Design and Implementation of a Dynamic and Informative Housing Consultant Website

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Abstract— With the advancement of the digital revolution, the way knowledge is accessed has evolved from traditional media to more flexible and interactive digital platforms. Early websites, which were primarily static and one-directional, struggle to keep up with user expectations for dynamic and frequently updated content. This research explores the design and development of scukrsjawa3.com, an interactive educational website aimed at providing structured and engaging learning resources. Utilizing the Rapid Application Development (RAD) approach, the website was built using PHP, JavaScript, CSS, and HTML, with Bootstrap ensuring responsiveness and ease of navigation. Key features include a well-structured content system, chatbot integration, and an intuitive user interface, enhancing accessibility and engagement. This platform meets the growing demand for interactive, real-time, and user-centric learning experiences, serving as an effective tool for digital education.

Keywords— bootstrap framework, *dynamic web development*, interactive website, *rapid application development*

I. INTRODUCTION

In the era of the digital revolution, the transformation in accessing knowledge has shifted from conventional media to more adaptive digital platforms. In the past, sources of knowledge such as books, newspapers, or magazines were the mainstay, although limited by physical reach, time, and content availability. However, the emergence of websites as a means of information began to change this paradigm, opening the door for people to explore knowledge without being hindered by space and time. This change not only expanded access, but also encouraged the need for learning resources that were more dynamic, interactive, and able to keep up with the speed of information development.

The limitations of early-generation websites, which were often static and one-way, began to be felt amidst user demands for content that was continuously updated and relevant. Although they have facilitated the spread of knowledge globally, many digital education platforms still lack interactivity, personalization, and the ability to adapt to the diverse needs of users. In fact, in the midst of today's flood of information, people need more than just a collection of articles or videos—they want a responsive platform, able to present the latest data, and connect users with trusted and structured sources of knowledge.

One of the cases is the needs for speed of distribution and easy access to information about residential models, especially for houses consultants and developers. This need can be solved with the program presented. One of the activities that requires the existence of a dynamic and informative website is the distribution of residential design banks. The the example of housing design bank by KRS Jawa III join with SCU. An example of a case of a website about home design is found on the

ISSN 2442-7888 (online) DOI 10.24167/sisforma.v11i2.13207

website of the KRS Java III Cooperation with SCU . The ubiquity of websites has emerged as a powerful tool, enabling housing consultants to efficiently access, disseminate, and leverage crucial information to support their decision-making and service delivery processes [1].

Based on these challenges, the author wants to present a dynamic and informative website that can be a solution, namely a website that specifically conveys about design banks for house consultants, and generally displays educational content such as information about houses, bridges between users and chatbots, etc. By utilizing the bootstrap framework, and accompanied by the programming languages PHP, Javascript, CSS, and HTML, this website is expected to be a place to gain knowledge, answer the needs of the community, and can be accessed easily.

II. RESEARCH METHODOLOGY

2.1 Application Development Technique

Rapid Application Development (RAD) is a software development methodology that emphasizes speed and flexibility in the development process [2, 3]. Unlike other methods such as Waterfall which have sequential and rigid stages, RAD allows for rapid iteration through prototypes that can be tested and improved continuously.

There are several stages that need to be carried out by the RAD method:

1. Planning & Requirements Analysis

   At this stage, the development team works closely with stakeholders to understand the business and functional needs of the system to be built. The main goal is to define the scope of the project and identify the key requirements that must be met.

2. Prototype Design

   Once the needs are determined, the developers begin to create an initial prototype that reflects the main features of the application. This prototype is not the final product, but rather an initial model that allows users to provide input before further development.

3. Development & Iteration

   Based on user feedback, the developers continue to improve the prototype by adding new features or refining existing features. This process is carried out iteratively, with the aim of ensuring that the system being developed truly meets the needs of the users.

4. Testing

   After several iterations, the application is thoroughly tested to ensure that there are no errors or bugs that hinder its functionality. This testing includes user testing as well as technical testing to ensure the stability and performance of the application.

5. Implementation

   Once the system has been tested and refined, the application is ready to be deployed in a production environment. At this stage, users are given training if necessary, and the system begins to be officially used.

III. RESULTS AND DISSCUSSION

3.1 Design

In 3.1 figure, shows the UI/UX design for the scukrsjawa3.com website created using Figma, a web-based prototyping tool that can be used on both Mac OS and Windows.

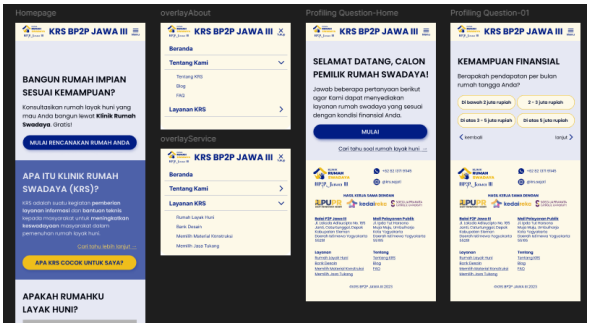

Figure 3.1 Design of the website

Figma was created with the aim of allowing its users to collaborate with many people

ISSN 2442-7888 (online) DOI 10.24167/sisforma.v11i2.13207

and is widely used to design and design the appearance of website and mobile application interfaces [4, 5].

The appearance of the scukrsjawa3.com design includes various elements and sections that are arranged in an organized manner, with a dominant blue and yellow color that gives a modern and professional impression. This design designs the main page (home), bank design, about KRS, livable home, material, handyman, pricing, publication, news, bank design, PBG, KPR, FAQ, and HomeCert, ensuring a complete and structured user experience. Each page or interactive element such as menus, buttons, and tables is carefully designed to create intuitive and responsive navigation, including a display that is suitable for various devices. In addition, this design also includes a WhatsApp button that is connected to a chatbot, allowing users to interact with the system quickly and efficiently.

3.2 Implementation

The scukrsjawa3.com website is designed using HTML, accompanied by CSS, javascript, and also the bootstrap 5 framework. HTML itself is a programming language used to create websites that can be accessed via the internet, and is usually designed using CSS to set the size and color of the font, set the width and height of the layout, etc [6]. Bootstrap 5 itself is an open source framework used to design the appearance of the website [7].

Figure 3.2 Home screen

In figure 3.2, displays the home page, which contains a navbar that leads to home, livable homes, home planning, construction and repairs, and about us.

Next, there is a section that discusses the invitation to plan a house, and trivia from the self-help home clinic (KRS). Equipped with a button that directs to the KRS chatbot in the lower right corner.

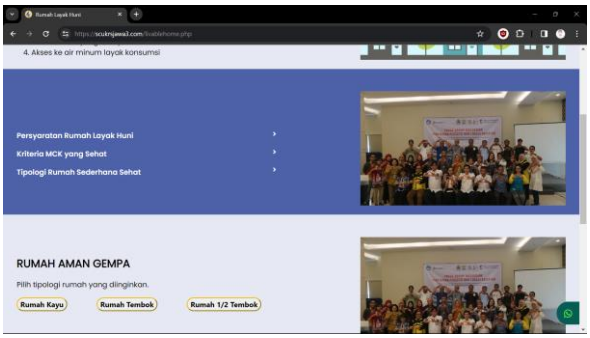

Figure 3.3 Habitable house screen

In figure 3.3 on the habitable house page, the first section displays a text that directs to information on the requirements for habitable houses, healthy MCK criteria, and typology of simple healthy houses.

While in the second section, it displays 3 pieces of information packaged using buttons regarding earthquake-safe houses, namely wooden houses, brick houses, and 1/2 brick houses. This function is created using javascript. where, javascript is a programming language that regulates the dynamics of a website, and is on the client side [6, 8].

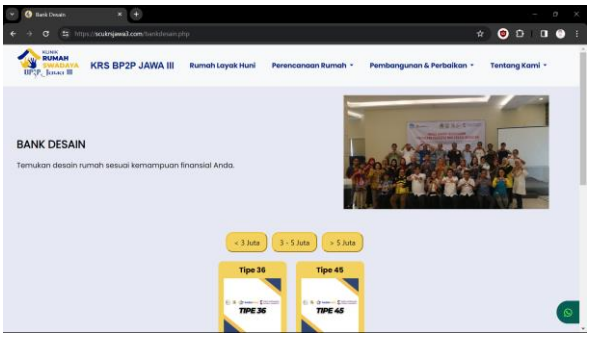

Figure 3.4 House planning screen

In Figure 3.4 is a home planning page, which provides features for users to choose an example of a design bank based on the user's financial capabilities. The way it works is by pressing each person's financial capabilities, and several options will

ISSN 2442-7888 (online) DOI 10.24167/sisforma.v11i2.13207

appear. For example, for financial capabilities below 3 million, there are 2 types of home designs that can be used, namely type 36 and type 45.

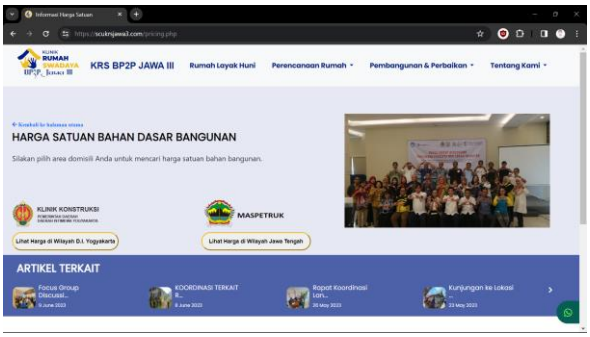

Figure 3.5 House construction and restoration screen

In figure 3.5 is the construction and repair page, which provides information on the unit price of basic building materials. On this website provides 2 options that can be used using the button, which directly leads to the website of the Jogjakarta construction clinic, and maspretruk.

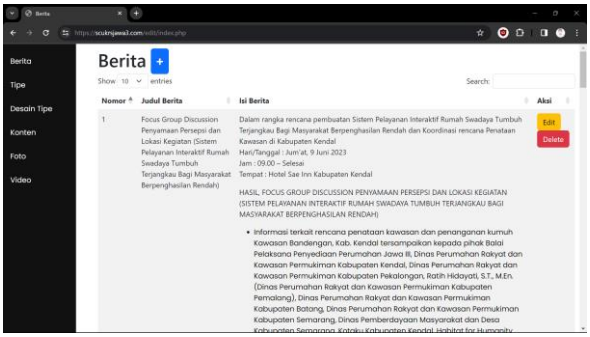

Figure 3.6 Admin screen

In Figure 3.6 is the admin page, which is created using php to send data into the database. PHP is a server-side scripting language, which is used to develop static and dynamic websites [8, 9].

On the admin page, you can add, edit, and delete news, house types, type designs, content, photos, and videos on the scukrsjawa3.com website. In each section, there are buttons to add, edit, and delete, as well as a filter function to search directly without having to see the whole thing.

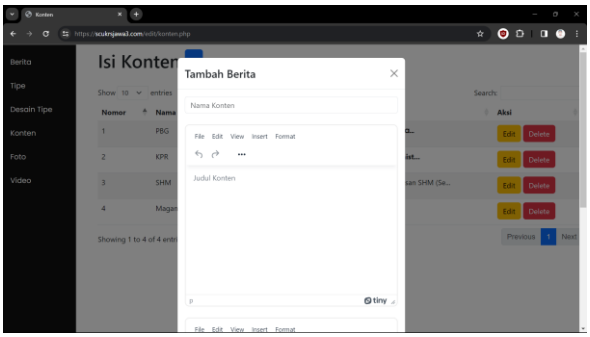

Figure 3.7 TinyMCE usage

In figure 3.7, the author uses tinyMCE as his text editor. TinyMCE is an online text editor that works using javascript and can be accessed by anyone, and does not need to depend on anything [10].

The function of using TinyMCE is so that later the admin can write the content freely, such as using bold, italics, underlines, or adjusting the font size.

IV. CONCLUSION

The student financial planning application is designed to help students manage their personal finances more effectively. Some of the key features identified include daily transaction recording that makes it easy for students to record income and expenses, and the presentation of transaction data in the form of pie charts that help visual understanding. The application also provides automatic analysis of savings ratio, liquidity ratio, and debt repayment ability ratio, allowing students to evaluate their financial health. In addition, the application provides transaction reports and journals that can be downloaded per month, making it easier for students to track their expenses and income. The use of modern technologies, such as Firebase for data management and Flutter for cross-platform interface development, supports these features by providing automatic financial analysis and informative data visualization. These visualizations allow students to see the comparison between income and expenses, and evaluate their monthly spending patterns. The application also provides recommendations based on financial ratio analysis, which helps

students identify areas that need improvement, such as increasing savings or reducing certain expenses. With this application, students can improve their financial literacy and manage their personal finances better, preparing them to face financial challenges in the future. For further research, it is recommended that this application can be integrated with the Application Programming Interface (API) of digital payment services, which allows automatic transaction recording without the need for manual processing. This will allow financial data to be presented in real-time with a higher level of accuracy. In addition, there needs to be a focus on optimizing the user interface (UI/UX), with the development of a more intuitive design, dashboard personalization, and interactive visual elements such as graphic animations or educational illustrations. These steps are expected to not only increase the efficiency of the application but also provide a better, more attractive, and more relevant user experience, so that it can support student financial management more effectively and efficiently.

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