DESIGN AND CONSTRUCTION OF ACADEMIC SYSTEMS SDN 050729 TANJUNG PURA WEB BASED

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Abstract:
An academic information system is a system created for the needs of managing school academic data by applying computer technology that makes academic processes easy to manage and produces useful information. SD Negeri 050729 Tanjung Pura District, Langkat Regency is a school or primary level state educational institution that requires an administration system to manage school academic data such as teacher data, student data, lesson data and lesson grade data, which can be managed with an information system making it easier for operators. schools can see future data, as well as teachers and students who can easily access grades and lessons at school. Based on all of that, here the author designs and creates an academic information system that can be used at SD Negeri 050729 Tanjung Pura. The system that the author created consists of three systems consisting of an information system for school operators, a system for teachers and a system that can be used by students.

INTRODUCTION

With current technological developments, the need for information is very important so information must be accessible anytime and anywhere. One of the media that is becoming increasingly familiar with society today is websites. Because of its function, the website can provide complete information and not cost too much money. One of them is the creation of a Web-based Information System, this system will display information about things according to what the system creator desires. However, there are still many educational institutions that carry out data processing and information dissemination in a non-computerized manner. Data processing which is still carried out in this way causes several problems and obstacles, including administrative data processing which takes a lot of time, the information produced is still less accurate because errors often occur and the level of difficulty is quite high.

School is a formal education facility that must be able to provide the best services or facilities for its students and also their parents. The curriculum is implemented by upholding the five pillars of learning, namely learning to believe and be devoted to God Almighty, learning to understand and appreciate it, learning to be able to carry out and act effectively, learning to live together and be useful to others, and learning to build and

find your identity, through an active, creative, effective and fun learning process (Rahmayanti, 2016). It is necessary to develop software to be able to carry out tasks independently so as to minimize the occurrence of data errors and speed up the process of selecting outstanding teachers (Suryati &jauhari, 2018).

Before continuing to other discussions, we need to know conceptually some of the literature reviews and important discourses that are key in this paper. The first is a discussion about Open Source (Ridho et al., 2017). The material in this chapter concerns making simple to expert connections, ending by creating a class to configure connections (Hidayah, 2015). One of the right ways is to utilize information technology by accessing academic grades via websites. According to the Big Indonesian Dictionary (KBBI), academics are matters related to education (Syachbana, 2014). Information is said to be valuable if the benefits are more effective than the costs of obtaining the information (Fachri, 2017). So information is very important for a system so that information is data that is processed into a form that is more useful and more meaningful for those who receive it (Tasril, 2018). This website-based software development method makes it easy for users to access school academic information to find out about school activities and school learning for parents and the community, especially school students. An information system is: "a system created by humans consisting of components in an organization to achieve a goal, namely presenting information" (Destiningrum & Qadhli Jafar Adrian, 2017).

Designing a web-based academic information system can provide optimal service to students and parents so that they do not need to come to school to get academic information, so that fast and accurate information is produced. Where the academic system is created with features consisting of school information, student data, teacher data, class data, lesson data, lesson materials, schedule/roster, lesson grades, report cards, school fee data (paid and unpaid) on State Elementary School (SDN 050729) Web-based academic information system allows people who want to know information about schools without having to come to school. People simply need to access the internet to the website of the target school. Applications are problems that use application data processing techniques usually referring to the desired computer, application data processing is a data processing activity for a particular business of a company (Sutanta, 2015). This is more practical because people do not need to spend time and set aside travel costs to go to SDN

050729 which is located at Jalan T. Amir Hamzah No. 59 Tg. Temple. It is hoped that the web-based academic information system can help teachers and students in obtaining information related to grades and is also expected to attract the interest of prospective new students.

Therefore, the author tried to design a website that aims to help facilitate information between the school, students and the community. This is more practical than having to come to school just to look for information, inevitably having to spend time, setting aside travel costs and is not practical in today's fast-paced era. Based on the description above, it can be concluded that information systems are very necessary in the world of education, especially those concerning student academics.

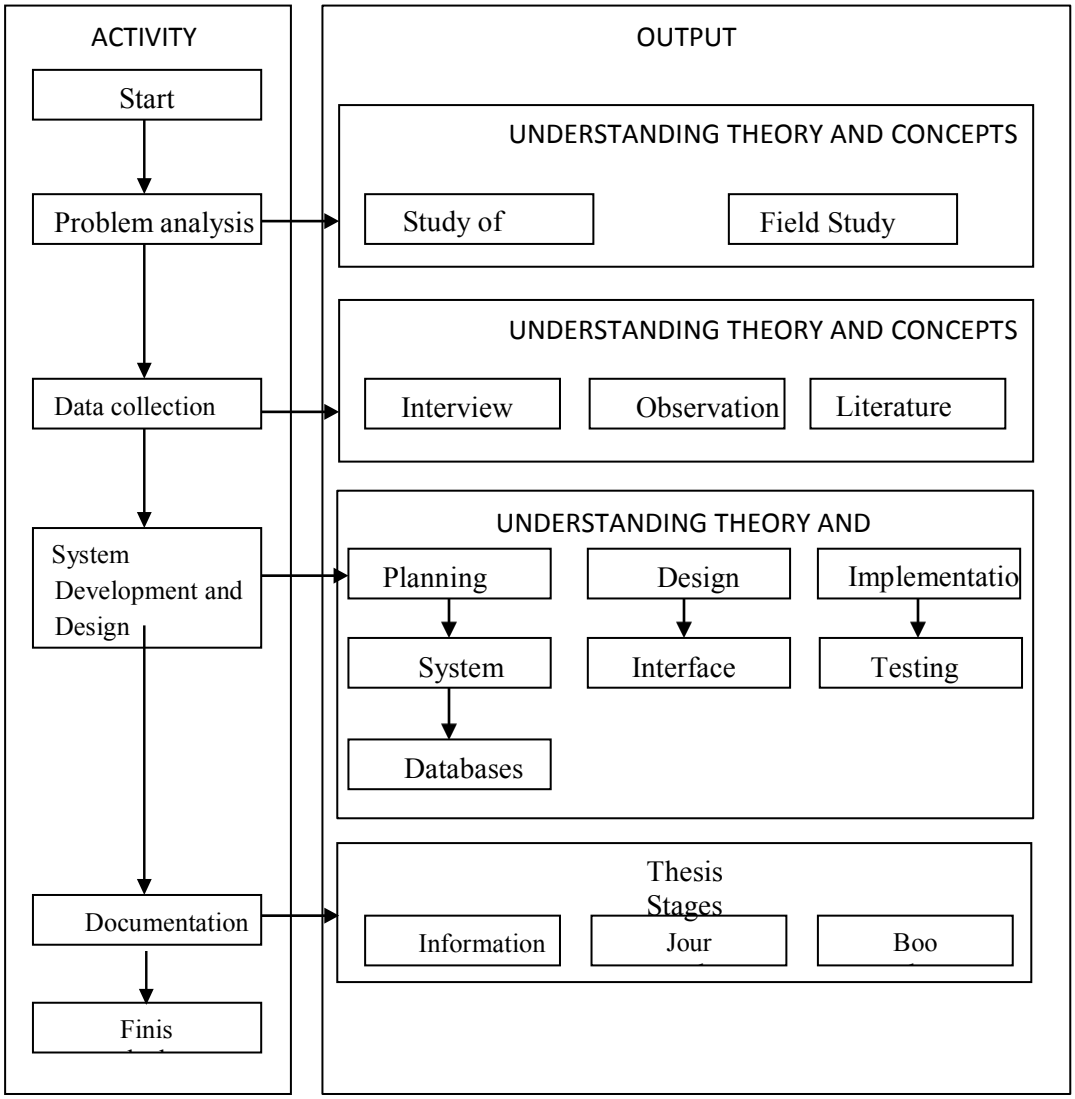
Related research, Design of a Web-Based Academic Information System at SDN 050729, An information system is a system within an organization that meets the needs of daily transaction processing, supports operations, is managerial and strategic activities of an organization and provides certain external parties with reports provided. need. HTML (Hypertext Markup Language) is a language used to write web pages. HTML is designed to be used without depending on a particular platform (platform independent). An HTML document is a plain text document, and is called a markup language because it contains certain signs (tags) which are used to determine the appearance of a text and the level of importance of that text in a document. HTML is a development of the text document performance standard, namely SGML (standard generated markup language). Since the beginning of development until now there have been various levels (versions) of HTML available, there are HTML levels 1.0 HTML, 2.0, HTML 3.0 and HTML 4.0 (Sutarman, 2017). PHP is included in the Open Source Product. So you can change the source code and distribute it freely. PHP is also distributed free of charge. You can get it for free. PHP can also run on various web servers such as IIS, Apache. PWS, and others(Sutarman, 2017). PHP includes server-side programming (Sutarman, 2009).

Information systems receive data input, instructions and process data according to orders to produce results, these are some of the events that occur in information systems. The systems approach is a network of procedures that emphasizes sequences of operations. A procedure is a precise sequence of instruction stages that explains what must be done, who does it, when it is done and how to do it (Susanti, 2016).

RESEARCH METHODS

Research Stages

To assist in preparing this research, it is necessary to have a framework with clear stages. This framework is the steps that will be taken in solving the problem that will be discussed. The school research stage is one of the formal education facilities that must be able to provide the best services or facilities for its students and also their parents. One of the right ways is to utilize information technology by accessing academic grades via websites. Designing a web-based academic information system can provide optimal service to students and parents so that they do not need to come to school to get academic information, so that fast and accurate information is produced. Where the academic system is created with features consisting of school information, student data, teacher data, class data, lesson data, lesson materials, and lesson grades at State Elementary Schools (SDN 050729). The research framework used is as shown in Figure 3.1:



Data collection technique

This stage collects data related to school academics. The data collected comes from results in collaboration with the web-based academic system of SDN 050729 Tanjung Pura. In making this research, data can be obtained from the following sources:

a. Primary data. Primary data is data obtained directly from the research object, namely from parties related to the data to be taken. Primary data is obtained from observations.
b. Secondary Data. Secondary data is existing data, such as data from books, literature as a theoretical basis or field examples as a complement to primary data. Secondary data sources are literature and books.

Research design

System design is a useful stage for improving the work efficiency of an existing system. The system design stage can be described as the stage for building a system and configuring its software and hardware components, thereby producing a better system.

a. Use Case Diagrams. Use cases are an abstraction of interactions between systems and actors. Use cases work by describing the type of interaction between the user of a system and the system itself through a story about how a system is used. Use cases can also provide a construct to describe how the system will look in the eyes of the user.
b. Activity Diagrams. Activity diagrams explain a way of depicting the flow of behavior in an application system. This system of using activity diagrams describes the use of flowcharts.
c. Database Design. The database table design that is formed from the system can be seen in the explanation in the tables below.

RESULTS AND DISCUSSION

System Testing

After the system has been designed and created, it is necessary to test the system to see whether it is in accordance with the expectations and designs that have been carried out. In this research, the system testing carried out was by accessing the main website page, admin or operator system page, teacher system page and student system page.

a. Website Main Page. The main page of the website is the initial display of the school website. On the main page of the website you can see some news about the school, a general overview of the school, a Google map image of the school, a menu link to view the school profile, a link to open the academic information system for school operators, a link to open the system for teachers and also a system link for students. The main page of the website can be seen in the image below.

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E.Issn : 2809-0853

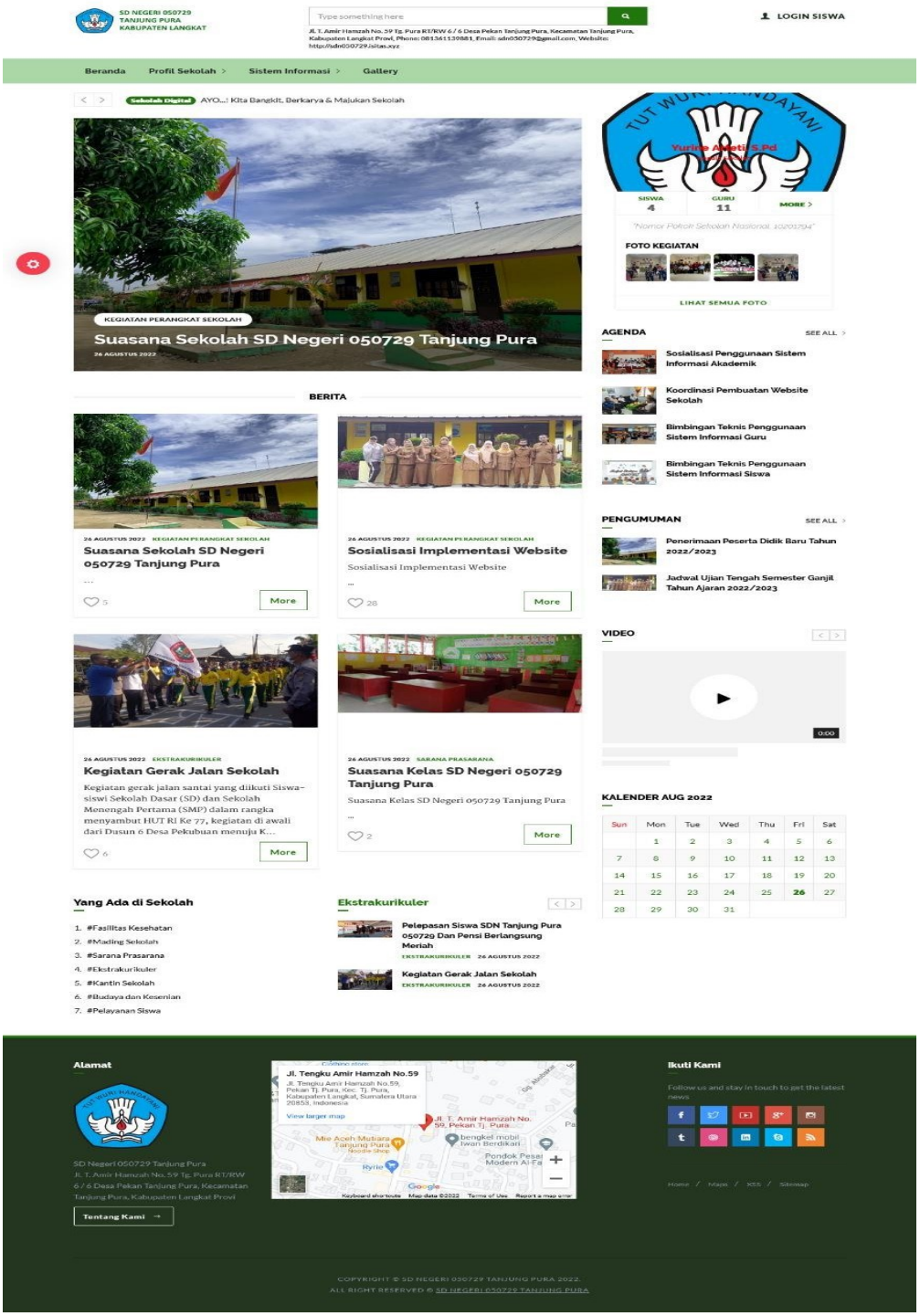

Figure 1. Main page of the school website

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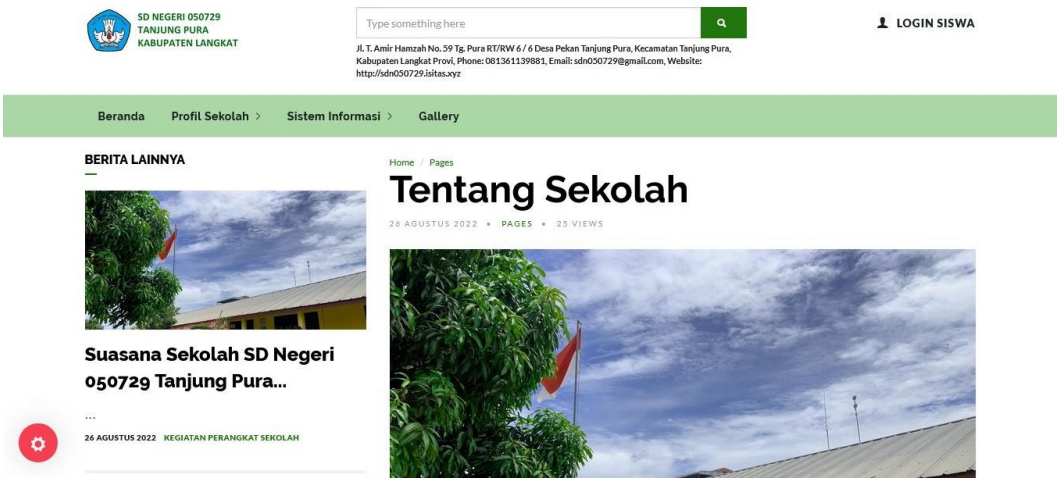

Figure 2. School Profile Page

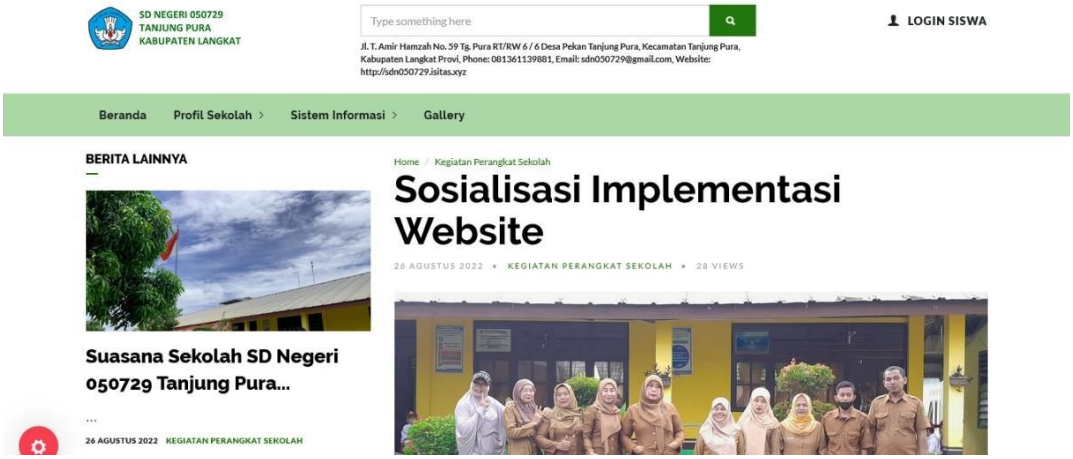

Figure 3. School News Page

b. **Admin or School Operator System Page.** To support the system implementation process well, a system is needed that can be used by school operators. These system pages will be used to carry out the process of filling in school news data, school profiles, student data, teacher data, lesson data, school year settings, semester settings and others. The system pages that will be used by school operators will be described as follows.

Figure 4. Admin Login Page

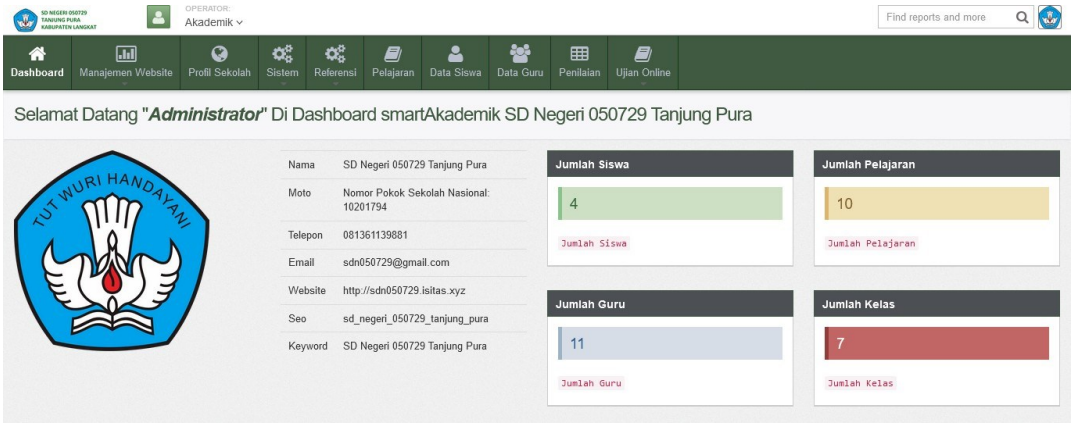

Figure 5. Main Admin Page

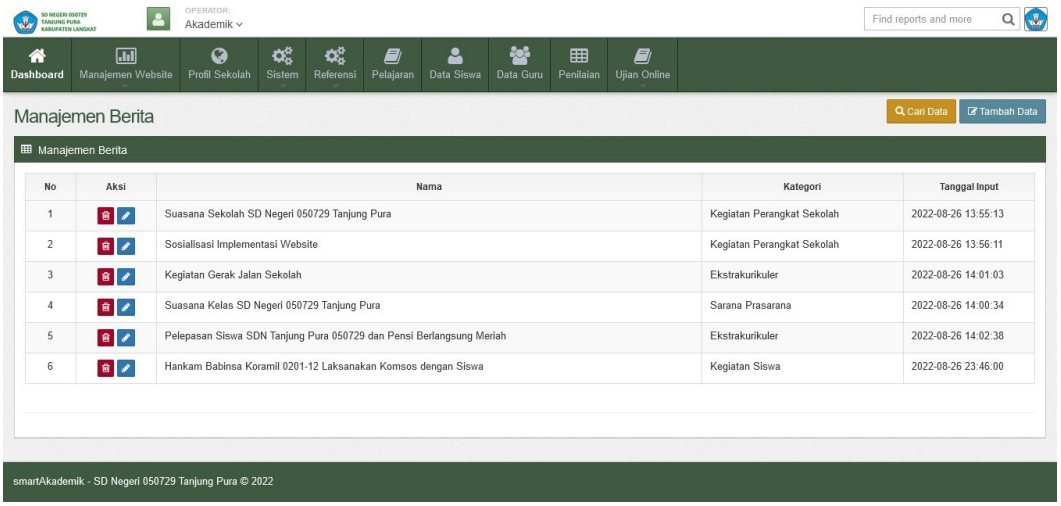

Figure 6. Website News Management Page

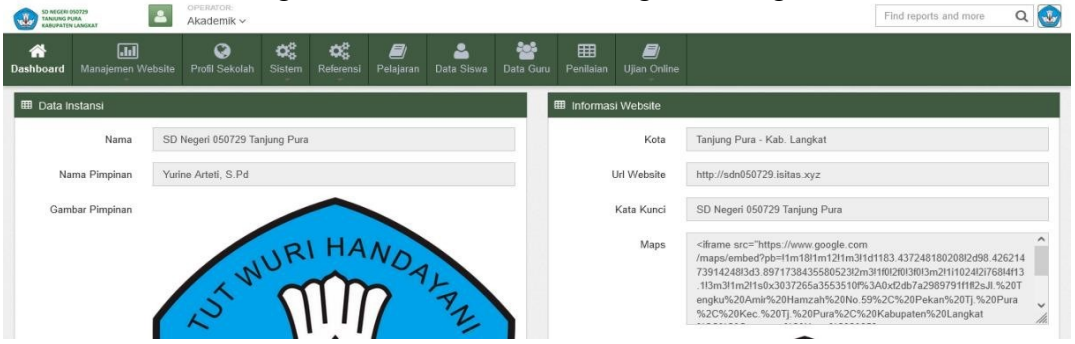

Figure 7. School Profile Data Page

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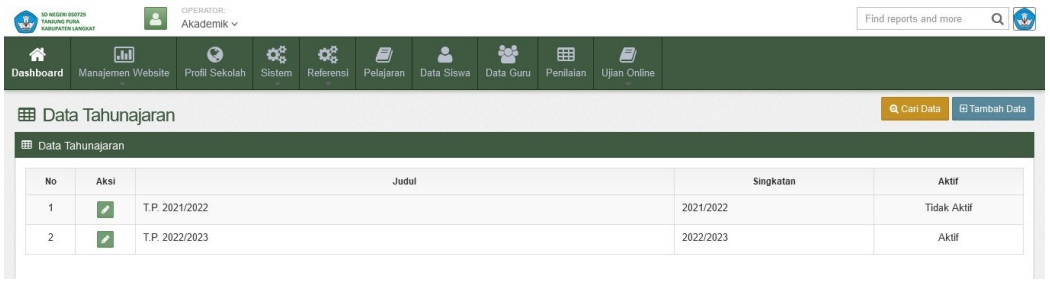

Figure 8. Academic Year Reference Page

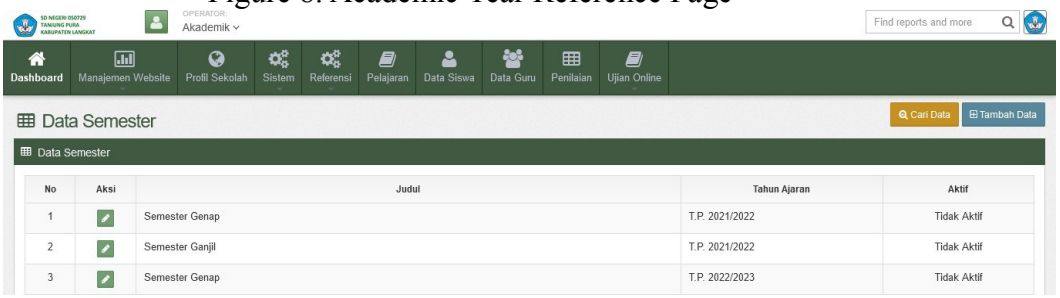

Figure 9. Semester Reference Page

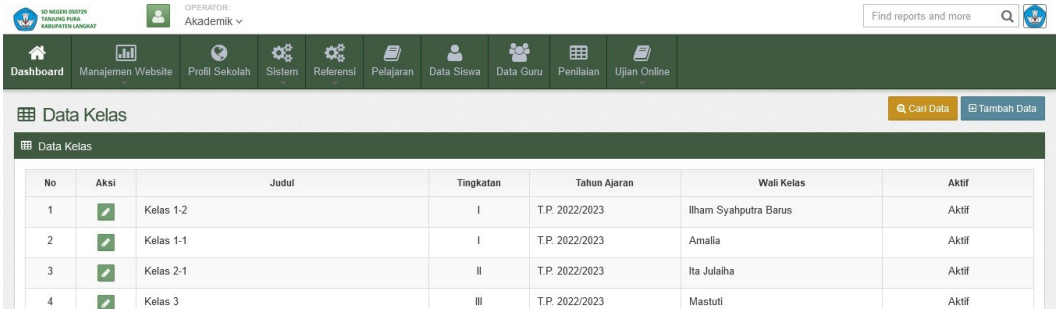

Figure 10. Class Reference Page

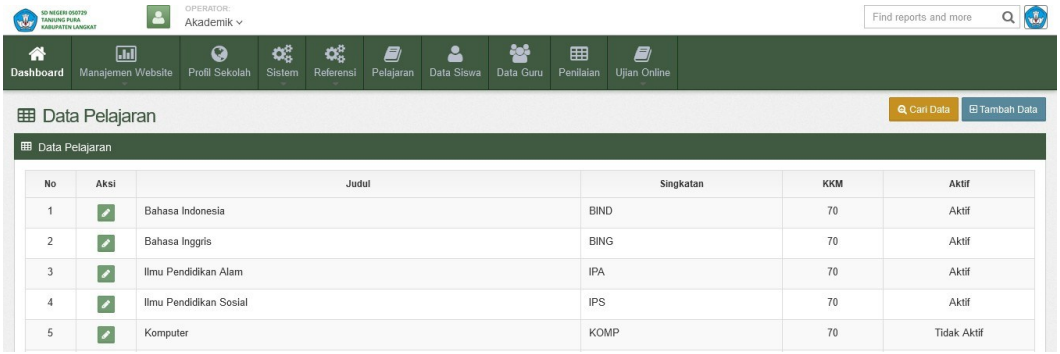

Figure 11. Lesson Data Page

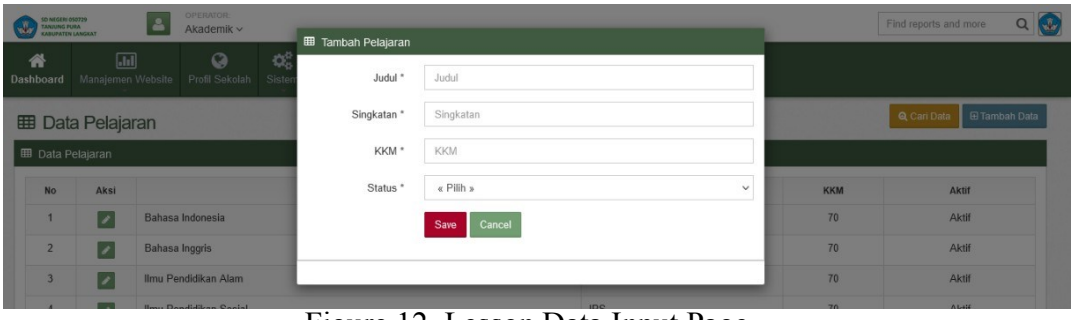

Figure 12. Lesson Data Input Page

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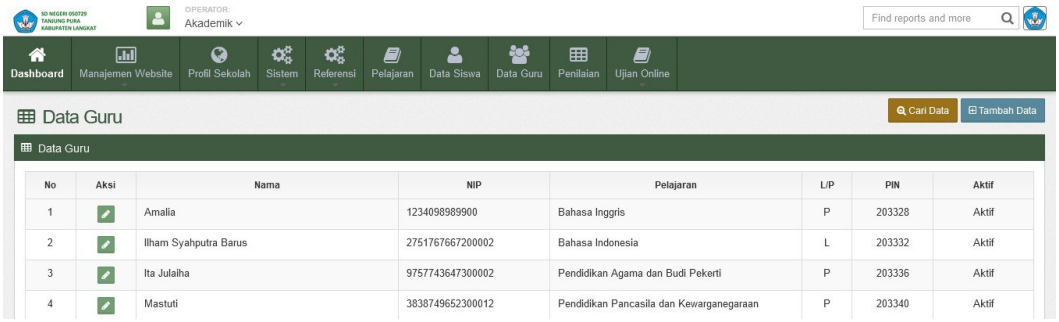

Figure 13. Teacher Data Page

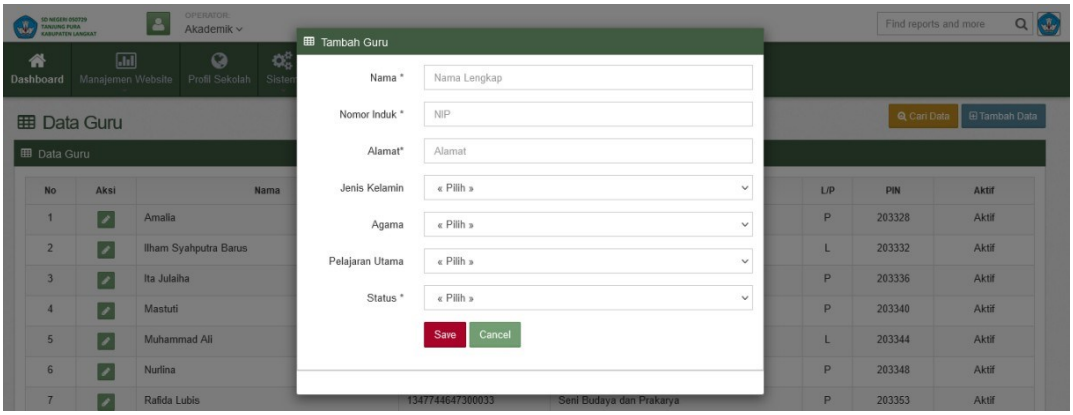

Figure 14. Teacher Data Input Page

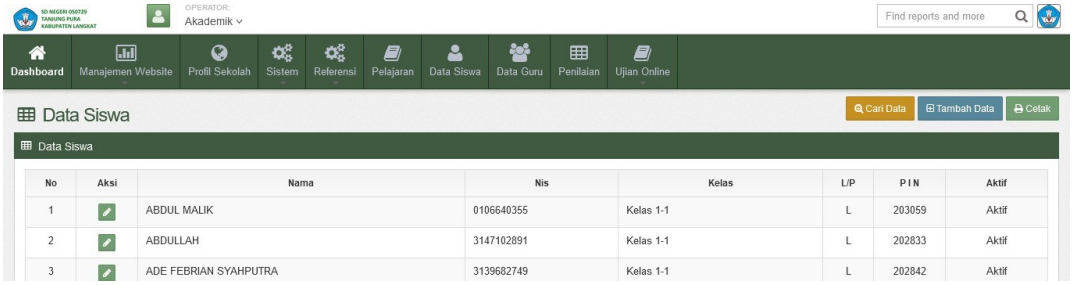

Figure 15. Student Data Page

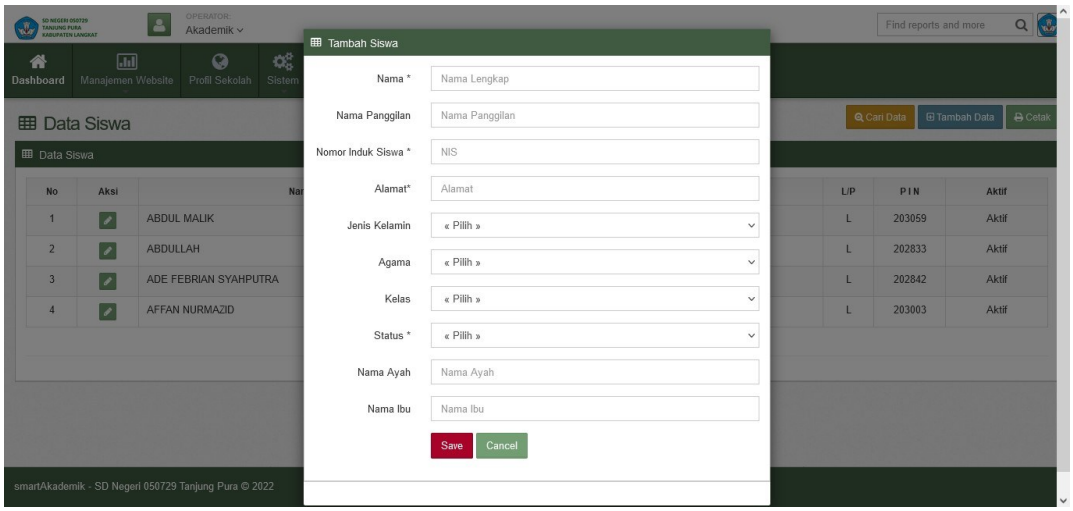

Figure 16. Student Data Input Page

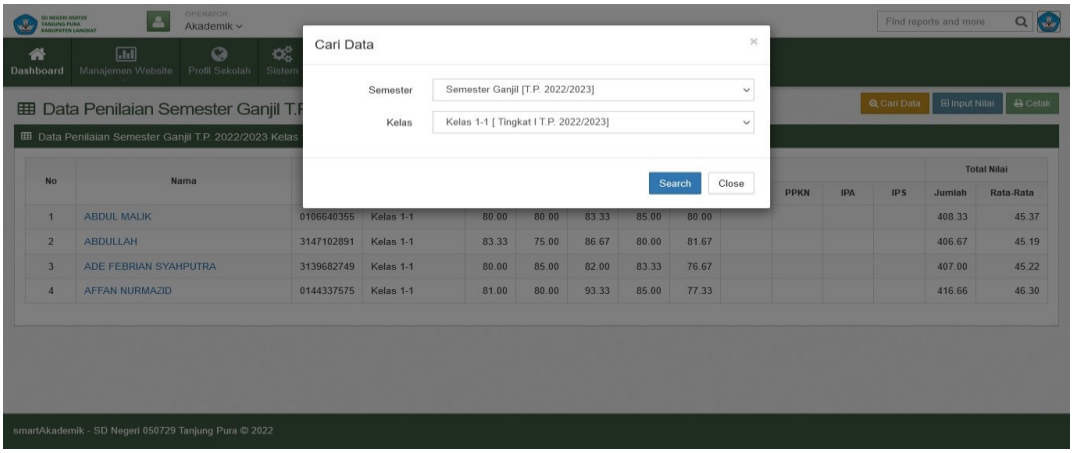

Figure 17. Assessment Data Page

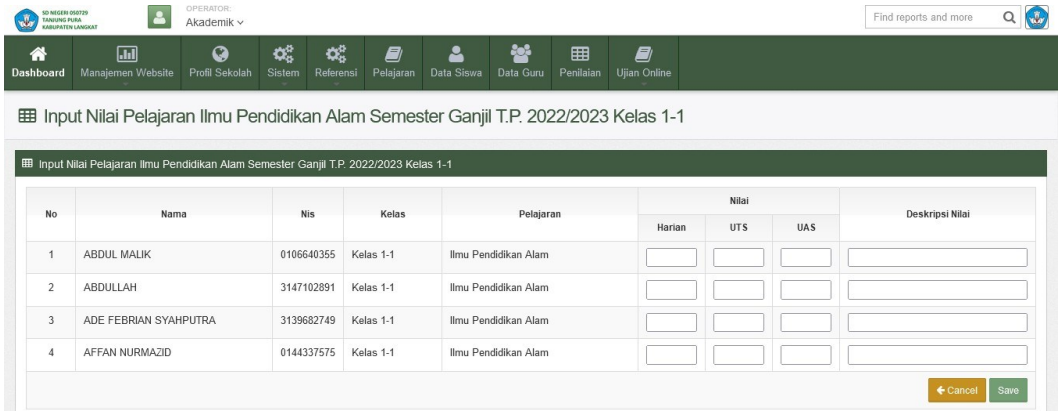

Figure 18. Value Data Input Page

c. Teacher System Page

Figure 19. Teacher Login Page

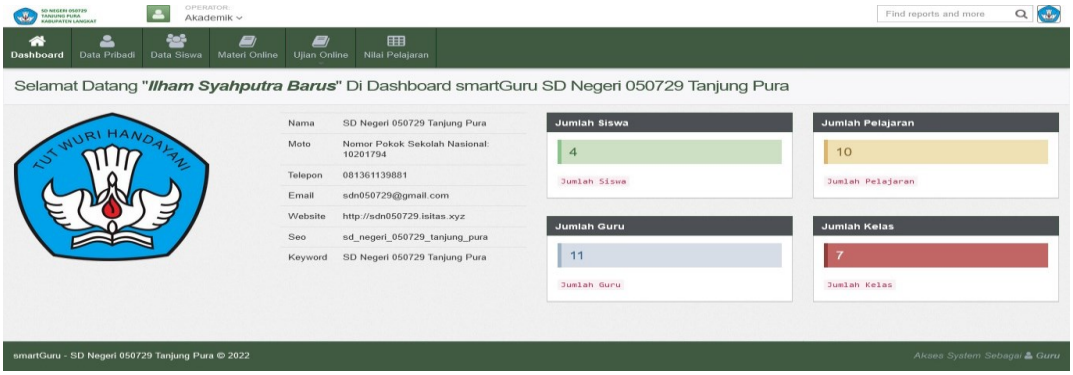

Figure 20. Teacher Home Page

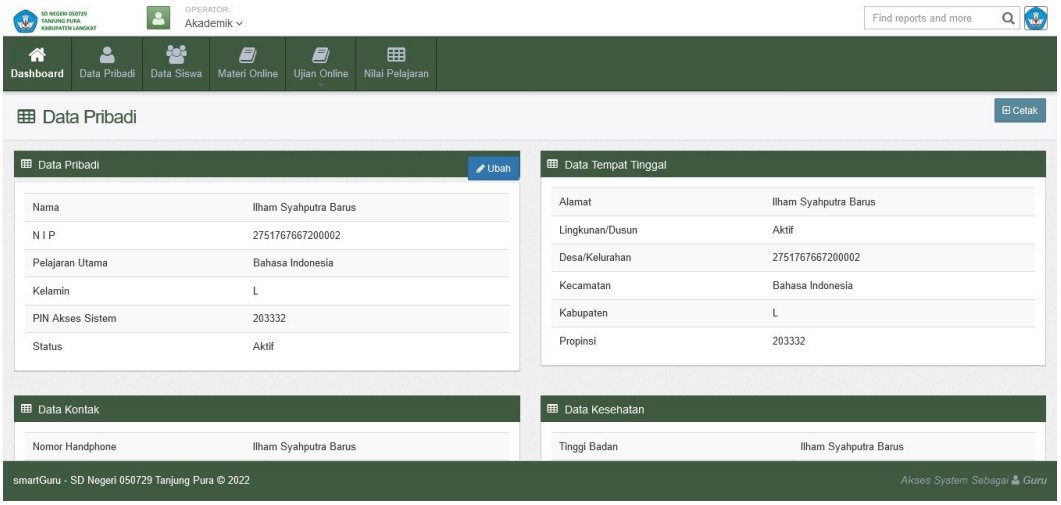

Figure 21. Teacher Personal Data Page

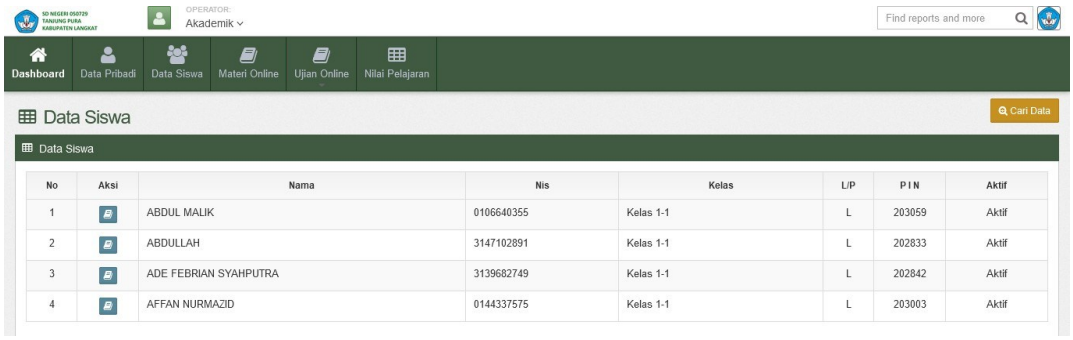

Figure 22. Student Data Page

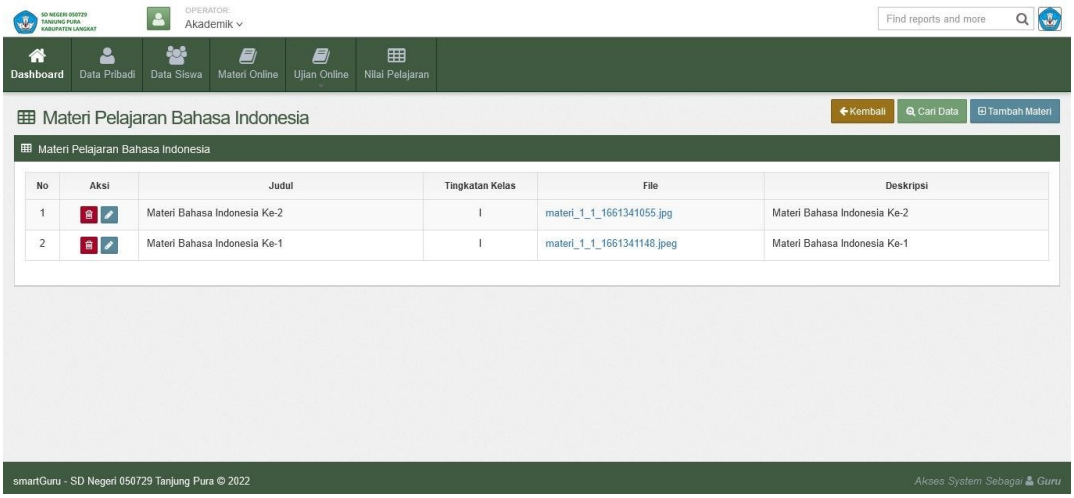

Figure 23. Online Material Page

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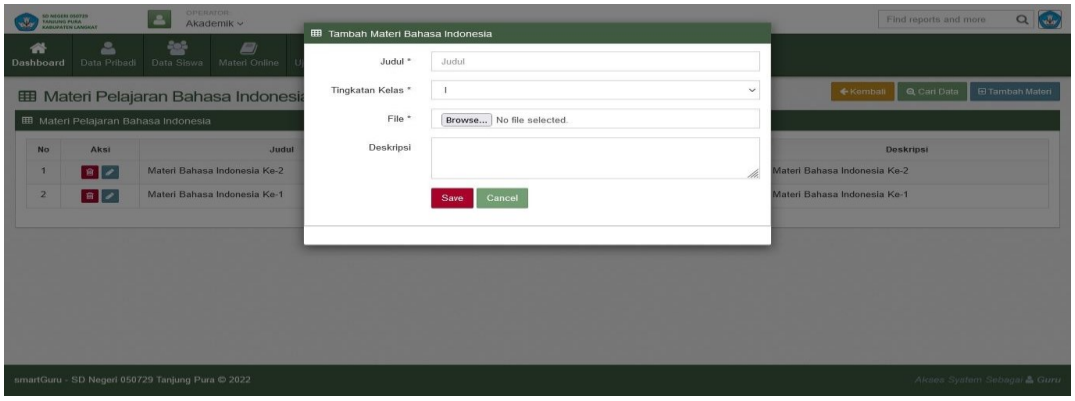


Figure 24. Online Material Input Page

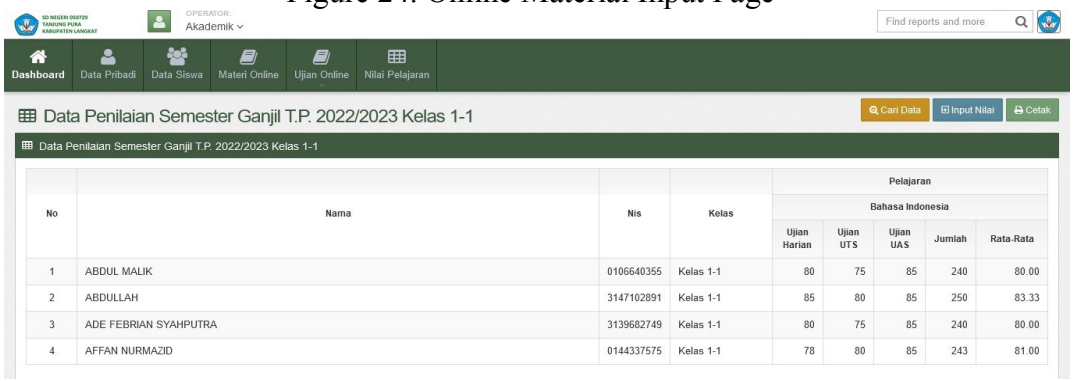


Figure 25. Lesson Value Page

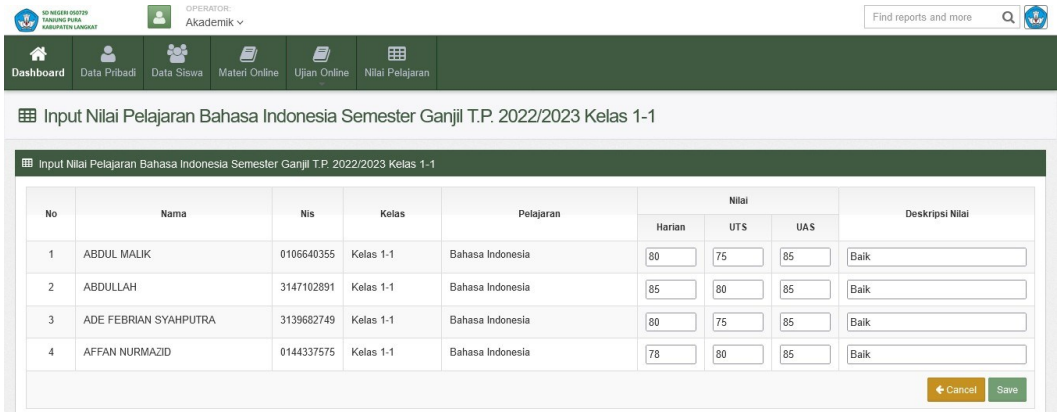


Figure 26. Lesson Grade Input Page

d. Student System Page

Figure 27. Student Login Page

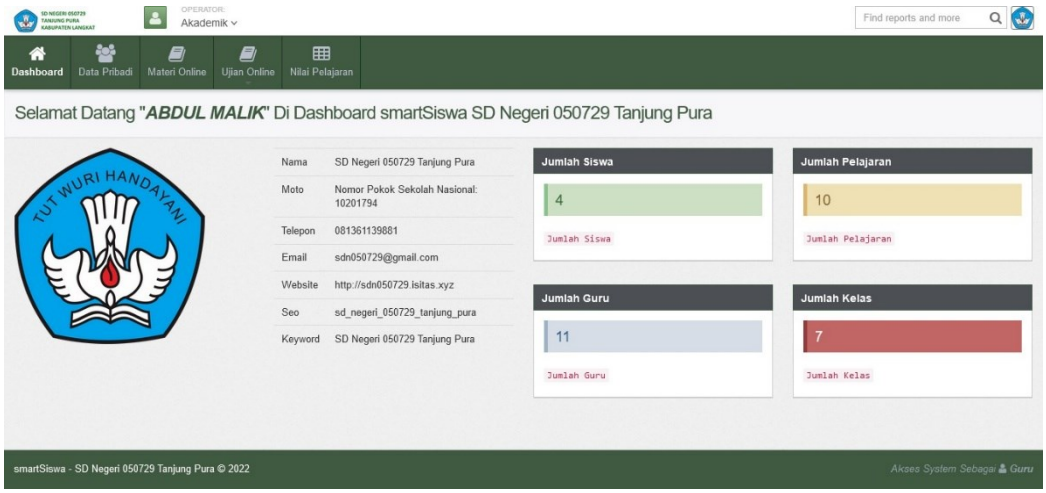


Figure 28. Student Home Page

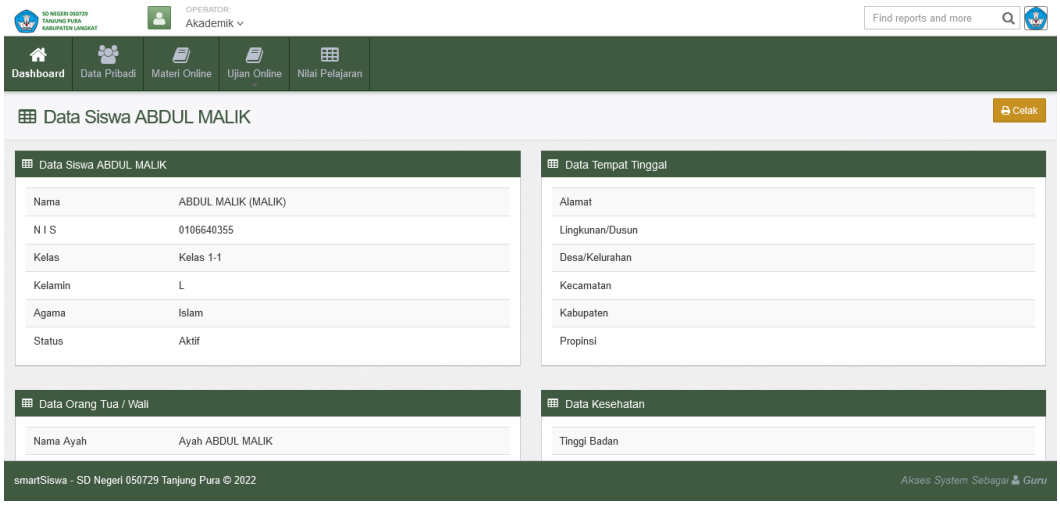


Figure 29. Student Personal Data Page

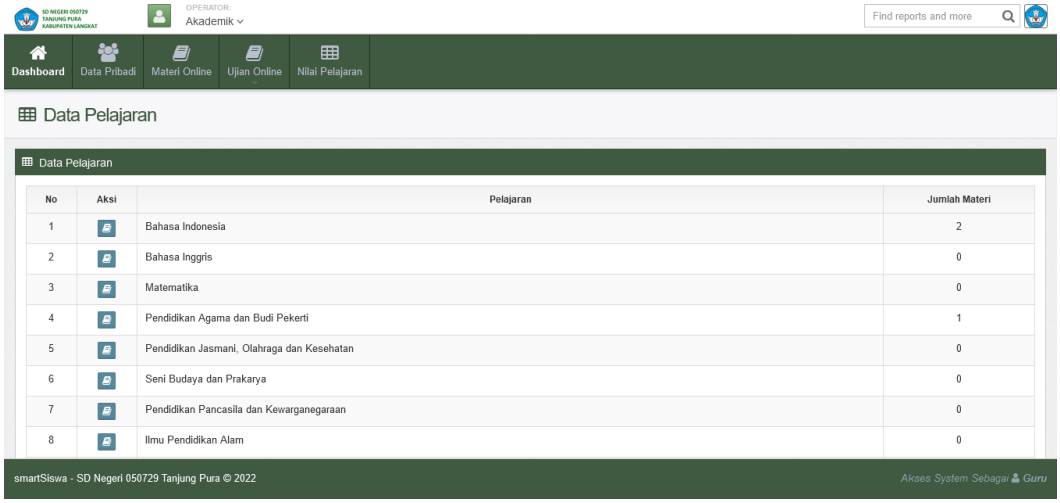


Figure 30. Online Material Page

Figure 31. Online Material Details Page

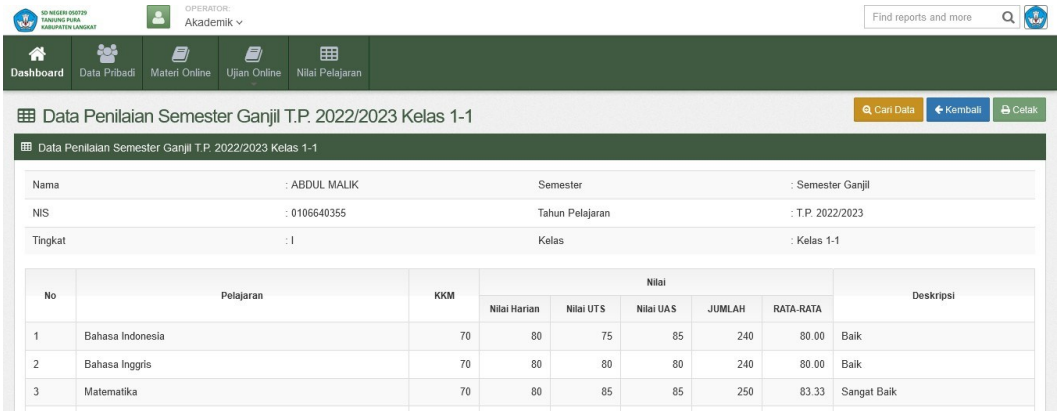
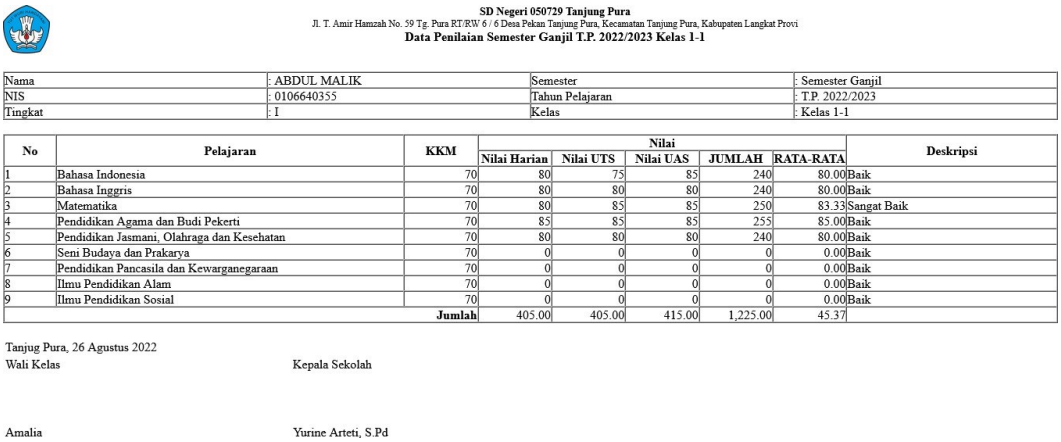


Figure 32. Lesson Value Page



SD Negeri 050729 Tanjung Pura
Jl. T. Amir Hamzah No. 59 Tg. Pura RT/RW 6 / 6 Desa Pekan Tanjung Pura, Kecamatan Tanjung Pura, Kabupaten Langkat Provi
Data Penilaian Semester Ganjil T.P. 2022/2023 Kelas 1-1

Nama	: ABDUL MALIK	Semester	: Semester Ganjil
NIS	: 0106640355	Tahun Pelajaran	: T.P. 2022/2023
Tingkat	: I	Kelas	: Kelas 1-1

No	Pelajaran	KKM	Nilai					Deskripsi
			Nilai Harian	Nilai UTS	Nilai UAS	JUMLAH	RATA-RATA	
1	Bahasa Indonesia	70	80	75	85	240	80.00	Baik
2	Bahasa Inggris	70	80	80	80	240	80.00	Baik
3	Matematika	70	80	85	85	250	83.33	Sangat Baik
4	Pendidikan Agama dan Budi Pekerti	70	85	85	85	255	85.00	Baik
5	Pendidikan Jasmani, Olahraga dan Kesehatan	70	80	80	80	240	80.00	Baik
6	Seni Budaya dan Prakarya	70	0	0	0	0	0.00	Baik
7	Pendidikan Pancasila dan Kewarganegaraan	70	0	0	0	0	0.00	Baik
8	Ilmu Pendidikan Alam	70	0	0	0	0	0.00	Baik
9	Ilmu Pendidikan Sosial	70	0	0	0	0	0.00	Baik
		Jumlah	405.00	405.00	415.00	1,225.00	45.37	

Tanjug Pura, 26 Agustus 2022

Wali Kelas	Kepala Sekolah
Amalia	Yurine Arteti, S.Pd

Figure 33. Lesson Value Print Page

CONCLUSION

System Advantages

a. Page viewThe main website, admin system page, student system page and teacher system page are responsive, making it easier for visitors to open website pages whether using a PC, laptop or smartphone.

b. The admin page can now present the data needed by the school, such as data for the academic year, semester, class, lessons, teachers, students and lesson grades.

c. The teacher page can fill in grades according to the teacher's lesson using the system.
d. The student page can display online study materials and also the grades for each lesson.

System Disadvantages

a. The system is still website-based, it is hoped that future researchers can develop the system into a mobile-based application.
b. There is no information yet on payment of school fees and class lesson schedules.

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