भारतीय सूचना प्रौद्योगिकी संस्थान गुवाहाटी
Indian Institute of Information Technology Guwahati

CS331: Software Engineering Lab

Employee Management System: WorkFlo

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Dr. Panthadeep Bhattacharjee

April 10, 2023

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1. Abstract

WorkFlo is an employee management system designed to manage the operations and processes of a company. The system provides a centralised platform for managing various aspects of the company such as its employees, departments, attendance, leave, projects, and financials, and facilitates communication between managers and employees.

The system is designed to be used by organisations of all sizes, with features that can be customised to meet the specific needs of the organisation. It will streamline operations and improve efficiency, leading to increased productivity and profitability. It will also provide valuable insights into organizational performance.

2. Introduction

Module 1: Employee

This module contains employee data such as personal information, job details, salary information, and contact details. It also includes features for employee self-service, such as updating personal information, uploading documents, and changing the account password. Admins can use this module to view employee records and manage employee performance.

Module 2: Attendance

This module allows admins to add employee attendance and working hours. The module can also generate reports for admins to monitor attendance trends and identify patterns of absenteeism.

Module 3: Leave

This module enables employees to apply for leave, view their leave balances and history, and check the status of their leave requests. Admins can approve or reject leave requests. This module also has a calendar showing holidays and events that apply to the organization.

Module 4: Projects and Tasks

This module allows admins to assign tasks to employees, track project progress, and generate reports on completed tasks and project timelines. Employees can view their tasks, deadlines, and progress indicators.

Module 5: Payroll

This module automates the process of calculating employee salaries and generating pay slips. It can also handle tax deductions, reimbursements, and other salary-related transactions.

Module 6: Loans

This module allows admins to grant loans to employees and view their loan status, track loan history, and calculate loan repayments.

Module 7: Assets and Logistics Support

This module helps manage company assets by enabling admins to assign assets to employees, track asset allocation, and manage asset maintenance issues. Admins can view the asset inventory and track asset depreciation.

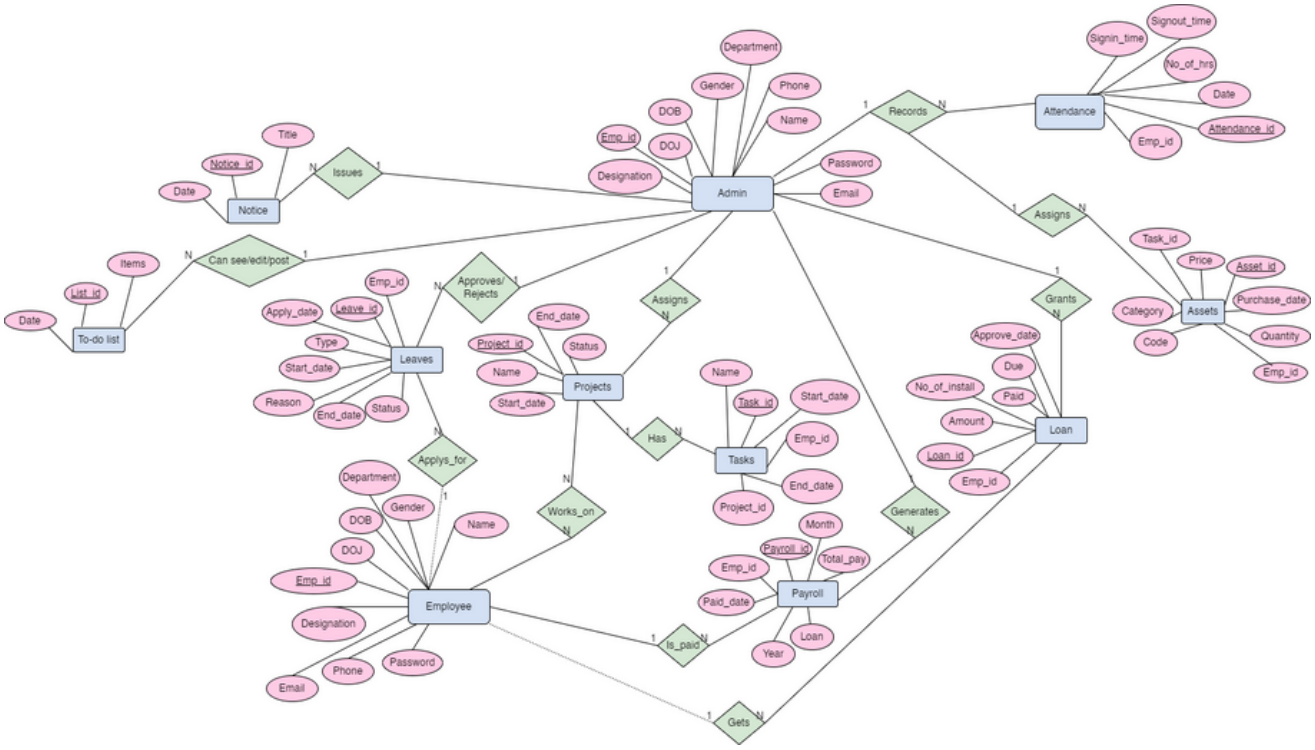
Module 8: Notice Board

This module allows managers to post notices and announcements for all employees to view. Employees can view and comment on the notices.

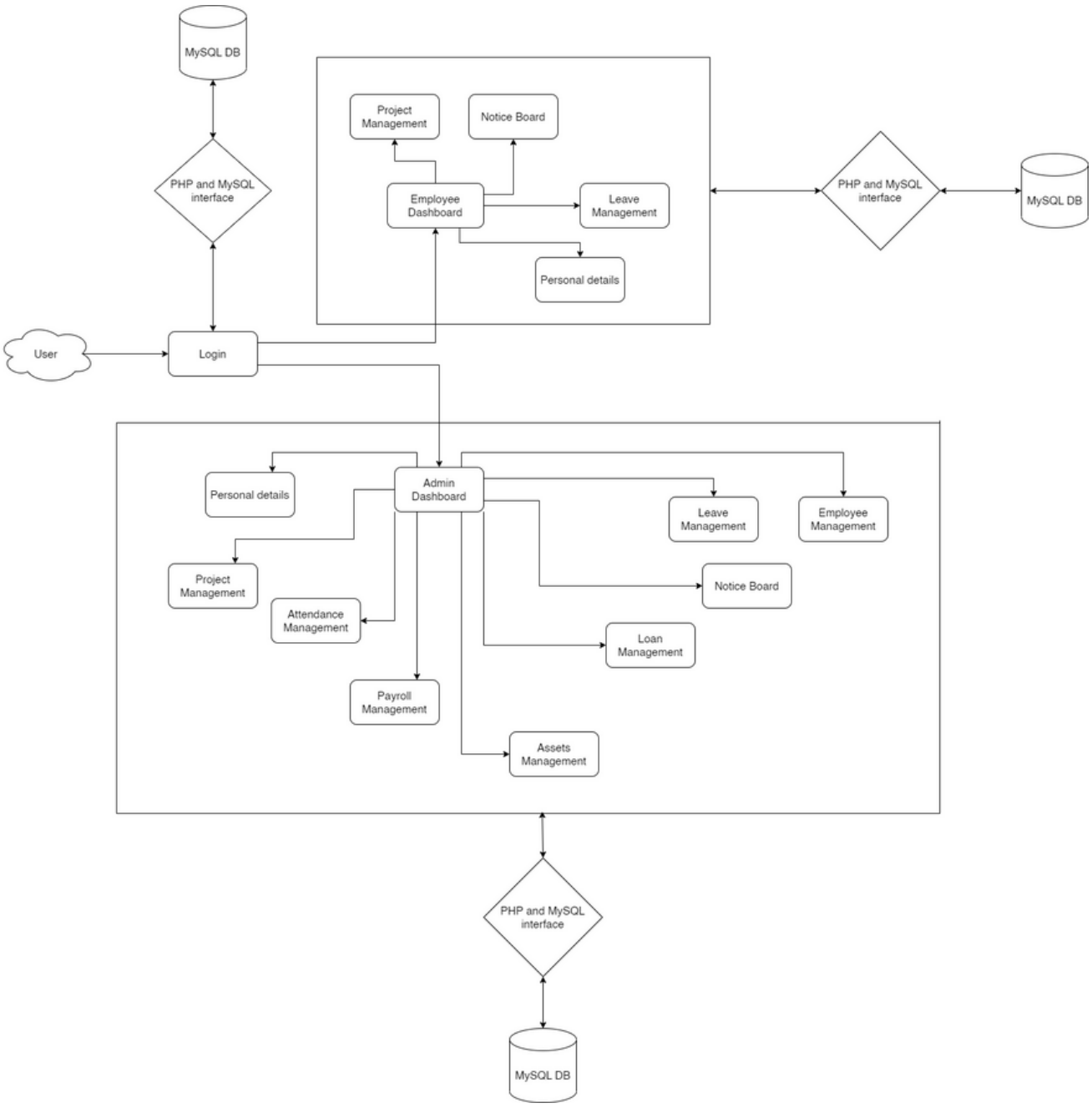
Module 9: Login and Logout

The system supports two types of user privileges, Employee and Admin. It provides the facility for admins and employees to log in and then view the dashboard displaying the total number of employees, leaves taken, loans granted, current projects, and notices. Admins also have the option of adding another person as an admin or employee to the system and maintaining the database of the organization containing the departments and designations,

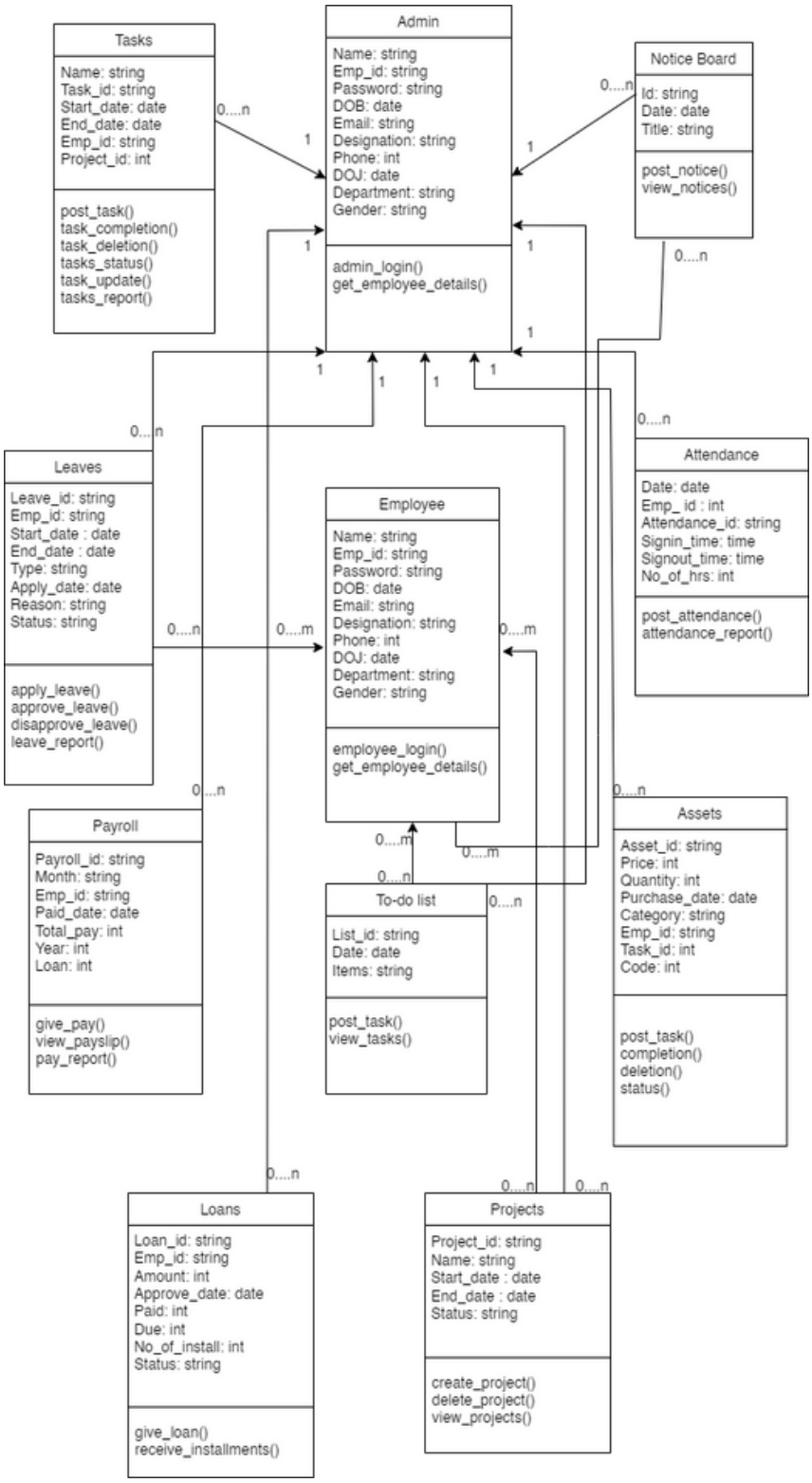
3. Entity Relationship Diagram



4. High-Level Design

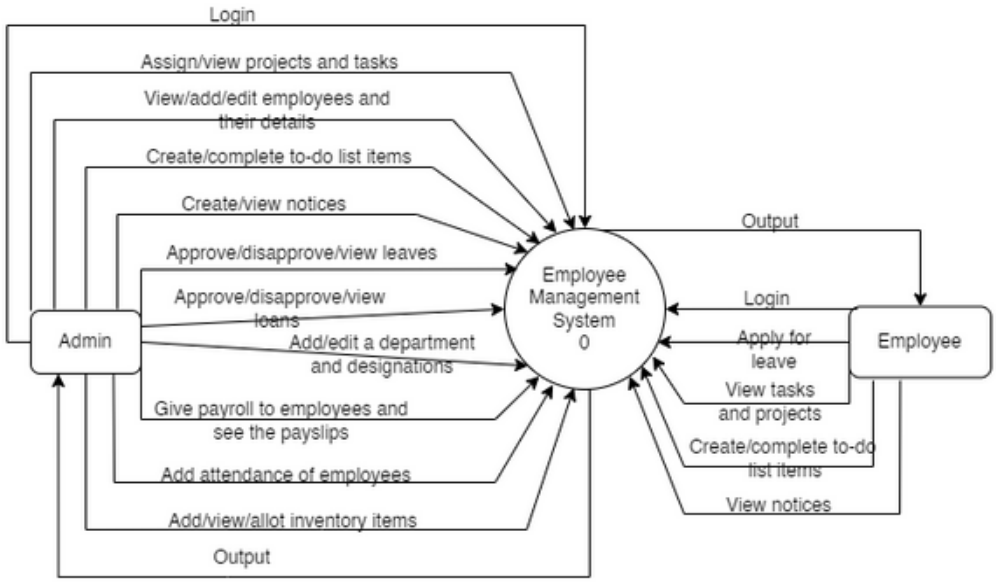


5. UML Class Diagram

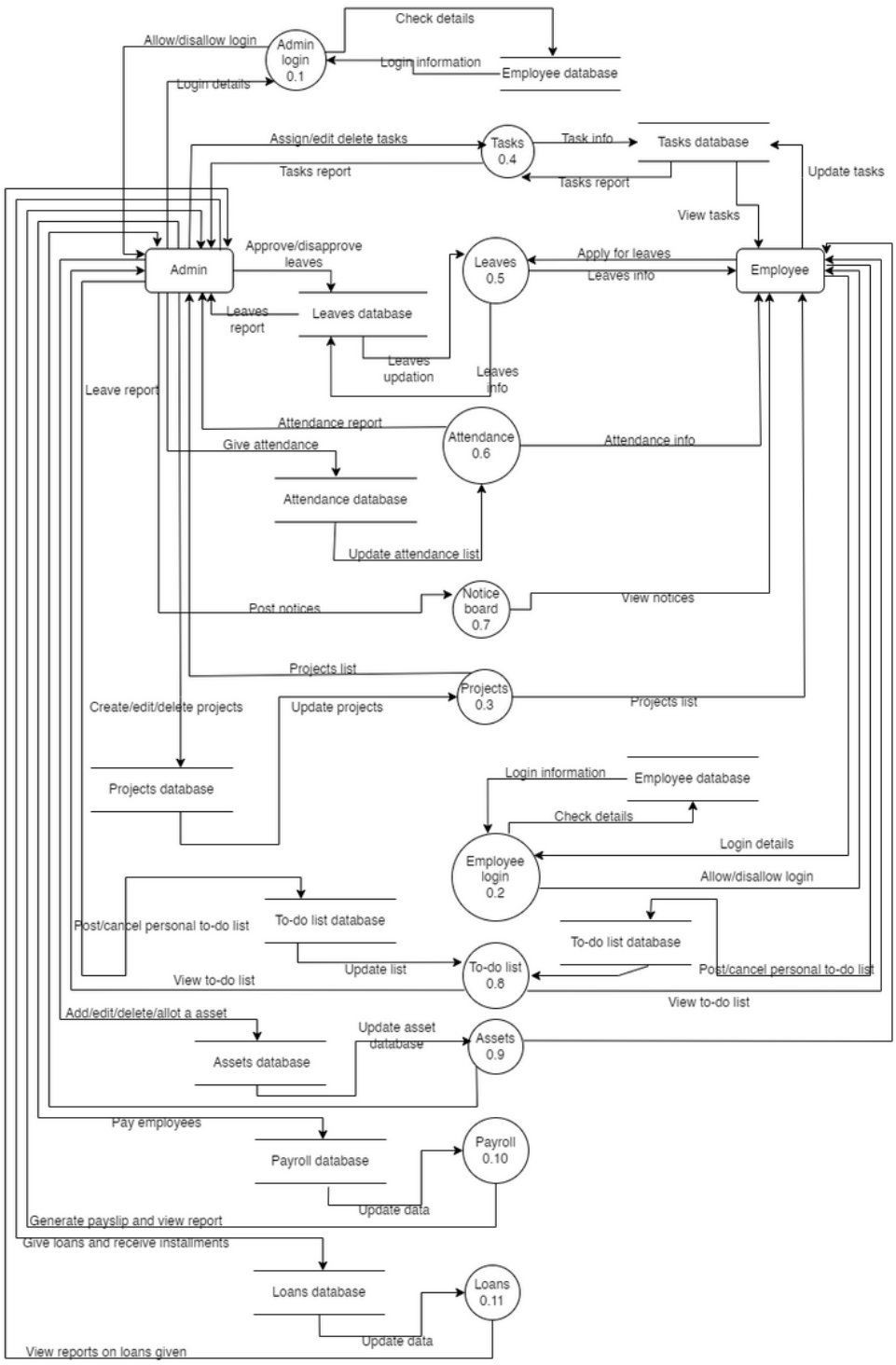


6. Data Flow Diagram

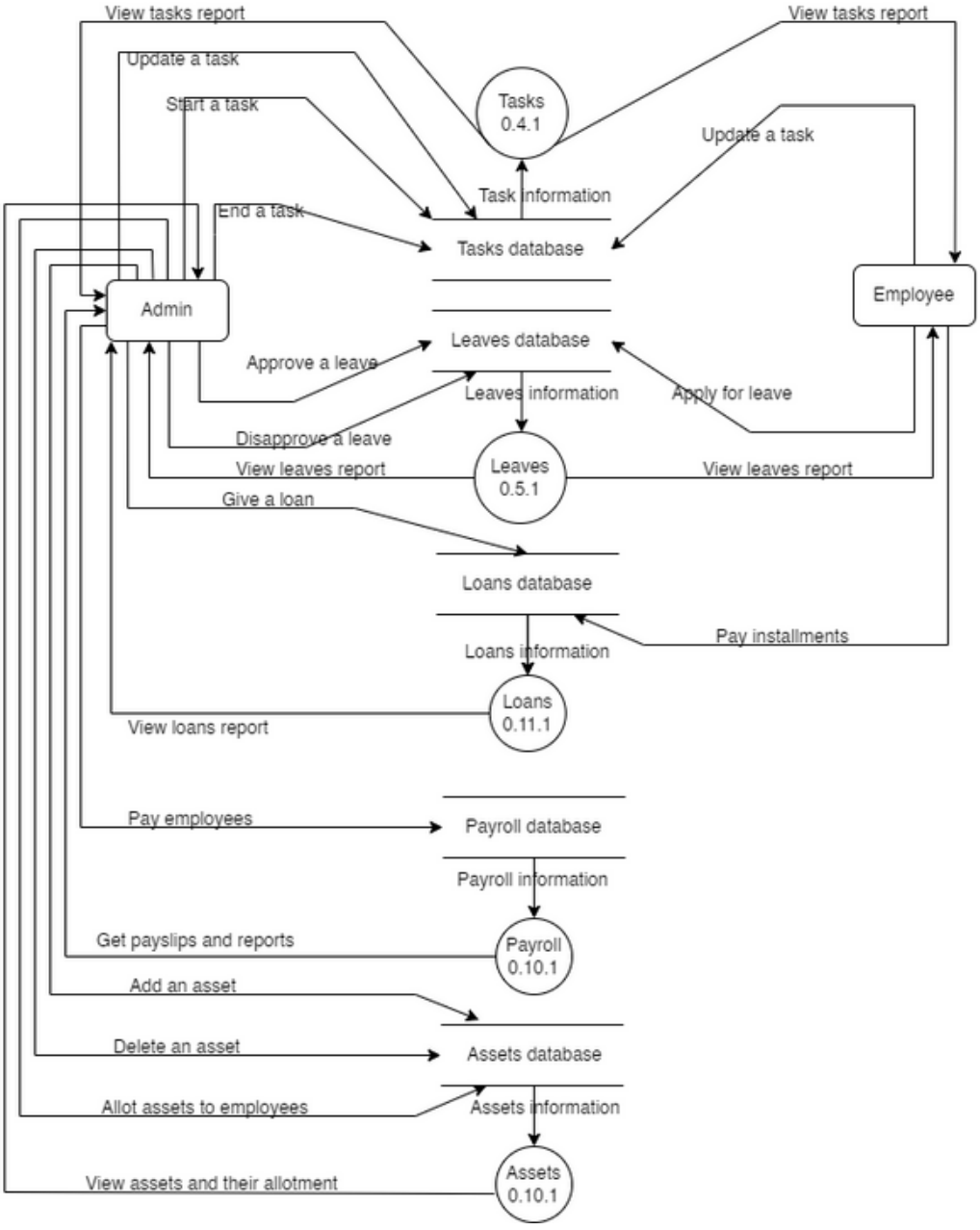
Level 0



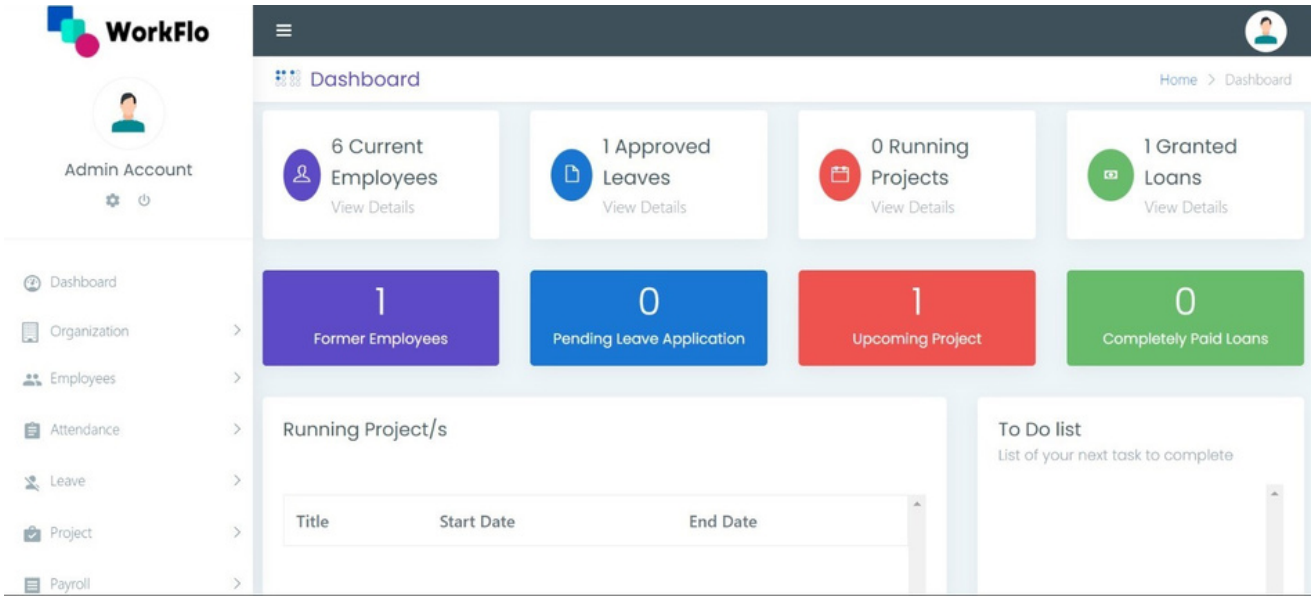
Level 1

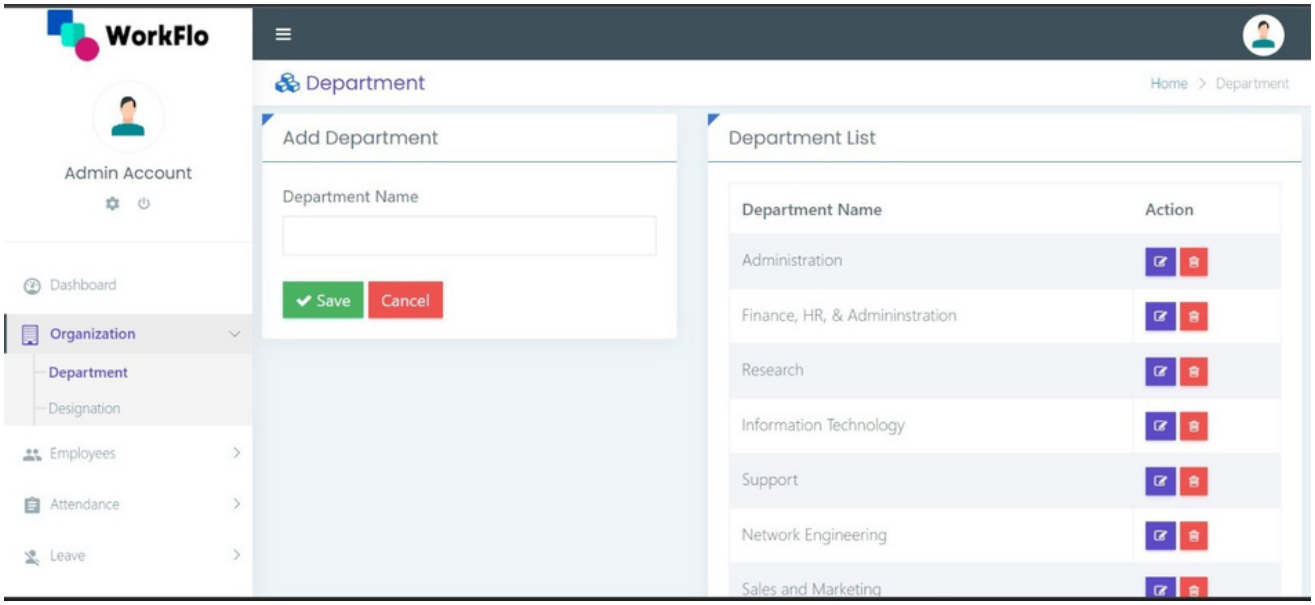

Check details
Allow/disallow login
Admin login 0.1
Login information
Employee database
Login details
Assign/edit delete tasks
Tasks 0.4
Task info
Tasks database
Tasks report
Tasks report
Update tasks
View tasks
Admin
Approve/disapprove leaves
Leaves 0.5
Apply for leaves
Leaves info
Employee
Leaves report
Leaves database
Leaves updation
Leaves info
Leave report
Attendance report
Attendance 0.6
Attendance info
Give attendance
Attendance database
Update attendance list
Notice board 0.7
Post notices
View notices
Projects list
Projects 0.3
Create/edit/delete projects
Update projects
Projects list
Projects database
Login information
Employee database
Check details
Login details
Employee login 0.2
Allow/disallow login
To-do list database
Post/cancel personal to-do list
To-do list database
Update list
To-do list 0.8
Post/cancel personal to-do list
View to-do list
View to-do list
Add/edit/delete/allot a asset
Update asset database
Assets 0.9
Assets database
Pay employees
Payroll database
Payroll 0.10
Update data
Generate payslip and view report
Give loans and receive installments
Loans database
Loans 0.11
Update data
View reports on loans given

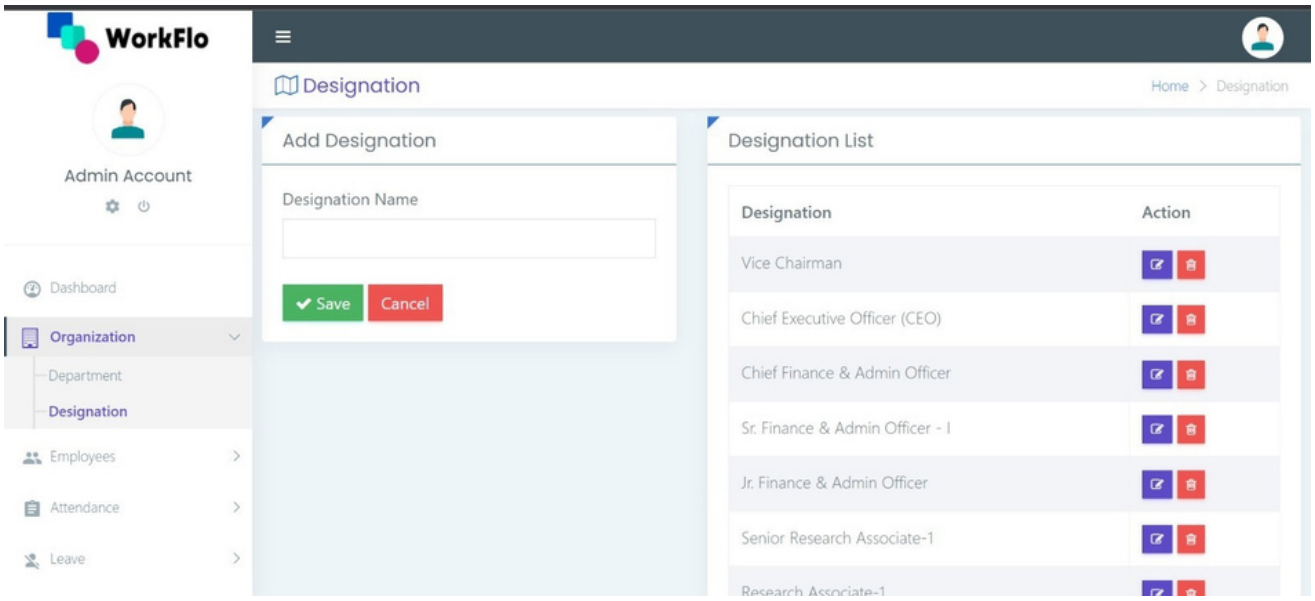
Level 2

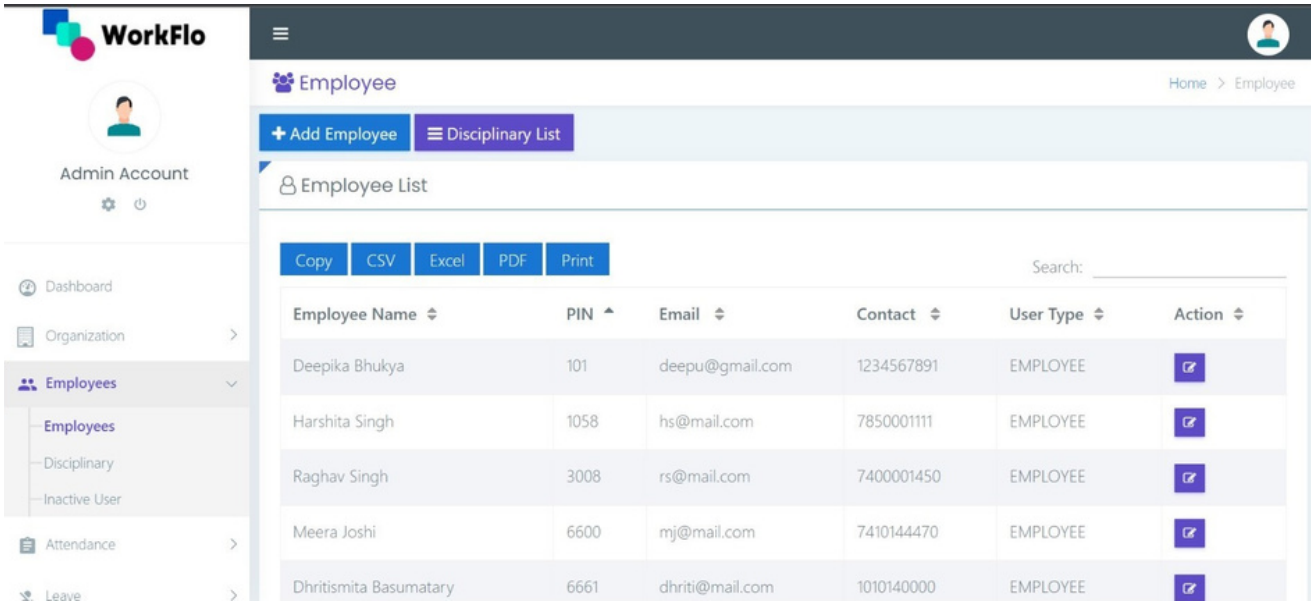

View tasks report
Update a task
Start a task
End a task
Tasks
0.4.1
Task information
Tasks database
View tasks report
Update a task
Admin
Employee
Leaves database
Approve a leave
Leaves information
Apply for leave
Disapprove a leave
View leaves report
Leaves
0.5.1
View leaves report
Give a loan
Loans database
Pay installments
Loans information
Loans
0.11.1
View loans report
Pay employees
Payroll database
Payroll information
Get payslips and reports
Payroll
0.10.1
Add an asset
Delete an asset
Assets database
Allot assets to employees
Assets information
Assets
0.10.1
View assets and their allotment

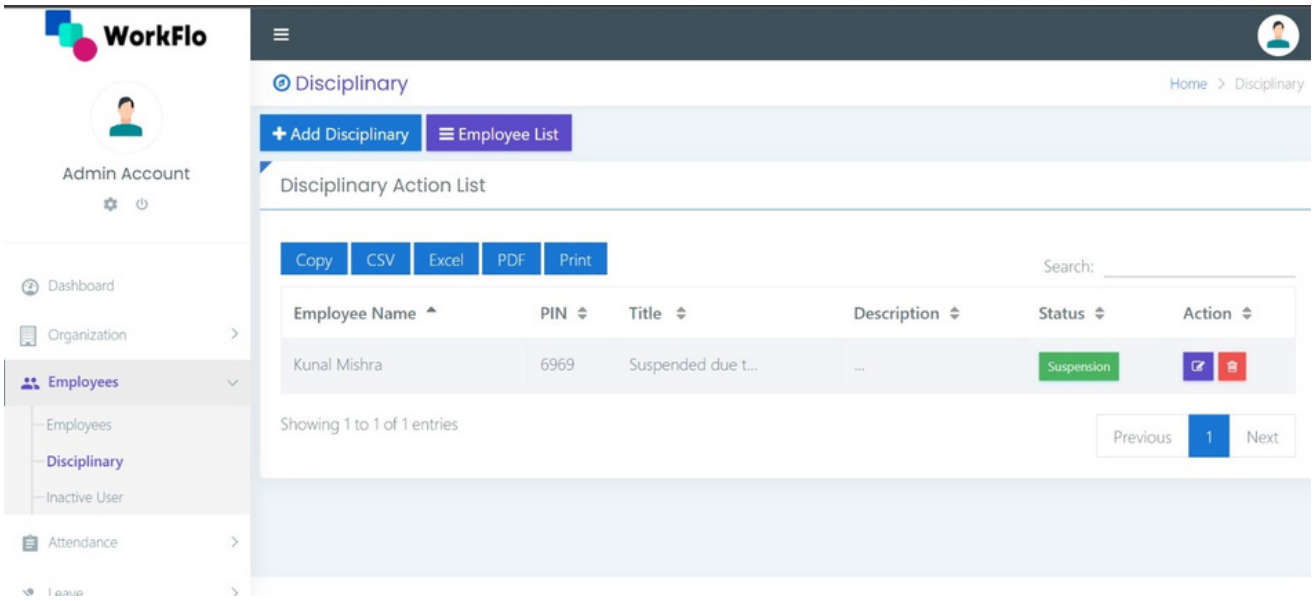
7. Screenshots

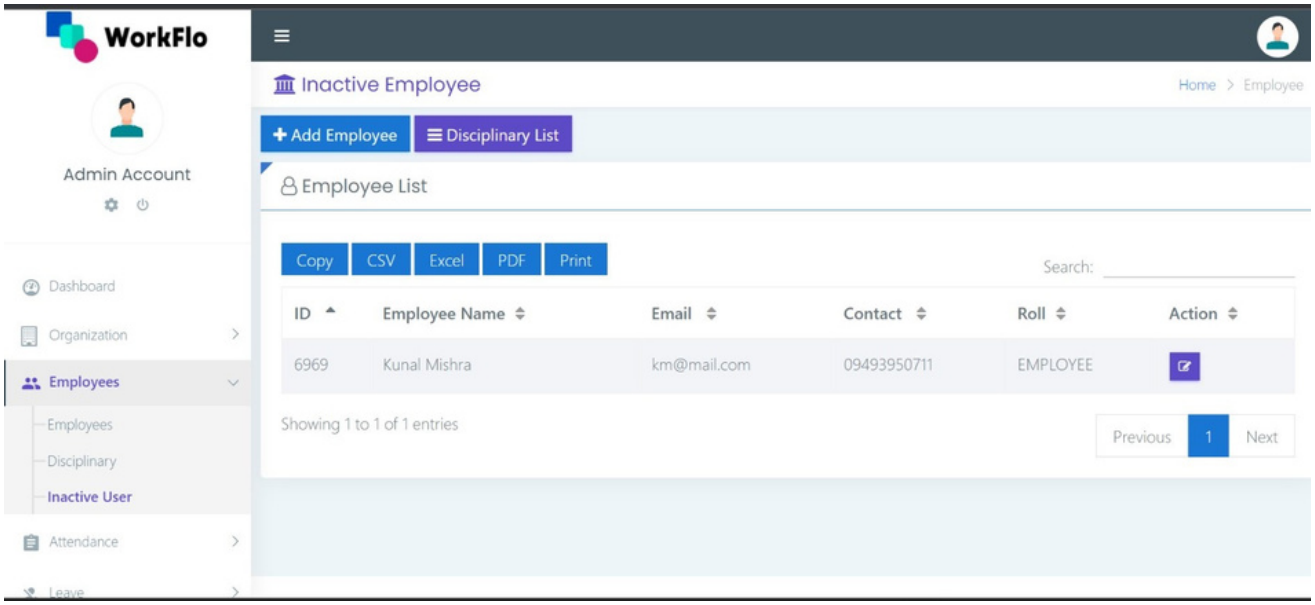





WorkFlo
Admin Account
Dashboard
Organization
Department
Designation
Employees
Attendance
Leave
Designation
Home > Designation
Add Designation
Designation Name
Save
Cancel
Designation List
Designation
Action
Vice Chairman
Chief Executive Officer (CEO)
Chief Finance & Admin Officer
Sr. Finance & Admin Officer - I
Jr. Finance & Admin Officer
Senior Research Associate-1


WorkFlo
Admin Account
Dashboard
Organization
Employees
Employees
Disciplinary
Inactive User
Attendance
Leave
Employee
Home > Employee
+ Add Employee
Disciplinary List
Employee List
Copy
CSV
Excel
PDF
Print
Search:
Employee Name
PIN
Email
Contact
User Type
Action
Deepika Bhukya 101 deepu@gmail.com 1234567891 EMPLOYEE
Harshita Singh 1058 hs@mail.com 7850001111 EMPLOYEE
Raghav Singh 3008 rs@mail.com 7400001450 EMPLOYEE
Meera Joshi 6600 mj@mail.com 7410144470 EMPLOYEE
Dhritismita Basumatary 6661 dhriti@mail.com 1010140000 EMPLOYEE


WorkFlo
Admin Account
Dashboard
Organization
Employees
Employees
Disciplinary
Inactive User
Attendance
Disciplinary
Home > Disciplinary
+ Add Disciplinary
Employee List
Disciplinary Action List
Copy
CSV
Excel
PDF
Print
Search:
Employee Name
PIN
Title
Description
Status
Action
Kunal Mishra
6969
Suspended due t...
...
Suspension
Showing 1 to 1 of 1 entries
Previous
1
Next


WorkFlo
Admin Account
Dashboard
Organization
Employees
Employees
Disciplinary
Inactive User
Attendance
Inactive Employee
Home > Employee
+ Add Employee
Disciplinary List
Employee List
Copy
CSV
Excel
PDF
Print
Search:
ID
Employee Name
Email
Contact
Roll
Action
6969
Kunal Mishra
km@mail.com
09493950711
EMPLOYEE
Showing 1 to 1 of 1 entries
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1
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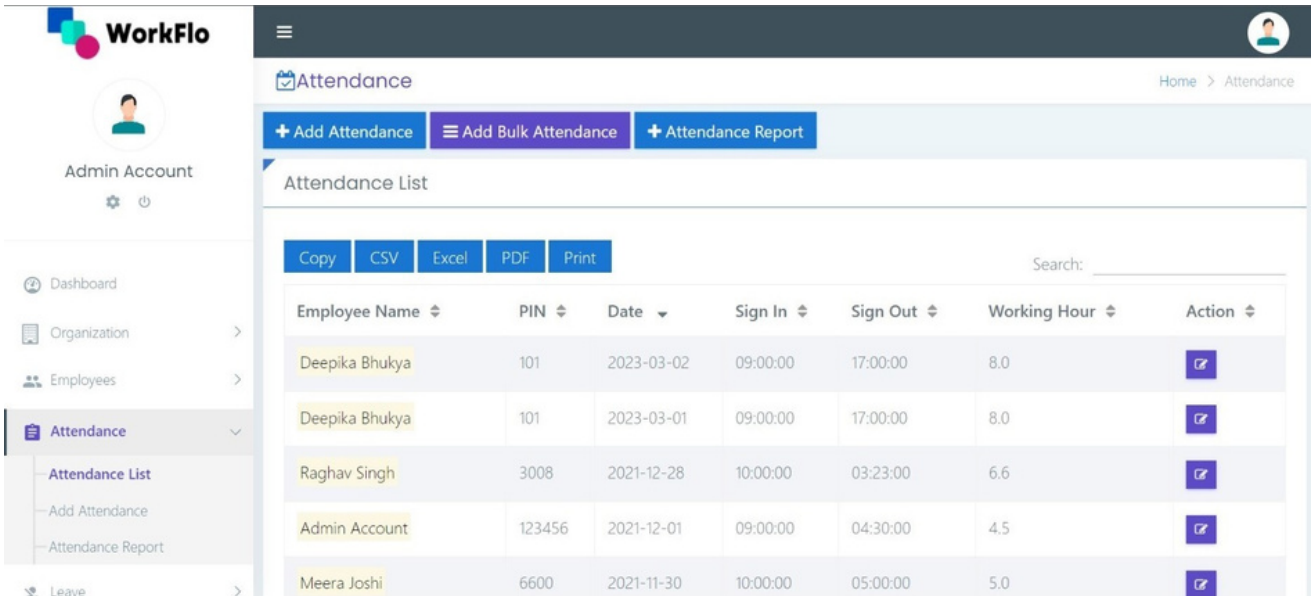
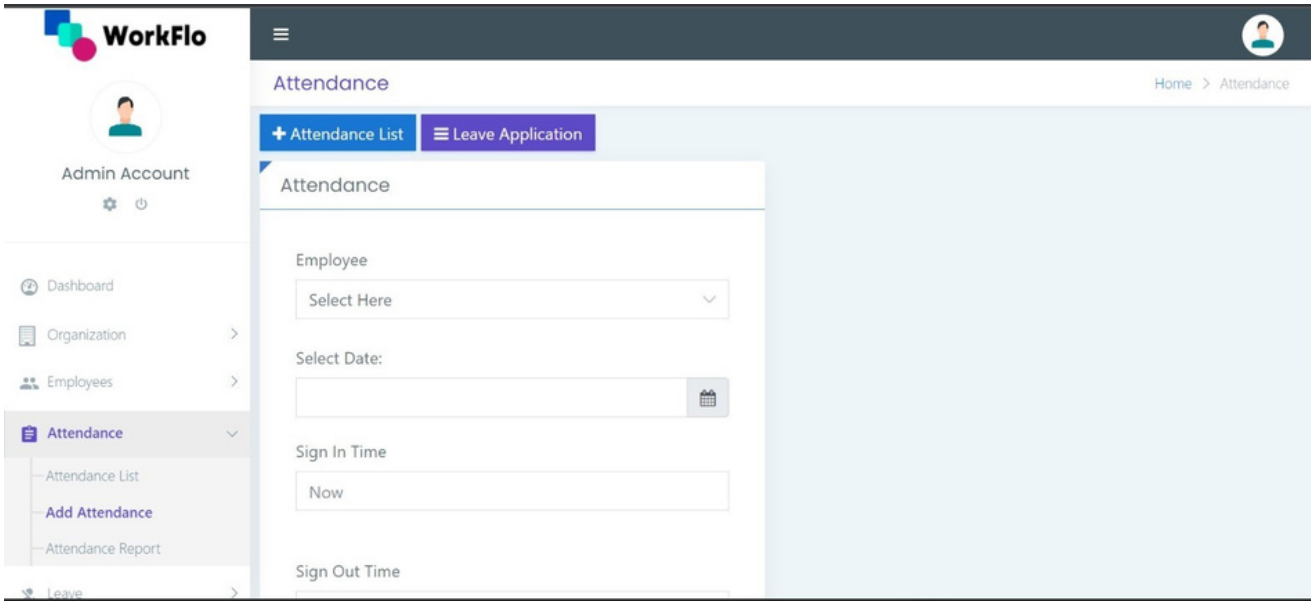
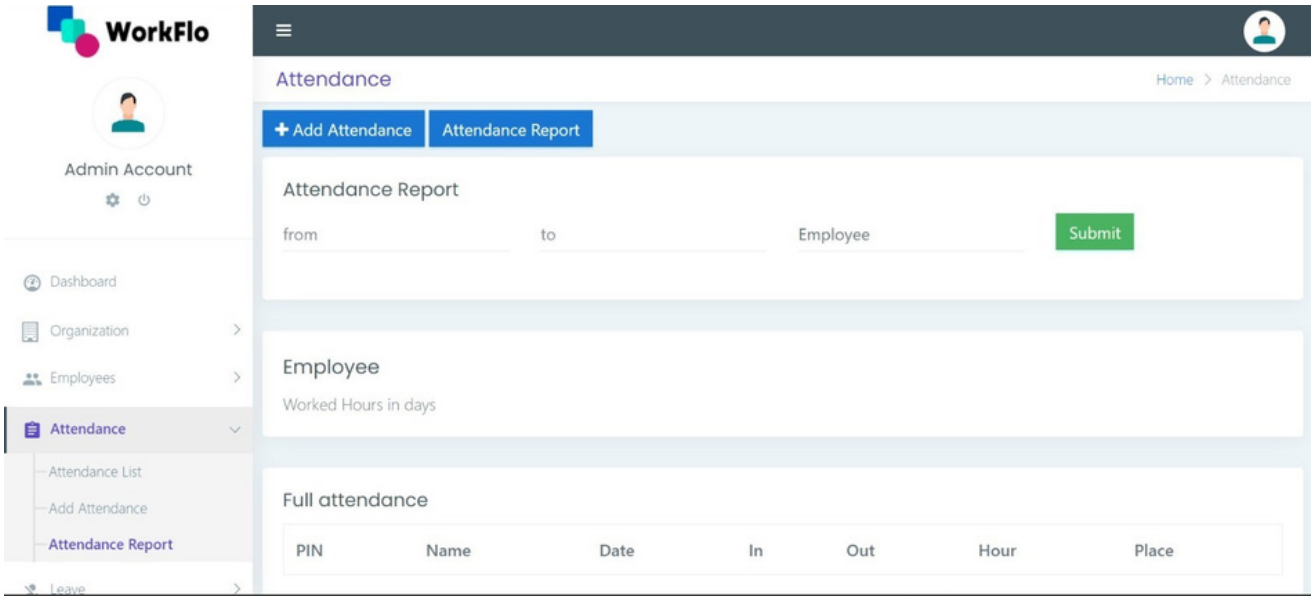
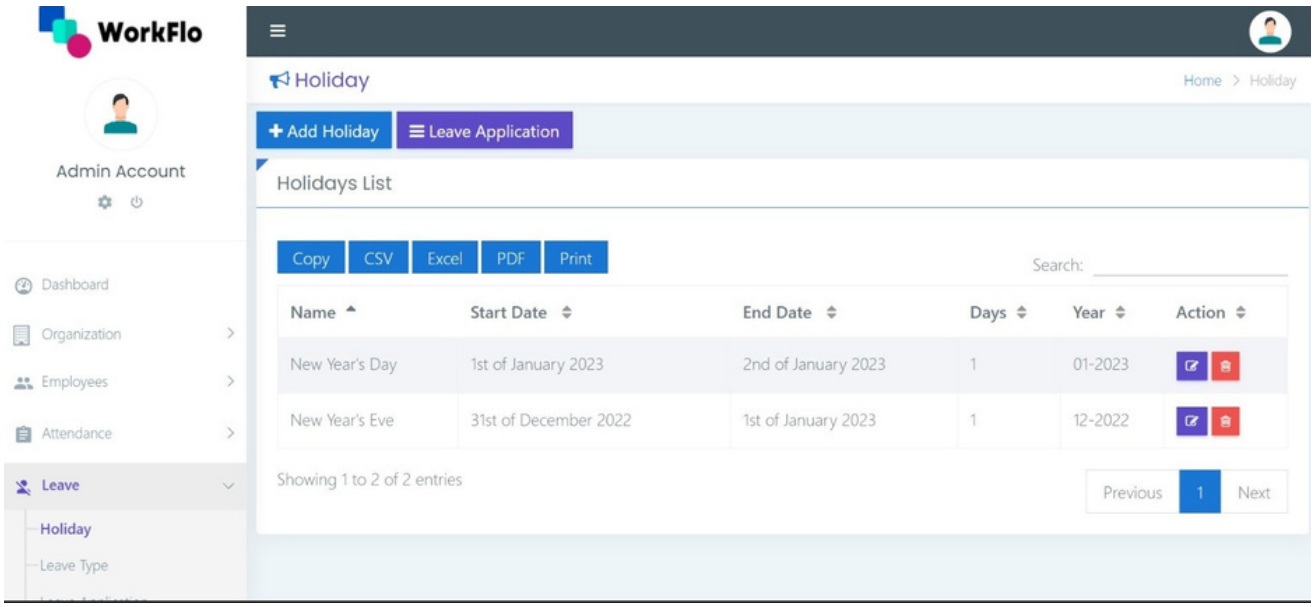
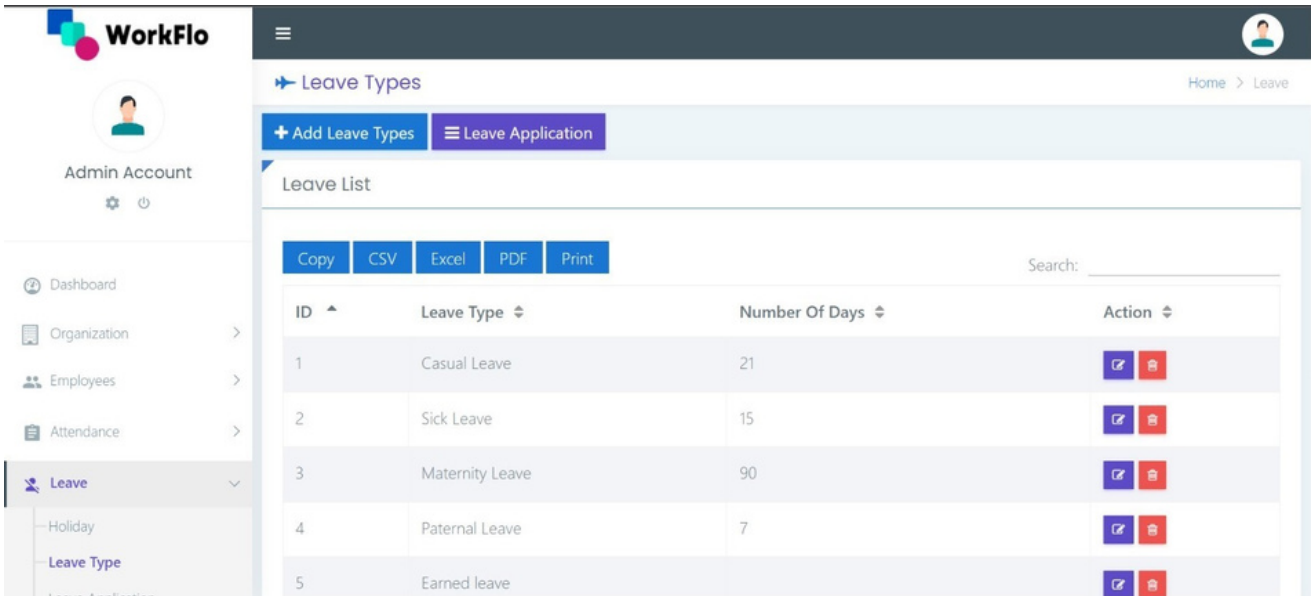
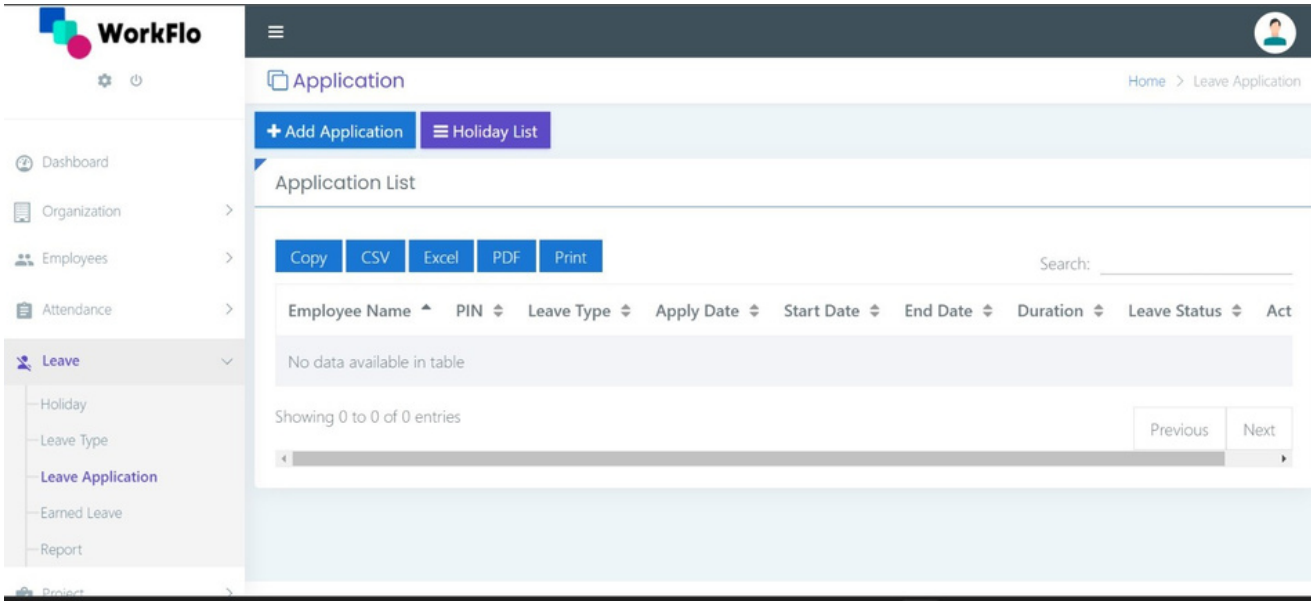

WorkFlo
Admin Account
Dashboard
Organization
Employees
Attendance
Attendance List
Add Attendance
Attendance Report
Leave
Attendance
Home > Attendance
+ Add Attendance
Add Bulk Attendance
+ Attendance Report
Attendance List
Copy
CSV
Excel
PDF
Print
Search:
Employee Name
PIN
Date
Sign In
Sign Out
Working Hour
Action
Deepika Bhukya 101 2023-03-02 09:00:00 17:00:00 8.0
Deepika Bhukya 101 2023-03-01 09:00:00 17:00:00 8.0
Raghav Singh 3008 2021-12-28 10:00:00 03:23:00 6.6
Admin Account 123456 2021-12-01 09:00:00 04:30:00 4.5
Meera Joshi 6600 2021-11-30 10:00:00 05:00:00 5.0

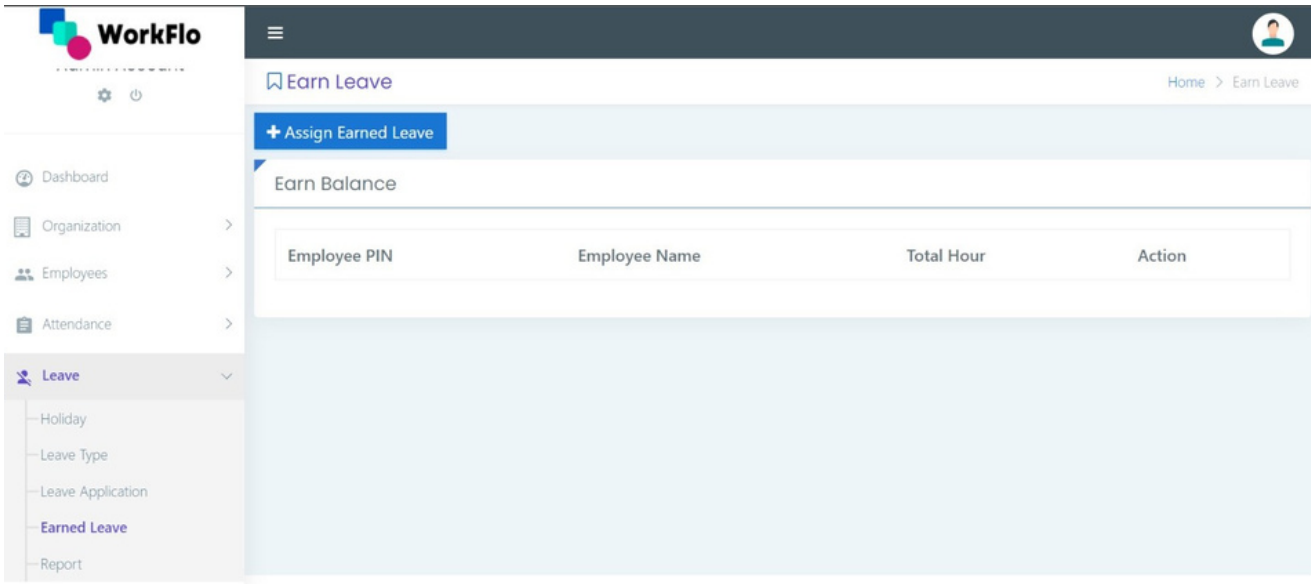

WorkFlo
Admin Account
Dashboard
Organization
Employees
Attendance
Attendance List
Add Attendance
Attendance Report
Leave
Attendance
Home > Attendance
+ Attendance List
Leave Application
Attendance
Employee
Select Here
Select Date:
Sign In Time
Now
Sign Out Time

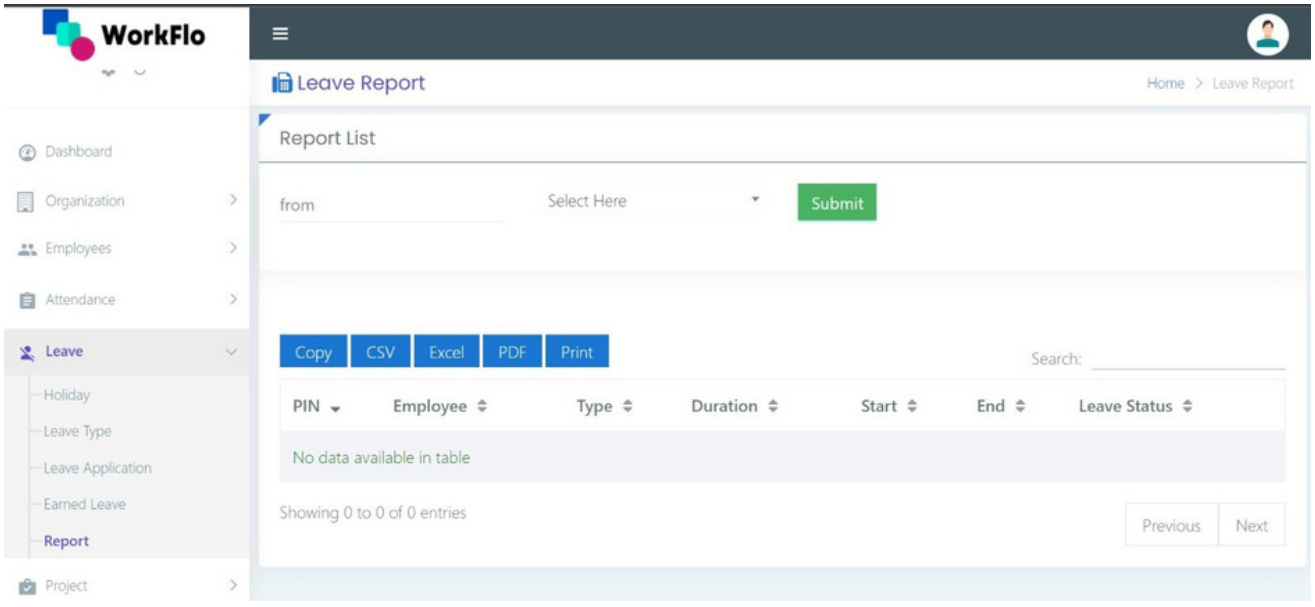

WorkFlo
Admin Account
Dashboard
Organization
Employees
Attendance
Attendance List
Add Attendance
Attendance Report
Leave
Attendance
Home > Attendance
+ Add Attendance
Attendance Report
Attendance Report
from
to
Employee
Submit
Employee
Worked Hours in days
Full attendance
PIN
Name
Date
In
Out
Hour
Place

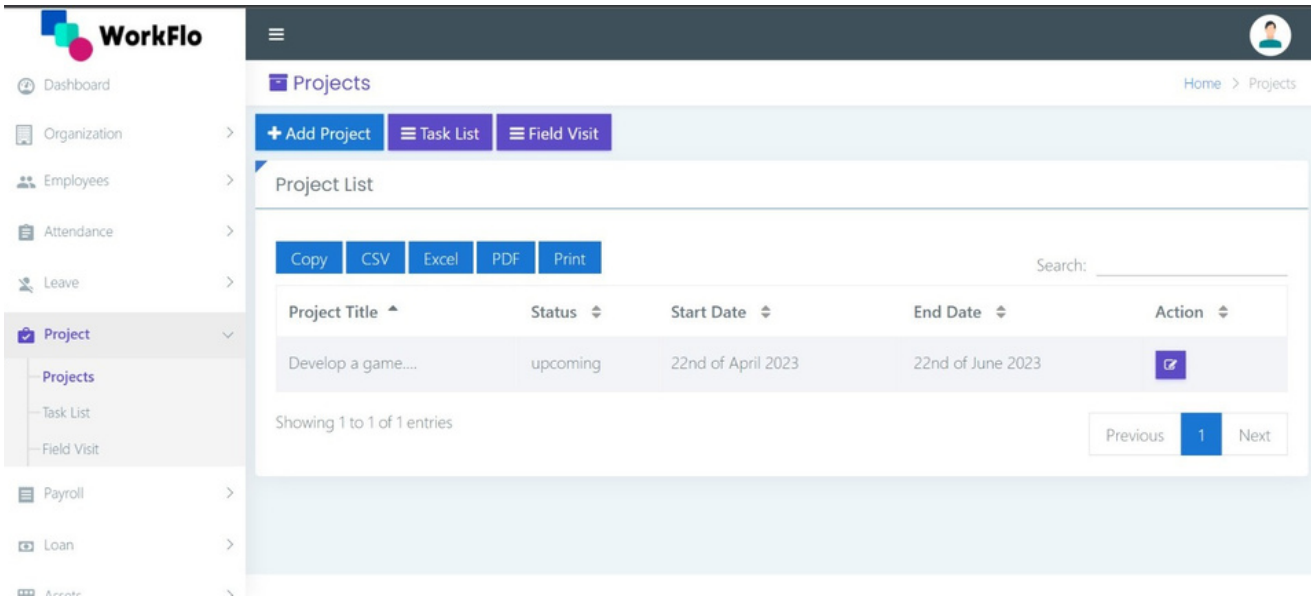

WorkFlo
Admin Account
Dashboard
Organization
Employees
Attendance
Leave
Holiday
Leave Type
Holiday
Home > Holiday
+ Add Holiday
Leave Application
Holidays List
Copy
CSV
Excel
PDF
Print
Search:
Name
Start Date
End Date
Days
Year
Action
New Year's Day
1st of January 2023
2nd of January 2023
1
01-2023
New Year's Eve
31st of December 2022
1st of January 2023
1
12-2022
Showing 1 to 2 of 2 entries
Previous
1
Next

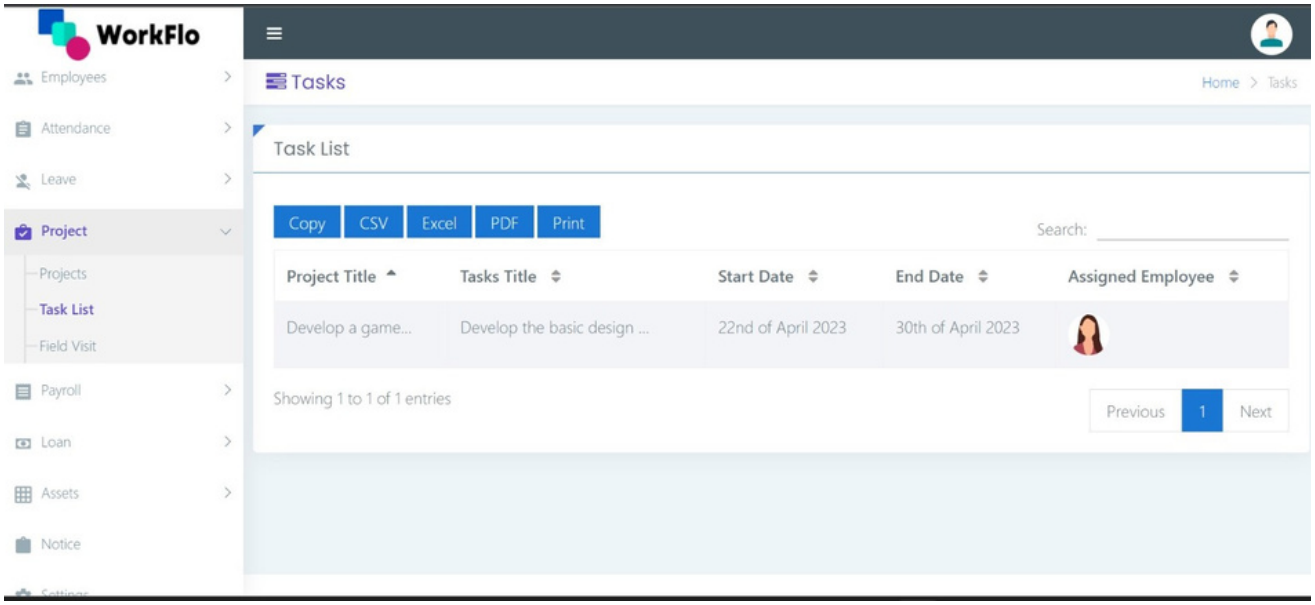

WorkFlo
Admin Account
Dashboard
Organization
Employees
Attendance
Leave
Holiday
Leave Type
Leave Types
Home > Leave
Add Leave Types
Leave Application
Leave List
Copy
CSV
Excel
PDF
Print
Search:
ID
Leave Type
Number Of Days
Action
1
Casual Leave
21
2
Sick Leave
15
3
Maternity Leave
90
4
Paternal Leave
7
5
Earned leave

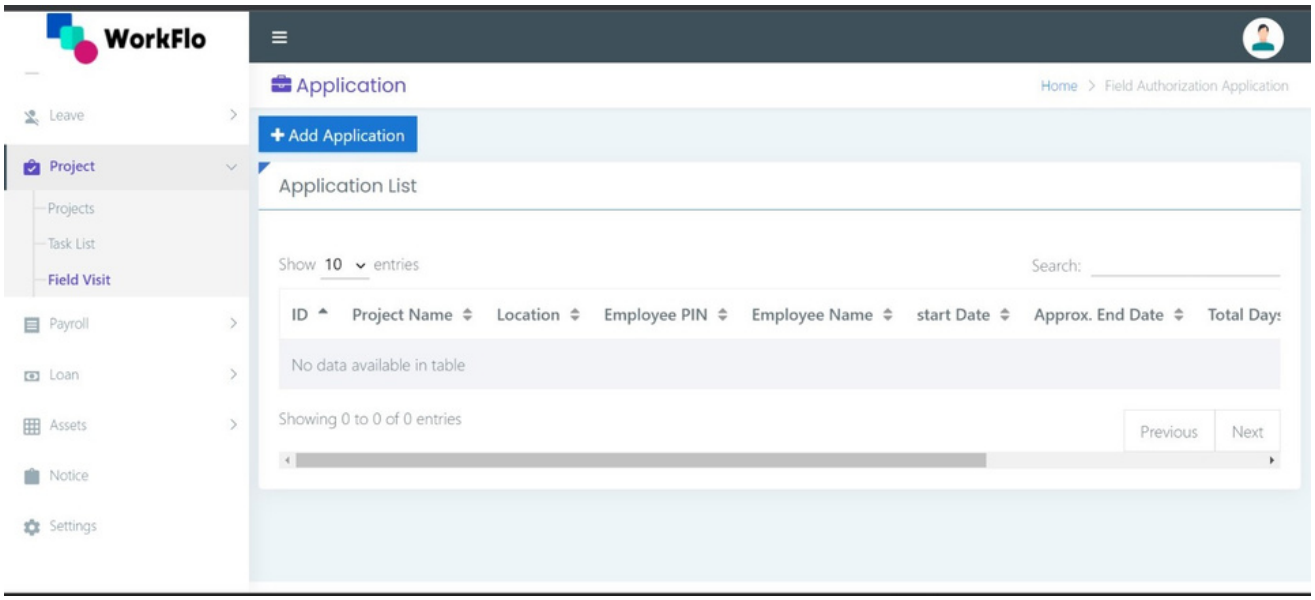

WorkFlo
Dashboard
Organization
Employees
Attendance
Leave
Holiday
Leave Type
Leave Application
Earned Leave
Report
Application
Home > Leave Application
Add Application
Holiday List
Application List
Copy
CSV
Excel
PDF
Print
Search:
Employee Name
PIN
Leave Type
Apply Date
Start Date
End Date
Duration
Leave Status
Act
No data available in table
Showing 0 to 0 of 0 entries
Previous
Next

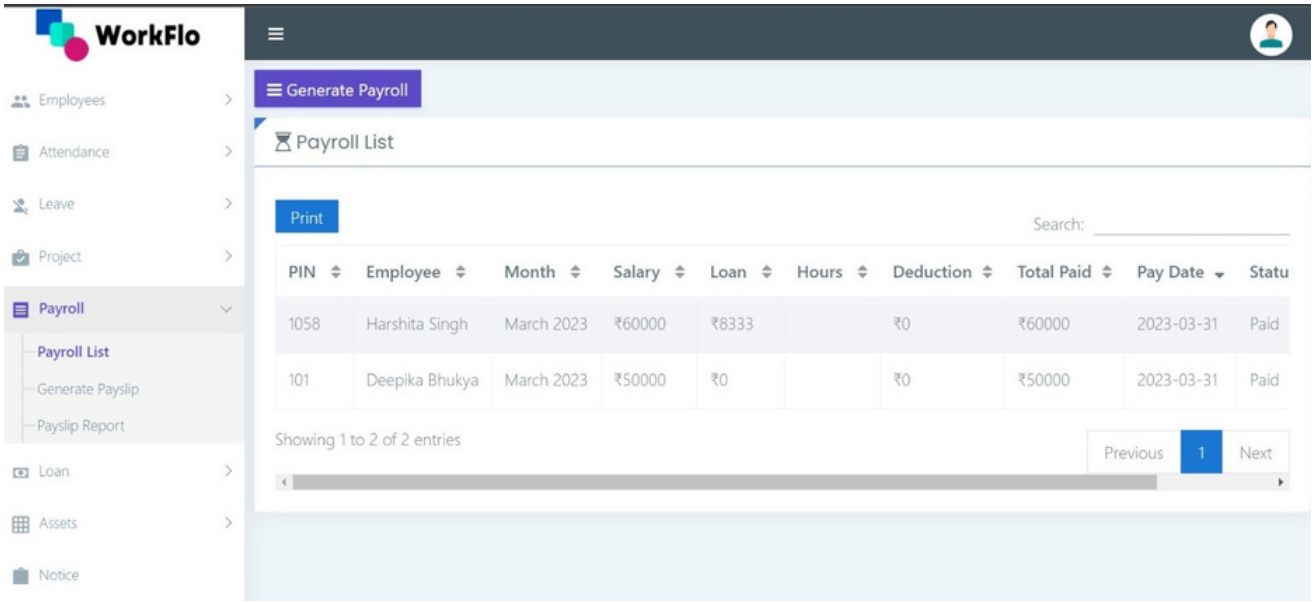

WorkFlo
Earn Leave
Home > Earn Leave
+ Assign Earned Leave
Earn Balance
Employee PIN
Employee Name
Total Hour
Action
Dashboard
Organization
Employees
Attendance
Leave
Holiday
Leave Type
Leave Application
Earned Leave
Report

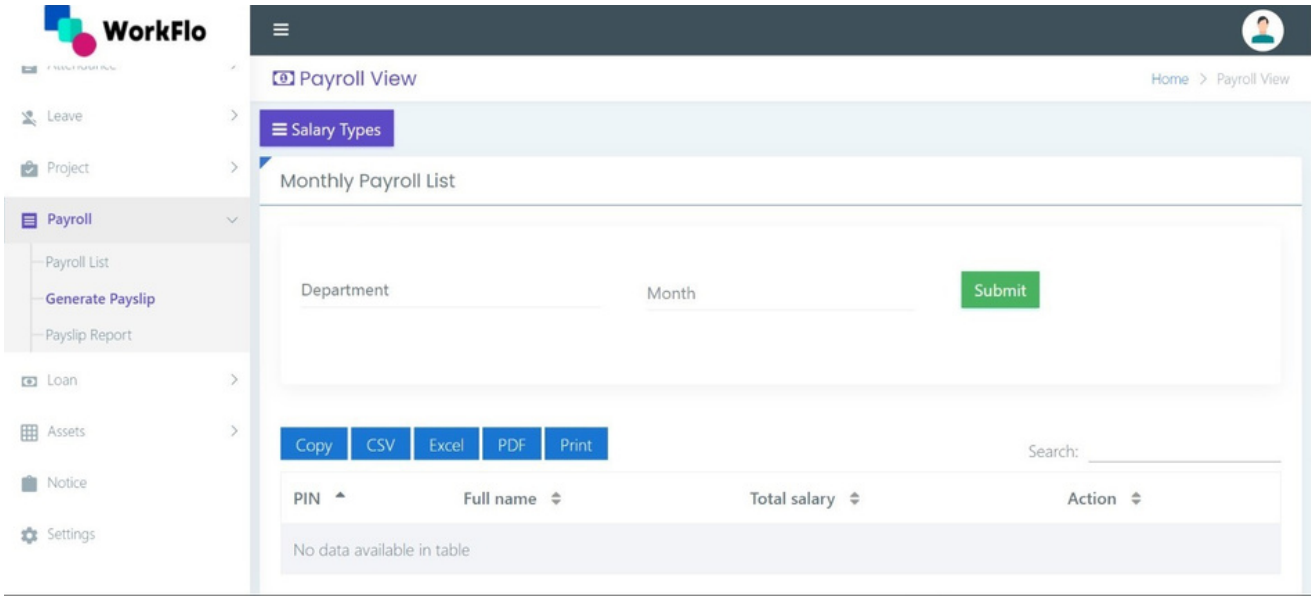

WorkFlo
Leave Report
Home > Leave Report
Report List
from
Select Here
Submit
Copy
CSV
Excel
PDF
Print
Search:
PIN
Employee
Type
Duration
Start
End
Leave Status
No data available in table
Showing 0 to 0 of 0 entries
Previous
Next
Dashboard
Organization
Employees
Attendance
Leave
Holiday
Leave Type
Leave Application
Earned Leave
Report
Project

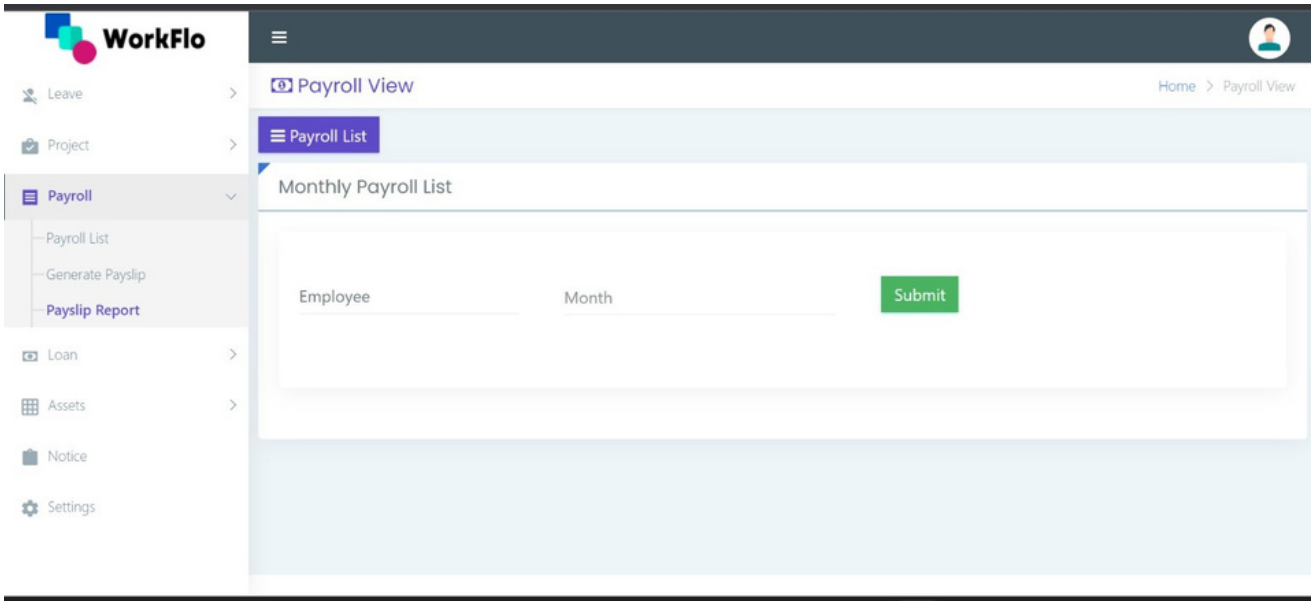

WorkFlo
Dashboard
Organization
Employees
Attendance
Leave
Project
Projects
Task List
Field Visit
Payroll
Loan
Projects
Home > Projects
+ Add Project
Task List
Field Visit
Project List
Copy
CSV
Excel
PDF
Print
Search:
Project Title
Status
Start Date
End Date
Action
Develop a game....
upcoming
22nd of April 2023
22nd of June 2023
Showing 1 to 1 of 1 entries
Previous
1
Next

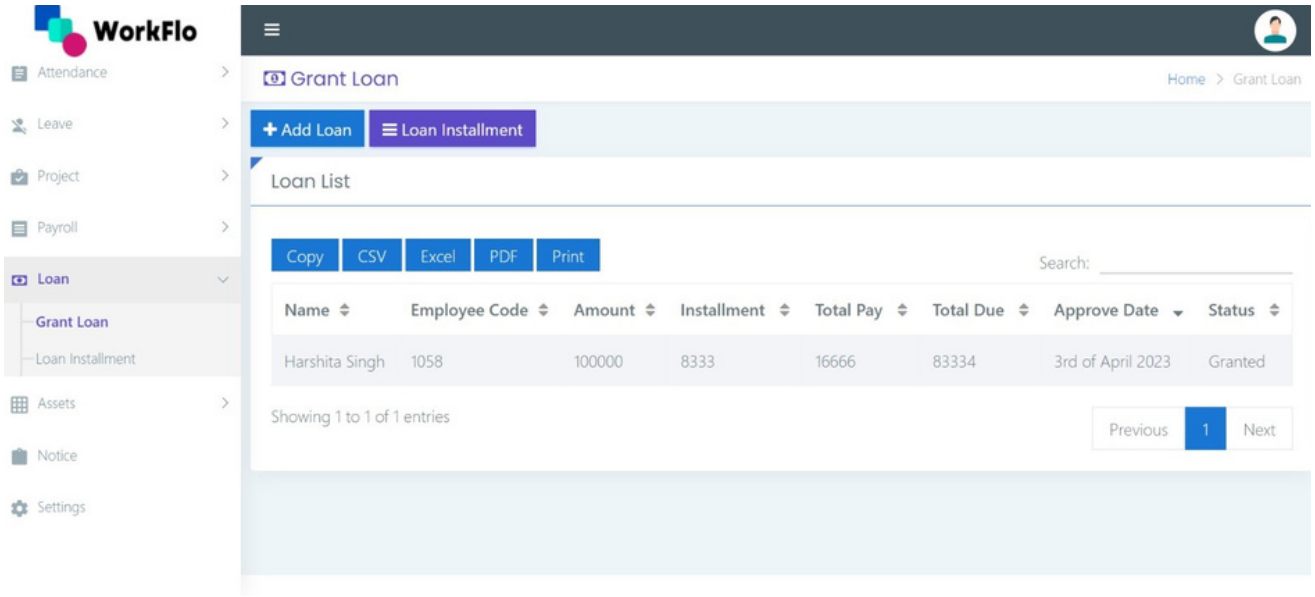

WorkFlo
Employees
Attendance
Leave
Project
Projects
Task List
Field Visit
Payroll
Loan
Assets
Notice
Tasks
Home > Tasks
Task List
Copy
CSV
Excel
PDF
Print
Search:
Project Title
Tasks Title
Start Date
End Date
Assigned Employee
Develop a game...
Develop the basic design ...
22nd of April 2023
30th of April 2023
Showing 1 to 1 of 1 entries
Previous
1
Next

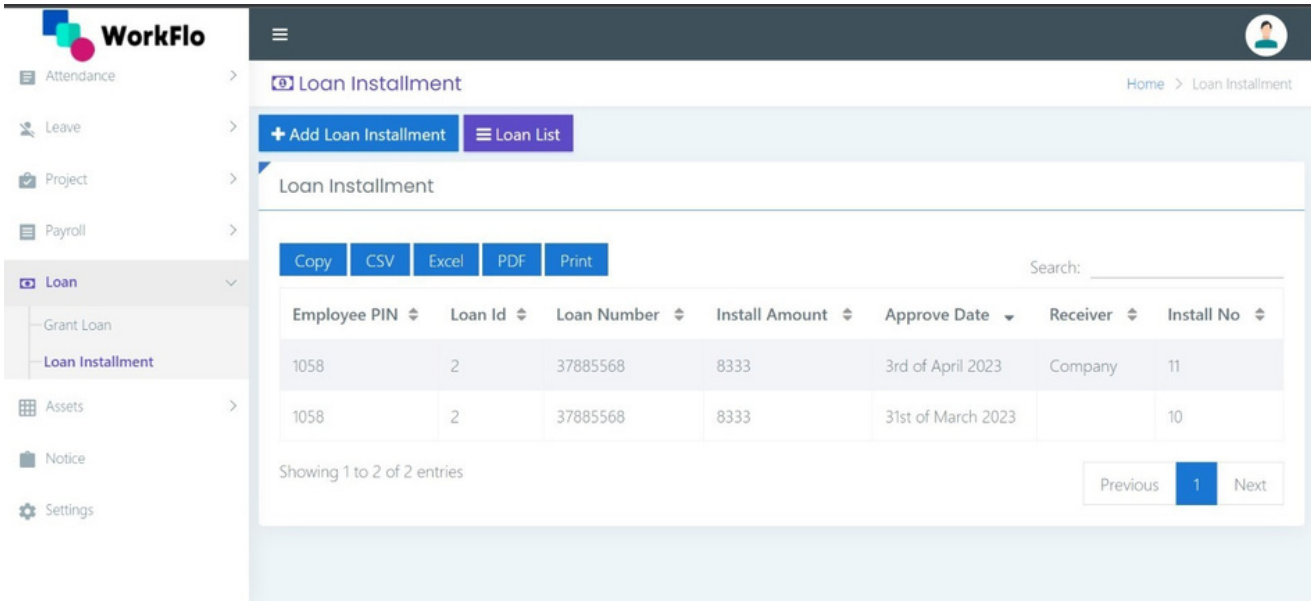

WorkFlo
Leave
Project
Projects
Task List
Field Visit
Payroll
Loan
Assets
Notice
Settings
Application
Home > Field Authorization Application
+ Add Application
Application List
Show 10 entries
Search:
ID
Project Name
Location
Employee PIN
Employee Name
start Date
Approx. End Date
Total Days
No data available in table
Showing 0 to 0 of 0 entries
Previous
Next

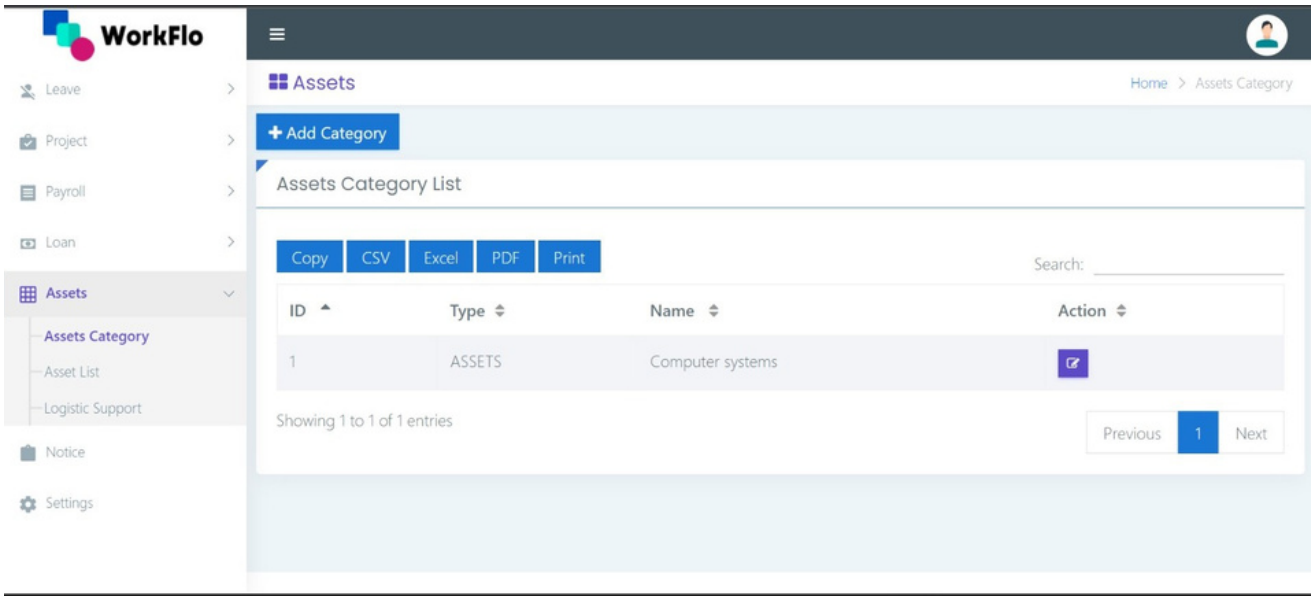

WorkFlo
Employees
Attendance
Leave
Project
Payroll
Payroll List
Generate Payslip
Payslip Report
Loan
Assets
Notice
Generate Payroll
Payroll List
Print
Search:
PIN
Employee
Month
Salary
Loan
Hours
Deduction
Total Paid
Pay Date
Statu
1058
Harshita Singh
March 2023
₹60000
₹8333
₹0
₹60000
2023-03-31
Paid
101
Deepika Bhukya
March 2023
₹50000
₹0
₹0
₹50000
2023-03-31
Paid
Showing 1 to 2 of 2 entries
Previous
1
Next

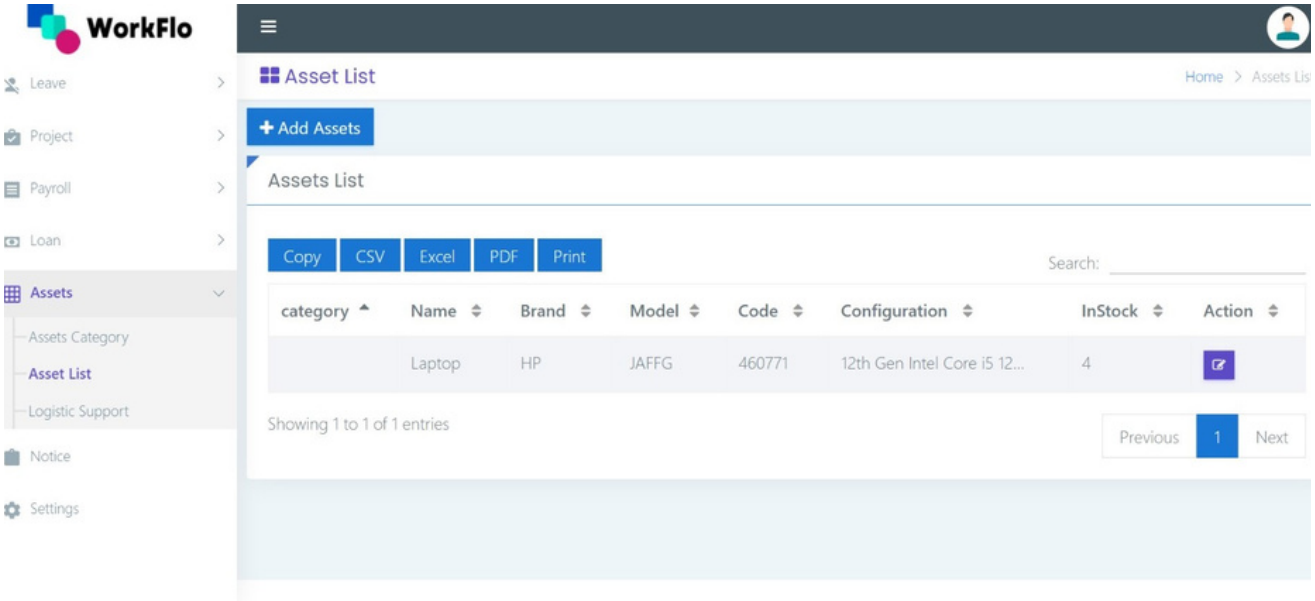

WorkFlo
Payroll View
Home > Payroll View
Leave
Project
Payroll
Payroll List
Generate Payslip
Payslip Report
Loan
Assets
Notice
Settings
Salary Types
Monthly Payroll List
Department
Month
Submit
Copy
CSV
Excel
PDF
Print
Search:
PIN
Full name
Total salary
Action
No data available in table


WorkFlo
Payroll View
Home > Payroll View
Leave
Project
Payroll
Payroll List
Generate Payslip
Payslip Report
Loan
Assets
Notice
Settings
Payroll List
Monthly Payroll List
Employee
Month
Submit


WorkFlo
Attendance
Leave
Project
Payroll
Loan
Grant Loan
Loan Installment
Assets
Notice
Settings
Grant Loan
Home > Grant Loan
+ Add Loan
Loan Installment
Loan List
Copy
CSV
Excel
PDF
Print
Search:
Name
Employee Code
Amount
Installment
Total Pay
Total Due
Approve Date
Status
Harshita Singh
1058
100000
8333
16666
83334
3rd of April 2023
Granted
Showing 1 to 1 of 1 entries
Previous
1
Next


WorkFlo
Attendance
Leave
Project
Payroll
Loan
Grant Loan
Loan Installment
Assets
Notice
Settings
Loan Installment
Home > Loan Installment
+ Add Loan Installment
Loan List
Loan Installment
Copy
CSV
Excel
PDF
Print
Search:
Employee PIN
Loan Id
Loan Number
Install Amount
Approve Date
Receiver
Install No
1058
2
37885568
8333
3rd of April 2023
Company
11
1058
2
37885568
8333
31st of March 2023
10
Showing 1 to 2 of 2 entries
Previous
1
Next


WorkFlo
Leave
Project
Payroll
Loan
Assets
Assets Category
Asset List
Logistic Support
Notice
Settings
Assets
Home > Assets Category
+ Add Category
Assets Category List
Copy CSV Excel PDF Print
Search:
ID Type Name Action
1 ASSETS Computer systems
Showing 1 to 1 of 1 entries
Previous 1 Next


WorkFlo
Leave
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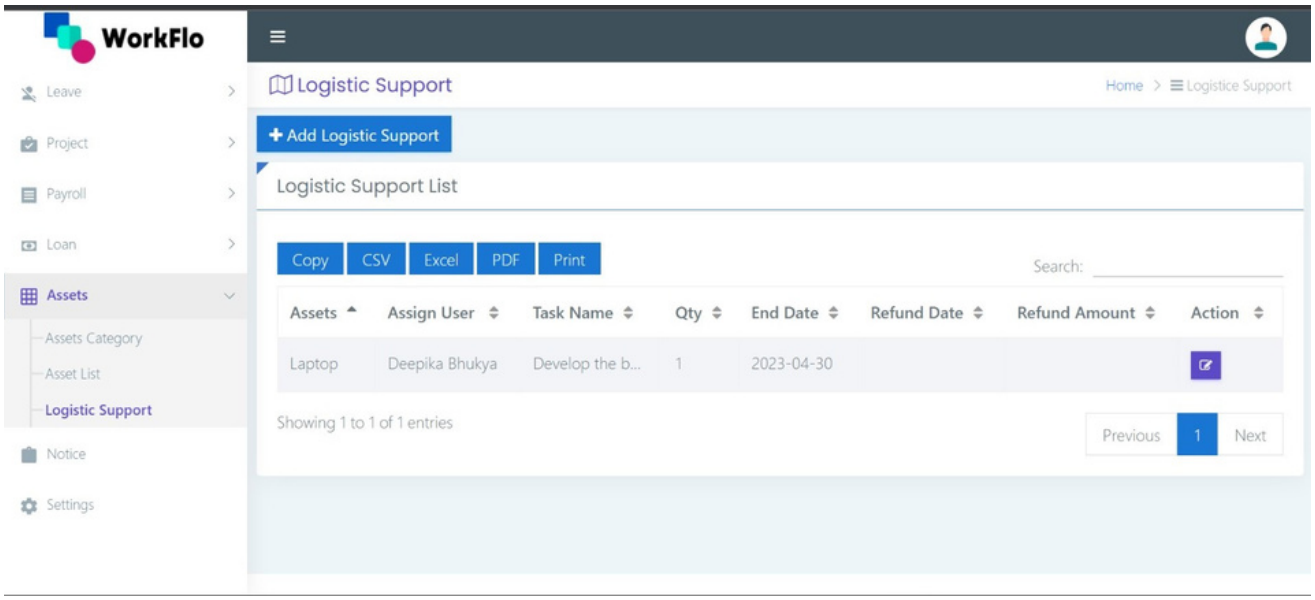
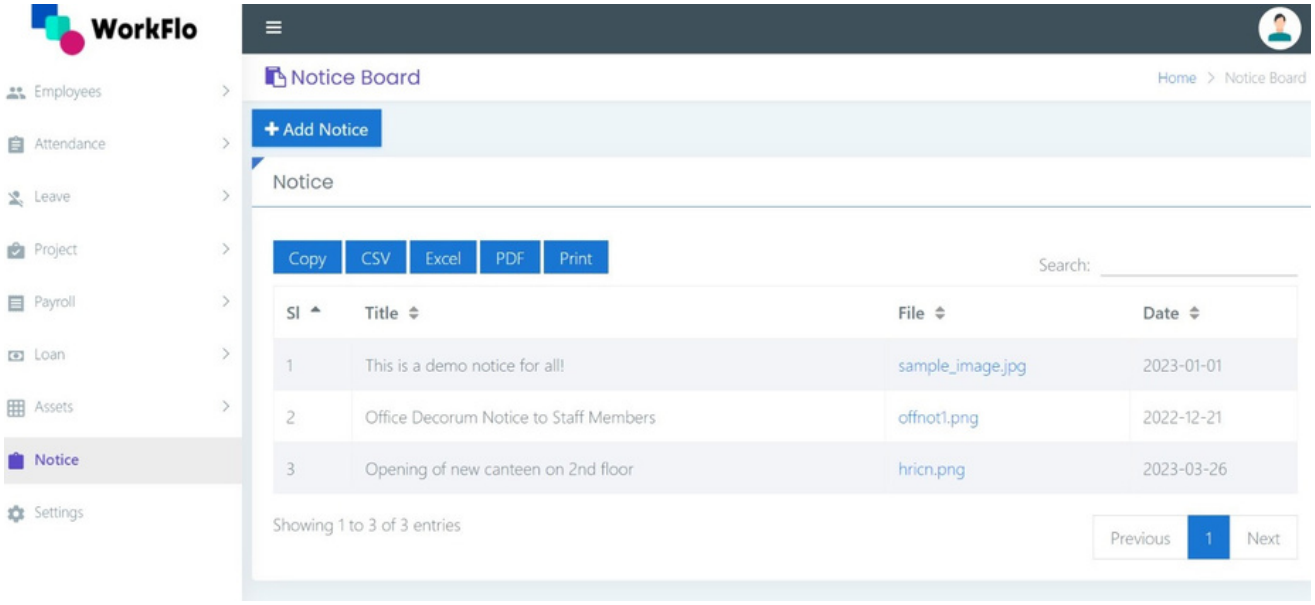
Assets Category
Asset List
Logistic Support
Notice
Settings
Asset List
Home > Assets Lis
+ Add Assets
Assets List
Copy CSV Excel PDF Print
Search:
category Name Brand Model Code Configuration InStock Action
Laptop HP JAFFG 460771 12th Gen Intel Core i5 12... 4
Showing 1 to 1 of 1 entries
Previous 1 Next


WorkFlo
Leave
Project
Payroll
Loan
Assets
Assets Category
Asset List
Logistic Support
Notice
Settings
Logistic Support
Home > Logistice Support
+ Add Logistic Support
Logistic Support List
Copy CSV Excel PDF Print
Search:
Assets Assign User Task Name Qty End Date Refund Date Refund Amount Action
Laptop Deepika Bhukya Develop the b... 1 2023-04-30
Showing 1 to 1 of 1 entries
Previous 1 Next


WorkFlo
Employees
Attendance
Leave
Project
Payroll
Loan
Assets
Notice
Settings
Notice Board
Home > Notice Board
+ Add Notice
Notice
Copy CSV Excel PDF Print
Search:
Sl Title File Date
1 This is a demo notice for all! sample_image.jpg 2023-01-01
2 Office Decorum Notice to Staff Members offnot1.png 2022-12-21
3 Opening of new canteen on 2nd floor hricn.png 2023-03-26
Showing 1 to 3 of 3 entries
Previous 1 Next