

Umrah Registration System Using Extreme Programming Method Towards Worship Tourism

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Abstract

The Umrah registration process at PT Annisa Mulia Wisata still uses a manual system, so the admin at the branch office must contact the head office first to find out the quota availability for the Umrah package ordered. For this reason, a system is needed to assist the ongoing Umrah registration activities so that errors during the registration process can be reduced and the system can run effectively and efficiently. The development stage of this web-based Umrah package registration system was built using the Laravel framework and system development life cycle (SDLC) to support this research using Extreme Programming (XP). With this web-based Umrah registration system, it can help prospective pilgrims in the Umrah registration process by choosing each type of package along with the price and number of quotas and as a medium of information in the marketing process and transaction data processing for companies.

Keywords: Registration, Umrah, Quota, Extreme Programming.

1. Introduction

Indonesia is one of the countries with the largest Muslim population in the world. Hajj and Umrah are the worship that every Muslim in Indonesia dreams of. People who do Umrah are not only people who have never done hajj, but people who have already left for hajj also choose Umrah to treat longing for the Holy Land. This makes the development of the Umrah travel business increase over time in meeting the needs of the population to carry out Umrah worship easily and comfortably[1].

Because umrah worship is not just mere worship but also a spiritual tour for all Muslims in the world because they study the life history of the prophet and his companions, visit historical places of the prophets, places of war, the prophet's residence, and do not also forget to visit the date palm gardens. For this reason, Umrah travel companies need to improve the quality of service in order to add to the company's image with potential customers[2].



Realizing the growth that is increasing every year and how umrah package registration is done manually takes much time and is also very likely to occur errors in communication-related to the remaining available package quotas[1]. In the current system, if there are prospective pilgrims who will order an Umrah package, the admin at the branch office must call the head office to ask about the number of package quotas that are still available at the head office; in this process, misinformation about the number of Umrah package quotas often occurs. [3]

Problem on PT. Annisa Mulia Wisata is one of the companies providing umrah ticketing & travel services the registration system that is currently running still uses a manual system, namely checking the availability of Umrah packages ordered via a telephone connection to the head office, so that checking data takes a long time and the storage of transaction data is still not fully computerized.

So therefore, the umrah registration application system is currently running at PT. Annisa Mulia Wisata is currently still not running effectively and efficiently because the process of checking the availability of Umrah packages cannot be seen through the website, and the transaction process can only be done offline by visiting branch offices and head offices.

There are also problems related to writing data-data related to the departure schedule available at the company is still recorded on the whiteboard, and the transaction carried out is still with a manual car, so in terms of recording, it is prone to writing errors. [4]

To solve existing problems and support the company's popularity, assisted by a website-based application that has interactive features, namely the creation of Umrah packages and their marketing, trans down payment actions and registrant data collection are carried out in a computerized manner which is carried out on the website[1].

2. Research Method

2.1 Data Collection Methods

1. Observation

A method or way of obtaining data by plunging directly into the object to be studied and carrying out the systematic recording of the object to be studied.

2. Interview

This method is a question and answer process with a resource person at the place or location where the research object is carried out. The questions and answer process were carried out directly to the Umrah package registration system staff at PT Annisa Mulia Wisata.[5]

3. Literature Studies

Information is obtained by recording and studying books or literature reviews related to research, written and electronic. Most authors carry out data collection and methods from Internet sites and the rest from printed books.

2.2 PIECES Analysis

Furthermore, the data obtained from observations and interviews are collected and analyzed using the PIECES (Performance, Information, Economic, Control, Efficiency, Service) analysis method [6]. When using this method, problems can be known from various directions, including results, information, economics, supervision, efficiency, and service.

2.3 Laravel Framework

To float a system design that you want to build, it is then built using the object-based PHP programming language using the Laravel Framework and MVC Architecture (Model, View, Controller)[7]. Based on MVC, the Laravel framework provides many features like high performance, increased security, and scalability.[8]

Table 1. Meaning of MVC[9]

Component	Function
Model	Communicate with databases and define data types
View	Display data on the user and anything about the UI
Controller	Control the app logic

MVC Architecture is a method of designing an application by separating applications based on sequence components such as manipulating databases, interfaces, and application main controllers[10]. MVC allows back-end and front-end developers to work in parallel. Front-end developers can change the view anytime without waiting for the back-end logic to finish. As a result, the project is completed faster. In addition, MVC provides full control over the development of web pages and URLs. Thus, it helps improve website SEO.[11]

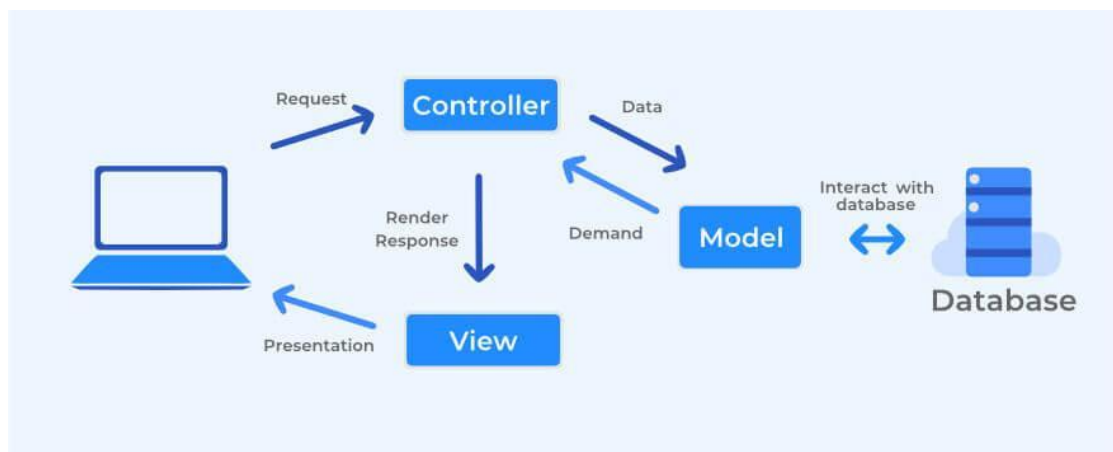


Figure 1. MVC Architecture[12]

2.4 Extreme Programming

The development method used in this thesis research is the Extreme Programming (XP) method. With the following stages:[13]

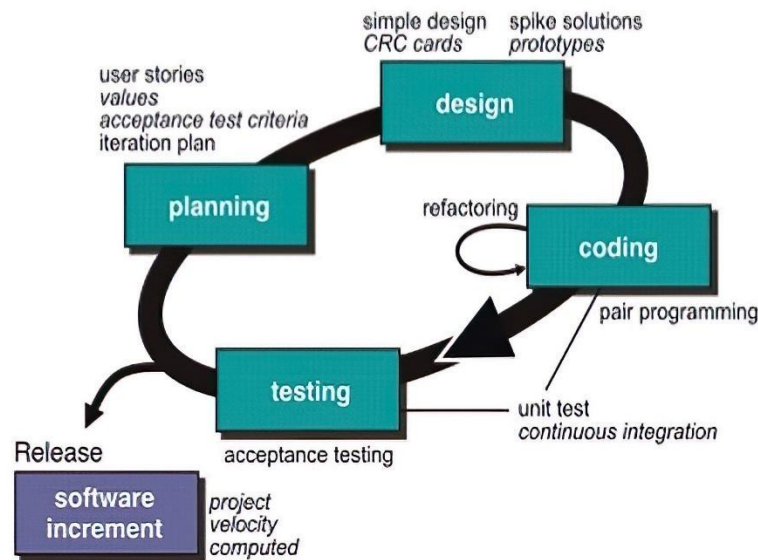


Figure 2. Stages of *Extreme Programming (XP)* [14]

1. Planning

Planning activities begin with forming user stories. Members of the Extreme Programming (XP) team then assess each story and determine the cost measured in the development week. The Customer and Extreme Programming (XP)[15] team work together to decide how the group story for the next release (software increment) is to be built by the Extreme Programming (XP) team. If the commitment has been made, the Extreme Programming (XP) team will build stories by[16]: identifying problems and analyzing needs to determine the implementation schedule for system development. After the first project is released and delivered, the Extreme Programming (XP) team considers [17] the speed of the project. During development, customers can add stories, change values, and divide or delete them. [18]

2. Design

At this stage the author makes system modeling using UML and database modeling using class diagrams. [19]

3. Coding

Before creating the code, it is better to make a unit test of each story to be included in the software increment. Extreme Programming (XP) suggests that two people work together on one workstation computer to create code from one story (pair programming) [20] to provide real-time problem solving and guarantee real-time quality. After pair programming is complete, the code is integrated with other work (continuous integration) using the PHP programming language and Laravel framework.

4. Testing

Unit tests that have been created must be implemented using a framework and organized into a universal testing suite; system integration and validation can be carried out daily. The testing method used at this stage is the BlackBox testing method, The customer test

(acceptance test) is carried out by the customer and focuses on the overall features and functions of the system. Acceptance tests are obtained from customer stories implemented as part of a software release. [21]

3. Findings

Based on the analysis of the running system at PT Annisa Mulia Wisata, it is known that the current Umrah package registration system is still not effective and efficient because the data checking process still takes a long time and makes it difficult when the data is needed. Several proposed procedures are aimed at improving and perfecting the umrah package registration system currently running, namely changing the umrah package registration process, which currently still uses manuals for umrah package registration using a web-based system, making it easier to manage Umrah package data and transaction data. Based on the changes in the existing Umrah package registration system and after the needs of the new system have been determined, the following steps are the design or design of the proposed system, which aims to improve the old system by providing a clear picture or view according to the system design process from the beginning to the end of the research.

3.1 Problem

1. The problems face, the problems faced in the current system are as follows:
 1. Ordering Umrah packages through branch office admins in all existing branches is still done conventionally. Namely, the process is still carried out by calling the head office to ask about the availability of packages to be ordered.
 2. The accuracy of the information provided regarding the number of umrah packages available is not guaranteed because it is not displayed on the website.
 3. Based on the current system, the administration department at the head office must always be on standby to receive inquiries from branch offices regarding the number of packages available at the head office so that it is inefficient.
2. Alternative Problem Solving After observing and analyzing some of the problems that occur in the running system, several alternative solutions to the problems faced can be proposed, including:
 1. Create a system that can speed up the umrah package ordering process to facilitate admin performance in handling many existing orders.
 2. The system being designed is planned to be made into a web-based system so that it can be accessed by branch office admins from various regions online and display umrah package data available at the head office through the website.
 3. Create a booking system using PHP programming language and an MYSQL database. Compared to the old system, this new system is expected to speed up the ordering of Umrah packages and can be a solution to overcoming these problems. The author chose the language of PHP and MYSQL databases because using PHP programs and MYSQL databases can make it easier for users to complete the work.

3.2 Research Implementation

When building the Umrah Registration System Using the Laravel Framework at PT. Annisa Mulia Wisata Jakarta, therefore, a program design is needed that describes each menu contained in the system using the Navigation Structure as the program design. Moreover, below is a picture of the navigation structure of the Umrah Registration System at PT Annisa Mulia Wisata, South Jakarta.

1. Home Page

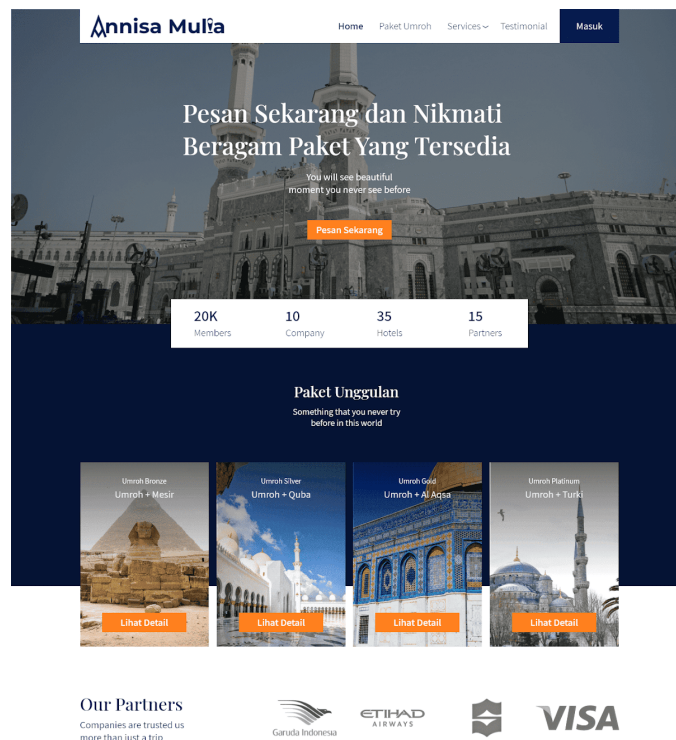


Figure 3. Home Page

Figure 3 above is a display of the Home page. This is the initial display when the user opens the Umrah registration website.

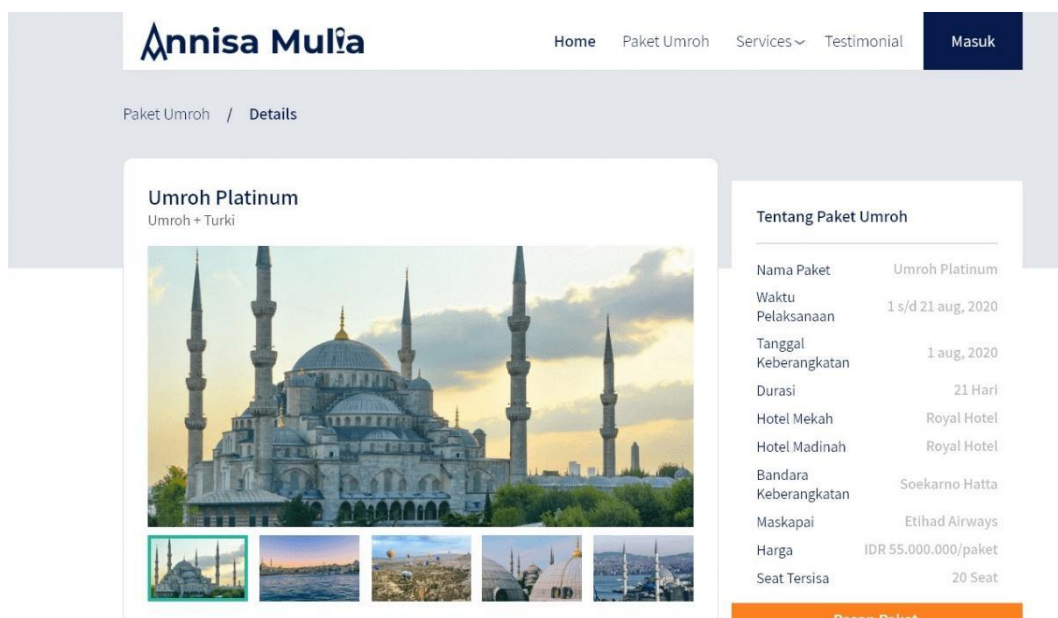


Figure 4. Details Page

Figure 4 is what the Details page looks like. This page is a page that displays the details of the package we selected.

2. Checkout Page

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Paket Umroh / Details / Checkout

Data Pemesan
Paket Umroh Platinum

Nama Pemesan

Nama Lengkap

No Telepon / HP Pemesan

No Telp / HP

Jenis Kelamin Pemesan

Jenis Kelamin

Email Pemesan

Email

Jumlah Pesanan

Jumlah Pesanan

Note

1. Apabila membutuhkan informasi terkait panduan transaksi atau pemesanan, Anda dapat meluangkan waktu sejenak untuk membaca panduan transaksi dengan cara Klik [Disini](#)
2. Pembayaran uang muka adalah minimal sejumlah IDR 10.000.000
3. Tenggang waktu pembayaran uang muka adalah 24 jam terhitung dari waktu transaksi dilakukan. Transaksi akan dibatalkan secara otomatis oleh sistem apabila melewati batas tenggang waktu yang telah ditentukan

Informasi Pesanan

Jumlah Pesanan2 pax

Harga / paxIDR 55.000.000

Jumlah TotalIDR 110.000.000

Jumlah Pembayaran + Kode UnikIDR 110.000.223

Intruksi Pembayaran

Lakukan pembayaran sebelum melanjutkan pemesanan

PT Annisa Mulia Wisata
0889 7654 6574
Bank Central Asia

PT Annisa Mulia Wisata
0878 6754 6784
Bank Rakyat Indonesia

Konfirmasi Pembayaran

[Batalkan Pesanan](#)

Figure 5. Checkout Page

Figure 5 above is the appearance of the Checkout page. In this nature, the user is required to fill in his data as a condition of ordering. After the admin has confirmed the payment, the user will get information about the package ordered.

3. Cart Page

Annisa Mulia | Beyond the explorer of the world

Home / Cart

Pesanan Anda

Nama Paket	Jumlah Pesanan	Status		
Paket Umrah Platinum	5 Seat	Pending	Lihat Detail	Batalkan Pesanan
Paket Umrah Gold	5 Seat	Pending	Lihat Detail	Batalkan Pesanan
Paket Umrah Silver	5 Seat	Pending	Lihat Detail	Batalkan Pesanan
Paket Umrah Bronze	5 Seat	Pending	Lihat Detail	Batalkan Pesanan

Figure 6. Cart Page

The picture above is a display of the cart page. All orders belonging to the user will be displayed on this page.

4. Cart Detail Page



Annisa Mulia Beyond the explorer of the world	
Home / Cart / Cart Detail	
Detail Pesanan	
Paket Yang Dipesan	Paket Umrah Platinum
Jumlah Pesanan	5 Seat
Status Pesanan	Pending
Tanggal Pemesanan	12 Septemember 2020
Harga Satuan	IDR 25.000.000
Harga Total	IDR 125.000.000
Harga Total + Kode Unik	IDR 125.000.123

Figure 7. Cart detail

The picture above is a detailed cart page display. On this page will be displayed the order details of each order that has been placed.

4. Conclusion

Based on the results of the discussion that has been described in the previous chapters and also based on the results of the author's observations from the formulation of the problem, the following conclusions can be drawn:

1. The results of this study succeeded in creating a website-based Umrah registration system that can display the availability of Umrah packages and can also place orders online through the website.
2. With the website-based Umrah registration system, pilgrims can see for each type how many pilgrims have registered and how many quota seats are left for each type of Umrah package available.
3. This system is also a promotional media for companies to facilitate the delivery of information for prospective pilgrims and pilgrims who have used the service faster, more precisely, and accurately, improving company performance.

References

- [1] N. Kumaladewi and F. Mintarsih, "Analysis Of Quality Of Haji And Umroh Public Services Using E-Govqual Method At The Ministry Of Religion Of The Republic Of Indonesia." Vol.17 no.3 2020.
- [2] F. Alfiah, A. Adyani, M. A. Azis, and F. Sains, "Perancangan Aplikasi Pendaftaran Travel Online Menggunakan Laravel Framework Pada PT. Arisalah". Vol.1 No.5 Feb 2020.
- [3] P. Eka "Perancangan Sistem Informasi Pendaftaran Umroh Ibnu Hasan Safaroh Ziarah Haraman Tour & Travel Berbasis Web". 2021.

- [4] O. Sohaib, H. Solanki, N. Dhaliwa, W. Hussain, and M. Asif, "Integrating design thinking into extreme programming," *Journal of Ambient Intelligence and Humanized Computing*, vol. 10, no. 6, pp. 2485–2492, Jun. 2019, doi: 10.1007/s12652-018-0932-y.
- [5] F. Sahrul, S. Kom, M. Eng, M. A. Safi'ie, S. Si, and O. Decroly, "Transformasi Jurnal Informasi & Pengembangan Iptek'(Stmik Bina Patria) Implementasi Sistem Informasi Akademik Berbasis Web Menggunakan Framework Laravel," 2016.
- [6] W. Firdaus *et al.*, "Penanggung Jawab," *Jurnal Teknologi Informasi dan Ilmu Komputer*, vol. 7, no. 1, 2020 [Online]. Available: <http://www.jtiik.ub.ac.id>
- [7] I. Journal, M. Thakir Mahmood, O. Ibrahim Ashour, and O. Bayat, "Design and Implementation of Web Based For Intermediate Online Shop with Laravel Framework Cite this paper International Journal of Computer Science and Mobile Computing Design and Implementation of Web Based For Intermediate Online Shop with Laravel Framework," 2019. [Online]. Available: www.ijcsmc.com
- [8] A. Sunardi and Suharjito, "MVC architecture: A comparative study between laravel framework and slim framework in freelancer project monitoring system web based," in *Procedia Computer Science*, 2019, vol. 157, pp. 134–141. doi: 10.1016/j.procs.2019.08.150.
- [9] E. Aulia Wicaksono, M. A. Ineke Pakereng, and C. Author, 2020. "Implementation Of Laravel Framework In The Development Of Library Information System (Study Case: Smk Pgri 2 Salatiga *Jurnal Pilar Nusa Mandiri*, 16(2), 261-270.
- [10] I. Gusti Ngurah Suryantara and J. Fernandes Andry, "Development of Medical Record With Extreme Programming SDLC," *Lodan Raya*, vol. V, no. 1, p. 47, 2018.
- [11] M. T. Mahmood and O. I. A. Ashour, "Web application based on MVC laravel architecture for online shops," Sep. 2020. doi: 10.1145/3410352.3410834.
- [12] F. Alfiah and R. Prima Mufti Al Rasyid, "Sistem Advertensi Properti Berbasis Laravel Framework Pada PT. Mekar Baru Properti Indonesia," vol. 8, no. 1, p. 2022.
- [13] A. Salim, J. Jefa, B. Oloan Lubis, J. Atmaja, F. Wahyuhening Fibriany, and C. sitasi, "Penerapan Metode RAD Pada Sistem Informasi Layanan Umroh Di PT. Galang Saudi Tourism Jakarta Berbasis Website," *Bina Insani ICT Journal*, vol. 8, no. 1, pp. 1–11, 2021.
- [14] S. Hendrawan, A. David Manuputty, B. Haryanto, and A. D. Manuputty, "Design of Information Systems for Research Permit Application with Agile Method and Website Based Laravel Framework Perancangan Sistem Informasi Permohonan Perizinan Penelitian dengan Metode Agile dan Framework Laravel Berbasis Website," *Journal of Information Systems and Informatics*, vol. 2, no. 1, pp. 2656–5935, 2020, [Online]. Available: <http://journal-isi.org/index.php/isihttp://journal-isi.org/index.php/isi>
- [15] I. Carolina, A. Supriyatna, J. Kamal Raya No, and R. Barat Cengkareng Jakarta Barat, "Penerapan Metode Extreme Programming Dalam Perancangan Aplikasi Perhitungan Kuota Sks Mengajar Dosen." Vol 3 No 1 (2019): IKRA-ITH INFORMATIKA Vol 3 No 1 Bulan Maret 2019.
- [16] E. S. Hidalgo, "Adapting the scrum framework for agile project management in science: case study of a distributed research initiative," *Heliyon*, vol. 5, no. 3, Mar. 2019, doi: 10.1016/j.heliyon.2019.e01447.
- [17] A. Shrivastava, I. Jaggi, N. Katoch, D. Gupta, and S. Gupta, "A Systematic Review on Extreme Programming," in *Journal of Physics: Conference Series*, Jul. 2021, vol. 1969, no. 1. doi: 10.1088/1742-6596/1969/1/012046.
- [18] A. Supriyatna, "Metode Extreme Programming Pada Pembangunan Web Aplikasi Seleksi Peserta Pelatihan Kerja," *Jurnal Teknik Informatika*, vol. 11, no. 1, pp. 1–18, May 2018, doi: 10.15408/jti.v11i1.6628.
- [19] I. Ahmad, R. Indra Borman, J. Fakhurozi, and G. G. Caksana, "Software Development Dengan Extreme Programming (XP) Pada Aplikasi Deteksi Kemiripan Judul Skripsi Berbasis Android," vol. 5, no. 2, p. 2020.

- [20] L. Ariyanti, M. Najib, D. Satria, and D. Alita, "Sistem Informasi Akademik Dan Administrasi Dengan Metode Extreme Programming Pada Lembaga Kursus Dan Pelatihan," 2020. [Online]. Available: <http://jim.teknokrat.ac.id/index.php/sisteminformasi>
- [21] D. Wijonarko *et al.*, "Implementasi Framework Laravel Dalam Sistem Pendaftaran Mahasiswa Baru Politeknik Kota Malang," *Jurnal Informatika & Rekayasa Elektronika*, vol. 2, no. 2, 2019, [Online]. Available: <http://e-journal.stmiklombok.ac.id/index.php/jire>