

# Design and Development a Website to Find BIPA Tutors: Study Case BIPALOKA Website

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## Abstract:

BIPA Program (Indonesian for Foreign Speakers) is an Indonesian language learning program for Foreign Speakers. The increasing center of BIPA providers indicates that the increasing interest of foreigners to learn Indonesian. To support the program, a website called BIPALOKA was created, which was aimed at making it easier for Foreign Speakers to get tutors and material as needed. BIPALOKA website design uses the Waterfall model software development method, which consists of five stages, namely Requirement Analysis, System Design, Implementation, Testing, and Maintenance. The BIPALOKA website can be a medium to make it easier for Foreign Speakers to find tutors and schedule learning to be more effective

**Keywords:** BIPA, Website, Waterfall, BIPALOKA

## Introduction

Media as a teaching tool can help and simplify the teaching-learning process between teachers to students for the better. With the rapid development of technology to date, the media has become important in the ease of the learning process. BIPA (Indonesian for Foreign Speakers) is an Indonesian language learning program (speaking, writing, reading and listening) for foreign speakers. Foreign students can study through Indonesian language institutes and various BIPA programs organized by Higher Education in Indonesia (Widyartono, 2017).

The BIPA Program (Indonesian for Foreign Speakers) is an Indonesian language learning program for someone who is from outside Indonesia, and his native language is not Indonesian. BIPA was organized by the Ministry of Education and Culture (KEMDIKBUD) to support efforts to improve the function of Indonesian for international students. They (international students) come to Indonesia to learn

and get to know Indonesian culture. The program is developing both domestically and abroad, supported by the programs from the Government of Indonesia through the Ministry of National Education's Language Development and Education Development Agency (BPPB), as stated in PP No. 24 of 2009 (Dereh, 2019). To date, 179 BIPA organizers have been recorded in 48 countries and are expected to continue to grow.

The development of BIPA is currently getting better. The Indonesian government continues to strive with various activities related to BIPA, including the RI Darmasiswa scholarship, KNB scholarship, and sending BIPA teachers abroad. The RI Darmasiswa Scholarship has been held since 1974 as part of the ASEAN initiative until now, the number of Darmasiswa alumni has reached 9110 students from 135 countries (KEMDIKBUD, 2020). Furthermore, the Developing Countries Cooperation Scholarship (KNB), which has been held since 2009 has provided scholarships for potential students from

developing countries as many as 992 students from 71 countries (RISTEKDIKTI, 2020). The next program, sending BIPA lecturers abroad by the Center for Language Diplomacy Strategy Development (PPSDK) as an ambassador of the State Languages assigned to carry out diplomacy activities linguistics, among others, teaching Indonesian language, language studies, and developing BIPA programs abroad, counting from 2015 to 2019, there were 226 State Language Ambassadors distributed to 26 countries and 122 institutions abroad (KEMDIKBUD Republik Indonesia, 2019). Sending BIPA teachers overseas is a step that categorical. However, the obstacles encountered in the delivery process will be a problem that keeps coming back and forth. Constraints in the form of the availability of professional BIPA teaching staff who are ready to be assigned, VISA management constraints for assigned teachers, learning that does not continue after the program is finished, and other obstacles. In fact, the existence of a native speaker instructor in learning has a significant effect. At present, the Ministry of Education and Culture has abolished the PPSDK Institute and changed the policy of sending BIPA teaching staff abroad by replacing native Indonesian teachers living abroad or foreigners who can teach Indonesian in their country.

The trend of distance learning is growing with the advent of communication technology and the internet, especially after the arrival of synchronous communication systems that provide real-time communication experiences. Some examples include *sqline.com*, *italki.com*, *cakap.com*, and so forth. In the era of the industrial revolution 4.0 which emphasized the development of digital technology, it provided opportunities for BIPA learning. The development of distance learning BIPA needs to pay attention to various aspects of innovation and distance learning technology trends that continue to develop. It is also the subject of Traxler's study (2018) which states that distance learning is placed in a broader context of global technology, economics, and the development of specific educational technologies.

The increasing center of BIPA organizers both at home and abroad indicates that there is an increase in foreigners to learn Indonesian. The growing specialization of the BIPA program has not been accompanied by technological developments to facilitate the learning process and the search for suitable tutors. For this reason, a website called BIPALOKA was created, which aims to help and facilitate foreign residents or international students in Indonesia to obtain Indonesian language tutors with a curriculum that has been adjusted to their needs.

### Methodology

Before building this system, it needs some methodology following the needs of the system. The method for designing, building, and maintaining a system is also known as SDLC (System Develop Live Cycle). The SDLC model used in making the BIPALOKA website is the Waterfall model, a sequential software development process that starts from the specification requirements and progress from the client [2].

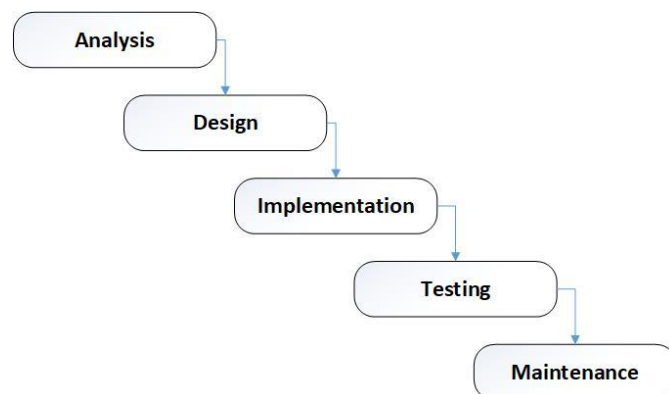


Figure 1. Waterfall model

At figure 1, the Waterfall Model consists of five sequential stages from above, namely: Requirement Analysis, System Design, Implementation, Testing, and Maintenance.

### Implementation

At this implementation stage, we are applying the five steps of the Waterfall model. The explanation of each stage will be discussed below:

1. Requirement Analysis

In the first stage in Requirement Analysis, the developer analyses the main requirements that must be met by the system to operate correctly. Initial development stage, given the problem limit on the tutors, namely those (tutors) who have registered with BIPALOKA. On the BIPALOKA website, the admin displays tutor information as needed.

2. System Design

After the system requirements were obtained, it will then be translated into visual form in the form of Use Case Diagrams, Class Diagrams, Activity Diagrams, as well as the website user, interface display. Visual implementation of system requirements is explained as follows:

a. Use Case Diagram

Use case diagrams used to illustrate the actors and their roles contained in the system developed. In the BIPALOKA website use case diagram, it is divided into three actors, namely users (international students), Tutor, and Admin.

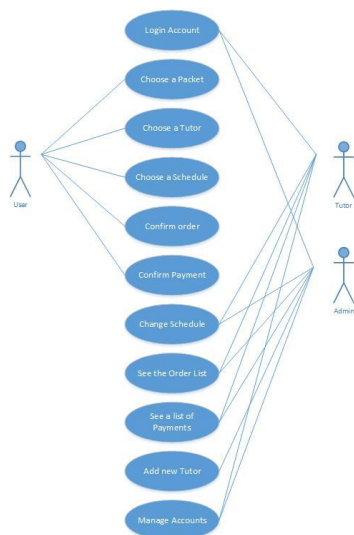


Figure 2. Use casediagram BIPALOKA website

b. Class Diagram

The class diagram in its application illustrates the structure of the system in terms of defining the classes created to build the BIPALOKA website. User class

functions to choose a tutor and place an order into the system. Admin Class add tutor data and manage information on the website. Booking class functions to save order data from the user. Class price list to list each curriculum material that is tailored to the needs. Order detail class to store price data and total prices. Class confirms payment, to store user proof of payment.

c. Activity Diagram

Users (international students) who want to order tutors do not need to have an account first. The user first chooses the type of tutorial package, then continues to select the available tutor, adjusts the learning schedule with the tutor according to the timetable that is available and confirms the order by filling in the user data. After that, the user can make payments.

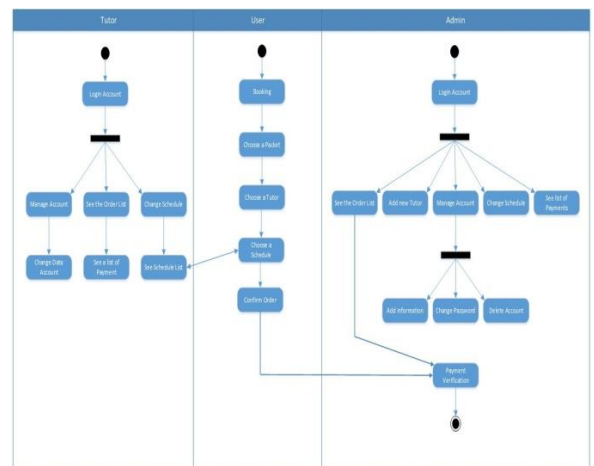


Figure 3. Activity diagram BIPALOKA website

d. User Interface

In the user interface, the design made according to the system requirements described previously. The user interface can be made using a variety of software, such as Adobe XD, Sketch, to online-based websites such as Figma. Some user interface views have been made as follows:



Figure 4. Home page BIPALOKA website

In figure 4. display the BIPALOKA website homepage with a minimalist design and has several buttons features to other pages. The design is provided Home menu, Our Package, Tutors Community, About Us, and Contact Us. Users can also directly make transactions using the Get Started menu.

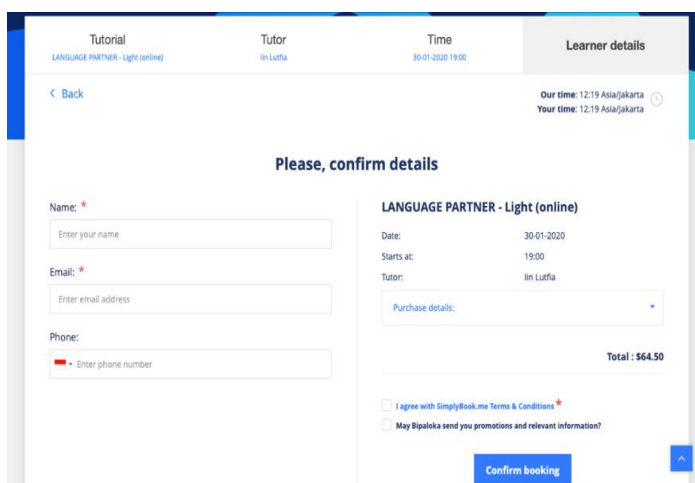


Figure 5. Confirmation page BIPALOKA website

In figure 5, displays the tutor ordering stage on the BIPALOKA website. The Tutorial Page is a menu for selecting learning packages with variable package prices. The Tutor menu displays photos and names of tutors available to teach according to the package chosen. The Time menu displays a learning schedule that can be chosen

according to the time of the Joint Agreement. The Learner Details menu is the stage of confirming user reservations by filling in data in the form of a name, email, telephone number, and total payment. After pressing the Confirm Booking button, it will be redirected to the payment method page using PayPal, Credit Card, or Bank transfer.

### 3. Implementation

This implementation phase requires a database to be used and a framework by system requirements. The database on this website uses MySQL based on the design system development stage. For the framework used, the CodeIgniter and Materialize Frameworks are based on the initial design that was created. On the initial appearance of the BIPALOKA website, there are Home, Our Packages, Community Tutors, About Us, Contact Us menus.

### 4. Testing

Testing needs to be done to test each level of the account if it goes as planned or there are still errors. Following are the results of experiments that have been carried out: at the User account level, users can place an order, choose a tutorial, choose a tutor, choose a schedule, fill in data and confirm, and make payments. On the Admin account page, the Admin can manage the tutor account, change and delete the tutor account, and view all user booking lists.

Table 1. Component test admin account page

Menu	Admin	Tutor	User	Checklist
Account Management	Edit	Edit	-	Done
Teaching List	Edit	Edit	-	Done
Schedule Recap	Edit	Edit	View	Done
Payment Recap	Edit	View	View	Done
Choose Tutorial	Edit	-	Edit	Done
Choose Tutor	Edit	-	Edit	Done

Choose Schedule	Edit	-	Edit	Done
Payment Confirmation	Edit	-	Edit	Done

## 5. Maintenance

Maintenance is carried out since the beginning of the website has been published according to the development of the BIPALOKA website and subsequent needs.

## Conclusion and Future Works

### Conclusion

Based on the analysis and functional testing of the BIPALOKA website, the following conclusions are obtained:

1. Indonesian tutor search websites can display information as needed. The website's appearance is responsive and can adjust the presence of the smartphone.
2. The BIPALOKA website can function properly and has been implemented to make it easier for international students to find tutors and schedule learning more effectively.

### Future Works

The writer's advice in developing the BIPALOKA website for further research:

1. In the next stage of development, it is expected that user accounts can store transaction data on the BIPALOKA website.
2. The rating and review features displayed on the Tutor page of the User are required.
3. Adding digital payment features to make transactions more accessible, such as payments through GOPAY, OVO, FUNDS, and payments through local banks.
4. Can be developed into Android / IOS mobile apps and the addition of gamification methods to attract better users' interest in using the BIPALOKA website or application.

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**Gamal KusumaZamahsari** is an Indonesian Language Lecturer, and Academic Development Officer at Bina Nusantara University, Malang Campus. He earned S.Pd. in the field of Indonesian Language, Literature and Local Language Education from Malang State University, Indonesia. Master of Indonesian Language Education from Postgraduate State University of Malang, Indonesia. Gamal KusumaZamahsari has played a role in the Indonesian language for foreign speakers (BIPA). He has pursued various international programs in the field of BIPA such as Critical Language Scholarships, Darmasiswa Scholarships of the Republic of Indonesia, KNB Scholarships, Nihongo Partners Japan Foundation in Malang and Bunga Program Kanda University Japan. Besides, he has also been a language ambassador to carry out diplomacy missions through Indonesian language teaching and research in Thailand. He has also been active as an administrator of the East Java BIPA Activists and Teaching Association (APPBIPA), Indonesia.