INDONESIAN E-MOBILE LIBRARY:
A PROTOTYPE TO COVER OUTREACH AREA

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Abstract

National Library of Indonesia has developed some kinds of mobile library using various transportation mode, like motorcycle, four wheeled vehicle and motor boat. One of the purpose of mobile library is to enhance the reach of library service to the people who live in various land profile..

Seeing at the big number of library user and the natural profile of Indonesia with big and small islands, river and villages, have made mobile library has high potentiality to be developed in many aspects. One of the goal in developing mobile library is to grow reading interest and library utilisation by the community. National Library of Indonesia has developed innovation in mobile library service by building a prototype of electronic mobile library.

Before electronic mobile library was developed, Indonesia does not have such facility to serve suburban area where internet penetration is very low. Indonesia's natural profile as a country with many big islands, unstandard and inequitable education level, lack of telecommunication facility, the low level of people's electronic information literacy have made IT based information utilization low, and economic factor also causing electronic information service being hindered.

Introduction

The topography of Indonesian territory with many islands and seperated by sea and river, has forced the National Library of Indonesia and public libraries to create an innovation to cover the user in getting a library service, one of those is mobile library. since 2000 National Library of Indonesia has given mobile library car (MPK) to some provincial libraries and city or regency library. Before 2000 the aid was given in modified bus or truck for mobile library, boat library in Kalimantan countryside, bicycle and motorcycle to reach narrow area that generally found in a big city like Java island.

The growth of Information Technology with all of its aspects demanding diversity of the collection in the library. Library is demanded to have convergence of its collection either printed or electronically to help library user gain an information literacy skill, so in the end everyone have a basic skil to develop their information literacy. Some experts said to have a literacy skill if he knows how to fulfill his need of information and get the right information in any format to use it. These activities could be done by the skill or get used with information technology. This kind of people who has the skill, could learn for a life time on his own.

The process of developing those activities, could be started from school to adult age, and could be concluded that the ability to understand and getting the information started at school age and one of the information storage is school library. Manifesto of School library issued by IFLA/UNESCO state that:

"The school library offers learning services, books and resources that enable all members of the school community to become critical thinkers and effective users of information in all formats and media. School Libraries link to the wider library and information network in accord with the principles in the UNESCO Public Library Manifesto ....

It has been demonstrated that, when librarians and teachers work together, students achieve higher levels of literacy, reading, learning, problem-solving and information and communication technology skills".

School library as the gate of science and base for student to develop literacy skill not only provide reading material, but also need to provide other information resource, such as audio-visual material and multimedia, and also access information on the internet. The access to internet is needed to add and complement kids knowledge from other sources that not provided by school library. Based on this school librarian and teacher need to teach the student to identify any kind of information needed and track it through the information resources. So a program on knowledge of information literacy is needed at school. By following such program, student will guided to have a skill in troubleshooting problem from the information gathered. This skill in the future will be useful for their career.

In line with the dream of building a library that could fulfill all aspect of collection and its facility as mentioned above, it need a cooperation and sinergy, appreciation to library between school librarian, teacher, principal and school committee to make it into reality, but unfortunately almost most

school library in Indonesia still lack of other information resource, such as electronic and multimedia collection and internet.

Based on that National Library of Indonesia developed a mobile electronic library to be used by students in learning information and communication technology and improving the skill in information literacy.

The Aims of Electronic Mobile Library (PUSTELING) Development

Launched at 30 May 2007 in a series of National Library of Indonesia 27th anniversary celebration by Vice President Jusuf Kalla, PUSTELING was Indonesia's first electronic mobile library. during the first launching, Pusteling was aimed to introduce as well as stimulating the utilisation of information and communication technology (ICT) to the community especially students.

The aim of Pusteling development are:

1.Developing a prototype for electronic library service;

2.Inviting library user to use and utilize electronic collection in multimedia format;

3.A workshop of searching and using electronic collection as a model of electronic information literacy especially for students from elementary to senior high school;

4.ICT workshop for public to know and utilize computer technology and internet;

Building mutualism relationship between library institution and schools to develop community education.

Design and Development Process of Pusteling

Pusteling was designed to get through small cities especially in order to get into a school yard. Considering the number of roads with small size in Indonesia, the design was adapted with the size of the road that could be passed through by this e-mobile library. The chosen of middle size truck in early development was meant to accomodate all available electronic equipment like notebook, server, LCD projector and a generator set so that the bus could move freely.

The development was initiated by sending 3 staffs of National Library of Indonesia to conduct a benchmarking to the National Library of Malaysia which implemented this model more early. The benchmarking was done by visiting and surveying Kuala Lumpur and Malaka where *e-Mobile Pustaka* was operated. The report of the benchmark and requirement assesment were done together by National Library of Indonesia and car producer, PT. New Armada that located at Magelang, Central Java, who was appointed to carried out the project. Several long discussions were done since the beginning to review proposals from pusteling team. The assesment then translated into drawings. The process was take 3 months, where the longest part was to defined the artistic functionality of each devices and the placement on the minibus. The small interior of the bus is one of the challenge provide user comfort.

Based on experience and survey of National Library of Malaysia in operating e-mobile library, it was considered to make some adjustment in accordance with Jakarta territory and surrounding area, the adjustments are:

Pusteling aimed to introduce ICT to students, and also to enhance the skill in operating computer and using

internet. So National Library of Indonesia required to compiled a number of learning module for students such as word processing with Microsoft Word, spreadsheet with Microsoft Excel, presentation with Microsoft Power Point and internet access with introduction to internet and search engine usage module. Therefore there are LCD projector and electric screen provided on Pusteling;

Pusteling designed to develop electronic information literacy for students by providing multimedia collection in a CD or DVD, and to provide a guidance in using electronic information resources in the internet. So in pusteling there are 2 racks at right and left side to store multimedia collection and a server for communication and multimedia material repository; Pusteling uses 3G technology for internet connection provided by PT Indosat and PT. Excelcom as Indonesian Internet Service Provider. For near Jakarta area the connection is in good condition but outside Jakarta the quality is decreased;

If necessary Pusteling could also use dial up connection available at school which is generally provided by PT. Telkom;

For electricity, Pusteling has its own portable power generator;

For comfort, beside build in air conditioner, Pusteling also has additional Air Conditioners;

The vehicle operated when parked at school yard. The service available for primary, junior and senior high school at Jakarta, Depok, Tangerang and Bekasi which are located at West Java Province with a regular schedule. Each school alocated 2 hours service.

Below is the specification of e-mobile brary (Pusteling)

No	Items	Type and Specification	Quantity	Pusteling in Picture
	Pusteling	Semi Truck	1 unit	
		Diesel Fuel		
Electicity Equipment				
1	Generator Set	: 1-Phase 5000 Watt	1 unit	
		Gasoline Type		
2	Air Conditioner (AC)	: Vehicle-AC	1 unit	
		Comfort-AC	2 units	
Information Technology Devices :				
1	Server	: Rackmount Type with spec	1 unit	
		Processor : Intel Xeon 2,6 Ghz		
		Memory : 2 GB		
		HDD : 180 GB		
		Display : CRT		
		Ethernet Slot : 10/100 Mbps		
		CD-RW		
2	Notebook	: Spec	10 units	
		Processor : Intel Core Duo 2 Ghz		
		Memory : 2 GB SODIMM		
		HDD : 80 GB		
		Display : 15,4 Inch		
		Ethernet Slot : 10/100 Mbps		
		DVD/CD-RW Combo		
		IEEE 1394 Port (Firewire) & USB		
		7-Memory Card Reader		
3	Switch	: Manageable	1 unit	
4	UPS	: 2500 Watt	1 unit	
5	Internet Connection	: Huawei-3G Modem	1 unit	
		(Shareable)		
6	LCD Projector	: Roof Mounting	1 unit	
7	Electric Screen		1 unit	
8	Printer	: Inkjet	1 unit	
Material (Collection Type) :				
		CD, DVD, E-Book, e-Tutorials		

Services Provided by Pusteling

At the moment Pusteling only operating at Jakarta, Bogor, Depok, Tangerang and Bekasi or some regions part of West Java province only. Below is the current schedule of Pusteling for January until May 2009.

Pusteling Service Schedule - January to May 2009

No	School	Address	Month - Date					Remark
			Jan	Feb	Mar	Apr	May	
1	SMKN 16	Jl. Taman Amir Hamzah, Jakarta Pusat	13 27	10 24	3 17	7 21	5 19	
2	SMPN 207 Slipi	Jl. Raya Meruya Utara, Jakarta Barat	15 29	12 26	12	9 23	14	In cooperation with JakBar Public Library
3	SD Al-Ittihaad	Jl. Tebet Barat, Jakarta Selatan	12	2	2	6	4	Included in curriculum
4	SMK 58	Jl. Swadaya II Bambu Apus Cipayung	14 21	4 18	11 25	15 29	13 27	
5	SMAN 135	Jl. Raya Kemanggisan, Jakarta Barat	19 30	11 25	4 18	8 22	6 20	
6	SMAK Islam Grogol	Gedung Olahraga (GOR) Jakarta Barat	20	9 16	10 23	13 27	11 25	
7	SMKN 31	Jl. Johar Baru, Jakarta Pusat	29	5	16 24	14	12	
8	SMPN 1 Cikini	Jl. Cikini Raya, Jakarta Pusat	22	5 19	5 19	2 16	7 28	

The tabel shows that Pusteling operating 3 times a week, to preserve the vehicle condition and its equipments from the travel a day before. In a day sometimes Pusteling serve 2 visits. Below is an example of staff assignment between January to May 2009.

Pusteling Staff Roster - January to May 2009

No	School	Librarian	Month – Date					Remark
			Jan	Feb	Mar	Apr	May	
1	SMKN 16	1. Agus Suyono 2. Serilanjunita 3. Samiran	13 27	10 24	3 17	7 21	5 19	
2	SMPN 207 Slipi	Yuliatry Bunga Nurlela Triono	15 29	12 26	12	9 23	14	
3	SD Al-Ittihaad	1. Suwanto 2. Wiratna T 3. Fitriana A.	12	2	2	6	4	
4	SMK 58	Aprilia P. Sutiyem Devis Siregar	14 21	4 18	11 25	15 29	13 27	
5	SMAN 135	1. Abdul Rahim. 2. Atikah 3. Merry Rosmala	19 30	11 25	4 18	8 22	6 20	
6	SMAK Islam Grogol	1. Hanita Sulistiya 2. Luthfiati M 3. Sutoyo	20	9 16	10 23	13 27	11 25	
7	SMKN 31	1. Aristianto Hakim. 2. Dewi Endah W. 3. Atis Taufik A. R.	29	5	16 24	14	12	
8	SMPN 1 Cikini	1. Edi Wiyono 2. Rifa Fadillah 3. Supriatno	22	5 19	5 19	2 16	7 28	

During its operation, based on the experience for more than a year, the hindrance are as follows:

High operational cost for gasoline of the vehicle and power generator, vehicle maintenance, equipment and staff;

Electronic devices damage frequently happens during operation due to unmanage routine maintenance;

Schedule is not arranged well due to less coordination with school and adjustment to the lesson hour and school holidays;The staff available are only librarian and driver, IT and vehicle technician are not available. In fact librarian could not overlapped tasks;

The quality of internet connection differ from place to place, Jakarta is good compared to other area;

The usage of Pusteling by student and school in the activities and common program in learning ICT is still only initiated by National Library of Indonesia;

The number of Pusteling available only 1 unit, whereas the demand is very high, in 2009 it is planned to add minimum 2 more units;

The unit is only prototype, to fulfill the demand in other area the interest is strong but hindered by the high cost to build one;

Lack of multimedia collection, need to add more current ones.

Development Plan

There are no perfect system at early stage. Likewise Pusteling. by the time, problem and hindrance appeared during its operation. The problem could concluded for further development:

Internet connection enhancement. Since 3G is only available in big cities, the internet connection availability is depend on the size of the cities visited, and the range of 3G services in the city. The characteristic in Indonesia shows that 3G utilisation depends on cellular phone density in a city. the more users available the stronger 3G signal could be received. This is a benefit for Pusteling which use 3G for its connection. This condition is not valid if Pusteling operating at small city which far away from the crowd, so it is better to build an e-mobile library with VSAT (very small aperture terminal) internet connection, although the device is still very expensive for its connection cost. Currently National Library of Indonesia tries to work together with Internet Service Provider (ISP) to provide Pusteling's internet connection;

Electronic collection Improvement. Access to electronic collection like multimedia learning books has been done but still the quantity of the collection still rare. Currently National Library of Indonesia tries to complement its electronic collection for Pusteling from the budget every year. Now the National Library of Indonesia have subscribed 3 e-resources are Proquest, Gale and Westlaw.

Database repository in Pusteling server. So many demands from visitors especially teacher and student to provide textbook in electronic form and electronic magazine for teaching material at school that could not be fulfilled by Pusteling, so next they hoped those textbook could be accessed by student and teacher who need it. National Library of Indonesia tries and observes the development of reproducing learning material in electronic form to be stored as an electronic book on a server. The e-book will contain multimedia material which generally prefered by the student;

Proactive system. Inspired by the pedlar who offered his product to the consumer without the consumer approaching him, Pusteling could also do the same thing since the requests of Pusteling to provide some spesific collection for the next visit, the concept is very good to implement. If possible the unit could be added to fulfill the visitor demand.

Conclusion

The existence of e-mobile library (Pusteling) in Indonesia received a good appreciation from the people. the low level of penetration of the community of accessing and electronic information literacy also triggered the hope of such services. This could be proven by the high demand of visit especially outside the capital city, so e-mobile library said to be suited for outreach area where electronic information literacy level is low beside the curiosity of the people for the existence of electronic library. The high cost of operational and physical damage could be minimalized based on a well prepared plan.

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