Journal of ICT Aplication and System (JICTAS)
Volume 1 Number 2, Desember 2022, pp. 91 ~ 99
ISSN: 2830-098X, DOI: 10.56313/jictas.v1i2.164

Development Of School Agenda Announcement By Using Autopost System

Detri Amelia Chandra[1], Muhammad Jubeir [2,], Sri Wahyudi [3,]
Program Studi Pendidikan Teknologi Informasi – STKIP Rokania [1,2,3,]

Article Info

Article history:

Received July 26, 2022
Revised Agustus 06, 2022
Accepted November 13, 2022

Keywords:

Information System
Web
Waterfall
UML

ABSTRACT

Development of information technology, it is very influential in all fields, both in the fields of education, health and industry. The development of information technology is able to support the delivery of information that is faster, more accurate and up-to-date. For students at school, the need for information on announcements and school agendas needs to be conveyed quickly and accurately. Vice versa, the school also needs a medium for delivering information so that the information needed by students can be channeled quickly and properly archived such as announcements of school agendas, academic and non-academic announcements where the information is centralized in schools. SMK Negeri 1 Tandun is one of the formal education institutions in Rokan Hulu Regency, so far in delivering announcements and agendas to students it is delivered directly and also by using information boards and school bulletins at school. Meanwhile, information and announcements conveyed to students' guardians are carried out by giving letters to students to be submitted to their respective guardians. However, sometimes information and letters are not conveyed to the parents because some students do not submit them. In addition to letters, the school also provides information through private chats and whatapp groups, sometimes information is found that has not been validated by certain parties so that the information conveyed is confusing. Storage of activity report files based on announcements and agendas has not been archived properly so it takes time to search. With the above problems, the impact on information is not conveyed comprehensively and centrally, the delivery of information is not effective and efficient, and there are obstacles in collecting data on activities and agendas for reporting school activities. To overcome this problem, an Agenda Announcement Autopost system was built as an information center for SMK Negeri 1 Tandun by using a telegram bot via a telegram group. This makes it easier to concentrate information. In addition, the information submitted has been validated and can be disseminated quickly and properly recorded.

Corresponding Author:

Detri Amelia Chandra
Information Technology Education Study Program, STKIP Rokania
Jl. Raya Pasir Pengaraian Km 15, Rokan Hulu, Riau, Indonesia
Email: detriamelia@rokania.ac.id

1. INTRODUCTION

The development of information technology facilitates human activities in all fields [1]**.**With the development of information technology, people's demands for information quality, speed and accuracy increase. This is very influential. In addition, for students at school, the need for information on school announcements and agendas needs to be delivered quickly and precisely. Vice versa, the school also needs a medium for delivering information to school students so that the information needed by students can be channeled quickly and properly archived, the school agenda so that academic and non-academic announcements can be conveyed and there is no misinformation among school students because announcements and This information comes directly from the school as the school information center.

SMK Negeri 1 Tandun is a formal educational institution that was established in 2009. The address is Jalan Jendral Sudirman, Kukun, Kec. Tandun, Rokan Hulu Regency, Riau. SMK Negeri 1 Tandun has a total of 400 students. The increasing number of students each year is a positive response from the people of Rokan Hulu. Besides that, SMK Negeri 1 Tandun is also a school of excellence and has student achievement increasing every year. So far, SMK Negeri 1 Tandun has delivered announcements and agendas to students directly and also by utilizing information boards and bulletin boards at school. Meanwhile, information and announcements submitted to parents of students are carried out by giving letters to students to be submitted to their respective guardians. However, sometimes information and letters are not conveyed to parents because there are students who do not submit them. Apart from sending letters, the school also provides information via private chat and WhatsApp groups, sometimes it is found that information has not been validated by certain parties so that the information conveyed is confusing. The storage of activity report files based on announcements and agendas has not been properly archived, so it takes time to search for them. The existence of the problems above has an impact on, information is not conveyed thoroughly and centrally, in conveying information it is not effective and efficient, and there are obstacles in collecting activity data and agendas as reporting on school activities.

To overcome these problems, an Agenda Announcement Autopost system was built as an information center for SMK Negeri 1 Tandun by using Bot telegrams via group telegrams. Making it easier to concentrate information. In addition, the information submitted has been validated and can be disseminated quickly and properly recorded. Bots are third-party applications that can run within Telegram. Users can send messages, commands and inline requests controlled using HTTPS to the telegram API [2]. By using the telegram group, the information delivered is more centralized and secure. Telegram is known for its powerful security features and is supported by various advanced tools and features, making it more effective. Of course, it is also useful for teachers and students who use it.

Telegram has an API Bot, a platform for developers that allows anyone to easily build custom tools for Telegram. Creating a telegram bot requires bot registration by BotFather account for the bot name and obtaining an API key. The API key is used for every API request to the telegram server. A bot is a computer program that does certain jobs automatically that can help work. A bot is a machine, made to facilitate our daily lives without having to be glued to the computer [3]. The use of BOT Telegram has a better speed compared to the conventional web version [4].

2. METHOD

The analytical method used in this study is the SDLC (System Development Life Cycle) method, which is the stages of work carried out by system analysts and programmers in building an information system consisting of Project Identification and Selection, Project Initiation and Planning, analysis, Logical Design, Physical Design, Implementation, and Maintenance [5]. The seven stages will be described as follows:

a. Identification and selection of the needs of the entire Announcement and Agenda Autopost system at SMK Negeri 1 Tandun must be identified, analyzed, scheduled or regulated. The first step was carried out by directly monitoring the location, then interviewing the school principal, TU (Administrative Administration) and teachers at SMK Negeri 1 Tandun. Furthermore, an analysis of system requirements

is carried out and identifying the information needed in building the announcement Autopost system that will be implemented.

b. Initialization and planning after selection, then planning for the part to be applied to designing a new information system or repairing an old system at SMK Negeri 1 Tandun.
c. Analysis, At this stage an analysis of the system that is being used at SMK Negeri 1 Tandun is then modified and refined to a more efficient system. The information and data obtained are described in the form of graphical models using information system flow diagrams and context diagrams, data flow diagrams and entity relationship diagrams.
d. Logic Design, Related to functions, detailed specifications of all elements of the system (data, process, input, output).
e. Physical Design, The logic specifications resulting from the logic design stage are changed to the use of certain technologies in detail, namely all programming and construction of the appropriate system using the PHP and MySQL programming languages as data storage media.
f. Implementation, The information system is coded, tested, and supported by SMK Negeri 1 Tandun. Here the agency will try to use the system that has been created.
g. Maintenance, Using an information system systematically requires maintenance and improvement so that the system can continue to operate and be useful according to user needs over time.

3. RESULTS AND DISCUSSION

3.1. RESULTS

The results of this research are an autopost system that can help the SMK Negeri 1 Tandun school in distributing and delivering information to students and parents. Creating a Telegram Bot requires registering a bot named SIPADA to get an API key. The API key is used for every API request to the telegram server. The server bot application is built using the PHP programming language and MySQL database. Communication from the Telegram server to the bot server uses a webhook with the https protocol. The following shows the user interface display on the Announcement and Agenda Autopost System as an information center at SMK Negeri 1 Tandun.

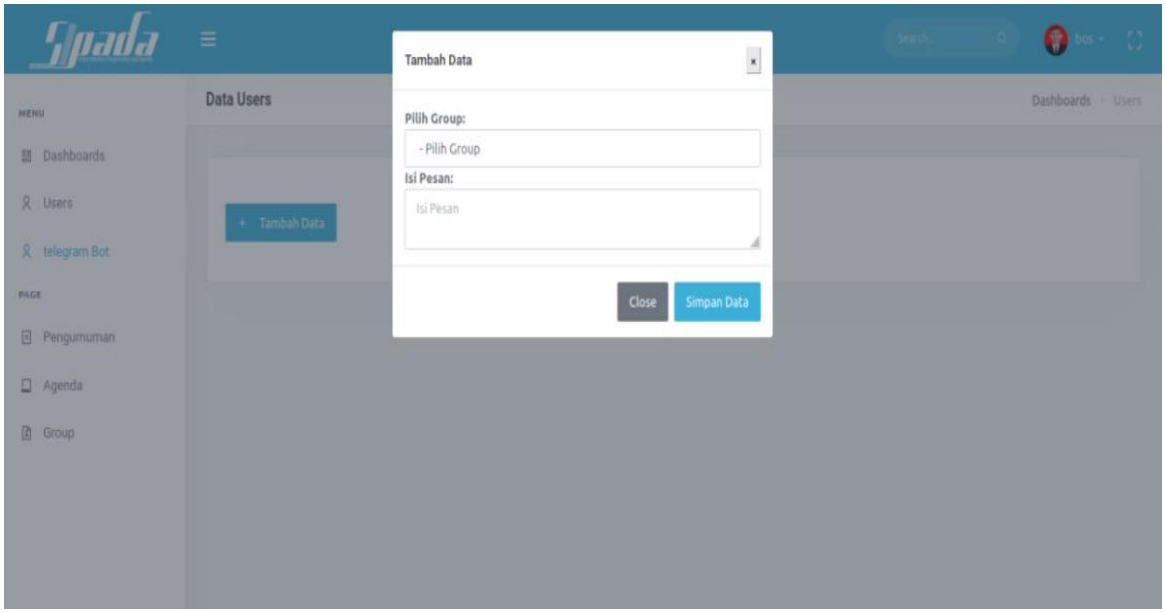

Figure 4.1 Display of the User Interface on the Announcement and Agenda Autopost System

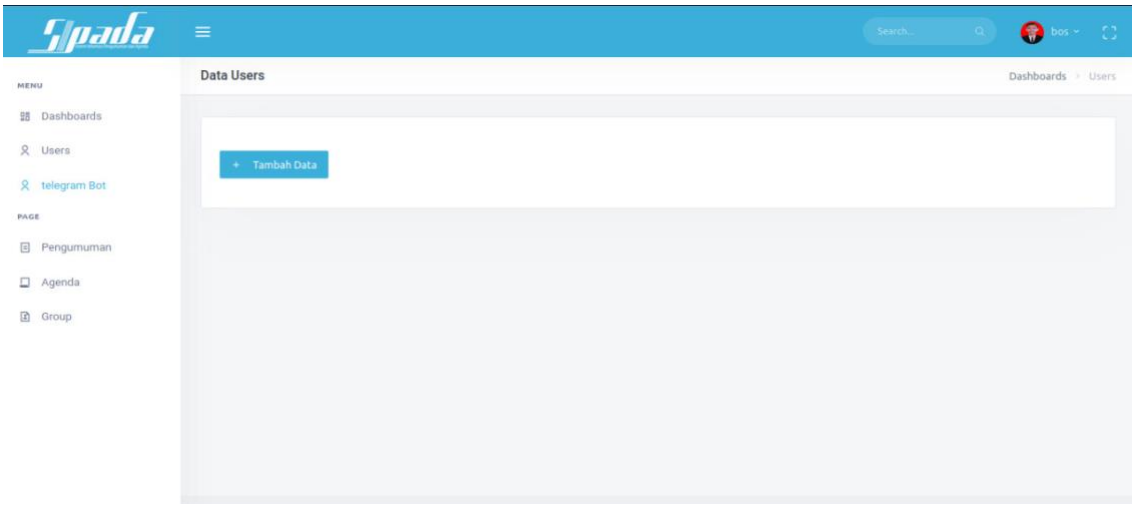

Figure 4.2 Display of the User Interface on the Announcement and Agenda Autopost System

3.2. DISCUSSION

3.2.1 Analysis of the Current System

System analysis can be in the form of drawing, designing, and making sketches or arrangements of several separate elements into a unified whole and functioning, also involving the configuration of the hardware and software components of a system [6]. There are two approaches in defining the system, there are those that emphasize the components or elements and there are those that emphasize the procedures. The elements that make up a system are goals, inputs, outputs, processes, control mechanisms and feedback. The system is a set of components that are interconnected and work together to achieve several goals (Agustin, 2018). As for the terms of something can be expressed as a system that is.

a. Systems must be set up to accomplish goals.
b. System elements must have a defined plan.
c. There is a relationship between the elements of the system.
d. The basic elements of the process (flow of information, energy, and materials) are more important than the elements of the system.
e. Organizational goals are more important than element goals.

The information system running at SMK Negeri 1 Tandun is currently still being carried out manually, that is, when the homeroom teacher wants to submit announcements and agendas, they report to the Administration, then the Administration validates and records the announcements and agenda in the announcement book and agenda book as an archive. After the announcement data and agenda are valid, the announcement and agenda are conveyed through information boards, announcement boards or in the school madding so that students can find clear information and announcements.

3.2.2 Analysis of the New System

The design of the announcement and agenda Autopost information system for SMK Negeri 1 Tandun which will be built uses a document flow diagram related to the announcement and agenda autopost information system for SMK Negeri 1 Tandun which will be implemented, which can be seen as follows:

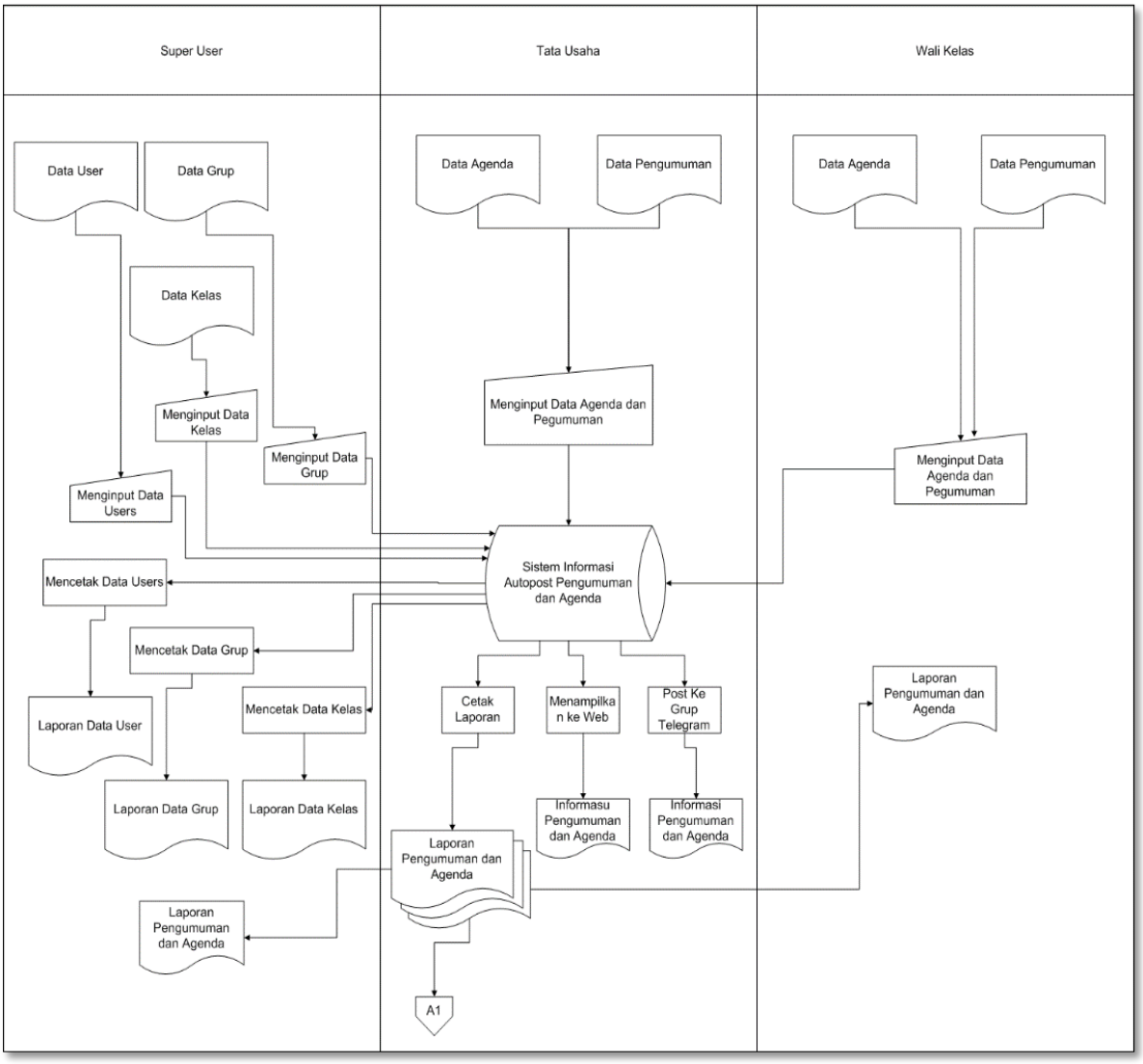

Figure 4.3 Flow of Autopost System Document Announcement of SMK N 1 Tandun Agenda

Autopost comes from English which means automatic posting. Posting is showing or showing something in general or specifically. In the Big Indonesian Dictionary (KBBI) automatically means working alone. The purpose of automatic is direct which aims to save or shorten time so that work becomes fast. This Announcement and Agenda Autopost System will help the SMK Negeri 1 Tandun later in delivering information to students and parents of students.

a. Context Diagram of the Proposed System

The following is a context diagram of the announcement autopost information system and the telegram group agenda as a school information center at SMK Negeri 1 Tandun. This context diagram explains the relationship between external entities (external environment) and the Autopost information system for announcements and telegram group agendas at SMK Negeri 1 Tandun, which consists of three external entities namely, super users, Administration and homeroom teachers, which can be seen as shown below:

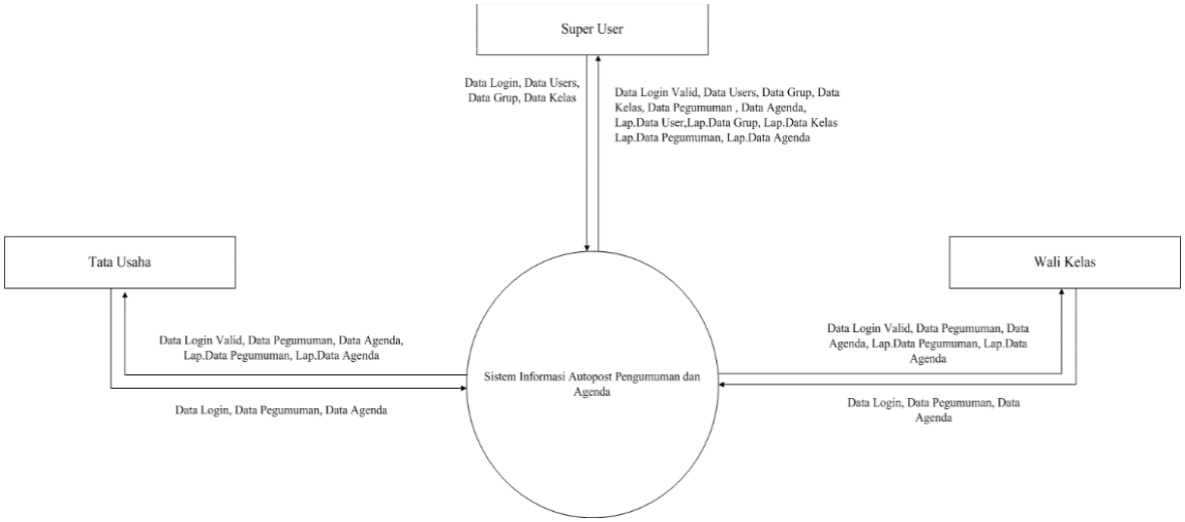

Figure 4.4 Context Diagram of Announcement Autopost System

b. Data Flow Diagrams (DFD) Level 1 and DFD Level 2

Data flow diagrams are a creation tool a model that allows system professionals to describe the system as a network of functional processes connected to each other by data flows, both manually and computerized [7].

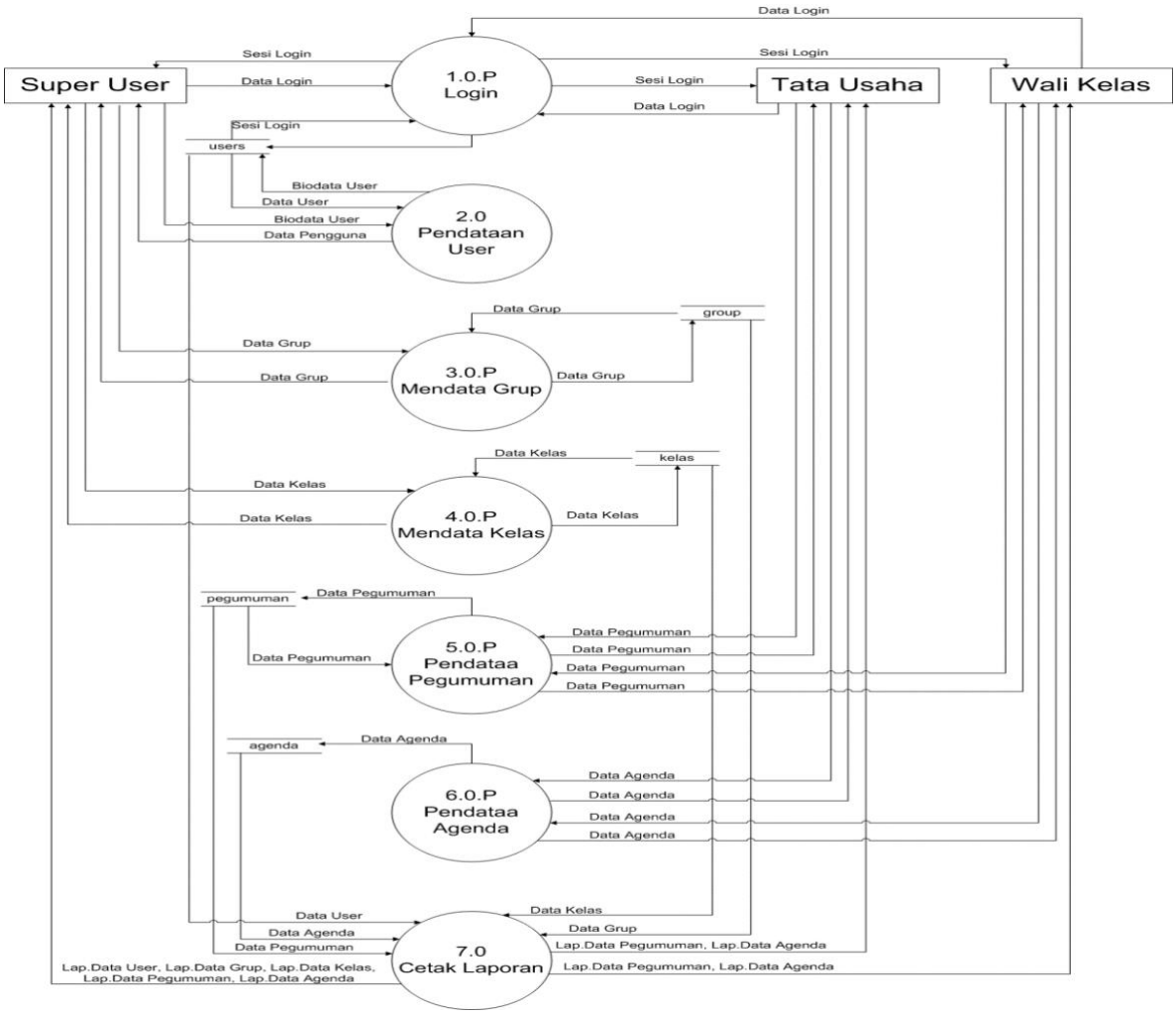

Figure 4.5 Data Flow Diagram (DFD) Level 1 Agenda Announcement Autopost System

Figure 4.5 above is a Level 1 Data Flow Diagram (DFD) from an announcement and agenda autopost information system to a telegram group at SMK Negeri 1 Tandun. This Data Flow Diagram (DFD) explains the flow of data processing from the announcement and agenda autopost information system to the telegram group at SMK Negeri 1 Tandun, which consists of the login process, the user data collection process, the group data collection process, the class data collection process, the announcement data collection process, the process of recording the agenda and the process of managing reports.

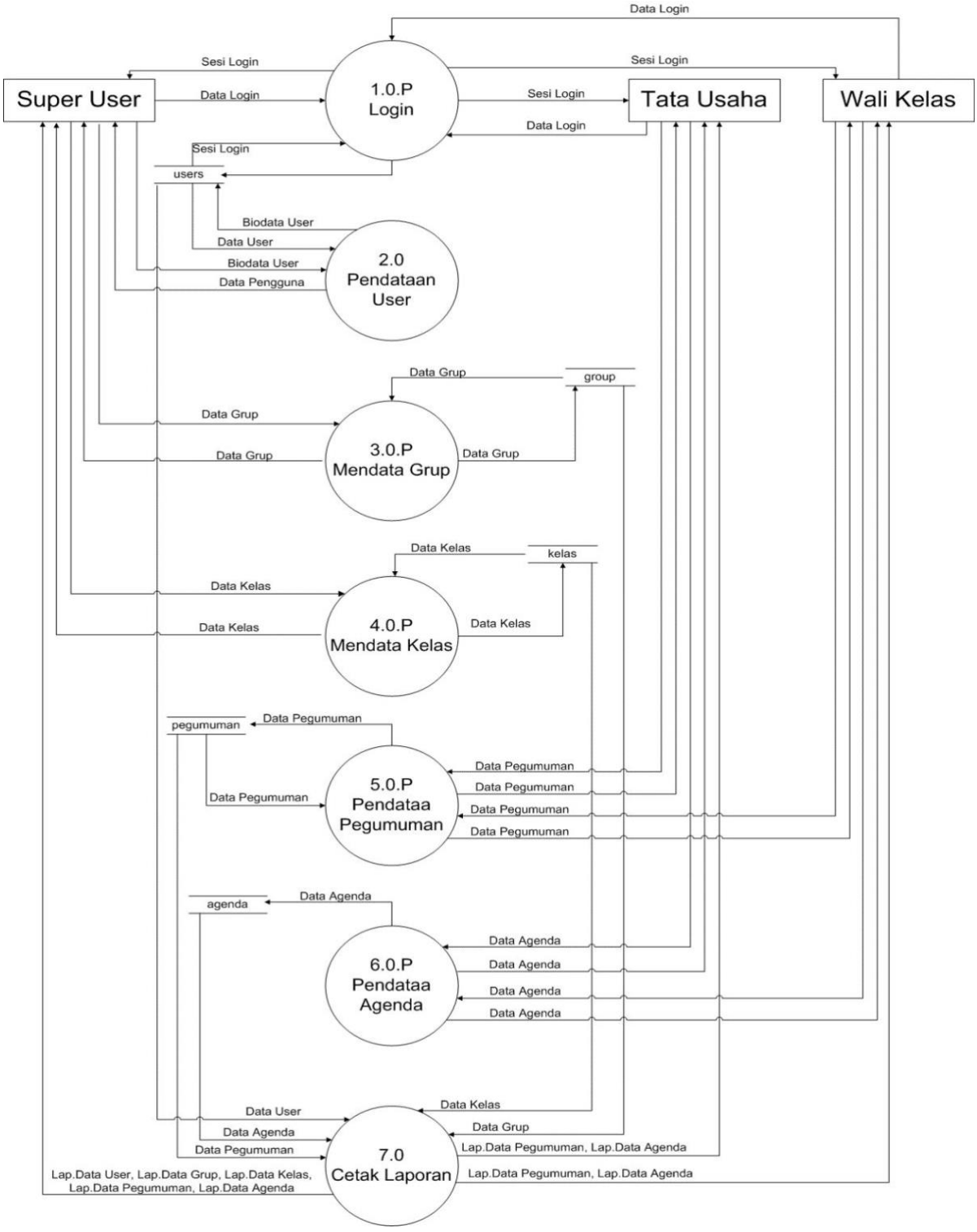

Figure 4.6 Data Flow Diagram (DFD) Level 2 Agenda Announcement Autopost System

c. Entity Relationship Diagram (ERD)

The Entity-Relationship Model explains the relationship between data in the database based on the perception that the real word consists of basic objects that have a relationship or relationship between these objects (Lubis, 2016). The following is a picture of the entity relationship diagram (ERD) which illustrates the relationship between tables in the information system autopost announcements and agendas to the telegram group as a school information center at SMK Negeri 1 Tandun.

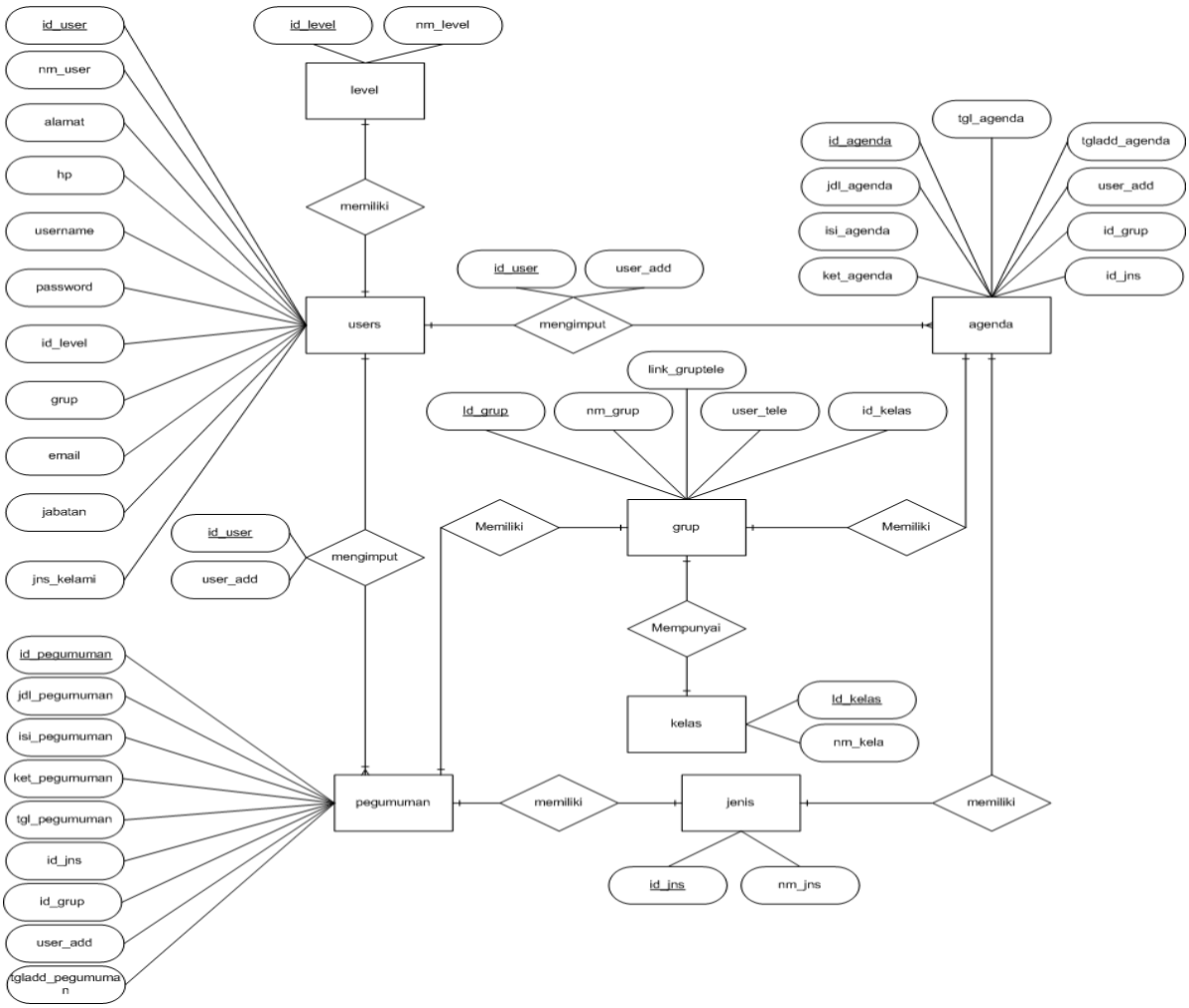

Figure 4.7 Entity Relationship Diagram of Announcement and Agenda Autopost System

4. CONCLUSION

The conclusions that can be drawn from this research are as follows:

a. The design of the Autopost System for announcements and agendas at SMK Negeri 1 Tandun can facilitate the school in disseminating information to students and parents centrally.
b. The Autopost system that was built makes it easier for the school to manage announcements and agendas as reports on school activities.
c. With this autopost system, the information distributed has been validated in advance by the school principal, administration and related parties.

ACKNOWLEDGEMENTS

On this occasion the research team would like to thank the STKIP Rokania Institute for Research and Community Service, which has provided funding support for this research, and thanks to all parties who helped carry out this research.

REFERENCES

[1] G. Sastrawangsa, "Pemanfaatan Telegram Bot Untuk Automatisasi Layanan Dan Informasi Mahasiswa Dalam Konsep Smart Campus," *Konf. Nas. Sist. Inform.*, p. 773, 2017.

[2] A. D. Mulyanto, "Pemanfaatan Bot Telegram Untuk Media Informasi Penelitian," *Matics*, vol. 12, no. 1, p. 49, 2020, doi: 10.18860/mat.v12i1.8847.

[3] D. Utomo, M. Sholeh, and A. Avorizano, "Membangun Sistem Mobile Monitoring Keamanan Web Aplikasi Menggunakan Suricata dan Bot Telegram Channel," *Semin. Nas. Teknoka*, vol. 2, no. 2502, pp. 1–7, 2017.

[4] F. R. Maulayya, M. Z. Arifin, and T. Hariono, "Rancang Bangun 'Telegram Bot Api' Untuk Layanan Sistem Informasi Akademik Di Unwaha Menggunakan Metode Long Polling," *Saintekbu*, vol. 11, no. 1, pp. 68–77, 2019, doi: 10.32764/saintekbu.v11i1.360.

[5] Y. S. Dwanoko, "Model error estimation using the expectation maximization algorithm and a particle flow filter," *SIAM-ASA J. Uncertain. Quantif.*, vol. 9, no. 2, pp. 681–707, 2021, doi: 10.1137/19M1297300.

[6] D. Amelia Chandra *et al.*, "Penerapan Metode Item Based Collaborative Filtering Berbasis Web Pada Recommender System Laptop," *Eng. Technol. Int. J. Juli*, vol. 3, no. 2, pp. 2714–755, 2021, [Online]. Available: http://cendikia.online/EATIJ.

[7] A. P. Kusuma and K. A. Prasetya, "Perancangan Dan Implementasi E-Commerce Untuk Penjualan Baju Online Berbasis Android," *Antivirus J. Ilm. Tek. Inform.*, vol. 11, no. 1, pp. 1–11, 2017, doi: 10.35457/antivirus.v11i1.194.

[8] Adyanata Lubis, 2016, Basis Data, deepublish, Yogyakarta

BIOGRAPHIES OF AUTHORS

	**Detri Amelia Chandra** adalah Dosen Program Studi Teknologi Informasi Pendidikan, STKIP Rokania, Jalan Raya Pasir Pengaraian Km 15 Rokan Hulu, Riau 28557, Penelitiannya berfokus pada Sistem Analisis, Database Managemen System, Scaffolding dalam Pendidikan, Scientific literacy, project-based learning. Dapat dihubungi melalui email: detriamelia@rokania.ac.id.
	**Muhammad Jubeir** adalah mahasiswa yang menempuh pendidikan di Sekolah Tinggi Keguruan Rokania pada Program Studi Pendidikan Teknologi Informasi, Beliau dapat dihubungi melalui email: rinduraja7@gmail.com
	**Sri Wahyudi** adalah Dosen Program Studi Teknologi Informasi Pendidikan, STKIP Rokania, Jalan Raya Pasir Pengaraian Km 15 Rokan Hulu, Riau 28557, Penelitiannya berfokus pada Aplikasi Web Base, Artificial Intelegent, Scaffolding dalam Pendidikan, Scientific literacy, project-based learning. Dapat dihubungi melalui email: sriwahyudi.sl@gmail.com.