Development of a Nine-Language Dictionary as a Communication Facilitator between Merchants and Tourists at the Airport

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ABSTRACT

Communication between local merchants and foreign tourists at Bima Airport is often hindered by language barriers, which may affect the convenience and smoothness of transactions. This study aims to develop a nine-language dictionary application capable of translating Indonesian into nine foreign languages: English, Malay, Korean, Hindi, Italian, Afrikaans, German, Japanese, and Arabic, which is feasible, practical, and effective. The method used was Agile with a Scrum model approach, allowing for iterative and user-responsive application development. Surveys and interviews were conducted to identify the necessary features, such as text and voice translation. The trial results indicate that the application is effective in reducing communication barriers, with respondents giving positive feedback and a score of 90.52%, suggesting that the application is highly helpful in facilitating transactions. This application is designed to promote more effective communication, enhance merchants' confidence, and support the tourism sector in Bima. With a simple and user-friendly approach, the nine-language dictionary application is expected to serve as a practical solution to overcome language barriers, improve service quality, and strengthen interactions between the local community and tourists.

Keywords: development, dictionary, nine languages, tourists, merchants

INTRODUCTION

Bima Airport is the main gateway connecting the Bima region to both domestic and international tourists. As one of the developing tourist destinations, Bima has experienced an increase in the number of tourist visits, both from within the country and abroad. This increase in tourist arrivals is accompanied by the growing need for ease of communication between local merchants and foreign tourists. However, language barriers pose a significant issue that often impede communication and transactions between the two parties. Local merchants at Bima Airport primarily use Indonesian or regional languages, which are unfamiliar to foreign tourists coming from various parts of the world with diverse linguistic backgrounds. Language barriers can greatly affect the quality of communication and trust between the involved parties, as well as reduce service satisfaction and effectiveness, which in the context of tourism may negatively impact the overall tourist experience[1]. Cross-linguistic and cross-cultural communication can lead to significant misunderstandings and reduce the overall quality of service[2]. This obstacle not only affects interactions but can also hinder the smoothness of transactions and services, ultimately impacting the tourism sector and the local economy. The importance of cross-cultural understanding in tourism lies in its ability to prevent culture shock and misunderstandings that may harm the tourist experience and interactions with local communities[3]. Therefore, it is essential to develop language and cross-cultural communication training programs for local merchants at Bima Airport as a solution to improve service quality and support the growth of the regional tourism sector. One approach that can be implemented is the utilization of an artificial intelligence-based translator application. The design of an Android-based translation application using the Levenshtein Distance algorithm can enhance translation accuracy and provide ease of use through a simple and responsive interface[4]. The integration of such technology holds great potential to effectively support cross-cultural communication in tourism settings.

The ability to communicate with foreign tourists is a crucial factor in enhancing service quality and the overall tourist experience. As stated by[5]*"language has been a significant barrier for centuries now, and human beings have always tried to provide a solution to the issues of language translation."*In this context, effective communication between local merchants and foreign tourists not only contributes to improved service but

also strengthens the image of the tourist destination. One of the proposed solutions to overcome language barriers is the use of Android-based translator applications, which are capable of translating both text and images from one language to another in real time.This application enables tourists to communicate more easily with local communities and access the information they need during their travels without relying on human translators, which are often expensive and less efficient. This technology utilizes natural language processing and translation APIs from providers such as Google or IBM to produce accurate and rapid translations, with support for major world languages such as English, French, Arabic, Mandarin, Hindi, and Spanish.

Effective cross-cultural communication between foreign tourists and local communities can enhance tourists' positive perceptions and satisfaction with a tourist destination[6]. However, language barriers often become a major challenge in such interactions, potentially leading to misunderstandings and negative experiences for tourists[7]. This is consistent with previous findings, which state that cultural and linguistic differences may give rise to potential conflicts in cross-cultural communication[8]. In addition, international studies affirm that tourists' perceptions of services are strongly influenced by their cultural backgrounds, stating that*"Western tourists appreciate the behavior and hospitality of the staff, while Chinese tourists emphasize the quality and functionality of the facilities"*[9]. Therefore, it is important to implement solutions that facilitate cross-linguistic communication at Bima Airport, such as language training for staff and the use of translation technologies, in order to ensure better interactions between tourists and the local community.

Language translation through technology has become an increasingly relevant solution to overcome language barriers in the context of tourism. Mobile application-based translation technologies have proven effective in facilitating communication between individuals who speak different languages. This aligns with previous findings stating that technology, particularly automated translator applications, can reduce language barriers and facilitate cross-cultural interactions quickly and conveniently[10]. However, translator applications such as Google Translate often have limitations in addressing more specific communication needs, particularly in the context of local tourism, especially in areas such as commerce or daily interactions between merchants and tourists. "The availability and appropriateness of languages offered in the application significantly affect user satisfaction," which implies that applications that do not provide languages commonly used by tourists will be less effective in facilitating communication. In this context, the development of a language translator application using MIT App Inventor must take into account a local database that includes common vocabulary and phrases, so that the application can function effectively and meet user needs in situations where internet access is limited[11]. Although translation technology can reduce language barriers, understanding cultural context remains a crucial aspect in achieving effective and satisfactory communication. This is reinforced by the statement that "Current mobile translation apps do not meet these needs," referring to the complexity and contextual requirements in cross-linguistic communication across various situations[12]. Therefore, the integration of translation technology with cultural training for users can enhance communication experiences in tourism.

Previous studies have shown that foreign tourists' perceptions of tourism attractions in the Indonesia–Malaysia border area can influence their visit intention. Fitriasari[13]stated that "Perception of foreign tourists on tourism attraction in border areas can affect their visit intention." The diversity of tourist origins can enhance the attractiveness of a destination, as it creates opportunities for richer cultural exchange.The success of targeted tourism promotion and the development of supporting infrastructure play a crucial role in creating memorable tourism experiences and encouraging revisit intentions, ultimately strengthening the destination's competitiveness in the global market. Research shows that "Tourist attraction affects memorable tourism experience and revisit intention"[14]. Therefore, the integration of translation technology and cultural training for users can enhance communication experiences in tourism.

The novelty of this research lies in the design of a nine-language dictionary application focused on user-friendliness for users with diverse educational backgrounds and limited technological proficiency. This application is specifically developed to be accessible to local merchants who are not yet familiar with modern translation software such as Google Translate, which typically requires several additional steps, such as typing keywords, selecting languages, and navigating menus. In contrast, this dictionary application features a simple interface that directly presents its main functions, namely text and voice translation, without complex procedures. Users only need to select the language and input sentences either verbally or in writing to immediately obtain the translation results, which can also be played automatically. Through this approach, the application enables cross-linguistic communication to occur quickly and efficiently, while providing convenience for users during direct interactions with international tourists.

This study shows an advantage compared to several previous studies or translator applications that tend to emphasize feature diversity. Such an approach often complicates usage, especially for users who are not familiar with technology. Applications like Google Translate, for instance, are indeed capable of translating text instantly, but still require several additional steps, such as selecting the language, typing the text, and understanding the application interface. This poses a particular challenge for users with limited digital skills. In comparison, the nine-language dictionary application developed in this study is designed to be simpler and

directly oriented toward its core functions, making it more accessible and easier to operate for local merchants who are not familiar with technology. As noted by Faizah and Afifah[15], the use of Google Translate requires adequate digital literacy to enable users to understand how the application works and to avoid errors in its use, especially for beginners who are not yet accustomed to digital media.

Based on the background of the problem and field observations, it can be concluded that the communication barriers between local merchants and foreign tourists at Sultan Muhammad Salahudin Airport in Bima require a practical and contextual solution. Therefore, this study aims to develop and assess the feasibility of an Android-based nine-language dictionary application as a communication tool that is easily accessible and usable by local merchants. This application is designed with consideration for users' limitations in digital literacy, as well as the need for fast and accurate communication within the context of tourism interactions. With an inclusive technological approach and a simple interface design, this application is expected to serve as an effective facilitator in bridging language differences, strengthening cross-cultural interactions, and ultimately enhancing the quality of services and the overall image of the tourism sector in the Bima region.

RESEARCH METHOD

This study was a development research that referred to the Agile development method. Agile is an iterative and adaptive approach in software development that emphasizes flexibility, speed, and efficiency. Etymologically, the term *Agile* means quick, nimble, and able to adapt dynamically to changes. This approach allows system development to be more responsive to user needs and to the continuously evolving environment. This is in line with the opinion stating that Agile development is more suitable for streamlining and adapting the development process, offering a fast and flexible delivery cycle that supports efficient software development[16].

The Agile method is part of the Software Development Life Cycle (SDLC), which focuses on an iterative and incremental approach. In this study, the researchers used the Scrum model as one of the most widely adopted Agile methods. The implementation of Agile Scrum in the development of culinary management information systems has proven to improve the efficiency and effectiveness of the software development process[17]. The Scrum model consists of several stages, which include the main phases such as pregame, game, and postgame. Pregame is the preparation phase that involves planning and determining the objectives of the system to be developed. The game is the core development phase, during which testing and iteration are carried out to ensure that the application functions according to user needs. Finally, the postgame is the evaluation and maintenance phase, which includes bug fixing and system improvements based on user feedback.

The development focus of this study was to produce a translator application that can meet the cross-linguistic communication needs in the tourism sector of Bima, particularly for local merchants. By applying the Agile Scrum method, the application is expected to be implemented quickly, flexibly, and responsively to user needs, thereby providing a practical and efficient solution for facilitating interactions between tourists and local communities. As has been emphasized, Scrum is a highly popular and widely used method in software development and project management, although it is also frequently adapted, misused, or misinterpreted in practice[18].
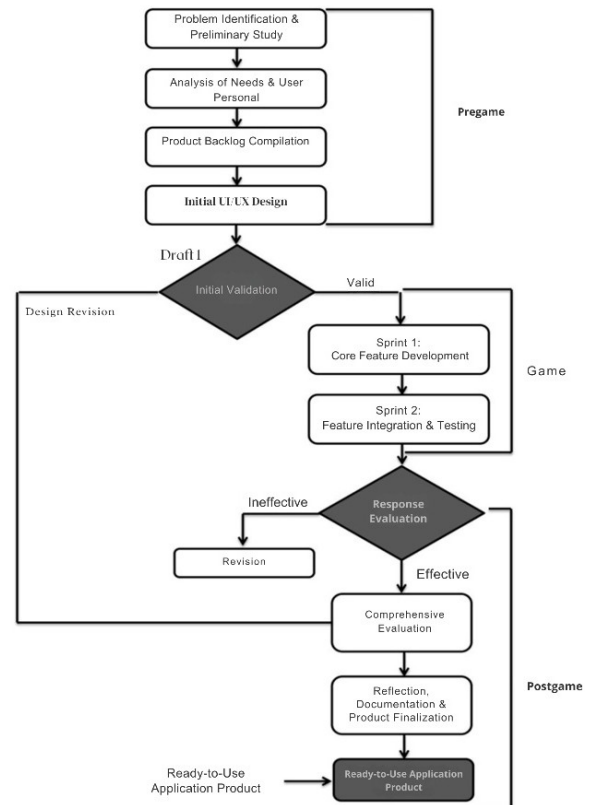

Figure 1. Agile Scrum Workflow

The first stage, namely Pregame, was the initial phase that focused on strategic planning and preliminary software design. In this stage, an in-depth analysis of user needs and requirements, which had been previously discussed, was conducted. This analysis aimed to ensure that the system design to be developed would align with the intended goals and functionalities. During this stage, the team identified key features, determined technical specifications, and formulated an overall development plan to ensure that the system being developed would meet user expectations and the actual conditions in the field.

The second stage, namely Game, was the system development phase carried out using the Sprint method. A Sprint is a time-bound project with a maximum duration of one month and is executed according to a plan previously agreed upon by the team. In this stage, the product was developed iteratively, with each iteration followed by evaluation and improvement to ensure that the system progressed following the

planned objectives. In addition, the team also conducted validation of the developed features to ensure their alignment with user needs, as well as testing of each system component to ensure optimal functionality. This process also included collecting user feedback, which was used for further improvements in the subsequent iterations.

The third stage, namely Postgame, focused on the evaluation and final testing of the developed system. In this phase, more in-depth testing was conducted to ensure that the system functioned properly and met the established quality standards. If any issues or deficiencies were still identified, the development process would return to the Game stage for further improvements. Once the product met the standards and was ready for use, this stage also involved the launch or distribution of the product to the market, as well as post-launch monitoring to track performance and user feedback.

1. Data Collection Instrument
   a. Questionnaire

   A questionnaire is a tool used to collect information by presenting a series of questions or statements that must be answered by respondents[19]. In this study, the questionnaire was used to conduct validity and reliability testing carried out by experts in the field of media.

   The criteria and indicators for evaluating this application were assessed based on seven

aspects: User Interface, Application Benefits, User Experience, Suitability for Users, Translation Quality, Voice Feature, and Educational Value. The User Interface aspect was evaluated based on interface design, responsiveness, and improvement in communication. The Application Benefits were assessed based on the reduction of misunderstandings between merchants and tourists. The User Experience was evaluated based on social interaction, user satisfaction, feedback, and language relevance. Suitability for Users was assessed based on the alignment of features with user needs. Translation Quality was evaluated based on the accuracy and clarity of the translation results. The Voice Feature was assessed based on voice quality and ease of use. The Educational aspect was evaluated based on the users' understanding of the function and usage of the application. In this context, the results of the merchant response questionnaire were calculated using a percentage formula, with the questionnaire items referring to a 5-point Likert scale.

The questionnaire instrument was constructed using a Likert scale, as explained by[19], who emphasized that this scale is capable of illustrating the tendency of respondents' attitudes or perceptions toward a research object.

Table 1. Likert Scale Categories

Score	Response
5	Strongly Agree
4	Agree
3	Slightly Disagree
2	Disagree
1	Strongly Disagree

$$Percentage = \frac{Total\ Score}{Maximum\ Score} \times 100\%$$

The percentage formula was used to calculate the responses of merchant respondents to the administered questionnaire.

   b. Documentation

   Documentation was done to collect the necessary data, thus, the recorded information could be further studied.

   c. Observation

   Observation was conducted to understand the communication situation between merchants and tourists at Bima Airport.

   d. Observation Sheet

   The observation sheet was used as a tool to record the results of the conducted observations. This sheet was completed by three observers.

2. Data Analysis Technique

   The technique used in this study was the mixed methods approach, which combines quantitative and qualitative approaches to gain a

more comprehensive and holistic understanding of the phenomenon being studied. This approach offers the advantage of allowing researchers to explore and understand various aspects of a research problem through the collection and analysis of both numerical and descriptive data. The mixed methods approach enables researchers to leverage the strengths of both approaches in a single study, thereby providing a more complete picture of the phenomenon under investigation.

In this study, media expert validation was conducted using Gregory's formula, which is used to measure the level of agreement among raters. This formula helps ensure that the assessments made by media experts in this research are consistent and reliable. The validation of data from the media and content expert questionnaires was calculated using Gregory's formula, as referenced in[20].

$$Vi = \frac{A}{A + B + C + D}$$

Description :
    Vi= Gregory's content validity index
    A= Disagreement between both raters
    B = Disagreement shown by the second rater
    C = Disagreement shown by the first rater

D = Agreement between both raters

The analysis of the validation questionnaire results by media experts refers to Table 2, which presents the Gregory validity criteria.

Table 2. Gregory Feasibility Criteria

Percentage	Category
0.80 – 1	Very High
0.60 – 0.79	High
0.40 – 0.59	Moderate
0.20 – 0.39	Low

To measure the reliability of the instrument, this study used the inter-rater reliability method. This method is used to assess the consistency between two raters who evaluate the same categories within a study. As explained, "The kappa coefficient is used when two raters evaluate the same category to assess the level of agreement between raters"[21].

The inter-rater reliability calculation was conducted using Cohen's Kappa coefficient. Inter-rater reliability data were obtained from two or more raters who evaluated the same items or categories. After the data were processed using SPSS, the results were compared with the interpretation table of Cohen's Kappa presented in Table 3.

Table 3. Interpretation of Cohen's Kappa

K Value	Strength of Agreement
< 0.20	Poor
0.21 – 0.40	Fair
0.41 – 0.60	Moderate
0.61 – 0.80	Substantial
0.81 – 1.00	Almost Perfect

Cohen's Kappa was used to determine the level of agreement between raters. As explained by previous researchers, "*Kappa is a valuable tool to quantify the level of agreement between raters, with values closer to 1 indicating a high level of agreement*"[22]. Another study also stated that "*The Kappa statistic is essential in research settings to assess the consistency of ratings and ensure reliability in categorical assessments*"[23]. In addition, "*The Kappa statistic is particularly useful for categorical data, as it provides a more accurate measure of agreement than simple percent agreement*"[24]. By referring to Cohen's Kappa interpretation, the assessment can be more precise and consistent, thereby enhancing the validity of the research findings.

RESULTS AND DISCUSSION
The development of the Nine-Language Dictionary application was carried out using the Agile method with a Scrum approach. This approach was chosen due to its capability to manage the software development process iteratively and adaptively in response to changing user needs. Scrum divides the workflow into three main phases, namely pregame, game, and postgame.
1. Pregame Stage (Initial Planning and Design)
    This stage began with a situational analysis and direct observation at the application's target user location, namely the Sultan Muhammad Salahudin Airport area in Bima. The main findings from the observations and documentation conducted at Sultan Muhammad Salahudin Airport indicated that the communication barrier between local

merchants and international tourists remained significantly high. Scientifically, this can be explained through the concept of language barrier, which refers to the inability of two parties to communicate due to language differences. In this case, the majority of merchants understood only a few basic English words, such as "yes" or "no," without comprehending the full context or intent of the conversation. As a result, the communication process tended to be one-sided and relied on gestures or visual aid tools such as a calculator.

This phenomenon occurred due to the educational background of merchants, which generally extended only to the senior high school level, as well as the lack of foreign language training and limited access to information technology. Theoretically, limitations in language input exposure and low digital literacy are the main factors contributing to the lack of cross-linguistic communication skills. This is consistent with the findings of[25]which states that improved language proficiency can strengthen local participation in the tourism sector. Furthermore, as emphasized by[26], the need for cross-language communication tools is particularly significant among local communities unfamiliar with technology. Therefore, the development of the nine-language dictionary application serves as a highly contextual and practical solution, as it is capable of bridging language barriers through a user-friendly technological approach.

From the technological development perspective, features such as voice input, text input,

and text-to-speech output represent forms of multimedia system integration that align with the principles of communication efficiency in tourism. As explained by[27], machine-based translation technology with a real-time approach can enhance communication accuracy and user experience. With the presence of this application, transactions that previously relied solely on gestures can now take place in a two-way and more natural manner. The implication is not only an improvement in communication effectiveness but also in service quality, merchant confidence, and tourist satisfaction.

The initial stage included identifying user needs based on field observations conducted at Sultan Muhammad Salahudin Airport in Bima. Significant communication barriers were found between local merchants and foreign tourists due to limited foreign language proficiency and low digital literacy. The core features of the application were designed based on user needs, namely: (1) About the Application, (2) Voice/Text Translator, and (3) About the Creator. The application interface was designed to be simple and intuitive to support ease of access for users from non-technical backgrounds.

2. Game Stage (Application Implementation and Testing)

The implementation stage was done through two development sprint cycles. The first sprint focused on the creation of core features, while the second sprint focused on interface integration and functionality testing. The testing process was conducted by directly involving users. The development phase included feature implementation, functionality testing, as well as validation and reliability testing of the evaluation instruments. Below is the interface display of the application developed during this process;
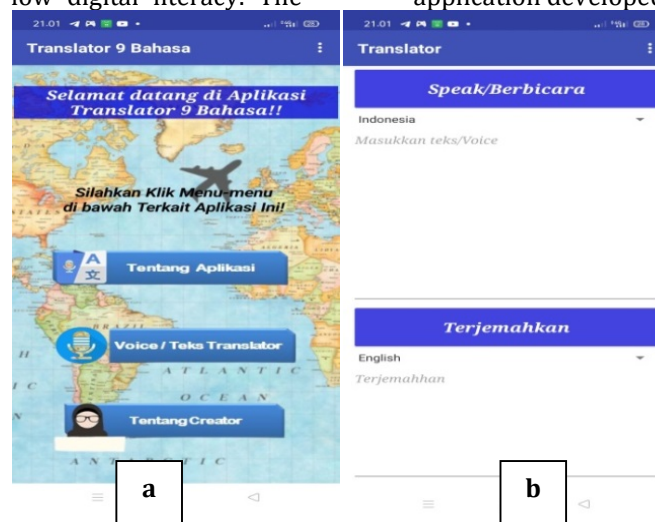

Figure 2. (a) Home Screen Interface (b) Voice/Text Translator Feature

At the application's home interface, users are greeted with the message "Welcome to the Nine-Language Dictionary Application" as an introductory interface. This page displays three main features that can be accessed by users, namely: (1) the About the Application feature, which contains general information regarding the purpose and function of the application; (2) the Voice/Text Translator feature, which allows users to translate language in both voice and text formats in real time; and (3) the About the Creator feature, which provides information about the developer or creator of the application.

The second feature available in this application is the *Voice/Text Translator*. This feature allows users to perform translations from one language to another in both text and voice formats. Users can manually input sentences through text input or activate the microphone to provide voice input. The application will then automatically translate the message content into the selected language, from a total of nine available languages. This feature is designed to enhance efficiency and convenience in communication, particularly in situations that require rapid responses, such as direct conversations between merchants and tourists. With the availability of both voice and text options, this application is expected to accommodate various user preferences and facilitate two-way communication more practically and interactively, particularly for merchants and tourists at Sultan Muhammad Salahudin Airport in Bima.

This feature was designed to enhance efficiency and convenience in communication, particularly in situations that require a quick response, such as direct conversations between merchants and tourists. With the availability of both voice and text options, the application is expected to accommodate various user preferences and facilitate two-way communication more practically and interactively. The available language options in the application are shown in Figure 3.
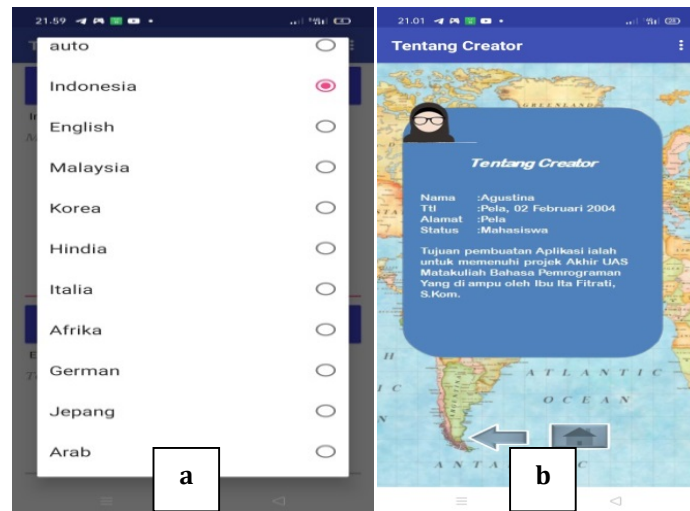
Figure 3. (a) Language Selection Interface, (b) About the Creator Feature Display

The third feature available in the Nine-Language Dictionary Application is About the Creator. This feature contains information about the developer or creator of the application, including a brief identity profile, educational background, and the motivation behind designing the application. The purpose of this feature is to provide transparency to users regarding the party responsible for the application's development, while also serving as a form of appreciation for the creative process behind the product's creation.

The development phase included feature implementation, functionality testing, as well as validation and reliability testing of the evaluation instruments. The trial results indicated that the core features functioned properly, as shown in Table 4.

Table 4. Application Feature Trial Results

Feature	Result	Status
About the Application	Good	OK
Voice/Text Translator	Good	OK
About the Creator	Good	OK

The questionnaire instrument used for evaluation underwent a validation and reliability process by media experts for the application features and by content experts. The resulting data are presented as follows:

a. Validation and Reliability Test by Media Expert

Table 5. Gregory Validation Test Results by Media Expert

2x2 Matrix		Evaluator 1	
		Not Relevant	Relevant
Evaluator 2	Not Relevant	0	0
	Relevant	0	10

Based on the validation calculation using Gregory's formula, a score of 1.0 was obtained. This score indicates that the media expert validation questionnaire has a very high level of validity, in accordance with the feasibility categories defined by Gregory as presented in Table 2.

Table 6. Inter-Rater Reliability Test Results (SPSS Output) by Media Expert

Symmetric Measures

		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Measure of Agreement	Kappa	1.000	.000	2.236	.025
N of Valid Cases		5			

The inter-rater reliability calculation resulted in a value of 1.00, indicating a very strong level of agreement between Evaluator 1 and Evaluator 2. Therefore, it can be concluded that the questionnaire used had a high level of reliability.

b. Validation and Reliability Test by Content Expert

Table 7. Gregory Validation Test Results by Content Expert

2x2 Matrix		Evaluator 1	
		Not Relevant	Relevant
Evaluator 2	Not Relevant	0	0
	Relevant	0	8

Based on the validation calculation using Gregory's formula, a score of 1.0 was obtained. This score indicates that the content expert validation questionnaire has a very high level of validity, in accordance with the feasibility categories defined by Gregory as presented in Table 2.

Table 8. Inter-Rater Reliability Test Results (SPSS Output) by Content Expert

Symmetric Measures				
	Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Measure of AgreementKappa	.750	.226	2.191	.028
N of Valid Cases	8			

The inter-rater reliability calculation resulted in a value of 0.75, indicating a strong level of agreement between Evaluator 1 and Evaluator 2. Therefore, it can be concluded that the questionnaire used was reliable.

c. Merchant Response Test

The response test was conducted with 15 merchants who used the application, based on 28 statements. The total score obtained was 1,901 out of a maximum score of 2,100. The average achievement percentage was 90.52%, indicating a very high level of user acceptance of the application. The most positively rated aspects included ease of use, voice clarity, and translation accuracy.

3. Postgame Stage (Evaluation and Refinement)

A comprehensive evaluation was conducted to measure the effectiveness of the application. The test results showed that the application was able to facilitate two-way communication between merchants and tourists, in accordance with the principle of self-efficacy (Bandura). The inclusive design enabled grassroots communities to adopt the technology more easily. Overall, the implementation of the Agile Scrum method resulted in an application that is adaptive, functional, and aligned with the socio-cultural context of local users. This shows that context-based development can serve as an effective solution to support cross-linguistic interaction in the tourism sector.

CONCLUSION

The results of this study indicate that the Nine-Language Dictionary application is a feasible and effective solution for facilitating communication between local merchants and foreign tourists at Sultan Muhammad Salahudin Airport in Bima. The application is capable of translating Indonesian into nine foreign languages through voice input and voice output (text-to-speech) features, enabling real-time two-way communication practically and efficiently. Instrument validation results by media and content experts showed a very high level of validity, with a Vi score of 1.00. The reliability test using SPSS produced a Kappa value of 1.00 for the media expert, indicating perfect agreement between raters, and a Kappa value of 0.75 for the content expert, indicating a strong level of agreement. The average user acceptance score of 90.52% indicates a high level of effectiveness in terms of ease of use, clarity of features, and translation accuracy. The majority of respondents in the trial were over the age of 25, reflecting a target user group of adults who are actively engaged in social and economic interactions. The simple and intuitive interface design enables the application to be used by individuals with a senior high school education background and limited digital literacy. This application is not only relevant in the local context but also holds potential for replication in other regions facing similar challenges, in order to support digital inclusion and the advancement of technology-based tourism sectors.

REFERENCES

[1] V. Olsavszky *et al.*, "Digital Translation Platform (Translatly) to Overcome Communication Barriers in Clinical Care: Pilot Study," *JMIR Form. Res.*, vol. 9, 2025, doi: 10.2196/63095.

[2] H. Al Shamsi, A. G. Almutairi, S. Al Mashrafi, and T. Al Kalbani, "Implications of language barriers for healthcare: A systematic review," Mar. 01, 2020, *Oman Medical Specialty Board*. doi: 10.5001/OMJ.2020.40.

[3] O. T. Akiriningsih and J. A. Sari, "PENTINGNYA PEMAHAMAN LINTAS BUDAYA DALAM PARIWISATA."

[4] A. I. Laia and R. Muliono, "Rancang Bangun Aplikasi Penerjemah Bahasa Indonesia Bahasa Nias Menggunakan Algoritma Levensthein Distance Design Of Indonesian Language Translator Application Using Nias Levensthein Distance Algorithm," vol. 4, no. 1, pp. 1–11, 2024, doi: 10.34007/incoding.v4i1.469.

[5] R. O. Ogundokun, J. B. Awotunde, S. Misra, T. Segun-Owolabi, E. A. Adeniyi, and V. Jaglan, "An android based language translator application," in *Journal of Physics: Conference Series*, IOP Publishing Ltd, Feb. 2021. doi: 10.1088/1742-6596/1767/1/012032.

[6] R. U. Ulva dan Y. Yuliani, "Analisis Komunikasi Lintas Budaya Antar Wisatawan Asing Dengan Warga Lokal di Jalan Braga Kota Bandung Pengaruhnya terhadap Persepsi Masing-Masing Kelompok Budaya," JPNM Jurnal Pustaka Nusantara Multidisiplin, vol. 2, no. 1, 2024.

[7] D. Malinda, F. Hariyanto, and F. O. Lubis, "Pola Komunikasi Lintas Budaya pada Pasangan Warga Negara Indonesia (WNI) dan Warga Negara Asing (WNA)," 2020. [Online]. Available: https://journal.unsika.ac.id/index.php/JPRMEDCOMhttps://journal.unsika.ac.id/index.php/JPRMEDCOM58

[8] R. Pratama, "Komunikasi Lintas Kebudayaan dan Potensi Masalah-Masalah yang Timbul," Endogami: Jurnal Ilmiah Kajian Antropologi, vol. 4, no. 1, pp. 127–132, 2020.

[9] E. C. A. Carreón, H. A. M. España, H. Nonaka, and T. Hiraoka, "Differences in Chinese and Western tourists faced with Japanese hospitality: A natural language processing approach," Jul. 2021, doi: 10.1007/s40558-021-00203-8.

[10] A. Rahmah *et al.*, "Peran Teknologi dalam Memfasilitasi Komunikasi antar Budaya," *Indones. Cult. Relig. Issues*, vol. 1, no. 4, p. 12, Oct. 2024, doi: 10.47134/diksima.v1i4.101.

[11] O. R. Segara, "Pengembangan Aplikasi Mobile Translator Menggunakan Mit App Inventor," 2024. [Online]. Available: https://jurnal.globalscients.com/index.php/jiki

[12] D. J. Liebling *et al.*, "Unmet Needs and Opportunities for Mobile Translation AI," in *Conference on Human Factors in Computing Systems - Proceedings*, Association for Computing Machinery, Apr. 2020. doi: 10.1145/3313831.3376261.

[13] E. T. Fitriasari, "Persepsi Wisatawan Asing Terhadap Daya Tarik Pariwisata Di Wilayah Perbatasan Indonesia-Malaysia," Jurnal Good Governance, vol. 16, no. 1, pp. 1–12, 2023.

[14] A. U. Wusko and S. N. Khoviyah, "PENGARUH DAYA TARIK WISATA TERHADAP MEMORABLE TOURISM EXPERIENCE DAN REVISIT INTENTION (Survey Pengunjung Wisata Hawai Waterpark Malang)," 2024. [Online]. Available: https://ejournal3.undip.ac.id/index.php/jiab

[15] Maulidiya Umi Handayani, Lulu Mubarokah, Mutmainah Fahmi Karimatunisa, and Nunik Ismu Hidayah, "The Role of Google Translate as a Learning Medium for EFL Students: Systematic Review," *Conf. English Lang. Teach.*, vol. 2, no. Celti, pp. 182–192, 2022, doi: 10.24090/celti.v2.46.

[16] S. Hosseini, "Xcrum: A Synergistic Approach Integrating Extreme Programming with Scrum," Oct. 2023, [Online]. Available: http://arxiv.org/abs/2310.03248

[17] Sofyan Alwi Fadillah, Nico Chandra, and Cyntia Rivatunisa, "Implementasi Agile Scrum Pada Pembuatan Website Sistem Informasi Manajemen Kuliner," *Decod. J. Pendidik. Teknol. Inf.*, vol. 4, no. 1, pp. 301–315, Feb. 2024, doi: 10.51454/decode.v4i1.357.

[18] Z. Masood, R. Hoda, and K. Blincoe, "Real World Scrum A Grounded Theory of Variations in Practice."

[19] Sugiono, *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*, no. January. 2013.

[20] A. Iskandar and M. Rizal, "Analisis kualitas soal di perguruan tinggi berbasis aplikasi TAP," *J. Penelit. dan Eval. Pendidik.*, vol. 22, no. 1, pp. 12–23, Jun. 2018, doi: 10.21831/pep.v22i1.15609.

[21] W. Widhiarso, "Melibatkan Rater dalam Pengembangan Alat Ukur," pp. 1–4, 2010.

[22] D. Durve and K. Paramesh, "Radiology," *Ent an Introd. Pract. Guid. Third Ed.*, pp. 148–155, 2023, doi: 10.1201/b22862-30.

[23] Haryanto; Parliani; Yeni Lukita, "Uji inter-rater reliability, sensitivitas dan spesifitas alat," *Media.Neliti.Com*, vol. 3, no. 2, pp. 395–402, 2020, [Online]. Available: https://repo.stikmuhptk.ac.id/jspui/handle/123456789/46%0Ahttps://repo.stikmuhptk.ac.id/jspui/bitstream/123456789/46/1/ArtikelAbidmas.pdf%0Ahttps://media.neliti.com/media/publications/421967-none-58886340.pdf

[24] J. Reilly, P. Ajitsaria, L. Buckley, M. Magnusson, and J. Darvall, "Interrater reliability of the Clinical Frailty Scale in the anesthesia preadmission clinic," *Can. J. Anesth.*, vol. 70, no. 11, pp. 1726–1734, 2023, doi: 10.1007/s12630-023-02590-4.

[25] L. Lutfiyah and I. S. Sadikin, "Efektifitas Penggunaan Aplikasi Bahasa Inggris sebagai Penunjang Desa Wisata," *Focus (Madison).*, vol. 5, no. 1, pp. 54–60, 2024, doi: 10.37010/fcs.v5i1.1487.

[26] H. Wardhana, I. M. Yadi Dharma, K. Marzuki, and I. Syarif Hidayatullah, "Implementation of Neural Machine Translation in Translating from Indonesian to Sasak Language," *MATRIK J. Manajemen, Tek. Inform. dan Rekayasa Komput.*, vol. 23, no. 2, pp. 465–476, 2024, doi: 10.30812/matrik.v23i2.3465.

[27] A. Parra, A. W. Haddad, M. Boutin, and E. J. Delp, "A Hand-Held Multimedia Translation and Interpretation System with Application to Diet Management," Jul. 2018, [Online]. Available: http://arxiv.org/abs/1807.07149