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DEVELOPMENT OF RW CHAIRMAN SELECTION APPLICATION WEB USING CODEIGNITER, PHP AND MYSQL FRAMEWORK

Adam Huda Nugraha

Faculty of Computer Science and Technology, Gunadarma University

adam_huda@staff.gunadarma.ac.id

ABSTRACT

E-Voting is the use of computer technology for the implementation of voting. One choice of computer technology used for the implementation of e-voting is to use a client-server architecture. So the use of an all-computer-based-system is expected to replace the manual voting process. The goal to be achieved from making this e-voting application is to be able to assist committee officers in calculating the number of voters and calculating election results quickly and accurately. This application is made using the PHP programming language which is expected to overcome problems related to selection. In making this website, the stages carried out are, preparing the required data, designing the website, designing input and output, followed by the implementation stage of making program coding, the last stage is the trial stage on localhost. Planned trials that set up the application to run properly.

Keywords : PHP, MySQL, *E-Voting, Website.*

INTRODUCTION

The website document that is sent will be the same as what is on the website server. While dynamic websites, have different data and information depending on what input the client conveys. Documents that arrive at the client will be different from the documents on the server. Currently, the current chairman election system tends to be done by direct election, by voting using ballot papers. An example is the election of the head of the RW. To hold a direct election is currently still a debate because of the Covid-19 pandemic where it is currently not allowed to create a mass crowd.

In the current era, all fields of work are greatly assisted by the internet network, no exception during the voting or election process. Therefore, the voting system is an important system in determining an option in accordance with the specified rules and conditions.

Voters directly give their choice to the candidate by voting or ticking on the ballot paper. This kind of election system is common and it turns out that it still requires large funds, requires several committee members and will take a lot of time to get the results of the vote count. Seeing this condition, a website was created for the election of the head of the RW, so that during the pandemic the community could hold elections through this website and make it easier for the vote counting process. In addition, it can also help facilitate the selection process and reduce the need for funds that are usually used in direct elections. Therefore, the title "Creating a Website-based RW Selection Application using the Codeigniter Framework, PHP, and MySql was created". The other objectives of making this website-based election are:
1. Replacing general elections that can cause crowds during a pandemic to be online-based.

2. The election process can run quickly because residents can vote anywhere as long as there is an internet connection.
3. Save costs because there is no need to involve a lot of workers.

LITERATUR REVIEW

HTML (Hypertext Markup Language) is one of the formats used in creating documents and applications that run on web pages. It is said to be a markup language because HTML functions to format plain text document files to be displayed on a web browser with the help of predetermined signs.

Figure 1. How HTML Works

In PHP itself supports eight features of value types or data types. Four scalar (single-value) values: integer, floating-point, string, and Boolean; two collection values: array and object. The rest are special types: resource and null.

MySQL is a SQL database management system software (English: database management system) or DBMS that is multithreaded, multi-user, with about 6 million installations worldwide.

RESEARCH METHOD

Website Overview

This website helps residents who cannot vote directly during the pandemic and residents can still cast their votes online with this website. This website has a relationship between the user and the admin. Admin can change candidate data, make citizen id according to their ID card, see late voting results and can report election results. Users can only make choices.

This website was built using several programming languages including HTML5, CSS3, PHP and MYSQL. This website uses a database as data storage and to make it easier for admins to enter data using MYSQL with PhpMyAdmin software.

The navigation structure used by the author in making the website for the election of the RW chairman is a mixed navigation structure which is a combination of three types of navigation structures, namely hierarchical, nonlinear and linear navigation structures. In this navigation the user is free to browse the program, but in certain parts the search is limited linearly or hierarchy.

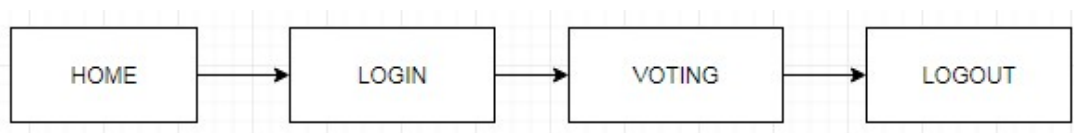### User Navigation Structure

Figure 2. User Page Navigation Structure

The structure of the user navigation page is used to describe the contents of the Voting website that will be used by the user. On this website, users can exercise their voting rights by logging in first.
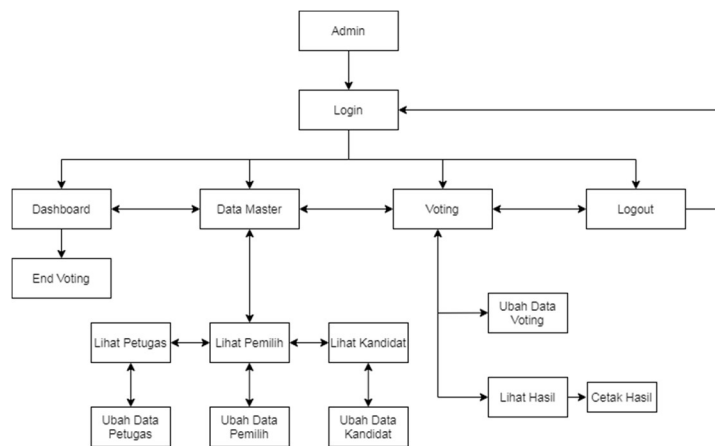
Admin Page Navigation Structure

Figure 3. Admin Page Navigation Structure

The admin page navigation structure is used by an admin to see the results of Voting made by the user and the Admin can make changes to the data on officers, voters, and candidates. Admin can also print the voting results that have been completed.

UML

The following describes the making of UML diagrams consisting of use case diagrams and activity diagrams. Where each of these diagrams describes an outline of the system on the website for the election of the head of this RW.

RESEARCH RESULT

Use Case **Diagram**

Use case diagrams describe what activities are carried out by a system from the point of view of external observations and the emphasis is on what to do, not how to do it. Use case diagrams are closely related to events. The following is an example of a User and Admin Use Case Diagram:
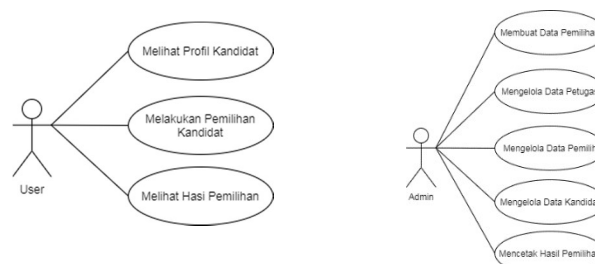

Figure 4.Use Case Diagram a) user, b) Admin

In the Activity Diagram, the initial flow design process is described with the Initial State and ends with the Final State. While the object contained is an Activities to describe the appearance of this application. The relationship between each Activity is connected to the Transition. Here is an example of the User and Admin Activity Diagram:
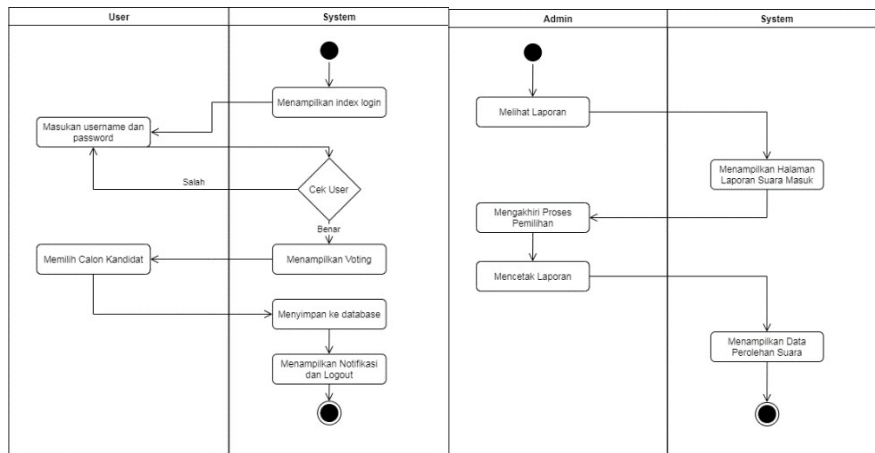
Figure 5. activity diagram a) User, b) Admin

Output Design

This website contains several page views, the following is an explanation of the design of the pages contained on this website:

1. Home Page Design

The Home page is the page that first appears when opening the Website. This page contains the Login Menu.

Figure 6. Home Page Design

2. User Login Design

This Login page contains Username and Password. User can enter Username and Password using KTP number.

3. Voting Page Design

The Voting page contains potential candidates to be selected by the user.

Figure 7. Voting Page Design

4. Admin Dashboard Page Design

The admin dashboard page contains the ongoing voting and also to end the ongoing voting process.
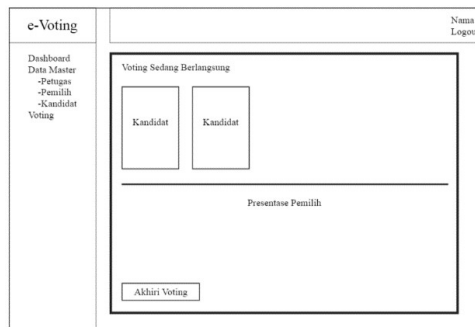

Figure 8. Dashboard Admin Page Design

5. Design of Officer Data Pages

Officer page to view, change, delete, and add officer data.

Figure 9. Officer Page Design

6. Voter Data Page Design

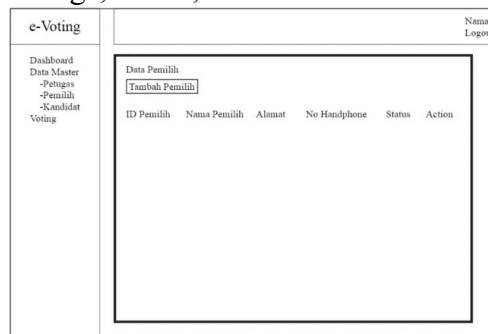Voter page to view, change, delete, and add voter data.

Figure 10. Design of the Selector Page

7. Candidate Data Page Design

Candidate page to view, modify, delete and add Candidate data.
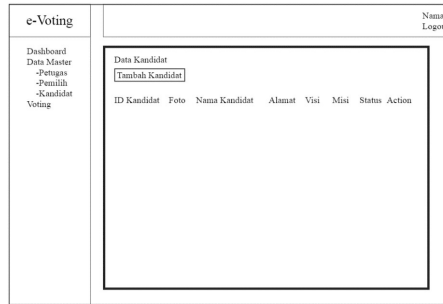
Figure 11. Candidate Page Design

8. Voting Data Page Design

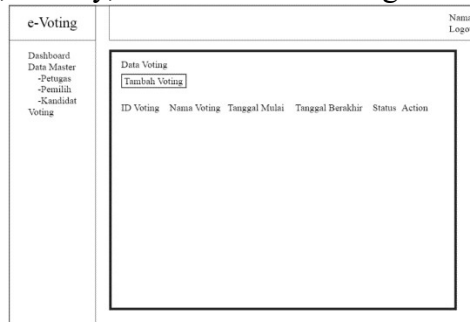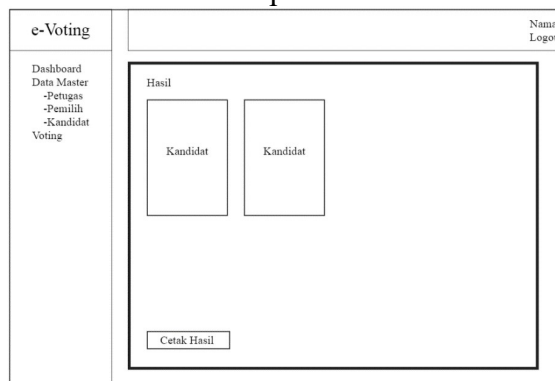Voting page to view, modify, delete and add voting data.

Figure 12. Voting Page Design

9. Results Page Design

Results page to view election results and print election results reports.

Gambar 13. Perancangan Halaman Hasil

10. Database Design

In making the database using facilities from XAMPP, namely PHPMyadmin, which is used to create a mysql database structure easily, and quickly.

11. Creating Database Structure

To create a database structure, you must know what attributes must be needed in creating tables in the database.

Table 1. Admin Data Structure

Field	Data Type	Length	Description
Id_admin	Varchar	7	ID Admin
nama_admin	Varchar	20	Nama Admin

alamat	Text	-	Alamat
nohp	Varchar	13	No Handphone
username	Varchar	15	Username
password	Varchar	20	Password
status	Varchar	1	Status
created_at	Date	-	Created At
update_at	Date	-	Update At

b. Detail_voting table

      The Detail_voting table stores voting data that is displayed on the Website page such as voting details and the number of points earned by each candidate.

Table 2. Data Structure Table detail_voting

Nama Field	Data Type	Length	Description
id_detail_voting	int	11	Not null
id_voting	varchar	10	Not null
id_kandidat	varchar	7	Not null
poin	int	11	Not null

c. Candidate Table

      Candidate table is used to store candidate data such as name, address, campaign promise, photo, vision, mission, status.Tabel 3. Struktur Data Tabel *Kandidat*

Field	Data Type	Length	Description
id_kandidat	Varchar	7	ID Kandidat
nama_kandidat	Varchar	20	Nama Kandidat
alamat	Text	-	Alamat
desc	Text	-	Janji Kampanye
image	Varchar	80	Image
visi	Text	-	Visi
misi	Text	-	Misi
status	Varchar	1	Status
created_at	Date	-	Created At
update_at	Date	-	Update At

Implementation

      With this the author will implement this application using notepad++ as the program used to design the website and MySQL as the database.

Website Trial and Implementation

      In this section the application that has been made is tested whether there are still errors or not at the implementation stage. The trial can be carried out directly using a computer or laptop with an internet connection, of course, by activating the XAMPP Control Panel first and by using a browser such as Mozilla Firefox or Google Chrome.
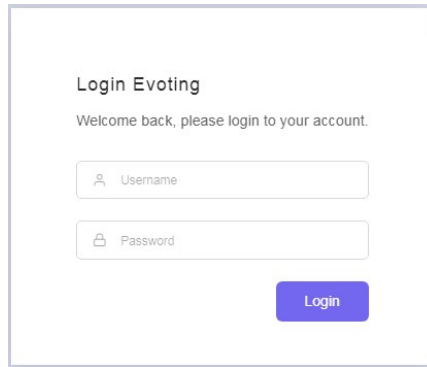
Figure 14. Login Display with Local Host

The display on the Login page will be a reference to go to the Voting page on this website. The following is a view of the Voting page.
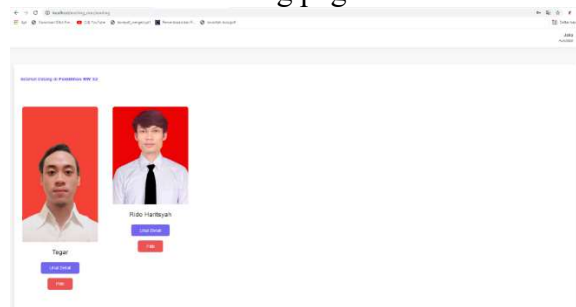

Figure 15, Voting View

Admin Page Creation

On the admin page, it contains the ongoing Voting, Candidate Data, Voting Results and activate or deactivate Voting.
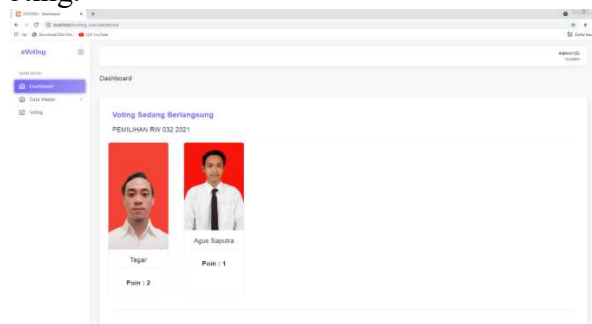

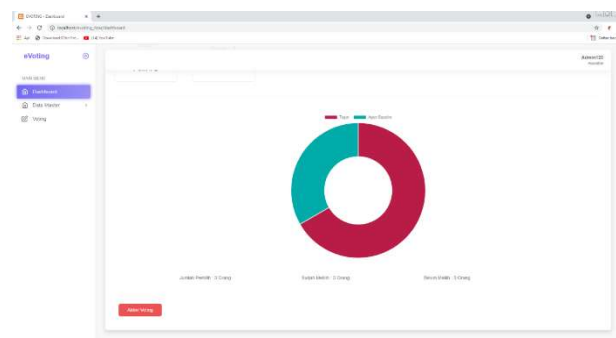Figure 16. Admin Dashboard Page Display

Figure 17. Admin Dashboard Page Display

Candidate Data Page Creation

On the Candidate Data page to display and change candidate data such as name, photo, address, vision & mission.
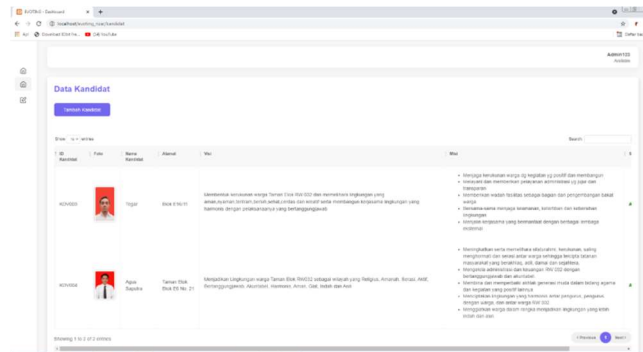

Figure 18. Candidate Page View

CONCLUSION

After writing the E-Voting Website Development using NOTEPAD++ and MySql, the author can conclude that the E-Voting Website is that the website can be used properly on Google Chrome, Mozilla and Opera browser applications.

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