

DESIGNING FILTERING CONTENT USING LINUX DEBIAN 7.0 AT SMK YASPIM SUKABUMI

Muhamad Muslih¹, Abdullah², Marry Abraham Maryatno², M.gilang²
^{1,2,3,4} Program Studi Teknik Informatika

STT Nusa Putra

Sukabumi, Indonesia

Email: muhamad.muslih@nusaputra.ac.id, Abdullah@nusaputra.ac.id, Marry.Abraham@nusaputra.ac.id,
M.gilang@nusaputra.ac.id

Abstract — A large and growing number of Internet users have embraced the Internet culture. The Internet also has a great influence on science, and the worldview. With only a search engine like Google, users around the world have easy internet access over a variety of information. Compared to books and libraries, the Internet epitomizes the dissemination of information and data to the extreme.

The development of the internet has also affected the economic development. Previously traded transactions can only be done by face-to-face (and some very small by post or by phone), now very easily and often done over the Internet. This Internet transaction is known as e-commerce. Associated with government, the Internet also triggers the growth of government implementation transparency through e-Government.

In its use share the internet connection is a classic thing that is needed in offices, internet cafes and even home users today. In the market is already available a lot of programs that serve as "internet connection divider". Even in the Microsoft Windows operating system has included a built-in program, although frankly there are still many shortcomings in stability and security. As for using Linux, there are still many users who are difficult to install Squid and its driver, so eventually the Internet Gateway based on Linux became less popular.

SMK YASPIM Sukabumi, West Java, Indonesia as one of the educational institutions also feel the need to share internet connection in an orderly, safe, and controlled so that the use of the internet will really fit with the needs

KEYWORD — *internet, service system, proxy server, linux*

I. INTRODUCTION

The use of Information and Communication Technology is now widely used in various sectors and fields of economic, social, cultural, health, education. This is coupled with the support of internet technology that can currently be done through various media, both wired (wireline) and wireless (wireless).

The use of internet media in traffic information and data communication is an absolute in

streamlining and streamlining various activities. Efficiency in terms of data can be obtained anywhere and effective because we can shorten the time to obtain the data.

SMK YASPIM (YASPIM Vocational High School) Gegerbitung is one of the vocational schools in Gegerbitung District Sukabumi Regency under the Islamic Education Foundation Miftahul Huda with Communication Technology and Communication Skills Program with Computer and Network Engineering Department as a technology based school. In the implementation of YASPIM vocational education has the vision and mission of the school refers to the formation of Islamic students character and good morality (Akhlaqul Karimah) who graduates with IMTAQ insight and science and technology mastery. In achieving that vision and mission, it is necessary to have a content filtering in global communications to avoid and minimize information that is not relevant to the vision, mission and objectives of the School. It is also realized by the Chairman of the Foundation and Principal to immediately build a content filtering so that all activities of students in browsing or searching data in the internet can be monitored and supervised.

Debian 7.0 is an easy-to-use Open Source operating system based on linux and communications technology that enables connections to and from the public network and uses it like using a local network and even joining the local network itself. By using this public network, users can access the features within their local network, get the same rights and settings as physically we are in the place where the local network is located. The thing to remember is that a private network must be in a state of priority and kept confidential. Debian 7.0 with Proxy also offers a low cost solution and easy configuration.

2. LITERATURE REVIEW

Internet access filtering system using a proxy that is squid on debian 7.0 server can be said more effective and efficient, in addition to this

software is open source (free) or free, one application linux distro is easier to configure it. Here are some references related to the research title is as follows:

1. Sumaryanto (2010) with the title of the research is "Proxy-Based Security Protocol in Mobile Equipment Network". In this system the equipment used to use a trusted proxy software can work on hardware equipment or on the computer used. The security and privacy system is run by using two separate protocols. A protocol for device communication to a secure proxy, and a protocol for secure proxy-proxy communications [12].

2. Journal written by Ahmad Zainuddin, Luqman Affandi, Antonius Duty Susilo entitled "Analysis of Hotspot Security System Using HoneyPot and IDS in Campus STMIK PPKIA Paramita Malang". This study uses Proxmox Virtual Environment (VE) software. Proxmox is a Debian-based Linux distro (x86_64) which is devoted as a virtualization distro and JCow. Designing telemedicine systems by using cloud computing technology [13].

3. Journal written by Sani Muhlisson & Kusnawi entitled "Analysis and Implementation of DNS Server as Filtering Negative Content Using RPZ (Response Policy Zone) Method at PT.Time Excelindo". This research uses DNS Server and Squid software by utilizing the application of debian linux distro [14].

For that as a comparison of the three literature studies, the use of proxy server services using squid applications exist in the Linux operating system Debian7 to block unauthorized sites and block certain keywords that are not allowed in access in SMK YASPIM environment to create a positive internet or healthy internet.

3. METHODOLOGY

Research methods using SDLC, according to (Pressman, 2005) basically Systems Development Life Cycle (SDLC) consists of five phases: planning, analysis, design, construction or implementation and maintenance, but with the growing information system also developed SDLC. Some experts describe SDLC with different terms, but the actual content of each phase is the same [15].

1. Planning

Each phase always begins with planning. The function of each plan is to support the

successful achievement of objectives and provide a measure or guide to control the process.

2. System analysis

Identify and evaluate the problems and needs that are expected to be proposed improvements.

- Understand the work of the existing system by doing research. Analyze the system based on the results of research that has been done that includes analysis of system weaknesses and information needs for users / management.

3. Design

In general, the components of information systems designed with the aim to be communicated to the user is not for the programmer. Model design is identified from input, output, and database. Defining functional requirements, drawing, planning and making a sketch or arrangement of several separate elements into a single, unified whole.

4. Construction or implementation

Implementation of the system is the stage of putting the system to be ready to operate, while the stages is the implementation of implementation plans and implementation activities.

5. Care (maintenance)

The importance of system maintenance because there is always the possibility that the system leaves undetected errors during system testing (Pressman, 2005).

3.1 Software Engineering / Software Engineering (RPL)

Software engineering is a product made by software professionals who then support it over the long term. The software in question includes computer programs running on a computer of various sizes and architectures, there is also content to be shown when computer programs are running, and in addition there are descriptive information the form of a printed copy and in the form of virtual copies of files covering in it any form of electronic media. Software engineering includes a process, a collection of methods and a set of tools that enable professionals to develop high-quality computer software [2].

3.2 Flowchart

Flowchart (Flow Chart) is a chart (chart) that shows the flow (flow) in the program or system procedures logically. Flowcharts are used

primarily for communication aids and for documentation [3].

This flowchart is the first step of making the program. With the flowchart the sequence of poses of activities becomes more apparent. If there is addition of process then it can be done more easily.

3.3 Computer Network

“A computer network is an interconnection of computers and computing equipment using either wires or radio waves and can share data and computing resources” [4].

3.3.1 Types of Computer Network

Geographically the computer network is divided into several kinds as follows:

1. Local Area Network (LAN)

“A local area network (LAN) is a communications network that interconnects a variety of data communications devices within a small geographic area and transmits data at high data transfer rates” [4].

Gambar 3 Local Area Network [4]

2. Metropolitan Area network (MAN)

“A network that expands into a metropolitan area and exhibits high data rates, high reliability, and low data loss is called a metropolitan area network (MAN)” [4].

3. Wide Area Network (WAN)

“A wide area network (WAN) is a collection of computers and computer-related equipment interconnected to perform a given function or functions and typically using local and long- distance telecommunications systems” [4].

4. Internet

“The backbone is the main telecommunications line through the network, connecting the major router sites across the country. It was to this backbone that smaller regional or mid-level (statewide) networks connected. A set of access or “campus” networks then connected to these mid-level networks. Eventually this collection of networks became known as the Internet” [4].

V CONCLUSIONS

Based on the results discussed in the previous chapters, the researchers can draw the following conclusions:

1. Proxy server service system is very helpful in blocking websites that are considered ineffective use in educational environment, or websites containing pornography.
2. In addition to blocking the website can also function filtering keywords at the time of searching in the browser which smells or contains the content of pornography.
3. Proxy server service system is one of the reliable alternatives in creating healthy or positive internet access.

4.2 Suggestions – Suggestions

Based on experience and consideration of researcher give suggestion and direction for development of this service system and for similar research that are:

1. System services on the proxy server is expected to be redeveloped functionality services along with the function and its usefulness.
2. Using additional device protection against hardware devices such as UPS and Stabilizer to prevent unstable power or electricity.
3. Prepare and train competent human resources to administer this server service system and prevent error or human error.

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