

Research Article

Measuring the Yayasan Islam Kelantan Cloud Based System Information (YIKBSI) Effectiveness

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Abstract: Most of the students in Yayasan Islam Kelantan (YIK) fall under the category B40 family. Managing the information of all students is quite challenging. Moreover, it is harder to fetch the information when needed if the information is stored manually in documents or on paper. Regrettably, all the B40 students' information in YIK is stored manually and can only be accessed by the officer. Thus, it makes it harder for the organization to fetch the information since not everyone can access the information. If the officer-in-charge is on a break, no one can access the information. The lack of record management in YIK has caused several problems. This project aims to develop a cloud-based management system for Yayasan Islam Kelantan using cloud platform. The system will be developed using Hypertext Preprocessor (PHP) as the main language and will be deployed on Microsoft Azure. The methodology that will be used throughout this project is Rapid Application Development (RAD) method. The system was tested based on user acceptance evaluation and system functionality. Thirty-three targeted users have shared their feedback on the system and the results show that most of the respondents find the system to be useful and helpful in sending and storing the information. In conclusion, the system has achieved its objectives as to provide a cloud-based platform for YIK to store their information which is called Yayasan Islam Kelantan Cloud Based System Information (YIKBSI). For future work recommendations, the system can be implemented with a graphic report feature, disability friendly features as well as a search engine that will show better search results.

Keywords: Yayasan Islam Kelantan; Cloud Based System; YIK.



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1. INTRODUCTION

According to the provided information, Yayasan Islam Kelantan was established in 1973 with the purpose of operating religious schools in Kelantan, particularly for the B40 group. Currently, Yayasan Islam Kelantan is responsible for the administration and management of 93 religious secondary schools in Kelantan. They also handle the financial aspects related to the management and development of these schools. This information is based on the source Yayasan Islam Kelantan, 2021.

Based on the information provided, Borhanuddin Ahmad, an officer in the Kelantan State Secretary Office, mentioned in a recent sharing session that it is challenging to compile information

about B40 students at religious schools under Yayasan Islam Kelantan due to inadequate resources for proper information management. This aligns with the findings of Mahama (2017), who stated that organizations relying on paperwork and having poor record management often face issues such as costly duplication and misplaced information. Resolving these issues is crucial for effective information management.

According to (Akuffo & Adams, 2016), ineffective ways of retrieving and accessing records can lead to slow retrieval and affect the efficiency of staff. This can occur when high volumes of records are involved, and some files are misplaced or lost. Additionally, poor records management can result in severe space problems. As records continue to accumulate each day, both needed and unneeded files are stored in the same space, leading to a lack of space and organization within the organization.

Thus, developing a systematic cloud-based system is indeed a wise solution to address the challenges mentioned. By utilizing cloud computing, the organization can benefit from easier storage and retrieval of information, as well as the ability to edit or remove unnecessary data. Cloud computing enables fast delivery of information, cost savings, and provides ample storage space (Kibe, 2019). It allows for the control and preservation of files over the internet, eliminating the need for physical hardware (Karim & Soomro, 2020). With cloud computing, organizations no longer need to worry about storage limitations and can easily access and search data online without being physically present at a specific location.

2. METHODOLOGY

2.1 System Methodology

Rapid Application Development (RAD) is a methodology that aims to improve software quality, speed up development, and address the limitations of traditional life cycle approaches. It involves an iterative process where all the processes are repeated, allowing developers to be more flexible in adjusting the prototype before moving on to the implementation phase. This iterative approach helps in refining the software and incorporating feedback throughout the development process. The use of RAD for this project allows for greater adaptability and responsiveness to changes and requirements.

The Rapid Application Development (RAD) method was chosen for this project due to its flexibility in adjusting and its emphasis on active user involvement. This method ensures that user requirements and expectations are clearly defined (Nalendra, 2021). Figure 1 illustrates the stages involved in the RAD method.

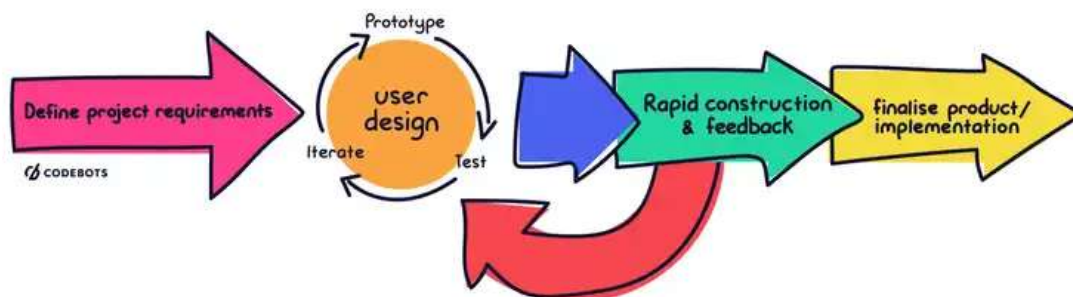


Figure 1. Rapid Application Development Methodology

3. SOLUTION

YIKSBI, as described, appears to be a system designed to collect and store information for a specific group of users, namely B40's students. The system has three distinct user roles: students, teachers, and staff members of YIK. Here's a breakdown of the key features and security measures in the system:

3.1 User Registration:

- Both students and teachers need to register their accounts to use the system.
- This registration process likely involves providing necessary personal information and creating login credentials (username and password).

3.2 Account Approval:

- To ensure security, newly registered accounts do not have immediate access to the system.
- For teachers, staff members of YIK are responsible for approving their accounts.
- For students, their schoolteachers are responsible for authenticating their accounts.

This likely involves a verification process to confirm the user's identity as a legitimate student of YIK.

3.3 Authentication Mechanism:

- The system uses an authentication mechanism to verify the identity of users. For students, this involves the schoolteachers, while for teachers, it involves YIK staff.

3.4 Security and Data Protection:

- The system must prioritize security to protect the sensitive information of B40's students. This should include encryption of data in transit and at rest, regular security audits, and access controls.
- Access to the system should be role-based, meaning each user has access only to the data and features relevant to their role (e.g., students can access their own data, teachers can access student information and manage their classes, staff members have broader access for administration).

3.5 User Management:

- The system needs to have features for user management, such as account creation, approval, suspension, and deletion.

3.6 Audit Trails:

- The system should maintain an audit trail to record user activities and changes to data, ensuring accountability and transparency.

3.7 Password Policies:

- Enforce strong password policies to ensure that user accounts are secure. This could include password complexity requirements and periodic password changes.

3.8 Data Privacy Compliance:

- Ensure that the system complies with relevant data privacy regulations and guidelines, such as GDPR, HIPAA, or local data protection laws, depending on the context.

3.9 User Support:

- Provide user support and training to help students, teachers, and staff members use the system effectively and securely.

3.10 User Notifications:

- Implement notifications to inform users of important events, such as account approval or changes to their data.

3.11 Regular Updates and Maintenance:

- Continuously update and maintain the system to address security vulnerabilities and improve functionality.

3.12 Contingency Planning:

- Develop a contingency plan for handling security incidents and data breaches, including notifying affected users and authorities if necessary.

It's essential that YIKSBI maintains a strong focus on data security and user privacy, especially given the sensitive nature of the information it collects and stores. Implementing these security measures and ensuring compliance with relevant regulations is crucial for the successful and responsible operation of the system.

4. FINDINGS

Collecting user feedback through questionnaires is a common method for evaluating the usability and functionality of a system. The eight questions which was distributed can provide valuable insights into both user acceptance and system functionality.

These questions cover various aspects of the user experience, system performance, and user satisfaction. Collecting feedback from 33 respondents through such questionnaires can help identify areas of improvement and fine-tuning in the prototype, ensuring it meets the needs and expectations of the users.

Based on Figure 2, it shows that among the 33 respondents, 24.2% responders strongly agree that the system is easy to learn while 51.5% agreed that the system is easy to learn. 24.2% respondents are neutral whether the system is easy to learn.

Adakah Sistem Pelajar B40 YIK mudah untuk dipelajari?

33 responses

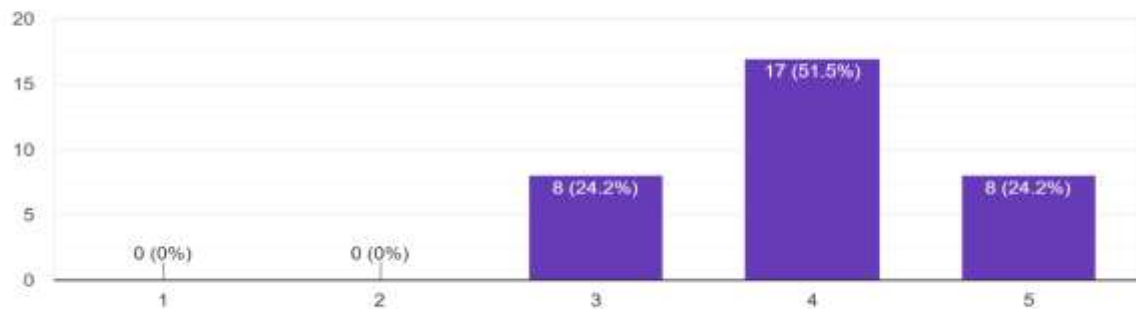


Figure 2. Question 1- Is the system easy to learn?

Adakah senang untuk berinteraksi dengan Sistem Pelajar B40 YIK?

33 responses

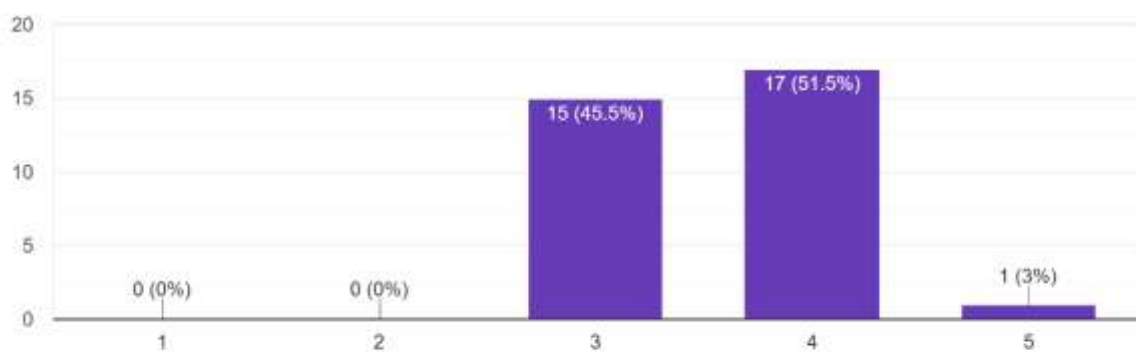


Figure 3. Question 2- Is it easy to interact with the system?

Figure 3 shows that 45.5% respondents are neutral on whether it is easy to interact with the system and 51.5% respondents agreed that the system is easy to interact with.

Adakah Sistem Pelajar B40 YIK jelas dan mudah difahami?

33 responses

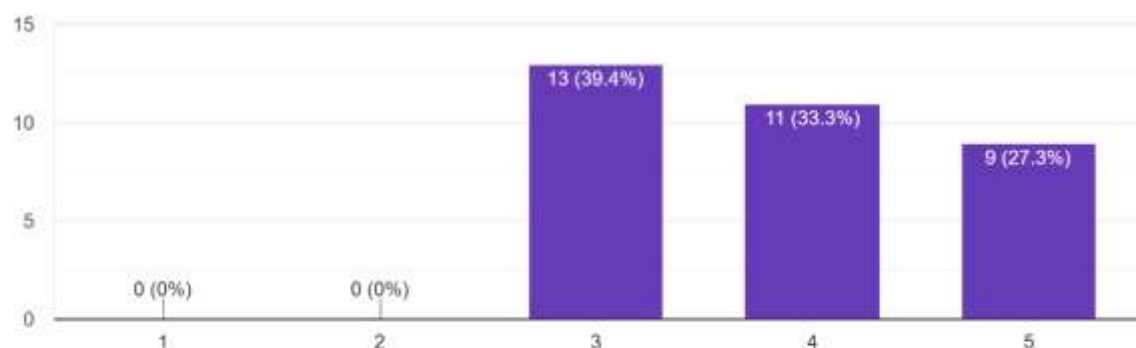


Figure 4. Question 3- Is the system clear and understandable?

Figure 4 shows that the 27.3% respondents strongly agree that the system is clear and understandable, and 33.3% respondents agreed with the statement. 39.4% respondents stay neutral on the statement.



Figure 5. Question 4- Is the system easy to use?

Figure 5 above shows that most of the respondents agreed that the system is easy to use. Only 24.2% respondent stay neutral on the statement.

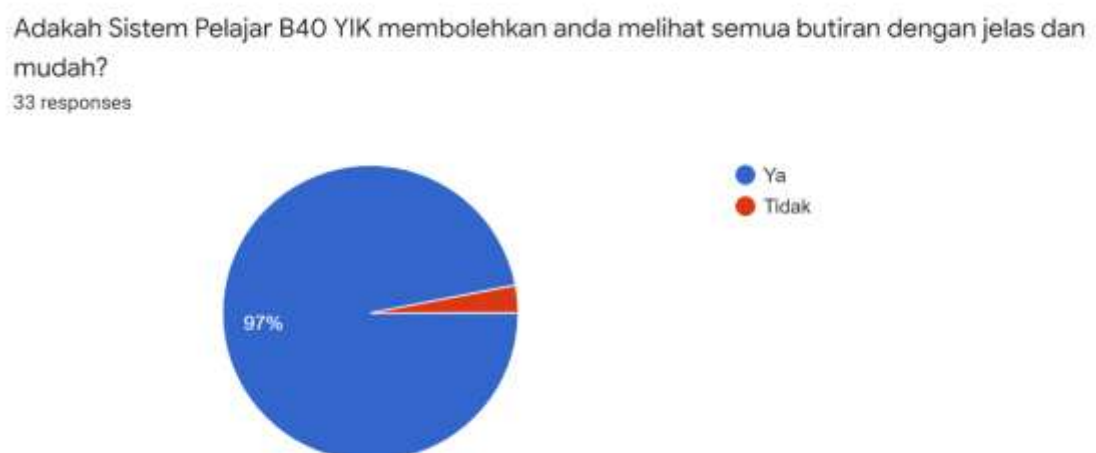


Figure 6. Question 5- Is the system enable user to view all details clearly and easily?

In figure 6, 97% respondents agreed that the system enable user to view all details clearly and easily.

Adakah dengan menerima emel membuatkan Sistem Pelajar B40 YIK lebih cekap?
33 responses

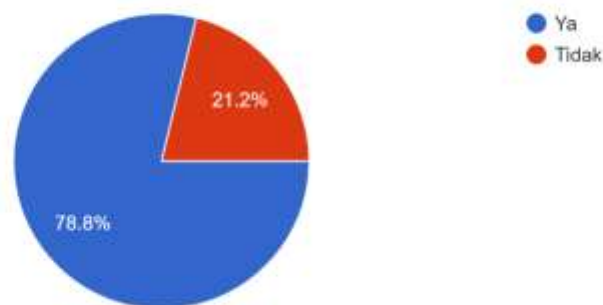


Figure 7. Question 6- Is receiving email enhance system efficiency?

As seen in figure 7, 21.2% respondents disagreed that the receiving email enhance system efficiency while 78.8% respondents agreed with the statement.

Adakah sistem ini membantu dalam menjimatkan masa untuk menghantar dan mengumpulkan maklumat?
33 responses

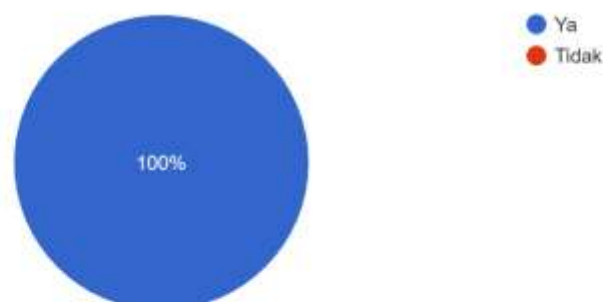


Figure 8. Question 7- Is the system helps in reducing time in sending / collecting the information?

All respondents agreed that the system is helpful in reducing the time needed to send in and collecting the information.

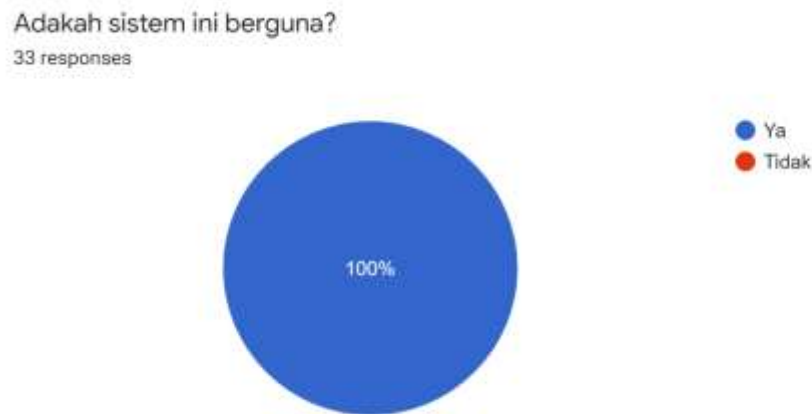


Figure 9. Question 8- Is the system useful?

And for the last question, all respondents agreed that the system is useful for them, as seen in figure 9.

5. CONCLUSION

In conclusion, the successes, and areas for improvement of the YIKBSI system can be summarised as follows:

5.1 Successes:

Objective Achievement: The system has successfully achieved the outlined objectives, which include improving the management of B40 student records for YIK staff.

Efficiency Improvement: The cloud management system, deployed on Microsoft Azure, has greatly improved the efficiency of managing student records, eliminating problems associated with manual record-keeping.

User Satisfaction: The targeted users are satisfied with the YIKBSI system, as it is user-friendly and saves them time by reducing the need for manual form-filling.

5.2 Areas for Improvement:

Google Indexing: The system is not currently indexed by Google, which means users need to access it through a specific link. This can limit the system's discoverability. The developer plans to apply for Google indexing, which is a positive step to improve accessibility.

Language Support: The system currently supports Malay language only. The introduction of an English version in the future is a good move, as it can help cater to a broader user base, especially those who are more comfortable with English.

Thus, it's clear that the YIKBSI system has made significant strides in improving the management of student records and has been well-received by its users. Addressing the areas for improvement, such as Google indexing and language support, will contribute to further enhancing the system's accessibility and user experience. Continuously listening to user feedback and making iterative improvements is a key aspect of successful system development and maintenance.

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