Development Of An Online-Based Foreign Language Test Training Application For The Academic Community

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Abstract
In the digital era, how we learn and teach has transformed, posing challenges for students and educators. This research aims to provide innovation in education by developing online application-based foreign language test training application services for the public and the academic community of UIN Antasari Banjarmasin, which is named SIYAHA. The methodology employed is research and development using the waterfall model, which involves a sequential software development process through planning, modeling, implementation (construction), and testing. The results indicate that the SIYAHA application as a foreign language test preparation application for Students was developed based on a needs analysis to accommodate user requirements through procedures including needs analysis, system design, application development, submission and evaluation, launch and implementation, and maintenance and further development. This includes a user-friendly interface designed for accessibility by students and the public, a structured question bank categorized by skill level, real-time feedback and scoring, progress tracking, and dual-language content support. The system is web-based, compatible across devices, and secure with user authentication. These features collectively support a practical, flexible, and user-centered learning experience. Additionally, The SIYAHA application meets the criteria of feasibility in terms of both application functionality and content quality.
Keywords: Application; Foreign Language Test; Online.

INTRODUCTION
        The Industrial Revolution 4.0 is a significant period in human history characterized by advancements in the internet and various advanced technologies dominating the world and driving large-scale transformations globally (Verawati et al., 2023). The Industrial Revolution 4.0 has had a significant impact on almost every aspect of life. The Indonesian government has demonstrated its support through the creation of the Indonesia Digital Roadmap 2021–2024, focusing on four main areas: digital infrastructure, digital governance, digital economy, and digital society(Lebang et al., 2023). Research and innovation programs in technology aim to support the government's efforts to enhance Indonesia's competitiveness in the digital era so that all government programs work towards supporting and empowering the Indonesian population to adapt to technological developments and advancements.
        Digital transformation is a shift in work processes using information technology to enhance effectiveness and efficiency (Hakim & Yulia, 2024). Various industries have

undergone transformations towards e-learning, business, banking, government, and more. The essence of this transformation is increasing work efficiency and effectiveness using databases (Muhammad, 2019). Every activity is carried out paperless. However, the education sector remains one of the areas facing dilemmas in implementing education in the digital era. There is still a gap between the availability of technological infrastructure and the digital competence of education practitioners (A. & Bau, 2023).

Education is one of the fields that develop rapidly. In the digital era, it has transformed the ways we teach and learn, presenting challenges for students and educators (Kamila et al., 2022). The outcome of this transformation in education, especially in the teaching and learning process, is e-learning, or electronic learning, which is accessed via the internet (Hana & Wibawa, 2022). It provides flexibility in learning activities, including interactions between students and learning materials, interactions between students and educators, and interactions among students to discuss the material (Adawi, 2008).). E-learning also enables students to study independently. Learners take responsibility for their learning success, choosing when to study, when to complete tasks, and which modules to prioritize. Additionally, in terms of cost, e-learning requires minimal expenses(Pasuruan, 2023,Ananda Hadi Elyas, 2018).

Independent learning or autonomous learning is very important, and it is a process where students freely determine their learning goals, select the learning resources they use, make academic decisions, and carry out activities to achieve these goals (Sumbawati et al., 2020). In other words, students have the freedom to plan learning strategies, select resources, and execute activities to meet their objectives. Higher levels of learning independence led to greater success compared to lower levels. High learning independence is especially necessary in online learning systems. Independent learning must be supported by various tools that can be used in learning activities. Resources such as YouTube or applications as interactive learning media greatly facilitate independent learning processes for students. Several studies have been conducted regarding the development of test applications, including research on TOEFL application development titled "Design and Development of a Web-Based TOEFL Test Application at Santo Thomas Catholic University Medan," which applies the Fisher-Yates Algorithm for randomizing questions and answers. In the structure section, participants receive different questions and answers, while in the listening and reading comprehension sections, only the answers are randomized (Siregar & Purba, 2023).

Muhammad Ihsam Ashari and Hendri Ardiansyah researched an title "Designing an Android-Based TOEFL Simulation Application Using the Prototype Method at the Language Institute of Pamulang University," addresses the students ' need to engage in extensive TOEFL practice via an Android-based mobile application (Siregar & Purba, 2023). Similarly, the development of a web-based TOEFL practice exam application was conducted at the University of Technology Sumbawa. This application offers features such as item review by test package, standardized test result evaluation, score threshold settings, and participant restrictions(Siregar & Purba, 2023).

Research on Arabic language test applications includes the development of an online Arabic language computer-based test application (ILAA) at the State Islamic University of Maulana Malik Ibrahim Malang, utilizing Moodle for internet and web-based learning activities based on social constructionist pedagogy principles(Siregar & Purba, 2023). Another study, titled "TOAFL-Based Learning Media Development for IAIN Metro

Students," developed an instrument accessible through IAIN Metro's LMS (Wulandari, 2023).

Currently, higher education institutions often require students to demonstrate foreign language proficiency in Arabic or English before completing their studies, typically through certifications such as TOEFL (Test of English as a Foreign Language) or TOAFL (Test of Arabic as a Foreign Language).

In practice, foreign language tests are considered particularly challenging, especially for students with limited understanding of English or Arabic. Students face numerous challenges, as a result, the students got small score of TOEFL or TOAFL, and it is lower than score standards that set by universities. The teaching and training of foreign languages in higher education are frequently conducted using conventional methods, such as lectures, class discussions, and written exercises. These methods are often insufficiently flexible to accommodate students' diverse backgrounds and abilities. Additionally, students frequently struggle to receive accurate and immediate feedback, particularly in speaking and listening skills.

In the higher education context, developing foreign language test training applications has become increasingly relevant to help students prepare for standardized international tests, such as TOEFL and TOAFL. These tests are often prerequisites for advanced studies, exchange programs, scholarships, and employment opportunities both domestically and internationally. To address this need, Research and Development (R&D) studies are conducted. The goal of this research is to produce and evaluate the developed product, including not only the application but also its content for foreign language test training.

This study develops an application for not just one foreign language but two, incorporating materials, questions, explanations, as well as tips and tricks for answering test questions. With the availability of this foreign language test training application, it is expected that students at UIN Antasari Banjarmasin will be better prepared and more confident in taking foreign language tests, thereby enhancing their competency in international communication.

METHOD

This research used the waterfall Development model to developing foreign language test application to ensure optimal results aligned with its objectives, that is SIYAHA application. The following methodology will be implemented:

Picture 1. Waterfall Development Model
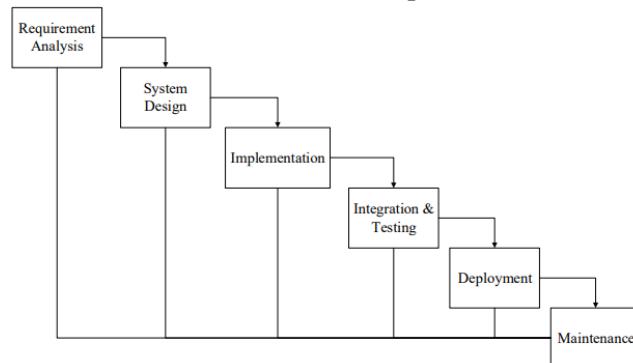
Requirement Analysis
1. Need Analysis: identifying the needs and expectations of the application users, including students and teachers.
2. Literature Review: Examining various literature and case studies related to the existing foreign language test application as references.

System Design
1. System requirement specification: Defining key features needed, such as access to learning materials, practice questions, test simulations, and the automated evaluation system
2. User Interface Design : designing an intuitive and user -friendly application interface for students.
3. Technology Selection: Determining the technology to be used in application development, including programming languages, frameworks, and platforms.

Implementation
1. Prototype Development: Creating an initial prototype of the application to gather user feedback.
2. Implementation: Developing the application based on the predetermined design and specifications. Thei process includes coding, system integration, and functionality testing.

Integration and testing
1. Unit and Integration Testing: Conducting tests on individual application components and ensuring seamless integration between them.
2. System Testing and validation: conducting comprehensive testing to ensure all features function according to specifications.
3. User Testing: Engaging a group of students and teachers to use the application and provide feedback.
4. Evaluation and Refinement: collecting and analyzing feedback to make necessary improvements and enhancements to the application.

Deployment
1. Application deployment : officially launching the application and conducting outreach to students and the teachers on how to use it.
2. User training: organizing training sessions to ensure users can fully utilize all application features.

Maintenance
1. Monitoring and Support: tracking application usage and providing technical support to users.
2. Updates and further development: regularly updating the application based on user feedback and technological advancements.

RESULTS AND DISCUSSION
Developing Online-Based Foreign Language Test Training Application
      The advancement of technology, communication, and information necessitates innovation by the Language Development Unit at UIN Antasari to provide students with a foreign language testing system that is efficient, effective, and quick. Based on the development stages, which consist of several phases—namely, the needs analysis stage, system design stage, application development stage, and system testing, implementation, and maintenance stage—the following observations were made. Needs Analysis Stage,

Foreign language testing has so far been conducted offline, which poses several limitations; firstly, Limited access that not all students have the opportunity to improve their foreign language proficiency. Secondly, Constraints of time and place, Students are required to be present at a specific time and place.. and thirdly, Efficiency and effectiveness, that conducting foreign language training requires significant resources in terms of manpower, time, and operational costs.

Upon identifying these issues, an innovative technological solution was developed— a foreign language test training application designed to meet student needs. This application offers the following advantages, that are unlimited access, flexibility in time and location, improved efficiency and effectiveness in the testing process, provision of continuous learning materials, assurance of quality and accuracy in test results and enhancement of students' foreign language competencies and usability for the public.

The design phase is based on the needs analysis to produce an outline of the intended product. At this stage, the design includes, at a minimum, a flowchart, database schema with table relationships, and user interface design. Below are pictures of the application's interface:

Picture 2. First Interface

Picture 3. Service Interface

Picture 4. Materials Interface
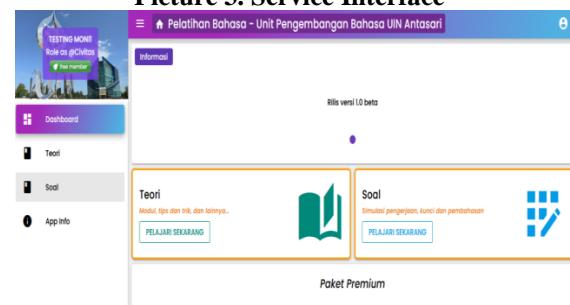
Picture 5. Questions Interface

Picture 5. Answers Page Interface

Picture 6. Finishing Page Interface

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Picture 7. Score Page Interface	Picture 8. Questions' Review Page Interface
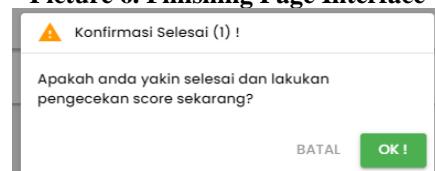
Picture 7. Score Page Interface

Picture 8. Questions' Review Page Interface
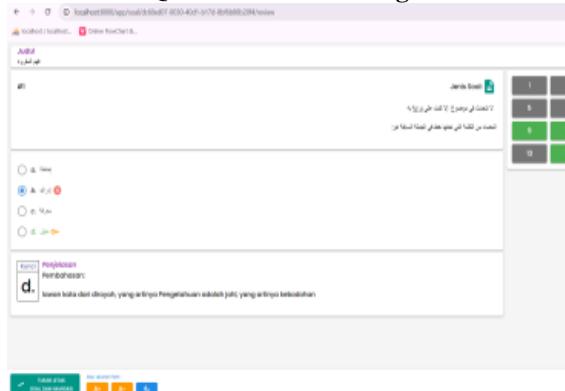
This product development process is divided into several stages, including system implementation, which encompasses preparation and programming or coding. The implementation covers system design components, including: the landing page, authentication page, account management page, theoretical content management page, theory page, question content page, question simulation page, question review page, master data category management page, and master tag data management page. The implementation phase must align with the previous design stage and fulfil all requirements. Once this phase is completed, the application testing phase follows.

The application testing phase aims to evaluate the success of the developed product. This stage includes testing in several aspects:

1. Access Testing: Users access the application via a browser, enter the URL, are directed to the login page, and the application is deemed valid or functional when this process works as expected.
2. Authentication Testing: Clicking the login button without entering credentials or entering incorrect username and password should display an error message. When correct credentials are entered, users can proceed to the account registration page, confirming functionality.
3. Account Registration Testing: Clicking the submit button without completing the form displays an error message; while completing the form and successfully submitting it results in account registration, confirming functionality.
4. CRUD Testing: On pages with Create, Read, Update, and Delete (CRUD) features, clicking the "Add" button directs users to an add form/page. Clicking "Edit" on pages with CRUD features navigates to an edit form/page. Submitting incomplete data triggers an error message, whereas completing and saving data confirms proper functionality. Deleting data prompts a confirmation dialog, and resetting user account data results in a password reset upon confirmation.
5. Theory Content Access Testing: Clicking on content in the theory content list page displays the corresponding detailed theoretical content, validating the feature.
6. Question Simulation Testing: Clicking the "Start" button displays guidelines in a dialog box, after which clicking "Start Now" directs users to the question simulation page. Attempting to save answers without completing them displays an error, while submitting answers correctly navigates to subsequent questions. Clicking previous/next questions and accessing specific question numbers in the navigation works correctly. Finally, completing the simulation shows a confirmation dialog, saves the answers, and displays the final score.

7. Question Review Testing: Clicking the "Review Questions" button directs users to the review page. Clicking "Check Keys and Answers" displays the correct answers and the user's responses. Navigation within the review page properly displays specific questions.

Based on the results, the functionality of the foreign language test training application is considered effective. The SIYAHA application is a web-based platform designed to meet the needs of students and the public in preparing for foreign language tests. It offers a flexible learning method accessible anytime and anywhere, aligning with research by Wakil & N.A. Jawawi, and Long et al. which emphasizes the flexibility and accessibility of web-based applications(Wakil & N.A.Jawawi, 2019)(Long et al., 2018)

The SIYAHA application features an appealing interface with fast response times for every feature interaction. The application provides detailed information, integrated search and filter options, ensuring ease of navigation. However, improvements are suggested regarding font size, icon designs, and naming for better user recognition. Additionally, the language used in menus should be standardized to either English or Indonesian for better user understanding.

Apart from evaluating the design and accessibility of the application, the appropriateness of the language being trained is also crucial to ensure that the objectives of foreign language test training align with learning outcomes or meet the standards applied in TOEFL and TOAFL. The SIYAHA application offers not only questions and answers, but also highly relevant materials aligned with standardized foreign language tests in Arabic and English. This allows users to engage in self-directed learning using digital technology. This aligns with the views of Zamnah & Ruswana and Brandt who argue that self-directed learning enables learners to manage, develop, and adapt learning to digital advancements while taking responsibility for their learning materials and evaluation (Zamnah & Ruswana, 2018)(Brandt, 2020). The evaluation within the SIYAHA application is presented after users complete all test questions, allowing them to assess their learning achievements independently. According to Tosuncuoglu n foreign language learning, evaluation is conducted to achieve learning objectives and serves as a foundation for continuing the learning process (Tosuncuoglu, 2018). Effective evaluation involves feedback to regulate learning, directing learners toward improvement (Martin et al., 2019). The SIYAHA application provides feedback in the form of explanations for each question, helping learners become more aware of their learning process and enhancing their learning skills (Tutunaru, 2023).

The English training content and exercises in the SIYAHA application cover three standardized TOEFL test sections: Listening, Structure, and Reading Comprehension. These are aligned with test content objectives designed to measure users' abilities comprehensively (Fitria & Prastiwi, 2020, Ismail, 2024). Additionally, the use of question formats that reflect actual test scenarios and explanations for each answer help users analyze their mistakes and difficulties effectively. For Arabic test training, the content and exercises in the SIYAHA application are consistent with standardized Arabic language test standards, particularly in *Fahm al-Maqru* and *Fahm al-Masmu'*. These components encompass essential aspects such as vocabulary comprehension, sentence structure, and listening skills. They are delivered consistently and adequately meet the needs of participants preparing for the TOAFL test (Wahab, 2015). The language used in SIYAHA is also clear and appropriate for intermediate to advanced-level users, with

linguistic terms well-explained, although some unfamiliar terms may present challenges for users.

Feasibility of the Training Application for Test Preparation

A survey of 71 users of the SIYAHA application revealed the following results: the average rating for the application was 4.70, the average rating for material content was 4.67, and the average rating for exercises was 4.63. Thus, a foreign language test training application that is accessible, effective, efficient, and structured, while aligned with the language test content of TOEFL and TOAFL, will assist users in being more prepared and confident in facing exams. Moreover, it can improve users' overall language proficiency.

Based on the data above, it is evident that innovation in learning, particularly in relation to self-directed learning to support desired outcomes, is highly necessary. This need arises due to the rapid advancement of technology (Nana & Surahman, 2019) and the shifting paradigm of modern education, one of which is the transformation of education through digital technology. According to Uci et al., information technology in education has evolved into a field of study focused on providing learning resources. The use of information technology in learning encourages students to be more active and independent, enabling them to develop their full potential (Cahya et al., 2023). Furthermore, Sari et al. argue that digital technology has become a crucial element in educational innovation to enhance the effectiveness of classroom activities (Sari, 2024) Widia adds that digital-based learning should not only be interactive but also adaptive, allowing content and interactivity to be tailored to students' needs (Murdianti, 2024). This highlights that interactivity, ease of use, and visually engaging design are key components in developing digital learning media. These aspects are embedded in the SIYAHA application, which features interactivity, accessibility, and adaptability, ensuring that its content aligns with students' needs in fulfilling their academic requirements as they progress toward graduation.

CONCLUSION

Based on the presentation above, the findings of this study are as follows: Firstly, the SIYAHA application was developed based on a needs analysis to facilitate user requirements, following the procedures of Needs Analysis, System Design, Application Development, Submission and Evaluation, Launch and Implementation, and Maintenance and Further Development. Secondly, the SIYAHA application meets the feasibility criteria in terms of its user interface, menu, access speed, and overall functionality. The content, including test materials and question discussions, aligns with the standards of English (TOEFL) and Arabic (TOAFL) language tests. Thus, this study indicates that SIYAHA application provides training in two languages, Arabic and English, incorporating interactivity, ease of use, and an engaging visual design. Additionally, it is adaptive, adjusting to learners' needs to enhance the learning experience.

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