Development of Employee Attendance Management Information System During the Covid-19 Pandemic Based on Website using QR Code and PHP Native

Ahmad Habib[1], Moch. Dzawil Haiat[2], Balok Hariadi[3]
Informatics Engineering, University of 17 Agustus 1945 Surabaya
habib@untag-sby.ac.id

Abstract — Hero Web Design is a small-scale company that is growing, the company is engaged in technology. Attendance activities at Hero Web Design still use the conventional method, every day employees carry out attendance activities manually. This results in fraud, loss, and damage to the processed data because they are not integrated. As a result, with the emergence of these problems the company could not develop. With the problems that Hero Web Design has, here an online attendance information system is made with a QR-Code and face detection using the Scrum method. In this study using the Scrum method using 3 Sprints, each Sprint has a process of not more than one month. The data sources used in this study are observational data in the form of attendance management activities and report management. The second data source is interview data in the form of an answer from a question-and-answer discussion with Hero Web Design. The third data source is literature study data in the form of supporting journals that have similar research. A website-based attendance management information system with a program working process using the PHP programming language, javascript, CSS, and bootstrap framework. The results of the information system that has been created will be tested using the black box method. This method aims to check for missing or incorrect functions, interfaces, performance, program initialization and output errors, data structures, or database access errors. Furthermore, from making this system, it is hoped that it can be used as a remote or online attendance without having to come face to face and overcome the problems found in Hero Web Design.

Keywords — Attendance, Quick Response Code, Employee, Information System

I. INTRODUCTION

The increasingly advanced information technology and its demands have created a situation that has forced many companies to be more computerized, especially in systems attendance at the company Web design heroes. Hero Web Design yourself is a small company which currently growing. Based on interviews that have been done with sources. Web Design Hero of the moment this still operate attendance system that is still implementing manual attendance i.e. write the paper and still do profession by stare face, Attendance can be said to be an attendance data collection which is part of the reporting activities that exist within an agency[1]–[4]. Attendance is arranged and arranged so that it is easy to find and use when needed by interested parties, while during the *coronavirus pandemic* this is not recommended for doing work by stare face and enforcing *WFH (Work from Home*) There is an attendance technique that is done manually, starting with data collection and calculating time attendance. This timeout affects a relatively long time in the calculation technique[3]. Employee attendance records and hard copy reports cause data recording errors, making data difficult to find and fear of losing employee attendance data[2]. So the solution given to overcome this problem is to design and make a web-based attendance system by utilizing a *quick response code*, The system also uses the camera on a laptop or

computer to take pictures as Proof presence and system using Language level tall that is PHP programming with help bootstrap framework, CSS for beautify website display, and the help of the javascript library[5], [6].

Already there are several application attendance employees from the study before among others are multi-event attendance with QR Code based on restful web service as generated study give solution problem at the moment sending data in time area attendance no there is an internet and can use multi- activity attendance and can do attendance outside the institutional area, however, study this own weakness that is security in do attendance still can be hacked because only depend on QR Code course[7]–[10]. Study makes application attendance mobile-based with intranet and IMEI network filters that take advantage of reading IMEI and do restrictions the existing intranet network at the institution but attendance on research this own weakness that is no can-do attendance outside institutions, and security still can hac. Study make application presence student based on Radio Frequency Identification (RFID) that makes use of RFID technology that can detect tool or thing that has RFID technology only with stick it on the tool attendance, but in research, it also has the weakness that is system attendance no can do online, security system attendance still can be hacked because only use RFID card[11].

Based on studies before and problems that occur in Hero Web Design, researchers propose making system information management presence employees using a website based System information is the system in organization influence processing interest transaction every day, support operations, including management and activity essential organization, as well as needed by a party outside certain through provision report[8], [12]. System they could record attendance data employee, arrival time or beginning attendance, time to go home or end of working hours, which will be made automatically systematic and computerized with method *quick response code* for page security first attendance whereas for security second use facial recognition method, so that will eliminate the process of recording employee attendance that has been walking manually and can Upgrade system security attendance at Hero Web Design. As for making Website Based Employee Attendance Management Information System with QR Code using the system development method, namely the *Scrum Method*[6].

The reason for using the *quick response code* is for an economical cost because the company small no need to use access cards. After all, tools and access cards are expensive unless large companies already have adequate operating costs[7]. So only need saved on *the smartphone* and *print the code* already enough could be used by employees for *scanned* and because with this, only ni p employees are needed to make attendance by going through a quick response code scan on the quick response code *scanner* or can with camera *computers* and laptops are solutions that utilize information technology that can accommodate the process of recording attendance data so that recapitulation can be carried out more quickly and accurately, the application of attendance using a *quick response code* is a solution to problem-solving attendance data processing and has the advantage of being able to take attendance quickly, precisely and accurately[12]. *Scrum* is a framework that works for completing complex jobs and is always changed. Method *Scrum* in implementation not only as a model for development device soft will but more to management development device soft so that the project manager, *Scrum* Master, and the team involved could by easy control existing tasks, so that performance becomes more fast and efficient[13].

On workmanship study, this Besides use method *scrum* will also explain the steps processing other, start from the process of

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analysis, planning, construction that uses application web-based, up to stages implementation with using UML (Unified Modeling Language), with make *Use Case* diagrams, *Sequence* diagrams, class diagrams, and output, for know what data just be input and output[2], [6], [8], [14].

II. METHOD

1. Data processing

In assessment, this is needed the evidence as well as information as materials that can help authenticity Theory description as well as discussion[11], [15]. Data processing carried out by researchers is as follows.

- Interview, that is technique collection proof with use method ask answer by direct to related sources. In the interview, use got evidence, submitted questions based on notes important that have prepared the author. In regarding this do it answers several employees and leaders of Hero Web Design company, namely J. Satria Nugraha. With how to do this interview expected could get clarity.
- Observation is one technique for collecting enough facts effectively. The researcher does an observation with method monitor as well as observe by direct activities on Jl. Bulak Bull New Orchid Gang Number 40, Surabaya which is concerned about technique making system attendance and looking for correlated information with system attendance use *QR Code.*
- Literature Studies, namely literature search, reference originated from sourcebooks, journals, experts nor from results study before where aim in stringing base theory that has been applied in do related research.

2. Design *Scrum*

According to the developed *Scrum* model deftly. This is methodology or plan work arranged to use develop the complex product. *Scrum* set approach literature as well as sustainable to use optimizing predictability as well as control risk. *Scrum* is one agile technique that is very iterated. This is methodology adaptive, repeatable, reliable, flexible, and effective designed to use provide great value with reliability in all projects. *Scrum* ensures transparency communication as well as creates an environment not quite enough answer together as well as progress sustainable[2], [9], [16].

Scrum involves three-party: *Product* Owner, *Scrum* Master, and *Scrum* Team.

- *Product Owner*

Product Owner responsible answer to use determination specification nor technique business from an application that you build. Owner product includes all condition main must be fulfilled team (*Product Backlogs*).

- *Scrum* Master

Scrum Master is managing section technique *Scrum* for the whole project. *Scrum* Master presents as well as operate method work *Scrum* for your team as well as ensure that everyone on the project you use technique *Scrums.*

- *Scrum* Team

Scrum Team is a team analysis business, analysis systems, developers, testers, as well as others who lead the projects. *Scrum* Team responsible answer to use complete *Backlog Products* compiled by the owner product[17].

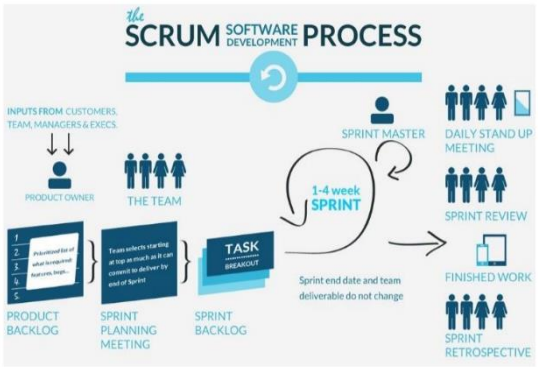

Figure 1. *Scrum* Technique

Following this is an explanation from the stage's method *Scrums.*

1. *Product Backlog*: Prioritize work in sprints.

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2. Sprint planning meeting: All teams unite to use analyze the profession. This technique is very important before you run or do sprints.
3. Daily stand-up meeting: Assess Duty work team and its flaws. This technique is in progress every day in time 15 minutes during sprints.
4. Sprint review: Every member team show Duty which is resolved During the sprint period. Running sprint review after every sprint finished.

- Sprint Retrospective: Phase this, done at each final sprint, allows all member teams to give bait back and review performance while applying technique *Scrums*.

The researcher set *Scrum* as a plan in making a data system. After finding the information needed from Hero Website Design after that next past application method is *Scrum* on build system information. Following picture the flow.

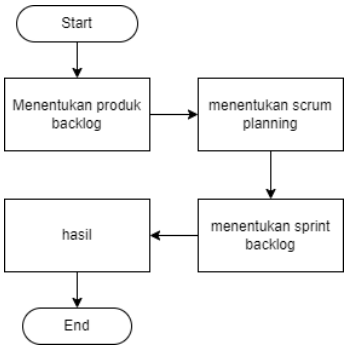

Figure 2Implementation Flow *Scrum*

Stages first in accordance plot implementation *Scrum* on is decide *Product Backlog*, *Product Backlog* is notes needs something finished product priority main[18]. it will be a *Product Backlog* from a system that will build as follows:

Table 1*Product Backlog*

description *Backlog*	Interest *(1-100)*
Identify client programs	100
design draft start of the program	100
Database design	100
Creating a landing page	80
Writing code for admin	100
Writing code for employee	100

3. Scenario Test

System test attendance employees use Black Box. Black Box is a test based on specifications application as interface application, the features that exist in the application, as well as coherence desired by the customer. design created apps later will issue output in the form of attendance data and reports attendance employees[5], [19], [20].

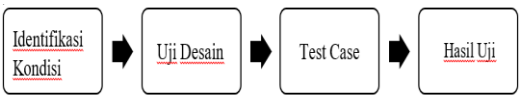

Figure 3 Scenario Blackbox Test

III. RESULT AND DISCUSSION

1. Stage design System

A. System Analysis

Procedure system attendance current employee running on Hero Web Design as follows:

- An employee comes to the company
- Employee do attendance with method write in the book attendance already provided by Pham company
- Admin check attendance the
- Admin saves data to report

B. Needs Analysis

Needs analysis or interest user system information attendance employee with *QR-Code* on Hero Web Design includes administrator's interests and interests' employees, can explain as follows:

- Admin
  1. Administrators can operate *login*
  2. Administrators can control Home
  3. Administrators can control job data
  4. Administrators can control employee data
  5. Administrators can control attendance data employee

6. Administrators can control report

- Employee
  1. The employee could run *Login*
  2. Employees could look at the d*ashboard*
  3. The employee could do roll call enter
  4. The employee could do roll call goes out
  5. Employees could look recap roll call

As for analysis needs system in system information attendance employee with *QR-Code* namely :

- Employees do attendance with *scan the quick response code* on the page first then followed by a facial scan or detection face for ensuring that truly employee they do roll call enter if succeeded so roll call enter will save in recap attendance and database. If employees will return or online working hours already finished so the employee does *scan quick response code* then followed with facial scan or detection face after its attendance data go out will succeed saved.
- Administrators as well employees must log in first before to use can enter to application system attendance employee with method enter username and password.
- administrators & employees must logout and resolved the use of implementation system attendance employees.

C. *Use case* diagram design

In figure 5 the administrator use case explains that administrators can interact with various *use cases* as home, manage data with 2 data in it namely employee data and position data, then attendance data as well as a report that will be printed from attendance data. And also admin can manage data, such as delete, add, and update the data[21].

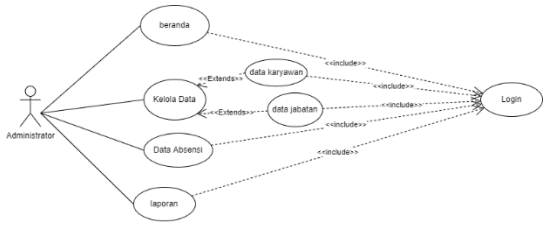

Figure 4Administrator use case diagram

In figure 6 use case employee explains that the employee could interact with various *use cases* as does attendance good that attendance enter or attendance go out with use to *scan the quick response code,* then could check history from roll call employee that. Employees could interact with *use cases* other provided employees already interact with Login *use cases.*

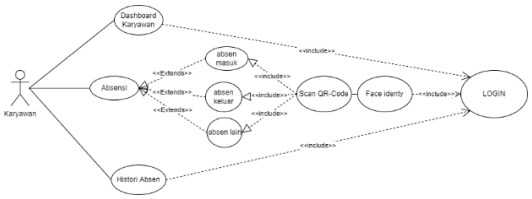

Figure 5Employee Use case Diagram

2. Stage Implementation *Scrum*

Study this use method *Scrum* consisting of from three sprints based on *Product Backlogs* that have been made before. Below is the description from every sprint.

A. *Sprint 1*

- ***Sprint planning***

The results of the Sprint 1 design are :
Time : 3 weeks
Purpose: planning draft system beginning

From Sprint planning generated the 1st Sprint *Backlog* as follows:

Table 2Sprint Backlog 1

Sprint Stage	Task	Task Details	Estimated (days)
Sprint 1	Identification system client	1. Activity technique roll call enter	3

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Sprint Stage	Task	Task Details	Estimated (days)
		2. Activity technique roll call goes out 3. attendance technique other information 4. Report technique	
	design draft system	1. *Use case* diagrams 2. *Activity* diagrams 3. *Sequence* diagrams	8
	Database design	Making table database table	10

- ***Daily Scrum***

Something session meeting short daily in limitation time 15 minutes where at the meeting the discuss or share information by fast about development current product done or already worked on.

- ***Sprint Scrum 30 days***

Meeting or meeting monthly for reviewing the Sprint *Backlog* products that have been solved and could be evaluated to use Upgrade next Sprint job.

B. *Sprint* 2

- ***Sprint planning***

Design results Sprint 2 is:
Time: 3 weeks
Purpose: make admin page

From *Sprint* planning generated *Sprint* 2nd *backlog* as follows:

Table 3Sprint Backlog 2

Stages *Sprint*	Task	Task Details	Estimated (days)
Sprint 2	Creating a landing page	Make a page beginning before login to the system	3
	Writing code admin page	1. Creating a *Login* Feature for some users including admin and employees 2. admin *dashboard* 3. Make user data features, including employee CRUD, admin, and managing automatic making *QR-Code* 4. Make CRUD feature of position data and attendance data	18

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Stages *Sprint*	Task	Task Details	Estimated (days)
		5. Make feature report	

- ***Daily Scrum***

Something session meeting short daily in limitation time 15 minutes where at the meeting the discuss or share information by fast about development current product done or already worked on.

- ***Sprint Scrum 30 days***

Meeting or meeting monthly for reviewing the sprint backlog products that have been solved and could be evaluated to use upgrade next Sprint job.

C. *Sprint 3*

- ***Sprint planning***

The results of the Sprint 3 design are:
Time: 3 weeks
Purpose: make admin page

From *Sprint planning* generated *Sprint* 3rd *backlog* as follows:

Table 4Sprint Backlog 3

Stages *Sprint*	Task	description Task	Estimated (days)
Sprint 3	Writing code on the system that will use employee	1. *Dashboard* employee 2. Creating a history menu roll call 3. Create and serve feature attendance sign-in, attendance exit, and absence of other information on the page *dashboard* employee 4. Scan QR -*Code* and Detect face on features attendance 5. Make account edits to employee	22

- ***Daily Scrum***

Something session meeting short daily in limitation time 15 minutes where at the meeting the discuss or share information by fast about development current product done or already worked on.

- ***Sprint Scrum 30 days***

Meeting or meeting monthly for reviewing the Sprint *Backlog* products that have been solved and could be evaluated to use Upgrade next Sprint job.

3. Stage design Device Soft

A. *Class* Diagram

The class diagram describes description or picture class, property, as well as to object beside relationship one each other like inheritance, content, association, etc. Class diagrams can also be considered as database configuration with several tables in a mutual database correlated.

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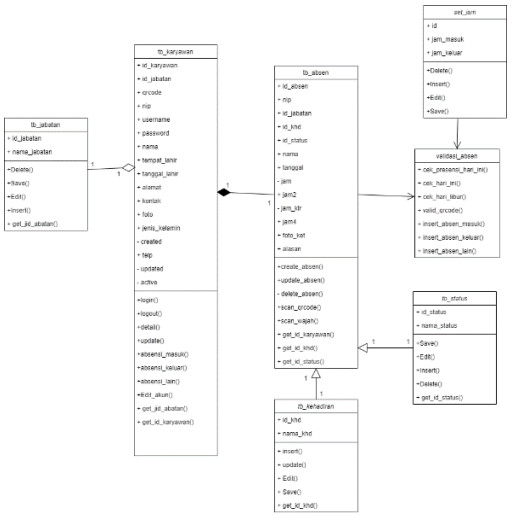

Figure 6. Class Diagram Design

B. *Object* diagrams

Object diagrams are often called instant charts because they are so similar to class diagrams[18]. The object diagram also shows a connection between objects, while the object diagram uses real-world examples.

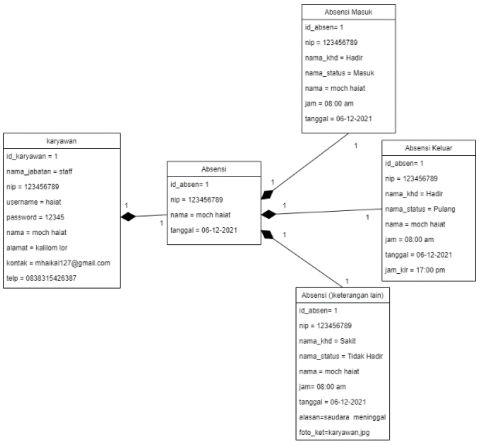

Figure 7. Object Diagram Design

C. *Sequence* Diagram

A Sequence diagram is a diagram that shows interaction dynamics Among several objects. Regarding this used to use serve groove message sent between something object, as well as interaction in Among object. Something happened in some points certain on execution system[18].

- ***Sequence* Diagram Login**

Figure 8 explains about Sequence diagram design for all actors i.e. admin and employees do *login* to in the web.

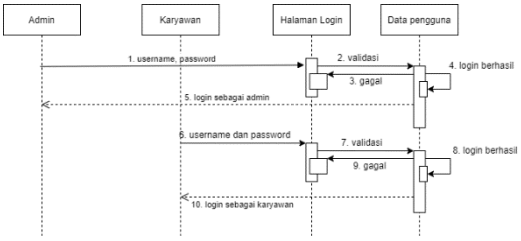

Figure 8. Sequence Diagram Login

- ***Sequence* Diagram Manage Data**

Figure 9 explains about Manage data flow that has plot add data, view data, edit data for a change current data entered there are data errors, and delete data.

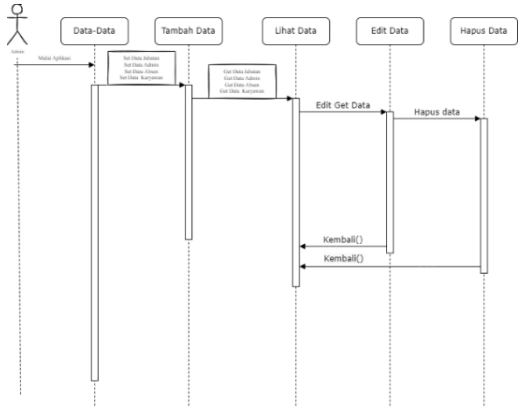

Figure 9. Sequence Diagram Manage Data

- **Attendance Diagram *Sequence* Employee**

Picture 10 explain about attendance chart flow employees who have a plot of the actor *login* then succeed enter into the page *dashboard*, choose roll call for start roll call with prepare QR-Code after QR-Code *scan* complete so next will go out Detection face and if valid then will automatically Return to the user dashboard and the user can look history attendance.

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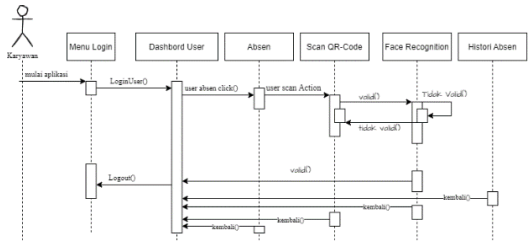

Figure 10. Attendance Diagram Sequence Employee

- ***Sequence* Diagram Add Account**

Figure 11 explains about plot add data of employees who have a plot with admin already have employee data, then enter the data in a past form system process the data and succeed add employee data

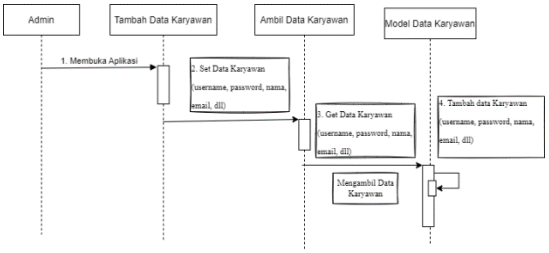

Figure 11. Sequence Diagram Add Account

- ***Sequence* Diagram Data and Reports Attendance**

Figure 12 explains about attendance chart flow employees who have a plot of the actor *login* then succeed enter into the page *dashboard*, choose roll call for start roll call with prepare QR-Code after QR-Code *scan* complete so next will go out Detection face and if valid then will automatically Back to user *dashboard* and users can look history attendance.

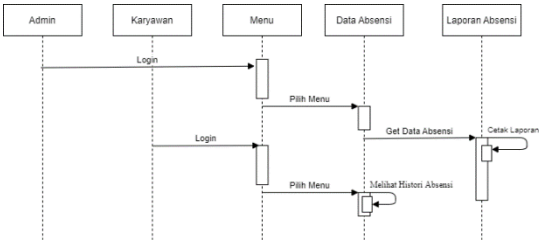

Figure 12. Sequence Diagram Data and Reports Attendance

D. Interface Design

- **Admin Page**

On the admin page, there are some menus already made and will show namely, *dashboard* menu, admin data, employee data, position data, attendance data, and reports attendance.

1. *Dashboard* Menu

Dashboard menu is the menu for showing page main from the admin which contains information at a glance about the amount of data on the other menu.

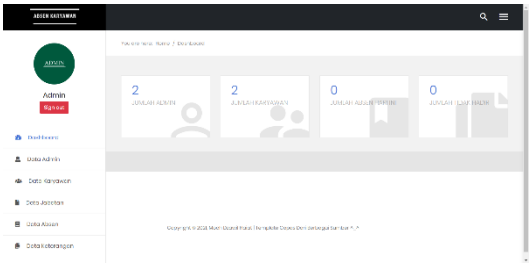

Figure 13. Admin Dashboard Page

2. Admin Data Menu

The admin data menu is a menu that displays a page containing admin account data, in this menu, you can also add, change, and delete data. All admin data will be managed on this menu with good passwords, emails, and others.

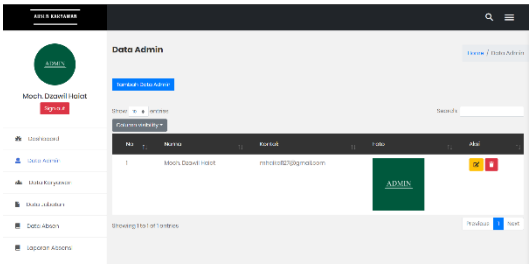

Figure. Admin Data Page

Figure 14 is the appearance admin data menu page. On the page then there is the table containing admin account data and admins can do add data on the page after the push knob add data will modal appears with an empty form inside it the as image 15.

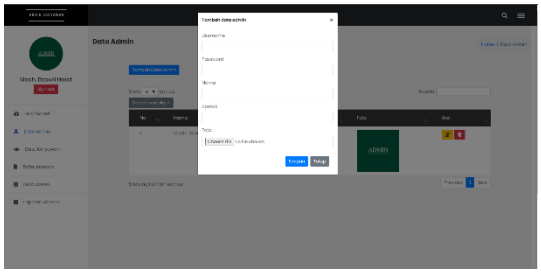

Figure 14. Add Admin Data

On the admin data menu page other than adding data, the page can also change admin data. As case add data, for change data must push knob with picture pen so that the form containing the data has been stored will appear and get changed, like picture 16.

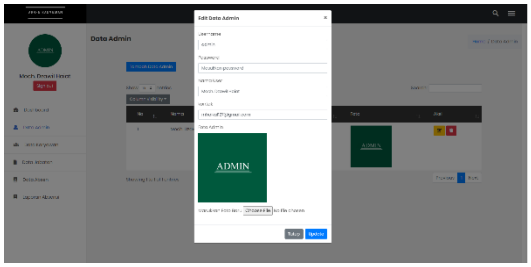

Figure 15. Edit Admin Data

Then for how to delete admin data same with change starting data from push knob delete it on the action field will appear information related to admin data that you want deleting as image 17.

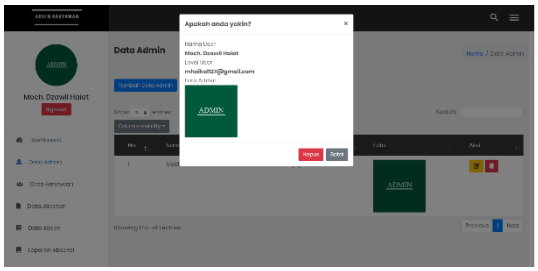

Figure 16. Delete Admin Data

3. Employee Data Menu

Employee data menu is a menu whose page contains a table of all account employees who have feature add, edit and delete data. On this menu, all employee data could be managed by administrator actors who have access to the admin page and manage all account or employee data.

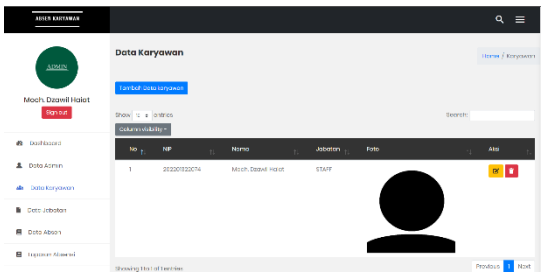

Figure 17. Employee Data Page

employee data menu there is knob add employee data if clicked will raise a modal containing an empty form for filled with the data already there is as picture 19.

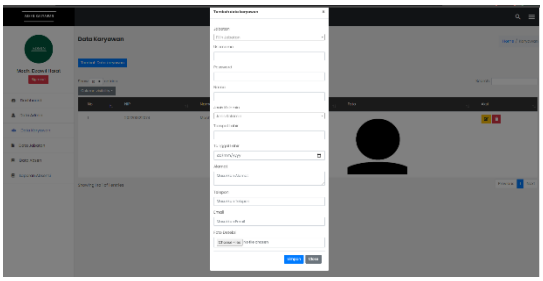

Figure 18. Add Employee Data

Besides feature add employee data, can also change employee data. As the case feature adds data, for change data must push knob with picture pen so that the form containing the data has been stored will appear and get changed, like figure 20.

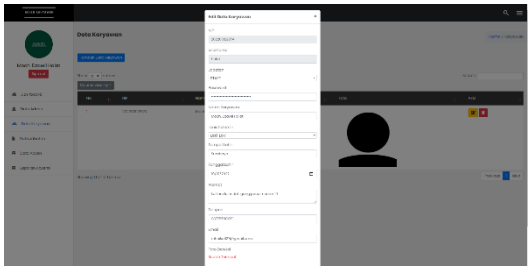

Figure 19. Edit Employee Data

Then for deleting employee data the method same as changing employee data starting from the push knob delete it on the action field will appear information related to admin data that you want deleting as image 21.

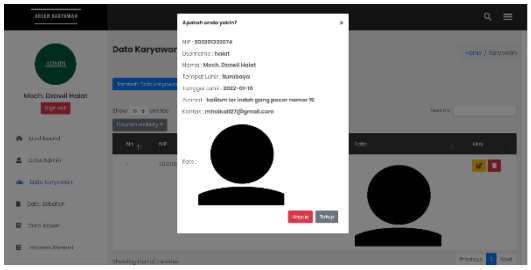

Figure 20. Delete Employee Data

4. Position Data Menu

A job data menu is a menu whose page contains a position or a position that is in a company as well as its feature for adding, changing, delete job data.

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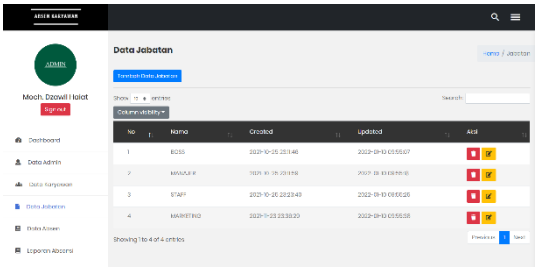

Figure 21. Position Data Page

job data menu there is knob add job data if clicked will raise a modal containing an empty form for filled with the data already there is as image 23.

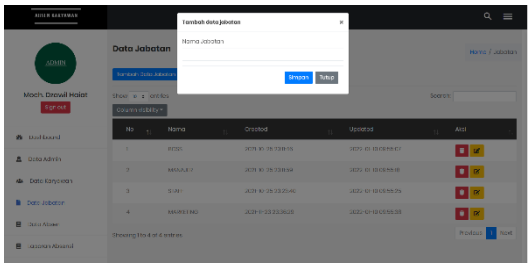

Figure 22. Add Position Data

Besides could add job data, on the job data menu you can also change job data. For a change, data must push knob with picture pen so that the form containing the data has been stored will appear and get changed, like image 24.

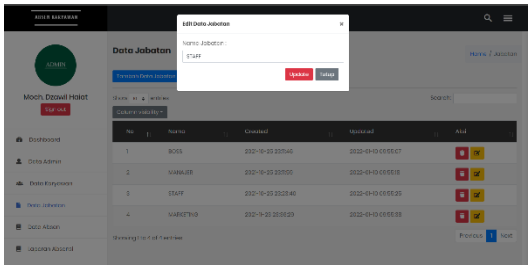

Figure 23. Edit Position Data

Then for deleting job data the method same as changing employee data start from the push knob deleting it on the action field then will appear information related to admin data that you want deleting as image 25.

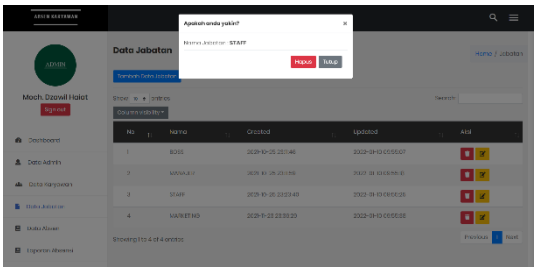

Figure 24. Clear Position Data

5. Menu Data Attendance

The attendance data menu is a menu whose page contains about attendance data table employee, from attendance sign-in, attendance exit, nor attendance description another. The attendance data menu also has features to add, change, and delete attendance data.

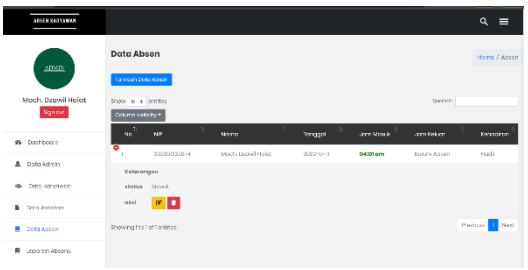

Figure 25. Attendance Data Page

attendance data menu there is knob add attendance data if clicked will raise a modal containing an empty form for filled with the data already there is as image 27.

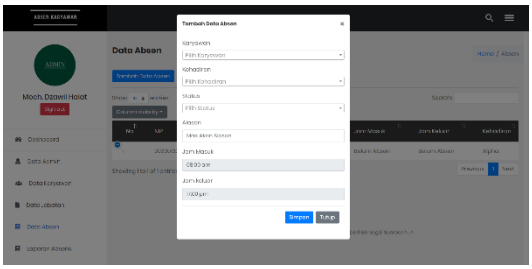

Figure 26. Add Attendance Data

Besides could add attendance data, on the attendance data menu you can also change attendance data. For a change, data must push knob with picture pen so that the form containing the data has been stored will appear and get changed, like image 28.

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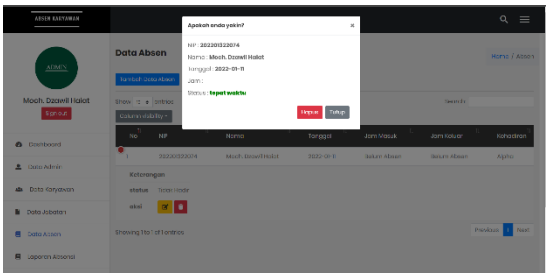


Figure 27. Delete Attendance Data

6. Report Menu Attendance

Report menu attendance is a menu that contains attendance data that is equipped with a feature print report. The feature was useful for making reports from attendance data. How to run feature the that is, with fill out the date input form then push the "Print" button and will print a report with pdf format like Figure 29 and Figure 30.

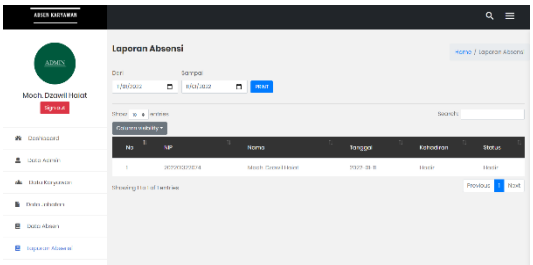
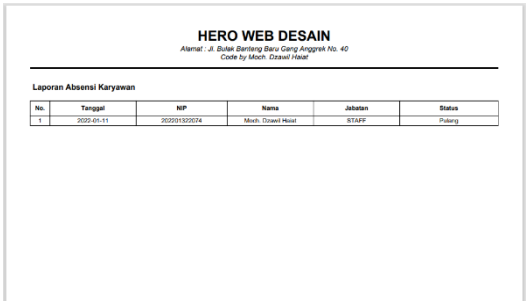


Figure 28. Report Page Attendance

Figure 30 is an appearance from results downloads attendance data employees on the admin page. On view report attendance employee this there is information about when who, attendance status employees.



HERO WEB DESAIN

Alamat : Jl. Bulak Banteng Baru Gang Anggrek No. 40

Code by Moch. Dzawil Haiat

Laporan Absensi Karyawan

No.	Tanggal	NIP	Nama	Jabatan	Status
1	2022-01-11	20220132074	Moch. Dzawil Haiat	STAFF	Pulang

Figure 29. Appearance Report Attendance

7. Settings menu

The Settings menu is a menu that contains time attendance data. The menu works for changing attendance clock data but in the settings menu only one own feature change data or edits attendance clock data. The following picture how it looks.

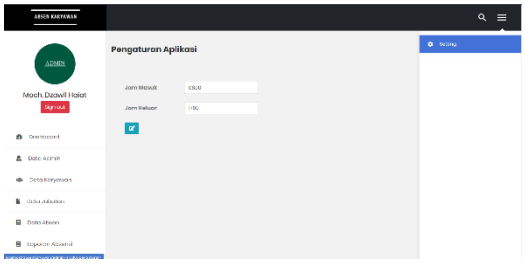


Figure 30. Settings Menu Page

The settings menu also has feature change data. The feature change time attendance data, for change attendance clock data, need push knob pictorial pen so will a modal appears containing the data form that has been there being.

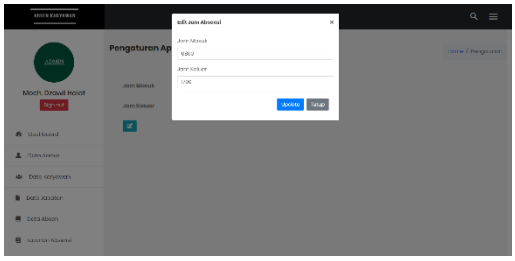


Figure 31. Edit Time Attendance Data

- **Employee**

On page employee, there are some menus already made and will show namely, the *dashboard* menu, the *account menu* for employees, and history attendance.

1. *Dashboard*

Dashboard menu is a menu containing feature attendance, ok attendance sign-in, attendance exit, nor attendance description another. this menu is the main menu from page employees because of this menu there is a feature attendance will be used by employee's good attendance exit, enter, or attendance description another.

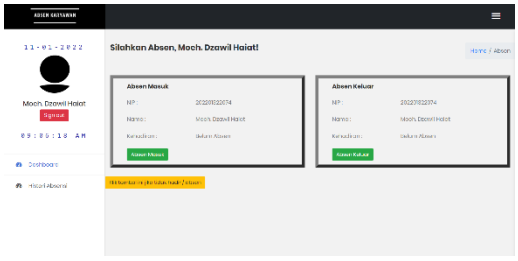


Figure 32. Employee Home

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On the dashboard page if you Press the " Enter Attendance " button so will lead to the QR-Code page to scan the code you have every employee as image 34.

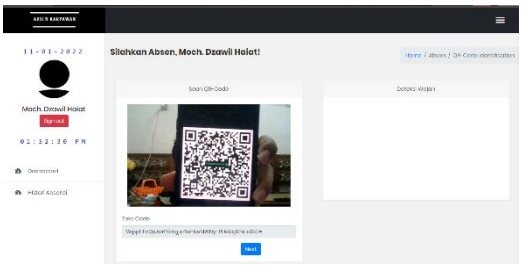

Figure 33. Employee QR-Code Scan page

After scanning the QR-Code and the results are valid they will appear next button, if pressed so will carry on to the page detection face. Same thing with QR-Code scan page if felt face suitable or valid then will appear next button for save attendance data and will direct return to dashboard page like image 35.

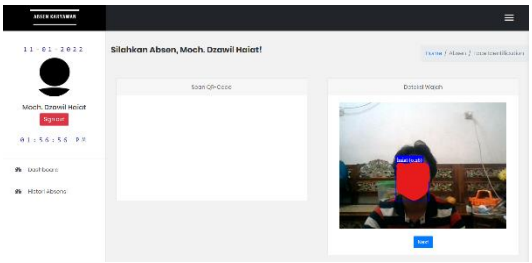

Figure 34. Detection Page Face Employee

If the button permission or no present is pressed on the dashboard page then on the page detection face if valid and pressed next button will appear modal with the form that will be filled according to available data employee as figure 36.

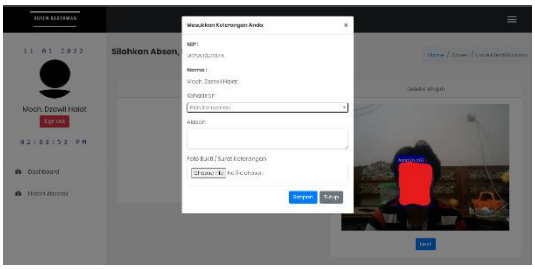

Figure 35. Attendance Data Input Page Other Description

2. History Attendance

History menu attendance is a menu whose page contains attendance data from each employee alone. On the history menu attendance only could view attendance data without can change and deleting the data as the picture brought this.

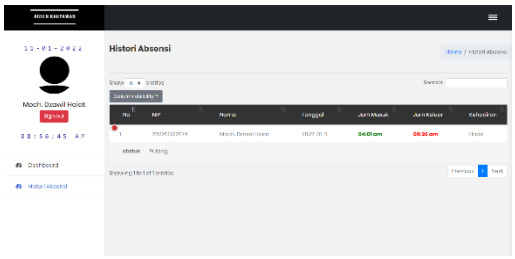

Figure 36. History Page Attendance Employee

3. Account Menu

Account menu is a menu whose page contains information on account employees like name, email, photo profiles, passwords, and others. this menu owns feature change data for the details as in picture 38.

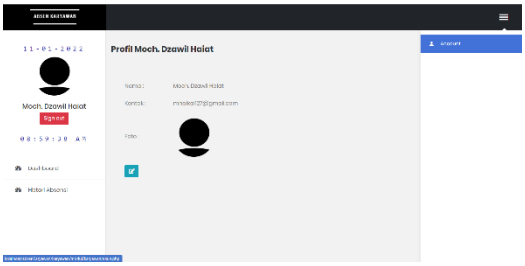

Figure 37. Employee Account Menu Page

To change the data on the *account menu* should enter to *account* menu page, then push the knob with a picture pen for raises a modal that contains a form with data already stored as image 39.

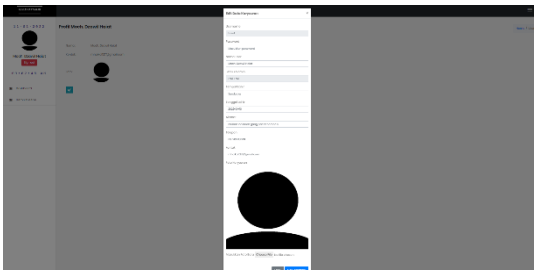

Figure 38. Edit Account Data Employee

4. Stage Test System

A. Admin

For testing, system administration uses the testing method *Blackbox* which will test features from the design. There are several

the test that will do on menus and features owned by admin actors such as table following:

Table 5. Stage Admin Login Menu Testing

Test goal		*Login* as admin	
Condition beginning		Admin is on page beginning	
description	**Test Scenario**	**Expected results**	**Status**
Username and password	1. Log in to page admin *login* 2. Enter username and password 3. Push the " *Login* " button	Condition after is lead to the page admin *dashboard*	Valid

Table 6 is tabling the test that will test the admin data menu in the menu on several features namely: add, delete, view, and change admin data.

Table 6. Stage Admin Data Menu Testing

Test goal	the admin data menu admin data -Edit admin data -Delete admin data
Condition beginning	Admin is on the admin *dashboard* menu or page *dashboard*

description	**Test Scenario**	**Expected results**	**Status**
Name, username, password, name, email contact, photo	1. Log in to the admin data menu page 2. Push knob add data 3. Entering input data on a blank form 4. Push knob save	Admin can enter to admin data menu page and add admin data	Valid
Name, username, password, name, email contact, photo	1. Log in to the admin data menu page 2. Push-button edit data contained in the table *action field* 3. Make edits to the existing input data stored	Admin can change and save admin data	Valid

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	4. Push knob *Updates*		
-	1. Log in to the admin data menu page 2. Push knob delete the one in the table *action field* 3. Push knob delete	Admin can delete admin data	Valid

Table 7 is tabling the test that will test the employee data menu in the menu own several features namely: add, delete, view, and change employee data.

Table 7. Stage Employee Data Menu Test

Test goal		-Enter the Employee data menu. - Add employee data -Edit employee data - Delete employee data	
Condition beginning		Admin is on the Menu page main admin	
description	**Test Scenario**	**Expected results**	**Status**
Name, username, password, nip, address, place birth, date born, type gender, telephone, position, email, photodetection, *QR Code, active*	1. Log in to the employee data menu page 2. Push knob add data 3. Entering input data on a blank form 4. Push knob save	Admin can enter to employee data menu page and add employee data	Valid
Name, password, address, place birth, date born, type gender, telephone, position, email, photodetection, *active*	1. Log in to the employee data menu page 2. Push-button edit data contained in the table *action field* 3. Make edits to the existing input data stored 4. Push knob *Updates*	Admin can change and save employee data	Valid
-	1. Log in to	Admin can	Valid

	the employee data menu page 2. Push knob delete the one in the table *action field* 3. Push knob delete	delete employee data	

Table 8 is tabling the test that will test the job data menu in the menu own several features namely: add, delete, view, and change job data.

Table 8. Stage Testing Position Data Menu

Test goal		job data menu -Add job data -Edit job data -Deleting job data	
Condition beginning		Admin is on the Menu page main admin	
description	**Test Scenario**	**Expected results**	**Status**
Name	1. Log in to the job data menu page 2. Push knob add data 3. Entering input data on a blank form 4. Push knob save	Admin can enter to job data menu page and add job data	Valid
Name	1. Log in to the job data menu page 2. Push-button edit data contained in the table *action field* 3. Make edits to the existing input data stored 4. Push knob *Updates*	Admin can change and save job data	Valid
-	1. Log in to the job data menu page 2. Push knob delete the one in the table *action field* 3. Push knob delete	Admin can delete job data	Valid

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Table 9 tables the test that will test the attendance data menu in the menu own several features namely: add, delete, view, and change attendance data.

Table 9. Stage Attendance Data Menu Test

Test goal		attendance data menu -Adding attendance data -Edit attendance data -Delete attendance data	
Condition beginning		Admin is on the Menu page main admin	
description	**Test Scenario**	**Expected results**	**Status**
Name	1. Log in to the attendance data menu page 2. Push knob add data 3. Entering input data on a blank form 4. Push knob save	Admin can enter to job data menu page and add attendance data	Valid
Name	1. Log in to the attendance data menu page 2. Push-button edit data contained in the table *action field* 3. Make edits to the existing input data stored 4. Push knob *Updates*	Admin can change and save attendance data	Valid
-	1. Log in to the attendance data menu page 2. Look for knob delete the one in the table *action field* 3. Push knob delete	Admin can delete attendance data	Valid

Table 10 tables the test that will test the report menu attendance in the menu own several features namely: determine the period desired date and print report.

Table 10. Stage Testing Report Menu Attendance

Test goal	-Enter the attendance report menu

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		-I made report attendance	
Condition beginning		Admin is on the admin *dashboard* menu or page *dashboard*	
description	**Test Scenario**	**Expected results**	**Status**
Date start, date end	1. Log in to report menu page attendance 2. Fill in the input form with the date 3. Push the "*print* " button 4. Download report data	Admin can enter to report menu page attendance and make report attendance	Valid

On the table test, 11 is testing the logout menu where when the admin is logged in and leads to page main admin as well manage the data, then the admin can go out from page the with method push logout button.

Table 11. Stage Testing the Admin Logout Menu

Test Purpose		admin can *logout*	
Initial Condition		admin is on the main page	
Input Data	**Procedure testing**	**Expected results**	**Status**
-	1. Log in to page main admin 2. Press the "Sign out" button in *the sidebar* below the Photo profile 3. push the "Sign Out" button 4. Lead to the page admin *login*	admin can *log out* of the system and redirect to the page admin *login*	Valid

In table 12 are Step testing for settings menu time attendance where on the menu the admin can change time data according to the correct data and can keep changes to the data.

Table 12. Stage Time Setting Menu Test

Test goal		-Log in to the time setting page - Change time attendance - Save change time attendance	
Condition beginning		admin is on page main	
description	**Test Scenario**	**Expected results**	**Status**

Hours in, hours out.	1. Log in to page main admin 2. Push knob with 3-line symbol in the corner right on 3. Push *settings* menu 4. Log in to page *settings* 5. Push knob with symbol pen 6. Changing the time data already stored 7. Push knob save	Admin can change and save time data attendance	Valid

B. Employee

For testing, system administration uses the testing method black bo*x* which will test features from the design. There are 10 tables the test that will do in test some menus and features made for employees. Table testing is as follows:

Table 13. Stage Employee Login Menu Test

Test goal		*Login* as employee	
Condition beginning		The employee is on the page beginning	
description	**Test Scenario**	**Expected results**	**Status**
Username and *password*	1. Log in to page *login* employee 2. Enter *username* and *password* input data 3. Push the " *Login* " button	The employee could enter to page main or employee *dashboard*	Valid

Table 14 is testing feature attendance enter with stages in detail as follows.

Table 14. Stage Testing Attendance Sign In

Test goal		-Log in to page *dashboard* - Do attendance enter	
Condition beginning		The employee is on the *dashboard* menu page	
description	**Test Scenario**	**Expected results**	**Status**
Name, nip, position, time of entry, attendan	1. Log in to page *dashboard*	Employee enter to page *dashboard* then	Valid

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ce, and status	2. Push-button " Attendance Login" *password* 3. Log in to *QR - Code* scan page and if *QR-Code is* valid then will appear "Next" button 4. Push the Next button 5. Log in to page detection face and if the face is valid then will appear " Attendance " button 6. Push the " Attendance " button	push knob roll call to enter then enter to *QR-Code* scan page after invalid then enter to page detection face and after valid then attendance enter has saved	

In table 15 are testing feature attendance goes out with stages in detail as follows.

Table 15. Stage Attendance Feature Test Go out

Test goal		-Log in to page *dashboard* - Do attendance go out	
Condition beginning		The employee is on the *dashboard* menu page	
description	**Test Scenario**	**Expected results**	**Status**
Name, nip, position, time out, attendance, and status	1. Log in to page *dashboard* 2. Push-button " Attendance Login" *password* 3. Log in to the *QR-Code* scan page and if *QR-Code is* valid then will appear "Next" button 4. Push the Next button 5. Log in to page detection face and if the face	Employee enter to page *dashboard* then push knob roll call goes out then enter to *QR-Code* scan page after invalid then enter to page detection face and after valid then attendance enter has saved	Valid

	is valid then will appear " Attendance " button 6. Push the " Attendance " button		

Table 16 is testing feature attendance other details with stages in detail as follows.

Table 16. Stage Attendance Feature Test Other Description

Test goal		-Log in to page *dashboard* - Do attendance other information	
Condition beginning		The employee is on the page beginning	
description	**Test Scenario**	**Expected results**	**Status**
Name, ID, position, time of entry, reason, photo information, attendance, and status	1. Log in to page *dashboard* 2. Push " No " button Present / Attendance ” *password* 3. Log in to the *QR-Code* scan page	The employee could do an attendance description.	Valid
	and if *QR-Code is* valid then will appear "Next" button 4. Push the Next button 5. Log in to page detection face and if the face is valid then will appear " Attendance " button 6. Push the " Attendance " button 7. Entering the input data already there is 8. Push knob save		

In table 17 are table account menu test employees who have feature changes and save employee data such as name, password, picture Photo profile, email, and more.

Table 17. Stage Employee Account Menu Testing

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Test goal		-Log in to the employee data edit page - Change account data employee - Save employee data changes	
Condition beginning		The employee is on the page beginning	
description	**Test Scenario**	**Expected results**	**Status**
Name, password, address, place birth, date birth, telephone, position, email, photo employee	1. Log in to page *dashboard* 2. Push knob with 3line symbol in the corner right on 3. Pressing the account menu profile 4. Log in to account edit page employee 5. Push knob with symbol pen 6. Changing existing data stored 7. Push knob save	The employee could edit data and save account data employee	Valid

On the table test, 18 is the history menu test roll call from actor employees, where actor employees could look at recap attendance already once done.

Table 18. Stage History Menu Test Roll Call Employee

Test goal		-Log in to page history attendance - view attendance data	
Condition beginning		The employee is on the page beginning	
description	**Test Scenario**	**Expected results**	**Status**
-	1. Log in to page history attendance 2. Look at history roll call	The employee could view historical data roll call	Valid

On the table test, 19 is employee logout menu testing, where the moment employee already does attendance enter, exit, or other information then can direct use the logout menu to out from system information attendance that.

Table 19. Stage Employee Logout Menu Test

Test Purpose	employees can *log out*
Initial Condition	employees are on the main page

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Input Data	Procedure testing	Expected results	Status
-	1. Log in to page main employee 2. Press the "Sign out" button in *the sidebar* below the Photo profile 3. push the "Sign Out" button 4. Lead to page *login* employee	employees can *log out* of the system and direct to page *login* employee	Valid

IV. CONCLUSION

1. Conclusion

As for the conclusion from the report "Design and Build System Information Based Employee Attendance Management Website With Qrcode And PHP Native On Hero Web Design, namely:

- System information management attendance employee website -based with QR code makes it easy employee for the present with fast and reduce fraud, loss, and damage caused by system Hero Web Design manual attendance.
- Development system information management attendance employee based on a website that provides a QR code use method *Scrums.* Usage *Scrum* more dynamic as well as results implementation *Scrum* in Case this look at system generated. So you can apply *Scrum* to make a suitable system for your needs.
- Testing use method black box, device soft detect feature as feature no valid or lost error interface, data structure and error database access external error performance, error initialization**,** error shutdown, and automatically functional return expected results.

2. Suggestion

design system information attendance based on this website middle own much weakness good for Writer nor for hero web design. because of it, the Writer advises repair study such as:

- Expected participation from Hero Web Design for the future come could maintain and renew the system taking attendance presence employee this.
- Could combine with tool attendance so that moment attendance data collection is more accurate.
- System attendance could be opened and used although no internet.
- System attendance could do through a *smartphone*

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