Implementation of Computer Based Information as Learning Medium for Train Passengers at Railway Station’s Kisaran

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ABSTRACT

Information and communication technology has developed along with globalization, so that the interaction and delivery of information occurs quickly. Computers really feel the need and importance of developing and improving quality in conveying the education that will be given by passengers, especially for passengers who want to take the train at the Kisaran city station, education is a process to assist passengers in providing information which will later be carried out using the information. For that we need a medium in educating passengers who want to ride the train at the Kisaran city station, namely by creating a website where there are several guidelines so that passengers can understand the rules during the covid 19 period well. One way to solve the above problems is using the Computer Based Instruction method, which is to provide information guides such as regulations at the Kisaran city station in the form of procedures for buying train tickets, and types of masks, and others who will be informed. The working principle of the computer based instruction (CBI) method is a programmed learning that uses a computer as a tool to communicate information to people who want to take a train from Kisaran city station.

Keyword: Computer Based Instruction; Education, Kisaran Train Station

1. INTRODUCTION

The need for fast and accurate data and information has become a very vital need for companies, institutions or industries (Maulana, 2021). One of the media for distributing data and information is by utilizing information technology both in terms of devices and software. The rapid development of technology is a challenge that is quite interesting for corporate agencies, both institutions and industries to be able to implement information systems and information technology related to their agencies at the best level, especially the Kisaran City Train Station. The lack of knowledge of prospective train passengers about the information available at the station is the main reason for this research study. Until now, the Kisaran Railway Station does not yet have a technology-based information distribution facility to convey information related to the Kisaran Railway Station, especially in the Covid-19 pandemic, technology-based information distribution is one of the best options to minimize physical contact as one of the media. The spread of covid-19. One method for delivering information can use computer-based learning methods and information technology to distribute information as well as a medium for educating train passengers regarding schedule information and health protocols that can be learned by passengers visiting the Kisaran Train Station (Maulana, 2020). Learning media is a tool used in terms of teaching and learning activities to convey learning content so that knowledge, mastery of skills, in this case is the passenger of the Kisaran Railway station. For that we need a medium in educating passengers who want to ride the train at the Kisaran city station, namely by creating a website where there are several guidelines so that passengers can understand the rules during the covid 19 period well. One way to solve the above problems is using the Computer Based Instruction method, which is to provide information guides such as regulations at the Kisaran city station in the form of procedures for buying train tickets, and types of masks, and others who will be informed (Syahputra, 2018). Computer Based Instruction is programmed learning that uses a computer as the main tool or means to communicate the material to someone. In Computer Based Instruction, the computer becomes an information center,
where a person plays a more active role in understanding information, the main medium is a computer (Al-Khwarizmi, 2020). Implementation of Computer Based Instruction, there are several models and platform choices, one of which is a web-based platform. A web-based platform is a dynamic platform that uses a browser device to access it, which is universal, which can be accessed by any device, whether mobile or desktop. And not limited to, certain operating systems. In its application, the Computer Based Instruction system that will be built with a web platform will use the PHP programming language and the MySQL database as data storage media. It is hoped that with the computer-based media, the public or passengers of the Kisaran Railway Station can easily obtain information related to the Kisaran Railway Station, both general information and special information that has been provided.

2. RESEARCH METHOD
The method used by the author in designing this application is the Waterfall method because this method is a structured approach (Maulana, 2017). The stages of the waterfall method are as follows:
1. Planning, This modeling begins with finding the needs of the entire system that will be applied in the form of software. This is very important, considering that software must be able to interact with other elements such as hardware, databases, etc. This stage is often referred to as Project Definition. The software that will be used by the author in making this system is using notepad ++ as a programming tool for PHP, HTML, and Javascript. Next, the author will use a MySQL database and is supported by the Google Chrome browser.
2. Analysis, Analyze the flow of the system in outline, then analyze the data that will be used. Broadly speaking, the flow of this system, starting from the community, will later open a system that will be designed and can educate the public if they want to take the train, especially at the city range station.
3. Design, After analyzing the data, the next step is to make a detailed system flow and then make a design for each form. Form design that will be used by the public and admins in viewing and managing the system to be designed
4. Implementation The implementation phase is translating the analysis and design into a programming language. The author will use the PHP programming language with MySQL database and use the codeigniter framework in system design.
5. Trial, After the coding stage, the next is system testing. In testing this system, the author will check or test each sub-system, whether it is as expected or there are still bugs. If each sub-system is declared to be appropriate, an overall test will be carried out involving the vehicle to be used.
6. Maintenance, After the system is implemented, maintenance of the system is very necessary. For example, there is a repair for system damage.

![Fig 1. Waterfall Model (Lubis, 2017)](image-url)
A. System Design
The design stage of the system design has the intent and purpose to meet the needs of system users and to provide a clear picture and complete design of the customer service system to be built. And here the author uses UML as a system design, including the following:

1. Use Case Diagrams
Broadly speaking, the system process to be designed is described by the use case diagram shown in Figure 1 below:

![Use Case Diagram](image1)

**Fig 1. Use Case Diagram Computer Based Instruction Public Education**

2. Activity Diagram
The series of activities in each system event is depicted in the following activity diagram:

a. Activity Diagram Menu Home
This activity is carried out by the community if you want to see the home display on the system. As for the look as follows:

![Activity Diagram](image2)

**Fig 2. Activity Diagram Menu Home**

b. Activity Diagram About Us
Activities carried out by the public to access menus about us in the system. As for the design as follows:
c. Activity Diagram News
Activities carried out by the public to see the news in the system. As for the design as follows:

![Activity Diagram News](image)

Fig 4. Activity Diagram News

d. Activity Diagram Contact Us
Activities carried out by the public in viewing information contact us in the system. As for the design as follows:

![Activity Diagram Contact Us](image)

Fig 5. Activity Diagram Contact Us
e. Activity Admin Login Diagram
Activities performed by admins to enter the system. As for the design as follows:

![Activity Admin Login Diagram](image)

Fig 6. Activity Admin Login Diagram

f. Activity Diagram Main Menu
Activities performed by admins manage the information to be displayed in the system. As for the design as follows:

![Activity Diagram Main Menu](image)

Fig 7. Activity Main Menu Diagram

g. Activity Diagram News Module
Activities performed by admins manage the news module to be displayed on the system. As for the design as follows:

![Activity Diagram News Module](image)

Fig 8. Activity Diagram News Module
h. Activity Diagram Banner Module
Activities performed by admins manage the banner modules that will be displayed in the system. As for the design as follows:

![Fig 9. Activity Diagram Banner Module](image)

i. Activity Diagram Edit Profile
Activities performed by admins manage the profile to be displayed in the system. As for the design as follows:

![Fig 10. Activity Diagram Edit Profile](image)

2. Class Diagram
A class diagram is a specification that if initiated will produce an object and is at the core of object-oriented development and design. Here’s the class diagram:

![Fig 11. Class Diagram Computer Based Instruction Public Education](image)
3. Database Design

Database design is used to determine the value or type of data of an attribute, in files contained in the database (Maulana, 2016). Database design is also used to facilitate the storage of data that corresponds to groups of data or information. The database structure developed is as follows:

1. User Login Table

This table is used to store user login data. The table is as follows:

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Type Data</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Username</td>
<td>Varchar(20)</td>
<td>Primary Key</td>
</tr>
<tr>
<td>Password</td>
<td>Varchar(10)</td>
<td>-</td>
</tr>
<tr>
<td>Nama_lengkap</td>
<td>Varchar(20)</td>
<td>-</td>
</tr>
<tr>
<td>Email</td>
<td>Varchar(20)</td>
<td>-</td>
</tr>
<tr>
<td>No_telp</td>
<td>Varchar(20)</td>
<td>-</td>
</tr>
<tr>
<td>Photograph</td>
<td>Varchar(20)</td>
<td>-</td>
</tr>
<tr>
<td>Level</td>
<td>Varchar(10)</td>
<td>-</td>
</tr>
<tr>
<td>Block</td>
<td>Enum(y,n)</td>
<td>-</td>
</tr>
</tbody>
</table>

2. Module User Table

This table is used by admins to store modules in the system. The table is as follows:

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Data Type</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Id_umod</td>
<td>Int(11)</td>
<td>Primary Key</td>
</tr>
<tr>
<td>Id_session</td>
<td>Varchar(30)</td>
<td>-</td>
</tr>
<tr>
<td>Id_modul</td>
<td>Int(11)</td>
<td>-</td>
</tr>
</tbody>
</table>

3. Tag Table

This table is used to store the data tags to be displayed into the system. The table is as follows:

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Data Type</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Id_tag</td>
<td>Int(5)</td>
<td>Primary Key</td>
</tr>
<tr>
<td>Nama_tag</td>
<td>Varchar(30)</td>
<td>-</td>
</tr>
<tr>
<td>Username</td>
<td>Varchar(30)</td>
<td>-</td>
</tr>
<tr>
<td>Count</td>
<td>Int(5)</td>
<td>-</td>
</tr>
</tbody>
</table>

3. RESULTS AND DISCUSSION
3.1 System Specifications
In order for the application that has been designed to run properly, it is necessary to test the system that is being done. For that it takes several main components that includes software (software) and hardware (hardware) (Sihombing, 2019).

**Hardware (Hardware)**
The hardware used to build this Application is:
1. Intel® Celeron
2. 4 GB Random Access Memory (RAM).
3. 250 GB Hard drive

**Software (Software)**
The software used to design this application is:
1. Windows 10 64 bit
2. Notepad ++
3. Mysql
4. Xampp

3.2 System Implementation and Testing
After this research is carried out, the next stage is to implement the system and conduct system testing. The completed system is designed consisting of several pages that have their respective functions. The page will be displayed as follows:

1. **Home Page**
   This page is useful for displaying the home page the first time a user accesses a system that has been designed. As for the look as follows:

   ![Fig 12. Home Page](image1)

2. **Contact Us Page**
   On this page it is useful for users to find information to contact or find the address of the city station range. As for the appearance as follows:

   ![Fig 13. Admin Login Page](image2)

6. **Dashboard Page**
   This page is used for admins to fill in the content that will be viewed into the system. As for the appearance as follows:
4. CONCLUSION

Based on the results of research and discussion that the author has done, it can be concluded that the application for educating city station passengers has been successfully implemented using the Computer Based Instruction method. The application of the Computer Based Instruction method to train passengers at the city range station can assist passengers in finding information and procedures for boarding trains during the covid 19 pandemic. Application of the Computer Based Instrmes method can be a medium of information for the city station to passengers if they want to take a train at the city station.

REFERENCES


