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Research Article

DEVELOPMENT OF STUDY HOUSE JEMBER LEARNING GUIDANCE MANAGEMENT APPLICATION USING THE DJANGO FRAMEWORK

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Abstract
Learning guidance is an additional learning activity carried out by pupils outside of school learning hours. The management process conducted by Study House Jember is the registration of new students, the change of tutor schedules and the reporting of student values is still using manual methods, namely the student guardian comes to the place to do registration, the tutor chats via whatsapp to exchange schedules with other tutors and the writing of values on the book that has been provided. The study aims to create a learning guidance management application to make it easier for students and tutors to register, change schedules and obtain online learning assessment results. The data collection method used is observation and interview with the head of study house Jember. The research creates a Learning Counselling Management application using the Django framework to help with enrolment, scheduling changes and student score reporting.

Keywords: Framework Django, Guidelines for Writing, Learning Guidance, Management, Website

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INTRODUCTION

Education is paramount in human life because it develops the quality of children in educational institutions (Suhermanto & Jasri, 2024). Therefore, educational media are not only found in schools but also in non-formal settings such as educational institutions (Jasri & Zibyan, 2025).

The method used in tutoring is direct. The tutoring program at Rumah Belajar offers two types of learning: regular tutoring and private tutoring. Classrooms typically have one teacher and 1-10 students, covering four subjects: Mathematics, Indonesian, English, Science, and Islamic Religious Education. Private classes consist of one teacher and one student. Individual subjects tailored to the student's skills are Mathematics and English.

In data management, including registration, teacher changes, and student evaluation, the Study House tutoring institution consistently uses traditional methods: regularly recording student data, and then printing the information provided. This is productive (Agbaria, 2024; Gadais et al., 2022). This also saves time and money. Information from the student's tutor is superficial. Before enrolling in a course, students must complete a registration form containing personal data, academic background, and class selection.

Based on these issues, the author is interested in conducting research entitled "TUTORING MANAGEMENT APPLICATION AT STUDY HOUSE JEMBER USING THE DJANGO FRAMEWORK."

The problem can be identified as how to build a tutoring management application system to simplify the registration process, schedule changes, and student assessments at Study House Tutoring (Futaqi & Mashuri, 2023). The problem limitation in this research discusses the Development of a Web-Based Tutoring Management Application System at Study House Tutoring and the Programming Languages used (Afif et al., 2024).

This research topic is not the first to be explored; several studies have been conducted on similar topics in recent years. These studies serve as references for this study.

The first study, entitled "Web-Based Information System" by Abdul Hafid Alaudin, Andy Prasetya Utomo, and Supryono (2021), focused on the development of a web-based teaching service information system at Nabila Tutoring Center. The purpose of this study was to support the role of teachers and students in teaching and learning activities. The methods used in this study were observation, interviews, and literature review. The system analysis and design used UML (Unified Modeling Language). The system testing used the Black Box method. The result of this research was the development of a web-based teaching information system within the Nabila Tutoring Center that can assist teachers and students in the teaching and training process.

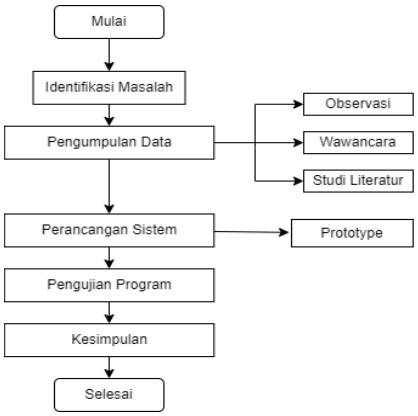
The subsequent study, entitled "Development of a Web-Based Information Management System and Management Solutions," was conducted by Dedik Purwanto (2021). This study focused on the design of a web-based management information system using Bimbel Creative Solution. The management information system aims to provide information to students and teachers during the teaching and learning process and effectively improve the teaching and learning process at Creative Solutions. The process used is the Waterfall method. The result of this research is the creation of a web-based Creative Solutions teaching knowledge management system, helping teachers and students obtain useful information about teaching and learning without having to go to the Creative Solutions teaching office (Nailasariy et al., 2023).

In addition, a study entitled "Web-Based Learning Success Assessment System Using the CodeIgniter Framework at KUMON Ngringo Jaten Karanganyar" (Dewi Santika Wulandari, Chairullah Naury, Ari Pantjarani, 2022) was also conducted. This study evaluates the design of a web-based information system for assessing student learning progress. The purpose of this research is to support information data management. The system development process used is the SDLC (System Development Life Cycle) process. The system design results include

flowcharts, DFDs, ERDs, schematic diagrams, and diagrams. Users of the information system include administrators, teachers, and students.

RESEARCH METHOD

A research method is a way to describe the relationship or connection between the variables being studied. The research process for classroom teaching is as follows.



The following are the stages of the research method (Abdussamad, 2021):

1) Observation

Observations conducted by the researcher involved systematically observing things directly observed at the Study House Tutoring Center to identify aspects needed for the research.

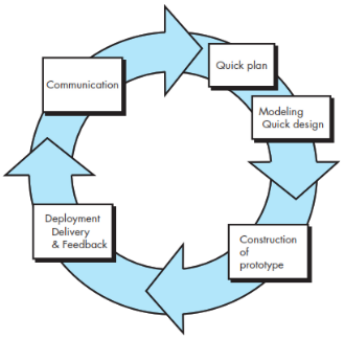
2) Interviews

Interviews involved asking questions to an assistant to obtain information about the school's current teaching management system and uncover any issues.

3) Literature Review

Data collection involved searching for books, journals, and internet articles related to this research, which were used as references in research or program development. The journals frequently used in this research were informatics journals.

Pengembangan penelitian ini menggunakan model Prototype, karena menekankan pada proses pengembangan perangkat lunak. Model yang cocok untuk mengembangkan perangkat lunak terbatas dan sumber daya manusia yang terlibat terbatas, modelnya adalah sebagai berikut (Sugiyono., 2018).



1) Communication

This stage involved communication between two resource persons at the Study House tutoring center: Mr. Alfianul Usman, the head of the tutoring center, and Ms. Dea Wilya, the administrative staff member. The goal was to determine the overall interests in developing software that could identify and resolve existing problems within the tutoring center.

2) Planning (Quick Plan)

Data management planning, including registration, teacher system changes, and student evaluations, consistently employed traditional methods: regularly storing student data through recording, and then printing the information provided. This was productive, saving time and money. Information from the student's teacher was superficial. Before students could enroll in a course, they had to complete a registration form containing personal information, academic background, and class preferences. 3) Quick Design Modeling

The design uses a flowchart as a system flowchart, a data flow diagram (DFD) as the data flow, an entity relationship diagram (ERD) as the entity relationship determinant, and a prototype as a system illustration using quick design. This is done until the user confirms it is correct.

4) Prototype Construction

Prototype creation involves creating a framework for application development. After conducting a quick plan with the user, the next step is to build the system according to the tutoring management optimization application design developed with the tutoring principal and administrative staff. The tutoring management application design is translated into an application using the Python programming language.

5) Improvement and Feedback (Deployment Delivery and Feedback)

The prototype is used for evaluation by stakeholders and is then tested by experts in the field of informatics engineering. After the trial, the prototype is evaluated, and if errors are found, improvements or feedback can be provided. This feedback can then be used to expand the requirements specifications for the system's features.

RESULTS AND DISCUSSION

A. Data Collection

Data collection was the first step in this research. Data was obtained through observation and interviews with relevant parties. The results of the interviews and observations indicated that the Study House tutoring system, student registration, schedule changes, and assessments were still manual.

B. Analysis and Design Results

At this stage, the collected data were analyzed and a new system was designed.

1) Analysis

The old system was analyzed. Registration was still manual, with parents coming to the office to fill out registration forms. Tutor scheduling was still done using Word or Excel. Schedule changes were only confirmed between tutors, and student grade reporting was still done via WhatsApp. This system made it difficult for administrative staff to summarize data. After identifying the problems, the next step in analyzing the new system was the need for a tutoring management system (Ghozali et al., 2024). Because an existing system was not yet in use, a tutoring management system was proposed that could simplify the management process. This system could be developed into an application to maximize the performance of administrative staff and tutors at the Study House tutoring system. This can assist in data processing and reporting to parents.

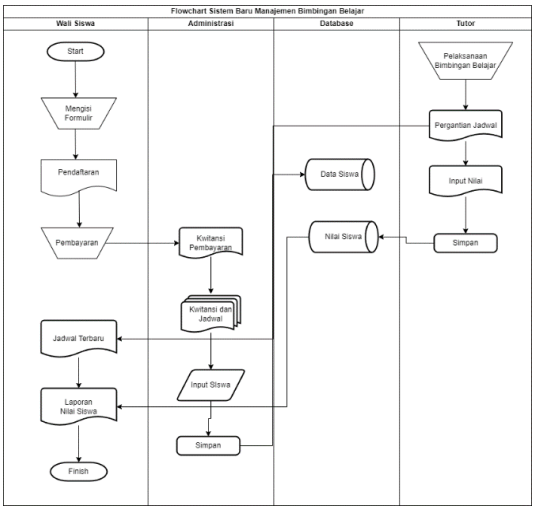
2) Design

System design is carried out after data analysis. The design phase involves the use of tools such as flowcharts, data flow diagrams, and entity relationship diagrams. This design will serve as the basis for the subsequent implementation phase.

Thus, this research yields information on student registration, schedule changes, and assessments at the Study House tutoring center, which were previously manual. The proposed new system is a website-based management application development system, which is expected to simplify transactions, sending, and processing customer data.

a. Flowchart

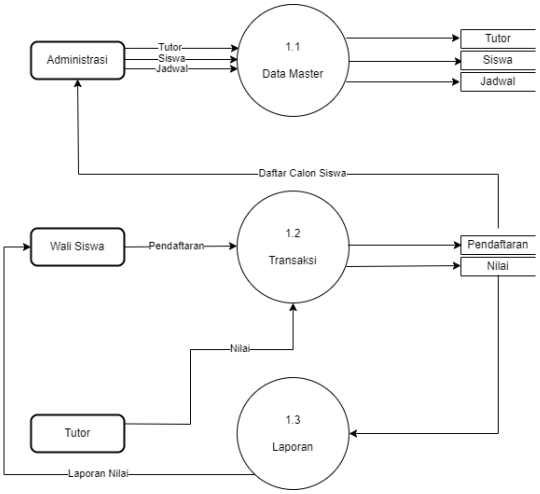
The flowchart of the new system designed for the registration, schedule changes, and student assessment processes is shown in the following figure:



b. Data Flow Diagram (DFD)

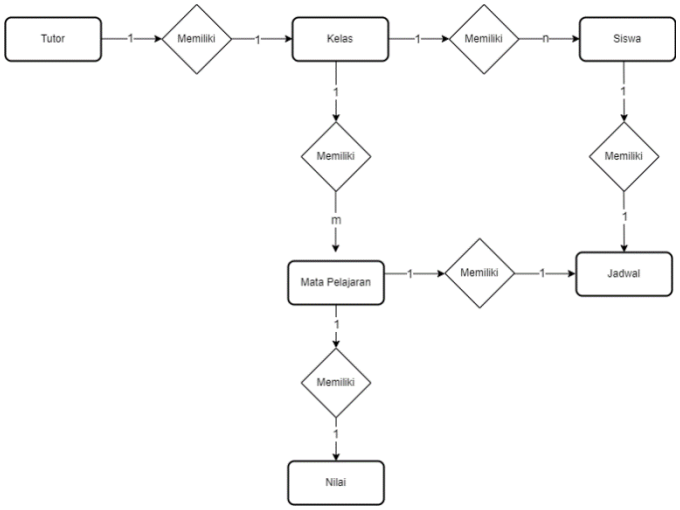
DFD is a step used to create a system design that focuses on the flow of data that moves between systems. A data flow diagram shows who is involved in the system being created. DFDs have several levels, including:

The system flow is more detailed. This diagram adds the relationship processes that occur in the entity system, and the processes that form the complete system. As shown in the image below:



c. Entity Relationship Diagram (ERD)

An Entity Relationship Diagram (ERD) is one way to design and build a Tutoring Management application system. Entity Relationship Design (ERD) facilitates the construction of a system consisting of interconnected entities that support each other and are related to each other. The ERD depicts many-to-many, one-to-many, and one-to-one models for designing a system. An overview of this system is as follows.

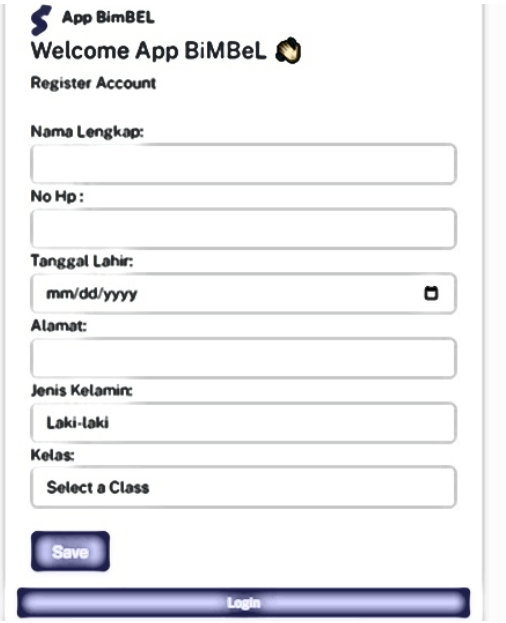


d. Interface Design

Interface design is the design of the application program's user interface. Because it is still a design, there may be additions or subtractions within the actual program, but these additions and subtractions are not necessarily related to the main functions of each procedure. These designs are as follows:

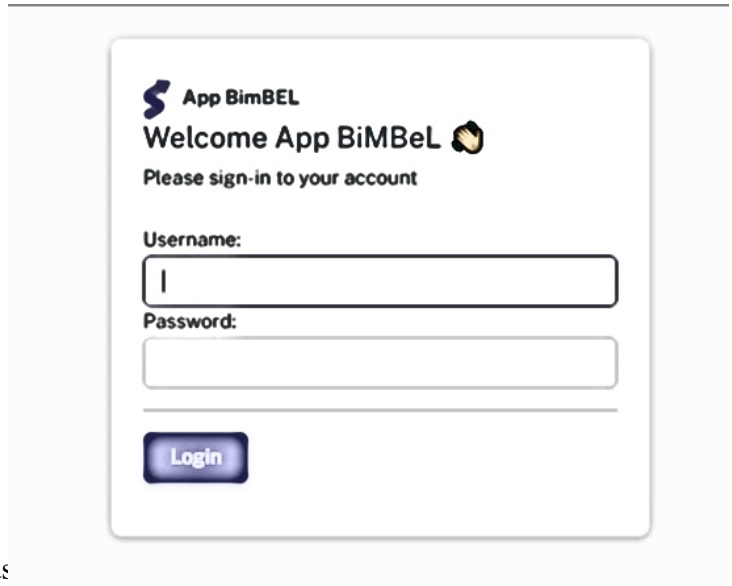
1. Registration Page Interface Design

This registration page functions to register and store data for each user.



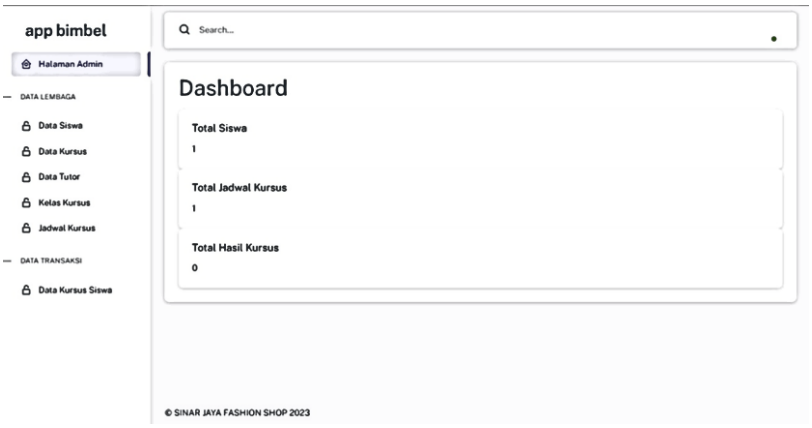
2. Login Page Interface Design

The login page is the first screen that appears when running the program. It aims to limit its use. The login process involves entering the correct username and password.



3. Admin Das

The Admin Dashboard page is a display containing submenus within the program, as shown in the image below.

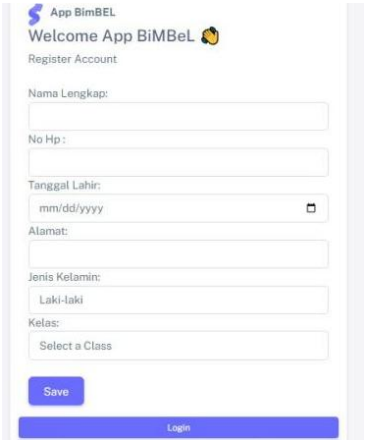


e. Implementation

Implementation is the process of implementing or carrying out a plan, system, or concept in practice. It involves concrete steps to turn ideas into tangible actions. The following is a screenshot of the application's interface.

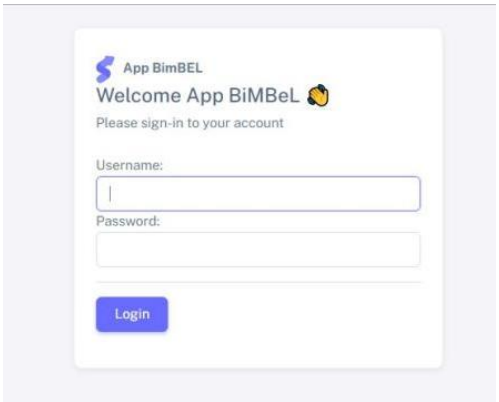
1. Registration Page

The Registration page is used to input personal information such as full name, phone number, date of birth, address, gender, class selection, and a photo file.



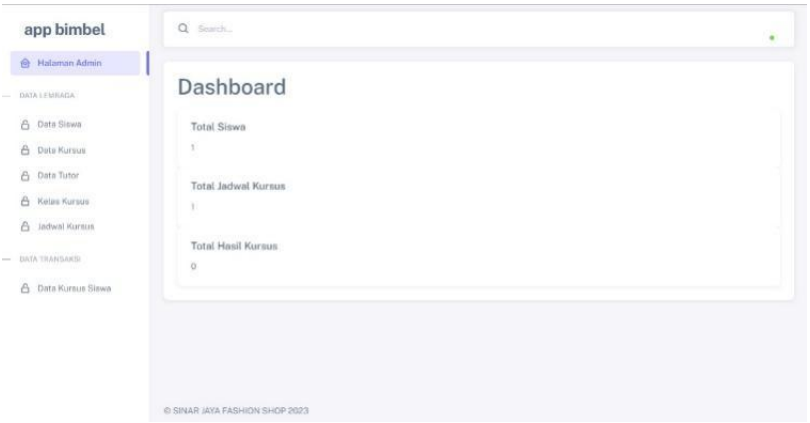
2. Login Page

The login page serves to restrict users from using the application.



3. Admin Dashboard

The Admin Dashboard page menu displays features found on the tutoring management website, such as (Total Students, Total Course Schedule, Total Course Results)..



CONCLUSION

Conclusions can be generalized findings according to research problems, can also be in the form of recommendations for the next step.

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