

Web based employee management system

Submitted By

Sattyam Sarker
ID: 2013-3-60-045

Jannatul Ferdous
ID: 2013-3-60-001

Mostafa Rahat
ID:2013-3-60-033

Supervised By

Shakila Mahjabin Tonni
Lecturer
Department of Computer Science & Engineering
East West University



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
EAST WEST UNIVERSITY

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DECLARATION

I hereby declare that, this project has been done by us under the supervision of **Shakila Mahjabin Tonni, Lecturer, Department of Computer Science and Engineering, East West 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. Any material reproduced in this project has been properly acknowledged.

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Sattyam Sarker
ID: 2013-3-60-045
Department of Computer Science and Engineering
East West University

Mostafa Rahat
ID: 2013-3-60-033
Department of Computer Science and Engineering
East West University

Jannatul Ferdous
ID: 2013-3-60-001
Department of Computer Science and Engineering
East West University

Abstract

In recent years, the world has entered a stage of rapid development to digitalization. More different type of works has appeared on a variety of new platforms which is increasing day by day. Earlier people used to keep track of all the records of their organizations by writing on papers which was more insecure and time consuming. The project we have developed is a computerized employee management system for an organization. The name of this project is “**Web based employee management System**”. In this project we have used a ID card punching system through QR code, to keep daily attendance of the employees of the organization. The system has many options to manage an organization by a computerized way which helps to store and find organizational database easily.

Nowadays, there are many platforms that allow people to create their own system in an easier and more convenient way. We have developed the project by using object oriented PHP programming language and designed on an open source template.

ACKNOWLEDGEMENT

We would like to express our gratitude to our parents. Their diligent support and perpetual inspiration towards study since the early stage of our education, has placed us at the edge of our graduation degree. I believe that whatever we have achieved and whatever we are going to gain are owing to our parents.

We would like to pay homage to our supervisor **Shakila Mahjabin Tonni** Her cordial directions have kept us on the right track from the very first day of supervision. Whenever, we came up with complicated issues, she guided us the simple way to resolve the issues. Besides, we are grateful to all our course directors for providing us with contemporary insights from the field of system development and implementation.

Our special thanks to all our friends, colleagues for their continuous inspiration and guidelines throughout my study period in East West University.

Moreover, we heartily thank to my family members for their financial supports for our study. Without their support, our study in this university could have been a dream, nothing more. We are profoundly grateful to our Creator that we have been in touch with and guided by such great individuals in the world.

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Letter of Acceptance

This Project entitled “**Web based employee management system**” submitted by Sattyam Sarker (2013-3-60-045), Mostafa Rahat (2013-3-60-033) and Jannatul Ferdous (2013-3-60-001) to the Department of Computer Science and Engineering, East West University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 08th August, 2018.

Supervisor

Chairperson

Shakila Mahjabin Tonni

Lecturer

Department of Computer Science and
Engineering,
East West University, Dhaka, Bangladesh

Dr. Ahmed Wasif Reza

Chairperson and Associate Professor
Department of Computer Science and
Engineering,
East West University, Dhaka-1212, Bangladesh

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Chapter 1

INTRODUCTION

1.1 Motivation

Though web based applications are not a new concept, but still there are ample scope of ideation and improvisation on better use of such applications. Our project the “Web Based Organizational Employee Management System” is our effort to incorporate new idea and technology in managing any sorts of office. In our country numerous organizational employee management applications are being used in different organizations, but they having some limitations such as:

- The web applications are not utilized properly to reduce the paper work.
- One stop facility service for the employee is not frequent.
- Employee evaluation could be made easier by analysing the stored data.

1.2 Aim and Objectives

The aim of this system is to digitize an organization weather it is small or large to reduce paper work, reduce error, increase data security, decrease harassment and overall increase efficiency. Here employee and administrative body can easily get access after ensuring their identity and can perform that functions which are permitted to them.

Web Based Organizational Employee Management System is a web based application where an employee can-

- Login with their user name and password
- See their salary and incentives status
- Apply for leave
- Entry their attendance
- See projects assigned to them
- Submit completed project work
- See their periodic performance etc.

A system administrator can-

- Monitor and operate different functions that are operated by the employee.
- Access to data in accordance with an organizational flow chart that reflects the relationship between superior and inferior employee in an organization.

1.3 Project Scope

- This system provides a decent employee managing framework for any types of organization. We have ensured the security of data and organization by implementing password protection and ID card punching facility using QR code.
- Every employee can access in their account and can perform some activity. According to our flowchart functions are operating among the superior and inferior. **CEO** is the top or top superior post for our system. Under his supervision the whole structure is performing. These are the scopes of the developed system that are elaborately discussed in later portion.

1.4 Used Tools and Technologies

In our project, the main language of programming which we are using is **Object oriented PHP**. For our project SQL server is used to maintain system database. For designing the view for both frontend we have used HTML, CSS, Java scripts, Bootstrap.

- Programming language: Object oriented PHP
- Framework: None
- Database Language: SQL
- Markup languages: HTML,CSS,BOOTSTRAP,JAVA SCRIPT

1.5 Structure:

This book is organized in following order-

- Chapter 1 has Introduction
- Chapter 2 has the Literature Review
- Chapter 3 has the System Analysis
- Chapter 4 has the Systems UIs
- Chapter 5 has Conclusion and Future Work

Chapter 2

Literature Review

There are numerous web based employee management systems that provide E-Office facilities around the world and even in many third world country like Bangladesh. Many organization operates more than one system to perform different functions. These systems are chosen depending on individual need, that means the function of the system varies from organization to organization.

Though there is variety in need of function of employee management, there also have some common factor that we found almost in every web based employee management system. We try to find out some regular and special functions among the existing employee management system that are operating around the world specially in Bangladesh that could make a sense in evaluating our work.

2.1 E-OFFICE

The EOFFICE employee management system is designed and developed by *Tech ware solution* <https://www.techware.co.in/> a very promising firm of India.

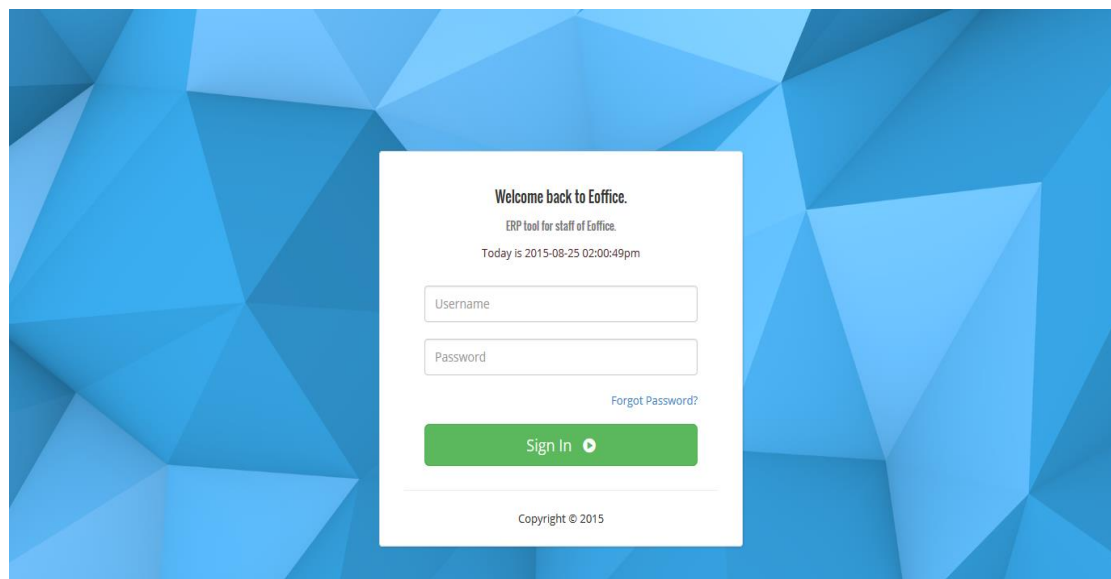


Figure 1: Login page of EOffice

It has administrator, manager, employee roles specific works in the system. Core functions of the system are mentioned below-

- User Management
- Role Management;
- Daily attendance mark-in/mark-out
- Custom attendance mark-in/mark-out features in case of system or network error
- Profile Management
- Leave Management
- Work status and Report Management
- Employee/User evaluation and project Management
- Daily Feeds and thoughts, appreciations and upcoming events

2.1.1 UI for Administrator

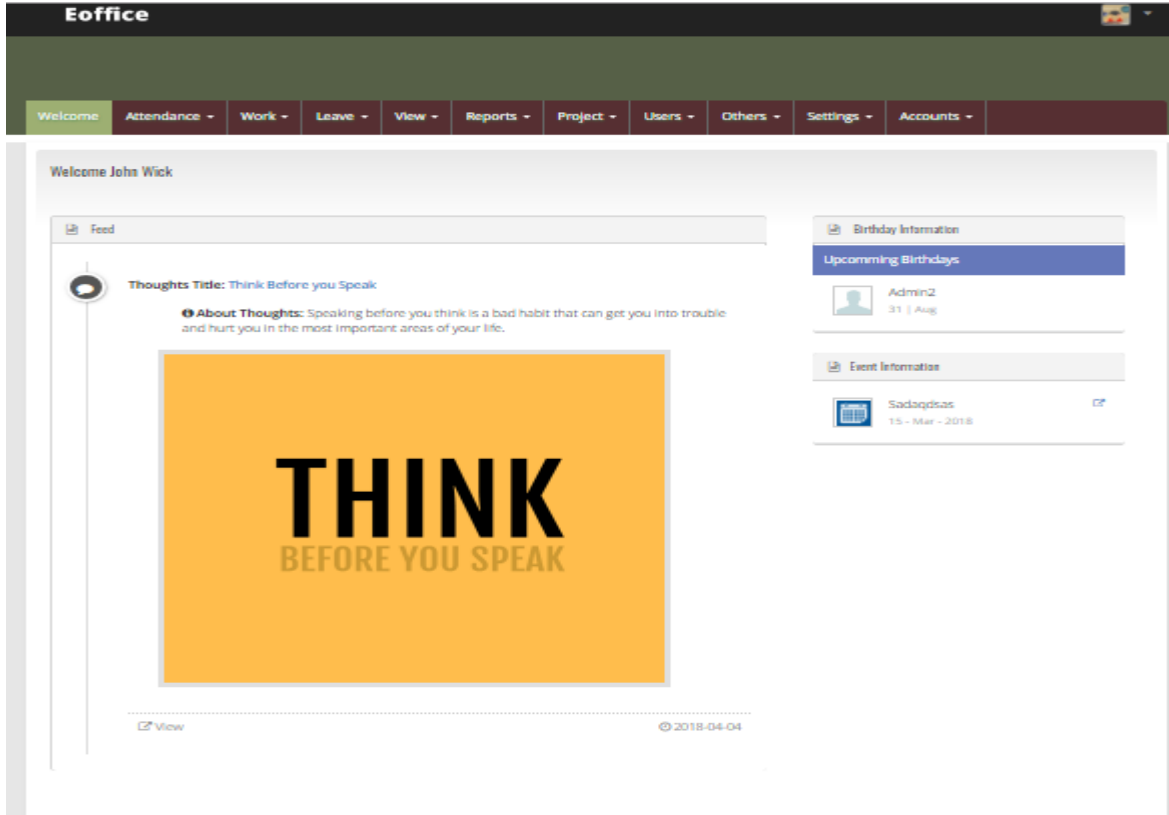


Figure 2:

In this module there are several functionalities for the Administrative users, like-

- **User Management**
View user list, add user, search user
- **Profile Management**
Role management, attendance management, leave management, apply leave info, all leave request, view all leave status
- **Report Management**
All attendance report, all work report, overall work report
- **Project Management**
Add project, list project, add project task, project assignment, productivity target
- **Accounts Management**

2.1.2 UI for Manager

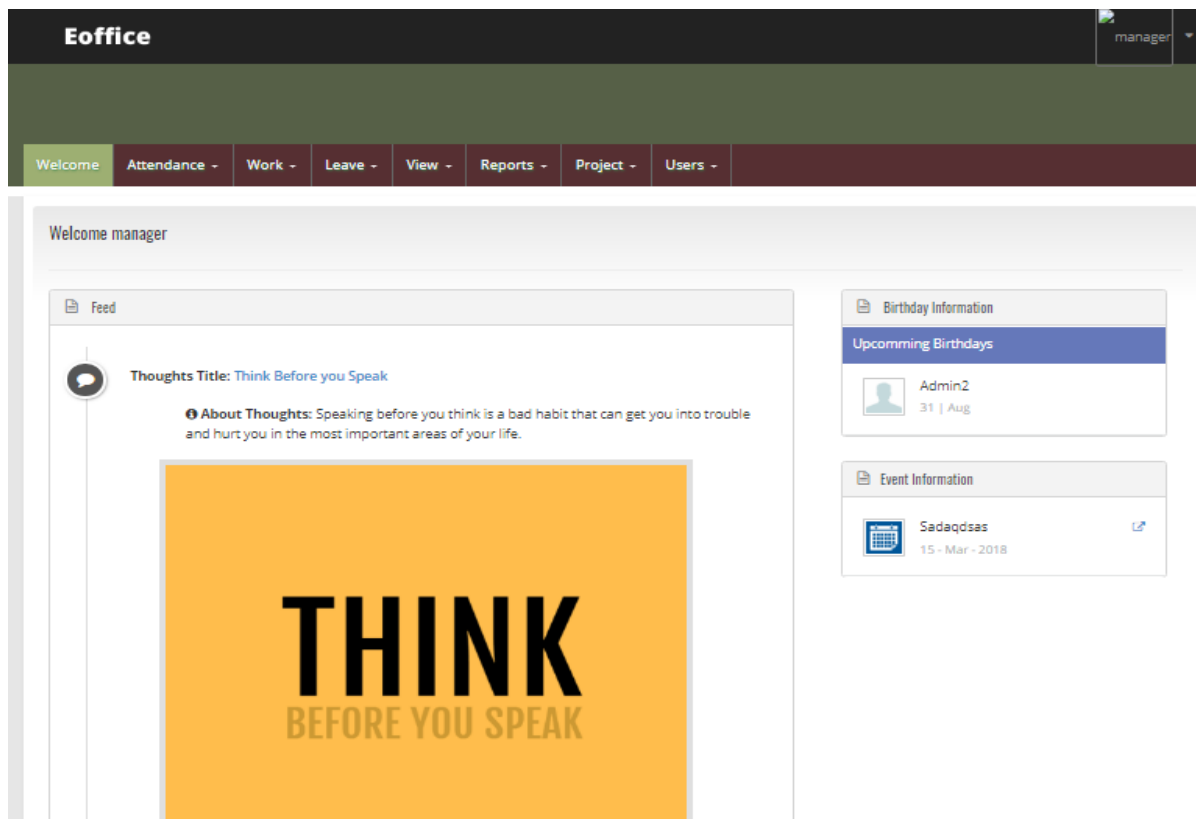


Figure 3:

In this module there are several functionalities for the Managers, like-

- **Attendance Management**
Daily attendance, custom attendance
- **Leave Management**
Apply leave, leave status, leave summary, holiday
- **Report Management**
My attendance, my work report, all attendance report, all work report, overall work report
- **Project Management**
My project, add project, add project task, project assignment, productivity target

2.1.3 UI for Employee

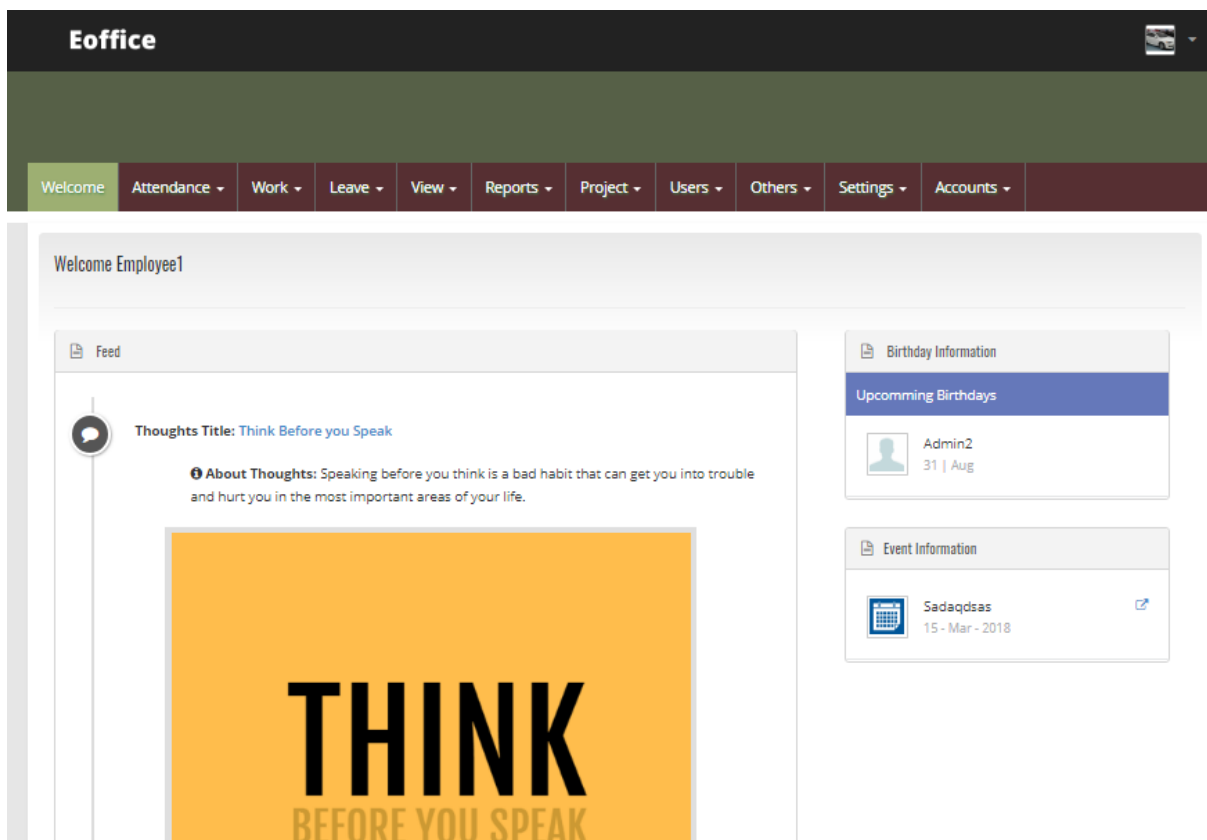


Figure 4:

In this module there are several functionalities for the Managers, like-

- **Attendance Management**
Mark daily attendance, mark custom attendance
- **Work Management**
View work status, add temporary work status,
- **Leave Management**
Apply for leave, view leave status, view leave summary,
- **Report Management**
View attendance report, view work reports
- **Project Management**
View project

2.2 East West University (File Tracking Application):

East west university file tracking application has an advance and dynamic leave module. In our system we have implemented almost same type of leave procedure. In EWU module a leave application that generate from its user need to accept from multilevel post of employee flow chart. In our system we have implemented multilevel acceptance procedure, a leave application that send by a user, forward to his two superior employees for acceptance. When both of them accept his request then his application is granted finally.

The screenshot displays the 'Leave Form' interface. At the top, there is a blue header with the 'DOCUMENT' logo and a user profile for 'shakila'. A dark blue sidebar on the left contains a 'FILETRACKING APPS' menu with options like Home, HR & Logistics, Requisition Form, Service Request Form, Leave Form, ICS, EMD, Registrar Office, Exam Controller, Manage Applications, Process Flow, and Track Your Application. The main content area is titled 'Leave Form' and includes a yellow notification banner: 'NB: FOR ANY QUERY PLEASE CONTACT, MS. TAZNEEN NAHID EXT: 103'. Below this, the form fields are: 'Name of Applicant: *' (Ms. Shakila Mahjabin Tonni), 'DOJ:' (2017-01-08), 'Designation & Department:' (Lecturer, CSE), 'Leave Starts form:' (Start date, End date), 'Leave Applied for: *' (radio buttons for Casual (5), Medical (15), Earn (23), Duty (21), Study, Maternity, Extraordinary), 'Mention reason (if Special)', 'Whom do you propose of perform your duty:' (dropdown menu), 'Attachment(if Any):' (Choose File, No file chosen), and 'Apply to' (dropdown menu). At the bottom, there are 'Submit' and 'Show Leave Status' buttons.

Figure 5: Leave application UI

In EWU File tracking system a user can see the status of his application. From where it has been accepted or rejected and from where that still not reached.

My Applications applications which were submitted by you

Show 10 entries Search:

Applied Date	Application	Status	Action
2017-09-18 11:02:28	ICS Service Request Form	Completed	View Log Status
2017-10-12 11:40:43	Leave Form	Approved	View Log Status
2018-04-08 15:11:22	Leave Form	Approved	View Log Status
2018-05-09 01:06:21	Leave Form	Approved	View Log Status
2018-07-19 06:57:23	Repair & Maintenance Form	Completed	View Log Status
2018-07-23 00:30:28	Multimedia Projector Support Form	Completed	View Log Status
2018-07-23 00:31:37	Multimedia Projector Support Form	Completed	View Log Status

Showing 1 to 7 of 7 entries Previous 1 Next

Figure 6: Application status

In our system a user can see where his leave request is, from whom it has been rejected or accepted and where I has been pending for further action.

Chapter 3

Overview of proposed System

This web based office employee management system is used by the CEO and employees. There are five type of actors (CEO, System admin, Department head, Department manager, workers) CEO is the head of office, system admin and all other employees under CEO in accordance to organizational flowchart. System admin maintain all the employees without CEO, he is allowed to organize all of the accounts. Department head can see information of their department managers and workers. Managers can only see their department workers information.

3.1 System Requirements:

User Role: CEO

- CEO has access to the system. He is registered as head of the organization.
- CEO has permission to register System admin.
- CEO can generate best performer of his organization periodically.

User Role: System Administrator

- System admin has access to the system. Registered as an employee of the organization.
- System admin has permission to register Department head and Department manager
- Can accept registration request from new worker.
- Addition or deletion in some section's information of any employee can be done by system admin.

User Role: Employee

- Each employee (as well as System admin) has a unique user id and Email address. They can login to the system using their personal user email address and password.

- In/out time entry.
- History as like attendance, salary etc can be viewed by employees.

Leave Management

- For any kind of leave application user have to login to his own account to apply for leave. Then the system admin will be notified about the application when admin is logged in to his account. He forward this request to their superior. The superior employee can grant or reject the application. The employee who has applied for leave will be notified when his application is granted or rejected. If the system admin need any leave he send a leave application to CEO.

Employee Evaluation

- Employee evaluation is done based on last six months employee activities. Evaluation can be done in below categories-
 - Best dept head
 - Best manager
 - Best worker

For example, for finding best MANAGER, ATTEDANCE, PROJECT_DONE,PROJECT_DUE for every manager are calculated and shown in a table from top point holder to lower point holder(ALL MANAGER).

MANAGERS	ATTENDANCE	PROJECT_DONE	PROJECT_DUE	POINTS
Marketing Manager one	115	10	4	153
Finance Manager one	110	10	5	145

Performance generate equation:

$$115 * 1 + 10 * 5 + 4 * (-3) = 153$$

Here, 1 point for each attendance , 5 point for each project done, -3 point for each project due

Self Performance Monitoring

From every account (Expect CEO and System admin), user may see details of their performance evaluation (based on 6 month's record). After clicking on it he will see as-

NAME	ATTENDANCE	PROJECT_DONE	PROJECT_DUE	POINTS
EX: Sattyamsarker	100	7	2	129

3.2 System Analysis:

3.2.1 Use case diagram for CEO:

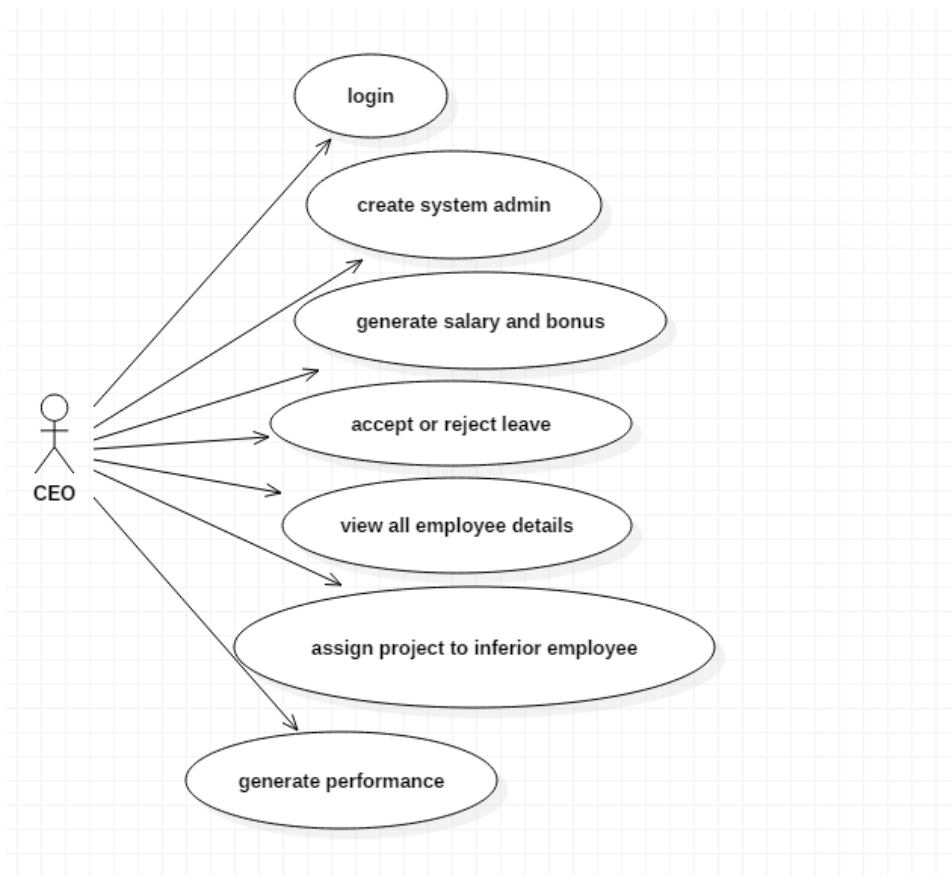


Figure 7: Use case diagram for CEO

Figure 6 shows the use case diagram of CEO. This diagram shows which works are done by the CEO.

- **Login:** The CEO has to login to do the administrative work.

- **Create System admin:** CEO can add an system admin with all of his/her necessary information.
- **Generate salary and bonus:** CEO can add/update a salary and bonus package to an employee.
- **Accept or reject leave:** The leave applications which are applied by employees can be accepted/rejected by the CEO.
- **Check all employee details :**CEO can view all employee details.
- **Assign project to inferior employee:** CEO can assign project to his/her inferior employee.
- **Performance generate:** Based on employees project submission , attendance and due project submission CEO can generate their performance.

3.2.2 Use case diagram for system admin

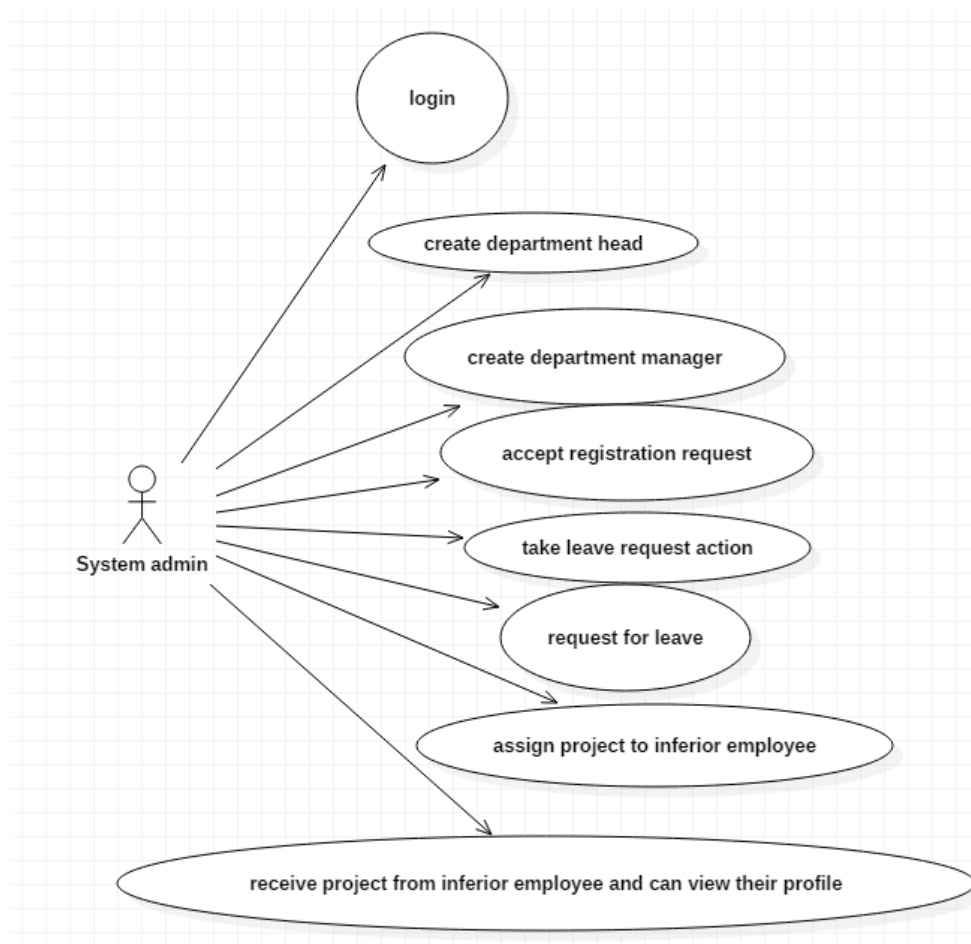


Figure7: Usecase diagram for System admin

Figure 7 shows the use case diagram of System admin. This diagram shows which works are done by the system admin.

- **Login:** The system admin has to login to do the administrative work.
- **Create Department Head:** System admin can add Department head with all of his/her necessary information.
- **Create Department Manager:** System admin can add Department manager with all of his/her necessary information.
- **Leave request action:** When system admin find a leave request then he will take action and forward the request to assigned superior.
- **Request for leave:** When system admin need leave then he send a leave request to CEO.
- **Assign project :** System admin can assign project to his/her inferior employee and also can receive project.

3.2.3 Use case diagram for Department head:

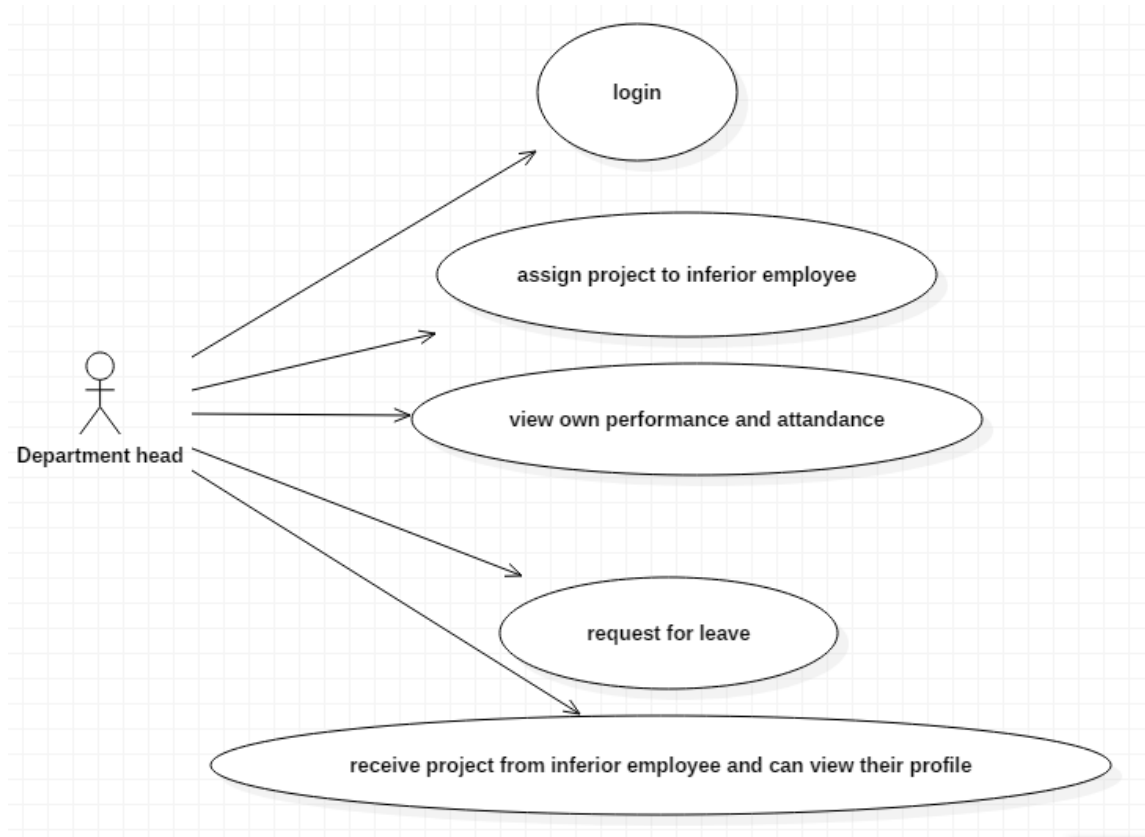


Figure 8: Use case diagram for department head

Description: This is the use case diagram of Department Head. This diagram shows which works are done by the Department Head.

- **Login:** Department Head has to login to do the administrative work.
- **Assign project::** Department head can assign project to his/her inferior employee and also can receive project.
- **View own performance :** Department head can view own performance and own profile.
- **Leave request:** When Department head need leave then he sends a leave request to system admin and system admin forward the request to assigned superior.

3.2.4 Use case diagram for Department manager:



Figure 9: Use case diagram for department manager

Description: This is the use case diagram of Department Manager. This diagram shows which works are done by the Department Manager.

- **Login:** Department Manager has to login to do the administrative work.

- **Assign project:** Department Manager can assign project to his/her inferior employee and also can receive project.
- **View own performance :** Department manager can view own performance and own profile.
- **Leave request:** When Department manager need leave then he sends a leave request to system admin and system admin forward the request to assigned superior.

3.2.5 Use case diagram for employee:

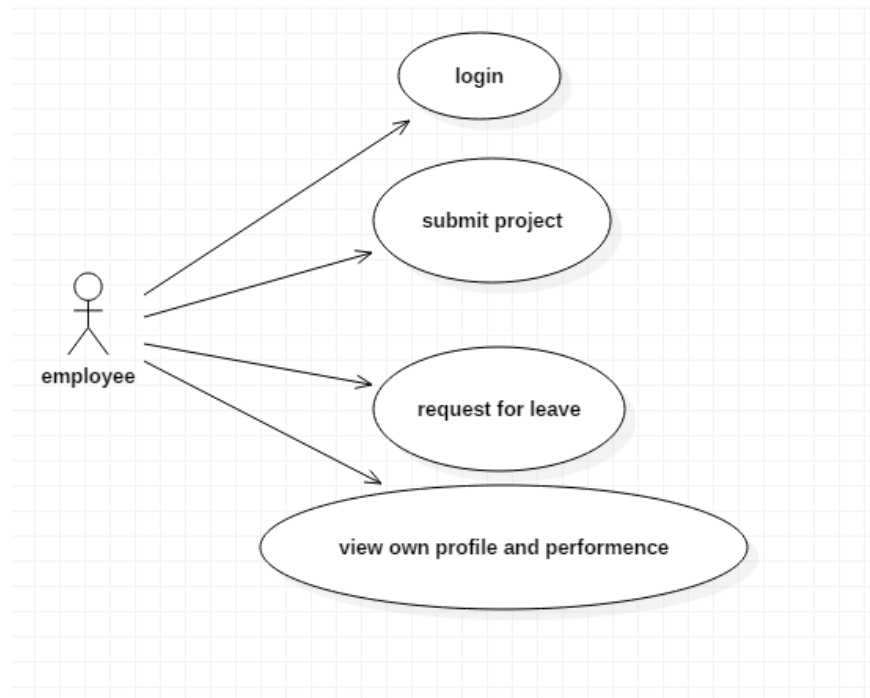


Figure 10: Use case diagram for employee

Description: This is the use case diagram of Employee. This diagram shows which works are done by the Employee.

- **Login:** Employee has to login to do the administrative work.
- **Submit project:** When employee complete his/her project then he can submit the project.
- **Leave request:** When Employee need leave then he sends a leave request to system admin and system admin forward the request to assigned superior.
- **View own performance:** Employee can view own performance and own profile.

3.2.6 Activity diagram for CEO

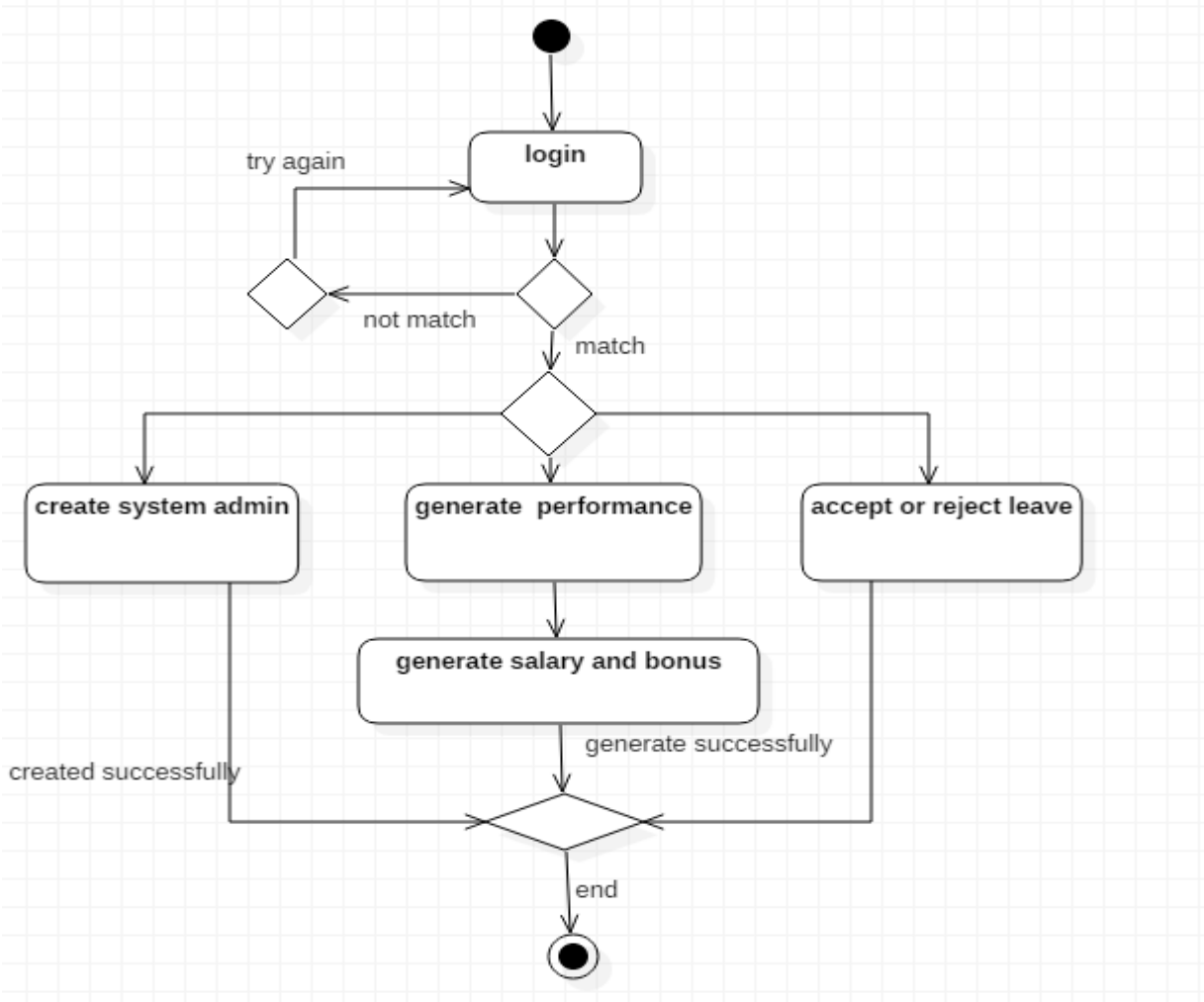


Figure 11: Activity diagram for CEO

The CEO has to login to do the administrative work. when email and password will match then he/she will able to do work otherwise again need to login with correct email and password. After successful login, **CEO** can add an system admin with all of his/her necessary information or can generate performance and can add/update a salary and bonus package to an employee or when find an leave request which are applied by employees can be accepted/rejected by the CEO.

He/she can assign project to his/her inferior employee. After completing work CEO should logout from the system.

3.2.7 Activity diagram for system administrator

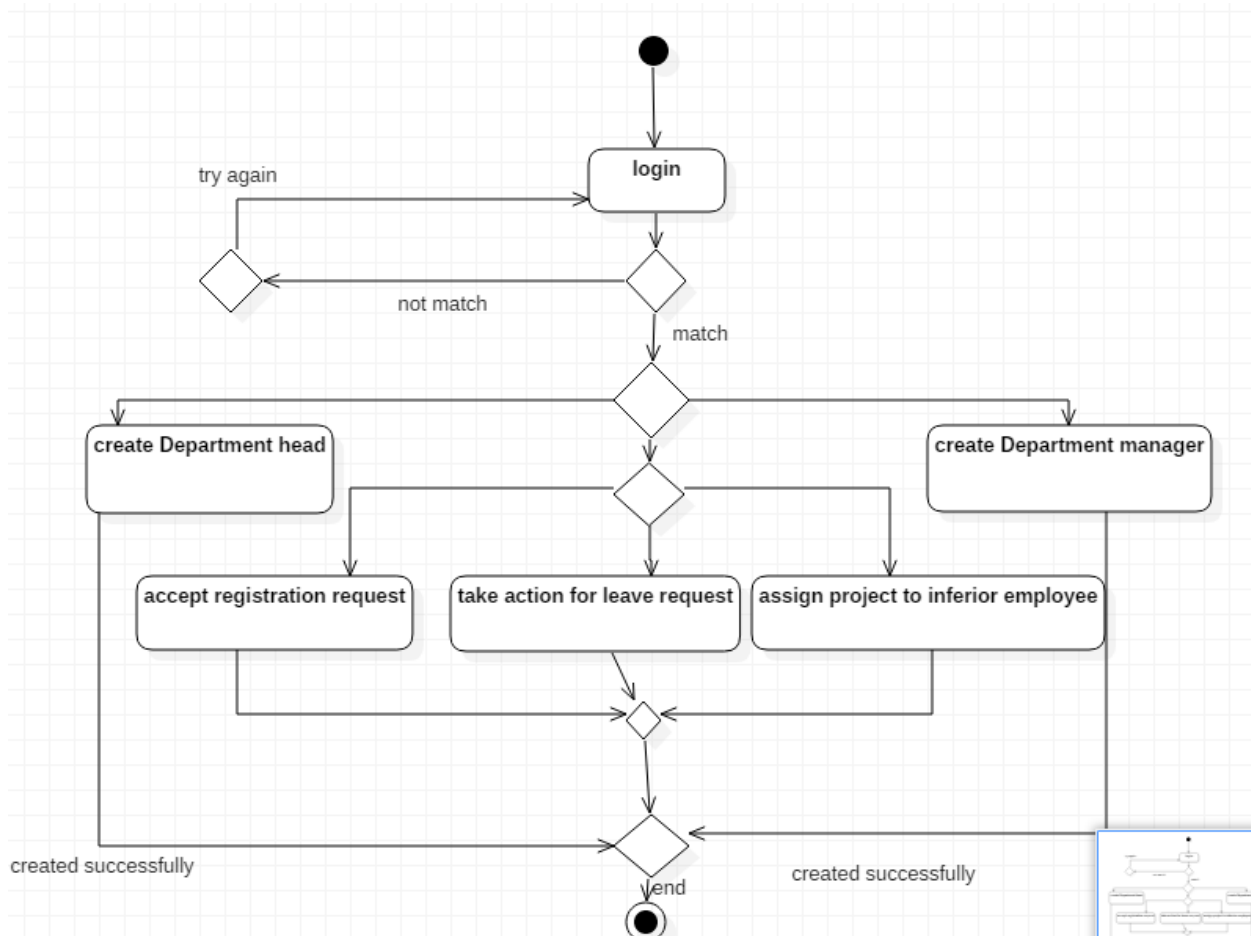


Figure12: Activity diagram for System admin

The System admin has to login to do the administrative work. when email and password will match then he/she will able to do work otherwise again need to login with correct email and password. Then System admin can add Department head with all of his/her necessary information or can add Department manager with all of his/her necessary information. When find an employee registration request then he can take an action. When system admin find a leave request then he will take action and forward the request to assigned superior or he can assign project to his/her inferior employee and also can receive project. . After completing work System admin should logout from the system.

3.2.8 Activity diagram for department head/manager

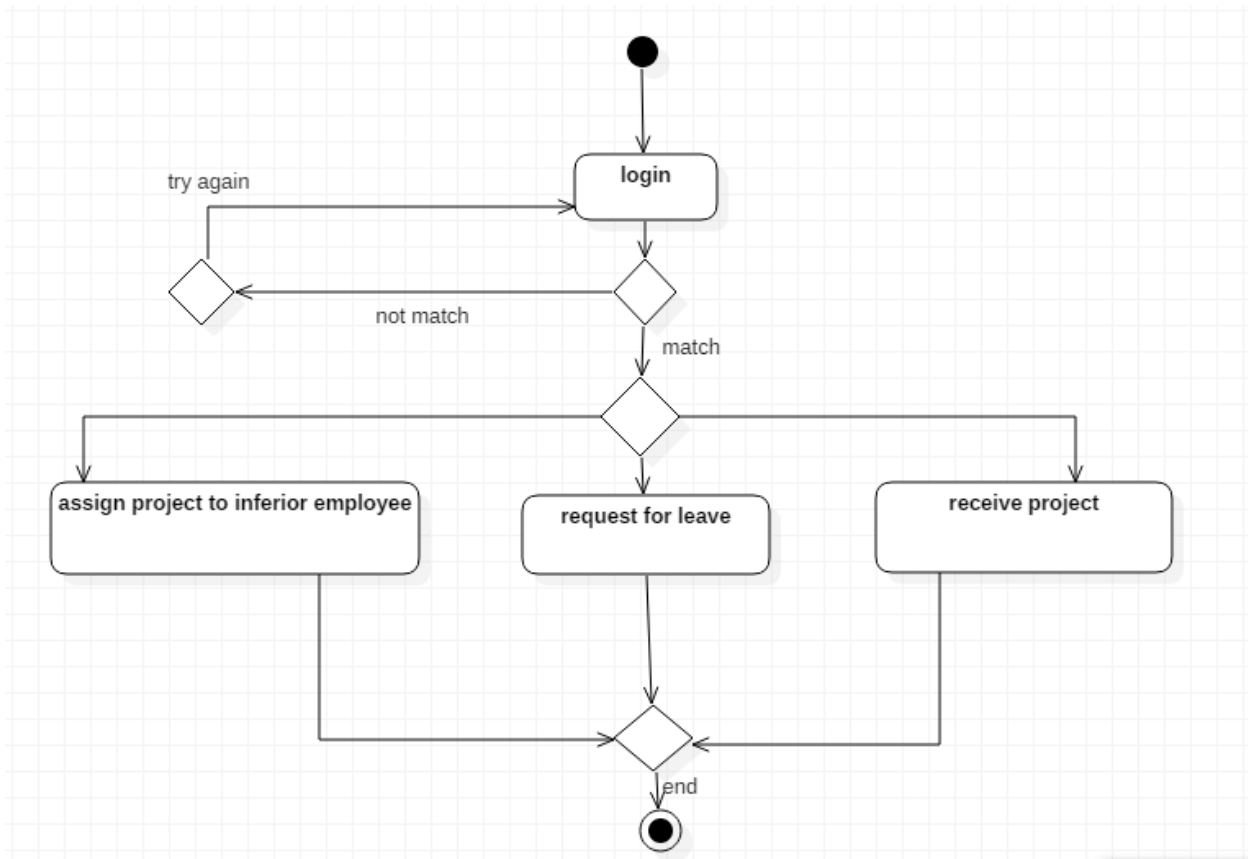


Figure 13: Activity diagram for Department head and Department manager

The Department Head and Department Manager has to login to do the administrative work. when email and password will match then he/she will able to do work otherwise again need to login with correct email and password. After login he/she they can assign project to their inferior employee and also can receive project. When they need leave they can request for leave. After completing work they should logout from the system.

3.2.9 Activity diagram for employee:

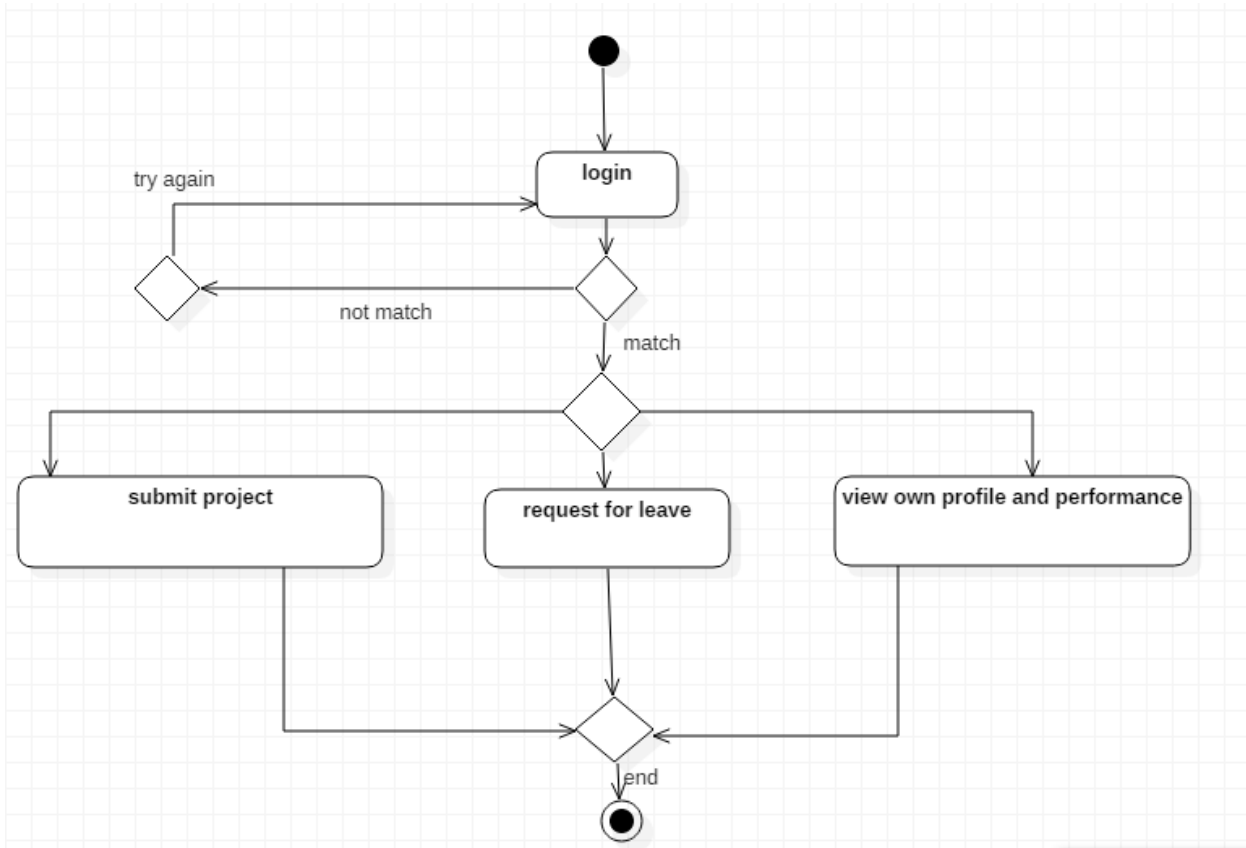


Figure 14: Activity diagram for employee

Employee has to login to do the administrative work. when email and password will match then he/she will able to do work otherwise again need to login with correct email and password. After successfully login he/she can submit their project or if they need any leave they can request for leave and also can view their own profile. After completing work they should logout from the system.

3.3 Database table

3.3.1 Database table for user:

	id	first_name	last_name	email	password	mobile_number	address	department	post	img
<input type="checkbox"/> Edit Copy Delete	20	Mostafa	Rahat	ceo@gmail.com	e10adc3949ba59abbe56e057f20f883e	01676636229	Dhaka	NULL	CEO	asss /thur /153
<input type="checkbox"/> Edit Copy Delete	36	Sattiyam	Sarkar	systemadmin@gmail.com	e10adc3949ba59abbe56e057f20f883e	01676636229	Dhaka	ICS	System Admin	1
<input type="checkbox"/> Edit Copy Delete	37	Jannatul	Ferdous	marketing@gmail.com	e10adc3949ba59abbe56e057f20f883e	01676636229	Dhaka	Marketing	Marketing Head	asss /thur /151
<input type="checkbox"/> Edit Copy Delete	38	Irin	Ove	finance@gmail.com	e10adc3949ba59abbe56e057f20f883e	01676636229	Dhaka	Finance	Finance Head	asss /thur /151
<input type="checkbox"/> Edit Copy Delete	39	Arman	Shovon	marketingmanager1@gmail.com	e10adc3949ba59abbe56e057f20f883e	01676636229	Dhaka	Marketing	Marketing Manager One	asss /thur /151
<input type="checkbox"/> Edit Copy Delete	40	Syed	Ahmed	marketingmanager2@gmail.com	e10adc3949ba59abbe56e057f20f883e	01676636229	Dhaka	Marketing	Marketing Manager Two	asss /thur /151
<input type="checkbox"/> Edit Copy Delete	41	Ratul	Hasan	financemanager1@gmail.com	e10adc3949ba59abbe56e057f20f883e	01676636229	Dhaka	Finance	Finance Manager One	asss /thur /151
<input type="checkbox"/> Edit Copy Delete	42	Zahid	Ikram	financemanager2@gmail.com	e10adc3949ba59abbe56e057f20f883e	01676636229	Dhaka	Finance	Finance Manager Two	asss /thur /151
<input type="checkbox"/> Edit Copy Delete	43	Ismail	Shihav	marketingworker1@gmail.com	e10adc3949ba59abbe56e057f20f883e	01676636229	Dhaka	Marketing	Marketing Worker	asss /thur /151

3.3.2 Database table for identities:

+ Options

	id	user_id	token	created_by	created_at
<input type="checkbox"/> Edit Copy Delete	19	36	c126ca2840865679126d9eb91ddcc9e1	20	2018-08-02 07:47:43
<input type="checkbox"/> Edit Copy Delete	20	38	397359547b0515cc3bea5e6ae20d8d09	36	2018-08-02 07:53:14
<input type="checkbox"/> Edit Copy Delete	21	37	614364d1b56e7aca28b04f1e858396d7	36	2018-08-02 07:54:09
<input type="checkbox"/> Edit Copy Delete	22	39	b2ef617062dab354413be5ea67613572	36	2018-08-02 07:57:08
<input type="checkbox"/> Edit Copy Delete	23	41	0ca07561d48b0eb88c6ce6ceac1e82e9	36	2018-08-02 07:58:12
<input type="checkbox"/> Edit Copy Delete	24	40	3480e3392d240065220805eaf12d8097	36	2018-08-02 07:59:30
<input type="checkbox"/> Edit Copy Delete	25	42	a2d8761ef38e97d31f5c700bb21b3861	36	2018-08-02 08:01:03
<input type="checkbox"/> Edit Copy Delete	26	45	7fb5091e2967bac4364ac300a5d149e6	36	2018-08-02 08:02:25
<input type="checkbox"/> Edit Copy Delete	27	43	a0943d5e64ba8db6d1aca59baa3c39e4	36	2018-08-02 08:03:21
<input type="checkbox"/> Edit Copy Delete	28	46	16cf6a2c40099db8ed33135f4a01a812	36	2018-08-02 08:04:26
<input type="checkbox"/> Edit Copy Delete	29	44	437ffcfd37060ba5382236e1efe6c8c	36	2018-08-02 08:05:33

3.3.3 Database table for Attendance:

+ Options

				id	user_id	data_info	logout_data_info
<input type="checkbox"/>				10	36	2018-08-02 07:51:08	
<input type="checkbox"/>				11	38	2018-08-02 07:56:08	
<input type="checkbox"/>				12	37	2018-08-02 07:56:08	
<input type="checkbox"/>				13	41	2018-08-02 08:08:08	
<input type="checkbox"/>				14	42	2018-08-02 08:08:08	
<input type="checkbox"/>				15	39	2018-08-02 08:08:08	
<input type="checkbox"/>				16	40	2018-08-02 08:09:08	
<input type="checkbox"/>				17	45	2018-08-02 08:10:08	
<input type="checkbox"/>				18	46	2018-08-02 08:10:08	
<input type="checkbox"/>				19	43	2018-08-02 08:11:08	
<input type="checkbox"/>				20	44	2018-08-02 08:11:08	
<input type="checkbox"/>				21	36	2018-08-03 12:17:08	2018-08-03 06:45:08

Activate Window
Go to Settings to act

3.3.4 Database table for leave:

+ Options

				id	user_id	leave_start_date	leave_end_date	total_days	leave_type	comment	forward_by_s
<input type="checkbox"/>				4	45	01/15/2018	01/20/2018	5	vacation		
<input type="checkbox"/>				5	41	01/13/2018	01/15/2018	2	sick		
<input type="checkbox"/>				6	37	01/20/2018	01/25/2018	5	vacation		

3.3.5 Database table for project:

+ Options

										is_late	submit_file		
id	subject	assign_form_id	assign_to_id	assign_date	dead_line	project_file	submit_date	is_late	submit_file	0 = No, 1 = Yes			
<input type="checkbox"/>				3	test	36	37	2018-07-01 00:00:00	2018-07-01 00:00:00	assets/files/1514810370.docx	2018-07-01 00:00:00	0	assets/files/1514810461.docx
<input type="checkbox"/>				4	problem	36	38	2018-07-01 00:00:00	2018-07-03 00:00:00	assets/files/1514810418.docx	2018-07-01 00:00:00	0	assets/files/1514810500.docx
<input type="checkbox"/>				5	Problem	37	39	2018-07-01 00:00:00	2018-07-03 00:00:00	assets/files/1514811232.docx	2018-07-01 00:00:00	0	assets/files/1514811613.docx
<input type="checkbox"/>				6	problem	37	40	2018-07-01 00:00:00	2018-07-07 00:00:00	assets/files/1514811314.docx	2018-07-01 00:00:00	0	assets/files/1514811656.docx
<input type="checkbox"/>				7	problem1	37	39	2018-07-01 00:00:00	2018-07-08 00:00:00	assets/files/1514811432.docx	2018-07-09 00:00:00	1	assets/files/1515502942.docx

3.3.6 Database table for monthly salary details:

+ Options										
← T →										
		id	month_year	bonus	user_role	total	created_by	created_at		
<input type="checkbox"/>				1	January 2018	0	2	["basic":40000,"house_rent":10000,"medical_all...	20	2018-07-31 11:50:1
<input type="checkbox"/>				2	January 2018	0	3	["basic":30000,"house_rent":8000,"medical_allo...	20	2018-07-31 11:50:1
<input type="checkbox"/>				3	January 2018	0	4	["basic":15000,"house_rent":6000,"medical_allo...	20	2018-07-31 11:50:1
<input type="checkbox"/>				4	January 2018	0	5	["basic":12000,"house_rent":5000,"medical_allo...	20	2018-07-31 11:50:1
<input type="checkbox"/>				5	February 2018	0	2	["basic":40000,"house_rent":10000,"medical_all...	20	2018-07-31 11:50:2
<input type="checkbox"/>				6	February 2018	0	3	["basic":30000,"house_rent":8000,"medical_allo...	20	2018-07-31 11:50:2
<input type="checkbox"/>				7	February 2018	0	4	["basic":15000,"house_rent":6000,"medical_allo...	20	2018-07-31 11:50:2

3.5 System Flowchart

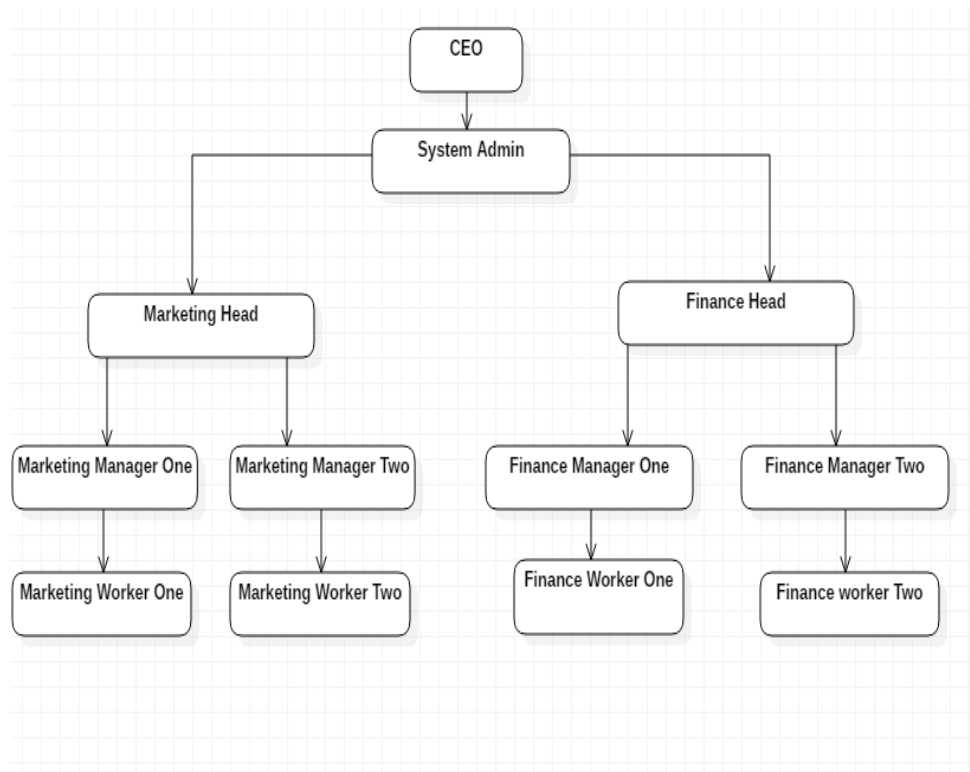


Figure 15: System Flow chart

In this flowchart, shows the flow of superior to inferior employees from top to bottom. Here also shows how our system activity occur.

3.4 Software platform:

In this platform the tools are used fully open sources. For designing this project this HTML, CSS are used and in some cases Bootstrap is used. We used object oriented PHP programming language to build the system.

3.4.1 HTML

HTML (Hypertext Markup Language) is the set of markup symbols or codes inserted in a file intended for display on a World Wide Web browser page. The markup tells the Web browser how to display a Web page's words and images for the user. Each individual markup code is referred to as an element (but many people also refer to it as a tag). Some elements come in pairs that indicate when some display effect is to begin and when it is to end.

3.4.2 CSS

A cascading style sheet (CSS) is a Web page derived from multiple sources with a defined order of precedence where the definitions of any style element conflict. The Cascading Style

Sheet, level 1 recommendation from the World Wide Web Consortium ([W3C](#)), which is implemented in the latest versions of the Netscape and Microsoft Web browsers, specifies the possible style sheets or statements that may determine how a given element is presented in a Web page. CSS gives more control over the appearance of a Web page to the page creator than to the browser designer or the viewer.

3.4.3 Bootstrap:

Bootstrap is a free and open source front-end web framework for designing websites and web applications. It contains HTML and CSS-based design templates for typography. Forms, buttons, navigation and other interface components, as well as optional JavaScript extensions. Unlike many web frameworks, it concerns itself with front-end development only.

3.4.4 Object oriented PHP

Object Oriented Programming, or OOP, refers to the method of programming that invokes the use of classes to organize the data and structure of an application. With PHP, OOP started to become feasible with the release of PHP 4, but really came into its own with PHP 5. Now, as the world awaits the release of PHP 6 we await another great leap in the evolution of PHP OOP.

Chapter 4

System Interfaces

In our system we implement five core module for all user. These modules are- Leave, Salary, Attendance, Project, Performance. Beside these, user also can do some other operation like as edit their account information, applied for getting registered etc.

Every individual user has given some particular permission or authority to deal with different module. Such as CEO, System Admin, all department head, all manager, all worker has their own authority to work with five core function of system.

Now we describe the core functions for all user from different user perspective –

4.1 Leave management module

Leave application is a common function for every user in every stage of employee expect CEO. Every user can apply for leave with clearly specified reason and date. This application will go to their superior employee according to our employee tree for their judgement via system admin permission.

Every employee (expect CEO) can apply for leave through submitting this form and then their request for leave will send to their superior employee in the system.

The screenshot shows a user interface for a leave request form. On the left is a dark sidebar with a 'Dashboard' header and a user profile for 'Anika Tahsin (Finance Worker)'. Below the profile are menu items: 'GENERAL', 'Profile', 'Leave', 'Request Leave Application', 'All Leave Application', 'Salary', 'Attendance', and 'Project'. The main content area is titled 'Leave' and contains a 'Leave Request Form'. The form has the following fields: 'Leave Start Date *' (placeholder: M/D/YYYY Leave Start Day), 'Leave End Date *' (placeholder: M/D/YYYY leave end days), 'Total Days *' (placeholder: total days), 'Leave Type *' (radio buttons for Sick Leave, Vacation Leave, Other Leave), and a 'Comment *' text area. A green 'submit' button is located at the bottom of the form.

Figure16: Request for leave application(form)

After sending this request employee can see the status of their request weather it is approved or not or rejected. In this page an user can see his all previous history of leave.

The screenshot shows a user interface for 'Leave Lists'. On the left is a dark sidebar with a user profile for 'Anika Tahsin (Finance Worker)' and a menu with options like 'Profile', 'Leave', 'Request Leave Application', 'All Leave Application', 'Salary', 'Attendance', 'Project', and 'Performance'. The main area is titled 'Leave Lists' and 'Employee Leave Lists'. It features a search bar, a 'Show 10 entries' dropdown, and 'Copy', 'CSV', and 'Print' buttons. A table displays one leave application entry with the following details:

Leave Type	Total Days	Comment	Start Date	End Date	System Admin Process	Status	Application Date
other	5	Due to some urgent private reason ,have to go abroad.	01/05/2017	01/10/2017	Yes	Finance Manager One Accept Status: Pending Accept Status: Pending Fianl Status : Waiting For Final Result	2018-01-01 12:52:03

At the bottom, it says 'Showing 1 to 1 of 1 entries' and has 'Previous' and 'Next' navigation buttons.

Figure17: All leave application

Every leave request that are generated from user firstly send to system admin for his primary consideration as he is one of the member of admin panel. After his consideration his responsibility is to forward the request to their respective superior employee according to flowchart of the organization.

Name	Department	Post	Start Date	End Date	Number Of Days	Leave Type	Comment	Send To	Application Date
Anika Tahsin	Finance	Finance Worker	01/05/2017	01/10/2017	5	other	Due to some urgent private reason ,have to go abroad.	<input type="checkbox"/> Finance Manager One <input type="checkbox"/> Finance Manager One <input type="button" value="send"/>	2018-01-01 12:52:03
Arman Shovon	Marketing	Marketing Manager One	01/10/2017	01/13/2017	3	sick	I have to attend marriage ceremony of my elder brother.	<input type="checkbox"/> <input type="checkbox"/> <input type="button" value="send"/>	2018-01-01 12:56:03
Irin Ovi	Finance	Finance Head	01/15/2017	01/17/2017	2	other		<input type="checkbox"/> CEO <input type="checkbox"/> System Admin <input type="button" value="send"/>	2018-01-01 12:57:15

Showing 1 to 3 of 3 entries

Previous 1 Next Figure

18: Leave request forward to superior

For example request of finance worker (AnikaTahsin) will send to her superior finance manager one(RatulHasan) and finance department head(IrinOve) for acceptance.

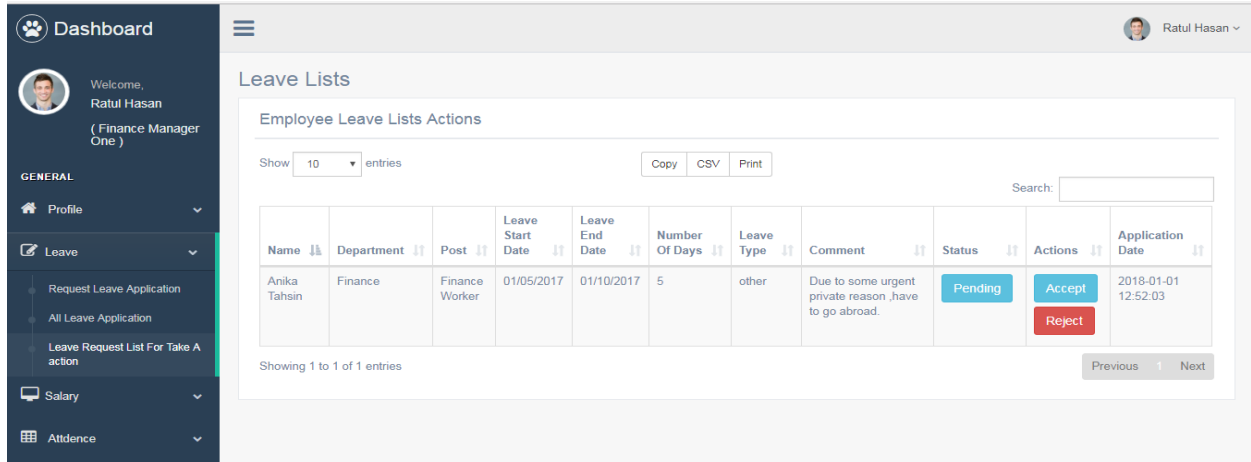


Figure19: Leave request for taking action (FM1=Superior employee)

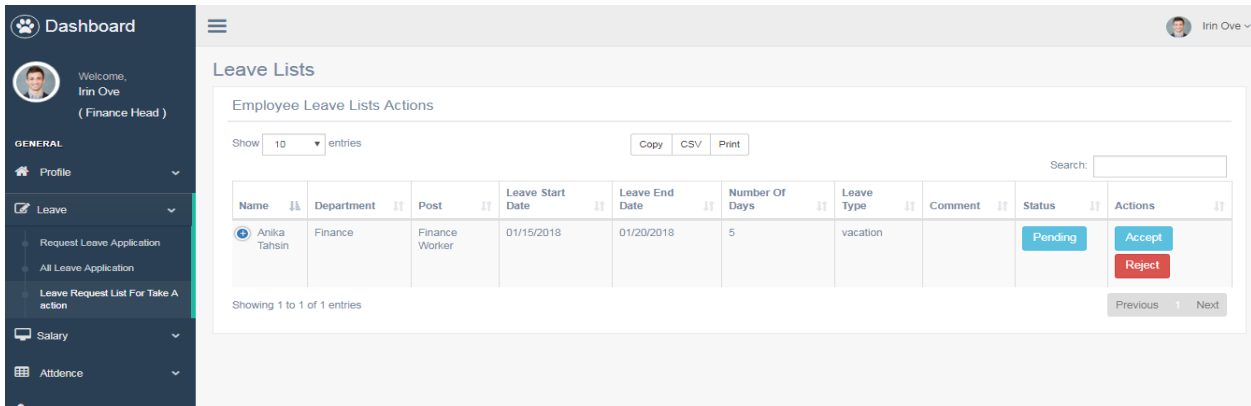


Figure20: Leave request for taking action (Dept Head)

When both of them accept her leave request then it will finally granted for leave. Then she will notify with a message that her “Status: Accepted”.

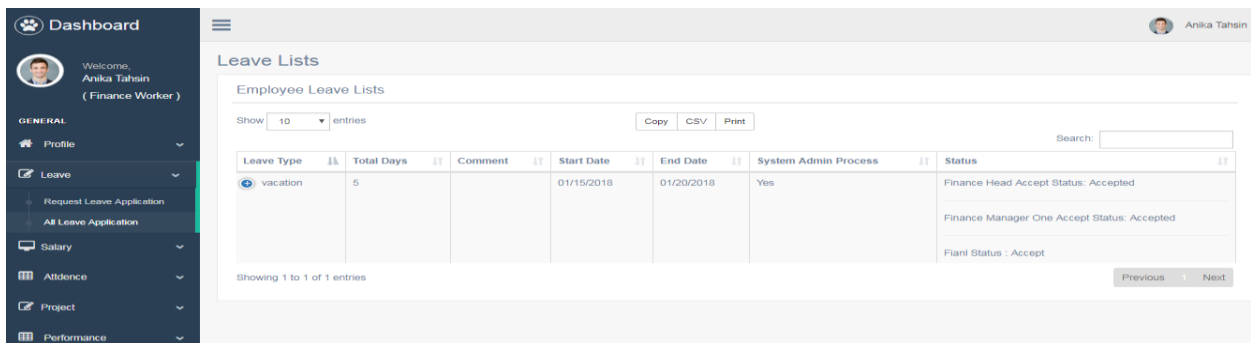


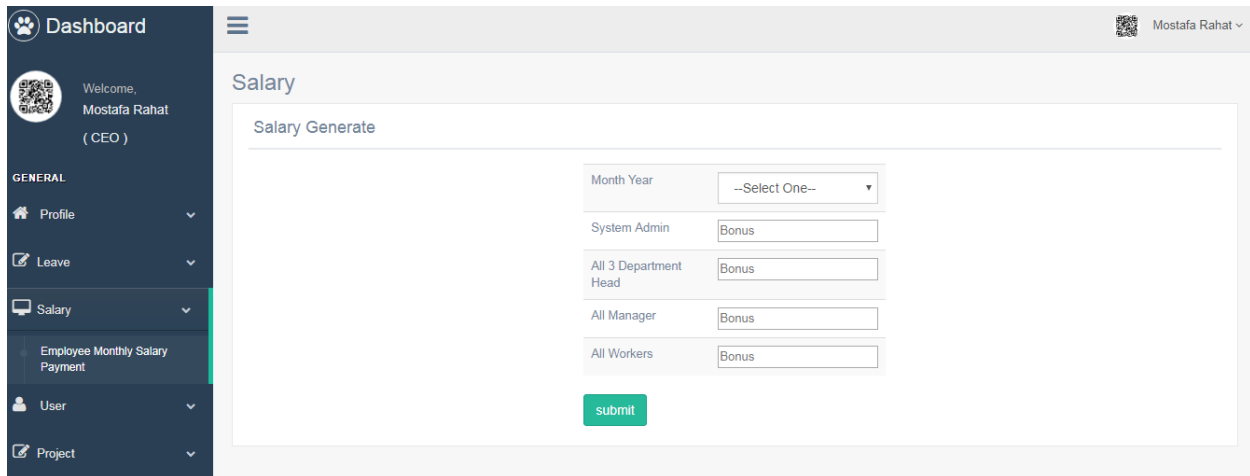
Figure21: Leave request accepted

This is the whole process for all employee for granting a leave application by following the tree.

4.2 Salary Management module

As well leave module salary is also a common one for all user of our system. Comparatively to others this function is much simple. Here only CEO can generate salary for all employee who are under this system. CEO also can generate festive bonus and normal bonus to everyone at a time, that amount will added to their salary specifically. Every user can see their basic salary, bonus and other allowance briefly according to per month when it added to their profile. They can also see the salary scale and others allowance structure individually.

Salary and bonus generation is only done by the CEO.



The screenshot displays a web application interface for salary management. On the left is a dark blue sidebar with a 'Dashboard' header and a user profile for 'Mostafa Rahat (CEO)'. Below the profile are menu items: 'GENERAL', 'Profile', 'Leave', 'Salary', 'Employee Monthly Salary Payment', 'User', and 'Project'. The main content area is titled 'Salary' and contains a 'Salary Generate' form. The form includes a 'Month Year' dropdown menu set to '--Select One--', and four input fields for 'System Admin', 'All 3 Department Head', 'All Manager', and 'All Workers', each with a 'Bonus' label. A green 'submit' button is located at the bottom of the form. The top right corner of the interface shows the user's name 'Mostafa Rahat' and a dropdown arrow.

Figure22: Salary generation

Individual employee's salary scale and allowance structure is like as shown bellow.

User Salary	
Basic	12000
House Rent	5000
Medical Allowance	2500
Transport Cost	2000
Total Salary	21500

Figure23: Salary and allowance scale for individual

Individual salary sheet according to per month look like as bellow, here all kind of allowance, bonus and basic salary are defined particularly.

Month Year	Bonus In Percent	Basic	House Rent	Medical Allowance	Transport Cost	Total Bonus	In Total
January 2018	0	12000	5000	2500	2000	0	21500
February 2018	0	12000	5000	2500	2000	0	21500
March 2018	0	12000	5000	2500	2000	0	21500
April 2018	0	12000	5000	2500	2000	0	21500

Figure24: Salary detail sheet

4.3 Attendance module

In an organization maintaining a decent attendance taking protocol is a good practice. In our system we have implemented an ID card punching entry and exit system, when someone punch his ID card, system will count an attendance for him for that day. We used QR code based identity matching for our system, our ID card contains that QR code what system admin generate after registering someone as employee.

CEO and system admin are authorized to see everyone's monthly attendance. Every individual can see their monthly attendance.

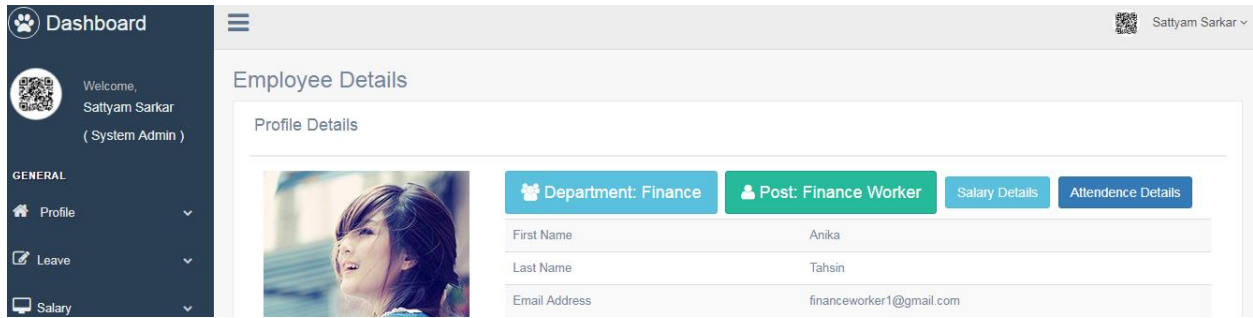


Figure25: CEO and System admin window for seeing employee’s attendance

Individual user can follow up their own attendance as like bellow-

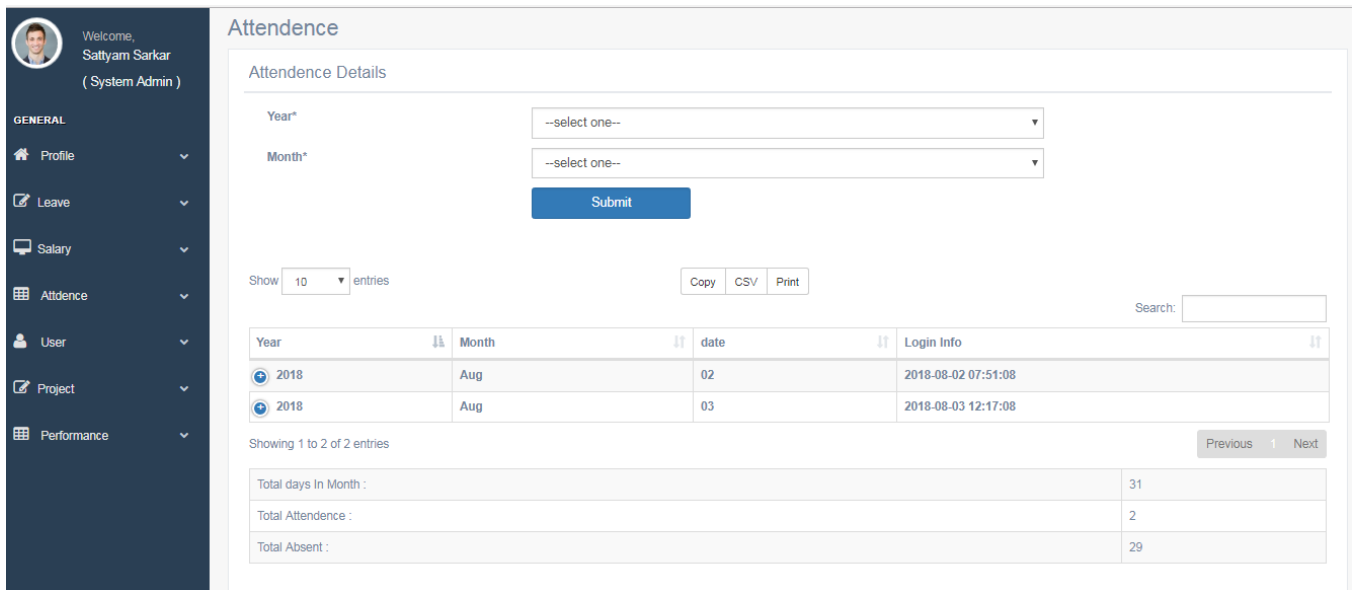


Figure26: Attendance for individual user per month.

4.4 Project Management module

In our System we have create an organizational tree that defined the superior an inferior employee relationship. According to this tree we have implemented the leave request flow and project handling flow among the employee.

In this system employee expect worker an CEO can directly assign any project with a due date to their respective inferior employee. CEO do this job via system admin that means CEO verbally order to

system admin to assign any project to different department head. On behalf of CEO system admin do this job and collect the reply documents from the department head and send feedback to CEO verbally or any manual way.

Project assigning window for that employee who are permitted to do that is look like as

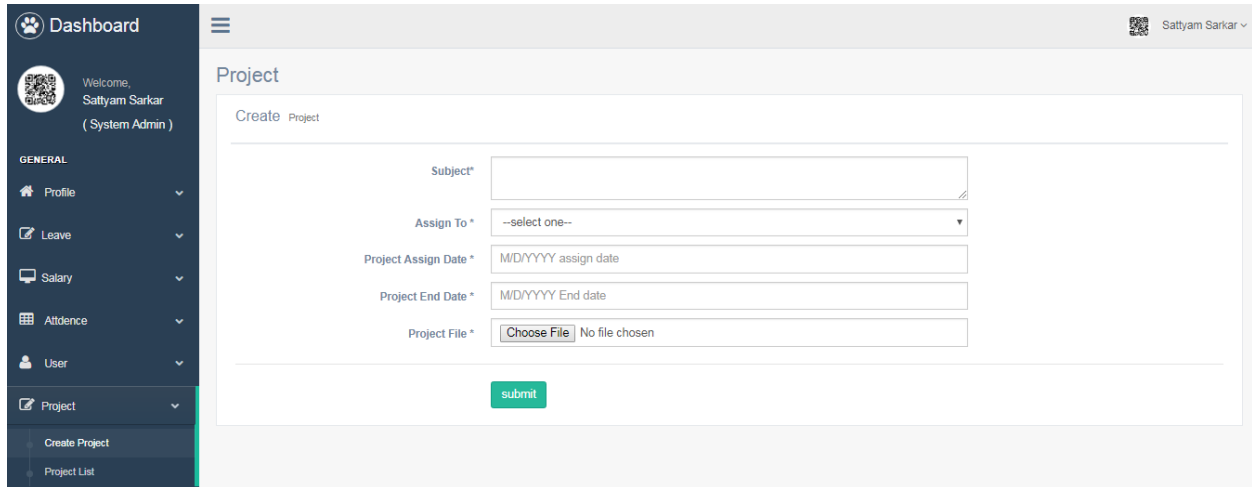


Figure27: Project assigning window

After submitting any project to inferior employee he get it with a permission of submitting it to his superior, here marketing head (JannatulFerdous) have assigned two project by her superior employee (System admin). One project that have been submitted to system admin and other one is still pending for submission. that window look like-

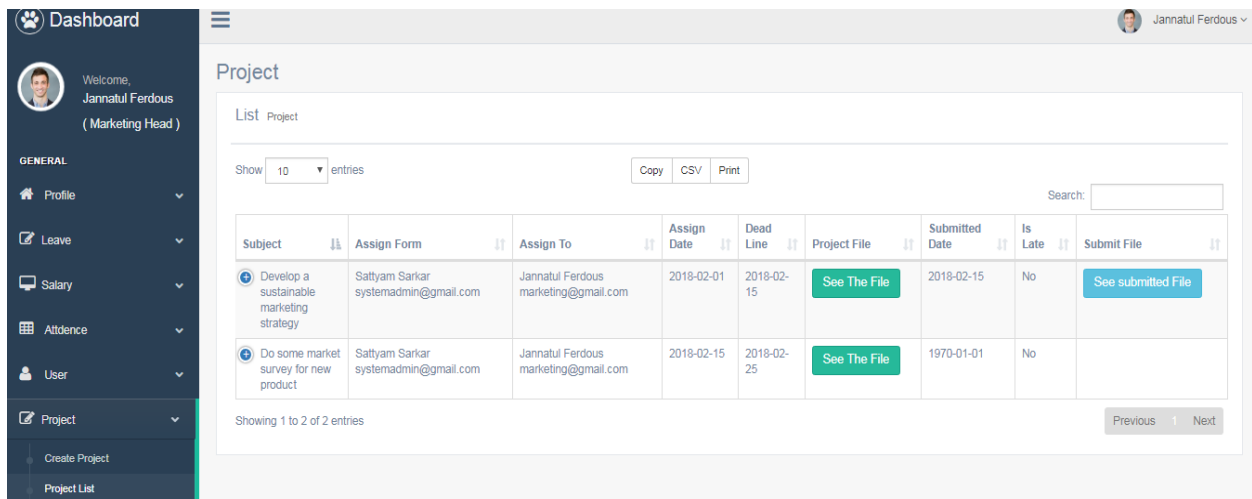


Figure28: Project list that are assigned by superior

Every employee can look over each project that he assigned to his inferior employee as well as that he submitted to his superior employee. That list look like-

Subject	Assign Form	Assign To	Assign Date	Dead Line	Project File	Submitted Date	Is Late	Submit File
Problem	Jannatul Ferdous marketing@gmail.com	Arman Shovon marketingmanager1@gmail.com	2018-01-01	2018-01-03	See The File	2018-01-01	No	See submitted File
problem	Jannatul Ferdous marketing@gmail.com	Syed Ahmed marketingmanager2@gmail.com	2018-01-01	2018-01-07	See The File	2018-01-01	No	See submitted File
problem1	Jannatul Ferdous marketing@gmail.com	Arman Shovon marketingmanager1@gmail.com	2018-01-01	2018-01-08	See The File	2018-01-09	Yes	See submitted File
problem1	Jannatul Ferdous marketing@gmail.com	Syed Ahmed marketingmanager2@gmail.com	2018-01-01	2018-01-05	See The File	2018-01-09	Yes	See submitted File
problem3	Jannatul Ferdous marketing@gmail.com	Arman Shovon marketingmanager1@gmail.com	2018-01-09	2018-01-15	See The File	2018-01-09	No	See submitted File
problem3	Jannatul Ferdous marketing@gmail.com	Syed Ahmed marketingmanager2@gmail.com	2018-01-09	2018-01-18	See The File	2018-01-09	No	See submitted File
test	Sattiyam Sarkar systemadmin@gmail.com	Jannatul Ferdous marketing@gmail.com	2018-01-01	2018-01-01	See The File	2018-01-01	No	See submitted File
To MH	Sattiyam Sarkar systemadmin@gmail.com	Jannatul Ferdous marketing@gmail.com	2018-01-09	2018-01-15	See The File	2018-01-09	No	See submitted File
TO MH-2	Sattiyam Sarkar systemadmin@gmail.com	Jannatul Ferdous marketing@gmail.com	2018-01-01	2018-01-08	See The File	2018-01-09	Yes	See submitted File

Figure29: All project list view

4.5 Performance module

The module of performance generation or ranked the employee probably the interesting one for our system. We haven't find a number of system that are consisting this types of module. Only there are some expensive and exclusively developed system owns this type of module. In our project we have tried to develop a simple mechanism to reduce cost and enhance HR capabilities, that can ranked employee or provide some sort of performance by calculating with some parameters. Instead of using a very famous algorithm we just use a simple mathematical equation to do the performance calculation, it makes our system simple, cheap, and less complex.

4.5.1 Performance Generation

The authority of performance generation has only given to CEO. In a year he can generate two half yearly performance generation or ranked his employee.

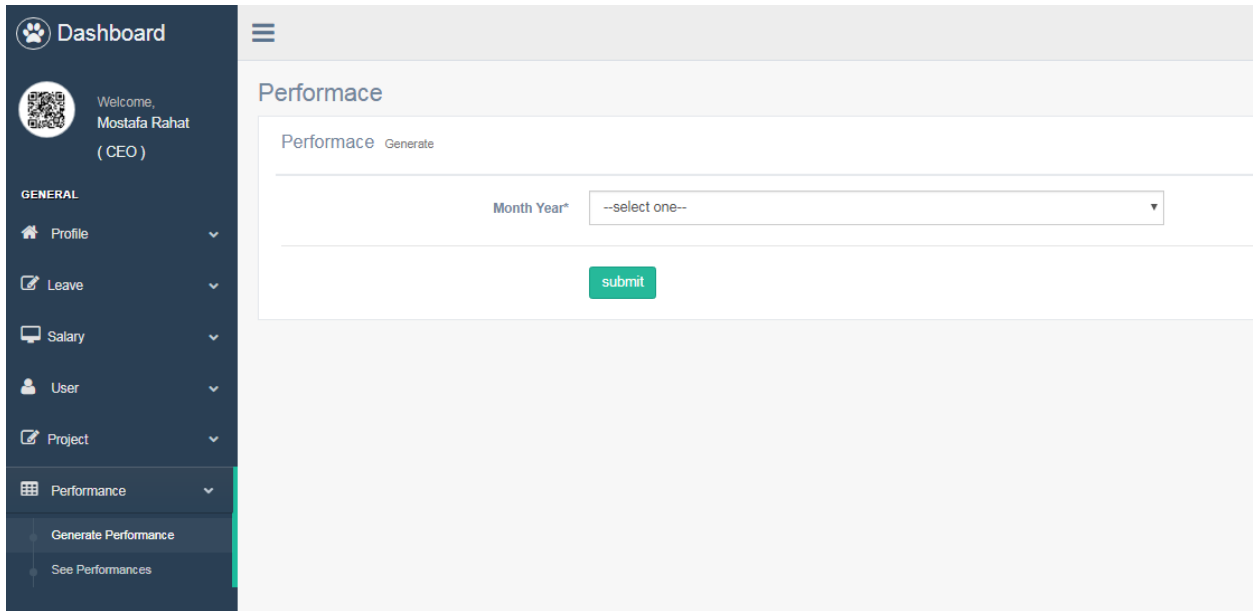


Figure30: Performance generation by CEO

After finishing the performance generation it looks like list to the CEO, window is look like-

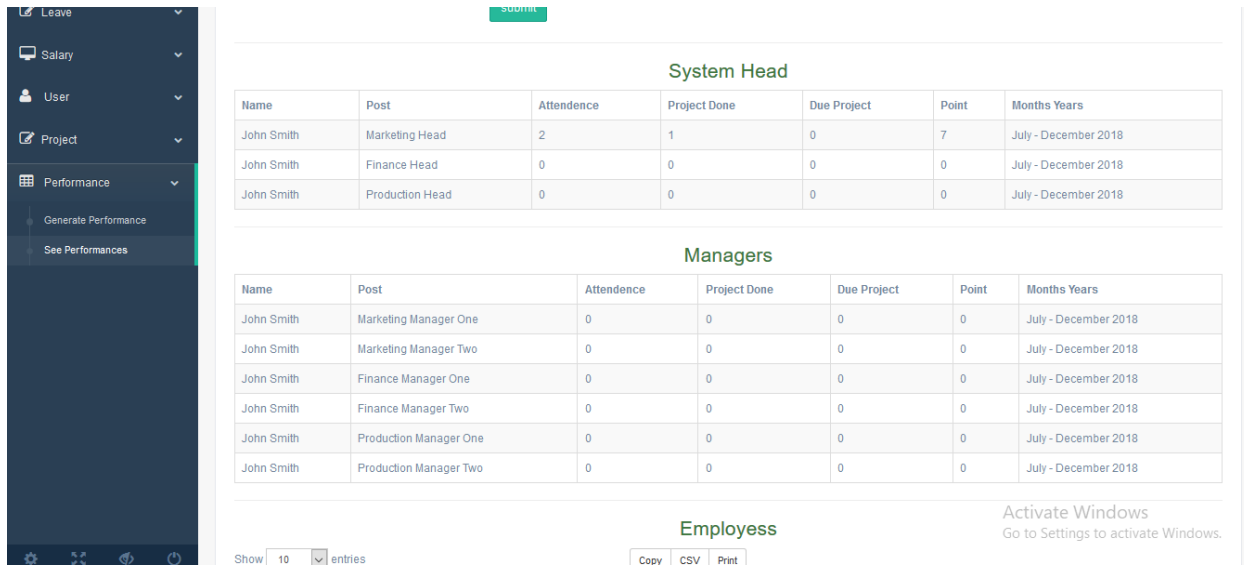


Figure31: Performance List (test data)

The screenshot displays two performance tables. The 'Managers' table lists John Smith in six roles: Marketing Manager One, Marketing Manager Two, Finance Manager One, Finance Manager Two, Production Manager One, and Production Manager Two. All metrics (Attendance, Project Done, Due Project, Point) are zero. The 'Employees' table shows John tadmin as a Marketing Worker with zero metrics. The interface includes a search bar, pagination (Showing 1 to 1 of 1 entries), and utility buttons (Copy, CSV, Print). An 'Activate Windows' watermark is visible at the bottom right.

Name	Post	Attendance	Project Done	Due Project	Point	Months Years
John Smith	Marketing Manager One	0	0	0	0	July - December 2018
John Smith	Marketing Manager Two	0	0	0	0	July - December 2018
John Smith	Finance Manager One	0	0	0	0	July - December 2018
John Smith	Finance Manager Two	0	0	0	0	July - December 2018
John Smith	Production Manager One	0	0	0	0	July - December 2018
John Smith	Production Manager Two	0	0	0	0	July - December 2018

Name	Post	Attendance	Project Done	Due Project	Point	Months Years
John tadmin	Marketing Worker	0	0	0	0	July - December 2018

Figure32: Performance List (test data)

After a half yearly performance generation has done by CEO every employee can see their status from their own account.

4.5.2 Performance Evaluation

Performance or ranking of an employee basically depended on three parameter, a half yearly performance generation is calculated from employee’s total number of attendance, number of project done, number of due project submission of that six months.

MANAGERS	ATTENDANCE	PROJECT_DONE	PROJECT_DUE	POINTS
Marketing Manager one	115	10	4	153
Finance Manager one	110	10	5	145

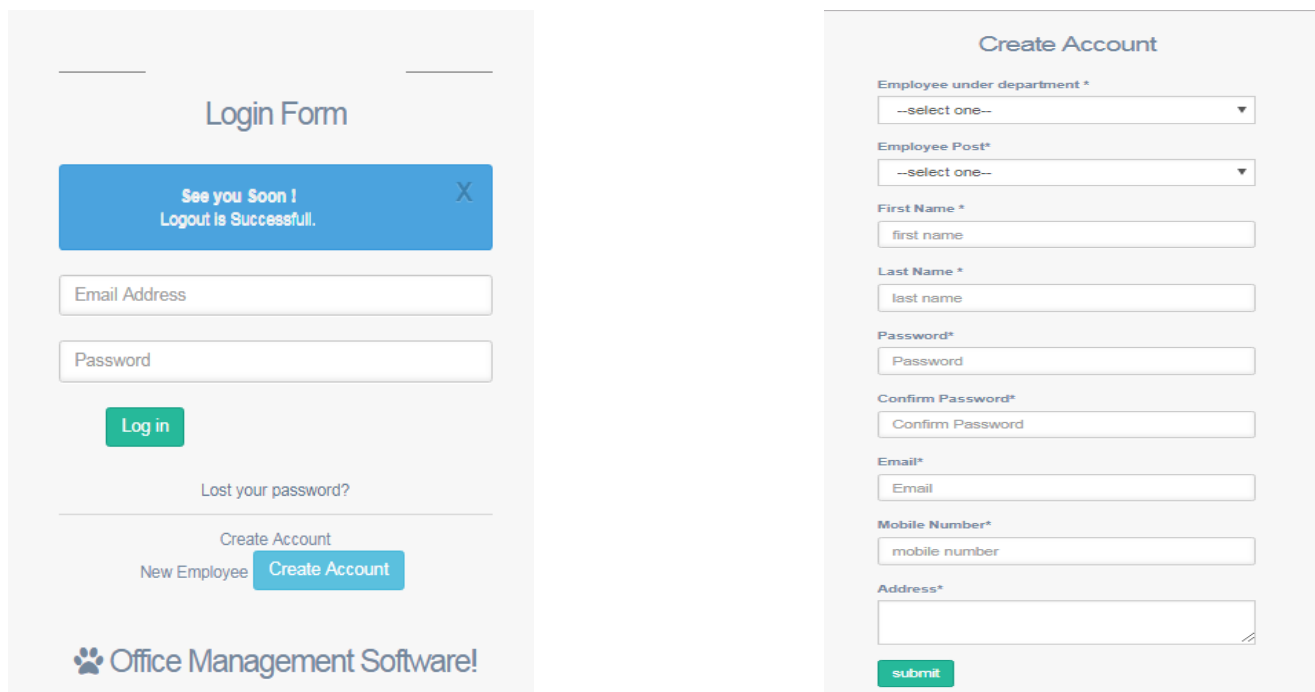
The equation is, $115 * 1 + 10 * 5 + 4 * (-3) = 153$

Here we assume one points per attendance, five points for each Project done successfully and minus three (negative marking) for each due project submission.

4.6 General functions

There are some other functionalities in our system that perform by different role of employee.

Here every new worker level employee or lower level employee of organizational tree needed to get registered. They have to create a new account for login. To be registered they have to fill up a registration form and submit it towards to system admin , system admin check his application and assign him to someone according to his request. Thus new employee can get registered in our system through system admin judgement.



The image displays two screenshots of a web application interface. The left screenshot shows the 'Login Form' with a blue notification box stating 'See you Soon ! Logout is Successful.' Below this are input fields for 'Email Address' and 'Password', a green 'Log in' button, a link for 'Lost your password?', and a 'Create Account' button with a 'New Employee' label. The right screenshot shows the 'Create Account' form with fields for 'Employee under department *', 'Employee Post*', 'First Name *', 'Last Name *', 'Password*', 'Confirm Password*', 'Email*', 'Mobile Number*', and 'Address*'. A green 'submit' button is at the bottom.

Figure 33: To create new account and the registration form

In our system every user can update their personal information, they can add profile picture, they can change their password.

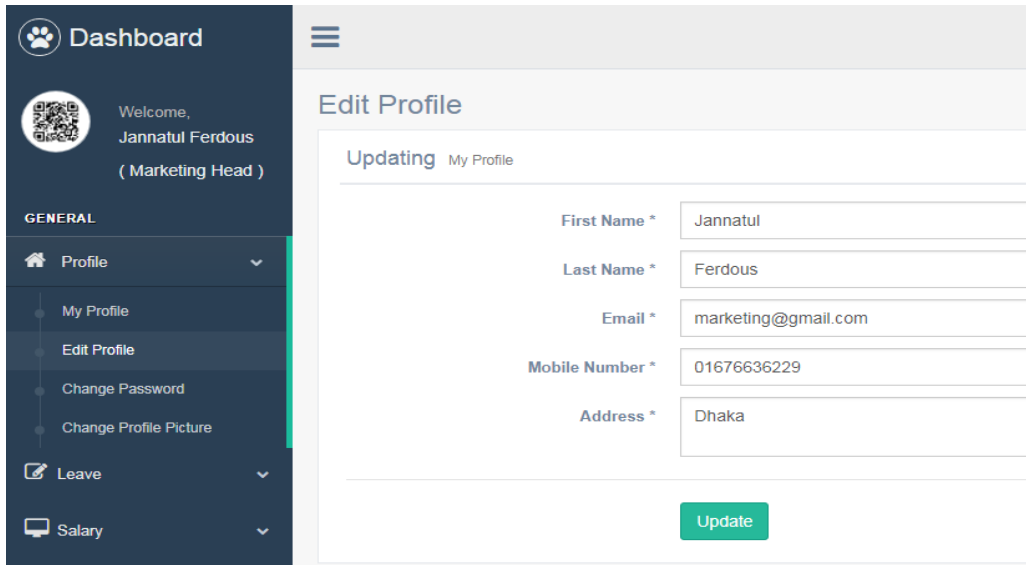


Figure34: General update

CEO of my system have authority to generate attendance camera for punching employee's ID card to get entry

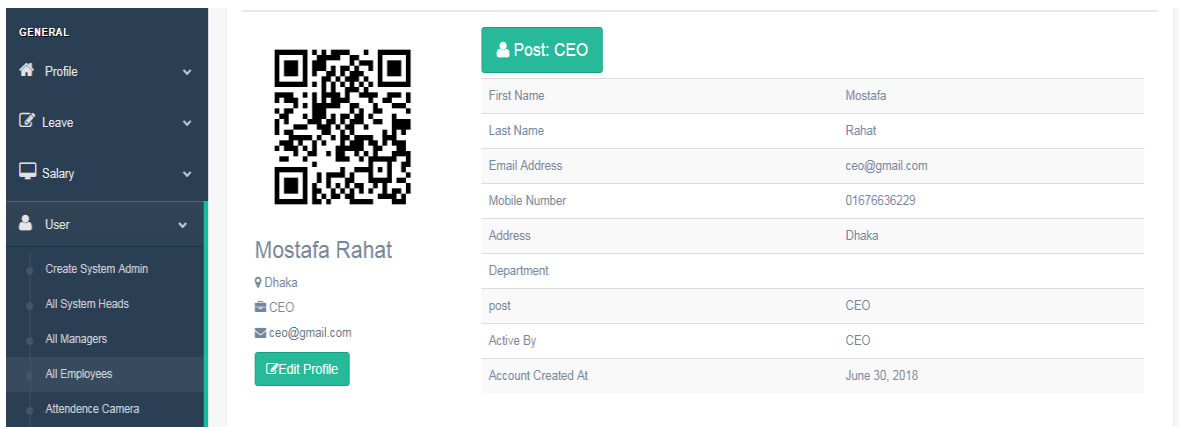


Figure35: Start attendance camera

Chapter 5

Conclusion & Future Work

5.1 Conclusion

In general, today's organization must always strive to create the next best thing that owner and employee want. Because owner desire their system etc. to continuously be better, faster, and cheaper. In this world of new technology, businesses need to accommodate to the new types of consumer needs and trends, because it will prove to be vital to their business' success and survival.

5.2 Future Work

In our system we tried to use modern technology like QR code scanner attendance system, auto performance generations, which make the management system easier and more effective. This system also reduces time consumption. So the system will be beneficial for both organization owner and employees. Our project has some limitation. We want to add some more features like payroll, loan system, transaction system. We want to incorporate a Payroll system and Online chat between employees.

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