Design and Implementation of Employee Management System

BY

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

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APPROVAL

This Project/internship titled **"Employee Management System"**, submitted by **Sabrina Huda**, ID No: **151-15-5484** to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 27 January 2021.

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DECLARATION

I hereby declare that, this project has been done by me under the supervision of **Mr. Abdus Sattar, Assistant Professor, Department of CSE** Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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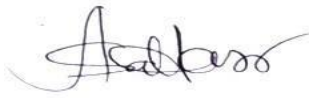

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ABSTRACT

Employee Management System is an online Web portal and this system is for any organization or company so that both can record and store daily activities and measure an employee KPI end of the day. Management will maintain this system and set the KPI for any employee as individuals' skill. Another part will be continuing from the employee. My objective is to design and develop an Employee Management System that will empower both Management and Employees with necessary information regarding KPIs. Any employee can check their KPI as Ill as they have to write daily activities and have to complete projects. So, this system will work transparently for both ends. Finally, I mentioned conclusion, limitations, finding and recommendations, future works. The major limitation is, this is the first time I develop any system. So, the system will not complete properly and will be changed as a company or organizations requirements. The most important future works will be the system can be extended by including Artificial intelligence and make this system more dynamic and robust. I hope there will be more scope in future with more resources to explore the full potential of Web Development.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Generally, in every country, almost in every business organization, the employees' performances play the most crucial role in making decisions regarding their development. Since the 19th century, business organizations had sorted out some ways of evaluating their human resources to further their organizational goals (Manashree C, economics discussion). So, the need for performance evaluation has the utmost necessity no matter the time and space. The traditional methods of employee evaluation am -Verbal Appraisals, Straight Ranking Method, Paired Comparison Method, Man to Man Comparison Method, Grading Method, Graphic Rating Scale and Forced Choice Method (Vicky, your article WeWebrary). These traditional methods am still used but there is a fairly technical issue at hand. The biggest drawback of employee evaluation isn't the method that is followed but the tools that am used to derive the data from that method. Say, for example, a company has more than 100 employees and to know the aptitude of all the employees any traditional method has to be used and all the data found from the survey has to be presented in papers and reviewed by someone else (Vicky). Now this task is daunting and extremely time-consuming. That is why before the invention of computers and other documentation technologies different companies used to perform these evaluations only on an annual or sometimes even biannual basis.

In the last quarter of the 20th century, computers and digital document processing technologies created a revolution in business organizations (CENGAGE, encyclopedia). The collection of thousands of information on papers started to become obsolete. And nowadays almost every business organizations am using software of Microsoft or other developers to perform daily or yearly documentations. The most used documentation software is Microsoft Word and Microsoft Excel. Even though the tools have now become digitalized but the old problem persists, that is - sorting out the performances of employees from a big pile of data. Still, managers am reviewing thousands of information regarding their employees to correctly find out their development and growth. Any easy automation process is yet to be introduced that

can be utilized by all. Several problems persist in the current performance evaluation methods. Currently, both the employees and the management cannot find out the real-time Key Performance Indicators (KPIs) which is essential to evaluate the development and growth of employees. They become master of their developments only when any performance evaluating survey is conducted. And sometimes at the time of the survey, all the necessary pieces of evidence related to performance evaluation of an employee can become nonexistent. So, there is a clear need for an evidence-based approach to managing employee performances.

This current scenario can be changed if an automated method of evaluation of employee performances can be introduced. That is the goal of this project. The intention is developing an online-based platform for evaluating an employee's performance daily. The benefit of developing such a system is immense. First of all, performance information can be valid anytime by both the employee and management. That means both the employees and the management can make necessary decisions based on that data. For example, if an employee is lagging in his/her day to day tasks then they can see their updates on the online-based platform and be much more prepared for his/her daily tasks than before. On the other hand, the management will also get the information that an employee is lagging and they can initiate necessary steps like finding the solution of this performance drop, counseling the employee or even restructuring task of the employee in such a way that the task is achievable by the employee. Of course, all the information will be completely secured and can be valid only by two parties – the employee and the management. Only the employee himself/herself and the upper management will have access over this information. The new system will contain several key features. As a whole, the system will work as a tool for employee performance management. It will also be a platform for employees' performance appraisal. The employees' performances will be categorized based on their achievement over a certain period, their administration, leading and communication skills. Other factors like cooperation, creativity, delegating, improvement, innovation, interpersonal skills, learning ability, management ability, planning, potential, problem-solving, productivity, project management, supervisory skills, time management and vision will also be incorporated in the performance management system (Andrew Sumitani, 2020, tinypulse). Based on this information a company will be able to set up realistic goals. Ideally, pay increases and promotion will also be dependent on

this system. As both am awarded based on the performance. This way of pay increase and promotion will influence the performance appraisal as Ill. The upper management can decide between a merit-based increase or a skill-based increase or can follow a completely different method. All these choices and options will be easily available to the management through this employee performance management system.

1.2 Objectives

- To design and develop an Employee Management System that will empower both Management and Employees with necessary information regarding KPIs.
- To further increase the engagement among Management and Employees by equipping them with the necessary information that is obtained from the Employee Performance Evaluation System**.**

1.3 Scope of The Study

The goal is to develop a system by which the management can submit and store day to day report of any employee simultaneously online without making handmade data or excel datasheet or creating any paperless digital system. At present, the Web portal system is very popular for any kind of data to be stored online because the data can be edited at any time and Ill preserved at the end of the day.

Management will be able to update an employee's data online based on their day-to-day work and performance. The employee can check work performance daily or anytime. Based on the performance, management can comment on the employee's profile. Key Performance Indicators (KPIs) can be integrated into this Web portal. Day to day tasks can be given through this Web portal by the management. Employees can view their real-time work schedule on this Web portal. It would be easier to evaluate employee's performance monthly or yearly as all data will be stored in the Web portal. Performance Scoring System will be introduced where the employee will be given points from 0 to 100.Information like employee goal progress and current goal outlook will be highlighted in this system.

1.4 Justification

The rationale behind this study project is to develop an automated system of employee management which is lacking in the present circumstances. This type of user-friendly automated system is genuinely required in the business organizations to efficiently reach their business goals. Currently assessing the huge amount of data is an issue because a lot of time and manpower is wasted on sorting them out. But if this type of automated system is introduced then it will be possible to reduce both time and money for the betterment of both employee and management.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Several studies and initiatives have already taken place for establishing a good functioning employ performance evaluation system. But among those initiatives, none Ire adopted in this country. So, all the data that am currently present on the Employee Management System am from companies with completely different rules and regulations from this country. Now, these data will be helpful to provide the initial information based tactical support to any company who wants to adopt a performance evaluation system. But still, most of the previous studies Ire more focused on measuring the employee's day to day activities instead of their performance. None had the automated way of generating an employee's Key Performance Indicators (KPIs). So, it can be said that previous initiatives of tracking an employee's performance Ire mostly used as a manual way of recording his/her attendance or how much time they took in their lunch breaks. Many attempts Ire taken to improve the existing system by making modifications but still, a Ill-functioning system could not be established for performance evaluation. The biggest drawback of the previous data was the difference in each study and not all data Ire accurate. So, accuracy and difference in results made it difficult to pinpoint the exact issues of the previous systems. Because mostly the persons who evaluated employees followed some evaluation criteria that have now become obsolete and many of those evaluations was based on personal bias. That is why the previous methods and system do not bring any fruitful impact in the current scenario. Those instances teach what not to do instead of what to do. The need for an automated Employee Management System is present than ever. So, considering all these factors a literature review is conducted to find out the best possible data, method and framework for developing the employee performance evaluation system.

2.2 Core Background Study

Performance Evaluation has started since the industry started when companies and organizations think that they need to be more organized with their employees. Employee

performance evaluation has been done through many methods so far and in the core background study, I'll try to research those histories and recharge them to find new ones.

The reality is that today's workplace is changing and performance reviews won't keep up or be effective. By the way, a few sources propose that presentation assessment was imagined by WD Scott as right on time as World War I. Albeit conceivably the soonest archived utilization of execution evaluations. WD Scott's framework was not a generally perceived idea, and it wasn't until around mid-century those more proper evaluation frameworks got actualized by countless organizations. By the mid-1950s, formal execution assessment was significantly more usually known, with organizations utilizing character based frameworks for estimating execution. As the 1960s advanced, execution assessment started to make a superior showing of really surveying execution, by zeroing in additional on objectives and destinations, and including significantly more via self-evaluation. During the 1970s, there was a ton of analysis about how examinations Ire being directed, and a few cases Ire even indicted. Thus, as the 1970s advanced, organizations began including much more psychometrics and rating scales. The following 20 years saw an expansion in organizations zeroing in on representative inspiration and commitment, which prompted a more all-encompassing way to deal with execution the board and evaluations. Organizations started estimating fresh out of the plastic new measurements as a component of their evaluation measures, for example, mindfulness, correspondence, collaboration, struggle decrease and the capacity to deal with feelings. A considerable lot of these am still exceptionally important in execution audits right up 'til the present time. (Steve Brooks, people).

2.3 Review Based on Methods

In view of the early history, Performance assessment strategies contrast in center suspicions and how they're applied. Picking one impacts all the means that follow, so it's critical to pick cautiously. Most brands wind up consolidating a few techniques and may utilize them at various focuses in a worker's profession. I am evaluating employees here on 6 approaches – *Management by objective (MBO), Checklist method, self-evaluation, Rating scale, Performance test and 360-degree performance evaluation.* For Management by objective, the executives set a metric that speaks to the normal degree of fulfillment, at that point tracks

every worker's results. The agenda technique depends on elite of social rules every specialist is required to meet. The evaluator demonstrates things the representative is fruitful with and gives focused on criticism to things that am deficient. Self-assessment empowers workers to reveal approaches to improve execution that sound good to them. In spite of the fact that it's exceptionally abstract, it gives fuel to a nittier gritty conversation. Causing note of where representatives to have high or low assessments of their work may make it simpler for coaches to meet them where they are and customize a way of development. For rating scale, most associations have utilized this methodology. It indicates objectives – practices, qualities, abilities, or undertaking – on a scale typically racing to 5 or 10 focuses. While this is an adaptable decision, it's basic everybody has a similar comprehension of how the scale functions: You should think about 3 out of 5 "great" while a worker comprehends it to signify "normal." Performance Test is the correct type of testing upgrades review and lets individuals operationalize new information.

While a composed or numerous decision test profit by more prominent objectivity, reasonable introduction of abilities is frequently a superior indication of dominance. It's imperative the evaluator of this test be a specialist in the topic and adequately gifted to convey the significance of the outcomes up the chain of command. 360-degree input is famous in enormous, top notch associations like Google and Microsoft. It consolidates criticism from chiefs, yet from peers, direct reports, and more elevated level bosses the representative habitually works with. (Rob Steffens, bluleadz). So now based on the approaches or points, I am going to use *the agile software development methodology.* Based on the software development process or methodology, there am lots of methods I can use. The Agile software development methodology is one of the simplest and effective processes to turn a vision for a business need into software solutions. So, here for this project, I want to keep simple methods so that any companies or organizations understand the methodology and keep modify if they need any other requirements also. Agile software development cycle or process based on these steps – Requirements, Planning, Design, Development, Testing and Sprint (Execution, Review).Agile Methodology defines process and collaboration, agile development practices am specific to addressing software development tasks performed in alignment with an agile

framework. The core reason I am using agile is designed for flexibility and adaptability. The focus behind Agile is end-user satisfaction.

2.4 Review Based on Frameworks

After deciding the Methodology based on some employee performance evaluation, I am going to use Asp.net to create the online Web portal. Because it's an open-source Web framework to build any Web apps and services, also the *ASP.NET* is server-side technologies. Both technologies enable computer code to be executed by an Internet server. The main point is, I am creating an online Web portal where any company or management can store the employee's performance evaluation data. As our methodology and planning, I have to design and develop the portal so that the system can store by an internet server or any management or company devices.

2.5 Observation & Discussion

After research, the history of Employee performance evaluation and also take some decision that how I will create a Web-based portal for companies and organizations to evaluate the employees. So, lots of points I can measure, but I decide to go with some of them and also, I will apply this process based on any companies or organizations key points that I know as KPI (Key Performance Indicator). Any company or organization can put main points or divide the categories for department or anyway. Also, the methodology and frameworks make this project light and easy.

CHAPTER 3
REQUIREMENTS SPECIFICATION

3.1 Introduction

The research methodology is the specific procedures or techniques used to identify, select, process, and analyze information about a topic. Any kind of projects implementation is done depending on the methodology and its process. For our Web-based projects of employee performance evaluation system, I decided to go with a simple methodology that can understand for any organization or company. Already point out the key points or approaches for this project and after research, I decided to go with the agile software development methodology. Similar to the waterfall model, but industry support this method more than the waterfall model. So, I choose the agile software development methodology. Agile significantly increases productivity and reduces time to benefits relative to classic "waterfall" processes. Agile processes enable organizations to adjust smoothly to rapidly-changing requirements and produce a product that meets evolving business goals. Agile methods or agile processes generally promote a disciplined project management process that encourages frequent inspection and adaptation, a leadership philosophy that encourages teamwork, self-organization and accountability.

3.2 Process Steps

I have followed the Agile software development Methodology of the software development process model to develop this project. Agile software development cycle or process based on these steps – Requirements, Planning, Design, Development, Testing and Sprint (Execution, Review).

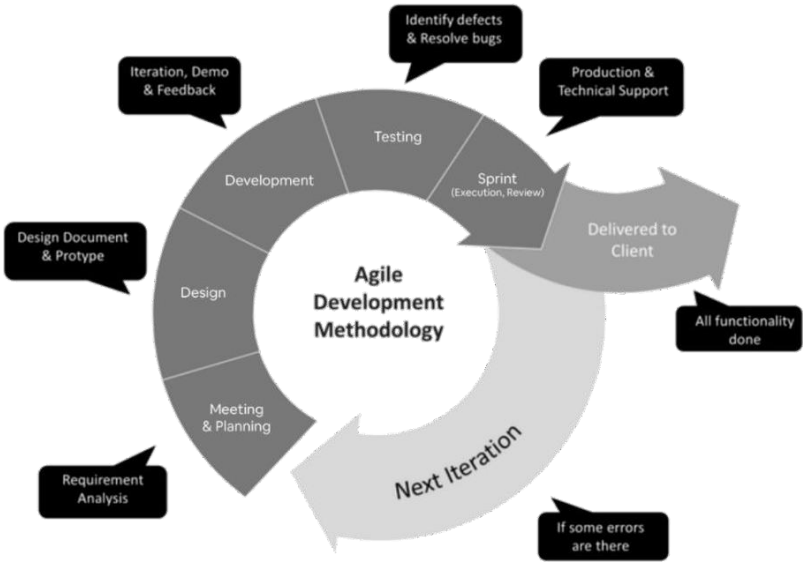

Figure 3.2: General Overview of Agile Software Methodology

3.3 Agile software development Methodology

Agile is a procedure that is directory way in software advancement, needs and results express by means of co-operative trials of own-manufacturing and cross working groups and their buyers. It is a capability to originate and respond to change. Agile software development is more than frameworks such as Scrum, Extreme. Agile methodology is a fruitful procedure for groups finding for a ductile access for action progress.

3.4 Description of Process Steps

3.4.1 Requirements Analysis: I have completed a team meeting and gathered all the information and also discussed how to approaches for this. After gathering all the information, I analyzed those data, also I analyzed several requirements of our project. Our Projects is designed for evaluation of employee performance in any company or organization. So, I already set different Key point or general KPI for that. So, any company or organization can change as their requirements. Also, I added some extra points to record all the data in a single place. By this project, I can record the whole day's performance of an employee. Also, after analysis of some points, I decided to go with Asp.net and own data storage or internet server

for every organization or company. So, after the requirements analysis, I got software and hardware requirements.

3.4.2 Design: For this project, I have designed several UI/UX design and diagram. Because in this project both employee and management can access the Web portal, but both have different rules. So I already design a data flow so that management can access properly and modify or update daily basis and employee can check daily activities and other information's.

3.4.3 Development: To develop or implement this project I have used Asp.net framework. Because it's an open-source Web framework to build any Web apps and services, also the *ASP*.*NET* is server-side technologies. Both technologies enable computer code to be executed by an Internet server. The main point is, I am creating an online Web portal where any company or management can store the employee's performance evaluation data.

3.4.4 Testing: After complete analysis, design and development, in this part, I have tested the Web portal used several test modules. I did UI/UX testing, bootstrap testing, usability testing, compatibility testing. By testing this portal, I got some bugs and solved those, also I change some points and design part to look better.

3.4.5 Sprint: So, as for I decided to go with Agile methodology, after delivering the project to any organization or company I have to technical and development support. Because it's the main of this project. Every company or organizations can go for change as their rules or KPI. So, after complete the production, I have to provide services as Ill as maintenance**.**

3.5 Justification of Methodology

Any kind of project or software development needs to collect all the data, planning, design and develop.

Because I am doing this project to collect employee performance evaluation data to measure all employees end of the day, I decided to plan with an Agile software development method. There am lots of development techniques or models to go with, but here am some points where the use of agile is most common and suitable why I am followed:

- It’s an easy process to think about a big project.
- Basic information only needed to start any projects.
- Easily customizable.
- Any company or organization can use with their requirements.

Before starting the project, I documented all the requirement and also done a prototype using UI. There am no ambiguous requirements, all requirements am clear and fixed. I collected enough information’s and resources to support the system properly.

CHAPTER 4
ANALYSIS, DESIGN AND DEVELOPMENT

4.1 Introduction

Before you create a software or any other system, it is important to collecting and analysis all the information's, identifying the problems and decomposition of a system into its components. The analysis is conducted to study a system or its parts to identify its objectives. Also, at the part of the design, it is a part of planning a system or creates something new to satisfy the specific requirements. Before planning you need to understand and research the methodology and make sure before start development you have all the required information and design. Otherwise, it will be tough if the requirements will change when a system is almost done. So, it's important to planning and gathers all the information before starting any system development.

4.2 Requirements Analysis

For any frameworks designing and computer programming, necessities examination centers around the undertakings that decide the requirements or conditions to meet the new or modified item or task. Requirement Analysis, also known as Requirement Engineering, is the process of defining user expectations for a new software being built or modified. Requirements analysis is critical to the success or failure of a systems or software project. The requirements should be documented, actionable, measurable, testable, traceable, related to identified business needs or opportunities, and defined to a level of detail sufficient for system design. Requirements analysis is a team effort that demands a combination of hardware, software and human factors engineering expertise as Ill as skills in dealing with people. Software requirements break-down the steps needed to meet the business requirement or requirements.

- System Requirements
- User requirements

4.2.1 System Requirements

For any kind of system requirements, commonly I need the following types of requirements.

- Hardware requirements
- Software requirements

- Hardware requirements-
    - Process: Core i3 with a minimum of 2.4 GHz
    - Ram: 4GB
    - HDD: 1 TB
    - Internet Connection
    - Monitor
- Software requirements-
    - Operating system: Windows 10
    - Language: C#
    - Framework: Asp.Net MVC (model view controller)
    - Architecture: Onion
    - Design: Bootstrap, CSS, HTML5
    - Database: Microsoft SQL Server 2017

4.2.2 User Requirements

When a system is being created, User Requirements Specifications am a valuable tool for ensuring the system will do what users need it to do. I collect some KPI requirements from a Ill-known company and organizations Managements. For this reason, I have followed a General KPI system for all so anyone can edit as their needs.

Table 4.1: KPI Calculation Methods

KPI	Weight	Target	Actual	Score	Total
Attendance	**10**	**100%**	**22**	**75**	**7.5**
Projects Done	**10**	**100%**	**5**	**50**	**5**
Skill Development	**05**	**100%**	**3**	**60**	**3**
Seniority	**10**	**100%**	**8**	**80**	**8**

Here, I already set some general KPI points to measure someone performance. I can add any points if I want as any organization or company demand.

So here the simple dynamic calculation process to set and find any KPI points:

KPI- Set any points

Weight of KPI- Set any Value

Target -Set the Target 100% to measure any point

Actual- yes or no (+)(-) Time/day (Function the time or day in the target section)

Score- Actual / Time or day*100

Final- Score*Weight / 100

After Calculate some result I got 90% error-free result and the company or organizations agreed with this system and now, I can develop the system for any organization or company with their requirements and this system has a large possibility of capturing the market in the future.

4.3 Design

To start any software development project, it's mandatory to draw some diagram so that it’s easy to understand, build and customize. It's set a sequence to get a better result as client requirements or what I want to build. In the Software development process, the most critical process changes when its processing or developing already. But design helps to get all the

information and make sequence so that the final output will be like that. Here I use 1 diagrammatic representation.

4.3.1 Data flow diagram

A data flow diagram shows the way information flows through a process or system. It includes data inputs and outputs, data stores, and the various sub processes the data moves through. DFDs am built using standardized symbols and notation to describe various entities and their relationships. DFD graphically representing the functions, or processes, which capture, manipulate, store, and distribute data between a system and its environment and between components of a system.

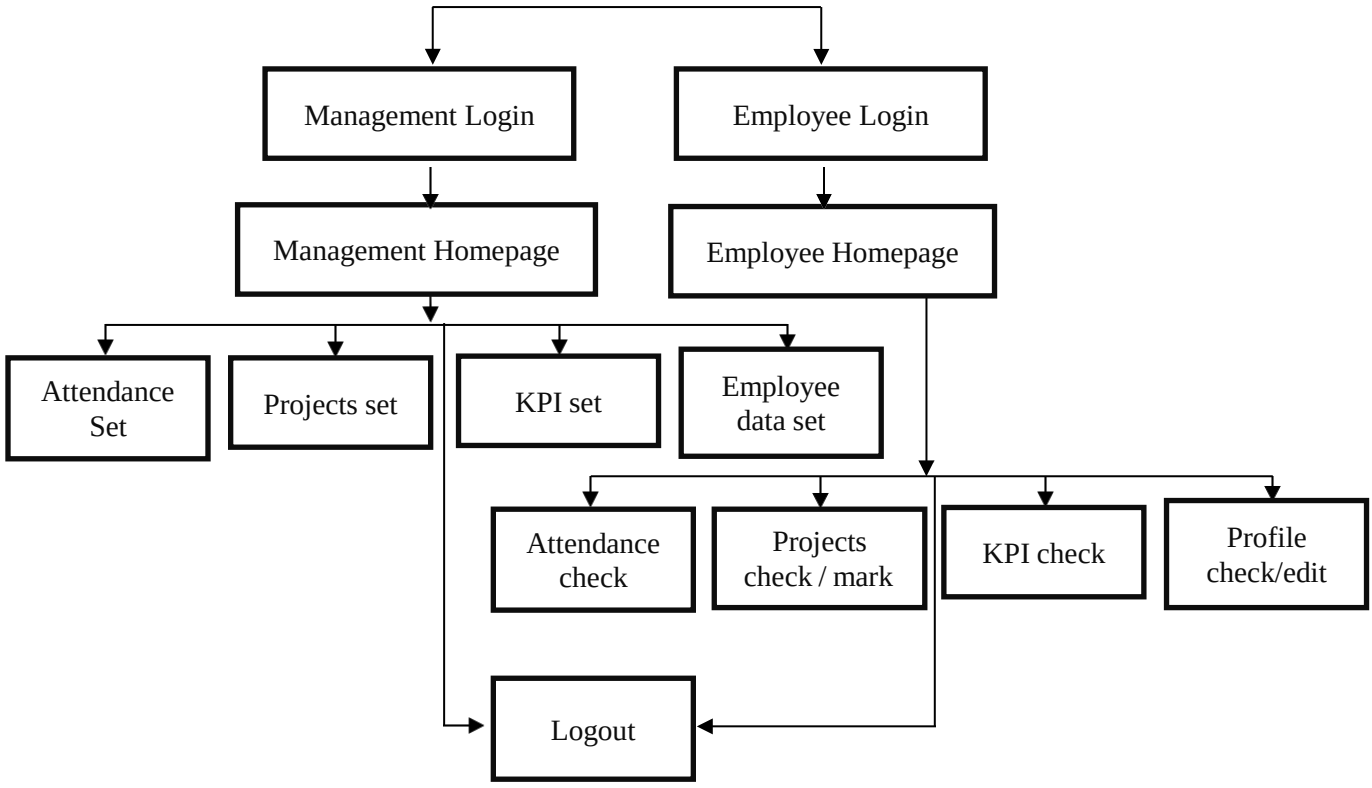

Figure: 4.1: Data flow diagram

By Data flow diagram, I visible the process of our system that how it will work. It's a basic design to maintain the development steps also to understand the pipeline. Simply, I decided to go with both user end – management and employee. Both Id and demo password will be stored by the developer. Management or employee can log in separately and they will get different homepage from their end.

Management can manage, create and store the data of Employee, KPI, Project and attendance. Management will create projects or task for an employee and employee will get that part to complete only. End of the month management will be marking every employee based on their performance and other activities.

An employee can check all the status as Ill as they has also some part to complete end of the day. Because an employee has to write daily activities, mark the project status and check all the points from this system. So, it will be very easy for both employee and management to keep in touch always by this system.

4.3.2 Entity Relationship diagram

Here this Entity Relationship Diagram (ER Diagram) represents the model of this system and also sorting the whole system. The ER-Diagram of the Employee Management System shows all the visual instrument of database tables and the relations between Management and Employee. It used structure data and to define the relationships between structured data groups of employee and management and sorting the system functionalities. Also, functionalities communication is the most important part here because the system connects from both ends. Any ER-diagram have to explore entity, attribute and relationship before start to draw the diagram.

Entity

An entity is represented as rectangle in an ER diagram. As like, in this following ER Diagram I have entities like management and employee and these two entities have many to many relationships.

Attribute

A characteristic depicts the property of an element. A property is said to be Elliptical in an ER-Diagram. Every Oval represents one attribute and is directly connected to its entity. There am different types of attribute in this following diagram. There is some attribute that should follow: main attribute, linked attribute, poly valued attribute, formed attribute.

Relationship

A relationship is enacted through adamant form in ER-Diagram. It shows the relationship among entities. All entities (rectangles) partaking in a relationship, as joined by a route. There am four types of relationships: one to one, one to many, many to many.

Total Participation of an Entity set

An absolute cooperation of a substance set speaks to that every element in element set should have in any event one relationship in a relationship set. Every entity is related to the relationship. Overall sharing is enacted by even routes. I have to make sure that each entity only appears once per diagram.

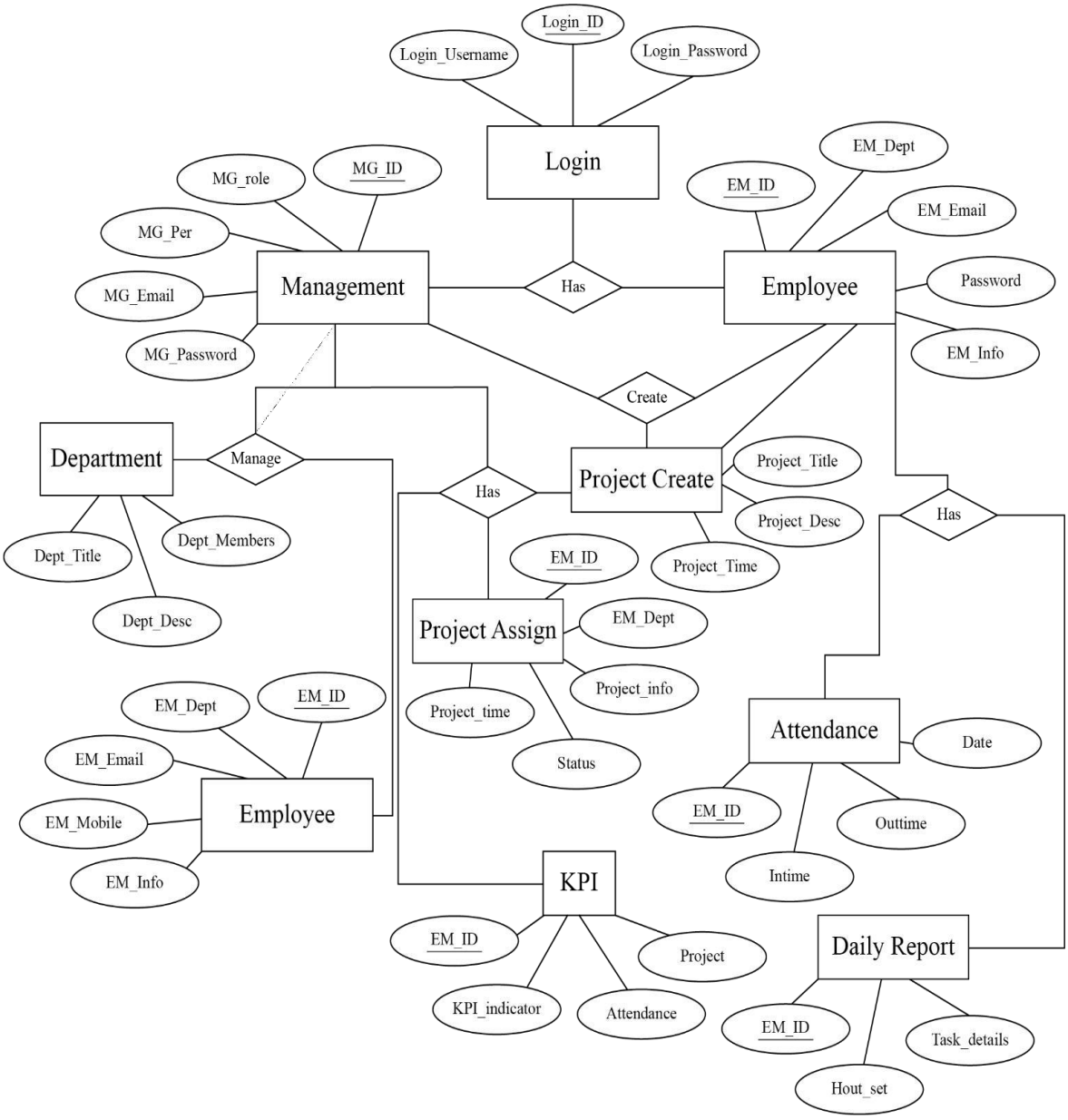

Figure: 4.2: Entity relationship diagram

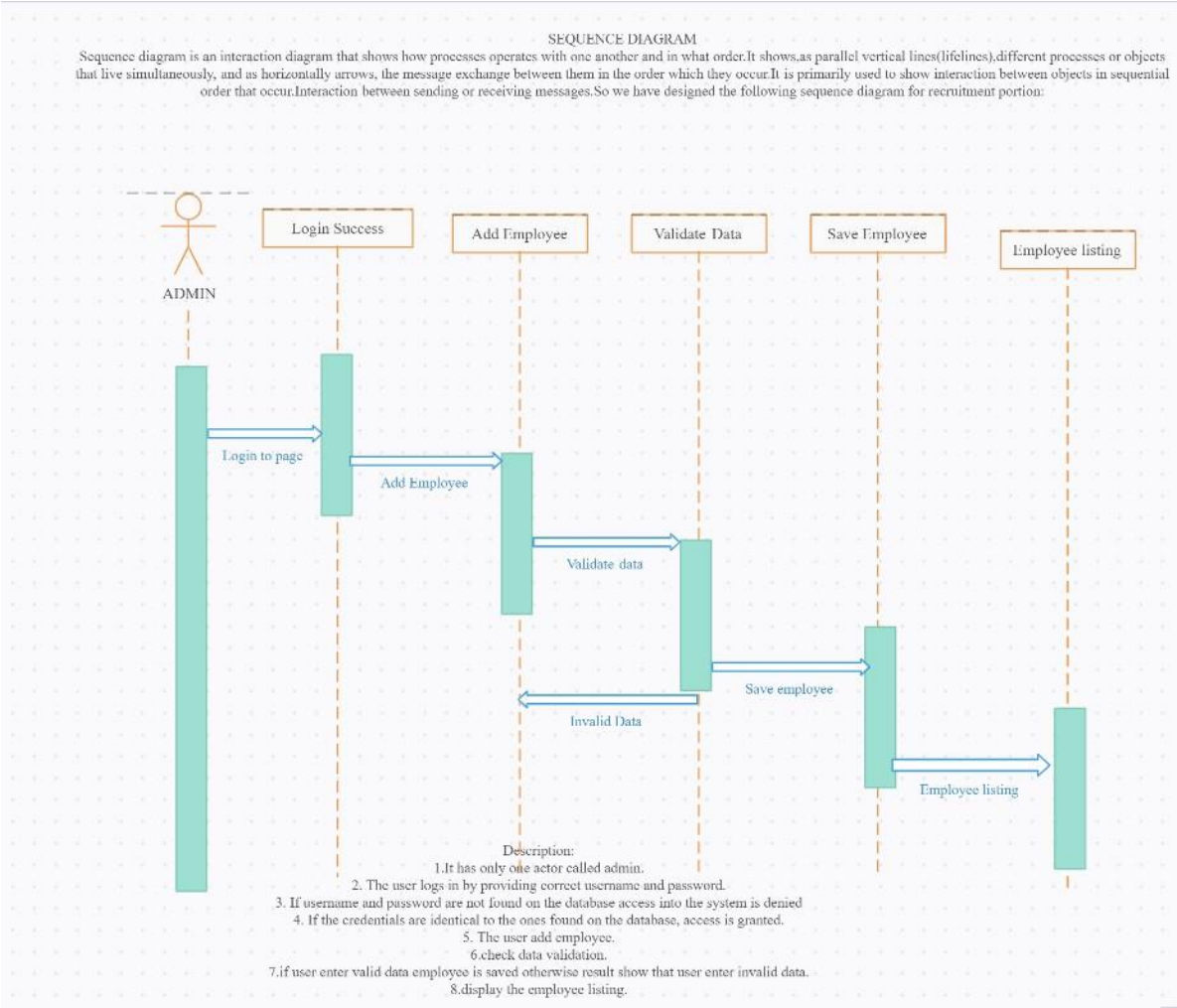

Fig 4.3: Sequence Diagram

4.4 Development

This project developed for record and evaluates employee's performance daily, monthly and annually. So, I developed this system an approach combination of dynamic calculation and data reserve system. I allow any kind of general KPI so that any company or organization can set, store and show any employee performance to evaluate. I follow the agile software development methodology to work on this project. Because of this project is to collect and keep data of employees so it's important to do a simple method and keep the strategies simple.

C#

It is a highly typed object-oriented programming speech. C# is broad origin, common, new, ductile, and multipurpose. The motive of C# was to progress a programming speech which is

both simple and co-operative current work for different software progress. It is broad origin within the .NET Foundation that is controlled and work freely of Microsoft.

Asp.Net MVC

MVC is a design pattern used to decouple user-interface (view), data (model), and application logic (controller). This pattern helps to achieve separation of concerns. Using the MVC pattern for Websites, requests am routed to a Controller that is responsible for working with the Model to perform actions and/or retrieve data. The Controller chooses the View to display, and provides it with the Model. The View renders the final page, based on the data in the Model. Create clean model classes and easily bind them to your database. Declaratively define validation rules, using C# attributes, which am applied on the client and server. Simply route requests to controller actions, implemented as normal C# methods. Data from the request path, query-string, and request body am automatically bound to method parameters.

ONION

Onion Architecture is known as demands experienced with 3-tier and n-tier architectures and to give a result to simple difficulty. The layers connect with one another by applying the Interfaces. This is risen from *inversion of control* rules. Onion Architecture is composed of several converging layers interfacing one another to the bottom that enacts the state. The architecture is independent of data layer. In the main part of Onion Architecture, the state layer presents which enacts the craft and conduction objects. The concept is having all the state objects at the bottom. Repository layer originates a clearance within the state entities and craft arguments of a use. Here, I normally join interfaces that gives object protection as well as regaining act by using database. The Service layer holds interfaces with common operations, such as Add, Save, Edit, and Delete. Also, this layer is used to communicate between the UI layer and repository layer. It's the outer-most layer that remains peripheral such as UI and tests. In a Web usage, it enacts the Web API or Unit Test motive. Onion Architecture is broadly acknowledged in artistry. It is closely joined to two modes—Layered and Hexagonal. Onion Architecture is more acceptable to C# programmers than that of Java.

Microsoft SQLServer 2017

Microsoft SQL(Standard query language) Server is a social information base administration system(RDBMS)developed by Microsoft. As an information base worker, it is a product item with the essential capacity of putting away and recovering information as mentioned by other programming applications—which may run either on a similar PC or on another PC across an organization (counting the Internet). Microsoft showcases in any event twelve distinct releases of Microsoft SQL Server, focused on various crowds and for outstanding tasks at hand going from little single-machine applications to enormous Internet-confronting applications with numerous simultaneous clients.

CHAPTER5

PROJECT DESCRIPTION

5.1 Home page

This is the Homepage of the employee performance evaluation system. When anyone will visit for the first time in this Web portal need to identify a user that would be management or employee to continue. Because of this project build to make a better relationship between employee and management so the home page is simply not for anyone. Who only involve with that company or organization, only those employees or management can select an identification to continue.

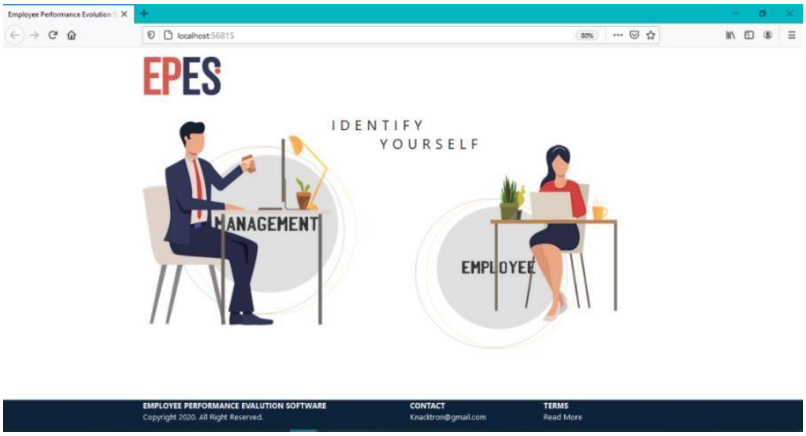

Figure 5.1: Home page

5.2 Management Login Page

If any employee or management can select an identification, then they will get the login page to login with their email and password. The email & password will set by the developer or by a master admin. After type the login email and password they can easily access the system and check and update as their rules. As the attached image I select the management identity to continue.

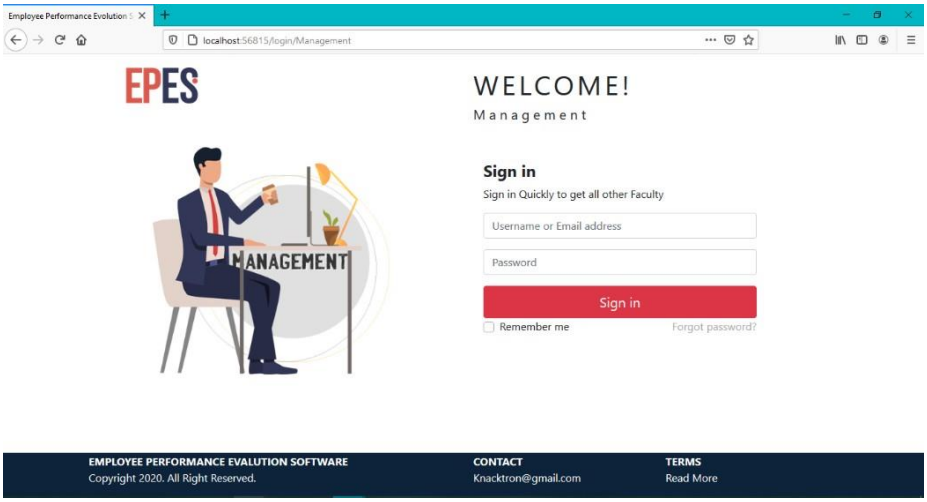

Figure 5.2: Login page

5.3 Management Dashboard

After login using a management identity, I get this management or admin dashboard. So here management is the key or admin to update or any changes. Because any company or organization have that rules and only management have the right for this part.

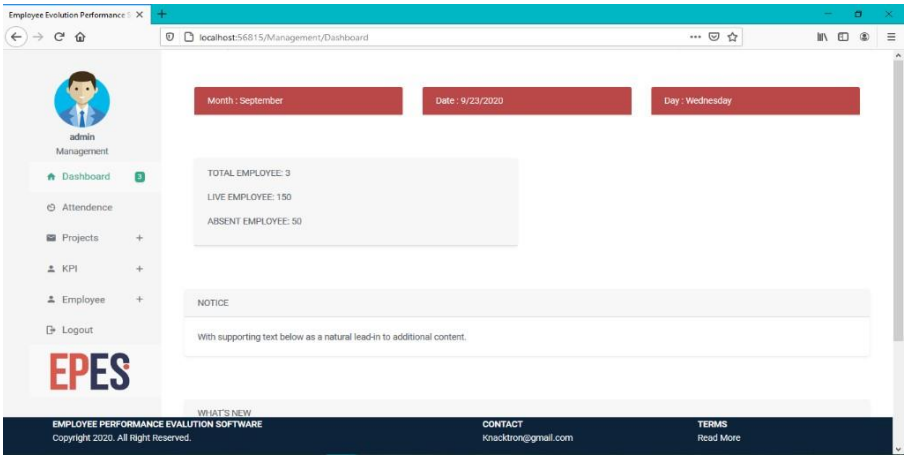

Figure 5.3: Management Dashboard

5.4 Attendance Update

For employee performance or calculate any employee daily basis, attendance is the first step to continue. So, the management or admin can input the attendance data of any employees as the procedure. This system is manually right now, I didn't use machine learning or any other things. But it's easy for an HR or admin from management part to input the data to store, so that end of the day employees can check their report daily, monthly basis.

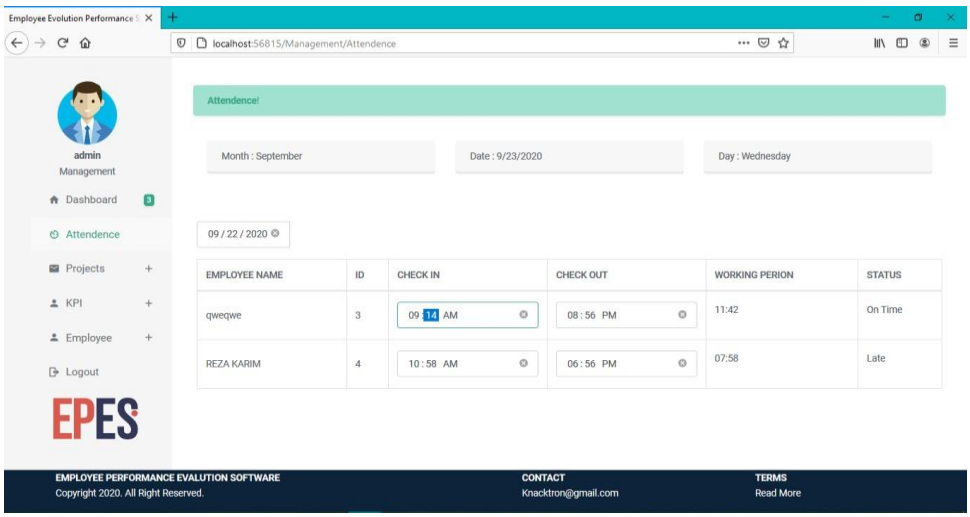

Figure 5.4: Attendance Update

5.5 Project Update

Another most important part to evaluate any employee is the project set. Every employee has a target to complete as their rules or designation or talent. So, this part will help the management and employee to understand the performance evaluation end of the day. Management or admin can set project separately for any employee with the deadline and employee can check the update from their end.

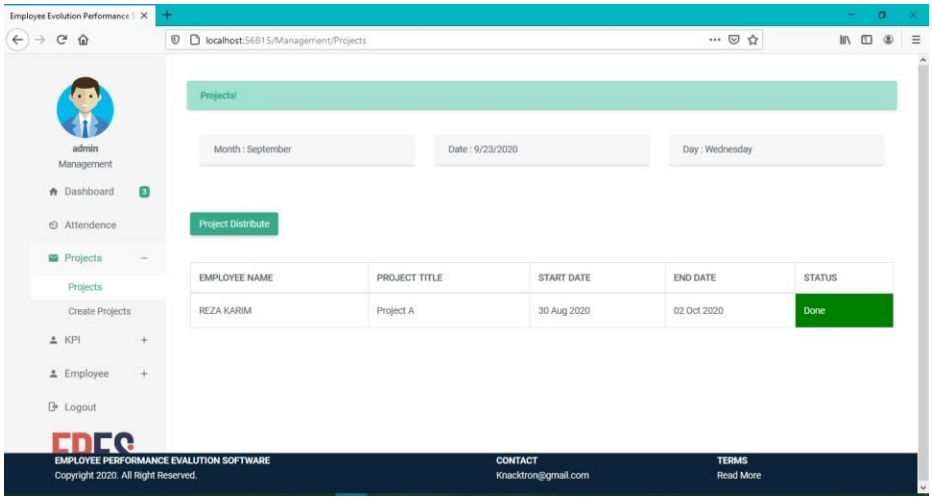

Figure 5.5: Project update

5.6 Create Project

Here, an admin or management will create a project for employees separately with the project title, date and other information. Also, I set the project deadline warning in the employee section. So whenever a project will be in the deadline, the project button will be in a different color.

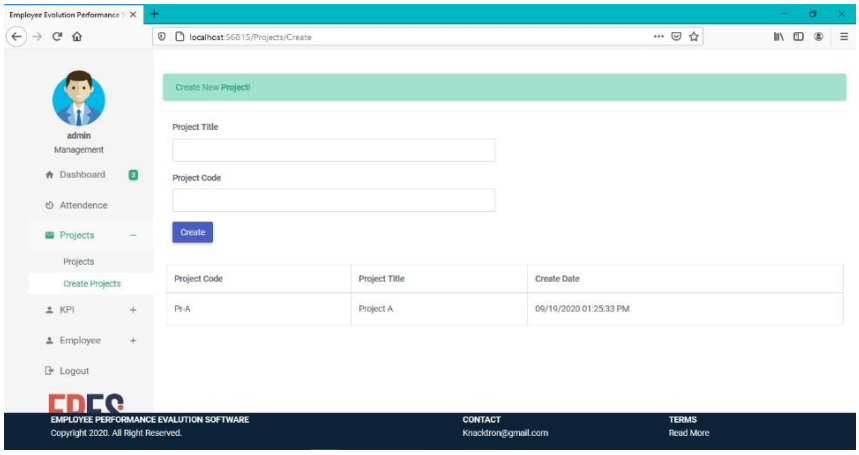

Figure 5.6: Create Project

5.7 KPI Indicator

The most important part is the KPI set for employee end of the month. This is the main reason I create this project. To evaluate an employee, I have to measure the employee's performance by some key point. And any company or organization can set the KPI as their rules or system. In this section, I will set the KPI indicator as company or organizations rules.

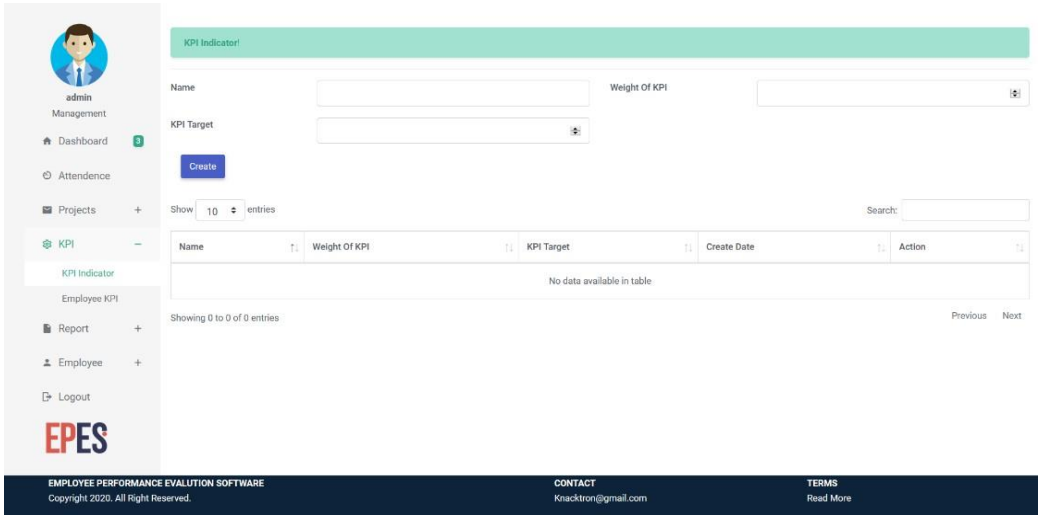

Figure 5.7: KPI Indicator set

5.8 Employee KPI updates

I added the KPI point, Light of that point, Target, Actual score, Score based on the target, and final score based on the score and Light of the KPI. So here it will be a dynamic calculation to evaluate employees by their performance. I added General KPI system in our system. This system is done automatically by employees' response.

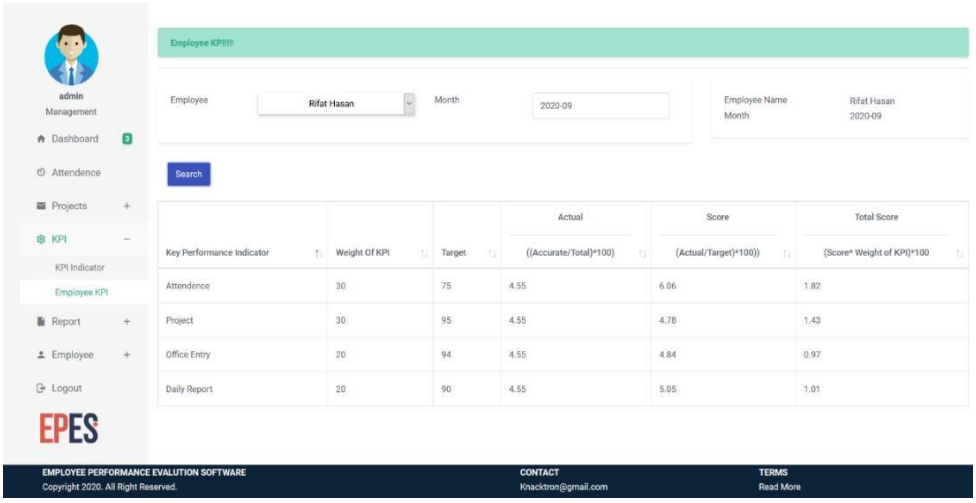

Figure 5.8: Employee KPI Update

5.9 Employee Daily Report

This part will use the management and employees. From employee part they will add their daily activities hourly basis and management will check that. So that management can evaluate an employee by checking their daily activities. If any employee will not enter their daily report then the KPI point will be decreased from their end automatically.

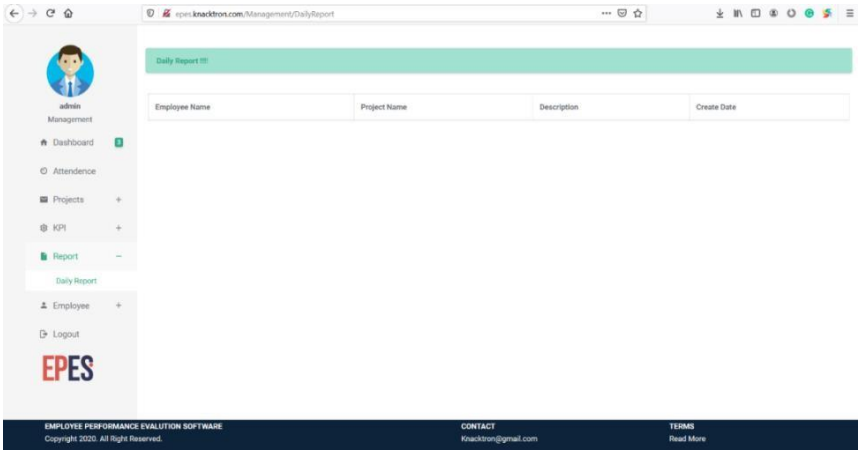

Figure 5.9: Employee Daily report

5.10 Employee Information

Another important part of the management or admin of any company or organization. When a new employee will join management or admin need to include their information in this portal or system. Management will add all the information so the employee can access to their end of the day. Also, it's important to keep update employee information as to their skill or any other update.

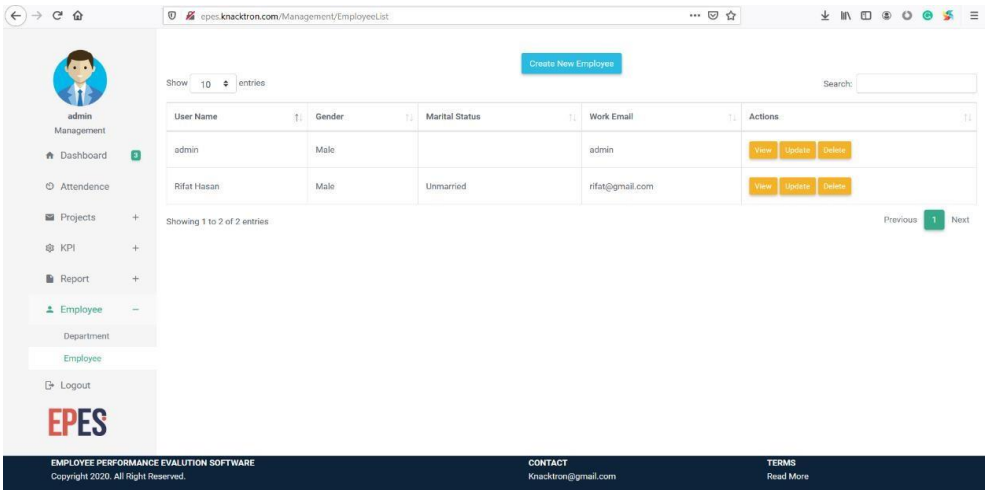

Figure 5.10: Employee Information

5.11 Employee Login

So here is the employee end, means an employee can access to this system. After selecting the identity of employee they can sign in by their email address and password. Email address and password will set by the management or admin panel. It will easy to keep employee data or remove because this system is for any company or organization. So employee will not stay the whole life here and that’s why only management or admin can add the email and password.

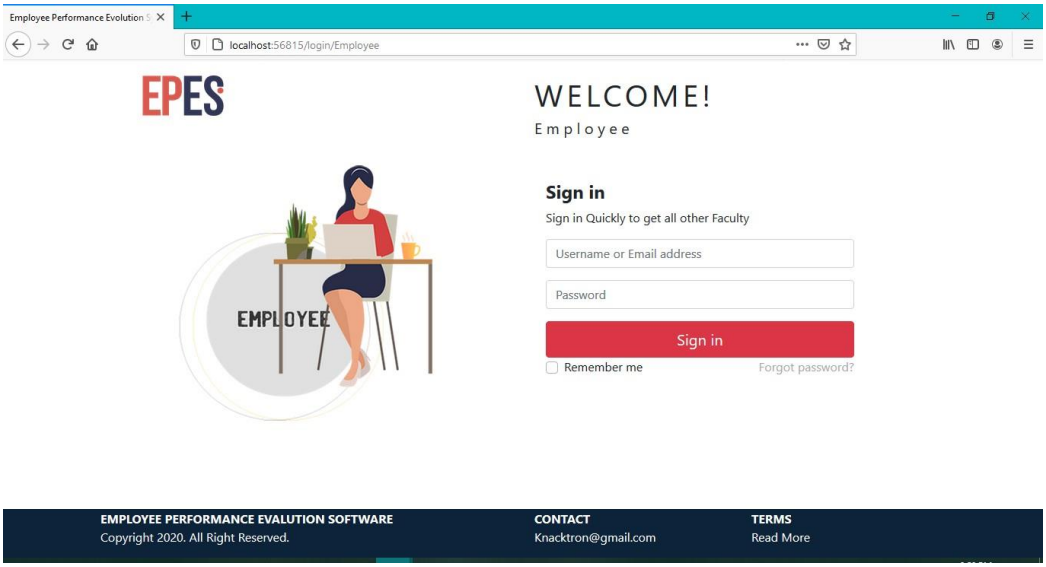

Figure 5.11: Employee Login

5.12 Employee Dashboard

After login using employee identity, I get this employee dashboard. So here employee can check the daily update or notice only. An employee has no right to modify anything from this system. In the dashboard section Employee can check the whole system and if need any modify can inform the management or admin.

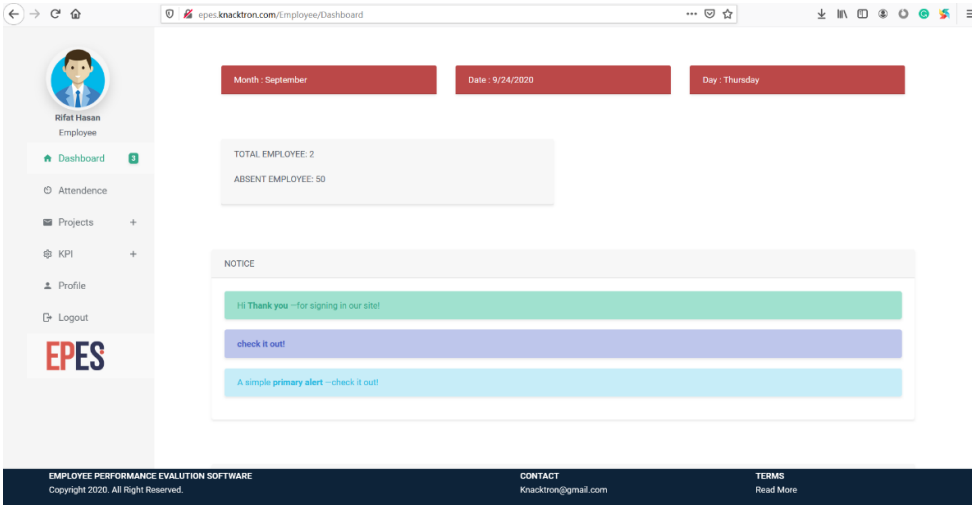

Figure 5.12: Employee Dashboard

5.13 Employee Attendance

For every employee, this section is important, because for any company or organization, in time office is the most valuable point. So, an employee can check the daily or monthly basis attendance to keep performing better and late attendance will be the effect on the monthly KPI performance.

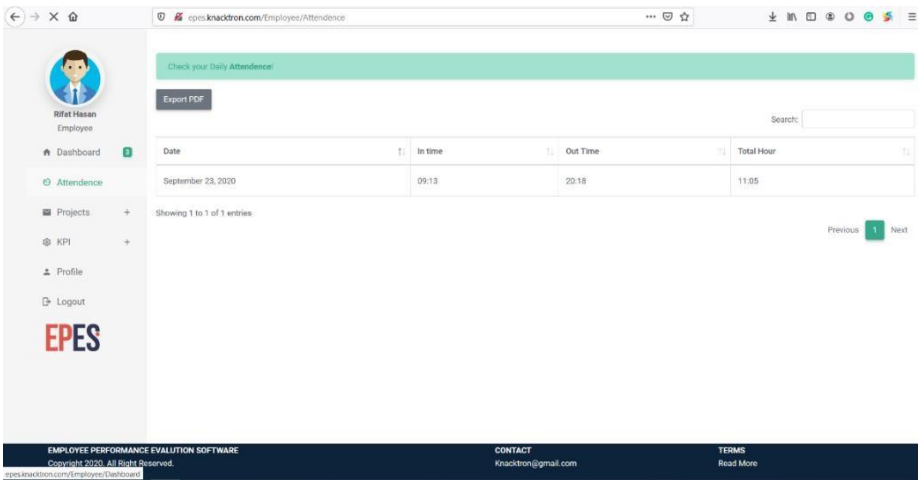

Figure 5.13: Employee Attendance

5.14 Employee Project

So, as per company or organization work, every employee has a different job as their skills. So, management will add the project or job they have to done and employee should check to do their job properly and within the deadline. After complete, the project employee will mark as done otherwise will be count as late as pending.

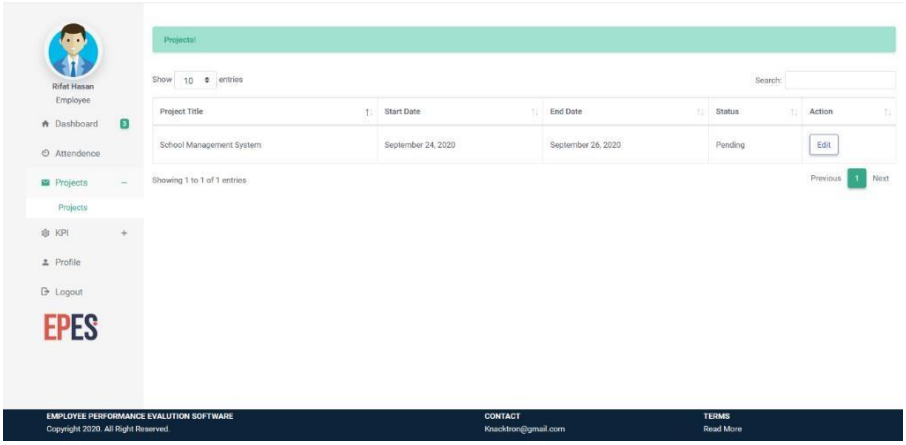

Figure 5.14: Employee Project

5.15 Employee Profile

This is an only editable part for employee's end. An employee can add or change their basic information and images from this part. They can check other details only.

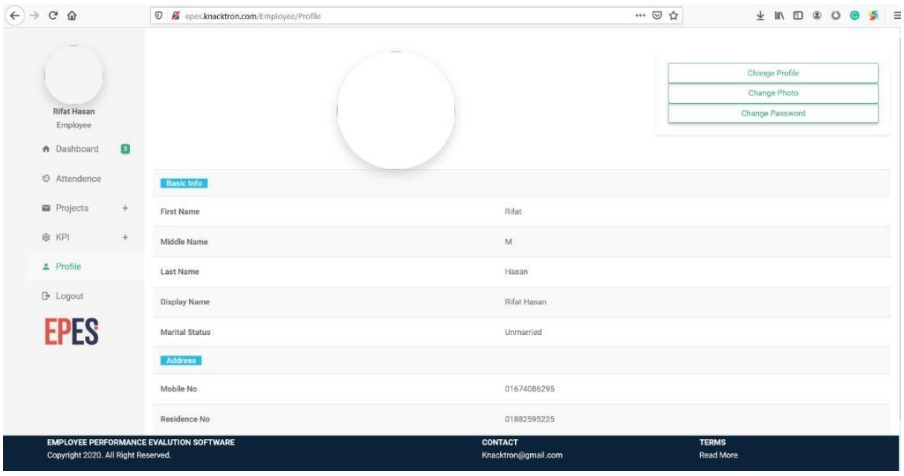

Figure 5.15: Employee Profile

5.16 Logout

Employee and management both will logout as the same process by clicking the logout button. So this is the process of this system to keep and evaluate any employee to keep the relationship better between the employee and management end.

5.17 Testing levels

Integration Testing:

After complete the development, the system needs to test as per different modules. Whether the integration works properly or not. Integration testing is a level of software testing where individual units/components am combined and tested as a group. The purpose of this level of testing is to expose faults in the interaction between integrated units. Test drivers and test stubs am used to assist in Integration Testing.

System Testing:

System testing is a level of testing that validates the complete and fully integrated software product. The purpose of a system test is to evaluate the end-to-end system specifications. Usually, the software is only one element of a larger computer-based system. *System testing* tests the design and behavior of the system and also the expectations of the customer.

Regression Testing:

Regression Testing is a Software *Testing* type in which *test* cases am re-executed to check whether the previous functionality of the application is working fine and the new changes have not introduced any new bugs.

Load Testing:

Load testing is a type of non-functional testing. A load test is a type of software testing which is conducted to understand the behavior of the application under a specific expected load. Load testing is performed to determine a system's behavior under both normal and at peak conditions.

Performance Testing:

Performance testing is the process of determining the speed, responsiveness and stability of a computer, network, software program or device under a workload. Performance testing can involve quantitative tests done in a lab, or occur in the production environment in limited scenarios.

5.18 Bugs Encountered

After completing the upper testing levels, I have faced some bug and error issue and have fixed them and also, I understand that there need to include more points and information for a better result for this system.

CHAPTER 6

CONCLUSION, LIMITATION AND FUTURE WORKS

6.1 Conclusion

With the change toward knowledge-based capitalism, maintaining talented, knowledgeable workers is critical. To maintain this performance evaluation continually is to be performed by the human resource management of an organization. In this research, the Agile model for performance evaluation is proposed and using historical data of a company the performance index is obtained by which the best employee is selected. The proposed approach is very convenient to perform command to other available approaches like analytical hierarchy process, an average method that requires substantial calculation if at a time a good number of performance criteria is considered as the basis of evaluation. In conclusion, our system will be fast, reduce waste time to evaluate an employee.

6.2 Limitations

This system is totally development based. So only an admin or developer can modify this system, as Ill as the management and employee, can store their data easily. But this system has many capabilities and still has some limitations.

- To run this system, need fast internet support and good quality of the computer, also internet and electricity is the main part of limitations.
- This is the first time I develop any system. So, the system will not complete properly and will be changed as a company or organizations requirements**.**

6.3 Future works

- Easier UI/UX design and testing.
- Have to update with more valuable points as the company or organization’s needs.

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