

# Design And Construction Of A Web-Based Information System For Ordering Printing Services On CV Multigraph

Information System  
for Ordering  
Services Product

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## **ABSTRACT**

*Designing a Web-Based Printing Service Ordering Information System for CV Multigraph is a project aimed at developing an efficient and practical information system for online printing service orders. CV Multigraph is a printing company that offers a variety of printing services to its customers. In this research, the author designed and implemented an information system that enables customers to easily place orders through the web platform. Utilizing modern web technology, the system harnesses the power of the internet to expedite and streamline the ordering process. The system allows customers to choose their desired printing services, upload design files, select print quantities and sizes, and provide specific instructions. Upon completion of the order, customers receive real-time order status updates and confirmations. Additionally, the system facilitates CV Multigraph in managing incoming orders. Printing staff can view the list of ongoing orders, schedule production, and send confirmation messages to customers, enhancing service effectiveness and responsiveness to customer needs. The methodology used is Extreme Programming, which encompasses analysis, planning, design, coding, and testing. The system development utilizes web technologies such as HTML, CSS, JavaScript, and PHP. The result is an efficient, practical, and user-friendly printing service ordering information system for CV Multigraph customers. The system is expected to enhance customer experience, expedite the ordering process, and improve operational efficiency and customer satisfaction for CV Multigraph.*

**Keywords:** information system, ordering, printing service, CV Multigraph, web-based.

## **INTRODUCTION**

The development of information systems is very important in the current era, where most companies utilize this information system to develop business which they run. According to data survey which conducted by (Kusumatriana et al., 2020) there was an increase of around 45.93% from 2017 to 2019. Apart from the development of information systems, the development of information technology is also closely linked to information systems. As information technology becomes more sophisticated, companies are required to be able to keep up with developments era moment this. According to (Saputri et al., nd) with utilizing and combining information technology, information systems and ordering can help company in matter effectiveness time worker become more fast. This can influence the productivity of workers' performance and also make it possible to increase sales of products or services.

Ordering is an activity carried out by consumers when purchasing goods or services (Budianto et al., 2022). One business sector that requires consumers to place orders in advance is the printing services business sector. Printing itself is a business sector that operates in the field of printing services for marketing or promotional media needs such as posters, billboards, banners, stickers, brochures and so on (Rinai & Said, 2021).

CV Multigraph is a company operating in the printing and advertising sector which was founded in 2015 in Bogor by providing *offset printing* and *digital printing services*. The ordering system at CV Multigraph is currently still done conventionally, if customers want

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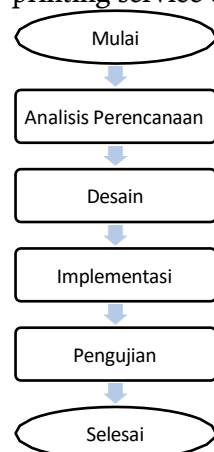
to make an order they still have to come directly to the shop. After That data booking Which enter must processed in a way manual, like must be recorded in an order book by the admin and the report creation process is still made using the *Microsoft Excel application* . Based on the problems above, a computerized ordering system is needed to overcome the conventional system. This can result in a decrease in company income because customer must willing queue If must come straight away. Besides That, system information booking can overcome error in the process of inputting, recording, ordering and creating order reports. Therefore, in this research the author will design and create a *web- based ordering information system* created using the PHP and MySQL programming languages. For the database, the author uses PHP because this programming language is very common in creating systems, PHP itself is also an *open source programming language* where the author can with free use it. Writer Also use MySQL because MySQL is very flexible regarding the programming language that the author uses. With this information system, it is hoped that it can create efficiency and effectiveness in the process of ordering printing services at CV Multigraph.

## METHOD

In this research process, a method is needed to overcome existing problems. For this reason, the method used in this research is the *Agile method with the Extreme Programming* software development model type . *Extreme Programming* is an approach to software development that focuses on speed, flexibility and product quality. The stages in implementation are as shown in Figure 1.

As for explanation from every procedure Work Which held that is as follows:

1. Analysis . This stage aims to analyze the needs of the printing service ordering system at CV Multigraph. The analysis carried out includes the needs of users such as customers, admins and heads as well as the data needed by each user.
2. Design. On stages This aim For designing or describe design printing service ordering system at CV Multigraph. The system design was created using UML ( *Unified Modeling Language* ), while the database design design process used *Entity Relational Diagram (ERD)*
3. Implementation. At this implementation stage, an application for ordering printing services at CV Multigraph was created using programming languages such as *Hyperlink Text Markup Language (HTML)*, *JavaScript* , *Cascading Style Sheets (CSS)* on the *client side* and for *server side* using *Hypertext Preprocessor (PHP)* with the *CodeIgneter framework* .
4. Testing. After it is realized in the implementation stage, the entire system is tested to check for any failures or errors. At this stage, testing is carried out on the *web- based* printing service ordering application using *black box testing* .



Source: Results Study (2022)

Picture 1. Flow chart Procedure Work

## RESULTS AND DISCUSSION

### Analysis User Needs

Analysis user shared become two part that is admin And customers can be seen in the table below:

1. Analysis Need Admin

Table 1. Analysis Need Admin

Actor	Description
Admin	<ol style="list-style-type: none"> <li>1. Do Login</li> <li>2. Manage User Data</li> <li>3. Manage Data City</li> <li>4. Manage Data Category</li> </ol>
	<ol style="list-style-type: none"> <li>5. Manage Product</li> <li>6. See Data Customer</li> <li>7. Manage Data Transaction</li> <li>8. Viewing Reports</li> </ol>

2. Analysis Customer Needs

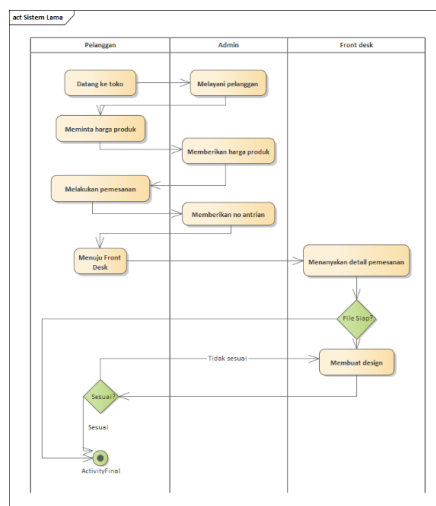
Table 2. Analysis Customer Needs

Actor	Description
Customer	<ol style="list-style-type: none"> <li>1. Do Login</li> <li>2. Do List Account</li> <li>3. Do Transaction</li> <li>4. Do Payment confirmation</li> <li>5. See Data Product</li> </ol>

**Design System Long**

On process system the sales, started moment customer come direct Go to the shop and then the admin serves customers, where the customer first asks for the price range of the product. Next, the customer places an order. Then, the admin will give the queue number to the customer. If the queue number has been called, the customer goes to the *designer* or *front desk*. In part *designer* or *front desk* customer will asked is *the file* is done Ready For printed or Not yet, If Already Ready so can direct printed. However, if it is not ready to print, a design will be made first by the *designer* or *front desk*.

Source: Results Study (2022)



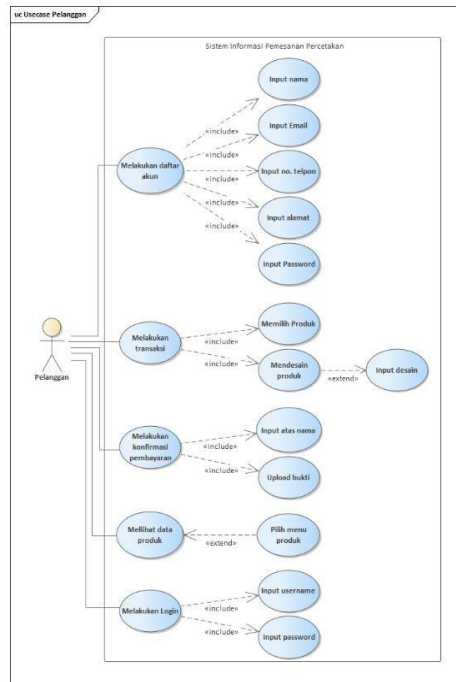
Picture 2. Activity Diagram Design System Long

**Design System New**

A use case diagram, also known as a use case diagram is a visual representation of the interactions between use cases (user scenarios) and actors in a system. The purpose of this diagram is to describe the processes and relationships that occur between actors and user cases in a system which currently planned. Diagram which proposed can be seen in the

Information System following image.  
For Ordering  
Services Product

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Source: Results Study (2022)

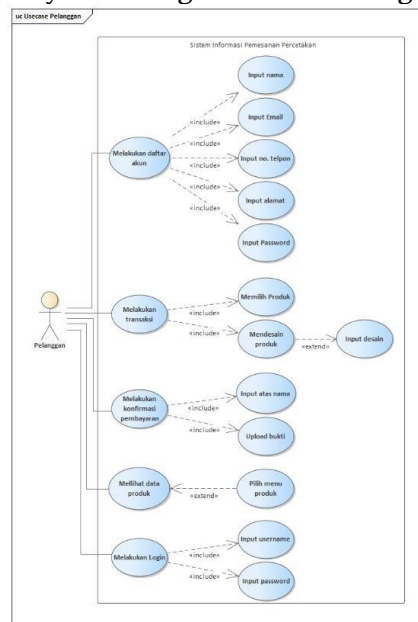
Picture 3. Use Customer Case Diagram

1. Use Cases Customer Diagram

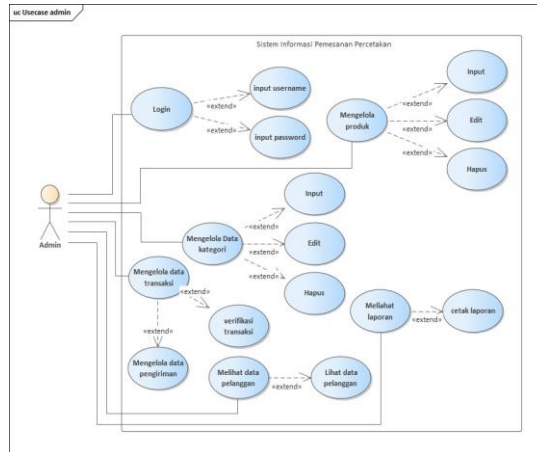
use case diagram provides a clear view of how customers can use the system to place orders for printing services and view related information. This helps in designing the system with a focus on customer needs and ensures better user experience.

2. Use Cases Admin Charts

With this use case diagram, the interaction between admin actors and the system becomes clear and makes it easier to understand the functionality that can be accessed by admin. Diagram This become guide in designing system Which in accordance with the need admin And increase efficiency in management CV Multigraph.



Picture 3. Use Customer Case Diagram

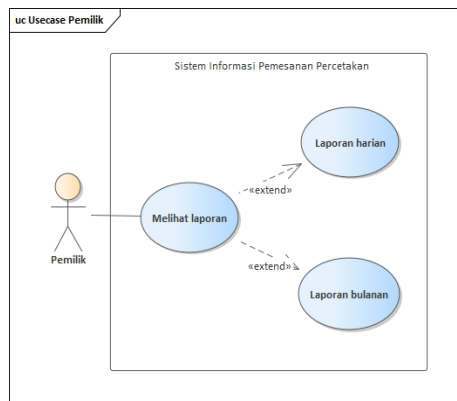


Source: Results Study (2022)

Picture 4. Use Case Diagram Admin

### 3. Use Cases Owner's Chart

Following is picture use cases diagram Which show interaction between the owner and the proposed system.

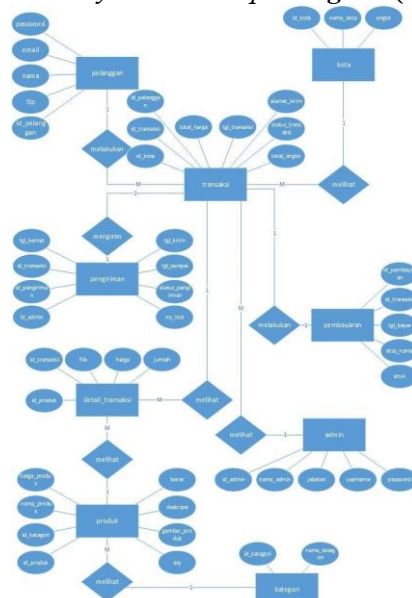


Source: Results Study (2022)

Picture 5. Use Owner's Case Diagram

### Design Database

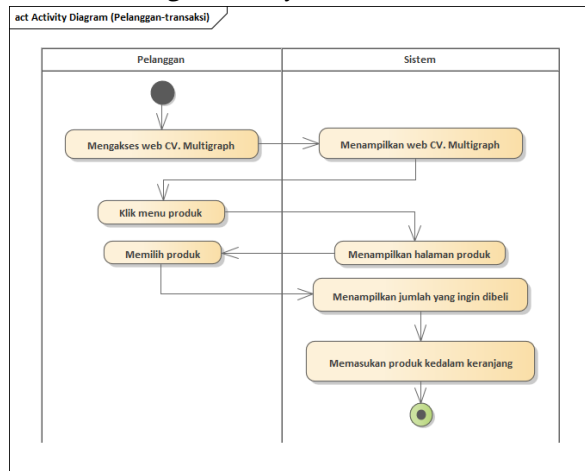
As for design base data use Entity Relationships Diagram (ERD), that is as following:



Picture 6. Entities Relationship Diagrams (ERD)

**Activity Customer Diagram Do Transaction**

In the customer activity diagram when carrying out a transaction, the customer must first order the product and the quantity to be purchased. If the customer has ordered a product, the order will go directly into the basket.



Source: Results Study (2022)

Picture 7. Activity Diagram Customer Place an Order

**Wireframes Page Customer Details Product**

The product detail page is a page on the CV Multigraph website which contains a complete list of printing service products offered by the company. On this page, customers can find detailed information about the various types of products they can order, such as brochures, pamphlets, invitations, stickers and so on.



Source: Results Study (2022)

Picture 8. Wireframes Page Details Product

**Implementation Page Product Details**



Source: Results Study (2022)

Picture 9. Implementation Page Details Product

## Testing

Objective from *black box testing* is For identify potency internal error functionality page booking like error validation input, incorrect display or performance problems.

Table 3. Testing Booking

No.	Test scenarios	Test Cases	Expected results	Test result	Conclusion
1.	Entire existing <i>input</i> on the customer's product detail page is not filled in, then presses the button add to basket.	Not <i>uploaded print</i> file .	System will rejects and displays the message "Sorry, you have not entered the design <i>file</i> "	According to expectations	Valid
2.	Fills in <i>the file</i> for the print <i>file</i> on the details page product, then press the enter button basket.	Uploading print <i>files</i> .	The system will accept <i>files upload</i> and display the message "The product you selected has been added to the basket"	According to expectations	Valid
3.	Fills in <i>the file</i> for the print <i>file</i> on the details page product with incompatible <i>files</i> , then press the button add to basket.	Uploading <i>files</i> that do not comply with the provisions.	System will refuses and displays the message "Sorry, the only formats allowed are PDF/JPG/ZIP/RAR"	According to expectations	Valid

## CLOSING

Based on results study And discussion Which has done on CV Multigraph, several important conclusions were obtained. First, implementation of information systems booking based *web* in a way significant make it easier customers can place orders anytime and anywhere through process digitization. Second, the information system for ordering printing services that has been designed is successful reduce possibility error in making report daily and monthly income by admin as well as increasing the accuracy of the data produced. Third, adoption system information based *web* possible CV Multigraph to monitor And analyze chart sale every month or daily with more efficient and provides valuable insights for business decision making Which more right and responsive to market. So that in a way overall, system information booking *Web*- based This role important in increasing operational efficiency, increasing customer satisfaction and supporting CV Multigraph's business growth in a better direction.

## REFERENCES

- [1] Adhim, F., Murtadho, M. A., & A, C. S. (2020). Perancangan Aplikasi Cetak Dokumen Online Berbasis Android Menggunakan Metode Waterfall Dibiner Jombang. *Jurnal Informatika & Rekayasa Elektronika*, 3(1), 85–90.
- [2] Alda, M. (2021). *Rekayasa Perangkat Lunak Berorientasi Objek*. Media Sains Indonesia.
- [3] Argoputro, S.B., Agustiani, S. and Purba, J.H.V., 2023. Pengaruh Likuiditas, Solvabilitas Dan Aktivitas Terhadap Profitabilitas: Studi Empiris pada Perusahaan Subsektor Kabel yang terdaftar di Bursa Efek Indonesia Tahun 2015-2020. *Jurnal Ilmiah Manajemen Kesatuan*, 11(2), pp.233-246.
- [4] Bale, P.J., Marlina, T., Muanas, M. and Fahmie, A., 2023. Pengaruh Sistem Informasi Akuntansi Dan Pengendalian Internal Terhadap Kualitas Laporan Keuangan Pemerintah Daerah. *Jurnal Informatika Kesatuan*, 3(2), pp.111-122.
- [5] Budianto, G., Marchella, & Tiffany. (2022). Penggunaan SSM Dalam Perencanaan Pengembangan Sistem Pemesanan Berbasis *Website*. *ADI Bisnis Digital Interdisiplin Jurnal*, 3(1), 53–58. <https://doi.org/10.34306/abdi.v3i1.745>
- [6] Carolina, M.T., Pramiudi, U. and Wahyuni, I., 2021. Analisis Sistem Informasi Akuntansi Penerimaan Dan Pengeluaran Kas Terhadap Pengendalian Internal Kas. *Jurnal Informatika Kesatuan*, 1(2), pp.119-130.
- [7] College, A. (2019). *Database (MySQL) for Beginners*. Advanced Micro Systems Sdn Bhd.
- [8] Dasmadi, & Syamsiyah, S. (2021). *Industri Perbukuan Nasional dari Masa ke Masa*.

- Penerbit Lakeisha.
- [9] Didik, S. (2017). *Buku Sakti Pemrograman Web HTML, CSS, PHP, MySQL & Javascript*. Anak Hebat Indonesia.
- [10] Elgamar. (2020). *Buku Ajar Konsep Dasar Pemrograman Website Dengan PHP*. CV. Multimedia Edukasi.
- [11] Fahsani, D., Sulistiono, S. and Rosa, E.S., 2023. Membangun Jiwa Kewirausahaan Dan Strategi Bisnis UMKM Kota Bogor. *Jurnal Abdimas Dedikasi Kesatuan*, 4(2), pp.151-156.
- [12] Fawwaz, M.I., Akbar, M.F. and Churiyah, M., 2023. PEMBERDAYAAN EKONOMI IBU PKK MELALUI GALERI BANK SAMPAH DAN URBAN FARMING MENUJU PEMBANGUNAN LINGKUNGAN BERKELANJUTAN DI KAMPUNG MERGOSONO. *PORTAL RISET DAN INOVASI PENGABDIAN MASYARAKAT*, 2(3), pp.309-316.
- [13] Fitra, K. N. M. (2020). PENGARUH DIGITAL MARKETING TERHADAP PENDAPATAN USAHA MIKRO KECIL MENENGAH (UMKM) MENURUT PERSPEKTIF EKONOMI ISLAM. *Kaos GL Dergisi*, 8(75), 147–154. <https://doi.org/10.1016/j.jnc.2020.125798><https://doi.org/10.1016/j.smr.2020.02.002><http://www.ncbi.nlm.nih.gov/pubmed/810049><http://doi.wiley.com/10.1002/anie.197505391><http://www.sciencedirect.com/science/article/pii/B9780857090409500205>
- [14] Fitriyani, R., Bramana, S. M., & Deswana, E. (2022). Pengaruh Jiwa Kewirausahaan Dan Kreativitas Terhadap Keberhasilan Usaha Percetakan Di Kabupaten Ogan Komering Ulu. *Kolegial*, 10(1).
- [15] Flanagan, D. (2012). *JavaScript Pocket Reference*. O'Reilly Media.
- [16] Habibi, R., & Sandi, K. (2020). *Aplikasi bank sampah istimewa menggunakan framework PHP Codeigniter dan DBMS MySQL*. Kreatif Industri Nusantara.
- [17] Hendini, A. (2022). *WEB PROGRAMMING Membangun Sistem Informasi Akademik Menggunakan Framework Codeigniter 4*. Insan Cendekia Mandiri.
- [18] Hidayat, R., Marlina, S., & Utami, L. D. (2017). Perancangan Sistem Informasi Penjualan Barang Handmade Berbasis Website Dengan Metode Waterfall. *Simnasiptek*, 176–183.
- [19] Husen, Z., & Surbakti, M. S. (2020). *Membangun Server dan Jaringan Komputer dengan Linux Ubuntu*. Syiah Kuala University Press.
- [20] IRIYADI, M., HIDAYAH, R., WONG, H.S., KRISWANTO, A.W., SABRINA, S., MEINARSIH, T. and WIFASARI, S., 2023. EXPLORING ELECTRONIC SYSTEM MODERNIZATION AND DIGITAL LITERACY ABILITY: COMPARATIVE. *Journal of Theoretical and Applied Information Technology*, 101(20).
- [21] Kusumatriana, A. L., Rozama, N. A., Syakilah, A., Wulandari, V. C., Untari, R., & Sutarsih, T. (2020). *STATISTIK E-COMMERCE 2020*. Badan Pusat Statistik.
- [22] Lubis, E. R. (2018). *Panduan Cepat dan Mudah Belajar Internet Marketing*. Bhuana Ilmu Populer.
- [23] Mariko, S. (2019). Aplikasi website berbasis HTML dan JavaScript untuk menyelesaikan fungsi integral pada mata kuliah kalkulus. *Jurnal Inovasi Teknologi Pendidikan*, 6(1), 80–91. <https://doi.org/10.21831/jitp.v6i1.22280>
- [24] Munawar. (2018). *Analisis Perancangan Sistem Berorientasi Objek dengan UML (Unified Modeling Language)*. Informatika Bandung.
- [25] Octavian, H.S. and Soedargo, B.P., 2023. Perilaku Penggunaan Dompnet Digital pada Generasi Z di Bogor. *Jurnal Ilmiah Manajemen Kesatuan*, 11(1), pp.119-128.
- [26] Pangestu, A., & Afuan, L. (2021). Rancang Bangun Sistem Informasi Pengelolaan Wisata Edukasi Berbasis Website Studi Kasus Kampung Marketer. *Jurnal Pendidikan Dan Teknologi Indonesia*, 1(2), 45–57. <https://doi.org/10.52436/1.jpti.4>
- [27] Pramiasih, E.E., Munawar, A., Puspitasari, F., Muhammad, N.I., Listyorini, H., Pranoto, P. and Andiyan, A., 2023. After Covid-19 Sustainable Tourist Village Development and Economic Regeneration. *Journal of Survey in Fisheries Sciences*,

- pp.2863-2868.
- [28] Prehanto, D. R. (2020). *Buku Ajar Konsep Sistem Informasi*. Scopindo Media Pustaka.
- [29] Purba, J.H.V., Fathiah, R. and Steven, S., 2021. the Impact of Covid-19 Pandemic on the Tourism Sector in Indonesia. *Riset*, 3 (1), 389–401.
- [30] Rerung, R. R. (2018). *Pemrograman Web Dasar*. Deepublish Publisher.
- [31] Rinai, R., & Said, M. S. (2021). Sistem Informasi Pemesanan Produk Percetakan Berbasis *Web* Pada Cv.Fadhil Indokreatif Kendari. *Simtek : Jurnal Sistem Informasi Dan Teknik Komputer*, 6(1), 83–91. <https://doi.org/10.51876/simtek.v6i1.99>
- [32] Robbins, J. (2018). *Learning Web Design A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics*. O'Reilly Media.
- [33] Romindo, R., Muttaqin, M., Rasinus, R., Israwan, L. F., Yuswardi, Y., Karim, A., Sari, A. N., Putri, E. E., & Samosir, K. (2021). *Sistem Informasi*. Yayasan Kita Menulis.
- [34] Rozaq, A. (2020). *Konsep Perancangan Sistem Informasi Bisnis Digital*. Poliban Press.
- [35] Saputri, Z. R., Oktavia, A. N., Ramdhani, L. S., & Suherman, A. (2019). Rancang Bangun Sistem Informasi Pemesanan Makanan Berbasis *Web* Pada Cafe Surabiku. *Jurnal Teknologi Dan Informasi*, 9(1), 66–77. <https://doi.org/10.34010/jati.v9i1.1378>
- [36] Saputri, Z. R., Oktavia, A. N., Ramdhani, L. S., Suherman, A., Informasi, S., Kampus, A., Sukabumi, K., Informasi, S., Kota, K., Bina, U., Informatika, S., & Pendahuluan, I. (n.d.). *RANCANG BANGUN SISTEM INFORMASI*. 66–77.
- [37] Sari, A. O., Abdilah, A., & Sunarti. (2019). *WEB PROGRAMMING*. GRAHA ILMU.
- [38] Sari, R. F., & Utami, A. (2021). *REKAYASA PERANGKAT LUNAK BERORIENTASI OBJEK MENGGUNAKAN PHP*. ANDI (Anggota IKAPI).
- [39] Sharma, S., & Thakur, K. S. (2015). *Management Information System*. Horizon Books.
- [40] Siahaan, V., & Sianipar, R. H. (2018). *JavaScript Untuk Profesional*. Sparta Publisher.
- [41] Soedargo, B., Mulya, S.Z.H. and Riwoe, F.L.R., 2023. Pengaruh Citra Merek Dan Iklan Terhadap Keputusan Pembelian Produk Hand And Body Lotion Marina. *Jurnal Aplikasi Bisnis Kesatuan*, 3(3).
- [42] Subowo, H., Djanegara, M.S., Ishardiyatmo, H. and Muktiadji, N., 2023. Pelatihan Dan Pendampingan Pembukuan Keuangan Digital Menggunakan Aplikasi Buku Kas Bagi UMKM Kelurahan Gudang Kota Bogor. *Jurnal Abdimas Dedikasi Kesatuan*, 4(2), pp.156-162.
- [43] Sudradjat, S., Mulyana, A. and Gabriela, V.V., 2021. Pelatihan Sistem Informasi Akuntansi Penerimaan dan Pengeluaran Kas Pada Venice Gallery. *Jurnal Abdimas Dedikasi Kesatuan*, 2(2), pp.191-196.
- [44] Supono, & Putratama, V. (2018). *Pemrograman Web dengan Menggunakan PHP dan Framework Codeigniter*. DEEPUBLISH.
- [45] Suprpto, U. (2021). *Pemodelan Perangkat Lunak SMK/MAK Kelas XI*. Gramedia Widiasarana indonesia.
- [46] Suprihadi, E. (2020). *Sistem Informasi Bisnis Dunia Versi 4.0*. Penerbit Andi.
- [47] Suri, N. (2019). Bab II Landasan Teori. *Journal of Chemical Information and Modeling*, 53(9), 1689–1699.
- [48] Suryantara, I. G. N. (2017). *Merancang Aplikasi dengan Metodologi Extreme Programming*. Elex Media Komputindo.
- [49] Susianto, D. (2019). *Perancangan Sistem Pemesanan E-Tiket Pada Wisata Di Lampung Berbasis Web Mobil*. 2, 60–71.
- [50] Sutabri, T. (2012). *Analisis Sistem Informasi*. CV. ANDI OFFSET.
- [51] Tirtonegoro, S. (2020). *Perancangan Sistem Informasi Distribusi Linen Pada Rsup*. 9(4), 1–10.
- [52] Utama, D. W., Putra, I. G. L. A. R., & Satwika, I. P. (2019). Rancang Bangun Sistem Informasi Pemesanan Custom Furniture Berbasis *Website*. *J-SAKTI (Jurnal Sains Komputer Dan Informatika)*, 3(1), 53. <https://doi.org/10.30645/j-sakti.v3i1.96>
- [53] Wahyuni, R., & Irawan, Y. (2020). Aplikasi E-Book Untuk Aturan Kerja Berbasis

- Web Di Pengadilan Negeri Muara Bulian Kelas Ii Jambi. Jurnal Ilmu Komputer*, 9(1), 20–26. <https://doi.org/10.33060/jik/2020/vol9.iss1.152>
- [54] Widia, D. M., & Asriningtias, S. R. (2021). *Cara Cepat dan Praktis Membangun Web Dinamis dengan PHP dan MySQL*. Universitas Brawijaya Press.
- [55] Yudhistira, M. and Mashadi, M., 2013. TINJAUAN PELAYANAN PRIMA PADA TOYOTA SETIAJAYA DALAM MENARIK KONSUMEN. *Jurnal Online Mahasiswa-Manajemen*, 1(1).
- [56] Yudhanto, Y., & Prasetyo, H. A. (2018). *Panduan Mudah Belajar Framework Laravel*. Elex Media Komputindo.
- [57] Yuniansyah. (2020). *Algoritma dan Pemrograman Menggunakan Bahasa Pemrograman Java (Teori dan Aplikasinya)*. Penerbit Lindan Bestari.