

Strategic Design of E-Library Development in Improving Service Quality in the Department of Electrical Engineering Education

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Abstract. Many libraries in general use certain applications based on information systems to facilitate procedures in borrowing, returning and searching for books. However, not all libraries in Indonesia use and utilize this technology. For example, information technology used in libraries: making a book search website, making RFID on books to facilitate borrowing and returning books. Improving the quality of education in higher education can be achieved through various ways, including: increasing the competence of lecturers, increasing curriculum content, improving the quality of learning and assessment of learning outcomes, increasing the provision of student skills, providing adequate teaching materials, and providing learning facilities. To achieve an increase in service quality, namely by launching the creation of e-library in the library. This topic focuses on the application procedures used in the e-library of the Electrical Engineering Education Department.

Keywords: Information Technology, Quality Improvement, e-library.

1 Introduction

Along with the change in the learning paradigm, the success of teaching and learning activities, in Higher Education, is not only determined by the teacher/lecturer factor. But it is strongly influenced by student activeness. The learning process must be centered on the learners, the teacher is not the only source of learning or source of information, but rather acts as a facilitator and motivator in learning.[1]

Nowadays, the development of information technology has accelerated from the 20th century. This rapid development makes anything can be made virtually. The saying goes that “books are the windows to the world”. Someone who can foster an attitude of creativity is also inseparable from book references. Various works made by anyone will also not be separated from book references. So, books are something that must be read by anyone.[2]

In every university there is a library that can be utilized by students in finding various literature and references to the knowledge needed. Department of Electrical Engineering

Education there is a library that uses offline-based applications, the number of library visitors is still below 23%. Obviously with data like that, of course, the interest of students to go to the library is very lacking. If distance limitations are a problem, e-library can be an effective solution to increase the attractiveness of reading interest.

Based on the literature review above, it shows that improving the quality of education in higher education can be achieved in various ways, including: increasing the competence of lecturers, increasing curriculum content, improving the quality of learning and assessment of learning outcomes, increasing student skills, providing adequate teaching materials, and providing learning facilities. The availability of teaching materials and learning facilities is an important factor in supporting the success of the learning process. However, teaching materials in the library are often unable to meet student learning needs, so it is necessary to utilize other learning resources. One of the learning resources prioritized by students is the internet network. For this reason, students use the internet more often than the library.[3][4]

In fact, library learning resources are very important too, because they are all contained in books. Books are more detailed and detailed, everything is discussed in full. Maybe, because students are lazy, to read thick books and want to immediately look for the material they are looking for. Without having to open the book and read it.[5]

Learning resources in the form of internet access available on campus, nowadays students use internet media more as a convenience and flexibility in exploring knowledge. Through the internet, students can access various literature and science references needed quickly, so as to facilitate their study process. Now the library is made the second source of learning media, because it is not easy to find material and sort out books related to the source of the material.

Actually, the library as a warehouse where books are stored, should be presented with an attractive appearance. Because after all, students need comfort in their services.[6]

2 Methods

In the research and development procedure, there are several stages that must be done in a study based on the theory of several experts. The development model used is based on Lee & Owens' theory which uses 5 phases in a cycle, namely ADDIE (Analysis, Design, Development, Implementation, and Evaluation). Based on the development model used, the following is a description of the five stages of development adapted to this research.

1. Analysis

The analysis stage aims to obtain information on the needs used to develop learning media. At this stage, the main activity is to analyze the need for practical learning media development and analyze the requirements and feasibility of learning media development products. Literature Study, Field Study, Technology Development Study.

2. Design

In designing learning media, the design stage includes designing the items of material to be presented, preparing scripts, preparing the flow of material delivery in the form of flowcharts, making media storyboards, and collecting materials needed in media development.

3. Development

The development stage, the framework produced at the design stage and still procedural is realized in order to become a product that is ready to be implemented. At this stage the researcher begins to produce learning media, namely in the form of an android-based learning application. Some steps include: making the interface in accordance with the design, and running the application (test application/run) on an android emulator, both with a PC and an android smartphone. So that this stage will produce a prototype, the resulting prototype is tested by experts to be given a quality assessment and comments and suggestions for improvement so that the improvement process can be carried out. If the prototype has been validated by material and media experts, the prototype is ready to be reproduced and enter the next stage.

4. Implementation

Prototypes that have been produced at the development stage will be implemented to users in real situations in the field. During implementation, the media design that has been developed is applied to actual conditions. The material is delivered in accordance with the developed media. After the application of the media, an initial evaluation is carried out to provide feedback or assessment of the learning media that has been used.

5. Evaluation

Every stage in media development is always evaluated, so that the products developed are always updated with various changes that occur. This evaluation is carried out continuously so that the slightest mistakes can be corrected immediately without waiting for the final product to be produced.

3 Results and Discussion

The main page that introduces the JPTE E-Library to new users. This page is designed to give an attractive first impression and invite users to start exploring the digital library.

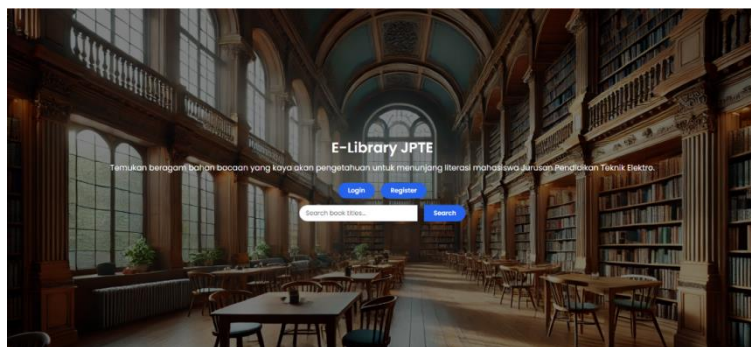


Fig. 1. Landing Page

Pages to manage books available in your digital library You can easily manage your digital book collection. Add new books to the catalog, update information on existing books, or delete books that are no longer available. With a user-friendly interface, the collection

management process is fast and efficient. Search and filter features make it easy to find books that need to be updated or deleted, while comprehensive editing options allow you to change book details such as title, author, category, and description. Keep your collection updated and relevant to provide the best experience for your E-Library users.

Title	Author	Actions
You Don't Know JS	Kyle Simpson	Edit Delete
THINK LIKE A PROGRAMMER	V. Anton Spraul	Edit Delete
JavaScript™ Notes for Professionals	Stack Overflow	Edit Delete
Eloquent JavaScript : a modern introduction to programming	Howeekhee, Marijn, author	Edit Delete
PHP Notes for Professionals	Stack Overflow	Edit Delete
C++ Notes for Professionals	Stack Overflow	Edit Delete
CSS Notes for Professionals	Stack Overflow	Edit Delete
HTML5 Notes for Professionals	Stack Overflow	Edit Delete
C# Notes for Professionals	Stack Overflow	Edit Delete
# Notes for Professionals	Stack Overflow	Edit Delete

Fig. 2. Book Management

A page displaying the list of books available in the digital library You can easily browse and find the various books available in our digital collection. The book list is presented with full information including title, author, category and a brief summary, allowing you to search for books by genre or topic that interests you. Use the search and filter features to narrow down your results, or explore the latest and most popular books. With an intuitive and responsive design, finding your favorite reads is faster and more enjoyable. Find and access quality books to fulfill your academic needs and reading hobbies.

Daftar Buku
Berikut adalah daftar buku yang tersedia.

Book Title	Author	Category	Rating	Total Views
You Don't Know JS	Kyle Simpson	JavaScript	5 / 5	0
THINK LIKE A PROGRAMMER	V. Anton Spraul	JavaScript	5 / 5	1
JavaScript™ Notes for Professionals	Stack Overflow	JavaScript	5.0 / 5	0
Eloquent JavaScript : a modern introduction to programming	Howeekhee, Marijn, author	JavaScript	5 / 5	1
PHP Notes for Professionals	Stack Overflow	PHP	5 / 5	0
C++ Notes for Professionals	Stack Overflow	C++	5 / 5	0
CSS Notes for Professionals	Stack Overflow	CSS	5 / 5	0
HTML5 Notes for Professionals	Stack Overflow	HTML5	5 / 5	0
C# Notes for Professionals	Stack Overflow	C#	5 / 5	0
# Notes for Professionals	Stack Overflow	#	5 / 5	0

Fig. 3. Book List

4 Conclusion

In conclusion, the research discussion illuminates Strategic Design Of E-Library Development In Improving Service Quality In The Department Of Electrical Engineering Education. The

research results (1) Improved Accessibility: E-libraries allow wider and easier access to digital information collections, facilitating use by a wide range of people, including those in remote locations or with physical limitations. (9) Operational Efficiency: E-library reduces the need for physical space and the costs associated with storing and maintaining printed books. It also makes it easier to update and maintain the collection. (3) Increased Information Availability: Users can access a wide range of information materials quickly and efficiently through advanced search features and organized indexes, improving searchability and resource utilization. (4) Technology and Skills Challenges: The use of e-library requires technological skills and understanding of the software used. There is a need for training for users so that they can utilize all the available features effectively. (5) Security and Privacy Issues: Protection of user data and copyright of digital materials are important issues in e-library. E-library managers must ensure that there are strong mechanisms in place to protect data and maintain compliance with applicable regulations. (6) Impact on Physical Libraries: While e-libraries offer many advantages, physical libraries still play an important role as places of learning and interaction. E-libraries are more of a complement than a replacement for physical libraries. (7) User Acceptance: The success of an e-library depends largely on the level of user acceptance and adaptation. Effective support and promotion, as well as adequate training, can increase e-library adoption and usage.

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