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

Yanto Hermawan, Mochammad Rizky Son Adi Nugroho
Program Studies Bachelor System Information Faculty Informatics And Tourism,
Unitary Institute of Business and Informatics
E-mail: anto@ibik.ac.id

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 (Kusumaturisna 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
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 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 CodeIgniter 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.

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

<table>
<thead>
<tr>
<th>Actor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin</td>
<td>1. Do Login</td>
</tr>
<tr>
<td></td>
<td>2. Manage User Data</td>
</tr>
<tr>
<td></td>
<td>3. Manage Data City</td>
</tr>
<tr>
<td></td>
<td>4. Manage Data Category</td>
</tr>
<tr>
<td></td>
<td>5. Manage Product</td>
</tr>
<tr>
<td></td>
<td>6. See Data Customer</td>
</tr>
<tr>
<td></td>
<td>7. Manage Data Transaction</td>
</tr>
<tr>
<td></td>
<td>8. Viewing Reports</td>
</tr>
</tbody>
</table>

2. Analysis Customer Needs

Table 2. Analysis Customer Needs

<table>
<thead>
<tr>
<th>Actor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>1. Do Login</td>
</tr>
<tr>
<td></td>
<td>2. Do List Account</td>
</tr>
<tr>
<td></td>
<td>3. Do Transaction</td>
</tr>
<tr>
<td></td>
<td>4. Do Payment confirmation</td>
</tr>
<tr>
<td></td>
<td>5. See Data Product</td>
</tr>
</tbody>
</table>

**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)*

![Activity Diagram Design System Long](image.png)

**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
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.
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.

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.

Implementation Page Product Details

Source: Results Study (2022)
Picture 7. Activity Diagram Customer Place an Order

Source: Results Study (2022)
Picture 8. Wireframes Page Details Product

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

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

**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**


