

Development of Wholesale Buying & Selling For SIMEC System Ltd.

Supervised By
Suhala Lamia
Lecturer
Department of Computer Science
and Engineering

Presented By
Md. Haider Ali Hridoy
ID#16203104
Program: BCSE

CONTENTS

- Project overview
- Requirement Engineering
- Analysis
- Designing
- Testing
- Software Demonstration
- Conclusion



PROJECT OVERVIEW

Broad Objective

Design and Development of Wholesale Buying & Selling System is designed to make it easier for buying product to buyer or supplier and selling the product to customer also generating the bill for supplier and customer. The aim of the project is that the admin can easily check how many product has in the stock. He can also check the report of daily, monthly profit loss. This system this will have sub profile of buyer or supplier and seller to generate the bill of each of buyer and seller.

Specific Objectives

- ❑ This system maintains the information related different departments and stored at a central DB, which leads easy accessibility and consistency.
- ❑ Admin can only access the system.
- ❑ The system calculate each of profile calculation.
- ❑ The system also show the available stock product.
- ❑ The system make sure that calculation is perfect.
- ❑ Online customer can also visit and buy product from the system.

SOFTWARE PROCESS MODEL

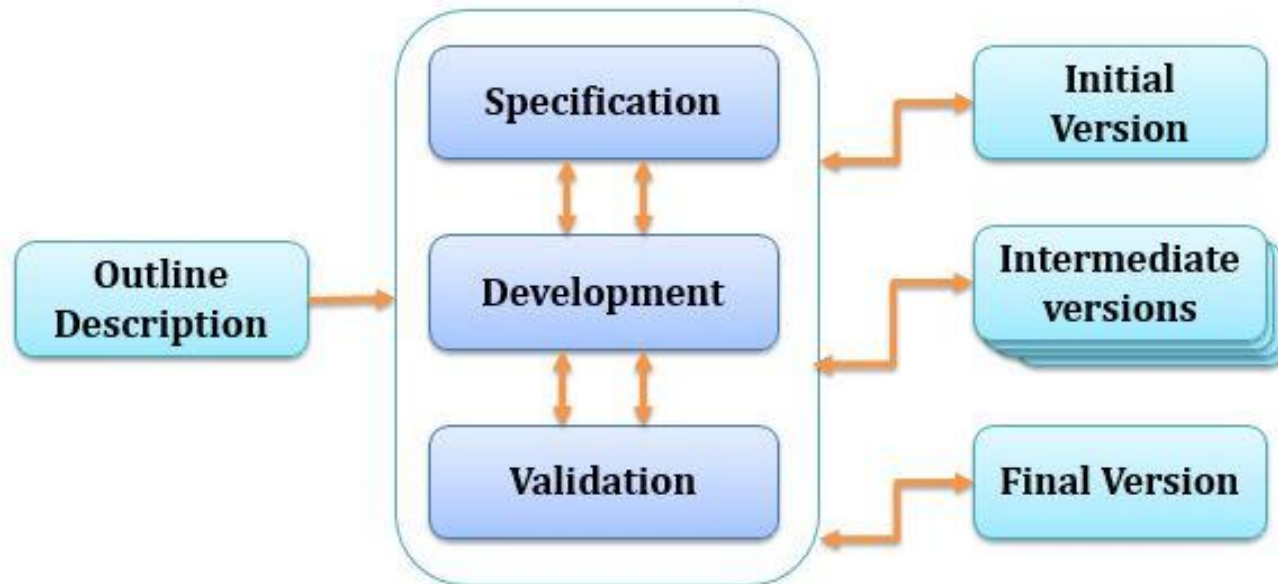


Fig: Evolutionary Process Model

Reason for Choosing

- Changing day by day and come up with a new feature, new requirement.
- These models are built in a manner that enables software engineers to develop increasingly more complex versions of the software.
- The evolutionary model consists of a few essential steps: early & frequent iteration, breaking work into small release chunks, planning short cycle times and getting ongoing user feedback, other components can be modified.



REQUIREMENT ENGINEERING

User Requirements

- Employee Information
- Attendance Management
- Leave Management
- Payroll Management
- Project Management

System Requirements

Use security to access the System

- If user wants to access the system then login required.
- Admin will add new employee and give ID and password to access system.
- With valid ID and password employee can access system.
- Invalid user won't be access to the system.

System Requirements

Identify type of user by matching their employee ID and password

- Create user role while registering an employee by assigning user type.
- Detect user type by employee ID while login.
- Provide access to the system according their role.

System Requirements

Admin can manage whole system

- Admin can add any of the information of Employee.
- Admin can view all information.
- Admin can update any information.

System Requirements

Employee can give daily attendance/ apply for leave/view tasks/quality ranking.

- Identify by login
- Create page according to employee's information.
- Create option for giving daily attendance.
- View attendance log of his own.
- Allow to apply for leave.
- View leave application details.
- Allow to ask cash advance.
- View project monitoring task and submit task.
- View employees quality ranking.

Functional Requirements

Deduction:

When any employee ask for cash advance that time the deduction part will work. It will ask for one time repay or monthly. If it is one time then the cash advance money will deduct from employees next month's salary. If it is monthly then the system will show the taken amount and 20% deduction fee.

For Example:

Cash advance, T= 5000tk

Payment status = Monthly

20% deduction fee = $(20 * T) / 100$

$$= (20 * 5000) / 100$$

$$= 1000$$

So, the system will deduct 1000tk per month.

Functional Requirements

Salary:

Employees salary depends on Basic salary, Bonus points (Attendance + Performance), Cash advance, Deduction, Net amount and Bonus.

Suppose,

The Basic salary of any employee is = 10,000tk

Taken Advance amount = 5000tk (repay monthly)

Monthly deduction amount = 1000tk (20% deduction from Cash advance)

Bonus = 0

So, Net amount = (Basic salary – Deduction) + Bonus

$$= (10,000 - 1000)\text{tk} + 0\text{tk}$$

$$= 9000\text{tk}$$

Bonus point will help to get bonus yearly and also in promotion.

Functional Requirements

Ranking:

Ranking will depend on Attendance, Late attendance, Task point and Leave.

Example:

Late Attendance Count = (Number of Late attendance*100)/30

$$= (50*100)/30$$

$$= 16.66\%$$

Attendance = 83.34% (suppose)

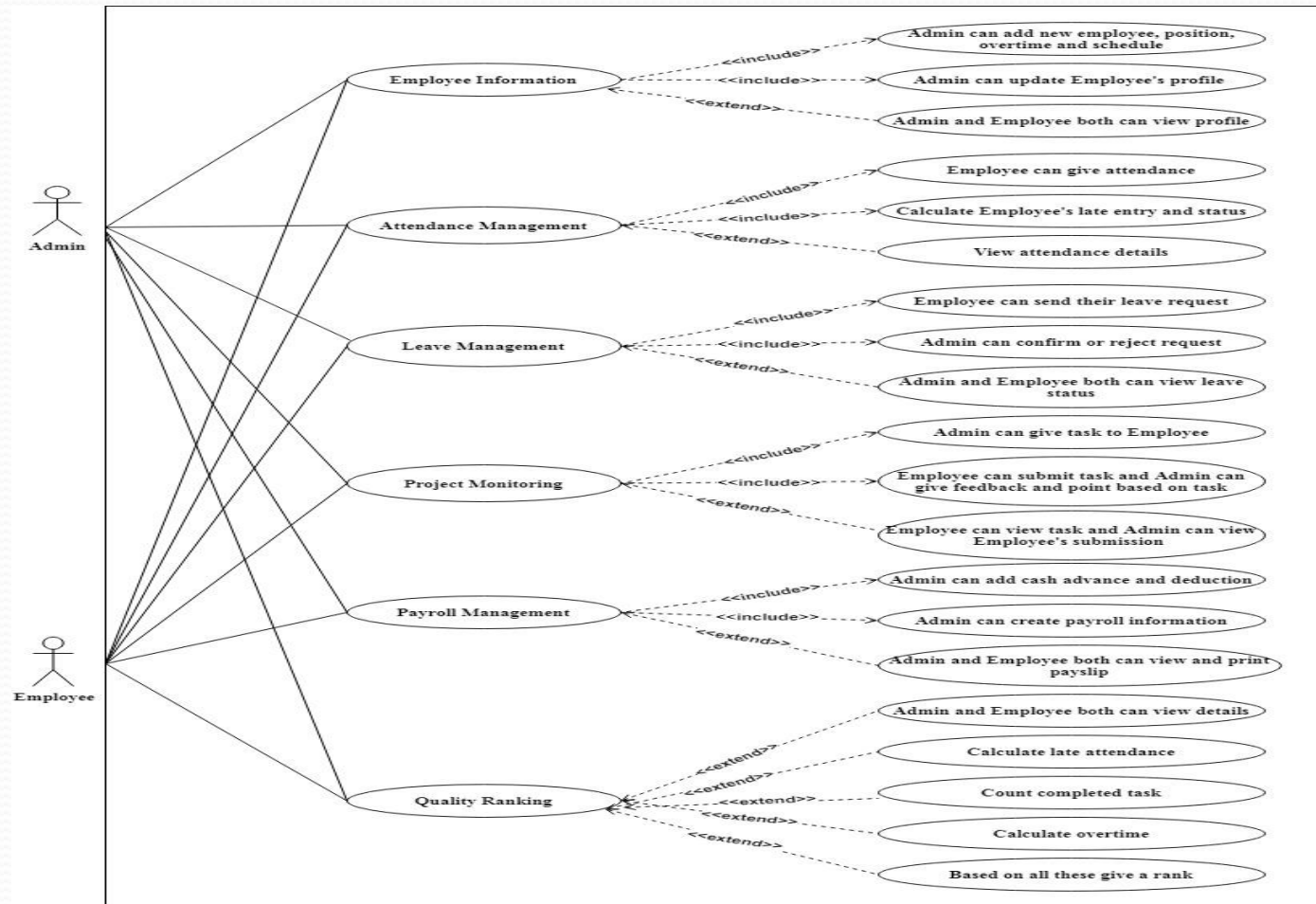
Task point = 7 (suppose)

Total point = (83.34 + 7) -16.66

$$= 73.68$$

Ranking point = (73.68*10)/110 = 6.69

Use Case Diagram





ANALYSIS

Activity Diagram

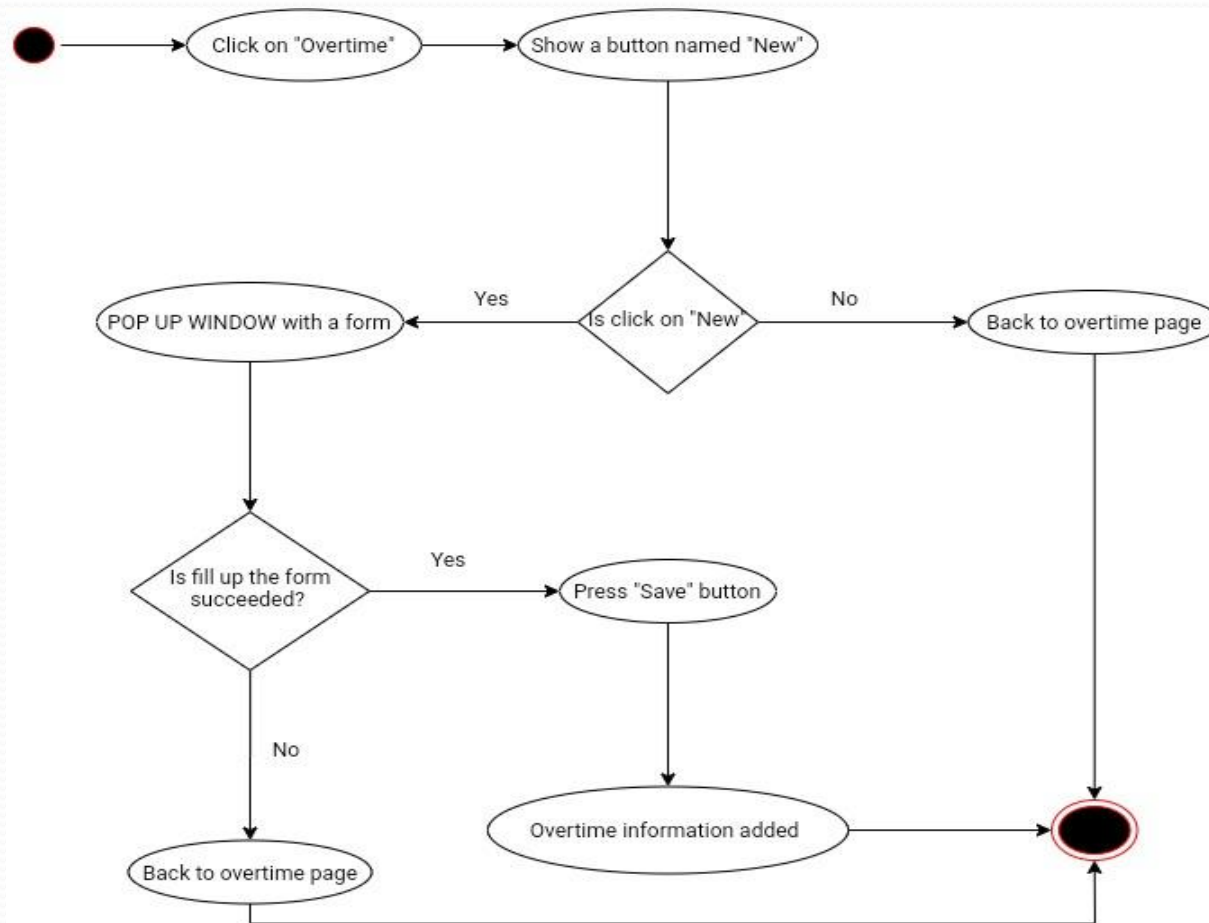


Fig: Activity Diagram for Overtime

Activity Diagram

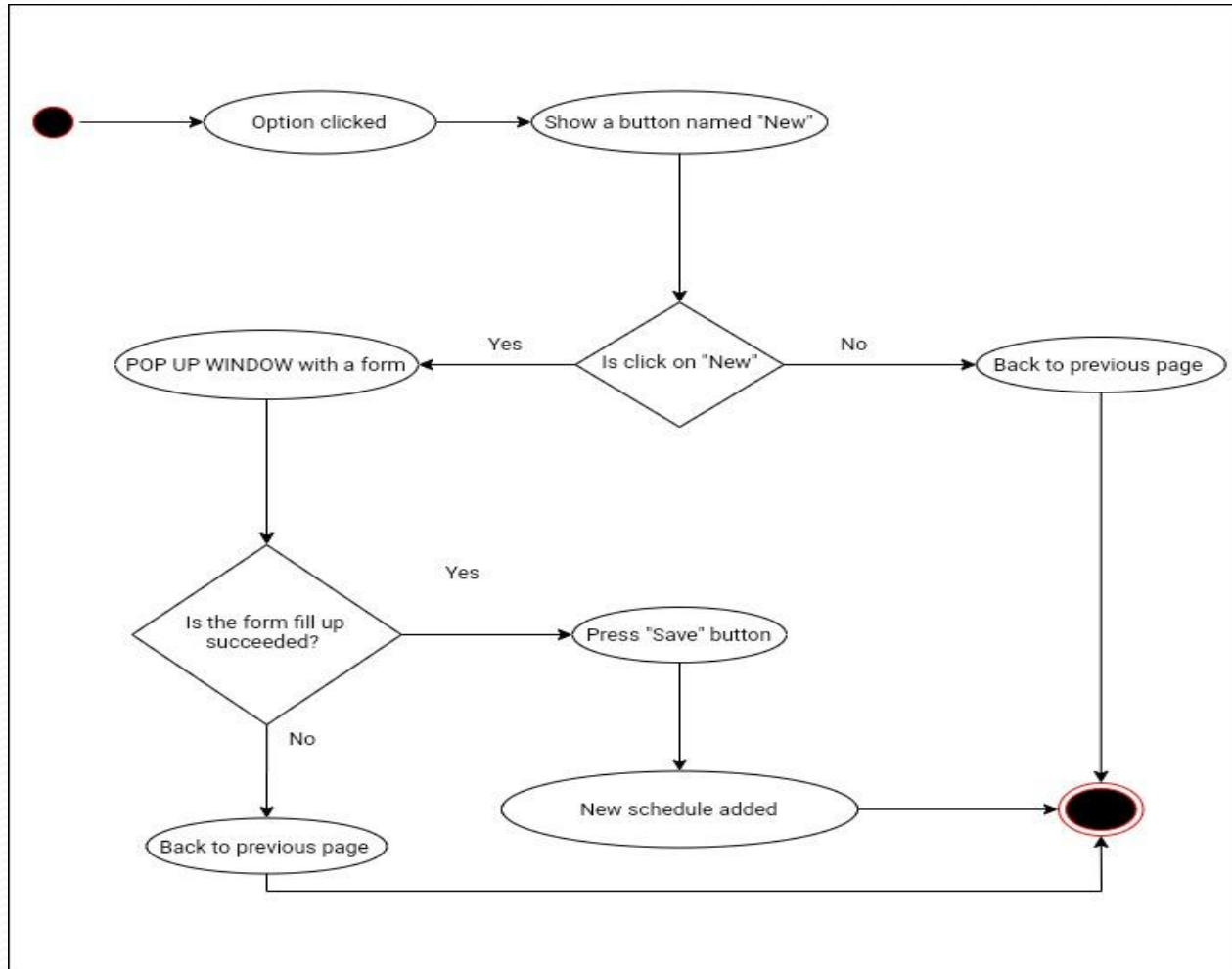


Fig: Activity Diagram for Schedule

Activity Diagram

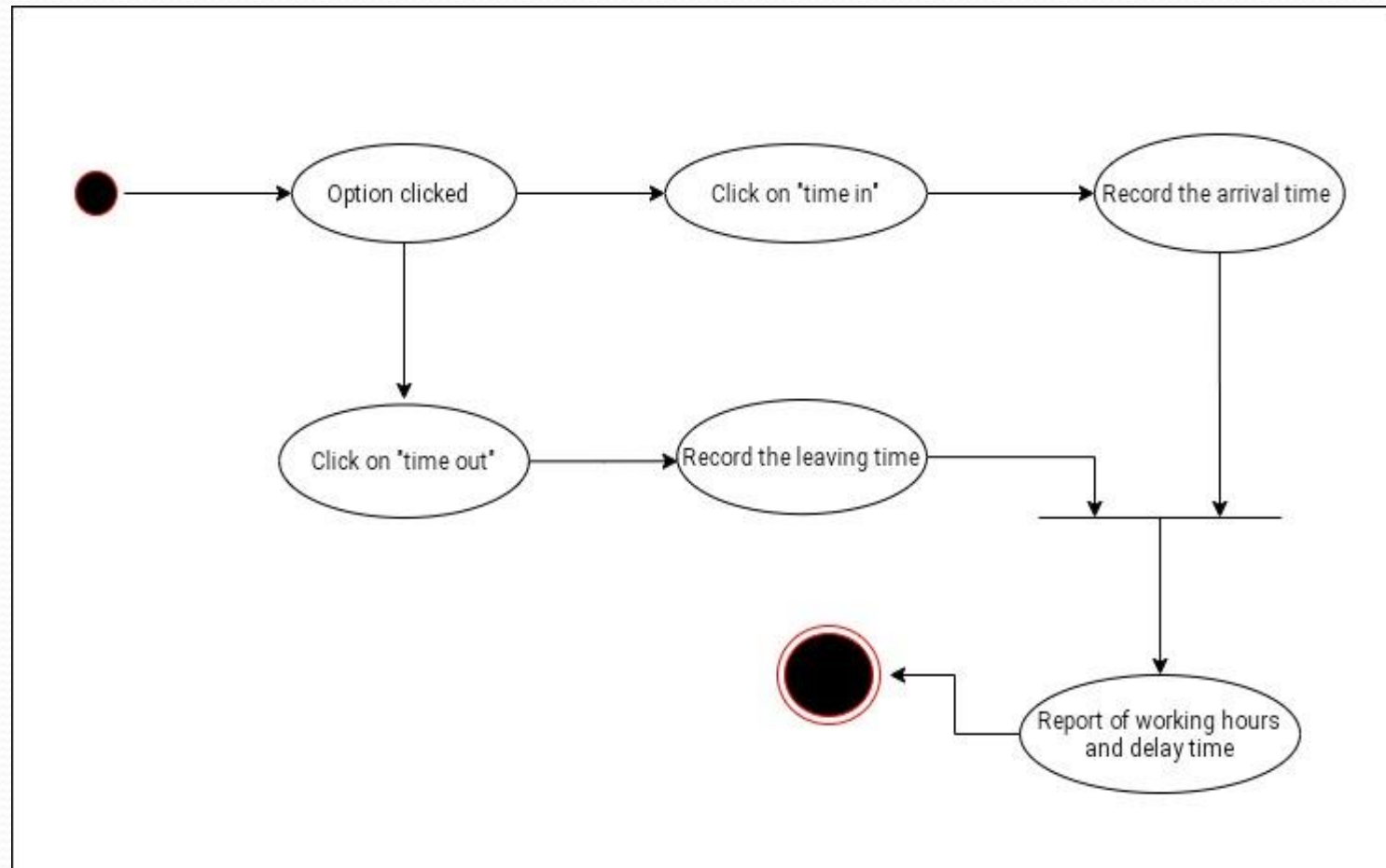


Fig: Activity Diagram of Attendance management for employee

Activity Diagram

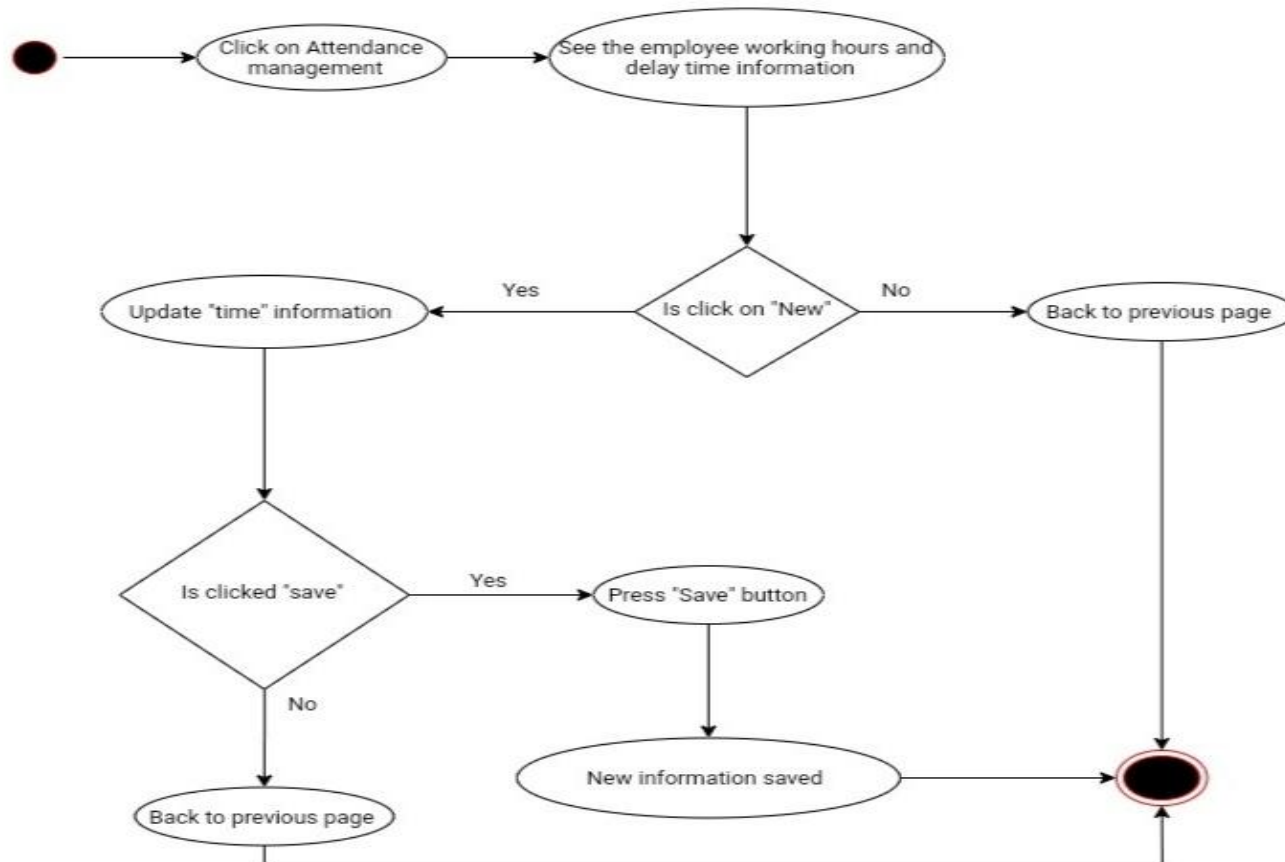


Fig: Activity Diagram of Attendance management for admin

Activity Diagram

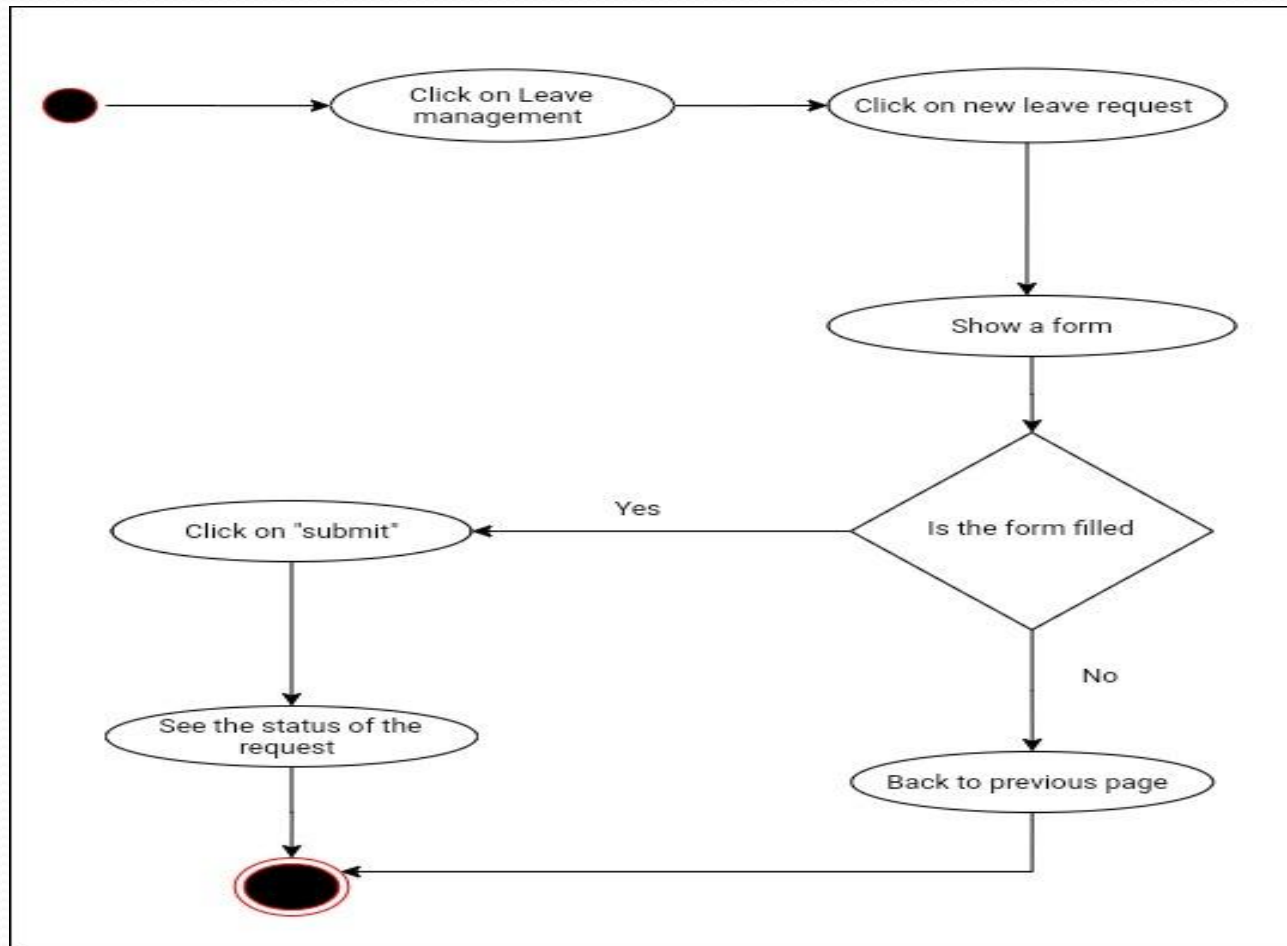


Fig: Activity Diagram of Leave management for employee

Activity Diagram

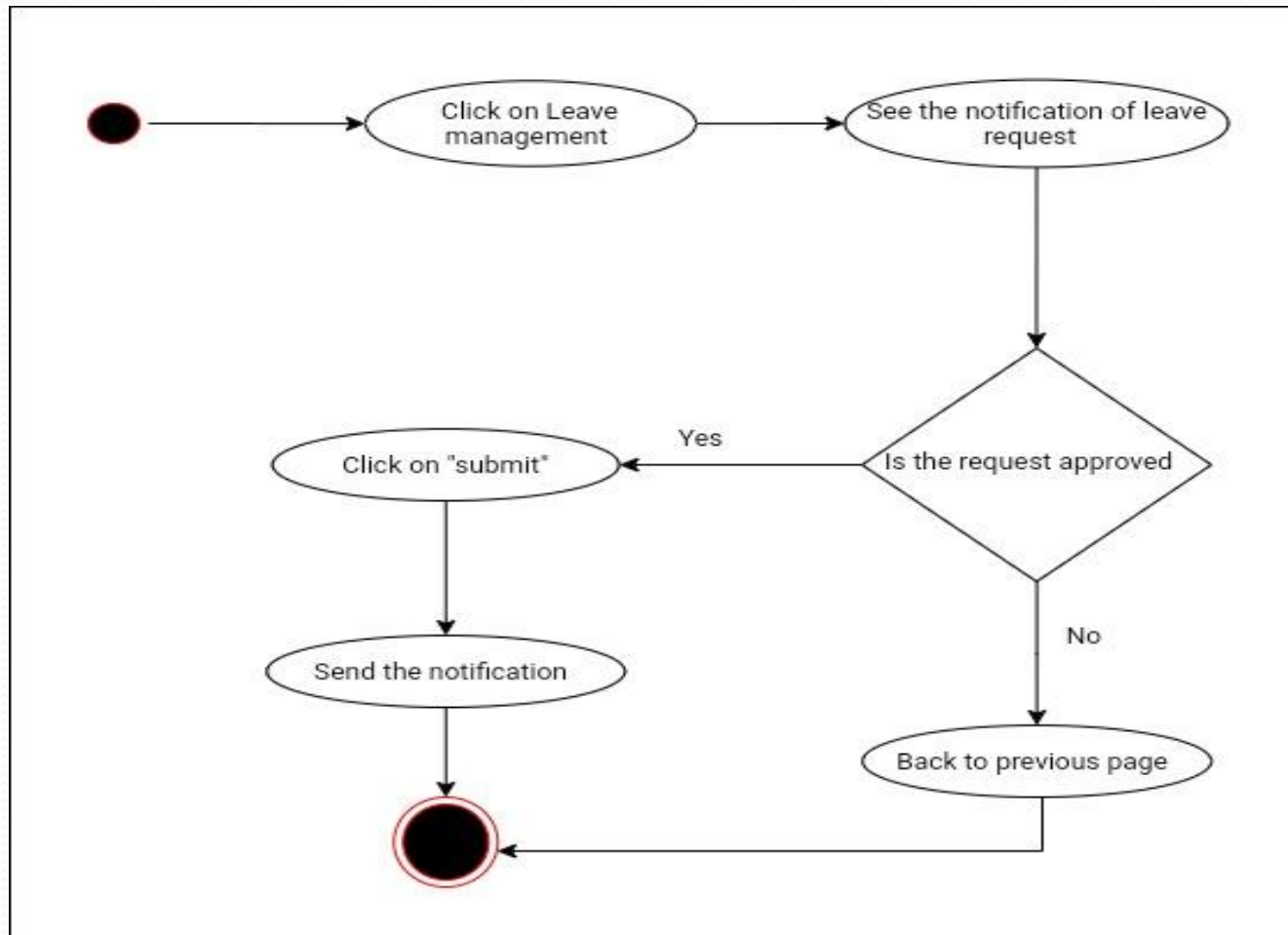


Fig: Activity Diagram of Leave management for admin

Activity Diagram

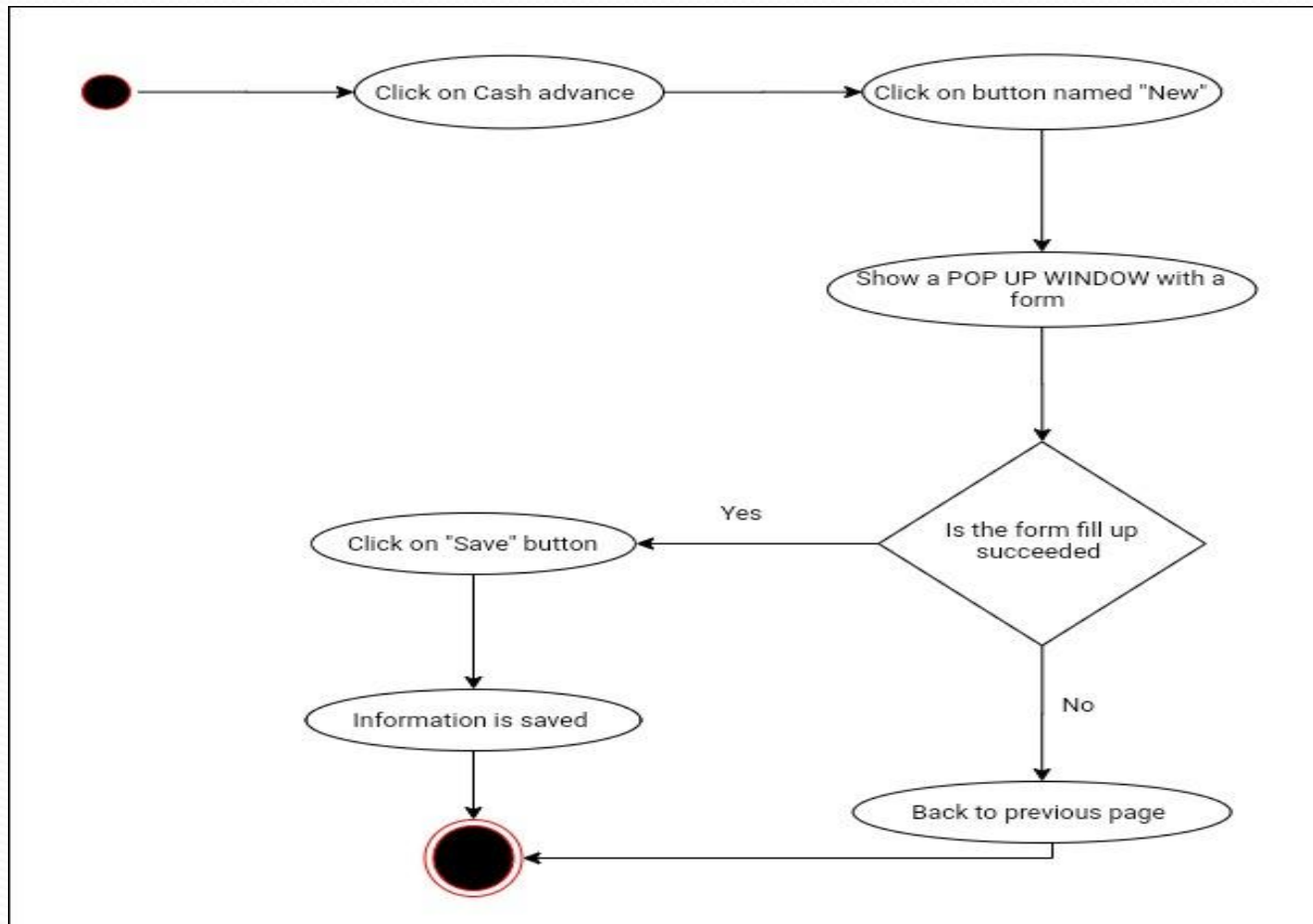


Fig : Activity Diagram for Cash Advance

Activity Diagram

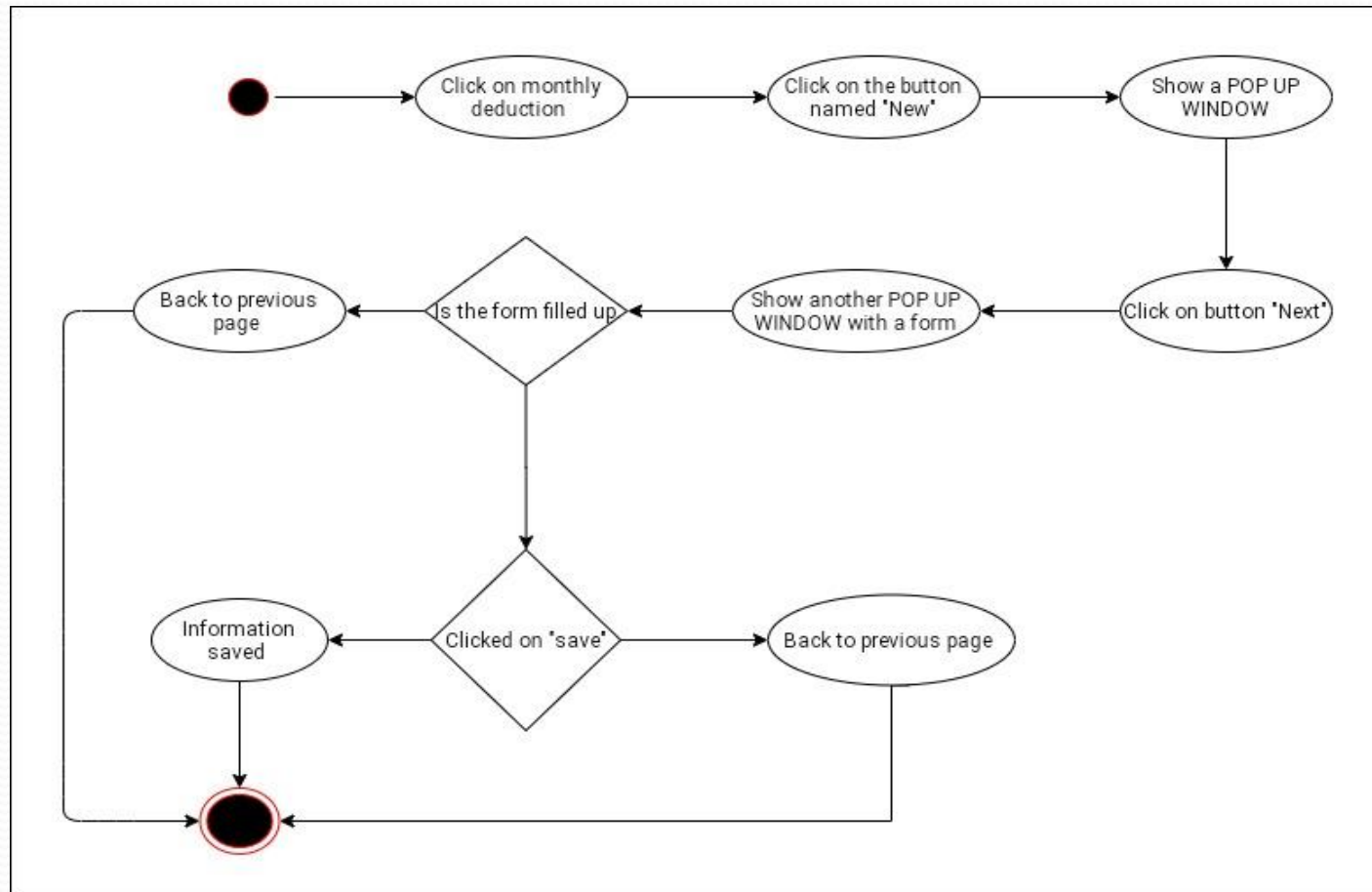


Fig: Activity Diagram for Monthly deduction

Activity Diagram

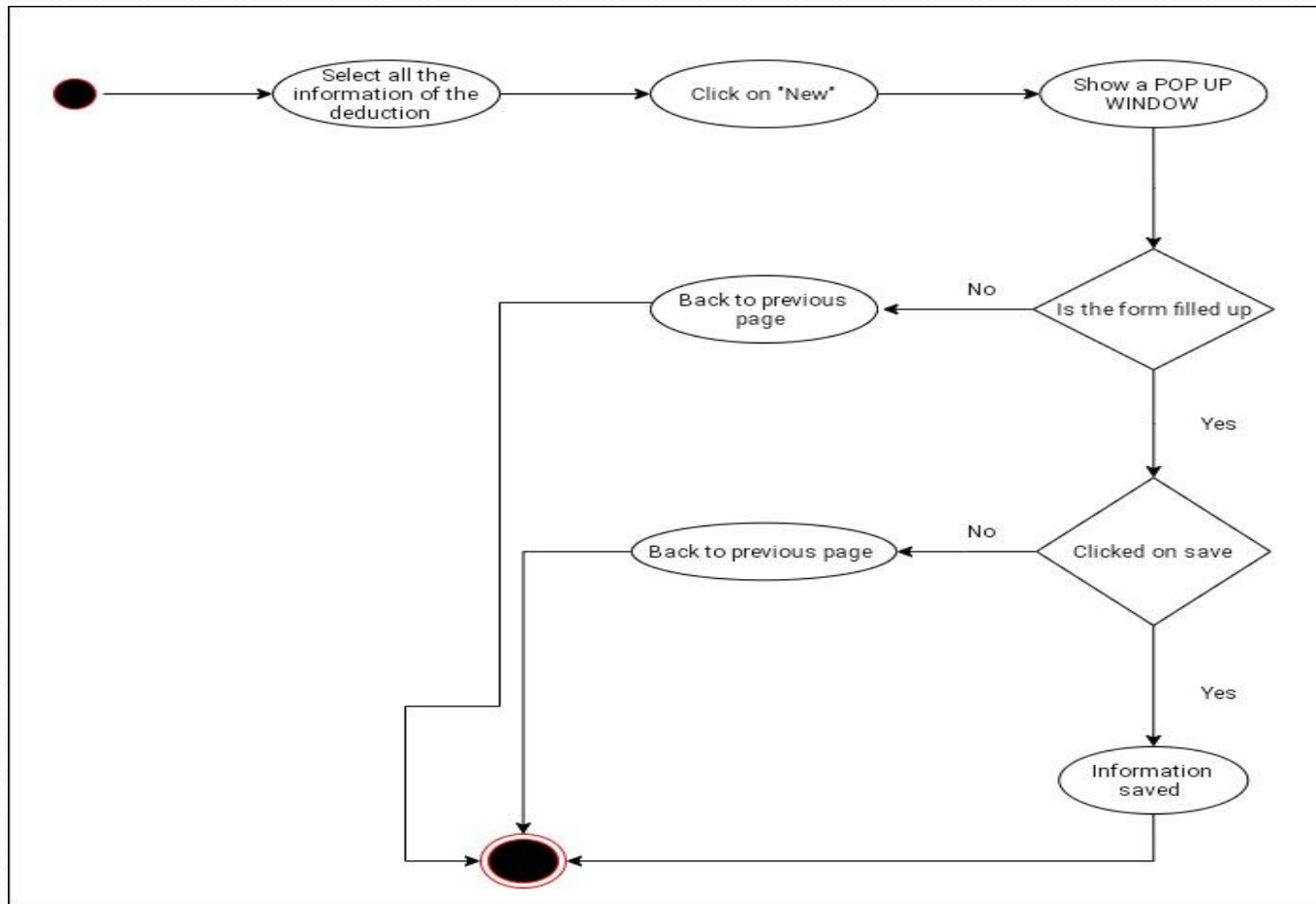


Fig: Activity Diagram for All deduction

Activity Diagram

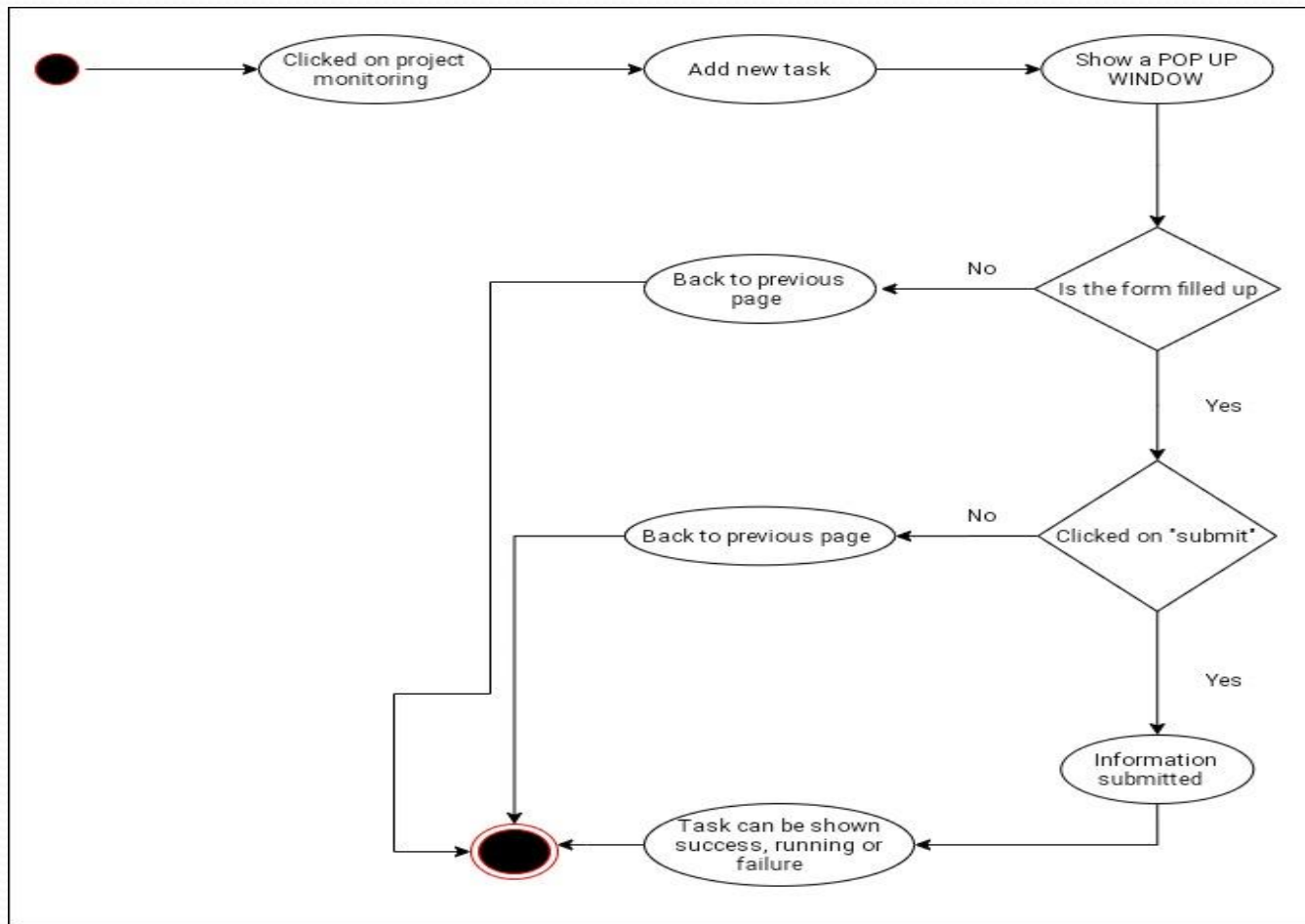


Fig: Activity Diagram for Project monitoring

Swim lane Diagram

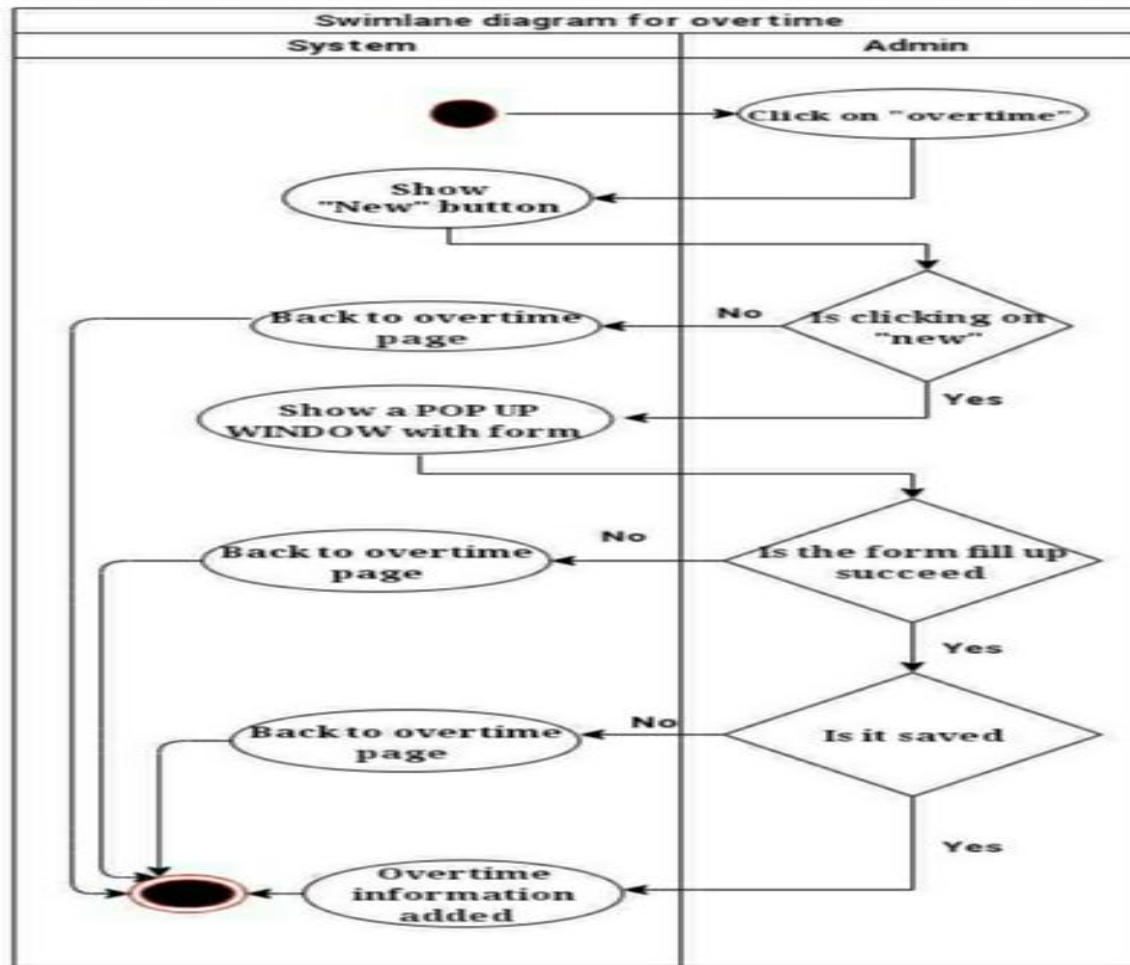


Fig: Swim lane Diagram for Overtime

Swim lane Diagram

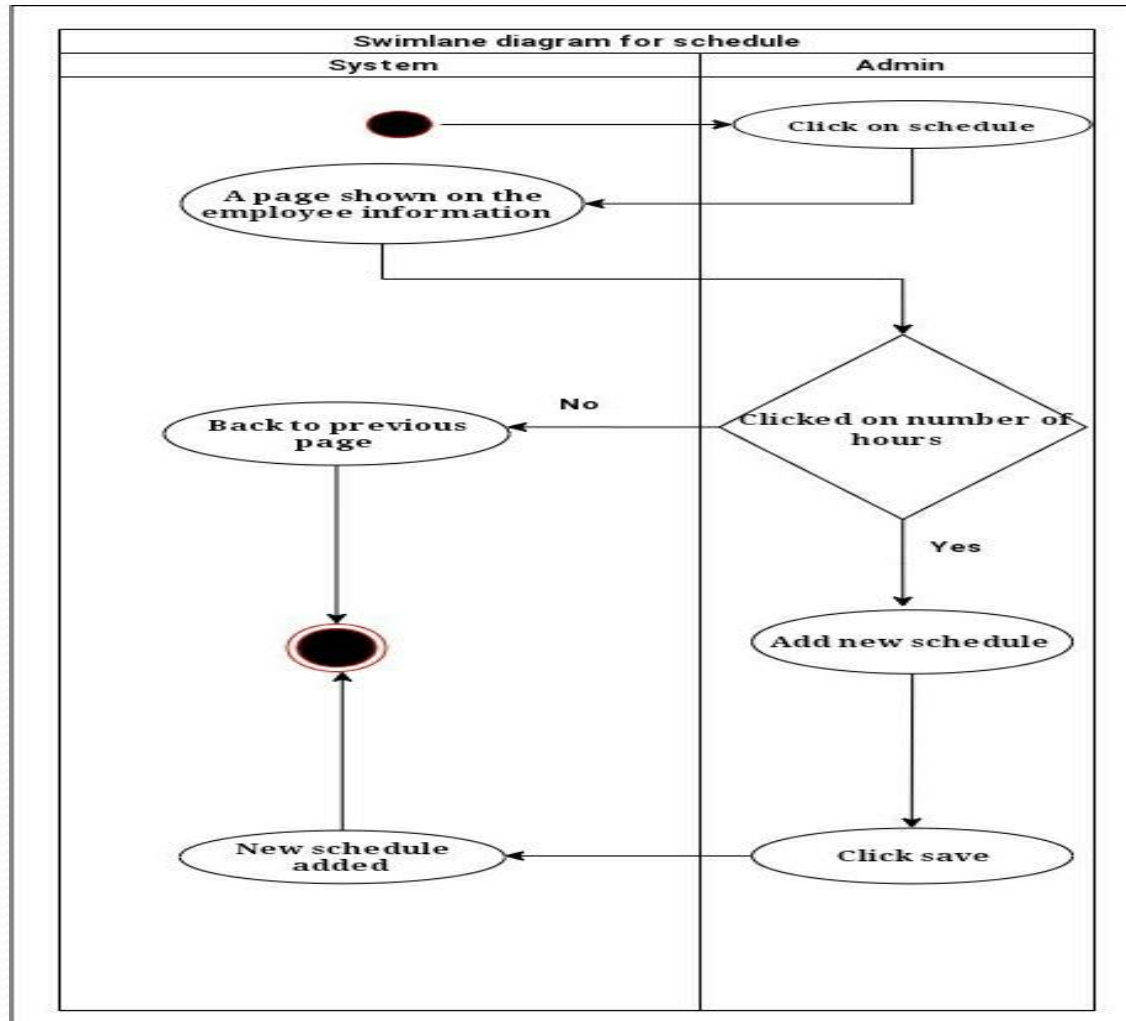


Fig: Swim lane Diagram for Schedule

Swim lane Diagram

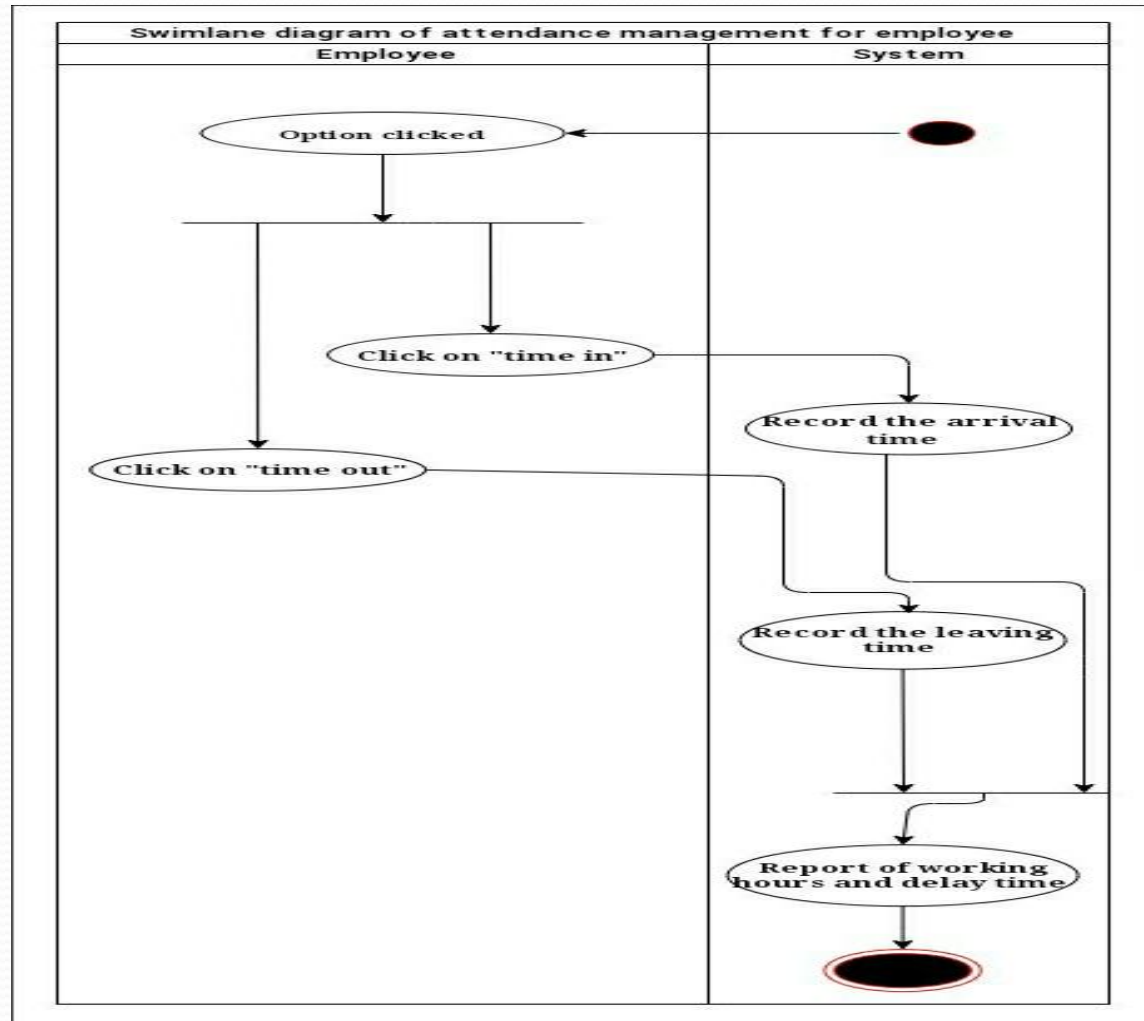


Fig: Swim lane Diagram of Attendance management for employee

Swim lane Diagram

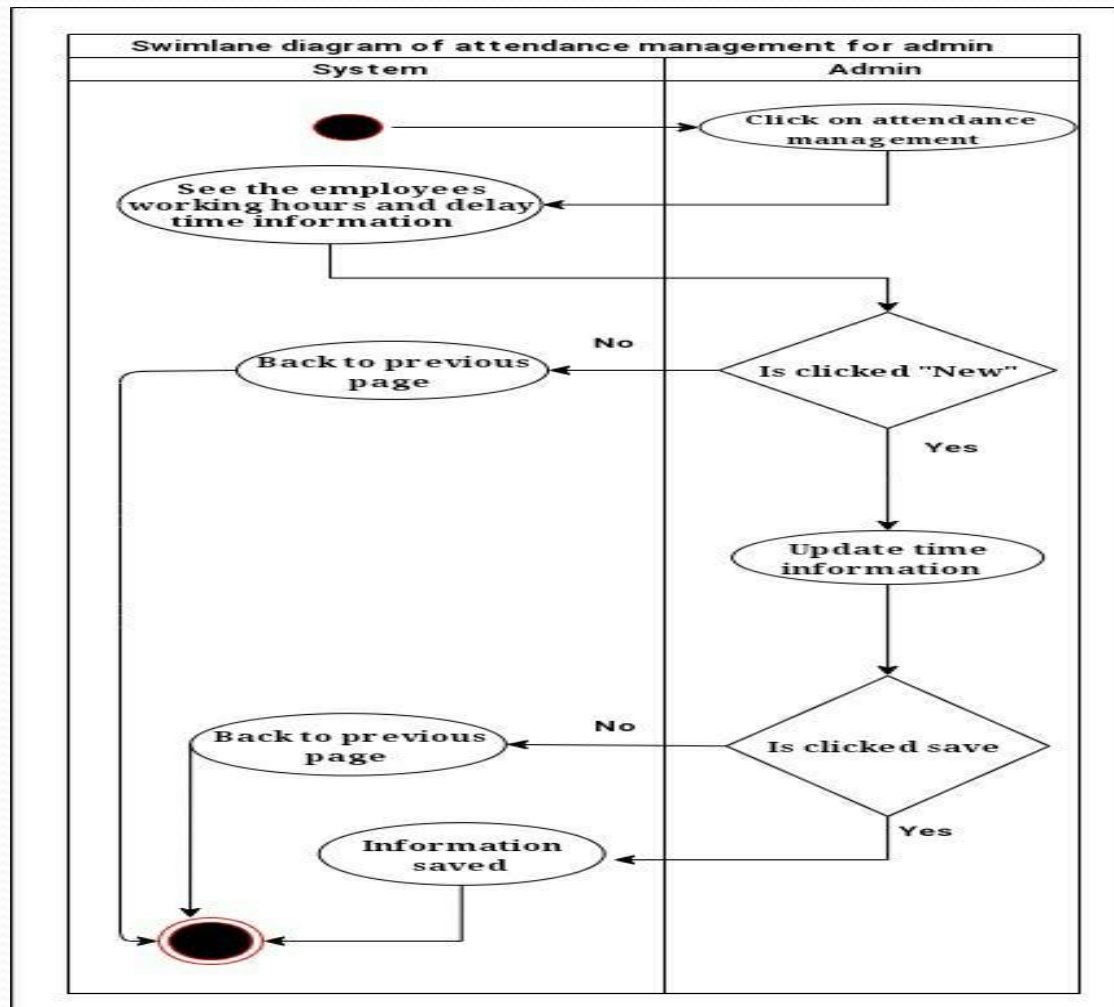


Fig: Swim lane Diagram of Attendance management for admin

Swim lane Diagram

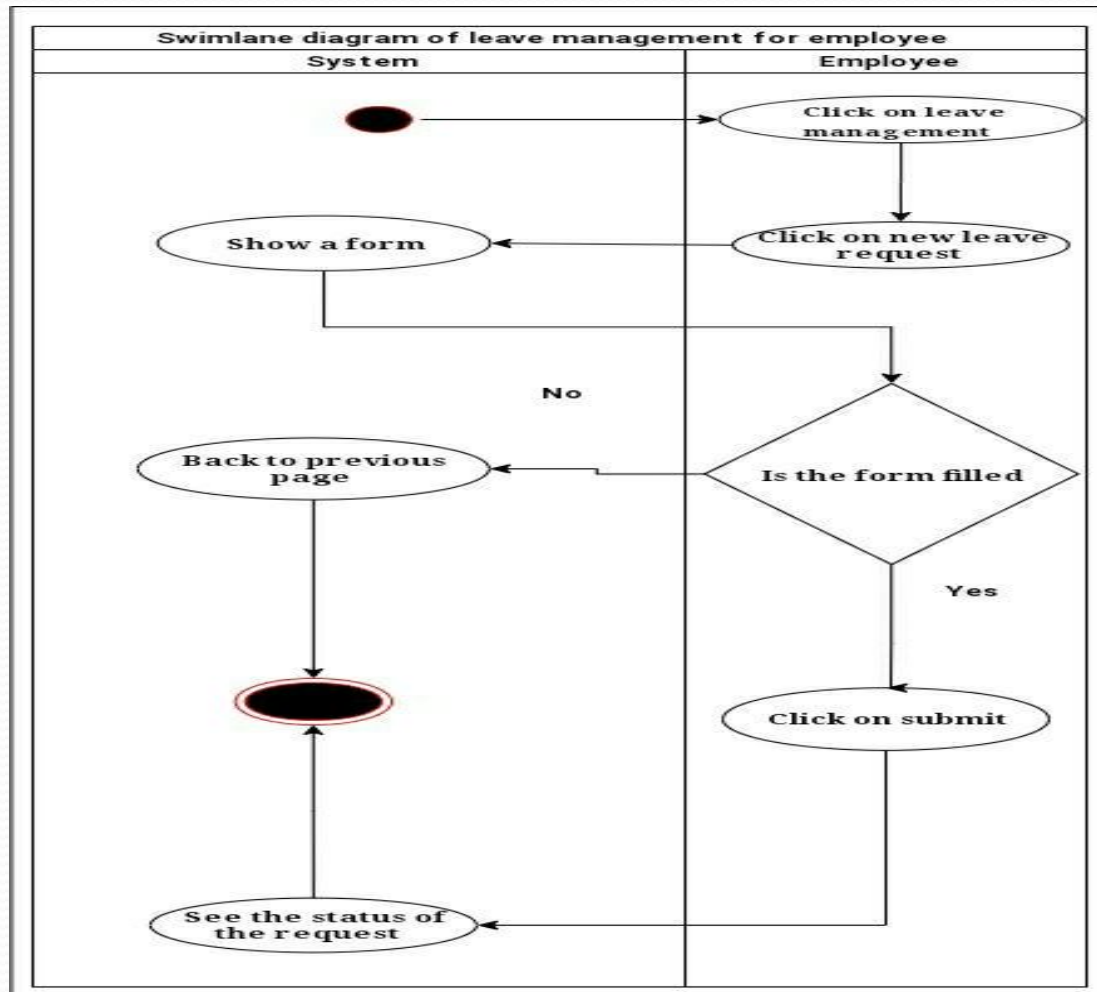


Fig: Swim lane Diagram of Leave management for employee

Swim lane Diagram

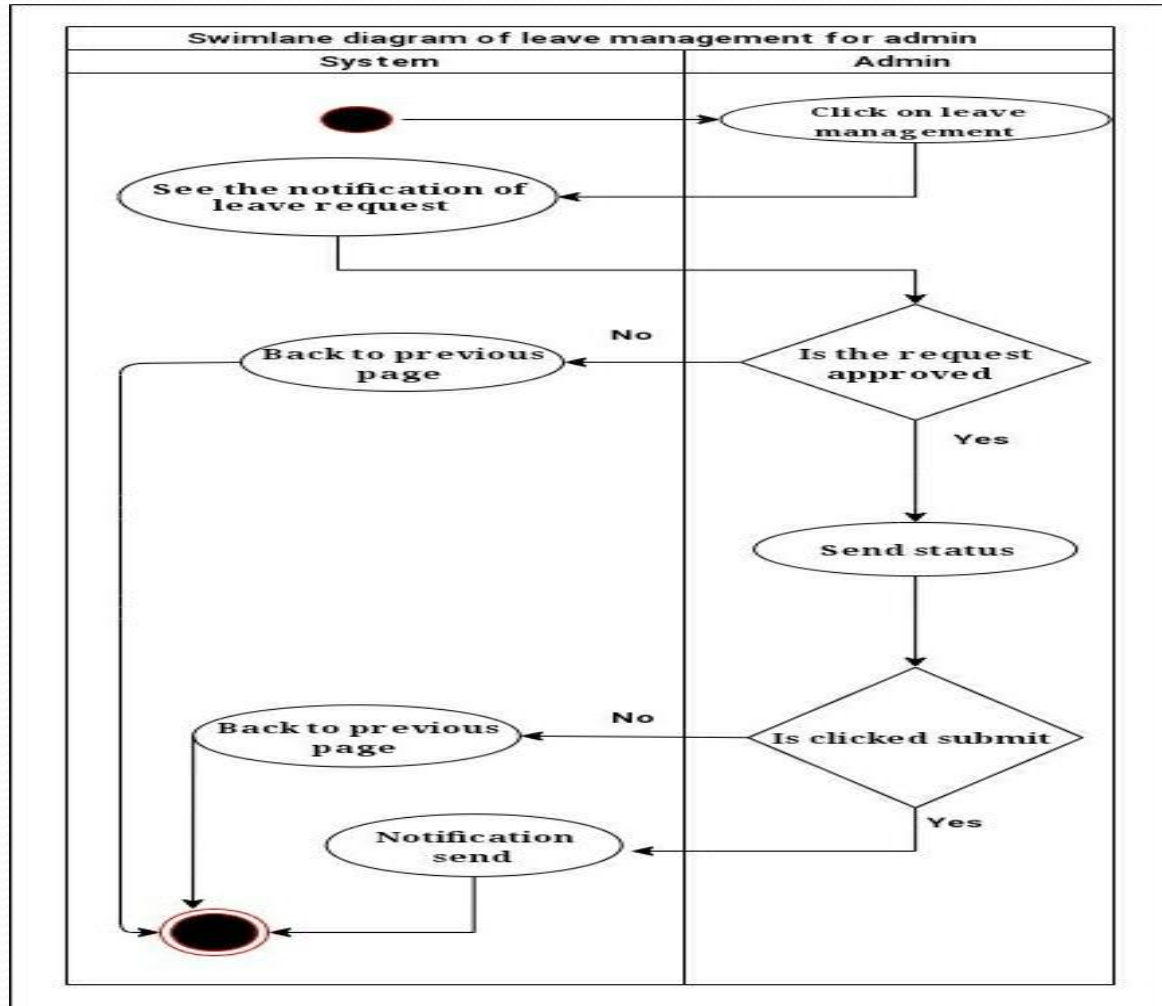


Fig: Swim lane Diagram of Leave management for admin

Swim lane Diagram

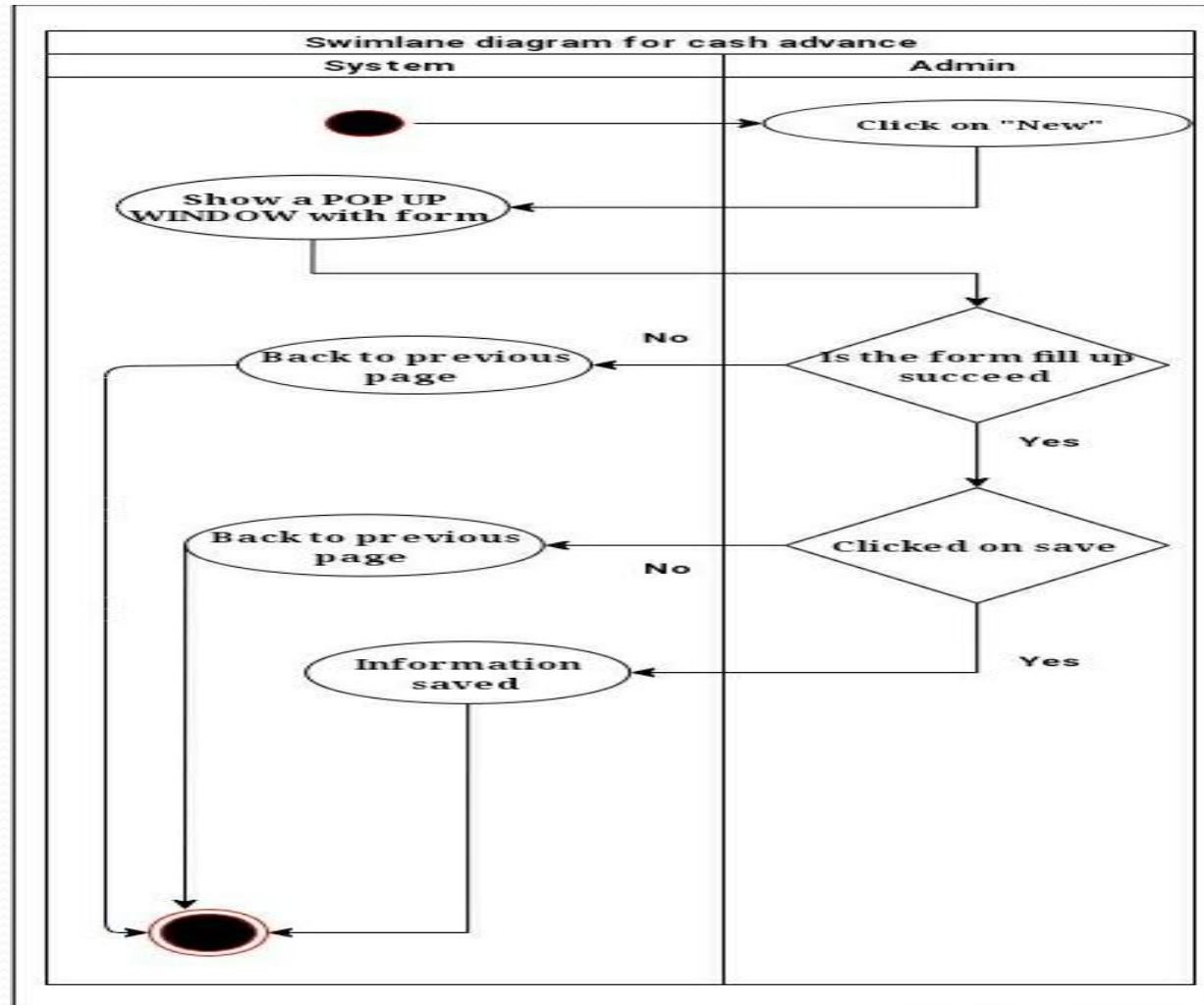


Fig: Swim lane Diagram for Cash advance

Swim lane Diagram

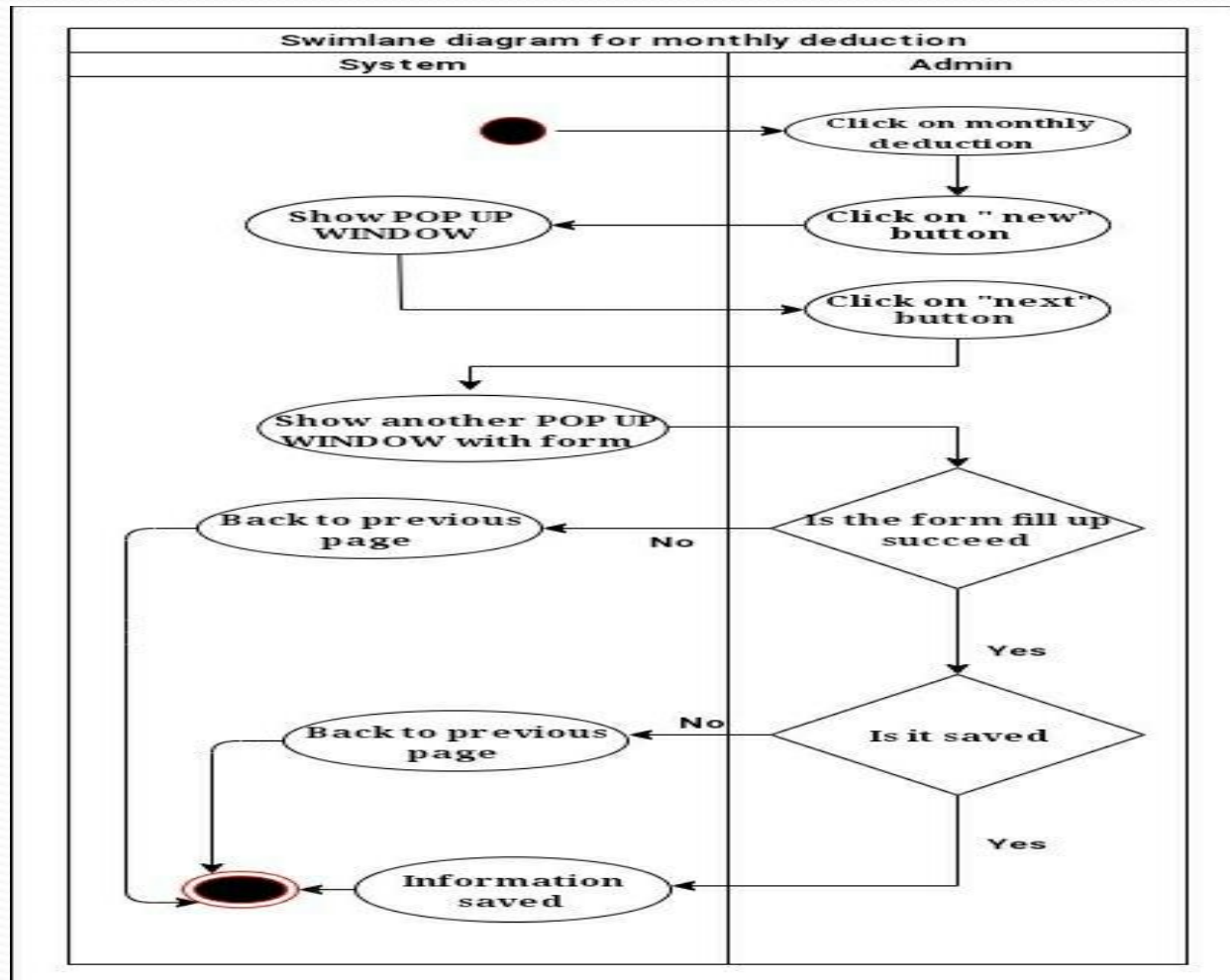


Fig: Swim lane Diagram for Monthly deduction

Swim lane Diagram

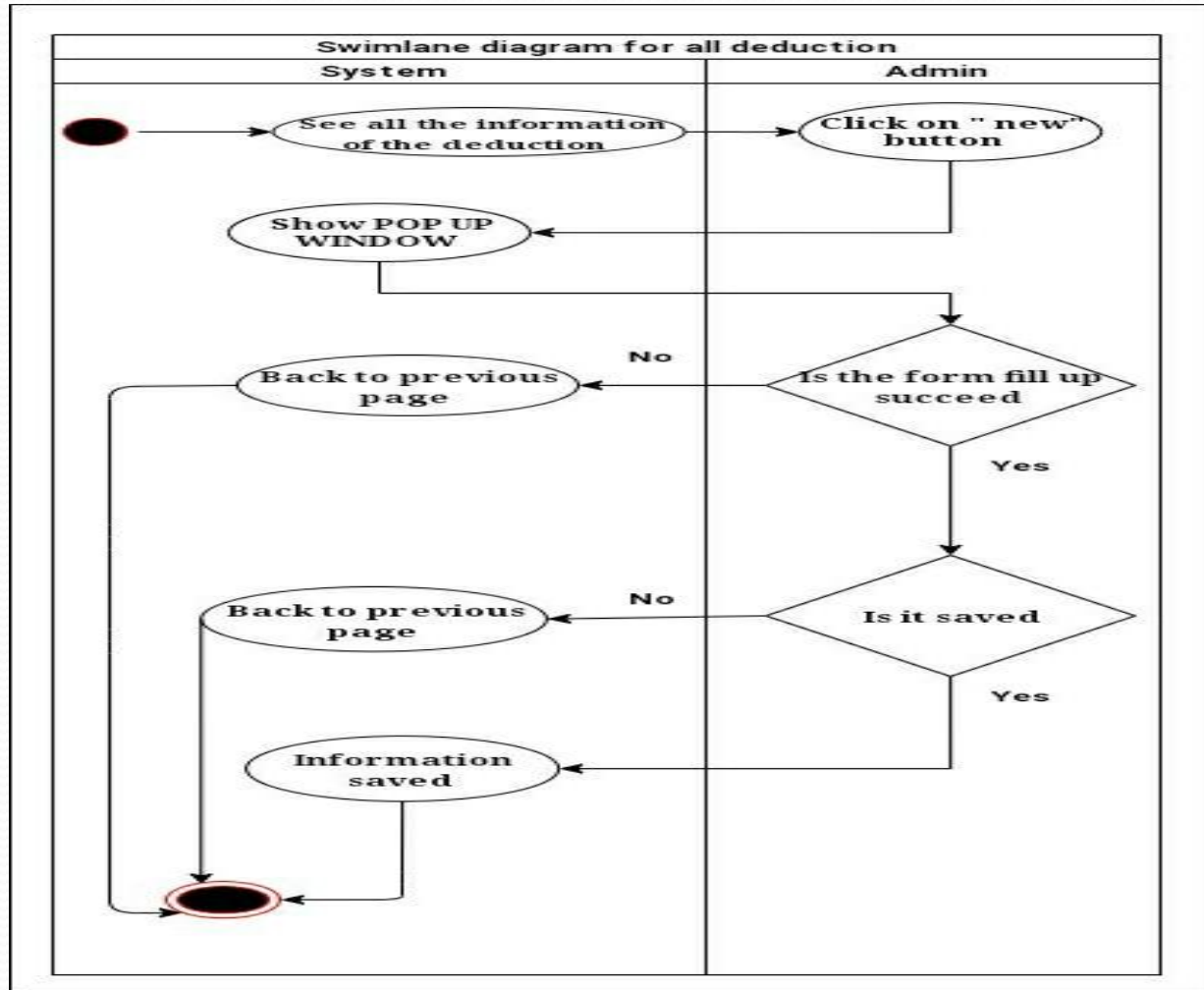


Fig: Swim lane Diagram for All deduction

Swim lane Diagram

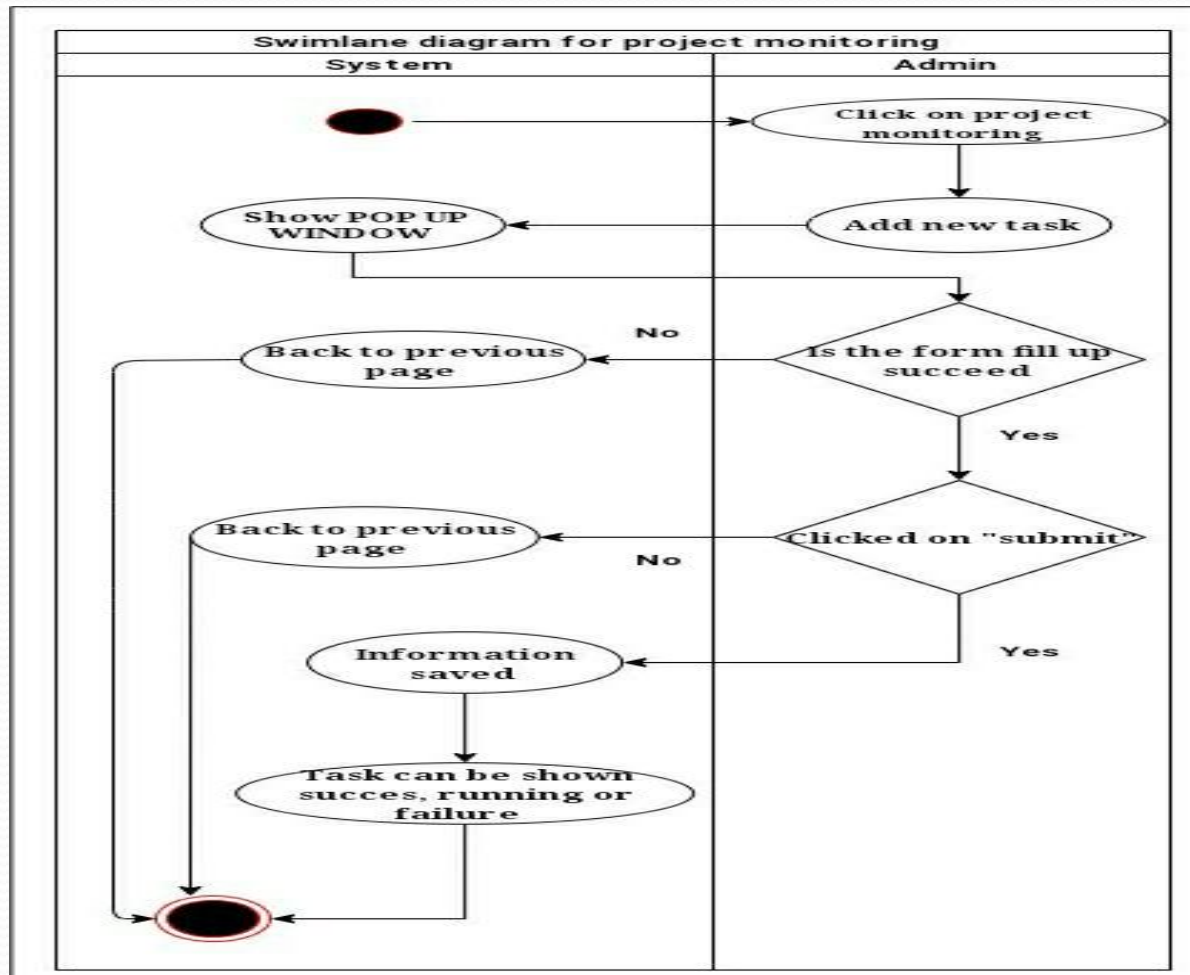


Fig: Swim lane Diagram for Project monitoring

Cost Estimation

Table : Accounts Table

Particulars	Taka
Software Cost	
Windows 10	1,333.00
Microsoft Office 2007	1,066.40
SUBLIME TEXT 2017	0.00
MS SQL SERVER	0.00
	2399.40
Hardware Cost	
Computer	12000.00
Printer	1,333.50
	13,333.50
Personnel Cost	
System Analyst	52,710.00
Programmer	35,141.40
	87,851.4
Other Cost	
Furniture	2000.00
House Rent	7000.00
Electricity Bill	1000.00
Utilities	1000.00
	11,000.00
Total	1,14,584.3



DESIGNING

Context Level Diagram

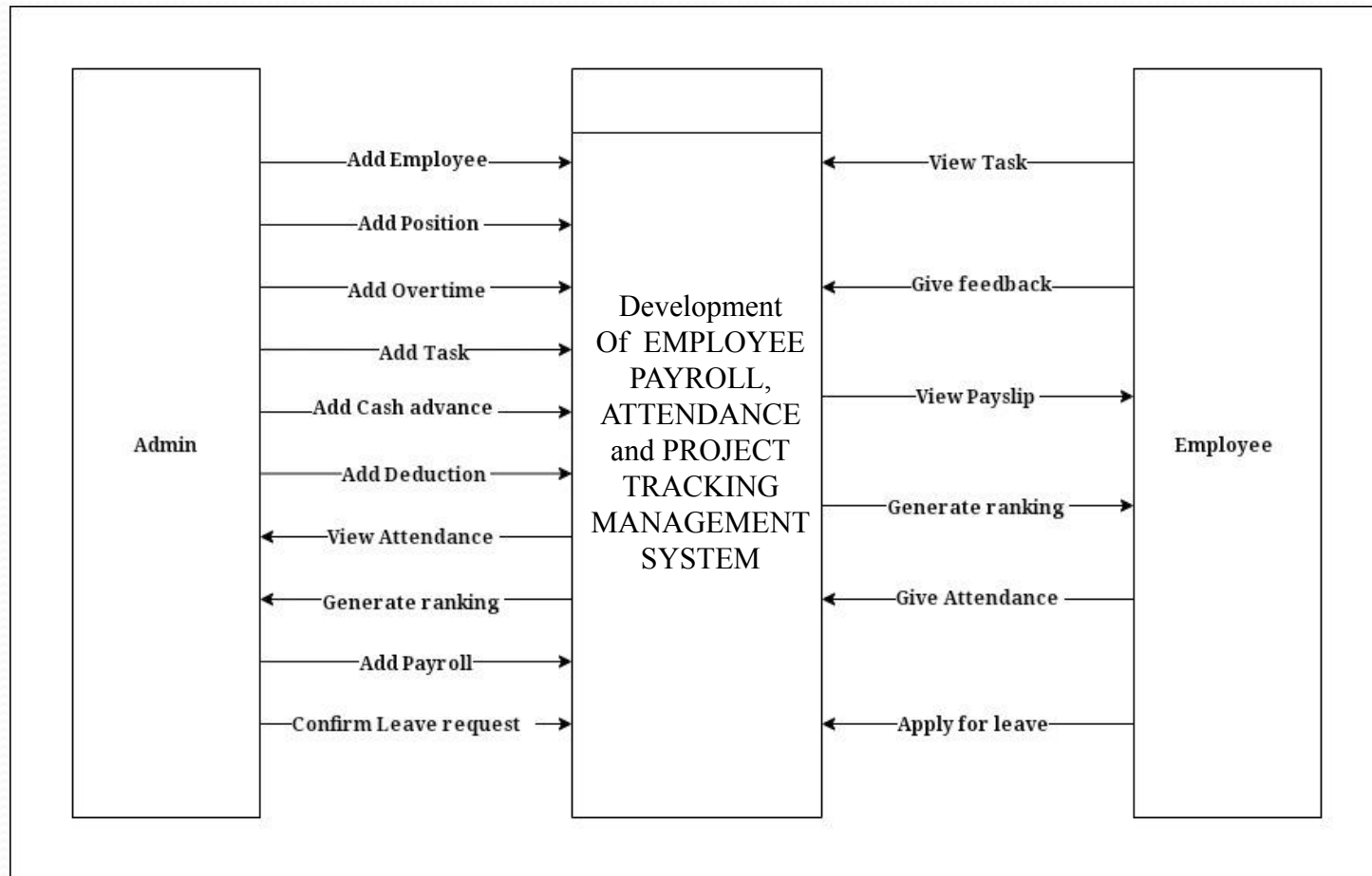


Fig: Context Level DFD

Level 1 DFD

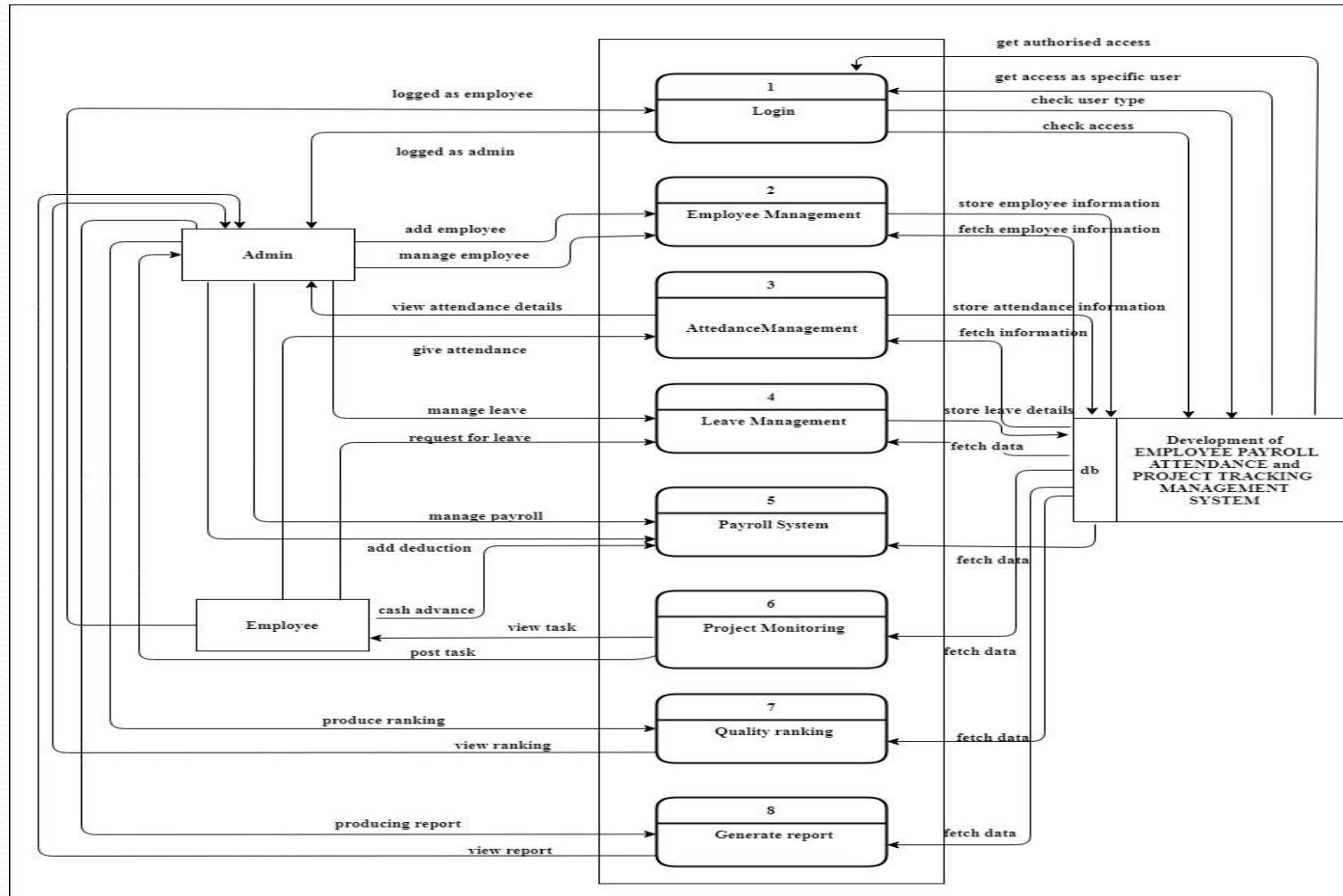


Fig: Level 1 DFD

Level 2 Process 3 DFD

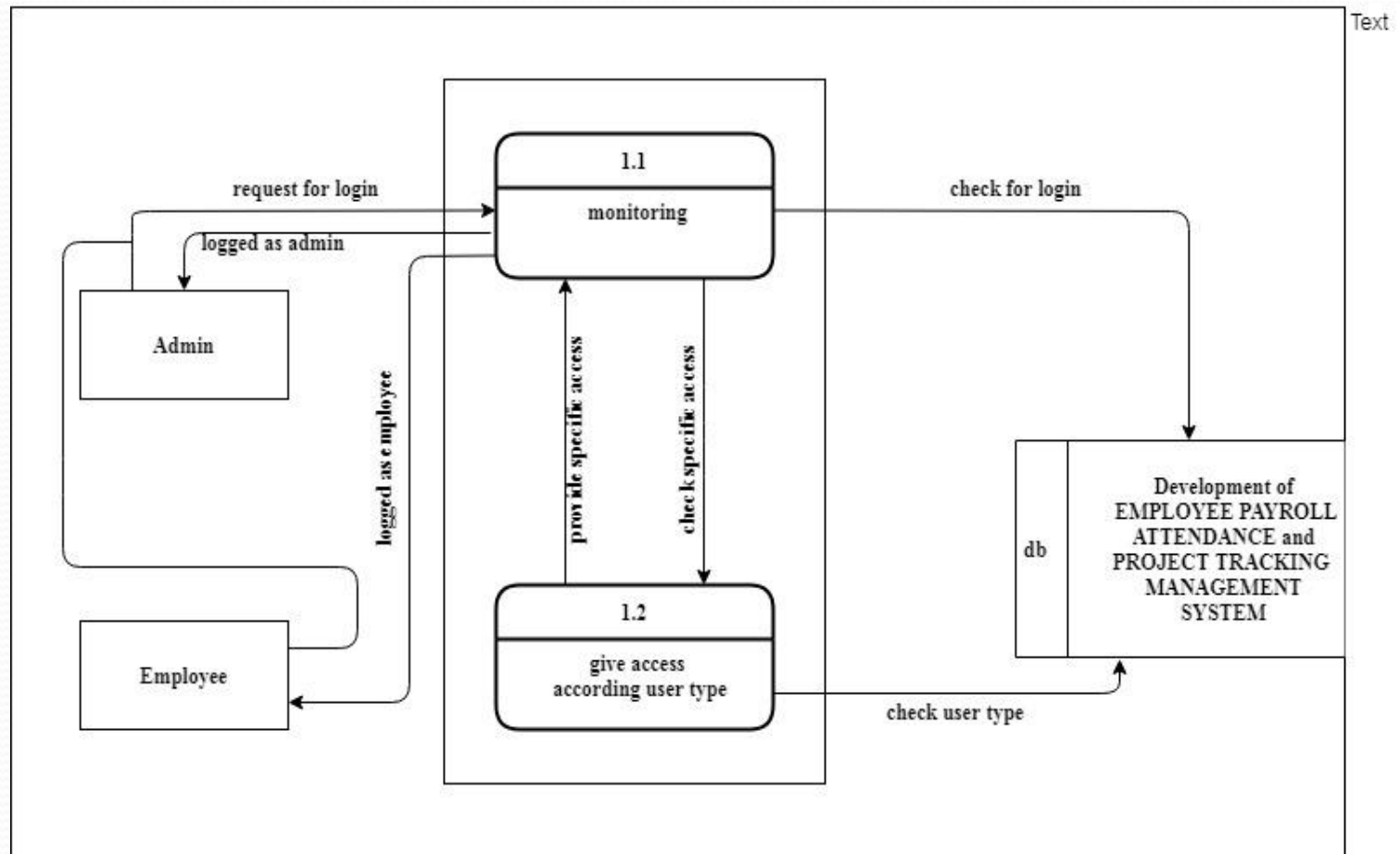


Fig: Level 2 Process 3 (Attendance Management)

Level 2 Process 4 DFD

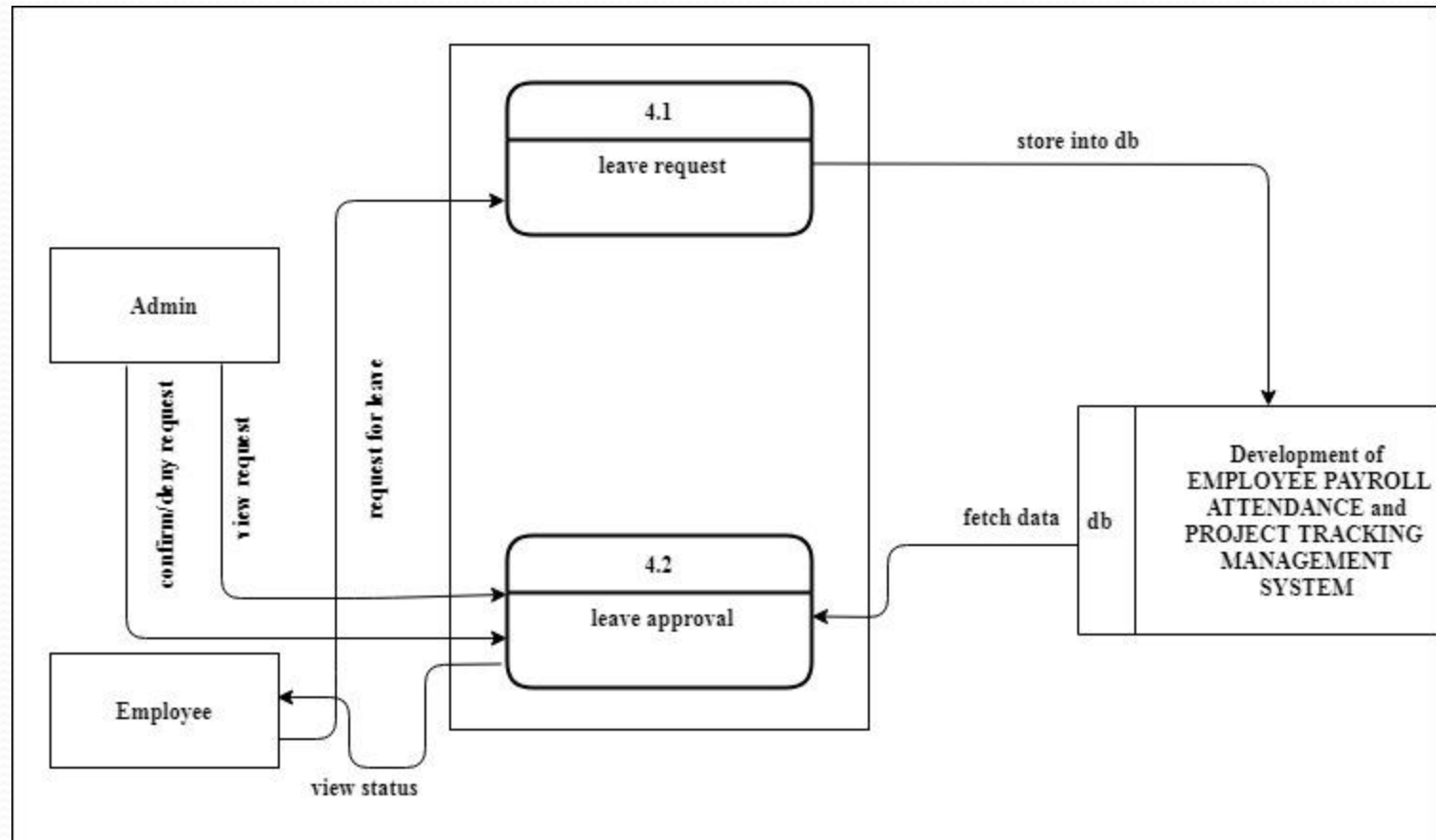


Fig: Level 2 Process 4 (Leave Management)

Level 2 Process 5 DFD

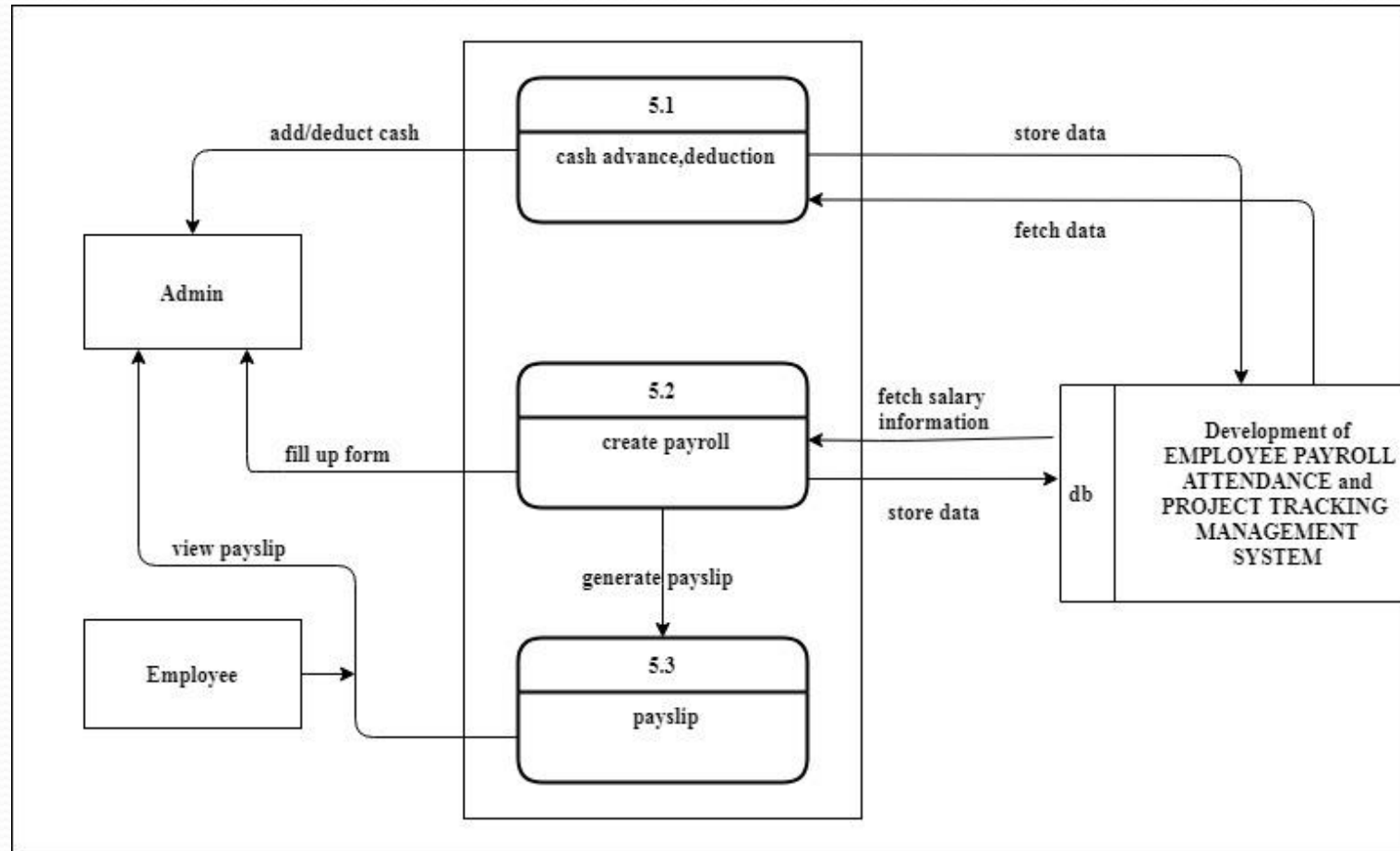


Fig: Level 2 Process 5 (Payroll System)

Level 2 Process 6 DFD

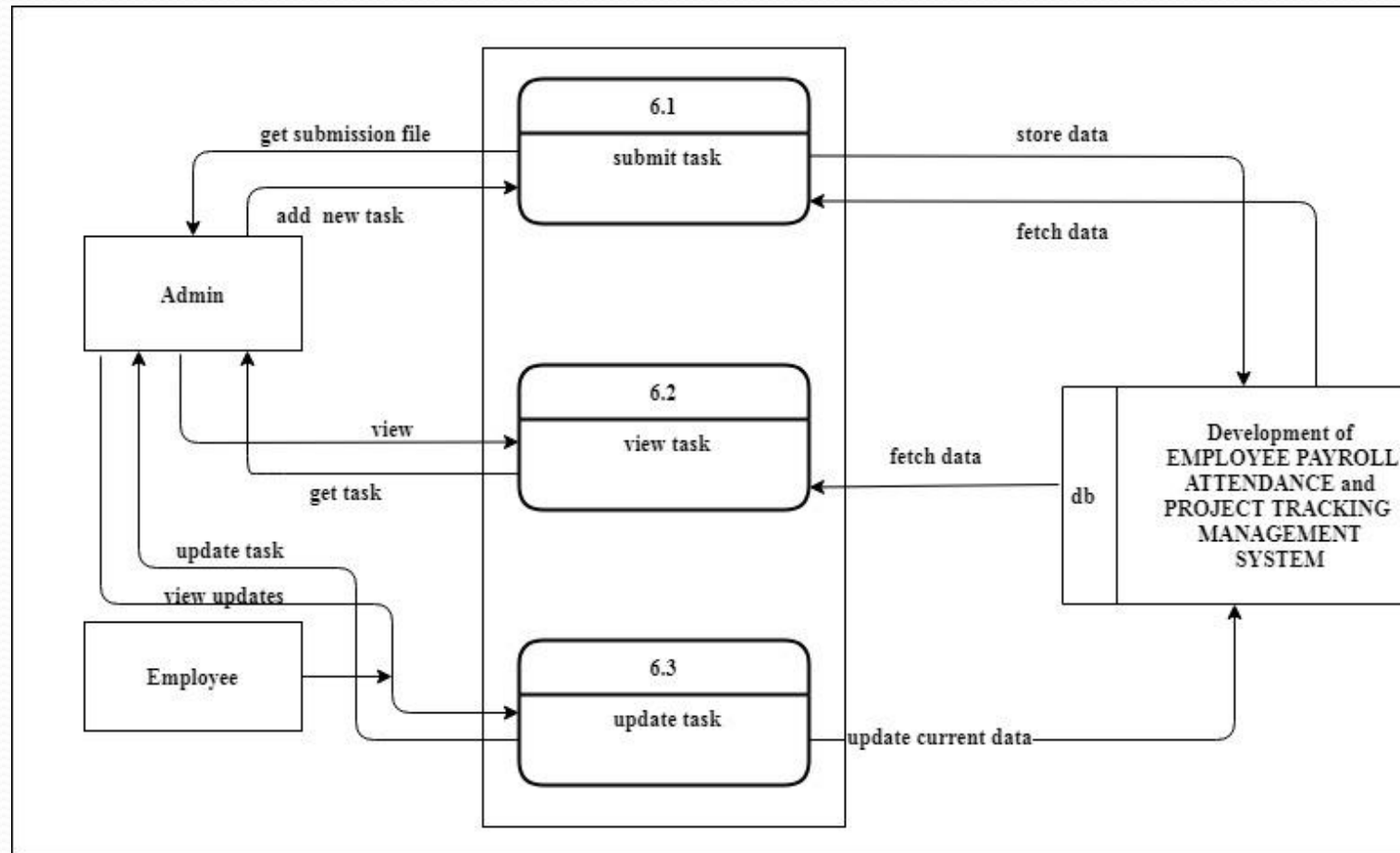


Fig: Level 2 Process 6 (Project Monitoring)

Level 2 Process 7 DFD

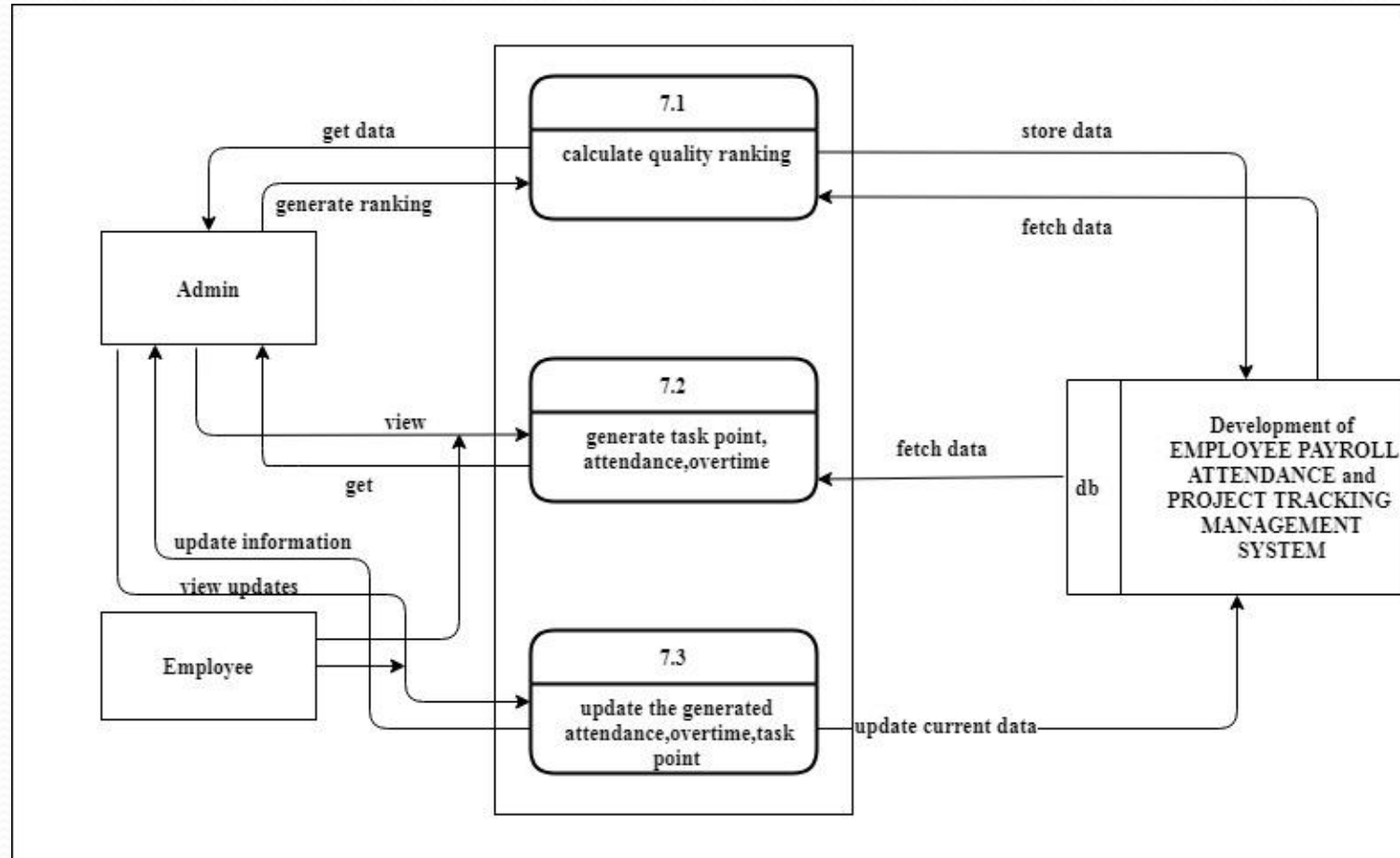


Fig: Level 2 Process 7 (Employee Quality Ranking)

Level 2 Process 8 DFD

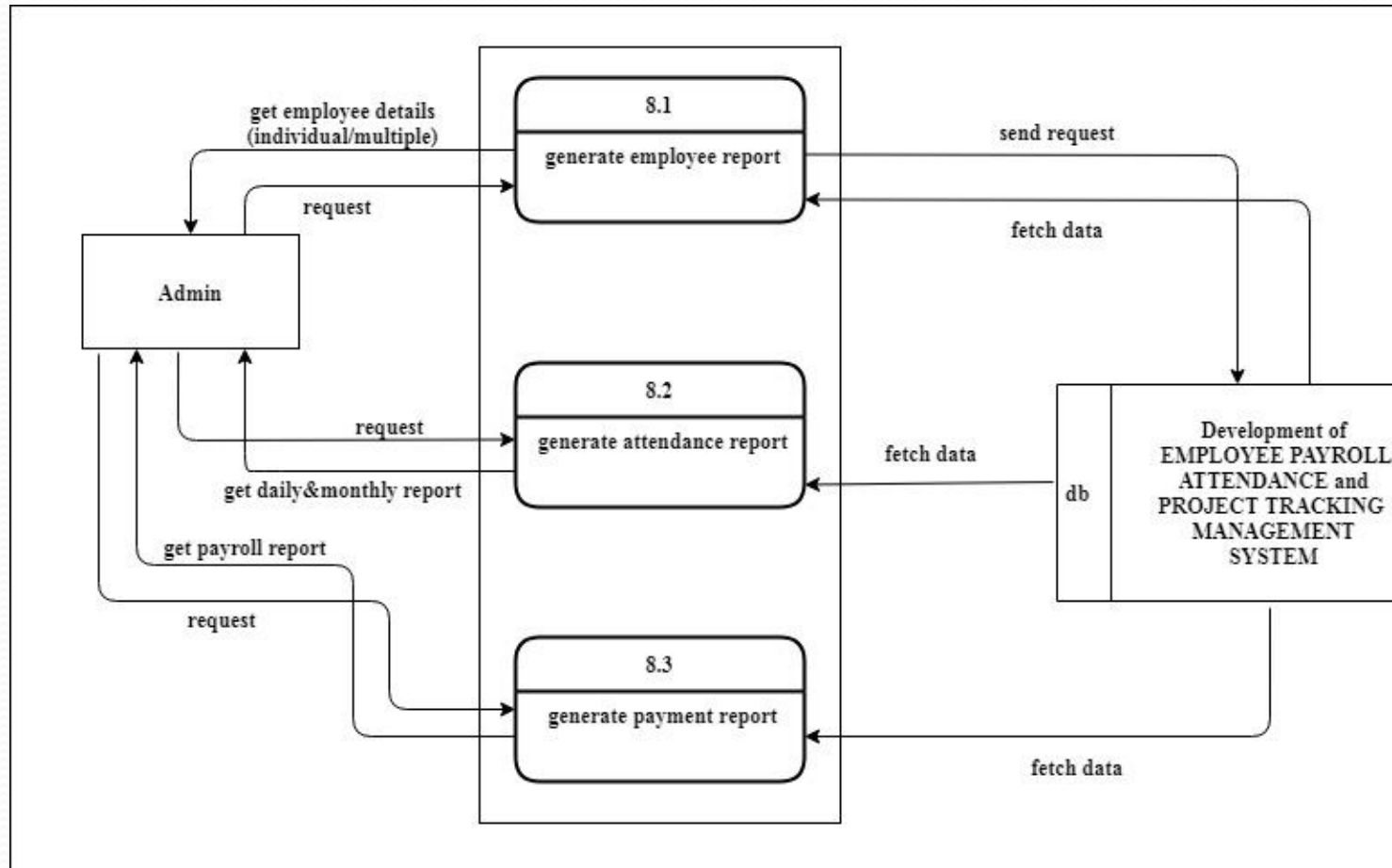


Fig: Level 2 Process 8 (Generate Report)

Database Design

admin

attendance

cashadvance

deductions

employees

employee_login

emp_leave

+ Options

id

username

password

firstname

lastname

photo

created_on

Edit

Copy

Delete

1

admin

\$2y\$10\$fCOiMky4n5hCjX3cpsG20Od4wHtlkCLKmO6VLobJNRI...

Admin

female4.jpg

2020-02-15

Check all

With selected:

Edit

Copy

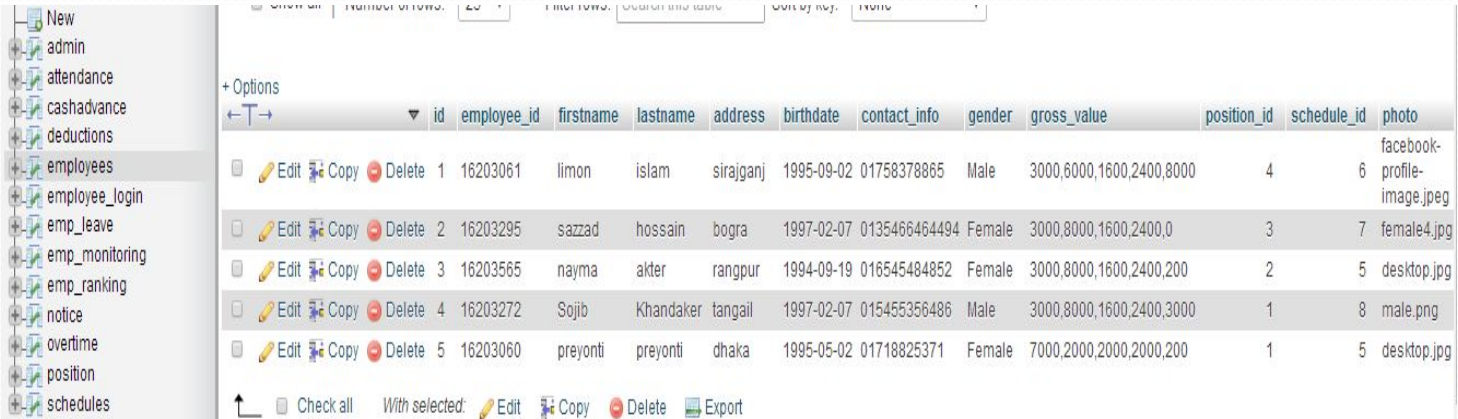
Delete

Export

Fig: Admin table

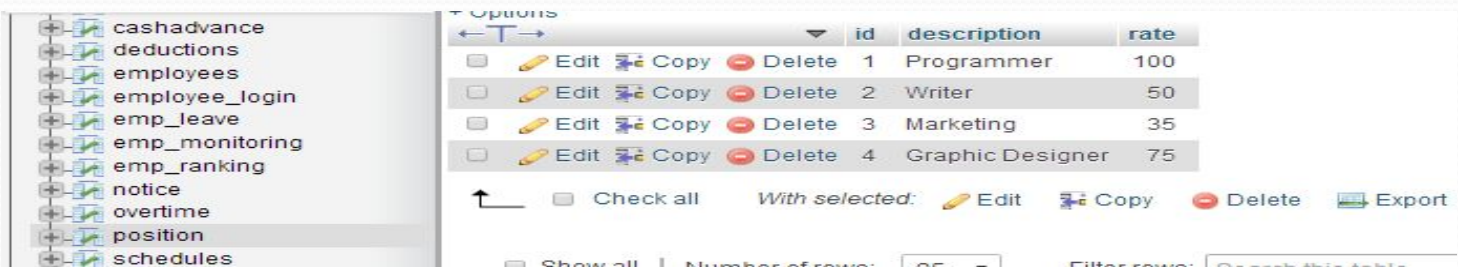
Fig: Employee login table

Database Design



	id	employee_id	firstname	lastname	address	birthdate	contact_info	gender	gross_value	position_id	schedule_id	photo
<input type="checkbox"/> Edit Copy Delete	1	16203061	limon	islam	sirajganj	1995-09-02	01758378865	Male	3000,6000,1600,2400,8000	4	6	facebook-profile-image.jpeg
<input type="checkbox"/> Edit Copy Delete	2	16203295	sazzad	hossain	bogra	1997-02-07	0135466464494	Female	3000,8000,1600,2400,0	3	7	female4.jpg
<input type="checkbox"/> Edit Copy Delete	3	16203565	nayma	akter	rangpur	1994-09-19	016545484852	Female	3000,8000,1600,2400,200	2	5	desktop.jpg
<input type="checkbox"/> Edit Copy Delete	4	16203272	Sojib	Khandaker	tangail	1997-02-07	015455356486	Male	3000,8000,1600,2400,3000	1	8	male.png
<input type="checkbox"/> Edit Copy Delete	5	16203060	preyonti	preyonti	dhaka	1995-05-02	01718825371	Female	7000,2000,2000,2000,200	1	5	desktop.jpg

Fig: Employee table



	id	description	rate
<input type="checkbox"/> Edit Copy Delete	1	Programmer	100
<input type="checkbox"/> Edit Copy Delete	2	Writer	50
<input type="checkbox"/> Edit Copy Delete	3	Marketing	35
<input type="checkbox"/> Edit Copy Delete	4	Graphic Designer	75

Fig: Position table

Database Design



+ Options			id	time_in	time_out
<input type="checkbox"/>	Edit	Copy	Delete	5	08:00:00 16:00:00
<input type="checkbox"/>	Edit	Copy	Delete	6	09:00:00 17:00:00
<input type="checkbox"/>	Edit	Copy	Delete	7	10:00:00 18:00:00
<input type="checkbox"/>	Edit	Copy	Delete	8	11:00:00 03:00:00

↑ ☐ Check all With selected: Edit Copy Delete Export

☐ Show all | Number of rows: 25 Filter rows: Search this table

Fig: Schedules table

admin

attendance

cashadvance

deductions

employees

employee_login

emp_leave

emp_monitoring

emp_ranking

notice

overtime

position

schedules

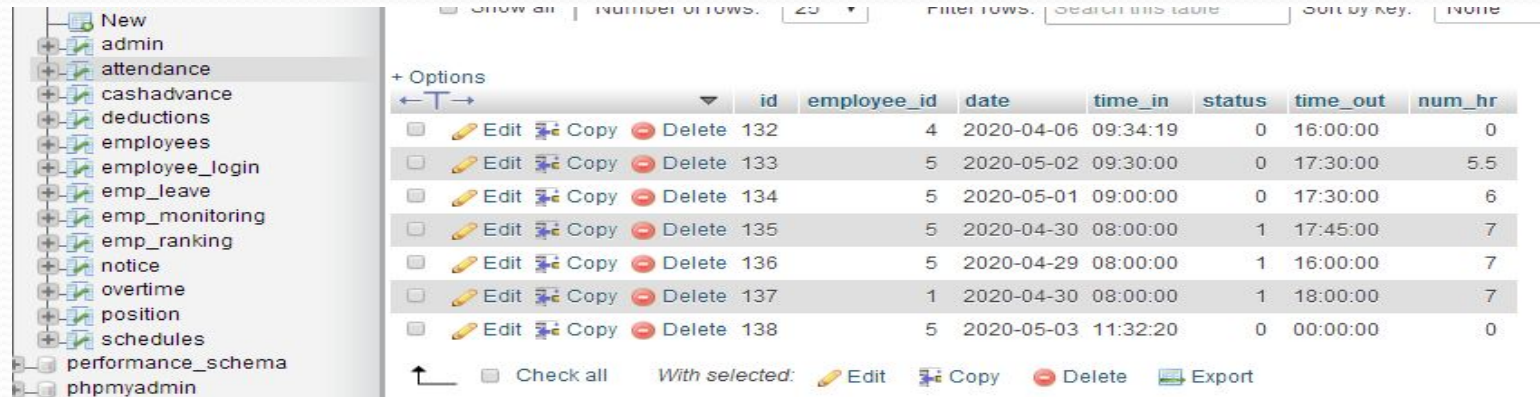
performance_schema

+ Options

<

Fig: Overtime table

Database Design



	id	employee_id	date	time_in	status	time_out	num_hr
<input type="checkbox"/>	132	4	2020-04-06	09:34:19	0	16:00:00	0
<input type="checkbox"/>	133	5	2020-05-02	09:30:00	0	17:30:00	5.5
<input type="checkbox"/>	134	5	2020-05-01	09:00:00	0	17:30:00	6
<input type="checkbox"/>	135	5	2020-04-30	08:00:00	1	17:45:00	7
<input type="checkbox"/>	136	5	2020-04-29	08:00:00	1	16:00:00	7
<input type="checkbox"/>	137	1	2020-04-30	08:00:00	1	18:00:00	7
<input type="checkbox"/>	138	5	2020-05-03	11:32:20	0	00:00:00	0

Fig: Attendance table



	id	empid	from	to	reason	status	name
<input type="checkbox"/>	10	16203060	2020-04-01	2020-04-03	sickness	3	preyonti
<input type="checkbox"/>	11	16203060	2020-04-15	2020-04-19	sickness	2	preyonti
<input type="checkbox"/>	12	16203060	2020-05-01	2020-05-05	sickness	1	preyonti
<input type="checkbox"/>	13	16203061	2020-03-05	2020-03-07	sickness	1	limon

Fig: Leave table

Database Design

New

admin

attendance

cashadvance

deductions

employees

employee_login

emp_leave

emp_monitoring

emp_ranking

Show all

Number of rows: 25

Filter rows: Search this table

Sort by Key: 1620

+ Options

↩

⌵

↪

				id	date_advance	employee_id	amount	type	taken
<input type="checkbox"/>				17	2020-05-02	16203060	500	one-time	0
<input type="checkbox"/>				18	2020-05-03	16203060	1620	monthly	2000

↑

☐ Check all

With selected:

Export

Fig: Cash Advance table

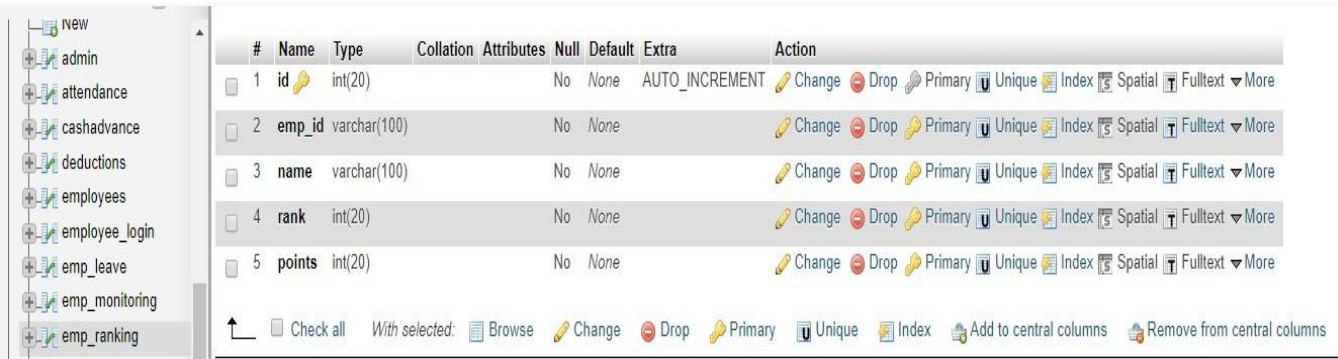
Fig: Deduction table

Database Design



	id	emp_id	name	position	running_project	status	points	start_date	end_date	feedback	submission_date	file
<input type="checkbox"/> Edit Copy Delete	23	16203060	preyonti	programmer	ecommerce project	1	3	2020-03-03	2020-03-06	In progress	2020-03-04	1st week.docx
<input type="checkbox"/> Edit Copy Delete	30	16203061	limon	programmer	hotel management	1	8	2020-03-08	2020-03-10	good	2020-03-09	1st week.docx
<input type="checkbox"/> Edit Copy Delete	38	16203060	preyonti	programmer	hotel management	0	0	2020-05-03	2020-05-06			

Fig: Project monitoring table



#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
<input type="checkbox"/> 1	id	int(20)			No	None	AUTO_INCREMENT	Change Drop Primary Unique Index Spatial Fulltext More
<input type="checkbox"/> 2	emp_id	varchar(100)			No	None		Change Drop Primary Unique Index Spatial Fulltext More
<input type="checkbox"/> 3	name	varchar(100)			No	None		Change Drop Primary Unique Index Spatial Fulltext More
<input type="checkbox"/> 4	rank	int(20)			No	None		Change Drop Primary Unique Index Spatial Fulltext More
<input type="checkbox"/> 5	points	int(20)			No	None		Change Drop Primary Unique Index Spatial Fulltext More

Fig: Employee ranking table

ERD

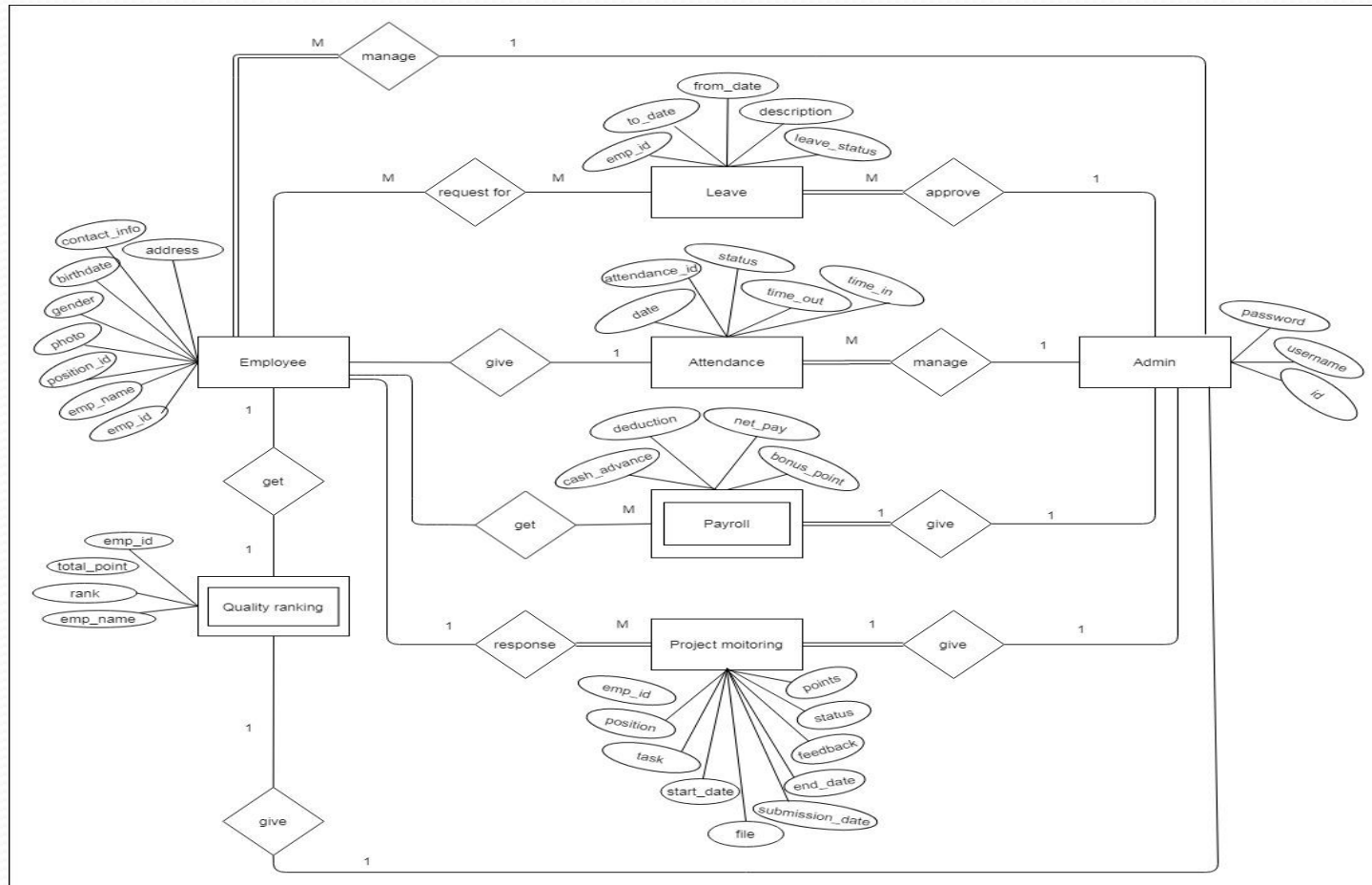


Fig: ERD (Entity Relationship Diagram)



TESTING

Testing

White Box Testing

- Acceptance Testing
- System Testing

Black Box Testing

- Unit Testing
- Integration Testing

Testing Scenario

Table: Testing Scenario (1)

Scenario	Employee enter from date and to date for leave.
Input's	Employee will enter from date and to date for leave.
Desired Output's	If from date>today, from date<to date and if there is no leave on existing leave days, then employee can send leave requests.
Actual Output's	I check this process and get actual outputs.
Verdict	The process is worked correctly and successfully.

Table: Testing Scenario (2)

Scenario	Enter correct information for fill up the requirements.
Input's	Admin and employee will enter information
Desired Output's	If given information is wrong then system will show error message.
Actual Output's	I check this process and get actual outputs.
Verdict	The process is worked correctly and successfully.

Testing Scenario

Table: Testing Scenario (3)

Scenario	Employee enter from date and to date for leave.
Input's	Employee will enter from date and to date for leave.
Desired Output's	If from date>today, from date<to date and if there is no leave on existing leave days, then employee can send leave requests.
Actual Output's	I check this process and get actual outputs.
Verdict	The process is worked correctly and successfully.

Table: Testing Scenario (4)

Scenario	Enter correct information for fill up the requirements.
Input's	Admin and employee will enter information
Desired Output's	If given information is wrong then system will show error message.
Actual Output's	I check this process and get actual outputs.
Verdict	The process is worked correctly and successfully.



SOFTWARE DEMOSTRATION

CONCLUSION

Design and Development of EMPLOYEE PAYROLL, ATTENDANCE and PROJECT TRACKING MANAGEMENT SYSTEM to facilitate effective management of all employees to record employees information, attendance, leave list, advance payment and overtime, also generate the report which is essential when paying workers at a monthly rate.

By doing this project I get to know about the core ideas for developing a software. I have also learned the use of php, mysql, bootstrap, javascript to make professional software project in web development field.

In future, I will try to develop some specific field of this software like, In Employee Attendance panel I will use biometric attendance system and will make sms, email, opt real time notification system and also add online payment gateways.



The image features a silver flip chart on a tripod stand. The chart is white and has the words "Thank You" written in a large, black, serif font in the center. There are faint, diagonal "dreamstime" watermarks across the chart. The stand is silver and has three legs. The background is white with blue and green wavy lines at the top.

Thank You