



Interactive Learning Media for Introduction to English for Early Childhood Education (Paud) Web-Based

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Abstract

The development of information technology has opened new opportunities in education, particularly in the creation of interactive learning media. This study aims to design web-based interactive learning media for introducing English to early childhood education (PAUD). Using a R&D (Research and Development) approach with the ADDIE development model (Analysis, Design, Development, Implementation, Evaluation), this study produces a web-based learning platform that integrates learning materials, quizzes, and progress monitoring features for children. This learning media is designed to enhance students' learning interest through interactive content incorporating text, audio, images, and animations. Additionally, the system allows teachers and parents to monitor children's learning progress in real-time. By utilizing web-based technology, the application is accessible to a broad audience, including remote areas with limited educational resources.

Keywords: ADDIE, Interactive learning media.

1. Introduction

Early childhood education, which covers the age range of one to six years, is an important stage in a child's development. This education is designed to provide both physical and spiritual stimulation to support their growth [1]. Therefore, more innovative and interesting learning media are needed so that English language learning can be delivered effectively and enjoyably [2].

The development of information technology today has had a major impact in various fields, including early childhood education (PAUD). The PAUD environment is a learning space that must be designed to be enjoyable, interactive, and appropriate for children's development. Learning in PAUD is not only focused on delivering material but must also involve various activities that encourage exploration, creativity, and social interaction among children [3]. Therefore, the use of engaging and innovative learning media is crucial for enhancing the effectiveness of the teaching and learning process in PAUD.

Learning media is a communication tool used to convey messages from a planned source with the aim of developing a learning environment [4]. With the development of technology, various types of learning media are available, one of which is multimedia, which has many advantages. Multimedia is the use of computer technology to display various types of content such as text, sound, images, animations, and videos [5]. In this context, various multimedia elements are combined with devices and connections that allow users to navigate, interact, create, and communicate [6].

Especially for early childhood, the importance of learning English from an early age is strongly emphasized because English plays an important role as an international language [7]. However, students' interest in learning basic English is still low, especially when taught through traditional learning media. The learning system used by teachers has not been optimized to its full potential, making it difficult for students to grasp the material quickly [8]. This results in students having difficulty absorbing and understanding basic English vocabulary and concepts.

1. Methodology

The research methodology uses a Research and Development (R&D) approach with the ADDIE (Analysis, Design, Development, Implementation, Evaluation) development model. These stages are designed to ensure that the system effectively meets user needs [9].

3. Results and discussion

3.1. System Analysis

Program implementation is useful for determining whether the program has been running optimally or not. Before that, the program will first be tested to ensure that the system's capabilities are in line with expectations at the time of implementation [10].

3.2. Design

3.2.1. Use Case Diagram

The use case diagram for interactive English language learning media for early childhood education (PAUD) based on the web shows the interaction between users and administrators, as well as the main functions available. Users can access materials and monitor children's activities, while administrators are responsible for managing learning materials. Thus, this use case diagram illustrates the interaction between actors and the main functions in the system.

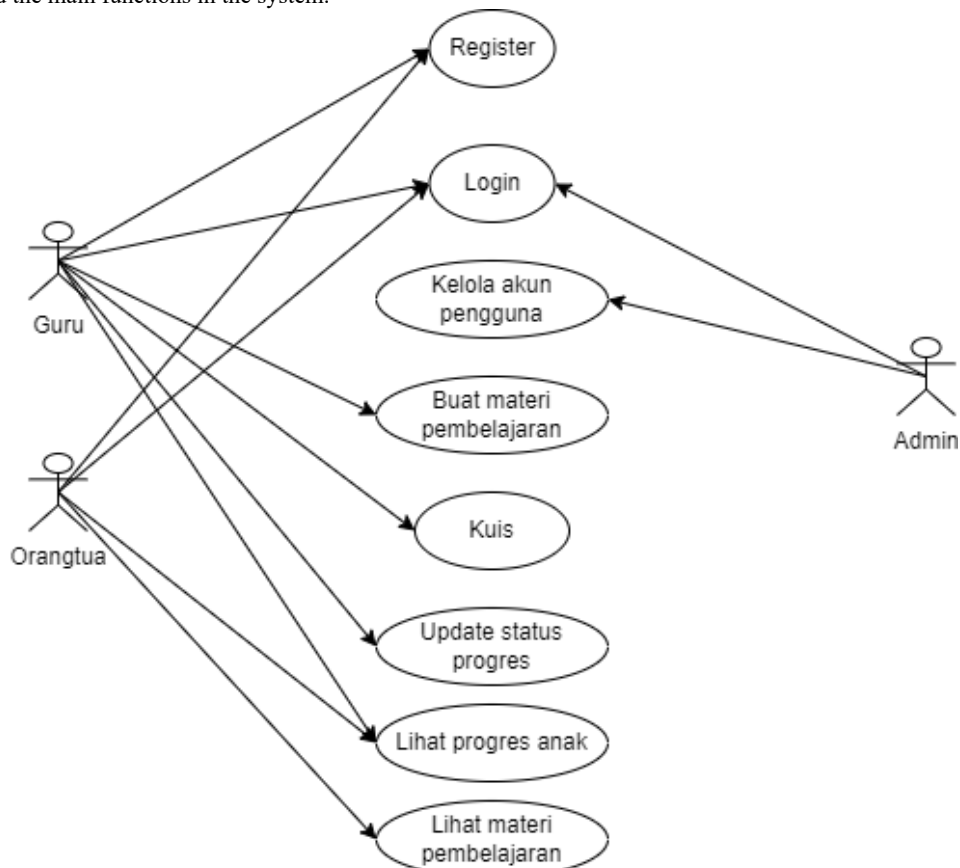


Fig. 1: Use Case Diagram

3.2.2. Class Diagram

A class diagram is a type of static structure diagram in UML that depicts the structure of a system by showing the system classes, their attributes, methods, and relationships between objects. Class diagrams are also called structure diagrams because they depict what should be in the modeled system with various components.

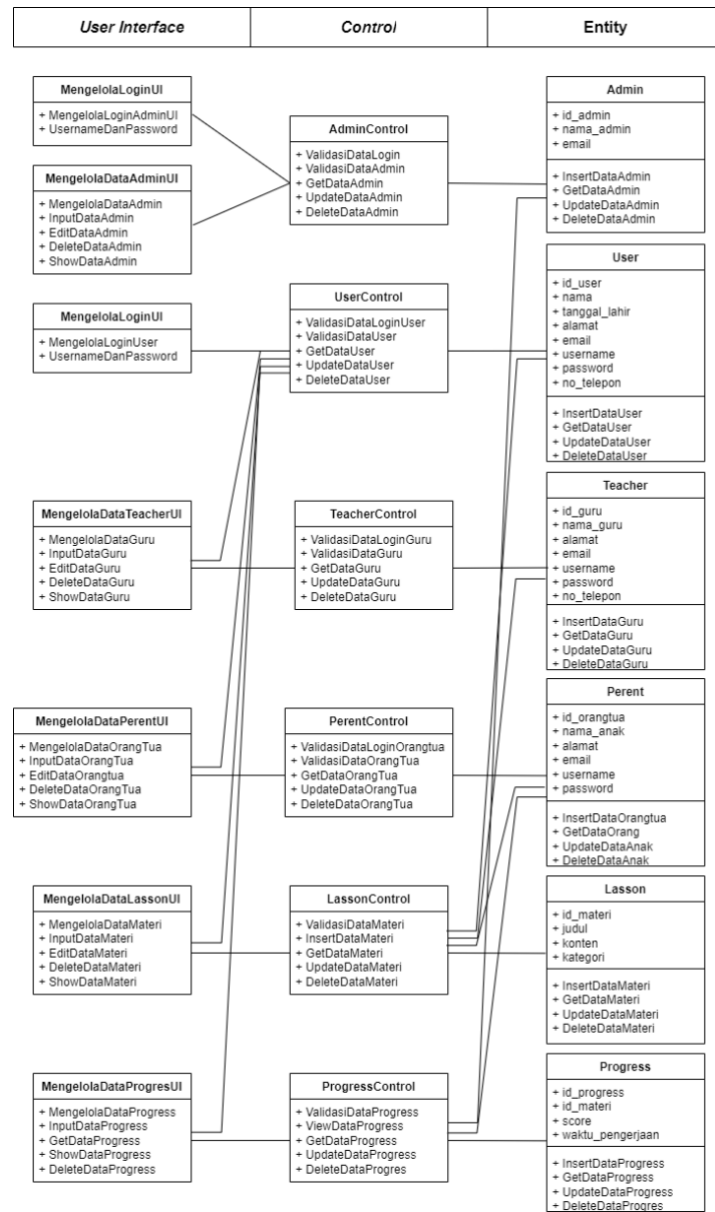


Fig. 2: Class Diagram

3.2.3. ERD (Entity Relationship Diagram)

ERD (Entity Relationship Diagram) is a model for explaining the relationships between data in a database based on basic data objects that have interrelationships. ERD is used to model data structures and relationships between data, and several notations and symbols are used to illustrate this.

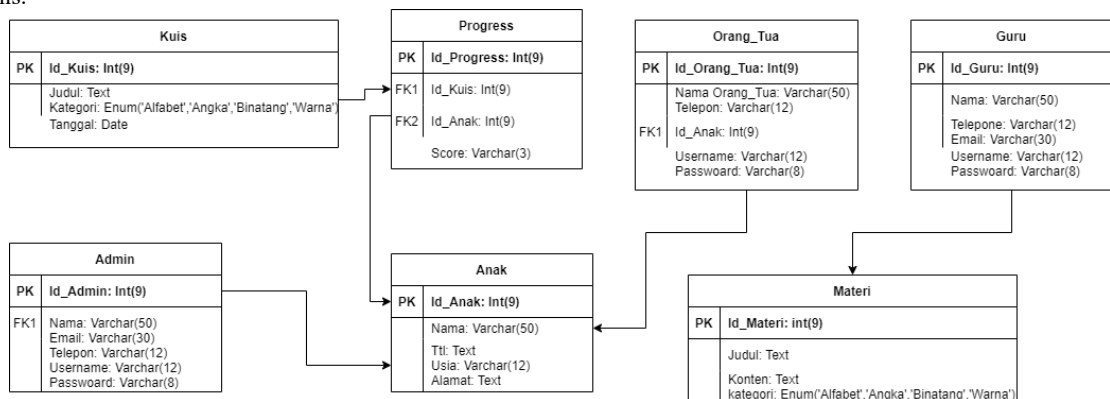


Fig. 3: ERD (Entity Relationship Diagram)

3.3. System Implementation

Program implementation is useful for determining whether the program has been running optimally or not. Before that, the program will first be tested to ensure that the system's capabilities are in line with expectations at the time of implementation. System implementation consists of the following parts.

1. Login Page

On this page, users can log in or register using their username and password. Login is required for users to access the main features of the system. If you do not have an account yet, you can register by filling in the required data to gain access. After successfully logging in, users can manage data such as adding, editing, or deleting information as needed. This page ensures the security and convenience of users in managing data efficiently.

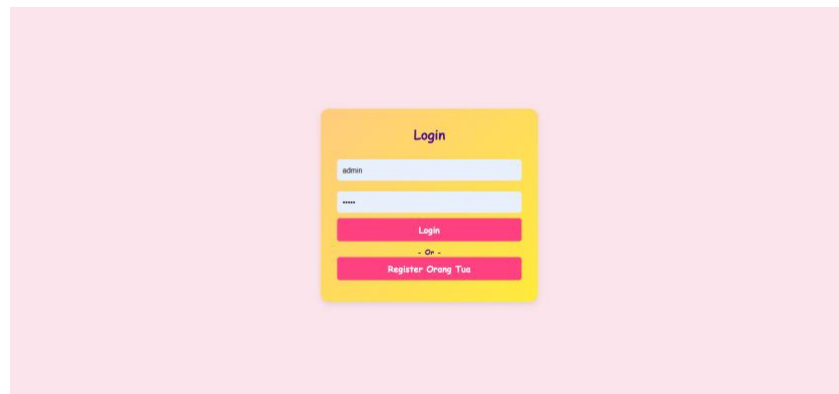


Fig. 4: Login Page

2. User Registration Page

This page is the parent account registration form in the Childhood English system within the Children's English Education system. This page is designed so that parents can create an account that is linked to their child's data in the system.

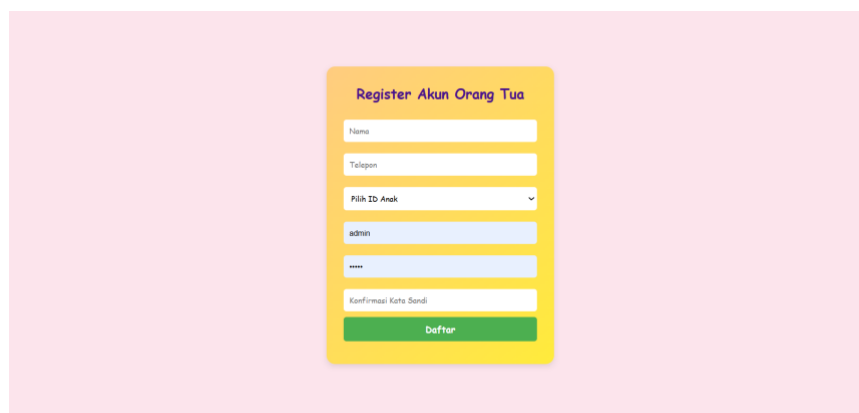


Fig. 5: Registration Page

3. Admin Dashboard Page

This page is the Admin Dashboard for the Anakini English Language Education system. This dashboard is designed to make it easier for administrators to manage various data related to children's English language learning.

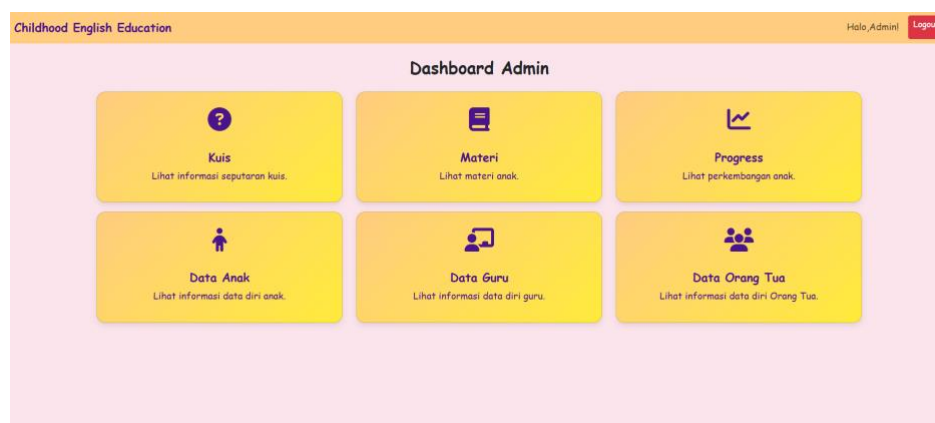


Fig. 6: Admin Dashboard Page

4. Parent Dashboard Page

This page is the Parent Dashboard in the Childhood English Education system. This dashboard is designed to make it easier for parents to track their children's learning progress.

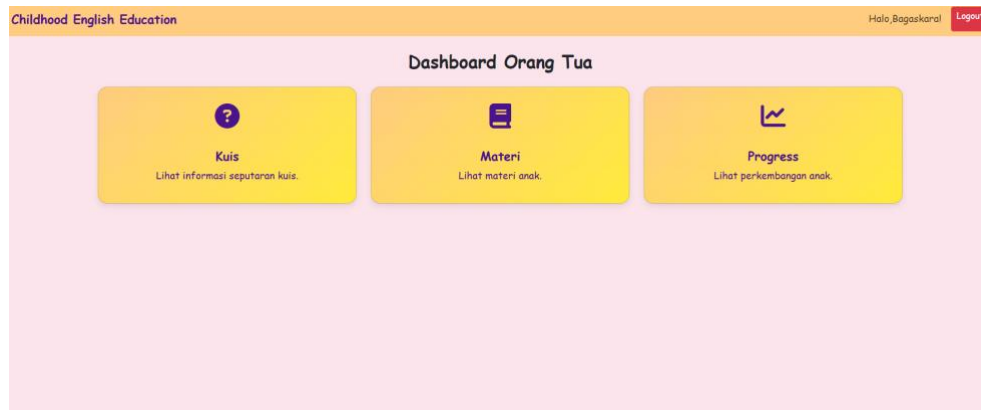


Fig. 7: Parent Dashboard Page

5. Teacher Dashboard Page

This page is the Dashboard for the Children's English Education system. This dashboard is designed to help teachers consolidate, manage, and support children's learning processes.

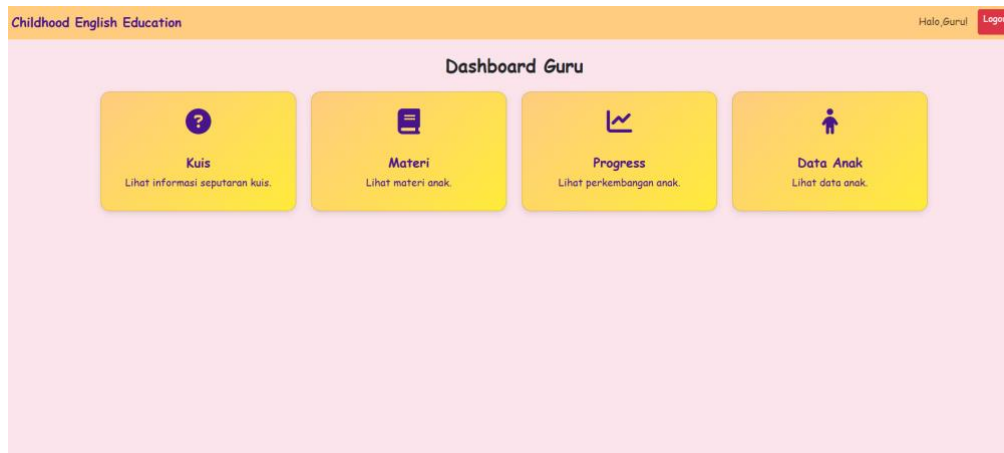


Fig. 8: Teacher Dashboard Page

6. Materials Page

This page displays the Material Data in the Childhood English Education system, which is used by administrators to manage the list of learning materials available for children.



Fig. 9: Materials Page

7. Quiz Pages

This page is the Quiz Data page in the Children's English Education system. Its function is to manage the list of quizzes available for children.



Fig. 10: Quiz Pages

8. Progress Page

This page is Child Progress Data, which displays and manages the progress of quizzes taken by children in the Childhood English Education system.

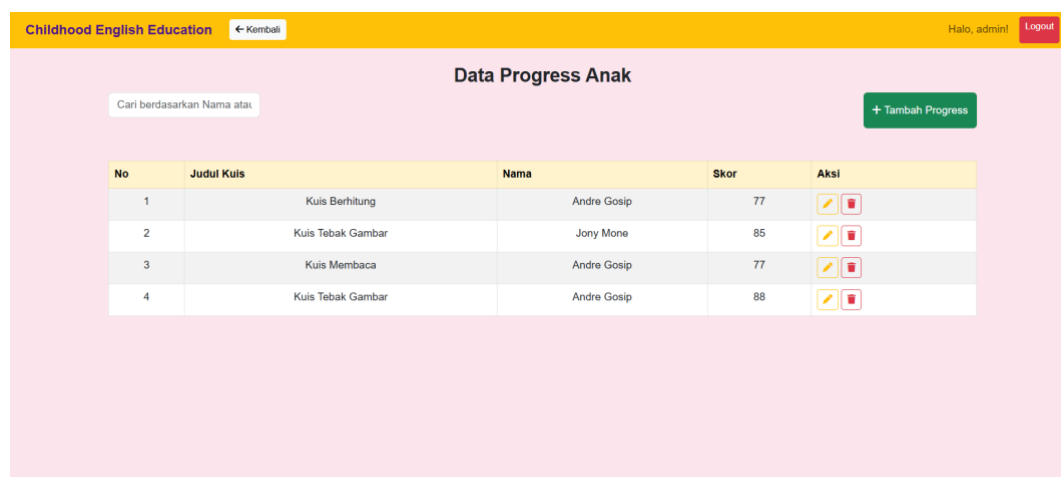


Fig. 11: Progress Page

4. Conclusion

Based on the results of research and development of web-based interactive learning media for introducing English to early childhood education (PAUD) students, the following conclusions can be drawn:

1. learning media designed using the ADDIE approach can provide innovative solutions in introducing basic English to young children.
2. Features such as interactive visual materials, quizzes, and real-time monitoring of children's learning progress have been proven to increase interest and learning effectiveness.
3. The implementation of a web-based system allows for wider access, including for users in remote areas with limited formal educational facilities.
4. The results of testing using the Black Box Testing method show that the system runs well in accordance with user needs, although there is still room for further development.
5. This medium not only helps students, but also facilitates parents and teachers in monitoring and supporting their children's learning process directly.

Thank You

On this occasion, I would like to express my deepest gratitude to my parents for their prayers and unwavering support. I would also like to express my deepest gratitude to Mr. Edwin Ariesto Umbu Malahina, my academic advisor, for his guidance, direction, and motivation throughout the process of completing this thesis. I would also like to thank my friends who provided support during my studies and the preparation of this report.

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