube [2], then they must develop a presentation in multimedia format.

Media for presenting college students final report including, text, image, table, chart, diagram, sound, animation and even video. In this study, those media will be grouped or bundled into one single video presentation. The rest of this paper are consist of research methods in section 2 followed by results and discussions as section III. This article is concluded with section IV that cover conclusions.

II. RESEARCH METODS

A. Respondents

The total respondents involved were 150 students. Those students are second year students (sophomore). They take courses in the fourth semester. Technology is playing a greater role in the education of college students [3] and cognitive development of youth [12]. These students have grown up within a world of pervasive technology including mobile phones, digital cameras and the omnipresent internet [13]. All of the respondents are asked to join study group in Facebook that has been created before by lecturer.

B. Course Subject

Course subjects observed in this research are "business modeling - supply chain management (SCM)" [14-16] and "system analysis and design" [17-20]. SCM is one of the newest subject offered in the information system study program (SI) in the computer science faculty. This course consists of sixteen weeks of meetings. During the lecture, there will be activities in the form of lectures, daily exams, midterm examinations, assignments, presentations and final exams.

C. Presentation

The focus activity for this research is presentation section. Students' group develop a multimedia presentation of their final report. They need to capture various media that they used in their report and blend them into one single video presentation.

Lecturer asked student group to create a video-based presentation for their theme report. The criteria for the presentation: 1) Create at least 4 (four) slides for each member, 2) Each member needs to talk about at least 20 (twenty) seconds, 3) Use animation and 4) Use appropriate sound.

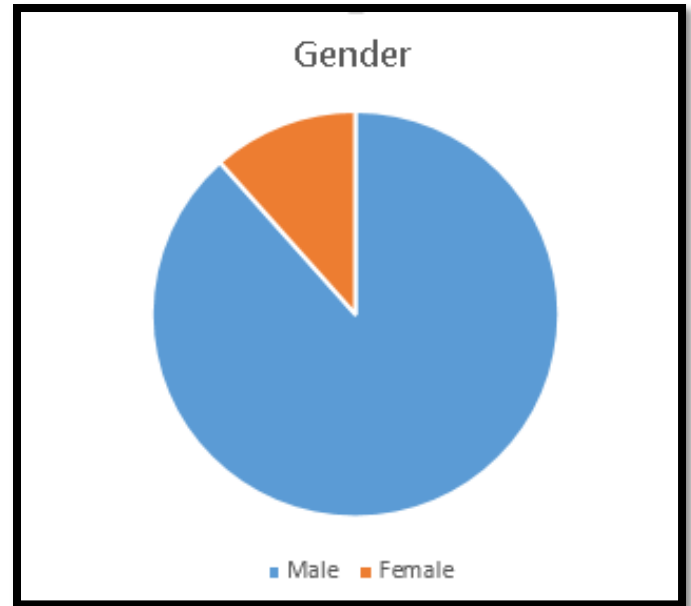
D. Social Technology

The social technologies involved in the study include: 1) Facebook as one of the most popular internet application nowadays [21] also known as community-building resource [22], 2) DropBox [23], a free software tool that allows anyone to synchronize files & transferring documents [23], DropBox, the working groups kept the different versions of the work [24] also known as cloud repository and 3) Video-sharing web site [25], YouTube, to reflect on how the material can be applied to settings within students' discipline. YouTube [26] has become one of the fastest-growing websites. Lecturers use YouTube to enrich student lecture material and as an example of group video presentation

III. RESULTS AND DISCUSSIONS

This section covers the some results of the research. This section consists of respondents characteristics, presentation softwares, presentation formats, presentation durations, presentation quality and students responds.

Fig. 2. Respondents characteristic by gender



A. Respondents Characteristics

Total registered students in this research are 150 students. Those students enrolled in facebook group of "Business Modeling – Supply Chain Management" and "System Analysis & Design". Among those registered students, 147 responses into the observation. Male students dominated the study or equal to 88.4%. While the rest are female students totaling 11.6 percent (Figure 2).

B. Presentation Softwares

Students are free to choose what softwares for creating their presentation video. They must submit their video presentation URL through Facebook. Their video need to be stored in DropBox. There are 3 (three) the most famous video softwares: 1) Windows Movie Maker, 2) Sony Vegas and 3) Filmora (Table I).

TABLE I. PRESENTATION SOFTWARES

Presentation Softwares	Count
Windows Movie Maker	3
Sony Vegas	3
Filmora	3
-	2
Camtasia	2
Video Maker	1
Adope Premiere Pro	1
CyberLink	1
Video Maker FX	1
Video Skype	1
Video Pad Free	1

Presentation Softwares	Count
FreeMake.com	1
Viva Video	1
Kine Master	1
Movie Maker	1
Sonny Vegas Pro 11	1
Total	24

C. Presentation Formats

There are 5 (five) video formats used in this research. The most popular video format is : 1) MPEG-4 Part 14 or MPEG-4 AVC (MP4), 2) Windows Media Video (WMV) developed by Microsoft, 3) Audio Video Interleaved (AVI) developed by Microsoft , 4) Matroska Video (MKV) and 5) VideoLAN Client (VLC). Among those video formats, MP4 and WMV are the most widely used video formats by student groups.

TABLE II. PRESENTATION FORMATS

Presentation Formats	Count
MP4	23
WMV	3
AVI	1
MKV	1
VLC	1
Total	29

D. Presentation Duration

Even the limitation of the presentation duration is 10 (ten) minutes, many groups spend longer time to present their work. The longest duration for video presentation is 17 (seventeen) minutes and 14 (fourteen) seconds. The shortest duration is 1 (one) minute and 15 (fifteen) seconds. The biggest presentation size is reach 1.7GB. The smallest presentation size is only 8.2MB. Table III provides some information on the sizes and durations of all the multimedia-based presentation.

TABLE III. PRESENTATION SIZES AND DURATIONS

Class	Group	Size	Duration
SI4C	A	8.2MB	15:09
SI4C	D	184MB	8:48
SI4C	B	10,9MB	1:15
SI4C	F	69,1MB	7:43
SI4C	E	169MB	13:16
SI4C	C	-	4:23
SI4D	D	335MB	5:47
SI4D	C	166MB	6:50
SI4D	B	38MB	6:59
SI4D	E	1,7GB	17:14
SI4E	C	55.7MB	10:59
SI4F	C	200MB	7:36
SI4F	E	400MB	12:59
SI4F	A		7:44
SI4F	B	150MB	10:01
SI4F	D		8:46
SI4J	C	79MB	9:08
SI4J	E		9:50
SI4J	B	166MB	6:12
SI4J	F	47MB	5:38
SI4J	A	35MB	5:12

E. Presentation Quality

Each presented video presentation will be judged according to the criteria described in section II.C. Assessment systems tend to use a qualitative approach. Scores are given in the range 0 - 100. The highest score ranges are those that score 85-100 or the equivalent of 'A'.

A presentation video that scores in the best range is a presentation created using the software as follows: 1) Sony Vegas, 2) Filmora and 3) FreeMake.com. The video formats used by the best presentations are: 1) MP4, 2) WMV and 3) AVI. Presentation video file sizes range from 79MB up to 200MB. While the duration is displayed ranging from 6 (six) minutes to 13 minutes. Table IV summarizes the list of video-based presentations along with the softwares used, the file formats, the file sizes, the durations of the video and the scores. Table 4 summarizes the group that received an A grade.

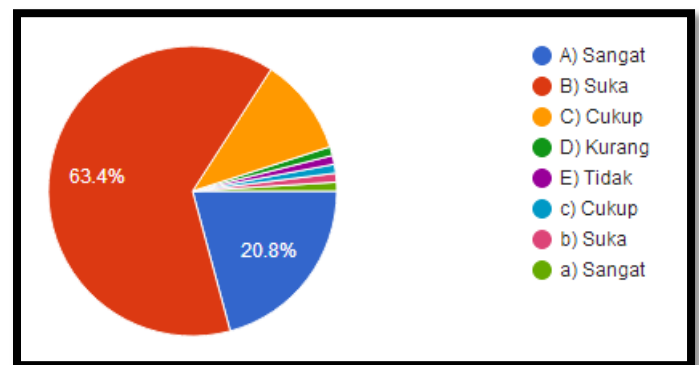
TABLE IV. PRESENTATION SCORES

Class-Group	Software	Format	Size	Length	Score
SI4J-B	Sony Vegas	MP4	166MB	6:12	95
SI4J-C	Sony Vegas	WMV	79MB	9:08	95
SI4F-C	Filmora	MP4	200MB	07:36	95
SI4C-E	FreeMake.com	AVI	169MB	13:16	90

F. Students Responds

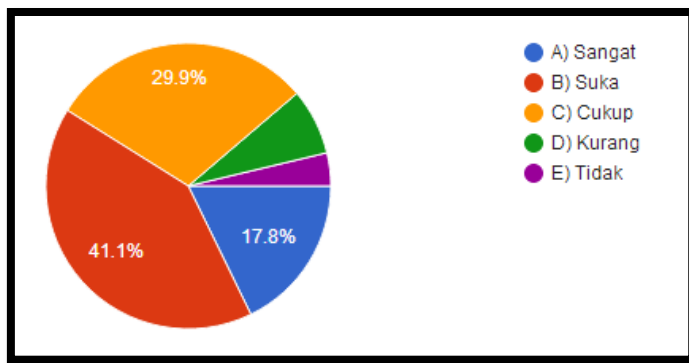
Besides using YouTube, this study still involve Facebook for dissemination of course materials. At the end of the semester, lecturer gives some questionnaires. Dominant students like to study by using Facebook (63.4% + 20.8% = 84.2%). This means that most of the students are love learning by involving Facebook. Furthermore, researchers will continue to involve the use of Facebook as a medium of learning for college students. Lecture able to check student responds in real time by notifications of mobile Facebook application in android smartphone.

Fig. 3. Student response to the use of facebook in learning activities



Besides using Facebook, this study still involve YouTube for enriching of course materials. After student fill in the given questionnaire, dominant students like to learn by using YouTube (41.1% + 17.8% = 58.9%).

Fig. 4. Student response to YouTube's use of learning activities



IV. CONCLUSIONS

Trigerring college students to create their multimedia-based presentation is the very useful in current blended learning environment. Several softwares are available to use in creating students' video presentation. The quality of the presentation did not depend on file formats, size, or duration. The groups that get an A score, are the groups that use: 1) Sony Vegas (MP4, WMV) in 6 (six) to 9 (nine) minutes, 2) Movie (MP4) in 7 (seven) minutes and 3) FreeMake (AVI) in 13 (thirteen) minutes. For next study, author would like to discuss the publishing student presentation in famous video based online application, YouTube, and combine it with blog activities with Wordpress.

ACKNOWLEDGMENT

The dissemination of this article, multimedia-based presentation for information systems students, in CMIC2017 Bangkok Thailand is under the scholarships of Universitas Bina Darma as a regular semiannual independent research fund for an even semester of the academic year 2016-2017.

REFERENCES

- [1] S. Kemp. (2017). *Digital snapshot: Internet and social media use in 2017*. Available: <https://www.techinasia.com/talk/digital-snapshot-internet-social-media-2017>
- [2] L. A. Abdillah, "Enriching Information Technology Course Materials by Using Youtube," in *The 5th International Conference On Artificial Intelligence, Computer Science and Information Technology (AICSIT2017)*, Bayview Beach Resort, Batu Ferringhi, Pulau Pinang, Malaysia, 2017, pp. 75-82.
- [3] K. A. Quesenberry, et al., "Blogging in the Classroom: Using WordPress Blogs with BuddyPress Plugin as a Learning Tool," *Journal of Advertising Education*, vol. 18, p. 5, 2014.
- [4] L. A. Abdillah, "Students learning center strategy based on e-learning and blogs," in *Seminar Nasional Sains dan Teknologi (SNST) ke-4 Tahun 2013*, Fakultas Teknik Universitas Wahid Hasyim Semarang 2013, pp. F.3.15-20.
- [5] A. M. Marques, et al., "Structuring the discourse on social networks for learning: Case studies on blogs and microblogs," *Computers in Human Behavior*, vol. 29, pp. 395-400, 2013.
- [6] T. A. Pempek, et al., "College students' social networking experiences on Facebook," *Journal of Applied Developmental Psychology*, vol. 30, pp. 227-238, 2009.
- [7] L. A. Abdillah, "Exploring Student's Blended Learning Through Social Media," *ComTech (Computer, Mathematics and Engineering Applications)*, vol. 7, pp. 245-254, 2016.
- [8] H. Bicen and N. Cavus, "Social network sites usage habits of undergraduate students: Case study of Facebook," *Procedia-Social and Behavioral Sciences*, vol. 28, pp. 943-947, 2011.
- [9] S. Saurabh and A. S. Sairam, "Professors—the new YouTube stars: education through Web 2.0 and social network," *International Journal of Web Based Communities*, vol. 9, pp. 212-232, 2013.
- [10] E. Tan and N. Pearce, "Open education videos in the classroom: exploring the opportunities and barriers to the use of YouTube in teaching introductory sociology," *Research in Learning Technology*, vol. 19, 2012.
- [11] L. A. Abdillah, "Managing information and knowledge sharing cultures in higher educations institutions," in *The 11th International Research Conference on Quality, Innovation, and Knowledge Management (QIK2014)*, The Trans Luxury Hotel, Bandung, Indonesia, 2014.
- [12] D. Roberts, et al., "Generation M: Media in the Lives of 8–18 Year-Olds. Menlo Park, CA: Henry J Kaiser Foundation; 2003," ed, 2005.
- [13] P. Duffy, "Engaging the YouTube Google-eyed generation: Strategies for using Web 2.0 in teaching and learning," *Electronic Journal of E-learning*, vol. 6, pp. 119-130, 2008.
- [14] L. A. Abdillah, "Business Modeling - Supply Chain Management," in *Computer Science for Education*, ed. Palembang: Bina Darma University, 2017.
- [15] C. Giménez and H. R. Lourenço, "e-SCM: internet's impact on supply chain processes," *International Journal of Logistics Management, The*, vol. 19, pp. 309-343, 2008.
- [16] D. Simchi-Levi, et al., *Designing and managing the supply chain: Concepts, strategies, and cases*: McGraw-Hill New York, 1999.
- [17] L. A. Abdillah, "Systems Analysis and Design," in *Computer Science for Education*, L. A. Abdilla, Ed., ed. Palembang: Bina Darma University, 2016.
- [18] J. S. Valacich, et al., *Essentials of Systems Analysis and Design*, 5th ed.: Pearson Education, Inc., 2012.
- [19] A. Dennis, et al., *Systems analysis and design: An object-oriented approach with UML*, 4th ed.: John Wiley & Sons, 2012.
- [20] K. E. Kendall and J. E. Kendall, *Systems analysis and design*, 8th ed. Upper Saddle River, New Jersey: Prentice-Hall, 2011.
- [21] L. A. Abdillah, "Social media as political party campaign in Indonesia," *Jurnal Ilmiah Matrik*, vol. 16, pp. 1-10, 2014.
- [22] M. D. Roblyer, et al., "Findings on Facebook in higher education: A comparison of college faculty and student uses and perceptions of social networking sites," *The Internet and Higher Education*, vol. 13, pp. 134-140, 2010.
- [23] T. Ries, et al., "Dropbox: A Must for All Teachers?," *近畿大学教養・外国語教育センター紀要 外国語編= Kinki university center for liberal arts and foreign language education journal. foreign language edition*, vol. 3, pp. 209-216, 2012.
- [24] J. de Jorge Moreno, "Using social network and dropbox in blended learning: An application to university education," *Business, Management and Education*, vol. 10, pp. 220-231, 2012.
- [25] S. C. Burke and S. L. Snyder, "YouTube: An Innovative Learning Resource for College Health Education Courses," *International Electronic Journal of Health Education*, vol. 11, pp. 39-46, 2008.
- [26] X. Cheng, et al., "Statistics and social network of youtube videos," in *Quality of Service, 2008. IWQoS 2008. 16th International Workshop on*, 2008, pp. 229-238.