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# Warehouse Management System WHMS

# Prepared by:

Hawdang Ahmad Kany Nariman Shkar Wshyar HalgurdMuhammad

# Supervised by:

Ramyar A. Teimoor

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### **Abstract**

This project is done as a final year project for Bachelors of Computer Science (CS)

The project is undertaken to plan, design and develop a Human Resource Management system, named "WHMS" for Any Company. Which is there created to research Company

Human Resource Management system provides the information regarding the employees in the company. The system facilitates good interaction / communication facilities between the employees, Admin of departments with HR administration. The web pages about an employee are created dynamically based on the user id and password and links are provided to web pages containing information like employee general details. HRMS also has the facility of viewing a detailed report regarding the employee.

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#### Abbreviation

CS:Computer Science	ii
ERP: Enterprise resource planning	5
HRMS : Human Resource Management System	2
Hypertext Transfer Protocol	2
WH:Warehouse Department	31
WHMS : Warehouse Management System	20

# Chapter One General Introduction

#### 1.1 Introduction

A web server is server software, hardware dedicated to running said software, that can satisfy World Wide Web client requests. A web server can, in general, contain one or more websites. A web server processes incoming network requests over HTTP and several other related protocols. The primary function of a HRMS is to store, process and deliver web pages to Manager about all other the client and other feature. The communication between client of HR and server takes place using the Hypertext Transfer Protocol (HTTP). Pages delivered are most frequently HTML documents, which may include images, style sheets and scripts in addition to the text content. (1)

Human Resources Management System (HRMS) is the management project, a society under the Organization Office General Administration Department, over the any other Company and another A (2) (Human Resource Management System) is a combination of systems and procedures that connect human resource management and information technology through HR software.

The Service Book of each employee is the most complete repository of such transactions. Hence, service data of each employee from the service book is the backbone of HRMS database. A HRMS may help to revolutionize a work environment. The automation of repetitive and time consuming tasks associated with human resources management frees up some of the companies most valuable employees and allows the focus to shift to culture, retention, and other highly impactful areas

Human resource software used by a professional can yield extraordinary results making your whole HR department more effective. Following are the functions of an optimal HRM application Payroll Management Attendance & Timesheet Maintenance Performance Management & Appraisals Recruitment & Onboarding Management

in next Section 1.2 , requirement about HRMS Hardware and other hand Software which have many parts of Hardware device or needed some else

#### 1.2 Problem Statement

The Human Resource Management System will addresses the Automation of the Performance of the Employees as regard to what is monitored on them. Their performance would be according to the qualities of what they're working on. On the present situation, the performance of the employees were poorly evaluated and monitored previously, during and after every period of their jobs, Another thing is many companies on our days have conflict on giving their employees rightful bonuses on the hard works they produce for the welfare of the company, so the system would like to make a possible solution to this by the evaluation of the automation of the performance ratings of the Workers. Some problem which have focused on there. (3)

- Slow process of their Human Resource In the past recording keeping was done on paper and with spreadsheets.
- Difficulty in monitoring their daily records They are just using papers and spreadsheets for their employee's records.
- Unsecured data Since data is stored in filing cabinets it is freely available to anyone. Information may falls into the wrong hands.

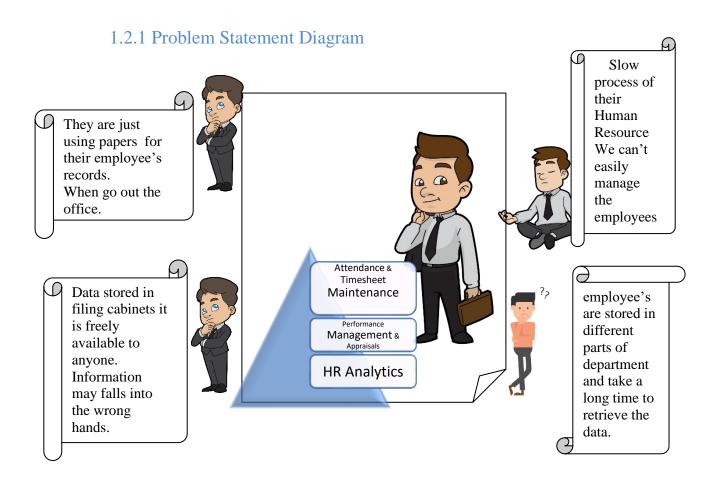


figure 1. 1 Problem Statement

#### 1.4 aim of the Project

Creating the system to improve or decreasing the fault which is doing present on the Human Resource Department ,data transform correctly .

after the data has arrived the data will be saved in database to prevent them from deleting and attackers, another aims is to be easy to work with employees warehouse and we took a good care of the design to be easy to eyes of people use it and benefits from it the application is not complex . ensure that equal opportunities are available to all user as own privilege who takes.

The information of employee's are stored in different parts of department and take a short time to retrieve the data. Since data is stored inside the system cabinets it is easily available to anyone of the Departments.

Employees are becoming more sensitive about who sees their personal information But Information is not falls into the wrong hands. only the manager of HR can used or monitoring the dedicated information or personal information.views people as organizational assets and internal customers and works to create job satisfaction and employee efficiency and effectiveness.

#### 1.3 RelatedWork

#### **ERP System \_Oracle:**

Enterprise resource planning refers to a type of software that organizations use to manage day-to-day business activities such as accounting, procurement, project management, risk management and compliance, and supply chain operations. A complete ERP suite also includes enterprise performance management, software that helps plan, budget, predict, and report on an organization's financial results.

ERP systems tie together a multitude of business processes and enable the flow of data between them. By collecting an organization's shared transactional data from multiple sources, ERP systems eliminate data duplication and provide data integrity with a single source of truth.[(4)]

#### **Data warehousing within intranet (5)**

A Data Warehouse (DWH) contains a large amount of aggregated data, collected from the various operational, enterprise-wide data sources. The DWH will be logical modeled as a virtual n-dimensional data-cube. Analyses against this n-dim data-cube allow the decision makers to view their enterprise in various different ways. This paper describes our ongoing "WWW-EIS-DWH" research project of the development of a simple to use Executive Information System (EIS), which is complete embedded in the Web, res. an enterprise-wide network (Intranet), and based on a multidimensional modeled Data Warehouse.[ (6)]

#### Web technology meets data warehousing (7)

This paper discusses the concept and application of Web warehousing—the combination of data warehousing and Web technology. Data warehousing is a critical aspect of decision support systems. The Internet made it possible to apply Web technology to traditional data warehousing, which resulted in improved cost savings and productivity. The relationship between Web warehousing and traditional data warehousing is assessed in detail, revealing the new opportunities and challenges of Web warehousing in business settings. (5)

#### **Human Resource Management System" (8)**

The paper titled "HUMAN RESOURCE MANAGEMENT SYSTEM" is basically concerned with managing the Administrator of HUMAN RESOURCE Department in a company. A Human Resource Management

System (HRMS), refers to the systems and processes at the intersection

between human resource

management (HRM) and information technology. It merges HRM as a

discipline and in particular its basic HR

activities and processes with the information technology field (8)

1.5 Report Outline

Chapter One: General Introduction

In this chapter in general is talking about the topic like what's the project is,

and how to benefit from it. Requirements of the project as briefly

chapter also contains from Problem statement that fix the problems and Also

Aims and objective of the project that explains the aim of the project.

Chapter Tow: Background

In chapter two, we understand how to start the project contains of all the part

of the project also talks about methodology and types of methodology and

select what's the type of methodology is used and talks about DBMS, fire base

statement, programming language Java, markup language they are all

Common methodology that we use in the project.

7

Chapter Three: Project design and Implementation

In this chapter we will see all of design types that we used in our project (rich

picture, flow charts, screen design-UML diagram) talks about them in detail

we have also (project Implementation) that Shows the step of steps to how to

use our Project screen by screen of the Project.

Chapter Four: Conclusion and Future Work

In last Chapter you find compendium of the report summarize the work also

will be talking about Future Work (means how the application improve and

maintain in the feature).

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**Chapter two** 

**Background** 

#### 2.1 Introduction

The methodology is the general research technique that outlines the way in which research is to be undertaken and, addition to other things, identifies the methods to be used in it. These methods, described in the methodology, define the means or modes of data collection or, sometimes, how a specific result is to be calculated. Methodology does not define specific methods, even though much attention is given to the nature and kinds of processes to be followed in a particular procedure or to attain an goal.

When proper to a study of methodology, such processes constitute a constructive generic framework, and may therefore be separated into sub-processes, combined, or their grouping changed including the context of events and circumstances. (9)

#### 2.2 Methodology

the methodology employed in an experiment is essential to its success, and bad methodology has spoiled thousands of research projects. So whenever a piece of research is published in a scientific or medical journal, the researchers always carefully describe their methodology; otherwise, other scientists couldn't possibly judge the quality of what they've done. (10)

#### 2.3 why we needs Methodology

If you are doing research, then you have a methodology even if you do not state it. The question is more about why you should write up your methodology in your research proposal and why you should write about it in any subsequent report once the research is completed. In writing a research proposal you need a methodology to explain where you are coming from and

why you want to do the research in a particular way. An assessing committee, a referee, a funding agency will all want to be assured that your research question is a good question that needs asking, that your approach will answer your question or address your hypothesis and that your approach will deliver the outcomes you seek. Explaining your methodology helps others know why you want to do your research in a particular way. It helps others know that you know what you are doing. It gives confidence to funding agencies that you are not going to waste their money. If your methodology is new, innovative or just plain different then you have to write more of a justification so that others will understand what you are trying to do and why it is important to do it this new way. Kaupapa Māori research has needed explanation because it has been new and different and others who are assessing the proposal need to be informed so that they can make a decision. In writing about your research when you have completed the project you need an explanation of your methodology so that others can understand the significance of what you have done and make sense of how it all worked. The methodology piece says why you did what you did. It also enables you to write about what you did not do and why, and about the weaknesses or limitations of your project as well as its strengths. Every research has a limitation of some sort and it is perfectly acceptable to identify the weaknesses of your own study (7)

#### 2.3 Methodology (Waterfall Model)

**Waterfall** is the one of the most common and traditional methodology used in project management. Waterfall model is commonly used in small projects where all the requirements are defined and there is no scope for change in the requirements. (11)

#### **Benefits of Waterfall Methodology:**

- **A** Easy to Follow.
- ❖ Waterfall requires all the requirements to be well defined and therefore they could be easily understood by anyone working on the project.
- **❖** No overlapping
- ❖ In Waterfall, all the phases are liner therefore all the tasks are sequential and there is no chance for tasks to be overlapping.
- **\*** Extensive Documentation.
- ❖ All the steps, tasks, requirements as well each phase are extensively documented.
- This helps to audit project artifacts easily. Each phase has specific deliverables.
- **A** Easier to Measure.
- ❖ All the deliverables can be measured easily as there are no ambiguous requirements.

#### Phases of Waterfall Project

- All tasks on waterfall projects are grouped by type of activity and each project follows the same phases:
- **❖ Requirements** analyze business needs and document what software needs to do.
- ❖ **Design** choose the technology, create diagrams and plan software architecture.

- **Coding** figure out how to solve problems and write code.
- **❖ Testing** make sure the code does what it supposed to do without breaking anything.
- **Operations** deploy the code to a production environment and provide support.

#### 2.2.1 Waterfall Model

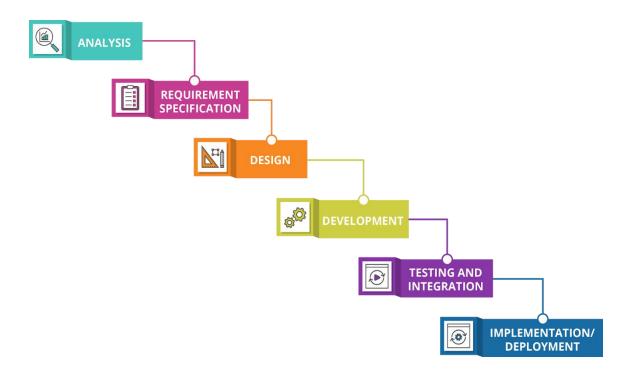


figure 2. 2 Waterfall Model

#### 2.4 Project Requirement

In product development and process enhancement, a requirement is a solitary reported physical or functional need that a particular design, item or procedure means to fulfill. It is commonly used in a formal sense in engineering design, including for example in Software engineering.

#### 2.2.1 Software Backend – Frontend

#### **2.2.1.1 Frontend**

Briefly, front-end refers to the client side or the website composition in the web industry.

#### HTML:

is a code used to build web pages and web applications accessed on the internet. The code was developed at the dawn of the World Wide Web in the late 1980s and early 1990s. The language allows website creators to tell an internet browser how to display elements like images, content, forms, and interactive feature.

# 5

#### CSS:

Cascading Style Sheets (CSS) is a style sheet language used for describing the introduction of a document written in a markup language like HTML, CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

#### JavaScript:

JavaScript is a scripting or programming language that allows you to implement complex features on web pages — every time a web page does more than just sit there and display static information for you to look at — displaying timely content updates, interactive maps, animated 2D/3D graphics, scrolling video jukeboxes, and so on. Update and change both HTML and CSS can figure, control and approve information

# **JS** JavaScript

#### **2.2.1.2** Backend

Back-end refers to the server side. The developer creates components and features that are roundabout accessed by a user through a front-end application or system.

#### PHP:-

PHP is a server side script that is interpreted on the server while JavaScript is an example of a client side script that is translated by the client program. Both PHP and JavaScript can be inserted into HTML pages.



#### MySql:

A database is a structured collection of data. It may be anything from a basic shopping rundown to a picture gallery or the vast measures of information in a corporate network. To include, access, and process data stored in a computer database, is an Open Source implies that it is workable for anyone to use and

alter the product. Anybody can download the (12) SQL software from the Internet and use it without paying anything.

**Security:** Databases setup on MySQL are very, very secure as all the passwords that are stored are in encrypted form, hence restricting unauthorized access to the database. This project research is going to use MySQL Database as the back-end storage for all records. All data stored from the stage of account creation, submission of article, review process, payments, online publication and editorial work will be stored on the SQL Database. (13)



#### 2.2.2 Hardware

A computer is a machine that can be instructed to carry out sequences of arithmetic or logical operations automatically via computer programming. Modern computers have the ability to follow generalized sets of operations, called programs. These programs enable computers to perform an extremely wide range of tasks. A "complete" computer including the hardware, the operating system (main software), and peripheral equipment required and used for "full" operation can be referred to as a computer system. This term may as well be used for a group of computers that are connected and work together.



#### BarcodeReader:

A barcode reader (or barcode scanner) is an optical scanner that can read printed barcodes, decode the information contained in the barcode and send the information to a computer. Like a flatbed scanner, it consists of a light source, a lens and a light sensor translating for optical impulses into electrical signals.



# **Chapter Three**

# Project Design and Implementation

#### 3.1 Project Design

In this chapter discusses is about the project design and we understanding the design of the inter face which is implemented and how to use the application.

#### 3.1.1 Introduction

Design process is a way to think and design to solve problems and make the application or program. It is a process that can be replicated and used for a variety of different problems for small scale products to complex services, Typically, we start with something that called Design Research.

#### 3.1.2 Screen Design

Screen design is a type of project design one of the important part of application especially web application Contains of screen design, we need to design the screen simple so it would be easy for users to use and the design screen should be user friendly and color organization one of the parts of screen design is color the color should be safe and the using should be color organize for example these are parts of application screen design

#### 3.1.2.1 Sign in screen design



#### 3.1.3 Unified Modeling Language

Unified Modeling language (UML) is a standardized modeling language-enabling developer to specify, visualizes, construct and document artifacts of a software system (Object Management Group, 2019). Thus, (14) UML makes these artifacts scalable, secure and robust in execution. UML is an important aspect involved in object-oriented software development. It uses graphic notation to create visual models of software systems

#### 3.1.4 Use case Diagram

In this part we are talking about use case diagram That explain all of our system like how it works or how many types of admin have it will be great to this research reader and benefit from it. A use case diagram is a dynamic or behavior diagram in UML. Use case diagrams model the functionality of a system using actors and use cases. Use cases are a set of actions, services, and functions that the system needs to perform. In this context, a "system" is something being developed or operated, such as a web site (WHMS, 2020). The "actors" are people or entities operating under defined roles within the system.

## 3.1.4.1 Usecase Diagram

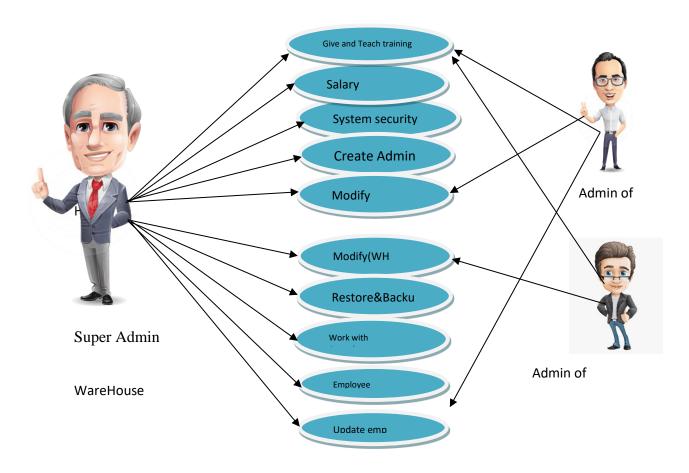


figure 3. 1 Use case Diagram

#### 3.1.5 Rich Picture

A rich picture is a drawing of a situation that illustrates the main elements and relationships that need to be considered in trying to intervene in order to create some improvement. It consists of pictures, text, symbols and icons, which are all used to illustrate graphically the situation.

#### 3.1.5.1 Rich Picture

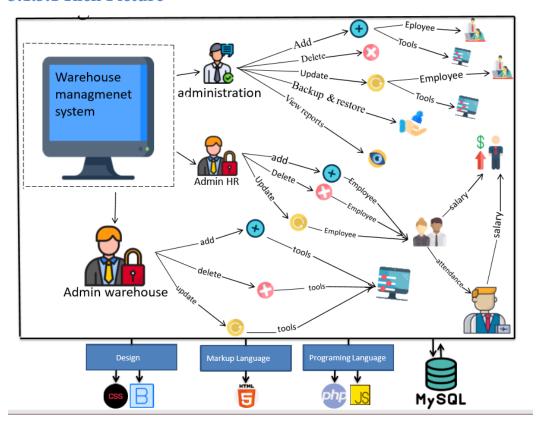


figure 3. 2 Rich Picture

#### 3.2 Project Implementation

Project implementation (or project Presentation) is the phase where interface and plans become reality. This is the logical conclusion, after evaluating, deciding, visioning, planning, applying for funds and finding the financial resources of a project first when we open the application we see the screen that welcomes the users to the system. And user logining to the user who is the admin of departments or Administrator.

#### 3.3 Login Page



figure 3. 3 Login page that contained three field which needed to login into the mainpart

#### 3.4 Dashboard



figure 3. 4 Dashboard of Project the Super Admin can access every purpose

After that the user must be registered on the back of the system by administrator therefore the system is an Online or is a Client-Server but only let the admin of the departments and the super admin to sign in other wise anyone can't login to the system with any privilege the finally if the userid and password is correct system is opened the main page is opening (dashboard).

#### 3.5 HR Department



figure 3. 5 Dashboard of Project the Admin of HR can access own Feature

HR department user must be registered by the Super Admin of the system therefore the system is an Online or is a Client-Server but only let the admin of the departments and the super admin to sign in other wise anyone can't login to the system with any privilege the finally if the userid , password and Type of User is correct system is opened the main page is opening (dashboard).

#### 3.6 Warehouse Department



figure 3. 6 Dashboard of Company the Admin of Warehouse can access own Feature

Warehouse department Admin must be registered by the Super Admin of the system therefore the system is an Online or is a Client-Server but only let the admin of the departments and the super admin to sign in other wise anyone can't login to the system with any privilege the finally if the userid , password and Type of User is correct system is opened the main page is opening (dashboard).

### **3.7 Employees Information**



figure 3. 7 employee detail information

about section in this page have a briefly about the employee of the System of Company in there we have eleven field about employee's

## 3.8 Employees information View part



figure 3.8 Contain all information about employee's can change any thing you want

#### 3.9 Warehouse item entering

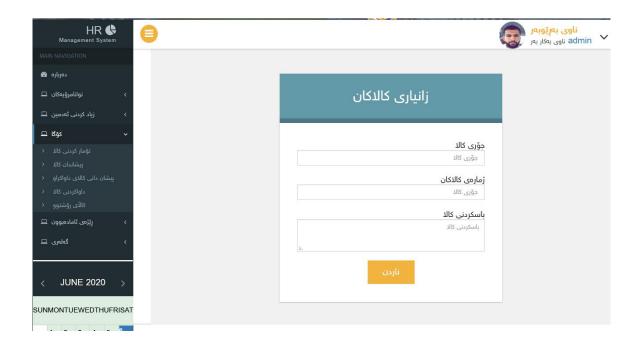


figure 3. 9 entering item to the warehouse departments

This page was created for the whole item which company or org.s have contain three part (type of item, quantity, description)

#### 3.10 Warehouse items info View part

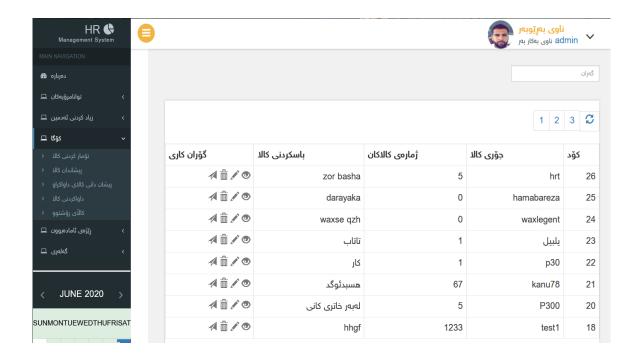


figure 3. 10 viewing all of item on the warehouse office's

display the all item which have in the Ware House can WH Admin can access to there

#### 3.11 Request item



figure 3. 11 request any item will you would from main Warehouse office and another Location's

Requestin to the all item which you want in the Ware House's Location can WH Admin can access to there or request item

#### 3.12 Requested items part



figure 3. 12 viewing all item which requested by admins

Requested all item which requested by another admins in the Ware House's Location can the super admin accept the request

#### 3.13 Driver's Room

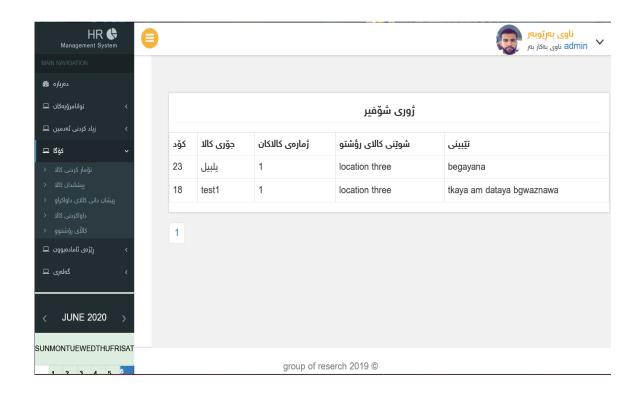


figure 3. 13 Driver's Room view all items which accept the requested by admins

Driver room Contain or Viewing all item which Accepted by another admins in the every Ware House's Location

#### 3.14 Attendance IN

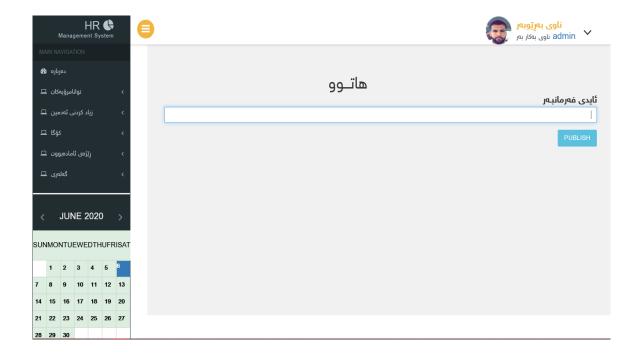


figure 3. 14 Attendance In

Attendance IN can attend the employees while entering the companies and check Card to the attendance Reader device

#### 3.15 Attendance OUT

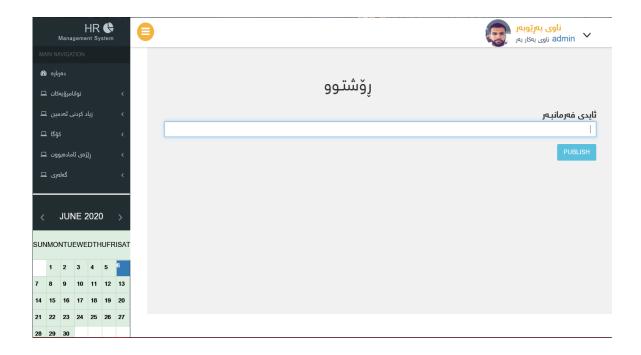


figure 3. 15 Attendance OUT

Attendance OUT can attend the employees while leaving the companies and finally check Card to the attendance Reader device

#### 3.16 Attendance View part

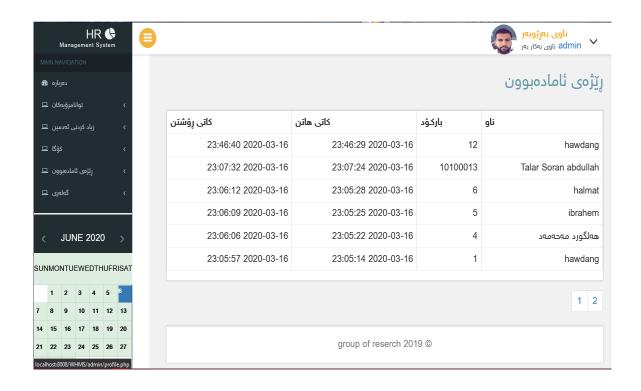


figure 3. 16 Viewing the whole Attendance Record

Attendance View can View the employees IN and OUT in the companies which recorded by the attendance Reader device

#### 3.17 Employees Profile



figure 3. 17 Gallery

This page can viewing by everyone who access this System Contained information about whole employees working in the companies

#### 3.18 ADD Admins



figure 3. 18 Add admin

This page let the only Super Admin who create account to Admin's for any department which have get the username, password, and type of admin

#### 3.19 Admin's View part



This page let the only Super Admin who Modified Admin's account of any department which have the username, password, and type of admin

figure 3. 19 View Admin's Account

# **Chapter Four**

## **Conclusion and Future work**

#### 4.1 Conclusion

In today world and our society , the Human Resource Management plays a very significant

role in the daily life. From one viewpoint, the Soft and Hard Human Resource Management influence on the business and lets them development rapidly. It can improve employee's motivation in a business and pay attention to company's policy and law respectively, which can increase the efficiency of company and get higher profits. decreasing paper wasting with a roll of paper and cabin of paper. On the other hand, trade unions help the employee to achieve negotiation successfully in the early time; it means the employee can negotiate a better wages and a good working condition without any fault—the Human Resources Management will continue to play its role in each business.

- **Greater Scalability:** Businesses often require quick scaling of their operations as they are derived from market conditions.
- **Deep analysis:** An HRMS enables scrutiny of data at every level. It creates a system which remain data as secure, requirements and future requirements.
- Less wasting time: process will be quickly. It doesn't let data to repeat or distinct data

#### **4.2 Future Work**

- Creating features Employees & manager Self Service
- Pay roll
- Loan Management
- Develop the Authentication type

### References

- 1. Server Pronto. Server Pronto University. [Online] August 31, 2014. [Cited: Jan 16, 2020.] https://www.serverpronto.com/spu/2014/08/different-types-of-web-servers/.
- 2. Rietsema, Dave. HRMS. *HRMS world*. [Online] december 2019. https://www.hrpayrollsystems.net/.
- 3. STUART LIROFF. academia. Academia. [Online] march 1, 2015. https://www.academia.edu/.
- 4. ERP System Oracle Enterprise. ERP system. [Online] jan 2020.

https://www.oracle.com/applications/erp/what-is-erp.html.

5. Tjoa, Andreas Kurz and A Min. Web technology meets data warehousing. *Sience Direct.* [Online] [Cited: january 3, 2020.]

https://www.sciencedirect.com/science/article/abs/pii/S0160791X02000611.

- 6. Kurz, A. and Tjoa, A. Min. data warehousing within intranet. January 1, 2020.
- 7. web technology meets data warehousing. Xin Tan, David C. Yen. 2003, Technology in Society 25 (2003).
- 8. A.S.Syed Navaz1, A.S.Syed Fiaz2, C.Prabhadevi3, V.Sangeetha4,. HUMAN RESOURCE MANAGEMENT SYSTEM. *Research Gate.* [Online] September 2013.
- 9. .Krishnaswamy, K.N. [book auth.] Appa lyer Sivakumar. *Management Research Methodology*. South Asia: Dorling Kindersley, 2009.
- 10. merriam-webster. [Online] [Cited: jun 25, 2020.] https://www.merriam-webster.com/dictionary/methodology..
- 11. Elsevier B.V. Science Direct. [Online] 2015.

https://www.sciencedirect.com/topics/computer-science/waterfall-methodology.

12. DOCUMENTATION. MYSQL. [Online] November 30, 2019.

https://dev.mysql.com/doc/refman/8.0/en/what-is-mysql.html.

- 13. Justin Ellingwood. DigitalOcean. DigitalOcean. [Online] July 23, 2013.
- https://www.digitalocean.com/community/tutorials/how-to-secure-mysql-and-mariadb-databases-in-a-linux-vps.
- 14. *visual-paradigm.com.* [Online] december 23, 2019. https://www.visual-paradigm.com/guide/uml-unified-modeling-language/what-is-uml/.
- 15. TechoPedia. [Online] december 23, 2019. https://www.techopedia.com/.
- 16. Navaz, A. S. Syed. *researchgate*. [Online] september 2013. [Cited: january 14, 2020.] https://www.researchgate.net/publication/256846555\_Human\_Resource\_Management\_System.