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Umroh Service Information System at El-Fajr Palembang

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ABSTRACT

This article explores the integration of web technology in managing prospective Umrah pilgrims at El-Fajr Tour and Travel Palembang. In response to the rapid evolution of communication technology, the study emphasizes the efficiency and effectiveness of web-based communication in connecting users across diverse locations. El-Fajr Palembang, founded in 2018, envisions becoming a trusted leader in providing Umrah packages and travel services. To streamline operations and enhance services, the study adopts the waterfall model for system development. The article presents the results and discussion, focusing on the system interface's design, illustrated by the main page. Black box testing validates the functionality of user and admin interfaces, ensuring that all proposed functions operate effectively. The testing criteria cover aspects such as menu display, login functionality, travel package registration, and administrative tasks, all validated. In conclusion, the study affirms the successful implementation of the computerized web-based system at El-Fajr Palembang, poised to enhance Umrah pilgrim registrations, activity schedules, and information dissemination. The system aligns with El-Fajr Palembang's vision to become a leading travel and tour company, demonstrating the potential of web technology in optimizing service delivery.

1. Introduction

In line with the very rapid development of communication technology, web technology is increasingly being used by various parties such as companies, organizations or individuals [1], [2]. Web technology has become the most efficient and effective means of communication. The web is a communication and information medium that has various advantages compared to other communication media. With the web we can connect with other web users in various different places and get the information we need quickly and accurately.

El-Fajr Tour and Travel Palembang is an institution that operates in the field of managing prospective Umrah pilgrims in groups. EL-FAJR Travel and Umrah was founded on February 1, 2018. EL-FAJR Umrah Travel is one of the travel agents in the city of Palembang. EL-FAJR Umrah Travel is located on Jl. Musi Raya Borang no. 1031, Sako Sub District, Palembang City. EL-

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FAJR Palembang's vision is to become a company that provides services, especially in the field of Umrah packages, as well as becoming a leading travel and tour company that has the public's trust. The service system currently provided by El-Fajr Palembang is a service for registering prospective Umrah pilgrims, checking activity schedules for prospective pilgrims, and information about El-Fajr activities. To simplify data processing and provide better service to prospective Umrah pilgrims, a computerized web-based system is needed. This is needed to make it easier for staff to manage the registration of prospective pilgrims, facilitate the delivery of information to prospective pilgrims and streamline operational activities at the institution.

2. Method

The system development stage used is the waterfall model. The waterfall model is an SDLC method that has the characteristic that each result in Waterfall must be completed first before proceeding to the next phase. The Waterfall Model is a software development methodology that follows a linear and structured flow [3], [4], [5]. It consists of a series of phases that must be completed sequentially, and each phase is dependent on the completion of the previous phase. Following are some of the main phases in the Waterfall model:

a. Analysis: The stage where system requirements are gathered and thoroughly understood. It involves interaction with users and stakeholders to define functional and non-functional requirements [6], [7].
b. Design: After the requirements are collected, the next step is to design the system architecture. This includes designing the system structure, identifying algorithms, and preparing the necessary technical specifications [8]-[10].
c. Coding: This stage involves coding the software according to the specifications created at the design stage. The development team creates code based on the approved design.
d. Testing: After implementation, the system is tested to ensure that all requirements have been met and that there are no significant bugs or errors. These tests include functional, performance, and security tests [11].
e. Delivery/Implementation: Once the system passes all the tests, it is ready to be implemented and released into a production environment or used by end users.

One of the main disadvantages of the Waterfall model is its inability to handle the frequent changes in requirements that occur in the software development cycle. Due to the linear nature of this model, it is difficult to return to a previous phase once a particular phase has been completed.

3. Result and Discussion

3.1. *System Interface*

Figure 1 shows the design of main page. This page contains information for prospective Umrah pilgrims, in the main menu there is a navigation bar, information on Umrah packages and EL-Fajr partners.

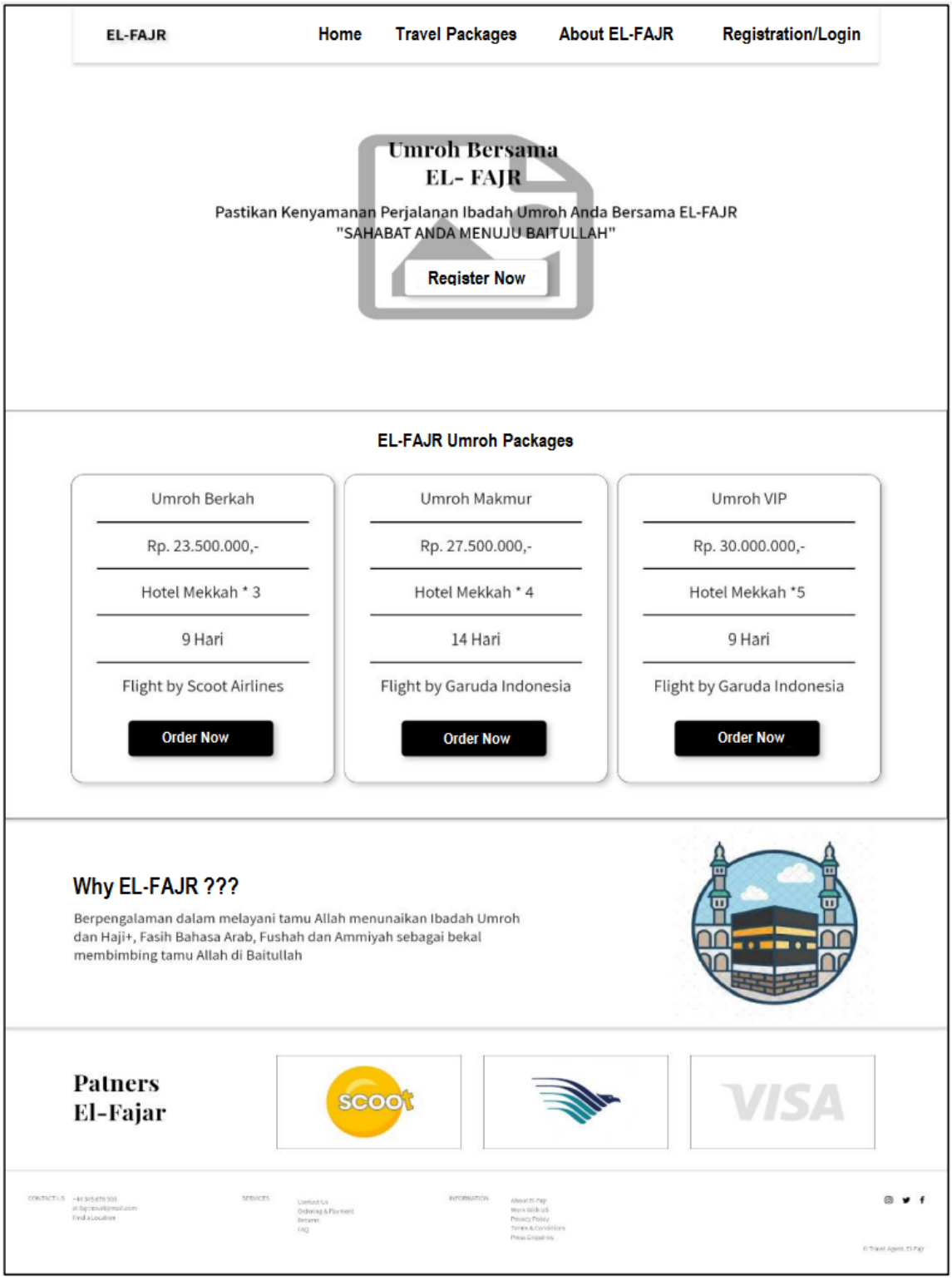

Figure 1 – The design of main page interface

Next, the author carries out black box testing as an initial stage of evaluation of the system that has been created [12]-[15]. The test results show that all functions and interfaces of the proposed system can run well (Table 1 and Table 2).

Test criteria:

a. Incorrect or missing functions
b. Interface Error
c. Errors in data structures or external database access
d. Performance/performance errors

e. Initialization and termination errors

3.2. *Blackbox Testing*

Table 1 – Black box testing result (User)

Page	Testing Point	Expected Result	Criteria	Information
Main page	Menu	Displays pages based on the user's selected menu	a,b,c,d,e	Valid
Main page	Register button / Login	Displays the login form	a,b,c,d,e	Valid
Main page	Travel card package	Menampilkan form daftar umroh	a,b,c,d,e	Valid
Travel package	Detail button	List of detailed information for each travel package	a,b,c,d,e	Valid
Travel package	Umroh registration form (1)	Saves user inputted data	a,b,c,d,e	Valid
Travel package	Umroh registration form (2)	Can upload and save proof of payment	a,b,c,d,e	Valid

Table 2 – Black box testing result (Admin)

Page	Testing Point	Expected Result	Criteria	Information
Login	Form login	Displays the main admin page if you enter the username and password correctly	a,b,c,d,e	Valid
Manage package list	Form manage package list	Save data as entered	a,b,c,d,e	Valid
Manage package list	Add button	Displays the add package form	a,b,c,d,e	Valid
Add package	Form add package	Save package data according to what is input	a,b,c,d,e	Valid
Umroh registration data	Table of umroh registration data	Displays appropriate information from the database	a,b,c,d,e	Valid
Umroh registration data	Confirmation button	Change the registration status if you click the confirmation button	a,b,c,d,e	Valid

4. Conclusion

In conclusion, the study highlights the growing significance of web technology in communication, particularly in the context of managing prospective Umrah pilgrims in groups. El-Fajr Tour and Travel Palembang, recognizing the need for efficient service delivery, aimed to enhance its operations through the development of a computerized web-based system. The chosen methodology for system development was the waterfall model, a linear and structured approach consisting of distinct phases: Analysis, Design, Coding, Testing, and Delivery/Implementation. Moving to the results and discussion section, this study presents the system interface design, exemplified by the main page. Black box testing was conducted to evaluate the system's functionality and interface, with results indicating that all proposed functions and interfaces operated effectively for both users and administrators. The testing criteria, including menu display, login form functionality, travel package registration, and administrative tasks, were all validated. In essence, the implementation of the computerized web-based system at El-Fajr Palembang, has proven successful based on the positive outcomes of black box testing. This system is poised to enhance the management of Umrah pilgrim registrations, activity schedules, and information dissemination, aligning with El-Fajr Palembang's vision to be a leading travel and tour company in the field.

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