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WEB-BASED PLANNING AND MANAGEMENT SYSTEM FOR WORK PROGRAM ACTIVITIES AT THE AGRICULTURE, PLANTATION, FOOD AND HORTICULTURE OFFICE IN CIANJUR REGENCY

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ABSTRACT

The development of website information technology has developed so that it can simplify the data management process. Based on these benefits, a web-based planning system for managing work program activities at the Cianjur Regency Agriculture, Plantation, Food and Horticulture Office was created. This designed system is expected to help the agricultural planning department in obtaining information on work program activities that will be carried out with digital information so that it will be more effective, efficient, and faster because it has been processed by a system with data storage that is already in the form of a database. The data collection uses observation, literature studies and interviews. Then the data is implemented to be applied to a website-based system. The methodology used in the creation of this system is the Extreme Programming method. The website-based coding process uses a MYSQL database and the editor used is Visual Studio Code. The test results use the blackbox method to test all the functionality of the system that has been created.

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1. INTRODUCTION

In the era of increasingly advanced information technology development, its role has become crucial in various sectors of life, including in the fields of business, office, politics, and the economy. Every month, reporting on work program activities is still often done manually and must be submitted to the planning department for the preparation of reports. The manual approach is considered ineffective because it takes a long time to process the data, especially since the data is still in the form of hard copies. The problem is even more complex if the planning process has to be written manually, which will take a lot of time.

This problem underlies the need to develop a system for planning and managing work program activities at the Cianjur Regency Agriculture Office. This system is expected to help the planning department in obtaining information about work program activities digitally. The advantage of the proposed system is its ability to simplify and shorten the process of planning work programs in various fields within the agricultural service. For example, if there are work program activities in several fields in the agricultural office, users only need to enter their personal data and the planning program they want to make, and automatically the planning data will be stored in the planning section. Users only need to wait for confirmation from the planning department through the system that can be accessed through the website, thus ensuring that the planning department and other areas within the agriculture service can easily and quickly get accurate results.

This, it is necessary to create a system for planning and managing work program activities as a means to shorten the time and simplify the process of preparing planning reports. It is hoped that the system developed can provide better convenience, effectiveness, and efficiency in its use. Based on this background, several problems can be identified, including:

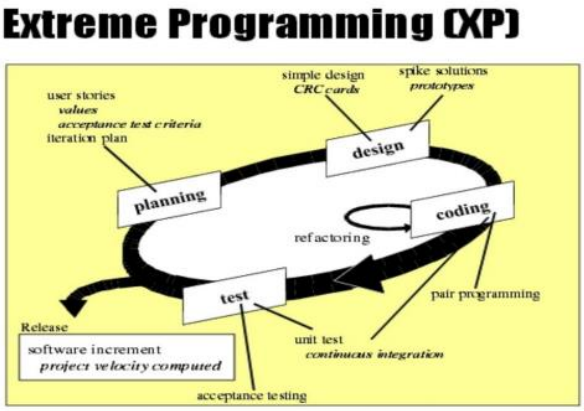
1. The management of work program activities is still carried out manually.
2. The process of making and managing work program activities takes a long time.

So, the formulation of the problem faced is how to design and build a system so that the planning process that is currently carried out manually can be converted into a computerized process, so that it can save time and effort and increase the effectiveness and efficiency of the process.

2. METHOD

A system is defined as "A system is a network of interrelated procedures, gathered together to carry out an activity or to accomplish a certain goal [1]. While Planning is a process that aims to provide a target direction to achieve goals. Planning is so complex that there are various kinds of definitions of planning depending on which point of view is seen and what background influences. Learning itself is a system whose components are interconnected between each step and the educator must be in accordance with what has been planned [2].

In this study, an Extreme programming approach is used, according to Kent Beck [3] in the journal Sugiyanto, moh. Muhtarom, and Muslim Hidayat [4] XP is a model that belongs to the agile approach proposed by Kent Back. According to his explanation, the definition of XP is as follows: "Extreme Programming (XP) is a lightweight, efficient, low-risk, flexible, predictable, scientific, and fun way to develop software". This model tends to use an Object-Oriented approach. The stages that must be passed include: Planning, Design, Coding, and Testing. The stages of the XP Methodology can be seen in the image below:



With media in the form of websites that are connected to the internet. The program system used is PHP. PHP stands for Hypertext Preprocessor. It is a script-form language that is placed on a server and processed on a server. The results are sent to the client, where the user uses the browser. The birth of PHP began when Rasmus Lerdorf created a number of Perl scripts that could observe anyone browsing his resume, namely in 1994. These scripts are then packaged into a tool called "Personal Home Page". This package is the forerunner of PHP. In 1995, Rasmus created PHP/FI version 2. It is in this version that programming can paste structured code inside HTML tags. Interestingly, PHP code can also communicate with databases and perform complex calculations on the go [5]. PHP is a script-based programming language that contains functions in forming a systematic system.

HTML itself stands for HyperText Markup Language. HTML is a text file that is written using certain code rules to then be presented to the user through a web browser application. It can be concluded that HTML (HyperText Markup Language) is a programming language for the design of the body or layout of a website. This HTML programming language will be executed by the browser and displayed in the browser window.

3. RESULT AND DISCUSSION

System implementation and testing is the development stage from designing to a program code. In the first part, it will be explained about the implementation of the interface which is the result of the interface of the system.

3.1 System Implementation

In this part, the system implementation stage will be carried out, namely the process of creating a system from the design stage to the coding stage using a programming language. The main part of the implementation is the implementation of the designs from the previous chapter described in the form of interfaces.

3.2 Interface Implementation

The following is the implementation of the interface of the web-based planning and management system for work program activities at the web-based agriculture, plantation, food and horticulture office in Cianjur district.

1. Home Page (user)

Main Page is the initial display to see the latest activity planning.there are 3 sliders containing congratulations on the Cianjur Agriculture Office work program planning website.

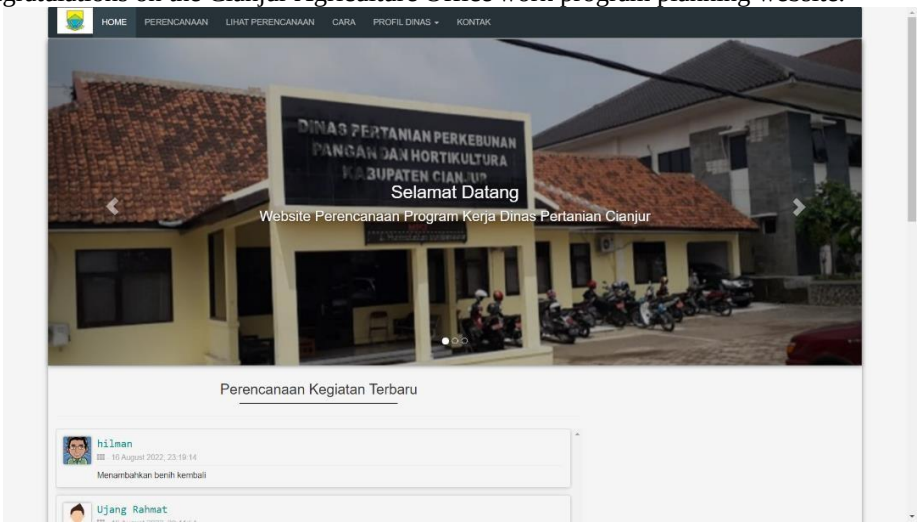


Figure 2 Main Page part 1

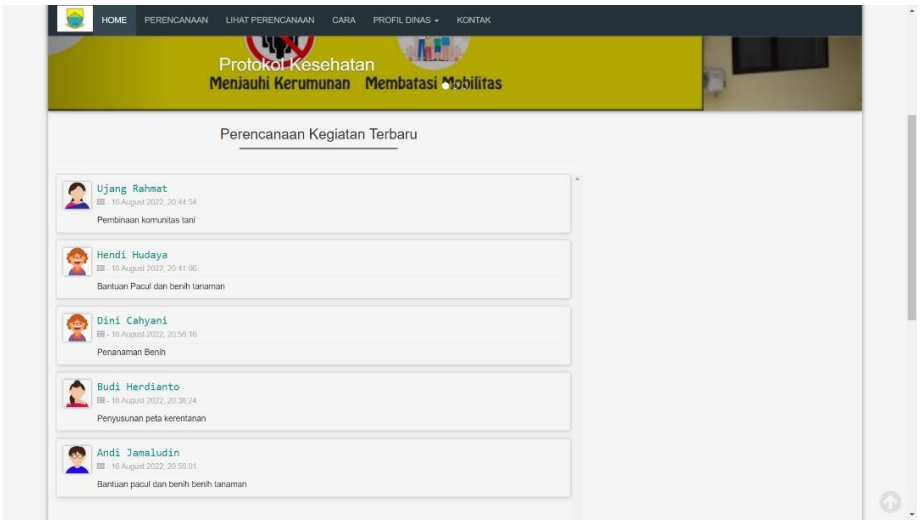


Figure 3 Main Page part 2

2. Planning Page (user)

This design page is a page to fill in the user's personal data, by entering the name, email, phone number, field, purpose of designing the activity, the content of the activity design and entering the code that has been listed.

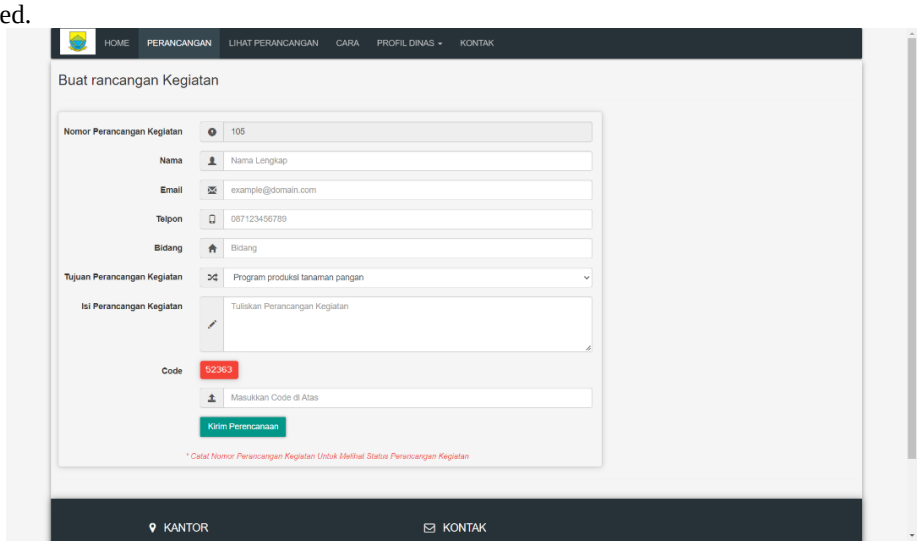


Figure 4 Planning Page

3. View Planning Page (user)
   This planning view page is the display of the planning view page which contains the plan that has been uploaded by the user and can also see replies from the admin regarding the plan that has been sent by entering the planning number.

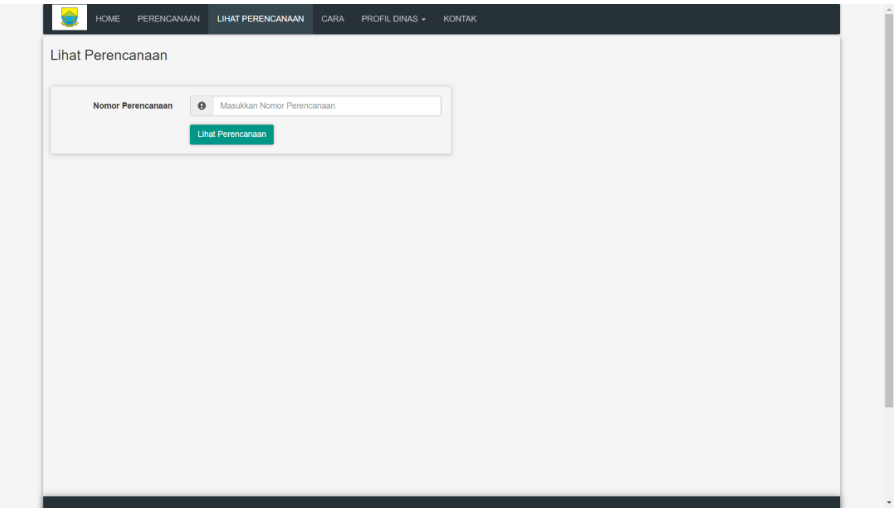


Figure 4 Page View Planning

4. Page How-to (user)
   This method page is a display for users to know how to create a planning management program that will be created.

Figure 5 How to Page

5. Official Profile Page (user)
   This Service Profile page is a display for users to view the service profile consisting of positions, main tasks, functions, goals, and objectives

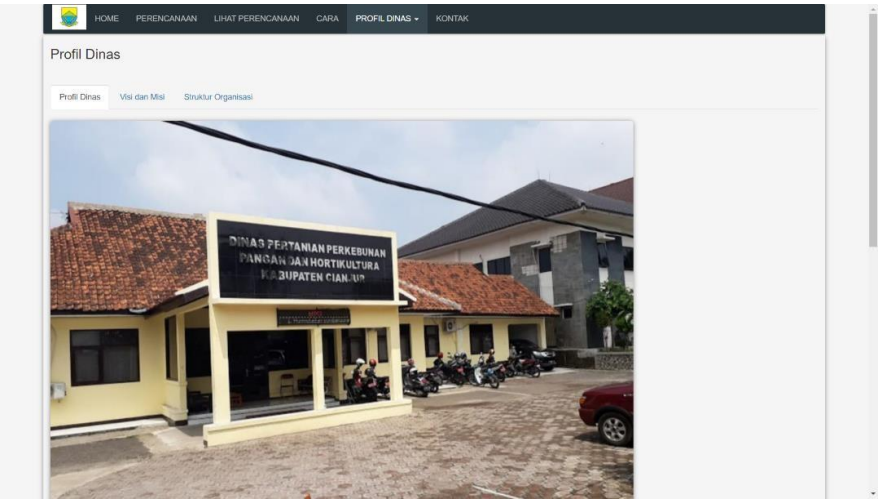


Figure 6 Services Profile Page Part 1

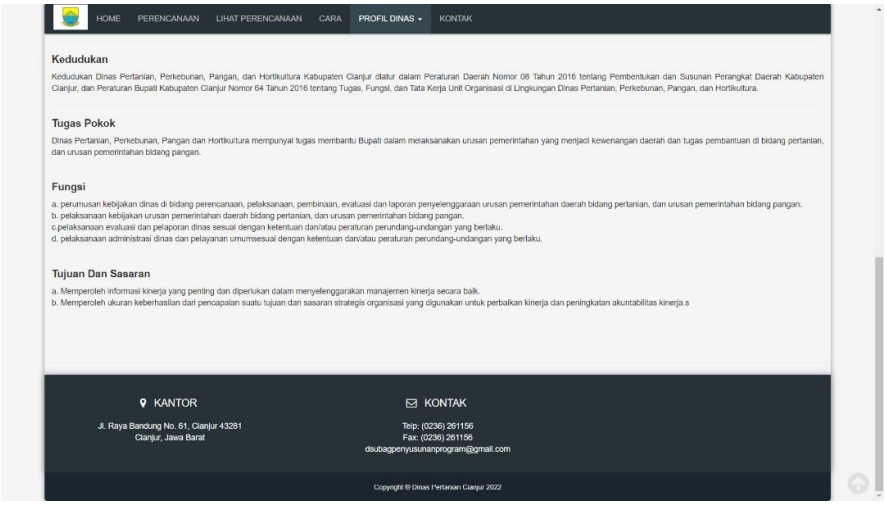


Figure 7 Services Profile Page Part 2

6. Vision and Mission Profile Page (user)

The profile page of the vision and mission display to see the vision and mission display of the Cianjur Agriculture Office

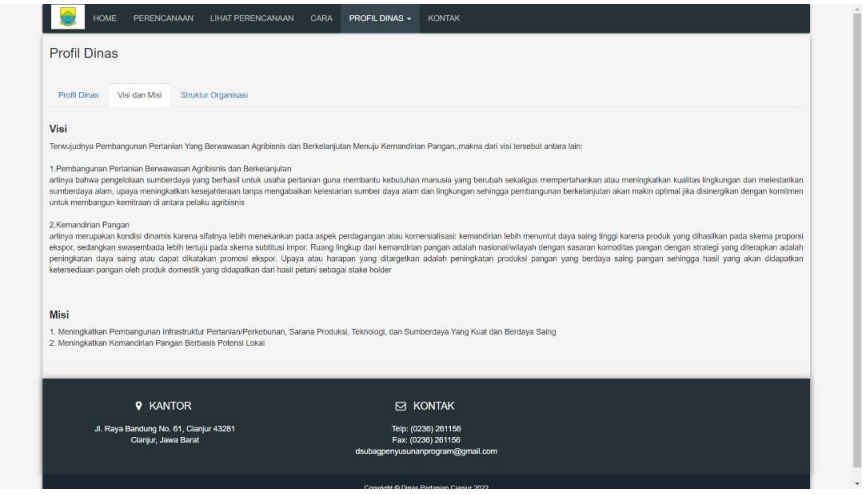


Figure 8 Vision and Mission Profile Page

7. Organizational Structure Page (user)

Profile page of the organizational structure display to see the organizational structure chart in the Cianjur Agriculture Office.

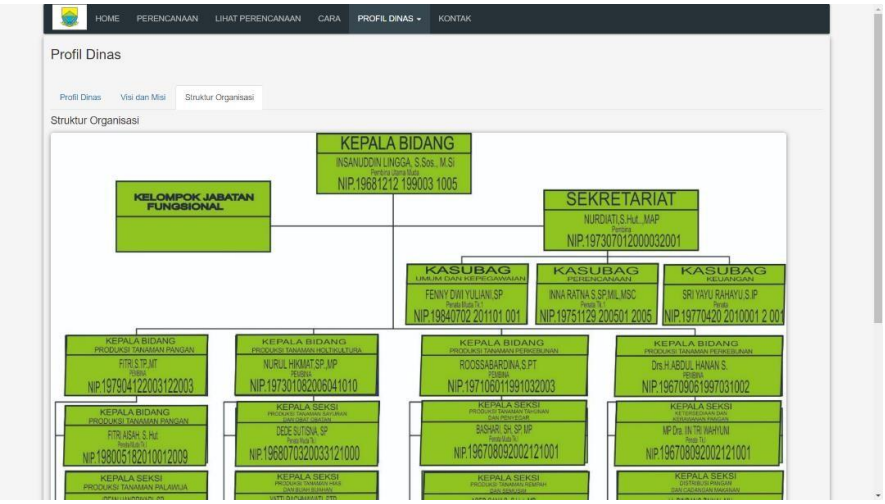


Figure 9 Organizational Structure Page

8. Contact Page (user)

This contact page is a page to see the address and contact number of the Cianjur Agriculture Office.

Figure 10 Contact Page

9. Login Page (admin)

This display page is the admin login page by entering username and password.

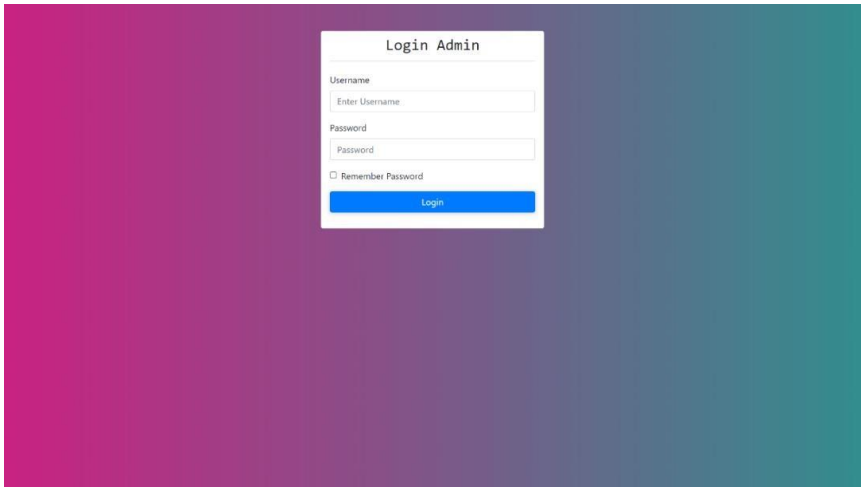


Figure 11 Admin Login Page

10. Dashboard Page (admin)

This Admin page is a page that consists of a dashboard page to display the incoming, unresponded and responded to report views.

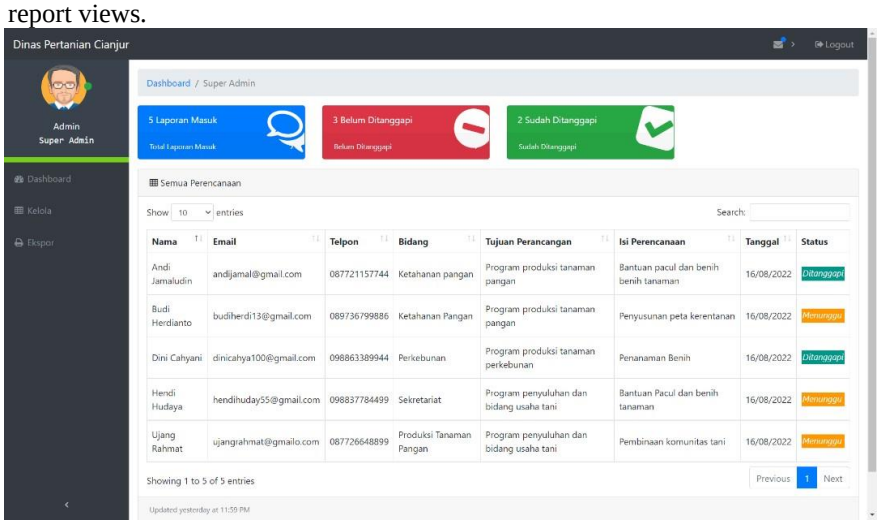


Figure 12 Admin Dashboard Page

11. Manage Page (admin)

This admin manage page is a page that functions to manage all incoming planning. The admin can view the planning details, reply to the plan and delete the plan.

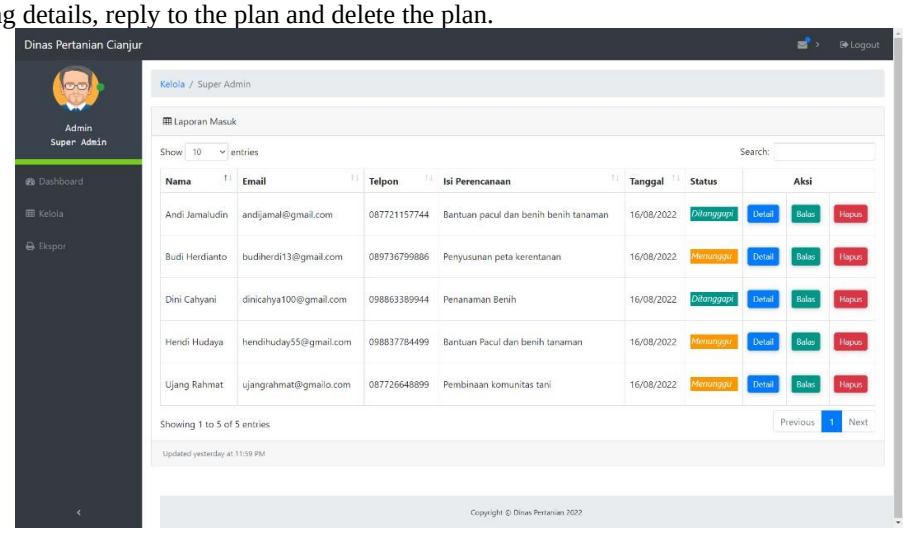


Figure 13 Admin Manage Page

12. Planning Detail Page (admin)

This planning details page serves to view the details of planning data that users have sent to the admin.

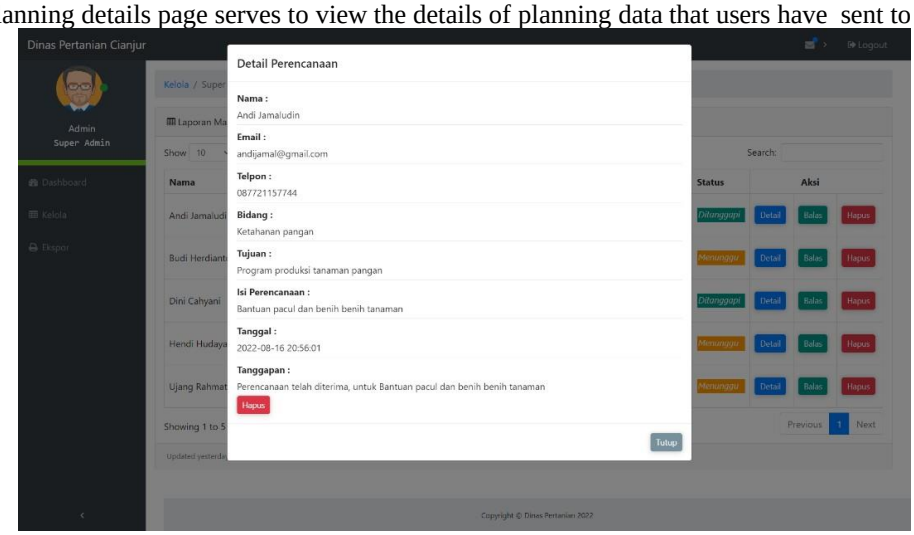


Figure 14 Admin Planning Detail Page

13. Planning Reply Page (admin)
    Reply to the planning that can be done by admin.

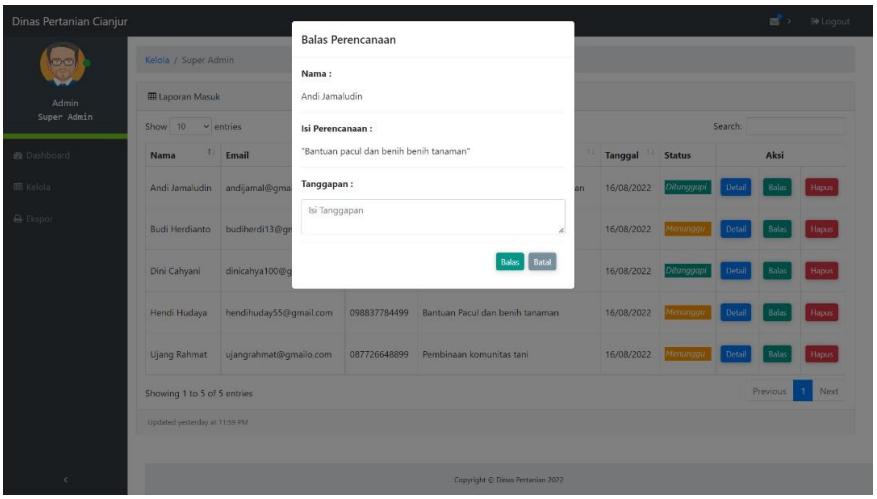


Figure 15 Admin Planning Reply Page

14. Delete Planning Reply Page (admin)
    Planning page function to do remove planning that can be done by admin

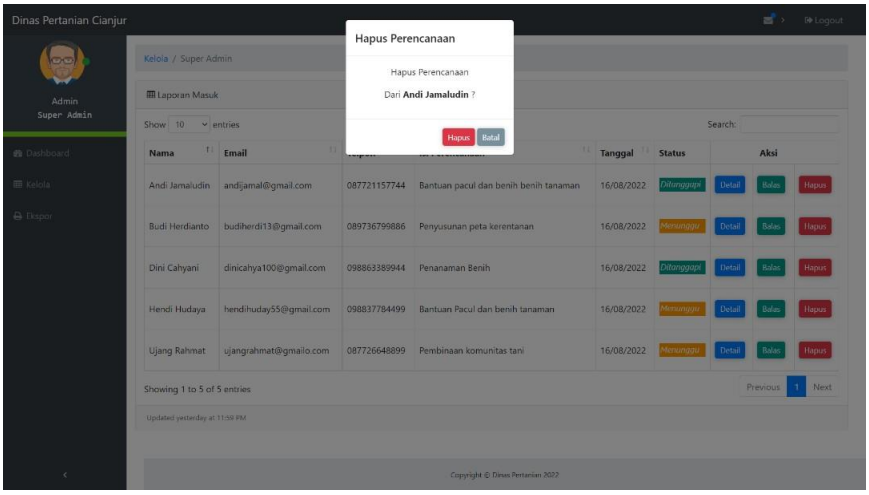


Figure 16 Admin Planning Delete Page

15. Report Print Page (admin)
    This page serves to print all incoming plans as recaps and reports for admins.

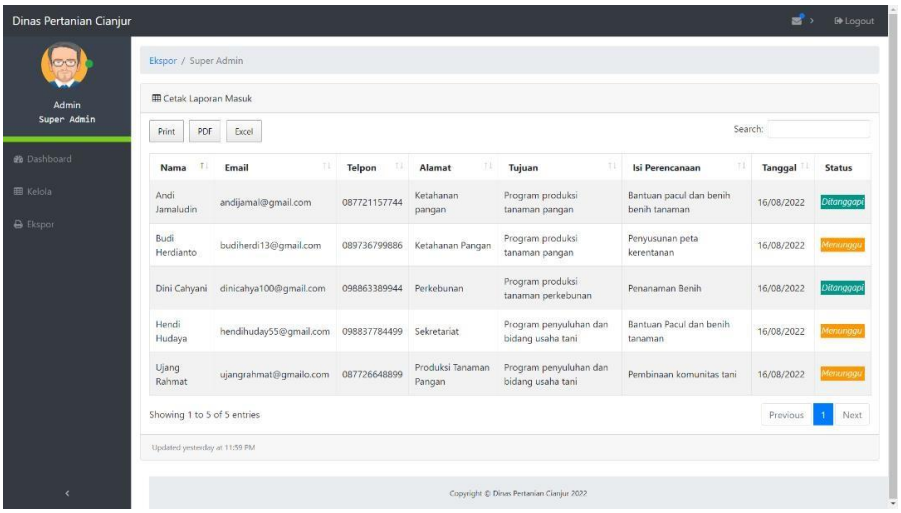


Figure 17 Print Page of Admin Report

3.3 System Testing

At this stage, the system testing is carried out only to ensure that the system is made according to its design and functions well. By testing the system, it is possible to find out the shortcomings in the system and make it easier to repair the system to be built.

1. Testing Plan

The test plan that will be carried out in the planning and management system of work program activities at the web-based agriculture, food plantation and horticulture office in Cianjur district uses the black box method. This black box method focuses on system function.

Table 1 Test Plan

Test Class	Test Item Scenario	Level Testing	Kind Testing
Home (*user)*	The first view when the user Accessing the Agriculture Office Website	Module	*Blackbox*
Planning *(user)*	Entering planning data for propose activity planning	Module	*Blackbox*
View Planning *(user)*	Entering Planning Number data Planning to view planning replies	Module	*Blackbox*
User	Appears when the user selects navigation on manner	Module	*Blackbox*
Profile Service *(User)*	Appears when the user selects *navigation on* Service profile	Module	*Blackbox*
Profile vision and mission *(user)*	Appears when the user selects *navigation on* Profile vision and mission	Module	*Blackbox*
Organizational structure *(user)*	Appears when the user selects *navigation on* Organizational structure	Module	*Blackbox*
Contact *(user)*	Appears when the user selects *navigation on* Contact	Module	*Blackbox*
Login *(Admin)*	Enter your username and *password* to display the main page/ *Dashboard*	Module	*Blackbox*
Dashboard Admin	View All data reports Planning	Module	*Blackbox*
Manage *Admin Planning*	View all incoming planning reports (detail, reply, delete, and search)	Module	*Blackbox*
Print *Admin Reports*	Displays all incoming planning reports that can be printed and generated reports (*Print*, *exsport* to *PDF*, and *Export* to Excel)	Module	*Blackbox*
Logout	Log out of the system	Module	*Blackbox*

2. Cases and Test Results

The case of the results of this test was made to find out whether the system made can be used or not.

Table 2 Test Plan

Test Class	Item Scenario Test	Expected results	Result Testing
Home (user)	The first view when *the user* accesses the *agricultural office* website	After *the user* accesses the agricultural *website*, the system will display the *Home page* which contains several photos about the agricultural office, photo sliders, and information about the Latest Activity Planning	Succeed
Planning *(user)*	Entering planning data to submit an activity plan	When *the user* enters planning data in the form of name, email, phone, field, activity planning purpose, planning content and code to send the plan to the *admin*. Then the new planning data can be saved and the system will display the message Success "Activity Planning Successfully Sent To find out the status of the activity planning, please open the View Planning Menu Activities"	Succeed
See Planning *(user)*	Enter the planning Planning Number data to see the replies planning	When the user enters the planning number data, the system will display the planning report data along with a reply from the admin if the planning has been replied to by *admin.*	Succeed
User	Appears when *the user* chooses the	When *the user* selects *the navigation on* the method, the system will display a method page containing information about how to submit a plan	Succeed
Official profile *(user)*	Appears when *the user* selects navigation on *the official profile*	When the user selects *navigation on* the official profile, the system will display the official *profile page* which contains information about the photo of the official office, position, main duties, functions, goals and objectives.	Succeed
Profile vision and mission *(user)*	Appears when the user selects *navigation on* Profile vision and mission	When the user selects navigation on Profile vision and mission, the system will display *the* Profile vision and mission page containing information about Vision and Mission of the Agriculture Service	Succeed
Organizational structure *(user)*	Appears when the user selects *navigation on* Organizational structure	When the user selects *the navigation on* Organizational structure, the system will display the Organizational structure page which contains an image of the organizational structure chart Cianjur agriculture.	Succeed
Contact *(user)*	Appears when the user selects *navigation on* Contacts	When *the user* selects *the Contacts navigation* , the system will display the Contacts page containing information about the Office and *Contact Info*	Succeed
Login (*Admin)*	Enter *username* and *password* to display the main page/ *Admin dashboard*	If the data entered is correct, the page will move to the main page/ *admin dashboard*, if the data entered is incorrect, it will be asked to input Again	Succeed

Dashboard Admin	View a report of all planning data	When the admin successfully logs in, the admin will move to the *dashboard page* which contains the number of incoming planning reports, the number of plans that have not been responded to, the plans that have been responded to along with the table planning data.	Succeed
Manage *Admin Planning*	View all incoming planning reports (detail, reply, delete, and search)	*Admins* can view the details of the planning report, reply to the plan, and delete the plan. If the plan has been replied to by the admin then the planning status will change to Responded to, if not then the status will remain waiting, and *the admin* can search for data in the Search column	Succeed
Print *Admin Reports*	View all incoming planning reports that can be printed and generated reports (*Print*, *export* to *PDF*, and *Export)* to *Excel*)	Admins can print incoming planning reports in PDF and *Excel formats*. *Admins* also and admins can search for data in the search field	Succeed
Logout	Log out of the system	When *the admin* selects the "*Logout*" button, it will automatically exit the system and go directly Displaying the *login page*	Succeed

3. Beta Testing

Table 3 Beta Testing

NO	Question	STS	TS	N	S	SS
1	Does the planning and management system of this work program activity run with fluent?				2	**3**
2	What do you think of the user interface of This system ?				3	**2**
3	Are these web app menus easy Understood?				1	**4**
4	Is this web application helpful enough in making program activity planning work?				2	**3**
5	Is the form of filling out the manufacture of the Work program planning is easy to understand?			2	2	**1**
6	Is the display of the planning system and the manager of this work program activity clear and Easy to understand?				3	**2**
7	Is the display of the service profile clear and Comfortable to see?				4	**1**
8	Are there any bugs or errors in the system?				2	**3**
9	Is Export Data Planning Running well?				1	**4**
	Total			2 **45**	20	**23**

Description: SS: Strongly Agree (value 5), S: Agree (value 4), N: Neutral (value 3), TS: Disagree (value 2), STS: Strongly Disagree (value 1).

As for the table Based on the table above, it can be seen that the tendency of the respondents' answers to each of the research variables, using the Likert scale assessment. The tendency of respondents' answers can be seen from the descriptive statistical form of each variable. The results of 5 respondents for each variable studied in the table above. To get the total score from the questions to the respondents using the formula: T

(Number of respondents who voted) x Pn (Choice of likert score). Then the total satisfaction score of each variable can be produced. From the results of the satisfaction score, the average satisfaction will be obtained using the index formula % = total score / Y x 100, where Y is the highest value of likert x number of respondents. Y = 5 x 5 = 25.

Table 4 Table of Score and Average Satisfaction

NO	Question	Total Score TxPn	Average Total score/ Y x 100
1	Is the planning system and The manager of this work program activity is running smoothly?	S: 2x4 = 8 SS: 3x5 = 15 Total Scores: 23	23/25*100= 92%
2	What do you think of the user interface of this system?	S: 3x4 = 12 SS: 2x5 = 10 Total Scores: 22	22/25*100= 88%
3	Are the menus of these web applications easy to understand?	S: 1x4 = 4 SS: 4x5 = 20 Total Scores: 24	24/25*100= 96%
4	Is this web app enough Assists in making Program Activity Planning work?	S: 2x4 = 8 SS: 3x5 = 15 Total Scores: 23	23/25*100= 92%
5	Is the form for filling out the program planning creation Easy to understand work?	N: 2x3 = 6 S: 2x4 = 8 SS: 1x5 = 5 Total Score: 19	19/25*100= 76%
6	Does the system display Planning and management The activities of this work program are clear and easy to understand?	S: 3x4 = 12 SS: 2x5 = 10 Total Scores: 22	22/25*100= 88%
7	Is the display of the official profile clear and comfortable to see?	S: 4x4 = 16 SS: 1x5 = 5 Total Scores: 21	21/25*100= 84%
8	Are there any bugs or errors in the system?	S: 2x4 = 8 SS: 3x5 = 15 Total Scores: 23	23/25*100= 92%
9	Is Export Data Planning Going Well?	S: 1x4 = 4 SS: 4x5 = 20 Total Scores: 24	24/25*100= 96%
Average Overall Query		89%	

4. DISCUSSION

Based on the research conducted on journals available in the researcher's institutional repository and observationsusing the Google searchengine, no similar studies have been found to date. There are some studies with corresponding approaches and methods, but they are applied to different types of research and research objects.

5. CONCLUSSION

The conclusion of this study is that the implementation of the application system for planning and managing work program activities at the Cianjur Regency Agriculture Office has had a positive impact. It was found that this system increased efficiency and speed in planning and managing activities, as it had been computerized and used a database for data storage. In addition, users also benefit from time and effort savings because there is no longer a need to do manual recording. Suggestions for future development include the importance of cooperation between developers and users in designing a better system, and it is hoped that additional features will be added to increase effectiveness and efficiency in the management of work program planning.

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