HR Management System

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Content

Organization

Organization Overview-

Kodeeo a full-featured web solution, software development, mobile application, graphic & multimedia, domain hosting and digital marketing service providing company in Bangladesh. Its core with the highly qualified Designers and Developers having experience of more than 5 years in various and complex designs and development. Kodeeo has satisfied the clients with the services like Web design and development, Mobile app design and development, Software development, SEO and Social Media Designing & Development. .

Organization Mission-

The mission of Kodeeo is to become a top leading IT company of Bangladesh and their vision is to empower the youth and become a successful IT company of digital Bangladesh. Kodeeo achieves competitive edge and has gained operational effectiveness and efficiency through the innovative use of technology.

Organization Vision-

Kodeeo was born as a one stop skills development platform provider. Their offerings coupled with the impeccable team behind it ensure satisfaction of client needs in relation to their characteristics

Organization Structure
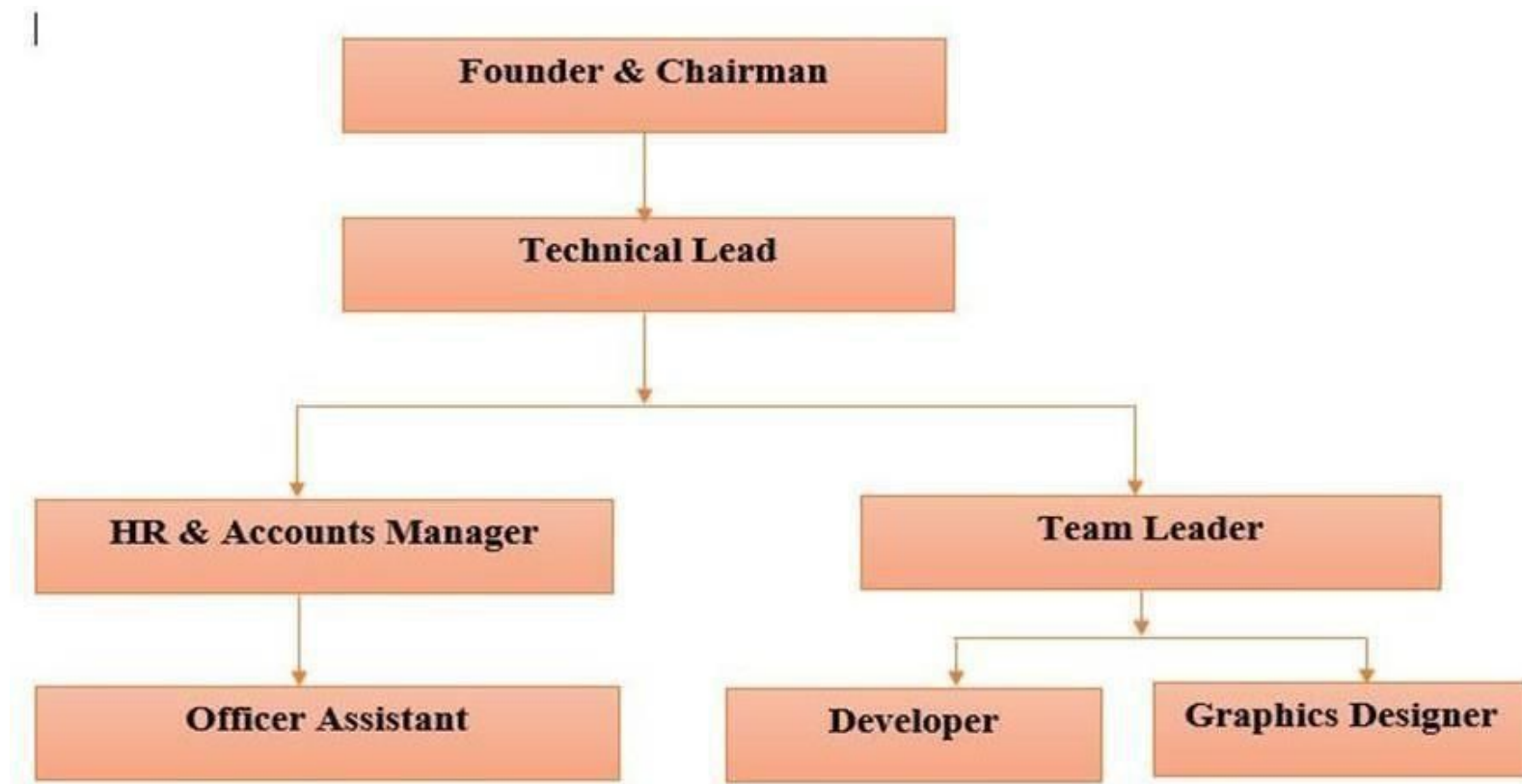
Project Overview

1.2 Project Overview

HR work is more complex and involved today than it ever has been. There's so much that goes into the management of employee information, which is used for everything from recruiting and hiring to training, evaluations, and so much more. The importance and manpower behind these tasks make it critical for human resources professionals to have HR management software for more efficient management of HR information. This is why many companies are now use a HRMS a combination of systems and processes that connect human resource management and information technology through HR software. A HRMS can be used in candidate recruiting, payroll management, leave approval, succession planning, attendance tracking, career progression, performance reviews, and the overall maintenance of employee information within an organization.

Background of Study-

Before developing the system I try to find out how the system work, what is requirements, system requirements, user requirements, functional requirements by studying some online article. Also where I have done my internship, my supervisor help me to find out the requirements. And describe how the system work. After that I was trying to collect information's, requirements and resources. According to the information's and requirements I developed this system

Objective

Main Objective-

► Design of a web based HR management system to fulfill requirements such as hr management, employee's management, daily and monthly record generation.

► Well-designed database to store employee's information.

► Well-designed database to store daily working information.

► A user friendly front-end for the user to interact with the system

Process Model
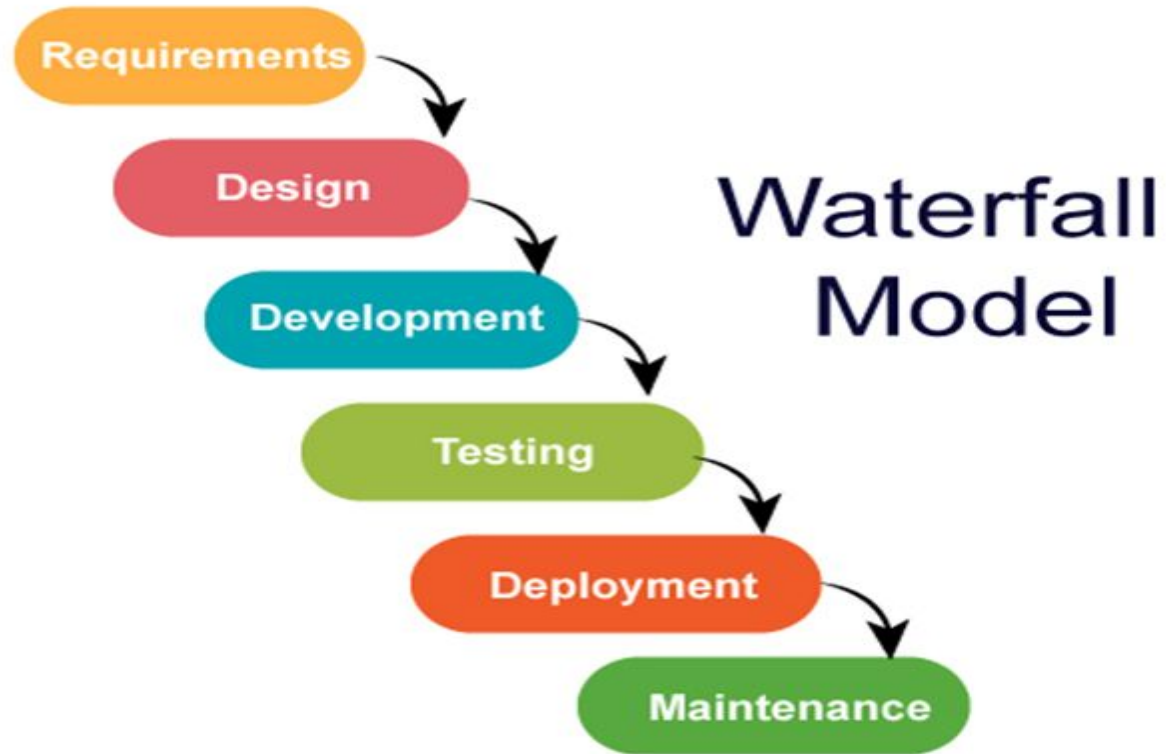
Waterfall Process Model

Process Model Cont.

- ► This model is simple and easy to understand and use.

- ► Its process activities are clearly separated and organized.

- ► Waterfall model works well of smaller projects where requirements are very well understood.

- ► All the requirements for this project are already known. Technology is understood.

Feasibility Study

Technical Feasibility-

To develop this project need a high-level programming language like HTML, CSS, PHP, Bootstap4. For database such as Xampp Server.

Economic Feasibility-

The entire development period the organization required manpower, Computer and internet connection

Operational Feasibility-

The proposed system is designed from a user's point of view. So, all of the features are included only for the benefit of the user

Requirement Engineering

- ► User Requirement

- ► System Requirement

- ► Functional Requirement

- ► Non-functional Requirement

User and System Requirements

- Admin can add employee.

  - Need employees information.
- Admin can view employee information.
- Admin can update employee information.
- Admin can delete individual employee information.
- HR can take employee attendance

  -Nedd employees name and attendance
- Admin is able to add/Update/Delete Accommodation.
- HR can approve/reject leaving request.
- Admin can update the notice.

User and System Requirements

- Admin can pay Employee Salary
  - Employee name & salary amount

- HR can take Attendance
  - Employee name & attendance

- Admin can add employee to the Department
  - Need a employees information

- Employee can give the attendance

- Employee can apply for leave

- Employee can apply for move

- Employee can view notice

Functional Requirement

- Admin can manage employee
- HR can take employee attendance
- Manage movement[HR]
- Manage department[Admin]
- Manage designation[Admin]
- Manage notice[Admin]
- Update notice[Admin]
- Manage salary[Admin]
- Reject leving request[HR]
- Approve leving request[HR]
- Login [Admin, HR,Employee]
- Updating Profile Information[Admin, HR,Employee]
- Logout

Non-functional Requirements

- Admin can log in by using id and password.

- Input type must be email

- Show error massage if any field is not fill-up

- Phone number must be numeric

- Admin can recover his password if he forgot

- Only admin can maintain the whole system.

- In same month can't provide two times salary

- Attendance can take one times per day

Software Requirements

Software requirement for User

- ► Windows Internet Explorer 8.0 or above
- ► Mozilla Firefox version 48.0.1 or above
- ► Google Chrome 52.0.2743.82 or above

Software requirement for developer

- ► Web Server: Xampp Server Bitnami
- ► Server-Side Scripting: PHP = > 7.2.0
- ► Database Engine: MySQL 5.1.34
- ► Database Tools: MySQL Administrator
- ► Designing Tools: Adobe Illustrator, Adobe Photoshop, Paint
- ► Text Editor: Sublime Text, Atom, VS code, PhpStrome.

Use Case Diagram for HR Management System

System Planning

The following activities of software project planning that have followed in this project are:

- ❖ Function Point Estimation of the project

- ❖ Project Schedule Chart

- ❖ Personnel cost

- ❖ Hardware Cost

- ❖ Estimation of the Software Cost

Function Point Estimation

Unadjusted function Point Contribution for Transition
Function

Functionality	Field/ file involve	FTRs	DETs
Login(EI)	Fields- Email, Password, Submit File- Admin	1	3
Add Employee info(EI)	Fields- Employee name, id, phone, address, salary, File- Employee	1	5
View Employee info(EO)	Fields- Employee name, phone, address, photo File- Employee	2	5
Update Employee info(EI)	Fields- Employee name, phone, address, photo File- Employee	1	5
Delete Employee info(EI)	Fields- Employee name, id, phone, address, File- Employee	1	5
Pay Salary(EI)	Fields- Employee name, month, amount File- Salary	1	3
All Pay Salary(EO)	Fields- Employee name, basic salary,pay salary, month File- salary, employee	2	5
Salary status(EO)	Fields-Employee name,amount,salary status File:Salary,employee	2	3
Take Attendance(EI)	Fields- employee id, employee name,attendance File:Attendance,employee	2	3
View All Attendance(EO)	Fields- Employee name, photo ,attendance File- Attendance, employee	2	3
Update Attendance(EI)	Fields- Employee name, photo ,attendance File- Attendance, employee	2	3
View Monthly Attendance(EO)	Fields- Employee name, photo, attendance File- Attendance, employee	2	3
Updating Settings(EI)	Fields- Id, name, email, phone, address, logo File- Settings	1	5
Manage Department(EI)	Fields-Department name,id,employee name File:Department	1	3
Manage Notice(EI)	Fields:notice,notice tittle,date File:Notice	1	3
Manage Designation(EI)	Fields: employee name,id,designation File:Designation	1	3
Manage movement(EO)	Fields:employee name, Add new movement employe name,id,time,date id,time,date File:movement	1	5

Function Point Estimation

Unadjusted function point contribution

#	Transition Function	FTRs	DETs	Complexity	UFP
1	Login(EI)	1	3	low	3
2	Add Employee info(EI)	1	5	low	3
3	View Employee info(EO)	1	5	low	4
4	Update Employee info(EI)	1	5	low	3
5	Delete Employee info(EI)	1	5	low	3
6	Pay Salary(EI)	1	3	low	3
7	All Pay Salary(EO)	2	5	low	4
8	Salary status(EO)	2	3	low	4
9	Take Attendance(EI)	2	3	low	3
10	View All Attendance(EO)	2	3	low	4
11	Update Attendance(EI)	2	3	low	4
12	View Monthly Attendance(EO)	2	3	low	4
13	Updating Settings(EI)	1	5	low	3
14	Manage Department(EI)	1	3	low	3
15	Manage Notice(EI)	1	3	low	3
16	Manage Designation(EI)	1	3	low	3
17	Manage movement(EI)	1	5	low	3
18	Manage leave(EI)	1	5	Low	3

Performance and environmental impact

	GSC	TDI
1	Data Communication	2
2	Distributed Data Processing	0
3	Performance	3
4	Heavily Used Configuration	1
5	Transaction Rate	0
6	Online Data Entry	3
7	End-user Efficiency	4
8	Online Update	2
9	Complex Processing	2
10	Reusability	3
11	Installation Ease	3
12	Operational Ease	3
13	Multiple Sites	3
14	Facilitate Change	3
Total Degree of Influence (TDI)		32
(Range 0 to 70->influence size by +-32%)		

Function Point Estimation

UFP= UFP (Data function) + UFP (Transaction function)

= 77 + 119 = 196

AFP= UFP * VAF = 196 * 0.97 = 190 Approx.

Total time calculation frame = 190 * 15.5 [Productivity of PHP is 15.5] = 2278.5 per hour

= 2945 person hours / 8 hours

= 368 person days / 4 [person in a group]

= 92 days per person

= 3 months 2 days for one person

Approximately 3 months required for 4 persons to finish the project
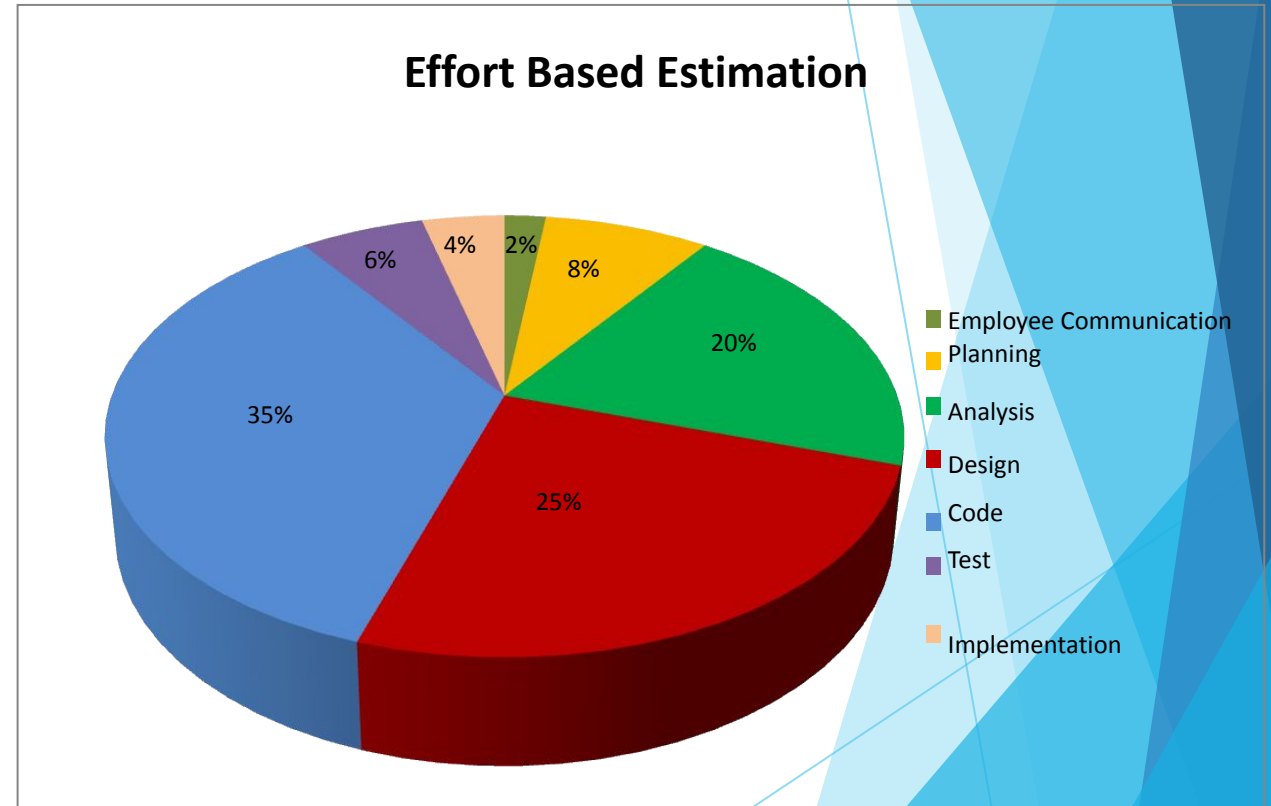
Value adjustment factor (VAF) = (0.65+ (0.01* TDI))

= (0.65+ (0.01* 32))

= 0.97

Language	Hours Per Function Point
ASP*	06.1
Visual Basic	08.50
Java	10.6
SQL	10.8
C++	12.4
C	13.0
C#	15.5
PHP	15.5

Effort Based Estimation

Description:

- 1 (2% - Employee Communication)

- 2 (8% -Planning)

- 3 (20% -Analyzing)

- 4 (25% -Designing)

- 5 (35% -Coding)

- 6 (6% -Testing).

- 7 (4% -Implementation).

Effort Based Estimation

Legend:
- Employee Communication
- Planning
- Analysis
- Design
- Code
- Test
- Implementation

Pie chart values: 2%, 8%, 20%, 25%, 35%, 6%, 4%

Project Scheduling Chart

Category	1 W	2 W	3 W	4 W	5 W	6 W	7 W	8 W	9 W	10 W	11 W	12 W
Analysis	■	■	■									
Design			■	■	■							
Code						■	■	■	■	■		
Test										■	■	■

Table: Project Scheduling Chart

Cost Estimation

The approximation of the cost of a program is cost estimation. In this project, there are five factors to analyze and calculate the cost. Given bellow-

- ► Personnel cost
- ► Software cost
- ► Hardware cost
- ► Other cost

Cost Estimation Cont.

Total Cost Estimation-

Particulars	TK
Salary-	120,000.00 /=
Total Hardware Cost – ▶ Computer	20,000.00/=
Software Cost –	free
Other Costs-	1,000.00 /=
Total cost	**1,41,000.00 /=**

Risk Management

- ❖ Project Risk

- ❖ Technical Risk

- ❖ Business Risk

Project Risk

Project Risk (P01)	
Name	Changes the requirements
Probability	Low (15%)
Impact	Marginal (2)
Description	Customer may change their requirements
Mitigation & Monitoring	Requirements are redefined by the company due to time or business needs. Meeting will be held with the company regularly. This ensures that the product we are producing solves a problem.
Management	Emergency meeting between both parties to identify new project requirements and goals.
Status	Not occur

Project Risk (P02)	
Name	Poor Quality Documentation
Probability	Low (15%)
Impact	Catastrophic (1)
Description	Poor quality documentation of the members.
Mitigation & Monitoring	Meeting will be held routinely to offer documentation suggestions and topics. The progress on documentation will also have a Monitor in each meeting.
Management	The addition of new topics or removal of Unnecessary topics into the documentation will assign to responsible person.
Status	Monitoring it.

Project Risk

Project Risk (P03)	
Name	Lack of Development Experience.
Probability	Moderate (30%)
Impact	Catastrophic (1)
Description	Lack of developmental experience of the Members.
Mitigation & Monitoring	Each member of the team should watch and See areas where another team member may be weak.
Management	The members who have the most experience In a particular area will be required to help for overcome problem arises for this risk.
Status	We have not encountered such issues yet

Project Risk (P04)	
Name	Poor Comments in Code.
Probability	Low (15%)
Impact	Marginal (2)
Description	Code of the developed system is not up to the Mark.
Mitigation & Monitoring	A formal written standard must be Established to ensure quality of comments in all code.
Management	We should call a meeting with the development team to get rid of this problem and improve the quality of comments in Code.
Status	We are monitoring the issue.

Technical Risk

Technical Risk (TR01)	
Name	Computer Crash
Probability	Moderate (25-40%)
Impact	Catastrophic (1)
Description	Computer may crash due to several reasons.
Mitigation & Monitoring	We should take proper follow up of computers. We also take regular data backup every day, We can use IPS to stop Unexpected shutdown.
Management	If our computer has been crashed then we will restore backup.
Status	We have not encountered such issue yet

Technical Risk (TR02)	
Name	Technology Doesn't Meet Specifications.
Probability	Low (25%)
Impact	Catastrophic (1)
Description	Customer doesn't have the technology to their desired specification.
Mitigation & Monitoring	That ensures that the product we are producing and the specifications of the customer are equivalent.
Management	The customer should be immediately notified and whatever steps necessary to rectify this problem should be done. Preferably a meeting should be held between thedevelopment team and the customer todiscuss at length this issue.
Status	We have not encountered such issue yet

Business Risk

Business Risk (B01)	
Name	Insufficient Budget
Probability	Low (10%)
Impact	Marginal (2)
Description	Ifthe budget is low project may not complete.
Mitigation & Monitoring	The project needs streaming server that is costly to set-up. We find several alternative streaming services to reduce the budget risk.
Management	Refinement in project goal. A new plan for regulate the budget.
Status	Not encountered

Business Risk (B02)	
Name	Late delivery of the project
Probability	Very Low (05%)
Impact	Catastrophic (1)
Description	The project may take more time to complete what was estimated.
Mitigation & Monitoring	Steps have been taken to ensure a timely delivery by determining the scope of project.
Management	The only course of action available would be to request an extension to the deadline from customer.
Status	My project is completed in time.

Activity Diagram for Login
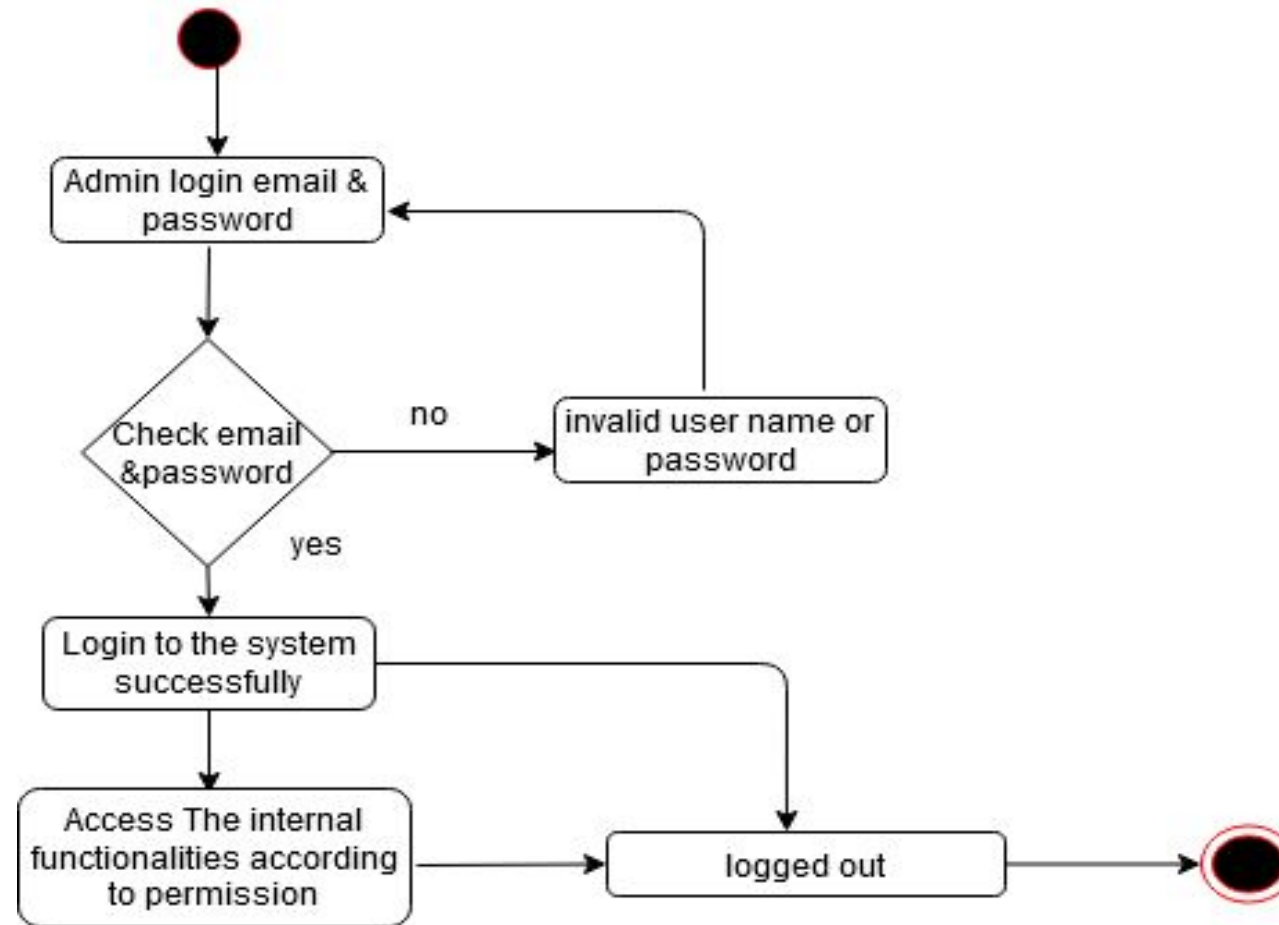
Activity Diagram for Admin
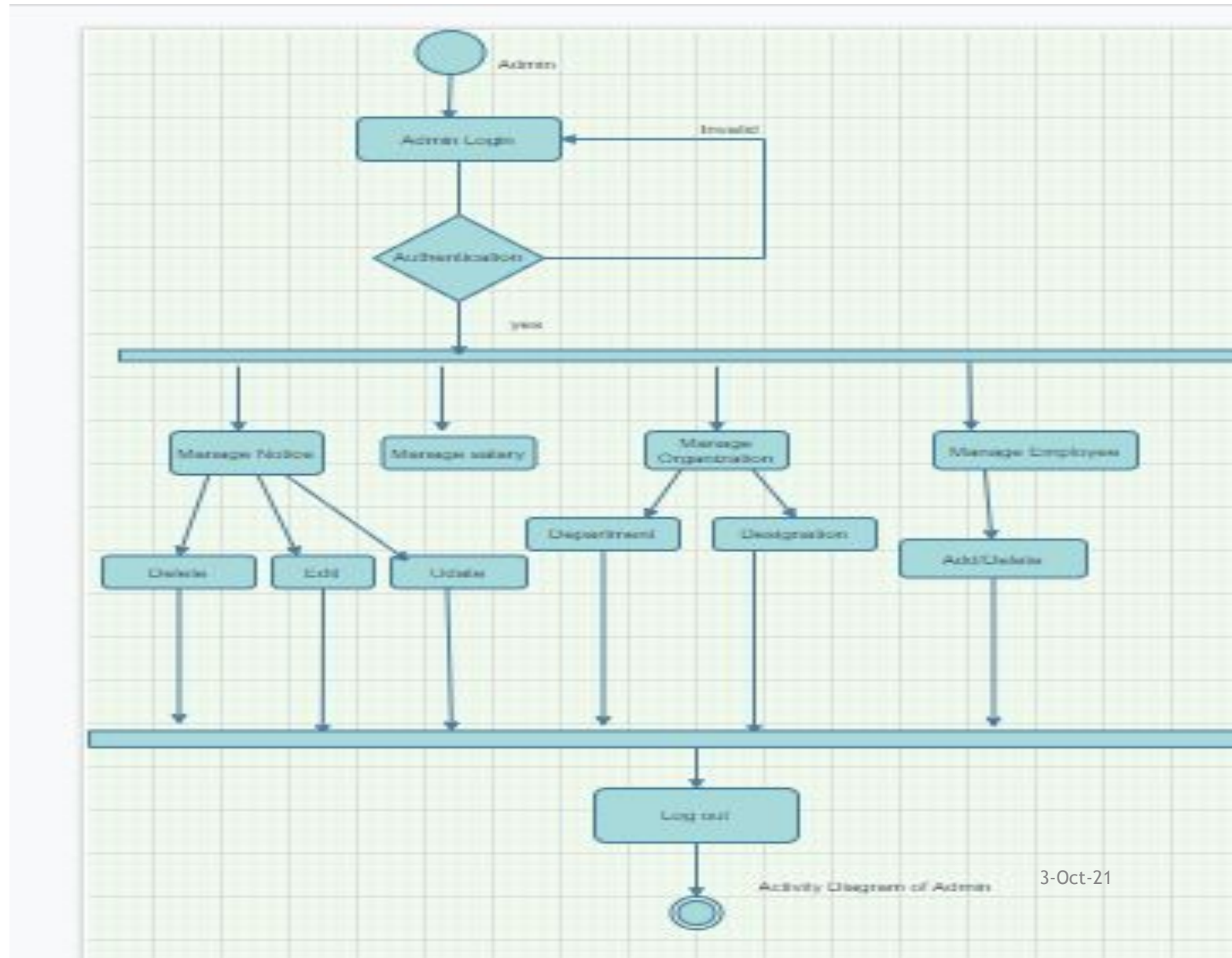
Activity Diagram of Admin

Activity Diagram for Employee

Activity diagram of HR
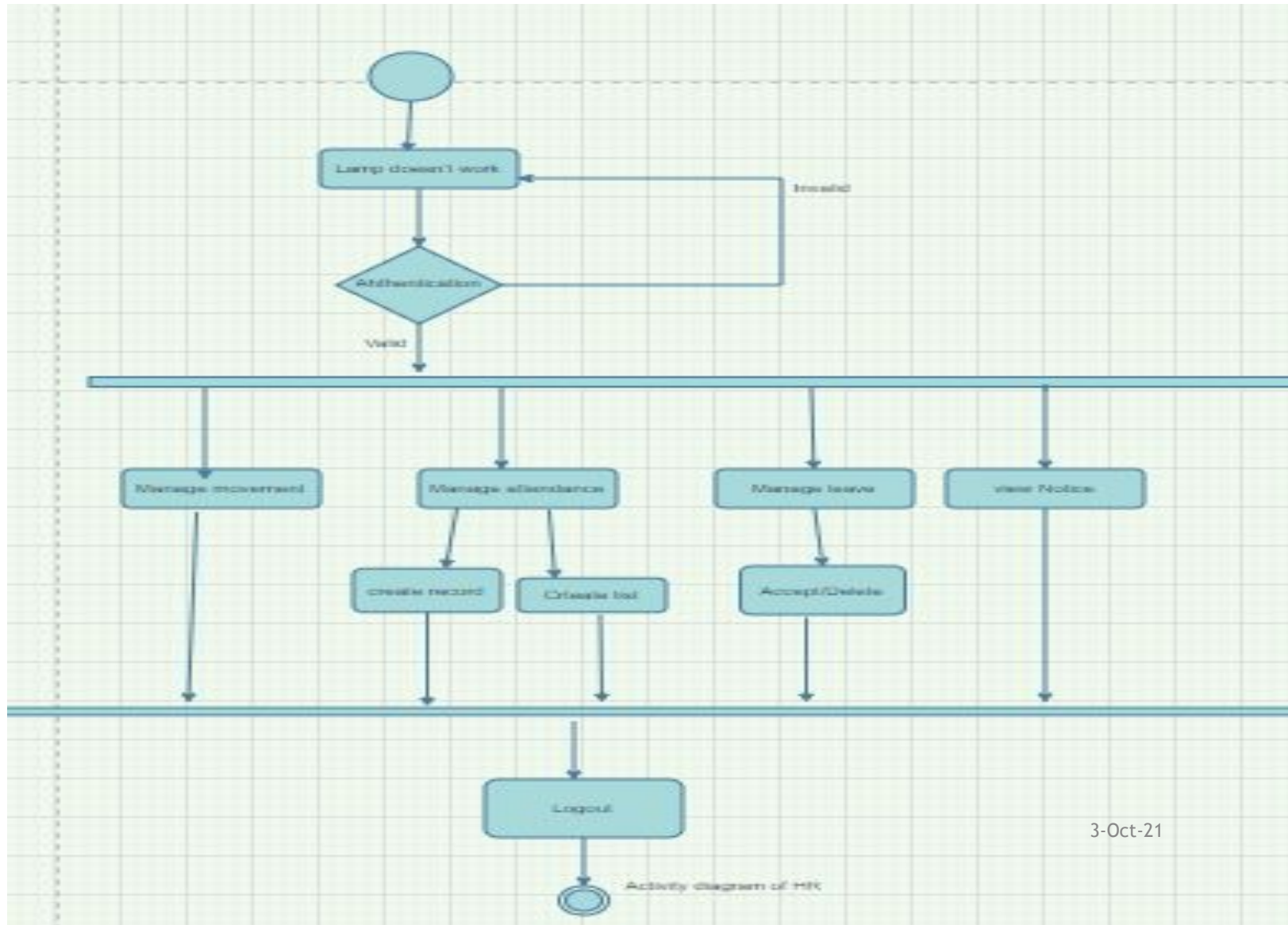
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Activity Diagram for HR

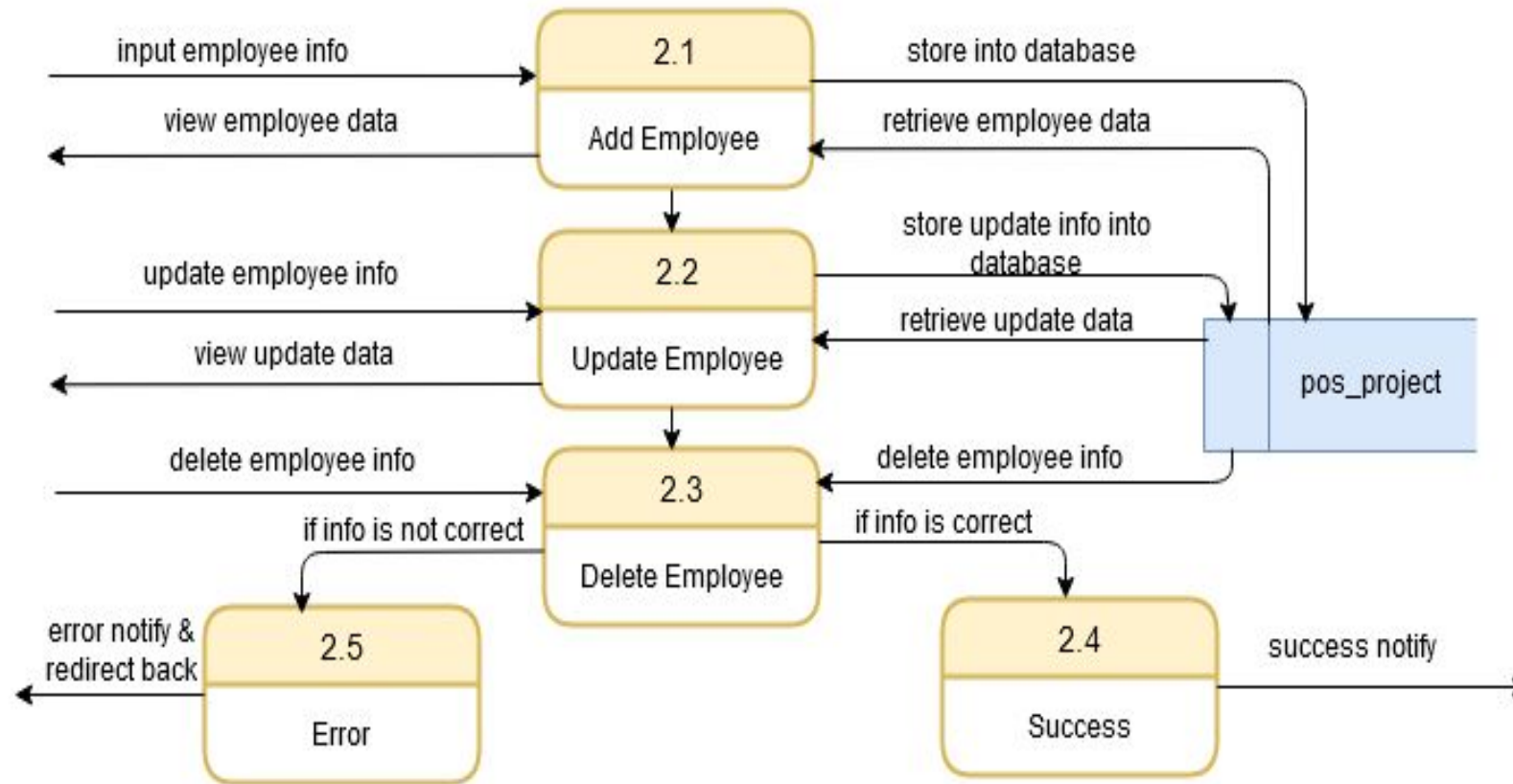Activity diagram of HR
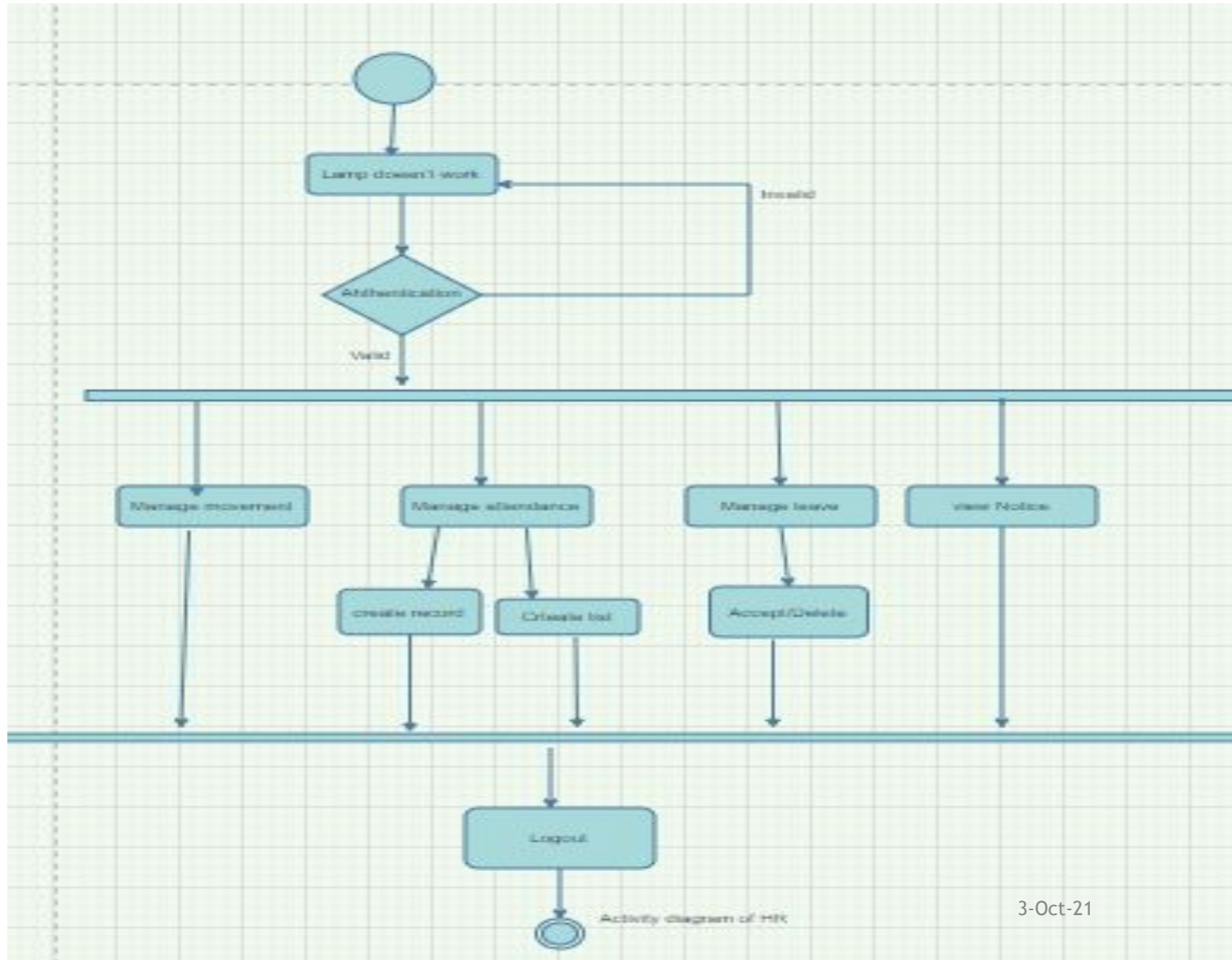
DFD Diagram
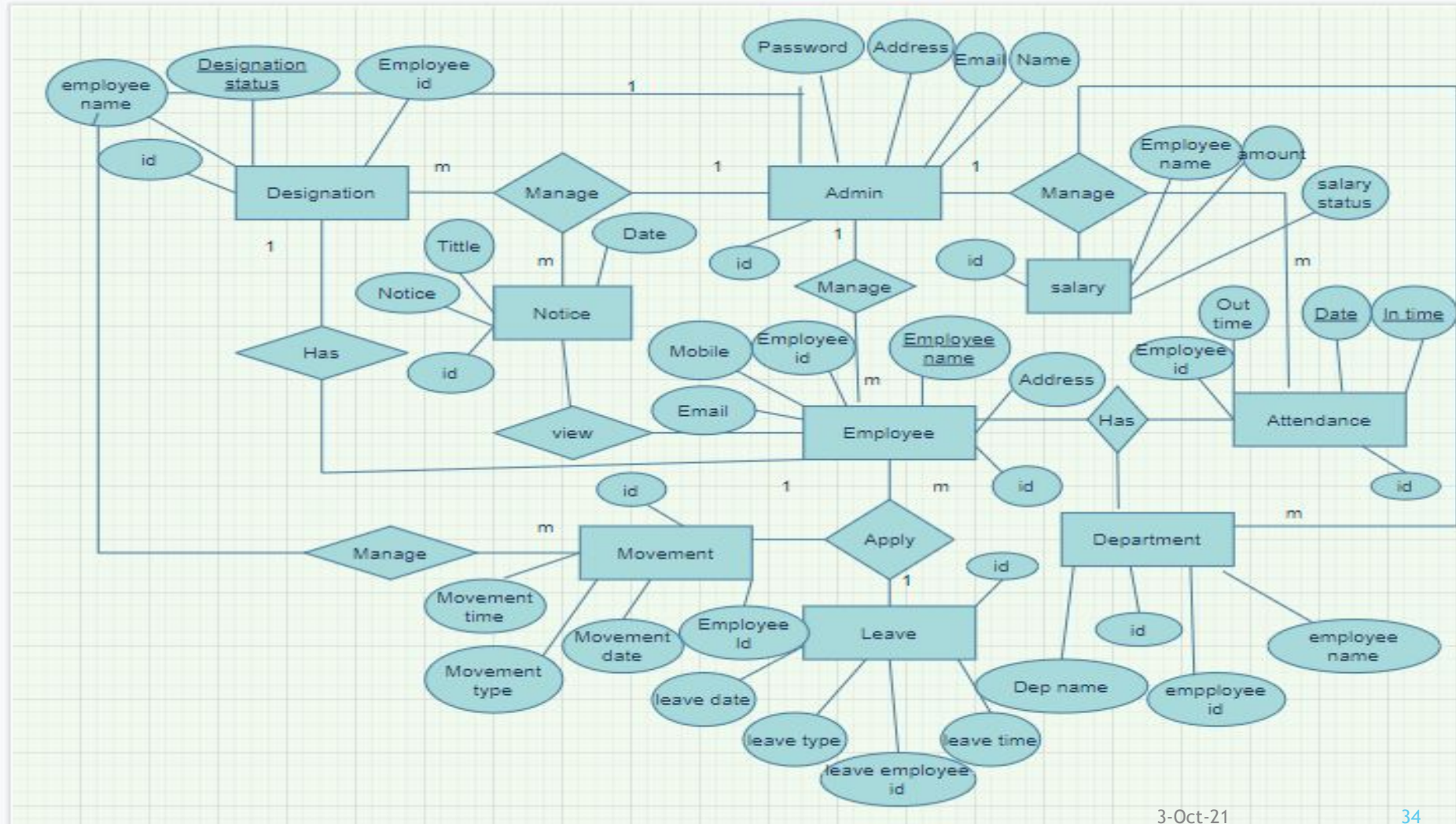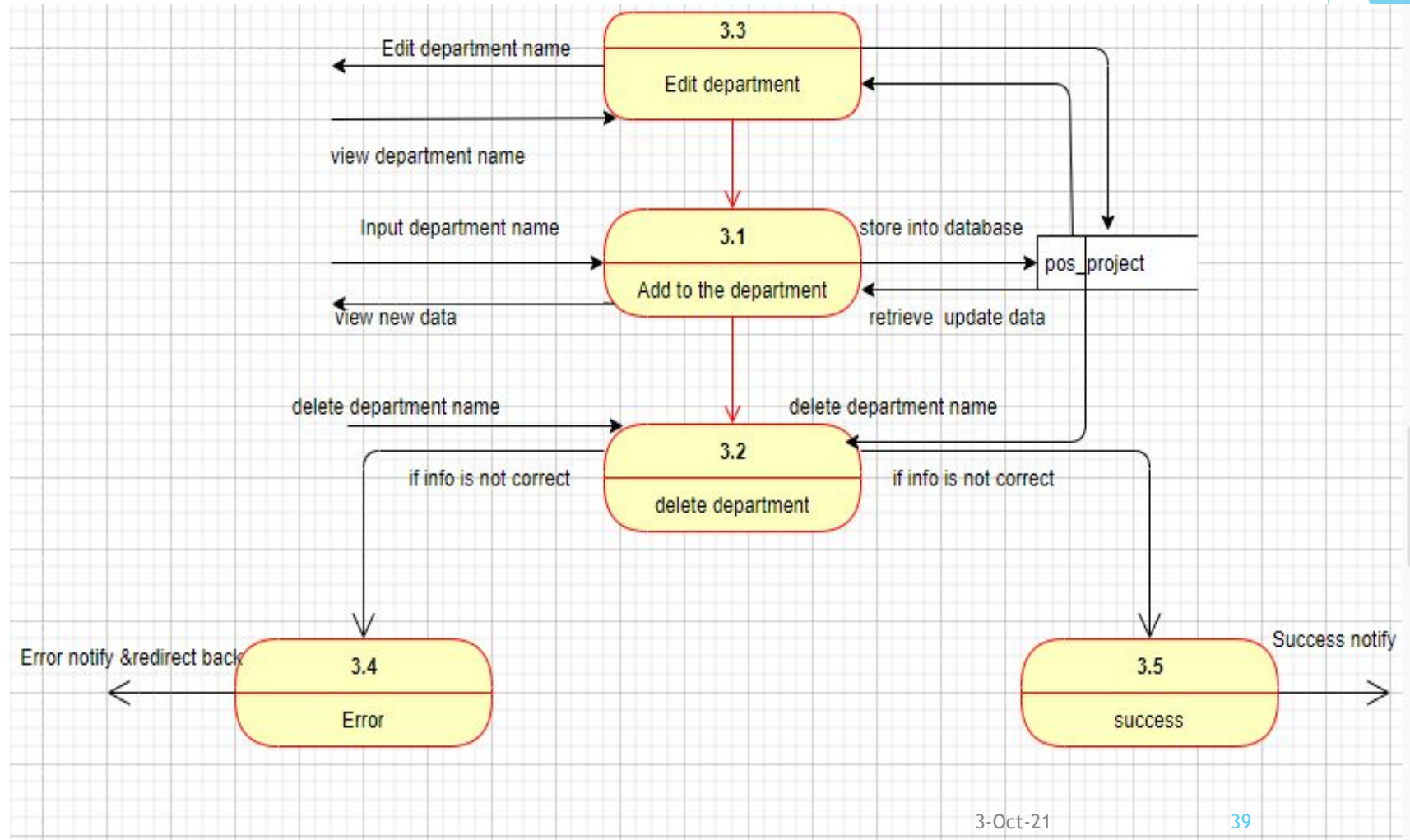
Context Level Diagram
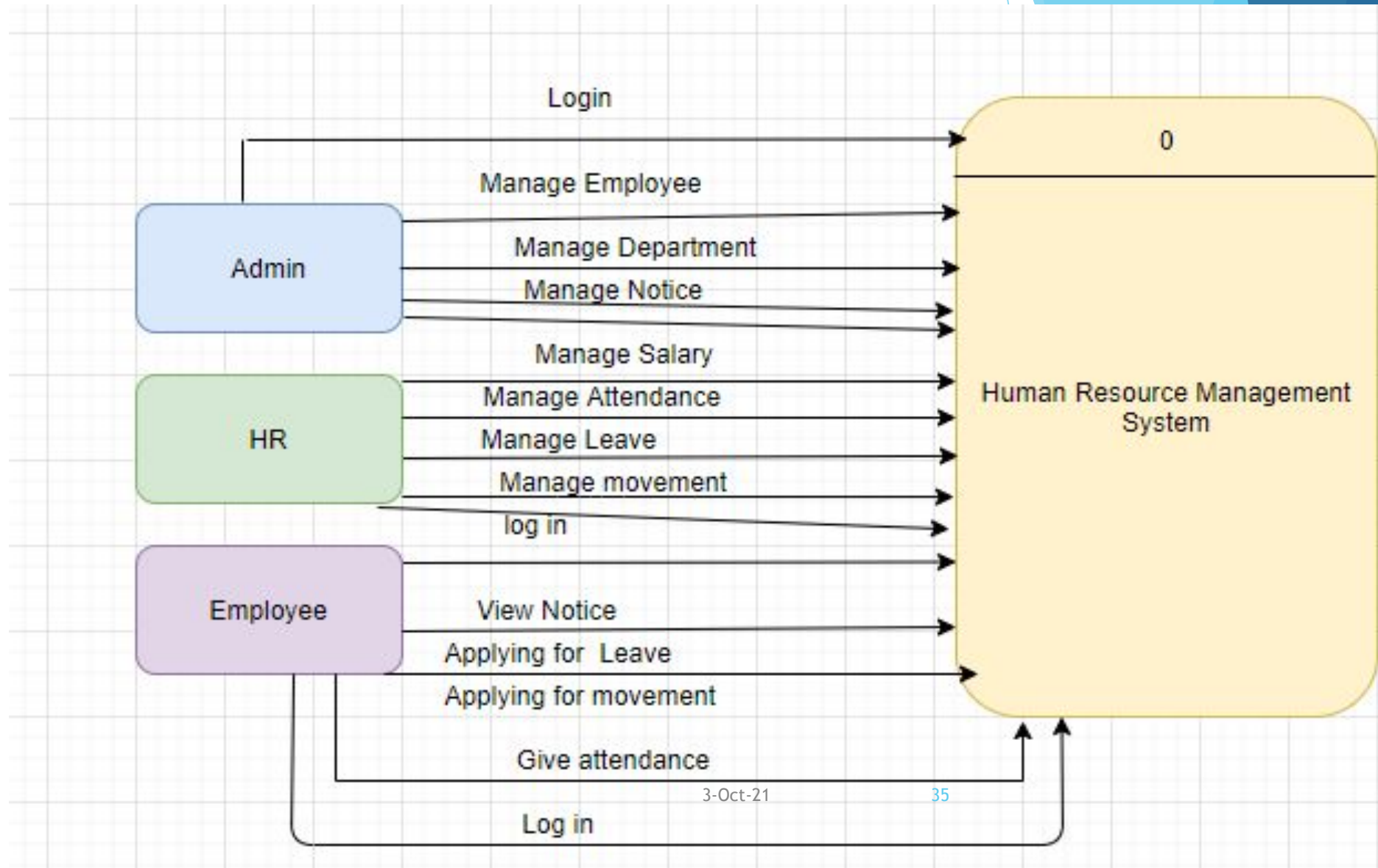
Level 1 Data Flow Diagram
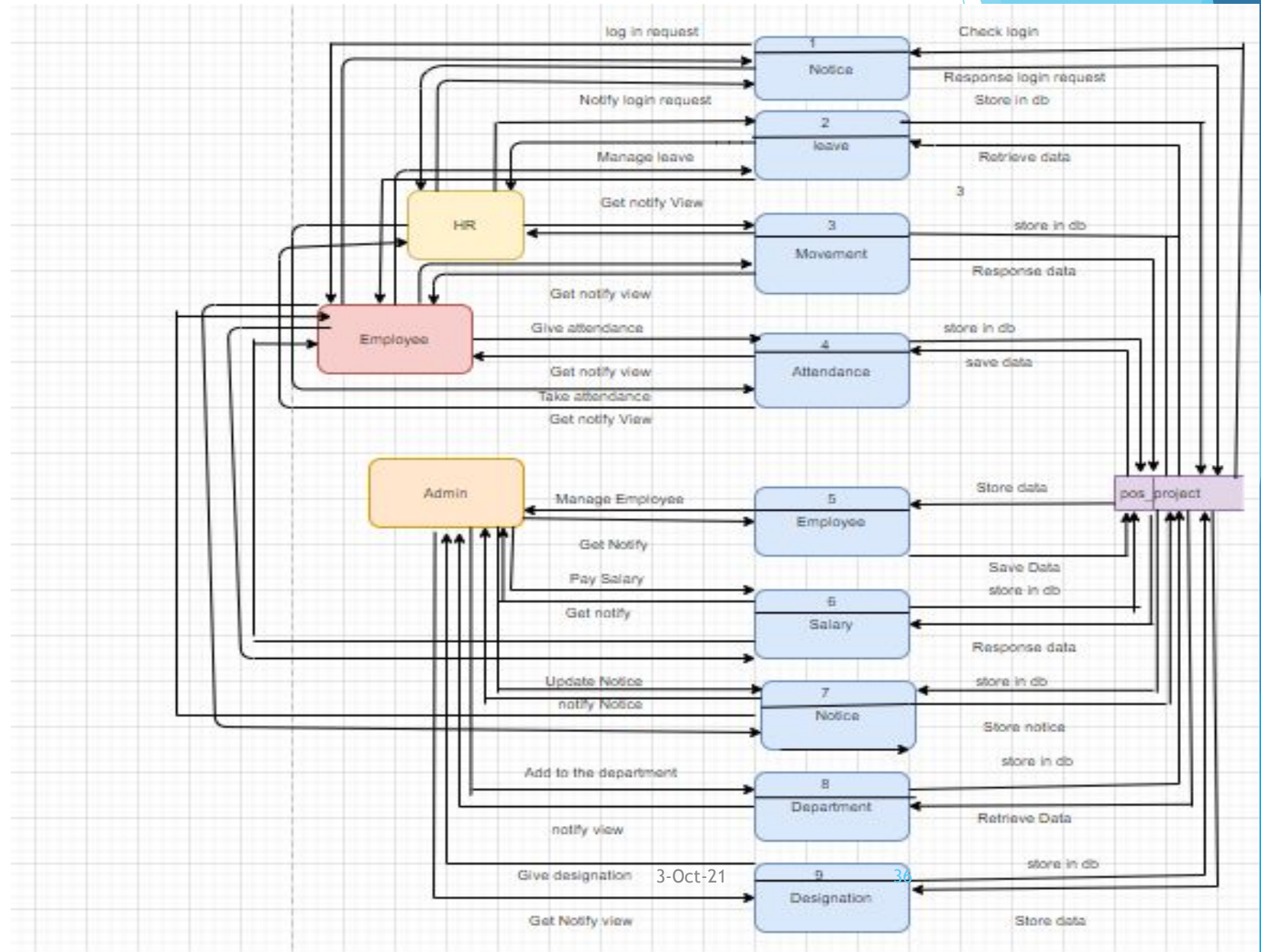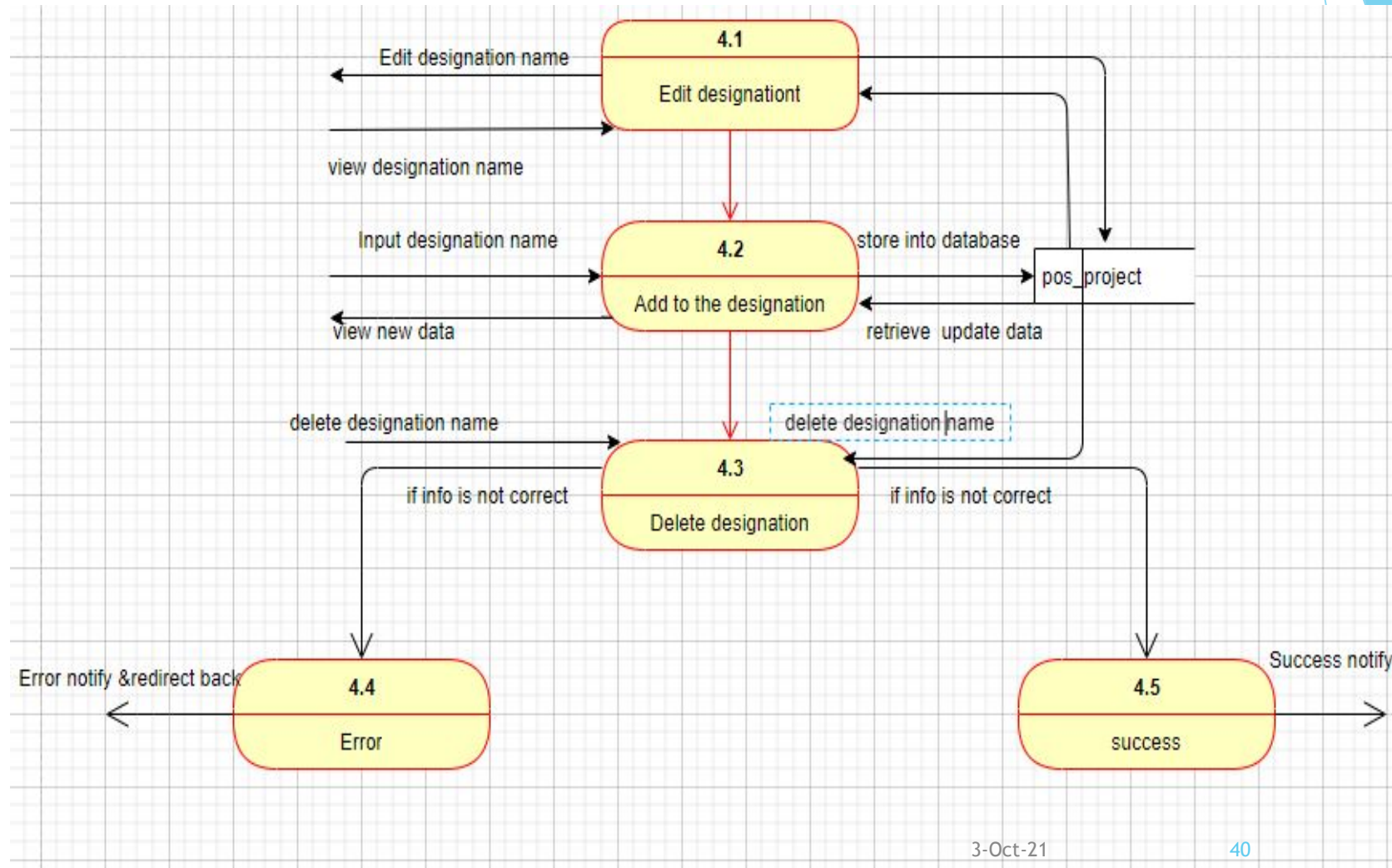
Level 2 Process 1(Admin)
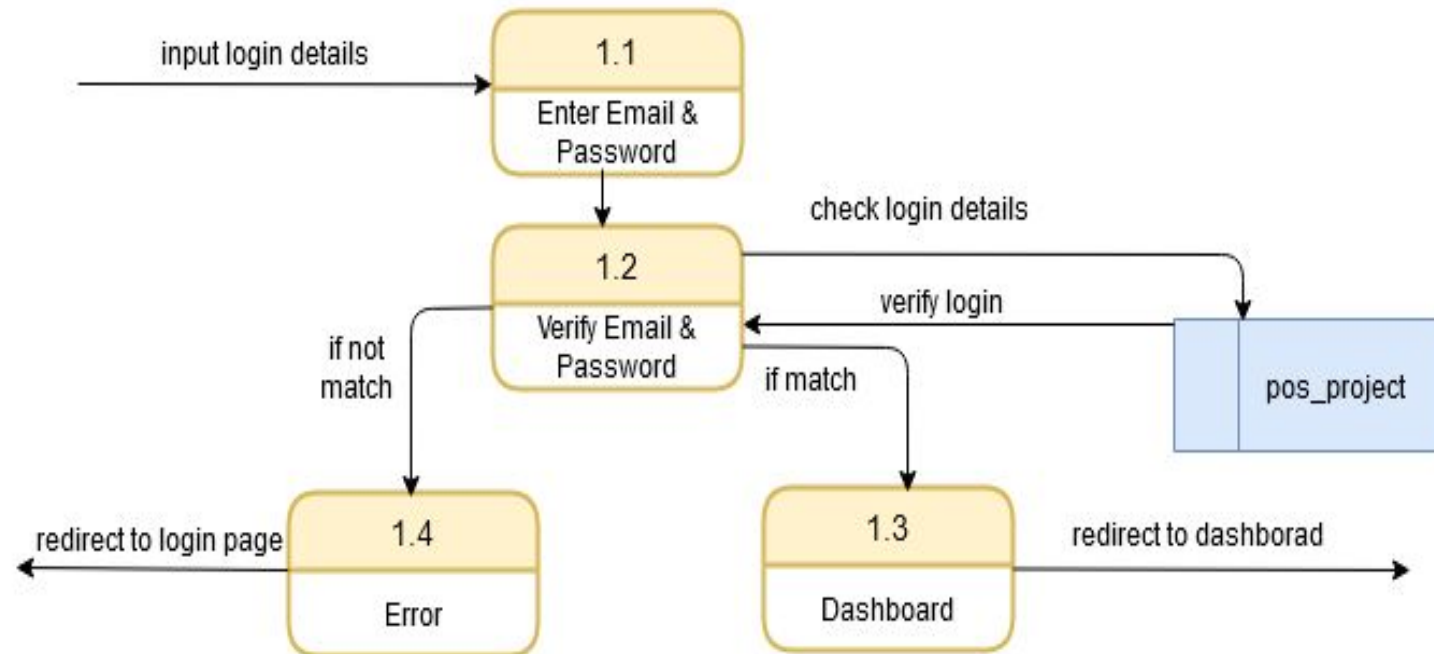
Level 2 Process 2(Employee)

Level 2 Process 3(Department)

Level 2 Process 4(Designation)
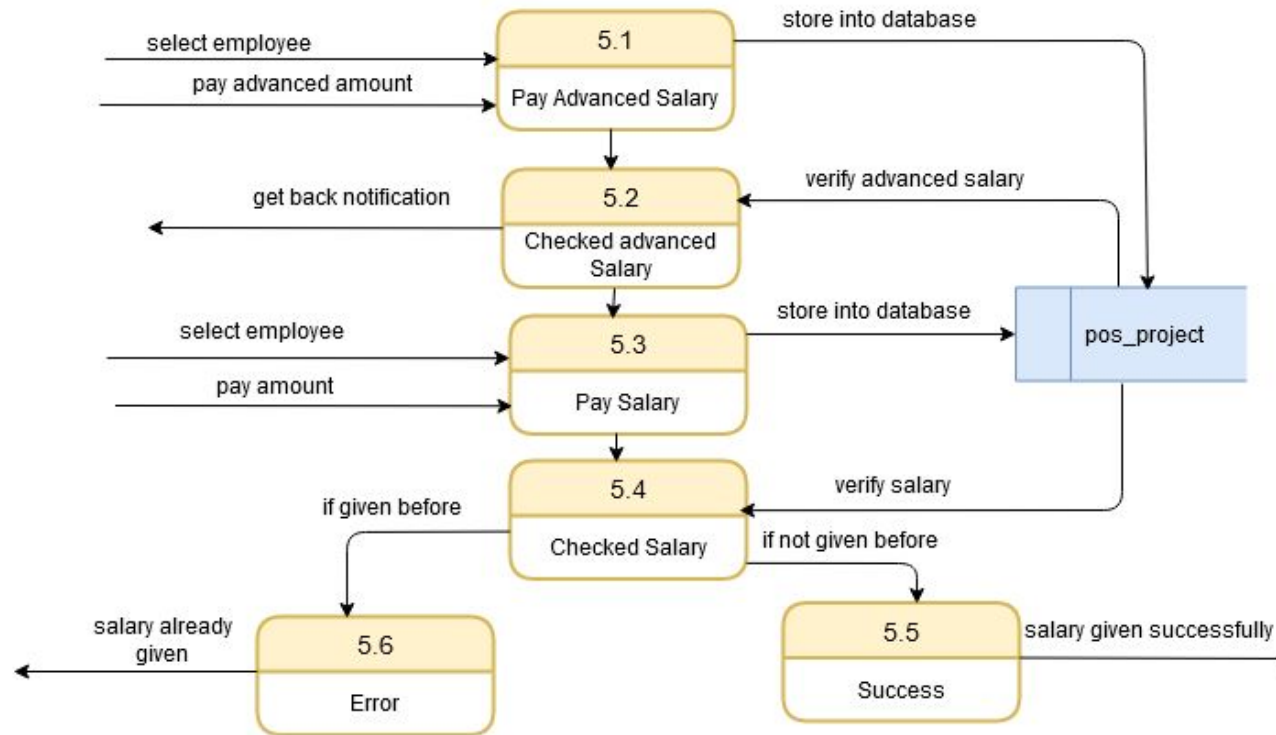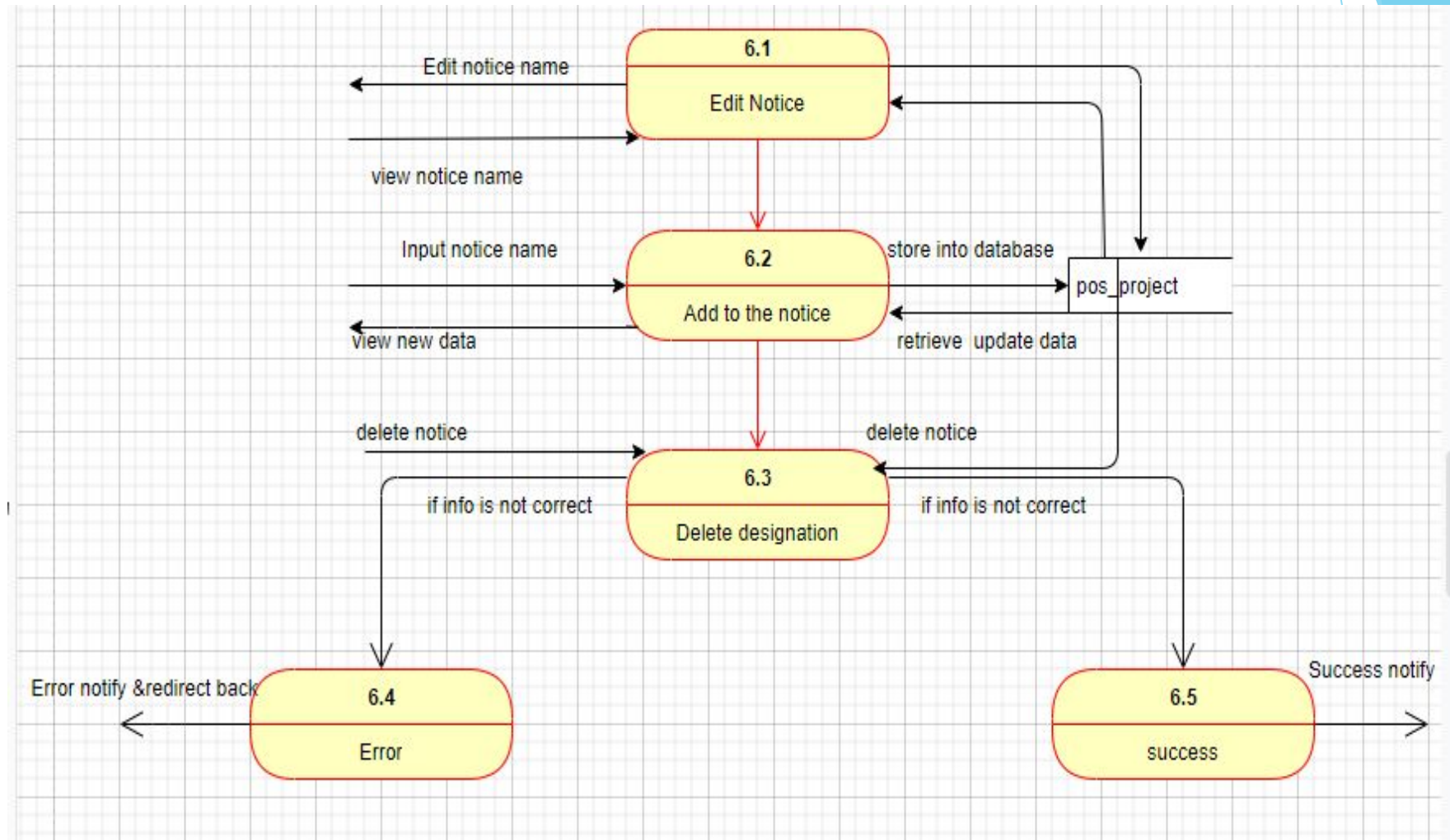

Edit designation name

4.1

Edit designationt

view designation name

Input designation name

4.2

store into database

Add to the designation

pos_project

view new data

retrieve update data

delete designation name

delete designation name

4.3

if info is not correct

Delete designation

if info is not correct

Error notify &redirect back

4.4

Error

Success notify

4.5

success

3-Oct-21
40

Level 2 Process 5(Salary)

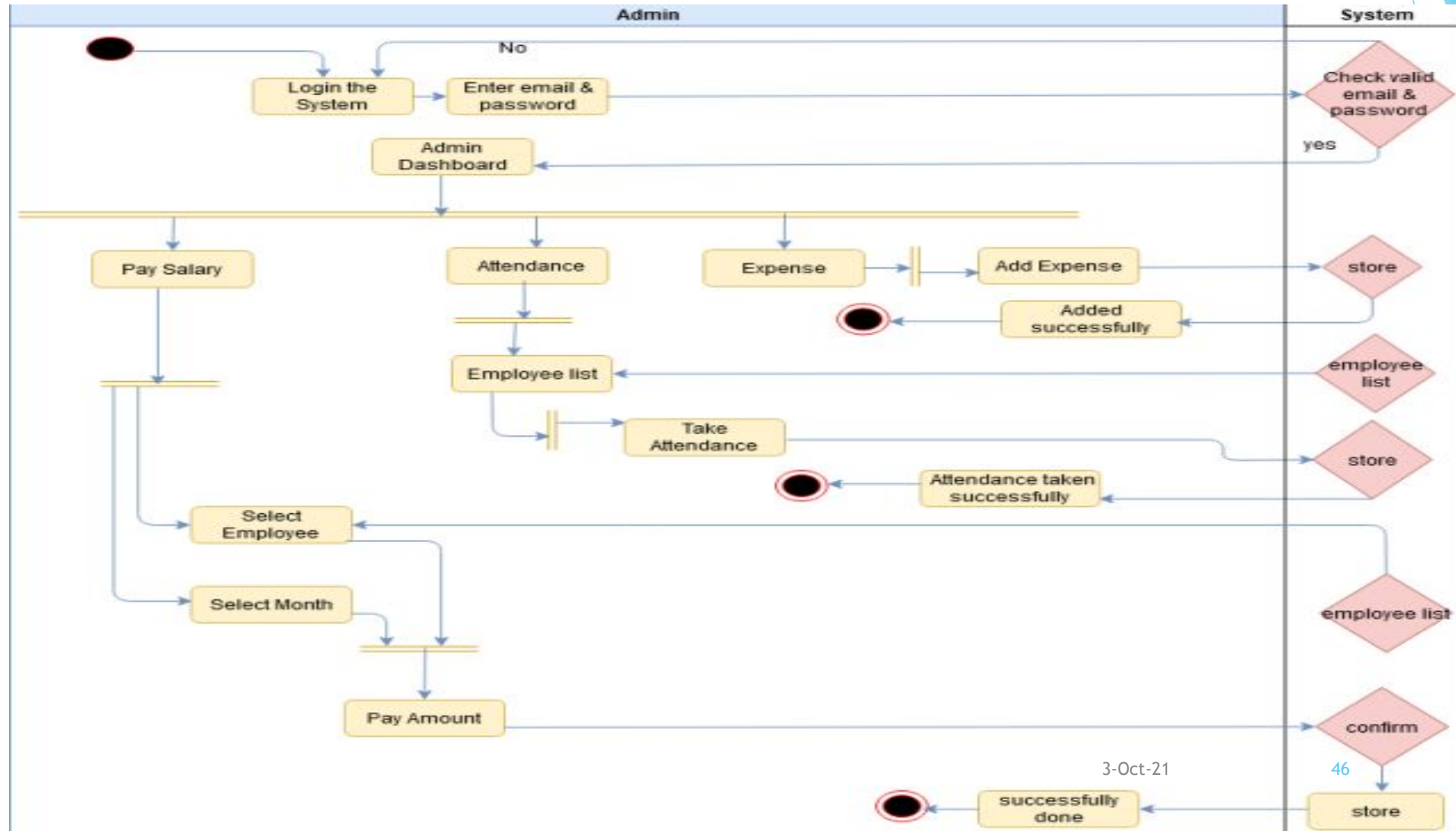# Level 2 Process 6(Notice)

Level 2 Process 7(Movement)
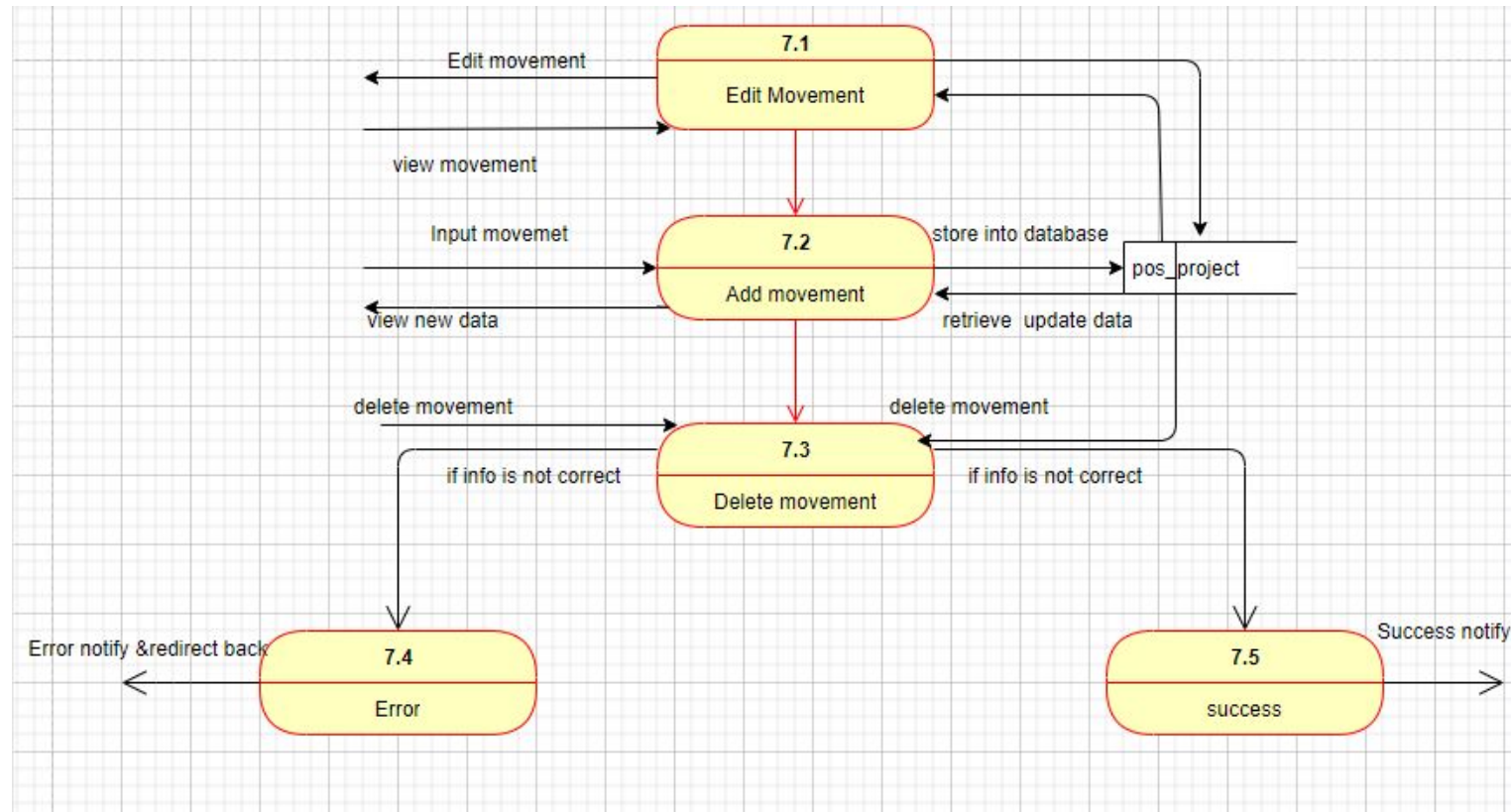
Level 2 Process 8(Attendance)
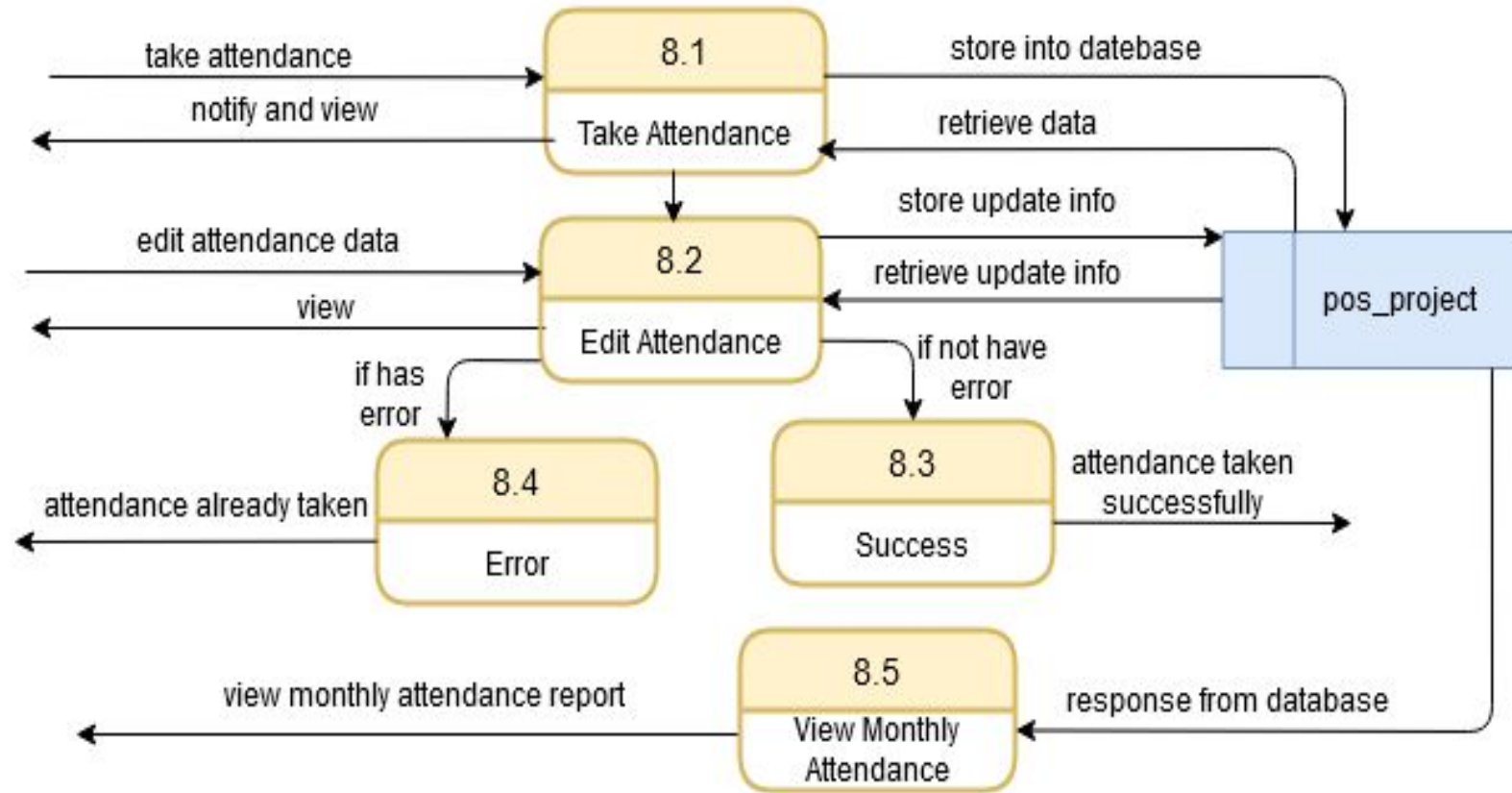
Swimlane Diagram for Admin
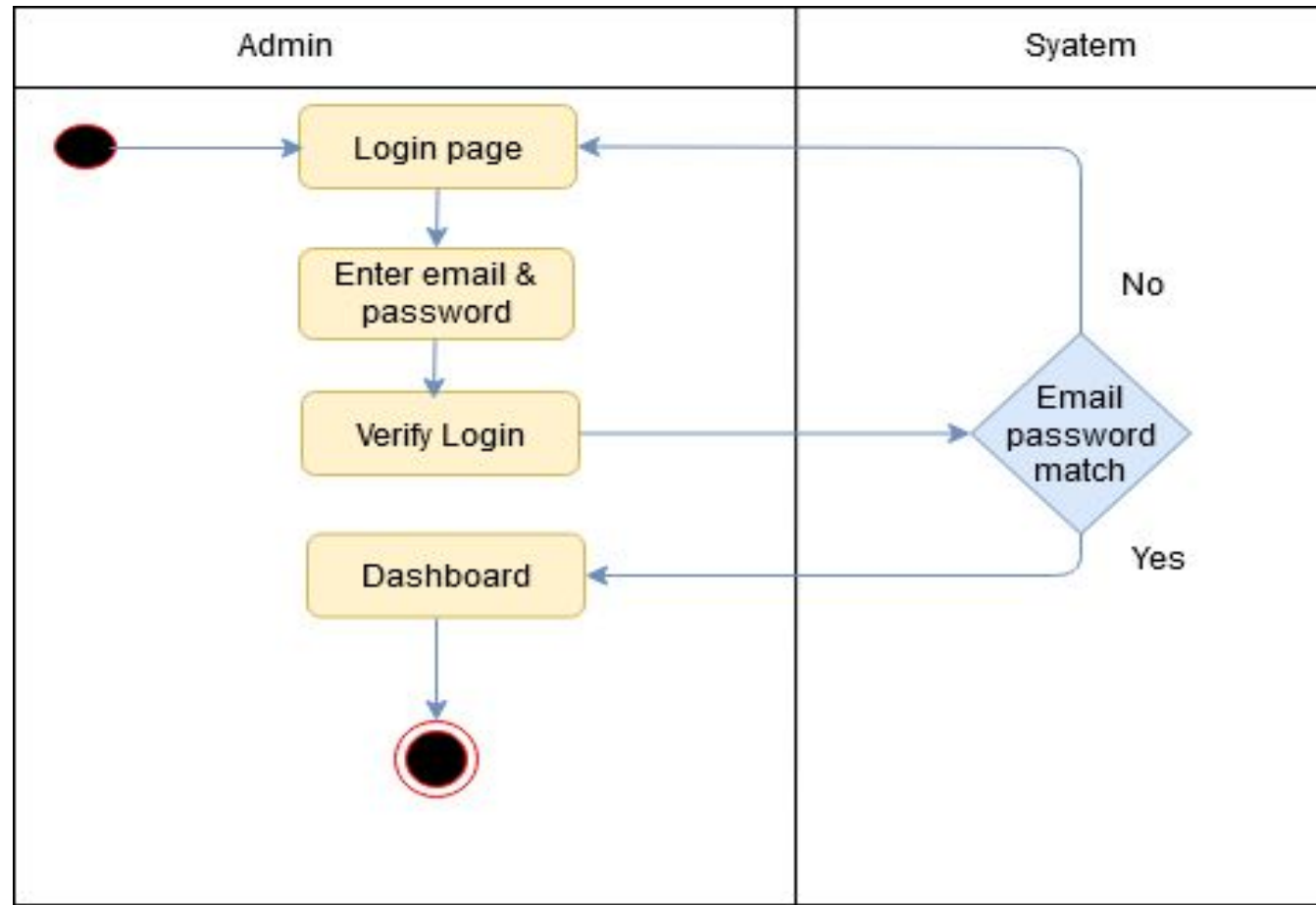
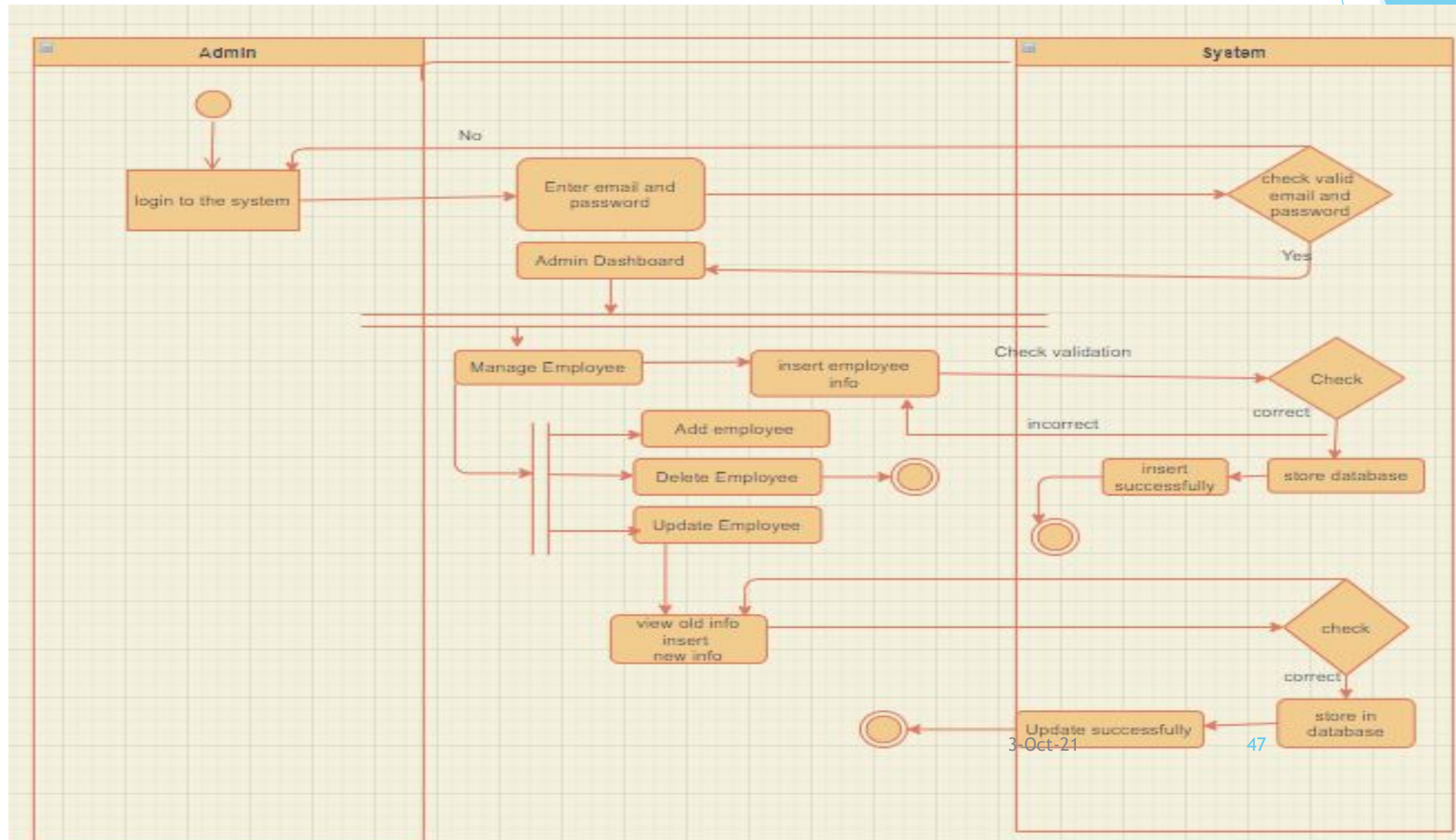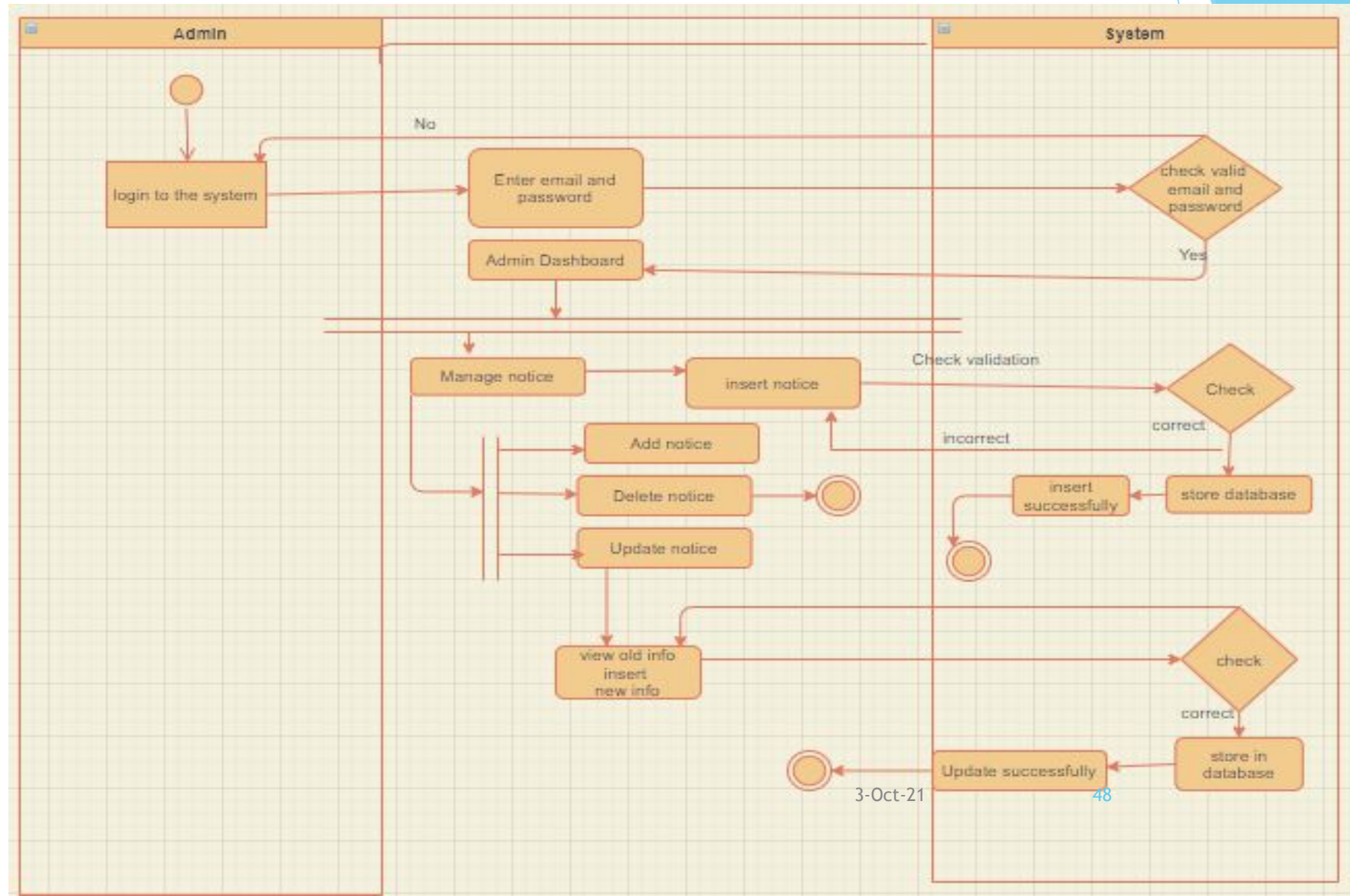# Swimlane Diagram for Salary,Attendance
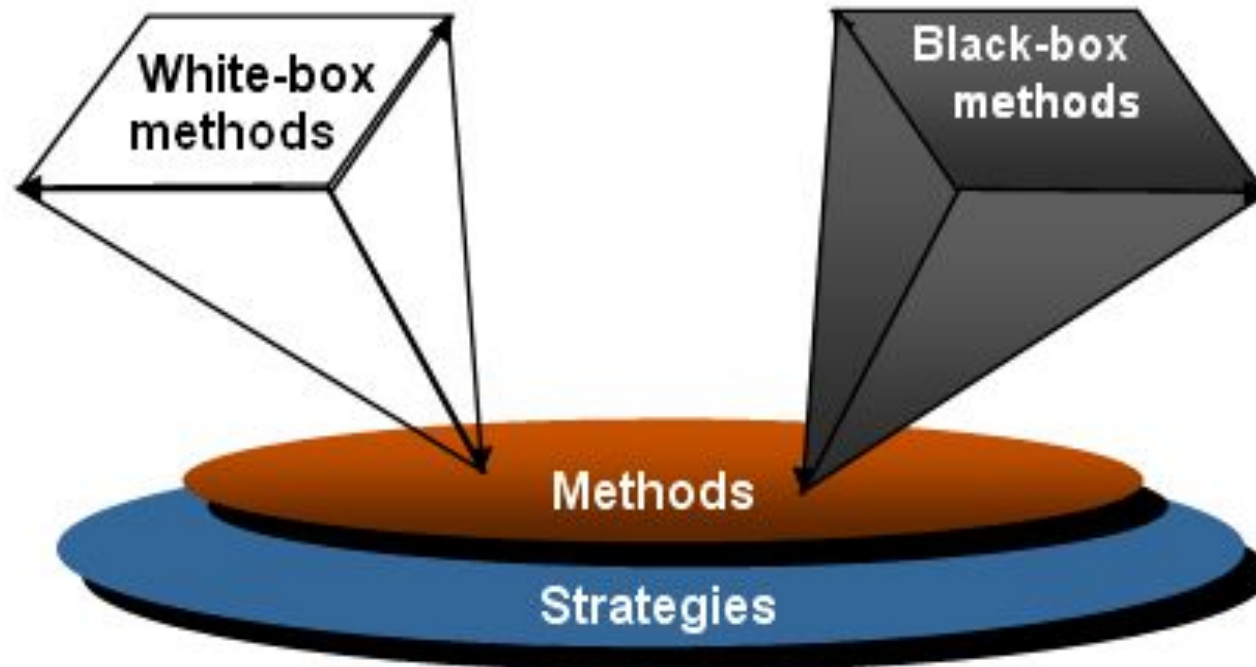
Swimlane Diagram for Department,Designation and employee

Swimlane Diagram for Notice

Testing

Testing Scenario: 1

Testing scenario No: 1	
Scenario	Admin Login testing scenario of my system
Input's	Email, password of User for Login
Desired Output's	When enter Email, password then get access the dashboard.
Actual Output's	For login my system work correctly
Verdict	Getting result from Desired Output's and Actual Output's decided this system is successful for login.

Testing Scenario: 2 & 3

Testing scenario No: 2	
Scenario	Add Employee
Input's	Name, email, phone, address, NID, photo
Desired Output's	When enter all basic info correctly, new Employee will be added in the system.
Actual Output's	For new Employee added successfully my system work correctly
Verdict	Getting result from Desired Output's and Actual Output's decided this system is successful for new employees' added.

Testing scenario No: 3	
Scenario	Admin can view and monitor Employees details.
Input's	Request to view Employees basic information
Desired Output's	Show the basic information to the admin
Actual Output's	For showing all users basic information my system work correctly.
Verdict	The process is worked correctly and successfully.

Project Demonstration

Limitation

❖ There is no automated attendance system. They have to give the attendance manually.

❖ Need to attached payroll system

Future Plan

❖   Need to add automated attendance system.

❖   Payroll system.

Referance

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https://www.tutorialspoint.com/sdlc/sdlc_waterfall_model.htm

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Conclusion

❖ The goal of this project the HR/owner can keep their employees information and estimate their information .

❖ In this application admin can easily manage whole process by using easy functionalities.