SOFTWARE REQUIREMENTS SPECIFICATION (SRS)

OF

Human Resources Management System (HRMS)

Version 1.0

Approval

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Revision History

Date	Version	Short Description	Author
March 16, 2014	1.0	First Version	Mallik, M.A.

1 PURPOSE

This document is the software requirement specifications for the product Human Resources Management Systems (HRMS) of Organization Ltd. a sweater manufacturer and supplier in Bangladesh. The document intends to describe the requirements for HRMS as a Web Based System, which handles the Factory employee (Workers & Staffs). HRMS is the information storage uses from every module of the system (i.e. Payroll Management System –PRS)

The HRMS Module first makes complete employee information for a factory with every aspect of requirements Like, Employee Basic information for identification, Employee Education, Spouse, Children, Employee disciplinary actions information keeping. Second, It helps to keep employee attendances. Third, it keeps employee leave information. Fourth, it helps to generates employee payroll. Lastly, it helps other modules to keep information of these employee production activities.

The present business working is as follows:
Every organization manages its employee information in a manual way with printed hard papers. Ruplai Organization has its manual process for staff selection. After maintaining a series of process (Recquisition from branches and divisions, meeting to finalize the total number of recruitments, advertising to the news papers, receives applications, checking and finalize the applications, engages institute(s) to conduct the written exam and the results, short list for viva exam by own authorities, finalize the recruitment, appoint the new staffs) Organization engages its new employee.
After new appointment, staffs get orientation and sometimes a basic course before posting to workplace. After posting, employee starts his / her work and after some times (say, three years) they have transfer process to another branch or division. They have evaluation, and after that increment and promotion taken place. Organization has facilities for limited medical treatment assistance, education leave, children education assistance, house loan, spouse assistance with provident fund and gratuity. All the information now maintains by manual printed paper system with some registers.
Organization follows all government rules for employee. It has one year leave before retirement, leave encashment, pension or one time cash received against pension.
Organization has manual system for leave system. All employee need to apply in a prescribed form to the proper management. After approval the leave taken place in the leave register. And one copy maintains in the printed format in the employee file. Organization could not know all present employee leave status at a glance.
For attendance Organization uses one register for each branch or department. Manual signature process is follows by the Organization .

Benefits of HRMS Implementation:

This software system will help to keeps all employee information is the system. The application will be WEB-based information storage and retrieval system that will replace the long-outdated manual system to help the task to keeping and using the employee information efficiently. Historical information helps the management to take any level decision of the employee (recruitment, transfer, promotion, termination etc.). The Benefits would be:

Employee Information:

- ✓ Easy to Know Employee Basic Information
- ✓ Employee Current Posting Information
- ✓ Employee Transfer Information
- ✓ Employee Promotion Information
- ✓ Employee Punishment Information
- ✓ Historical information can be maintained property
- ✓ User can view Reports:
    - Employee Cards
    - Employee Personal Report
    - Employee Appointment Letter
    - Employee Transfer Report
    - Notices to Employee
    - Outgoing Employee List
    - Employee Increment Letter
    - Job Closing Report

Attendance Information:

- ✓ Easy to Know Employee's Attendance Status Information
- ✓ Previous Attendance information for decision taking
- ✓ Historical information can be maintained property
- ✓ User can view Reports:
    - Employee Attendance Register
    - Employee Job Card Report
    - Employee Over Time Report
    - Employee Absence Report
    - Employee Out of Office Report

Leave Information:

- ✓ Easy to Know Employee's Leave Status Information
- ✓ Previous leave information for decision taking
- ✓ Historical information can be maintained property
- ✓ User can view Reports:
    - Employee Leave Register

- Employee Leave List
- Employee Leave Application Report
- Employee Leave Application List
- Employee Leave Approval Report
- Employee Approved Leave Cancellation Report

Payroll Information:

- ✓ The payroll would be centrally maintained. Thus a total picture would available very easily.
- ✓ As the process would be automated, scope of errors would be less.
- ✓ Summary of paid salary generation for any month in an easy manner.
- ✓ Preparation of salary sheet in an easy but effective way, avoiding all complexities and less time consumption.
- ✓ Involvement of little resource to prepare a correct salary sheet in details.
- ✓ All Advance details management easily.
- ✓ All Deductions details management in an easy manner.
- ✓ The whole process will involve less manpower.
- ✓ Generation of required reports with a little resource and correctly.
    - Monthly Summary of Salary Bill for the Head Office
    - Monthly Salary Sheet with Item wise Production
    - Monthly Production Salary Summary Sheet
        - Fist Salary Sheet
        - Second Salary Sheet
        - Third Salary Sheet
    - Monthly Staff Salary Summary Sheet
        - Fist Salary Sheet
        - Second Salary Sheet
        - Third Salary Sheet
    - Fixed Salary Sheet
        - Fist Salary Sheet
        - Second Salary Sheet
        - Third Salary Sheet
    - Salary Pay Slip
    - Employee wise Salary Payment Report
    - Section wise Salary Payment Report
    - Maternity Bill Requisition & Approved Report

This document is consists of four parts of four modules of the HRMS. Those are:

1. Employee Management System

2. Attendance Management System
3. Leave Management System
4. Payroll Management System

Benefits of HRMS Implementation:

This software system will help to keeps all employee information is the system. The application will be WEB-based information storage and retrieval system that will replace the long-outdated manual system to help the task to keeping and using the employee information efficiently. Historical information helps the management to take any level decision of the employee (recruitment, transfer, promotion, termination etc.). The Benefits would be:

- ✓ Easy to Know Employee Basic Information
- ✓ Employee Current Posting Information
- ✓ Employee Transfer Information
- ✓ Employee Promotion Information
- ✓ Employee Punishment Information
- ✓ Historical information can be maintained property
- ✓ Live Attendance
- ✓ Manpower at a glance with present
- ✓ Leave List
- ✓ Single clicked Payroll generation
- ✓ Pay bill to Head Office
- ✓ Payslip
- ✓ User can view Reports of the four modules:

2 OVERVIEW OF THE MODULE/SOFTWARE

HRMS, centralized intelligent component, will streamline the exchange of information between Employee and the departments/branches involved. HRMS, the single window internet application, will provide global visibility and access to the central database populated from the information exchanged between the stakeholders. HRMS Portal for the AICL communities will provide the interface for the stakeholders to interact with HRMS and also provide a platform for publishing information to the peoples involved in Organization .

The interaction between HRMS players in the proposed system is depicted in the diagrams below:

Employee Basic Information

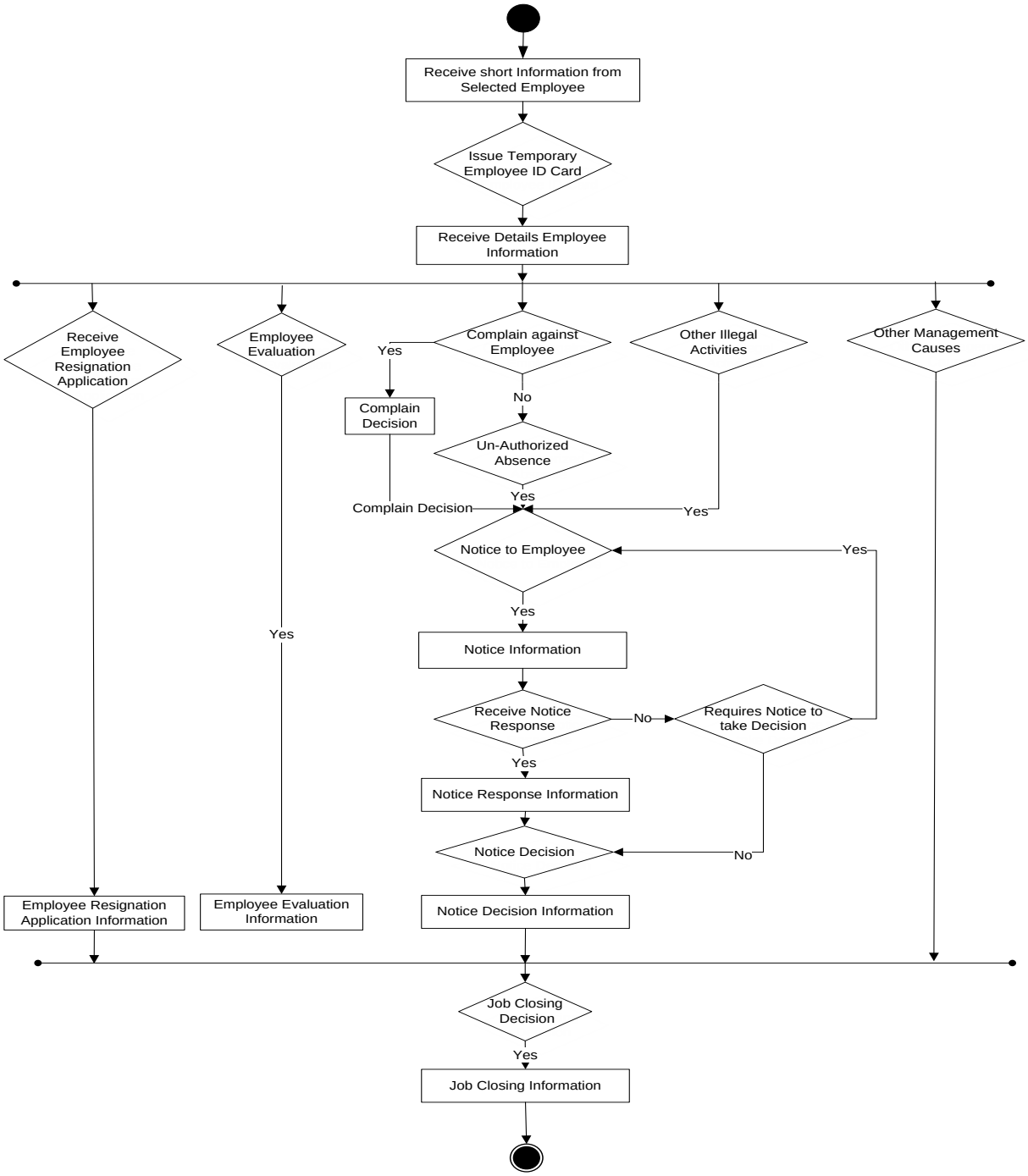

Figure 1: Activity Diagram of Employee Basic Information

- HRMS (Employee Basic Information) allow authorized personnel to log in to the system.
- The Website Administrator and Regular User , Divisional User has the options for performing either administrative tasks i.e. employee information and other related activities or generates report.
- The Website Administrator and Regular User , Divisional User has the options for performing Notice to Employee, Decision Making related activity.
- If notice generated, notice response and decision very much involved with that.
- If complain initiated from employee, decision must comes with punishment or not.
- Evaluation process is fully depends on management, system only keeps the information.

Employee Basic Information

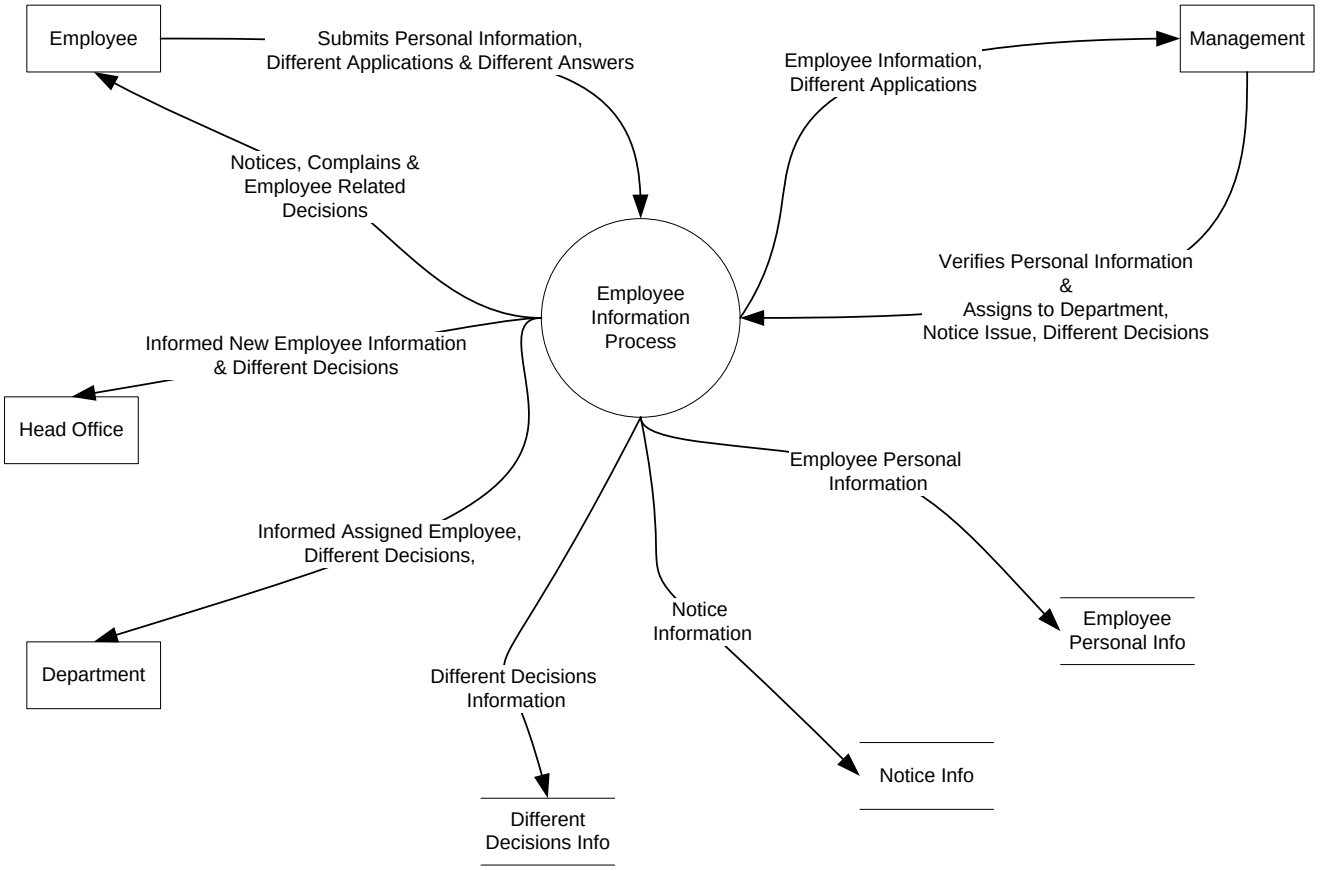

Figure 2: Context Diagram of Employee Basic Information

- The HRMS (**Employee Basic Informaiton**) receives any employee joining information, Employee Evaluation (Increment, Transfer or Promotion), Complains, Notices, Resignation, Job Closing information details is sent to the Head Office and respective department and factory.

Employee Basic Information

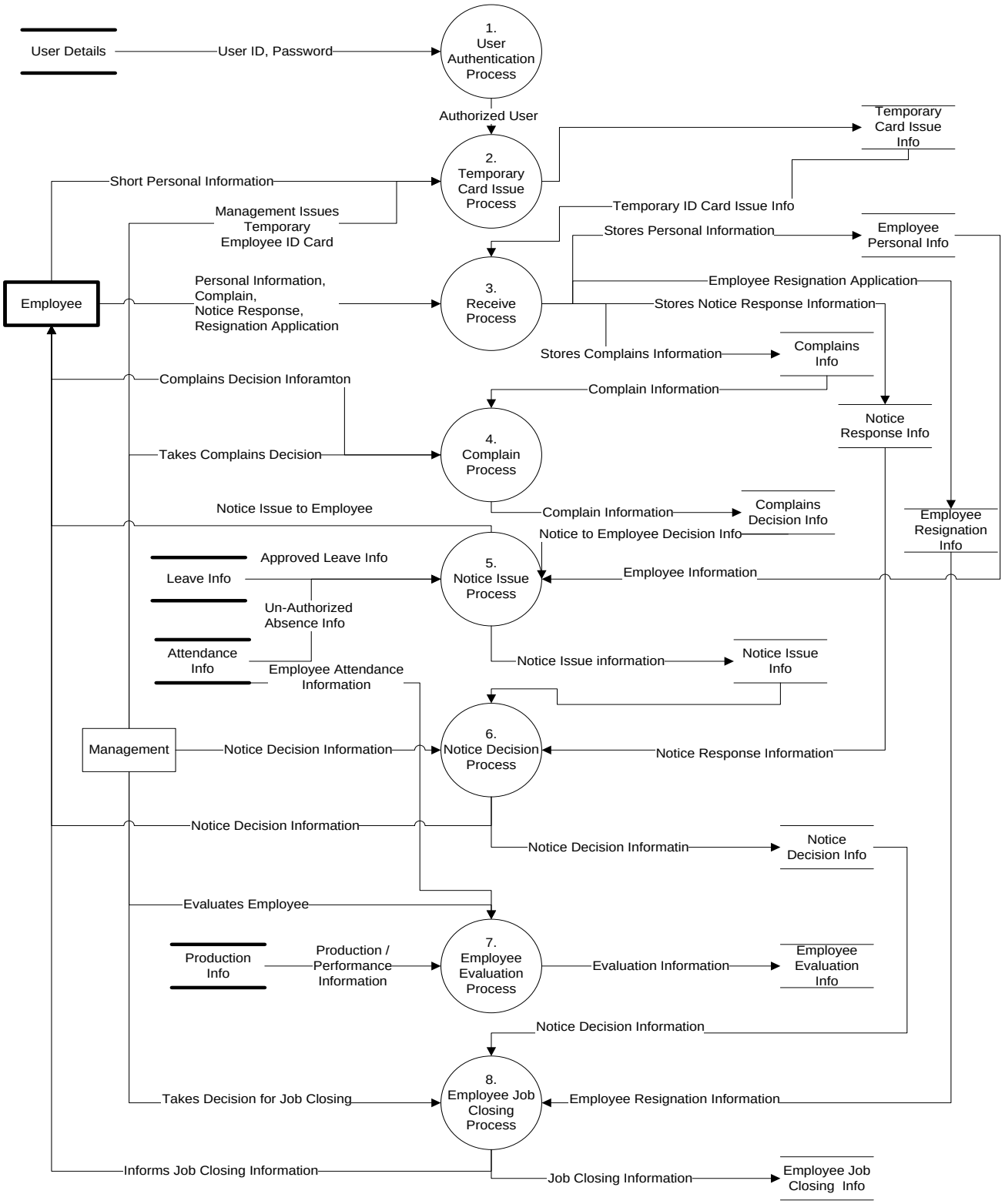

Figure 3: System Level DFD of Employee Basic Information

It has 8 processes:

- Login Process
- Receive Process
- Complain Process
- Notice Issue Process
- Notice Decision Process
- Employee Evaluation Process
- Employee Job Closing Process

Login is a common process for all modules. It ensures user authorization.This card would be state as permanent after employee full information received by the authority and with authority approval. The Probationary & Permanent Level workers treated as Permanent for the Card. Receive process receives all the information (complains, notice response, other information) from employee. Notice issue is an activities takes place when employee conducts un-authorized absence or other types of illegal activities. Notice decision, Employee evaluation is a management work, system helps to show the present state of an employee. Employee Resignation or Un-Authorized activities of employee starts employee job closing process. Management also starts this process with some define grounds. System helps management to show the current status of an employee. System keeps all the related information of every process.

Employee Leave System

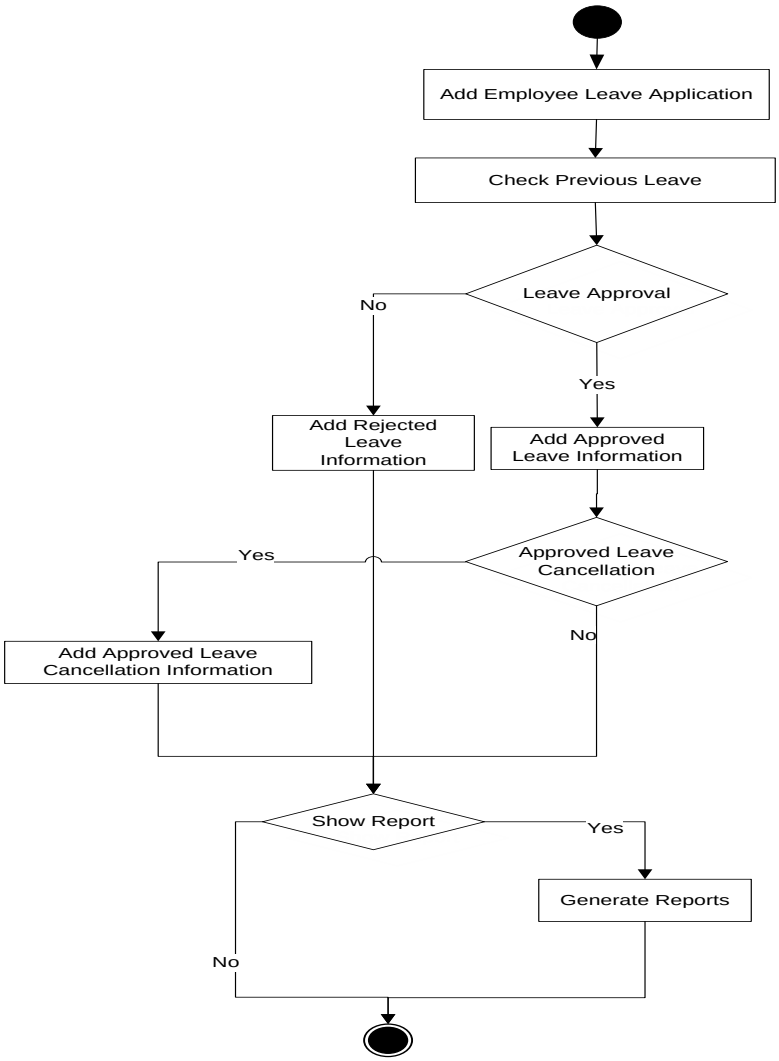

Figure 4: Activity Diagram of Leave System

- Leave allow authorized personnel to log in to the system.
- The Website Administrator and Regular User , Divisional Userhas the options for performing either administrative tasks i.e. employee leave entry and other related activities or generates report.
- The Website Administrator and Regular User , Divisional User has the options for performing Leave Approval, Decision Making related activity.
- Authorized user adds employee leave information into the system.
- In the Approval time, User checks previous leave status.
- System keeps information of Approved & Rejected Leave Application.
- System keeps information about approved leave cancellation information.
- If reports require showing then, system generates the report.

Employee Leave System

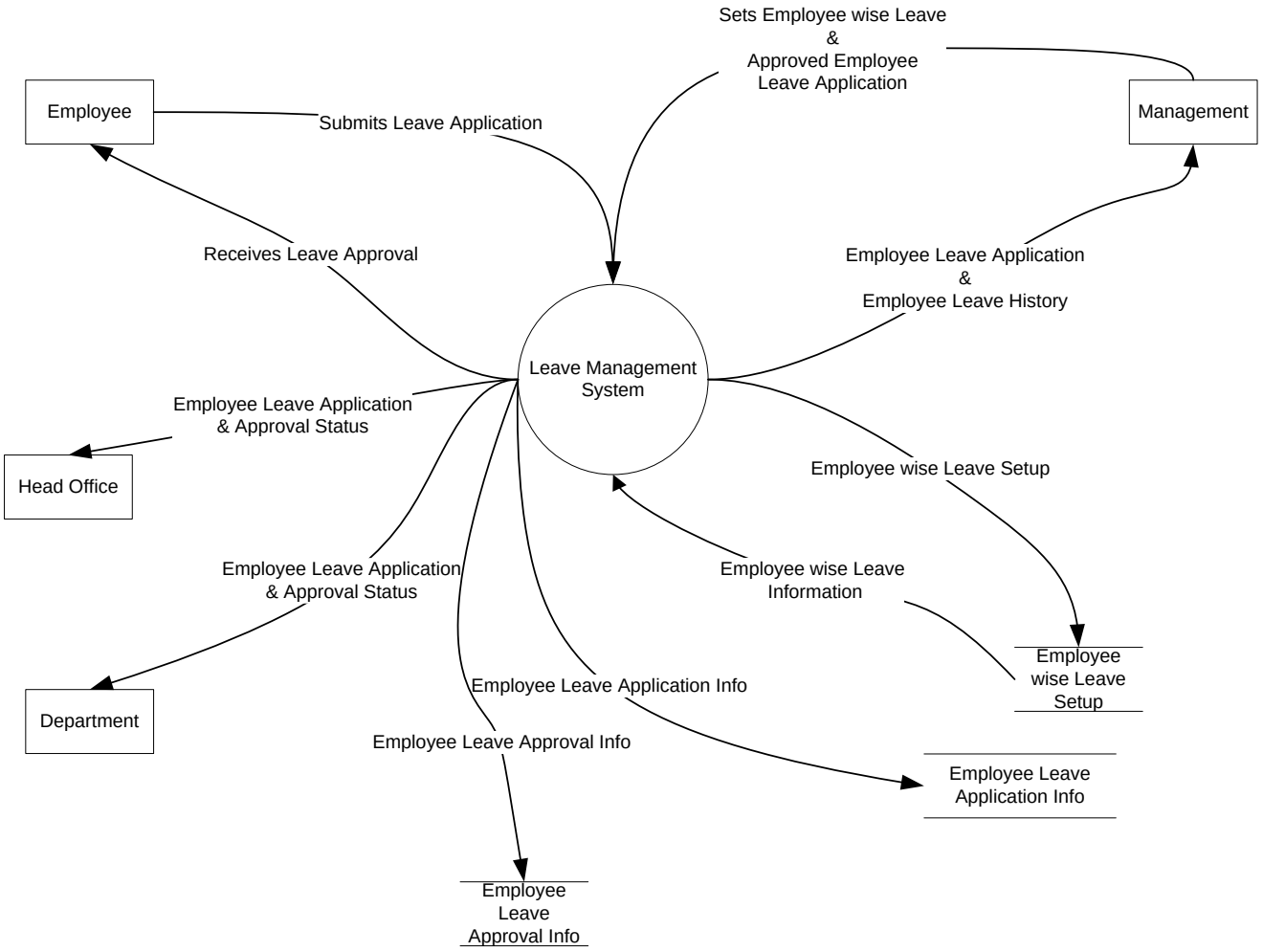

Figure 5: Context Diagram of Leave System

The Leave System receives any leave application from employee, keeps in the system. Further, management level approved the leave application with help of previous information and details sent to the Head Office and respective department and branch.

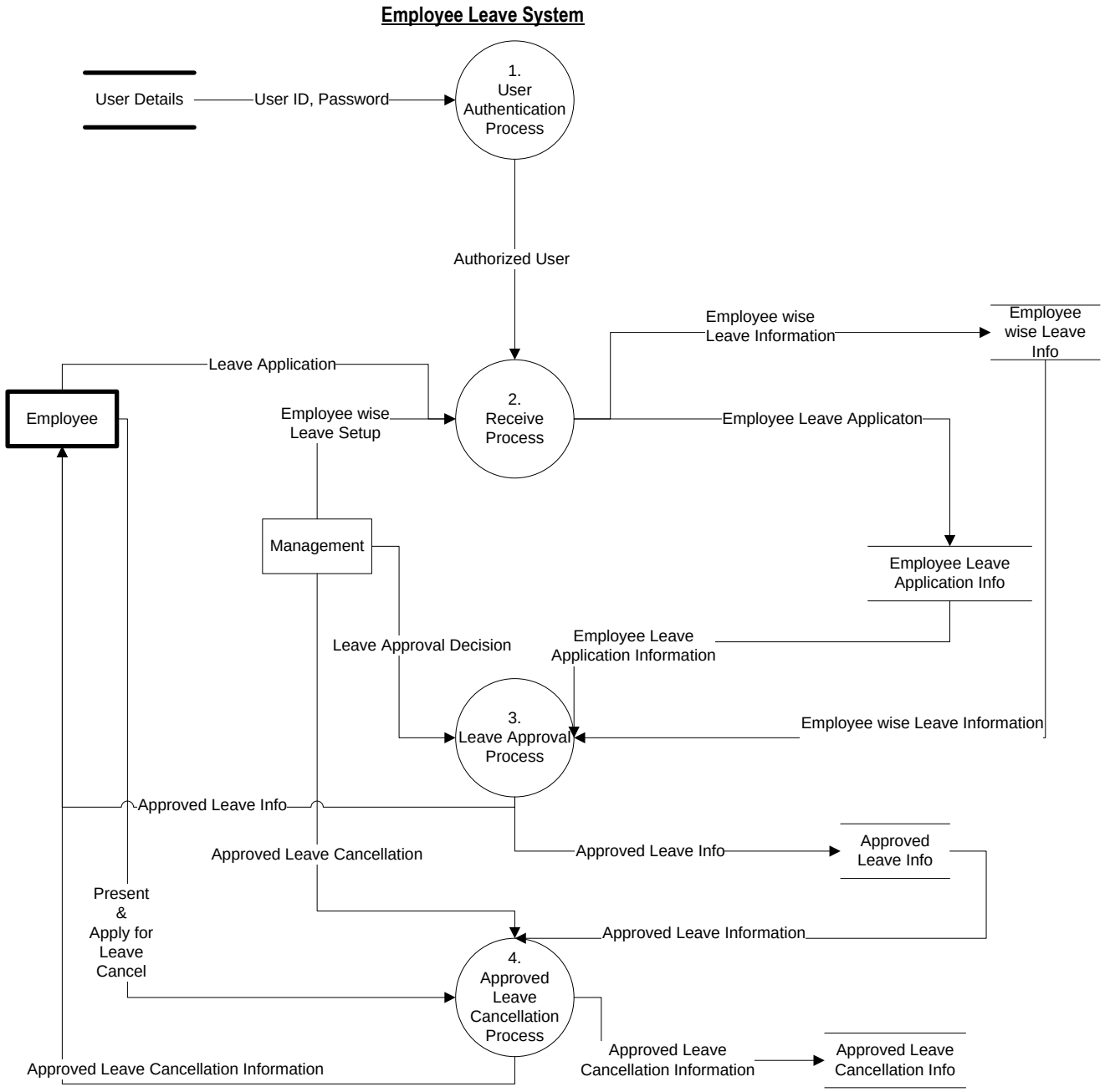

Figure 6: System Level DFD of Leave System

The system begins with issuing temporary id card to employee. It has 4 processes:

- Employee wise Leave Setup
- Leave Application Received Process
- Leave Approval Process
- Approved Leave Cancellation Process

Login is a common process for all modules. It ensures user authorization.

- Receive Process:
    - Authorized User enters employee wise leave setup by management and system keeps the information.
    - Authorized User enters Employee Leave Application and system keeps it.
- Leave Approval Process:
    - Authorized user enters Management leave decision which uses employee leave application information and employee wise leave setup. System keeps the decision.
    - System informs the applicant employee about the leave application.
- Approved Leave Cancellation Process:
    - Authorized user enters management approved leave cancellation decision which uses Approved leave information from the system. System keeps approved leave cancellation information.
    - System informs employee approved leave cancellation.

Employee Attendance System

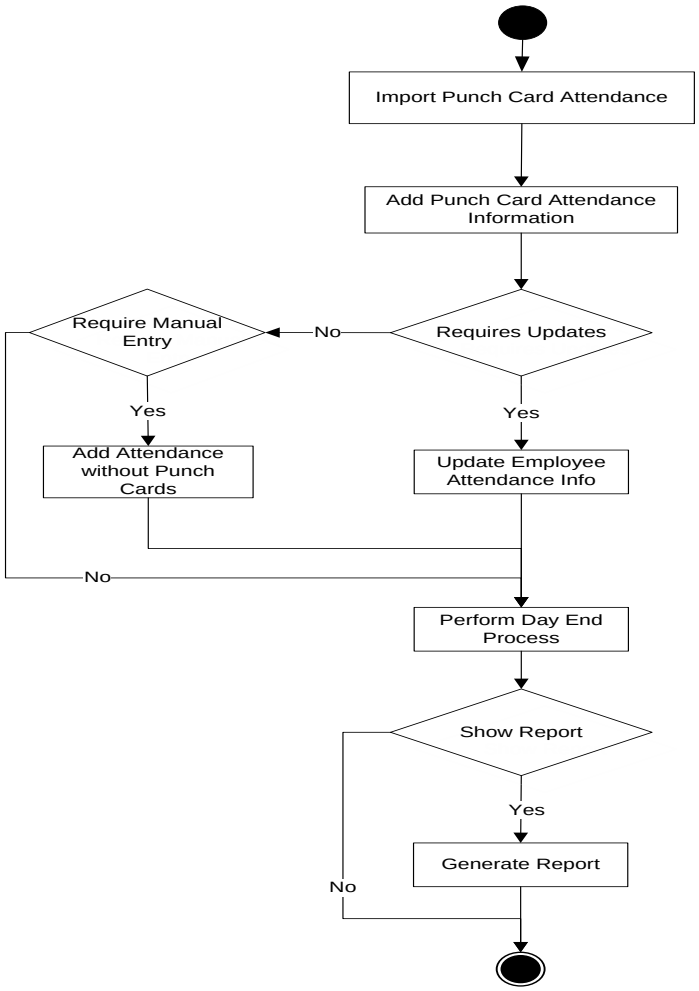

Figure 7: Activity Diagram of Attendance System

- Attendance System allow authorized personnel to log in to the system.
- The Website Administrator and Regular User , Divisional User has the options for performing either administrative tasks i.e. employee Attendance updating and other related activities or generates report.
- Authorized User Imports Attendance information from Punch Card Storage.
- If any update requires authorized User updates the imported attendance information.
- If no update requires but manual entry requires for the missing attend employees then give entry the information.
- If no Update requires or after updates of manual attendance entry, performs day end process for finalize day to day entry with employee wise present time in the office / factory.
- If reports require showing then, generates the report.

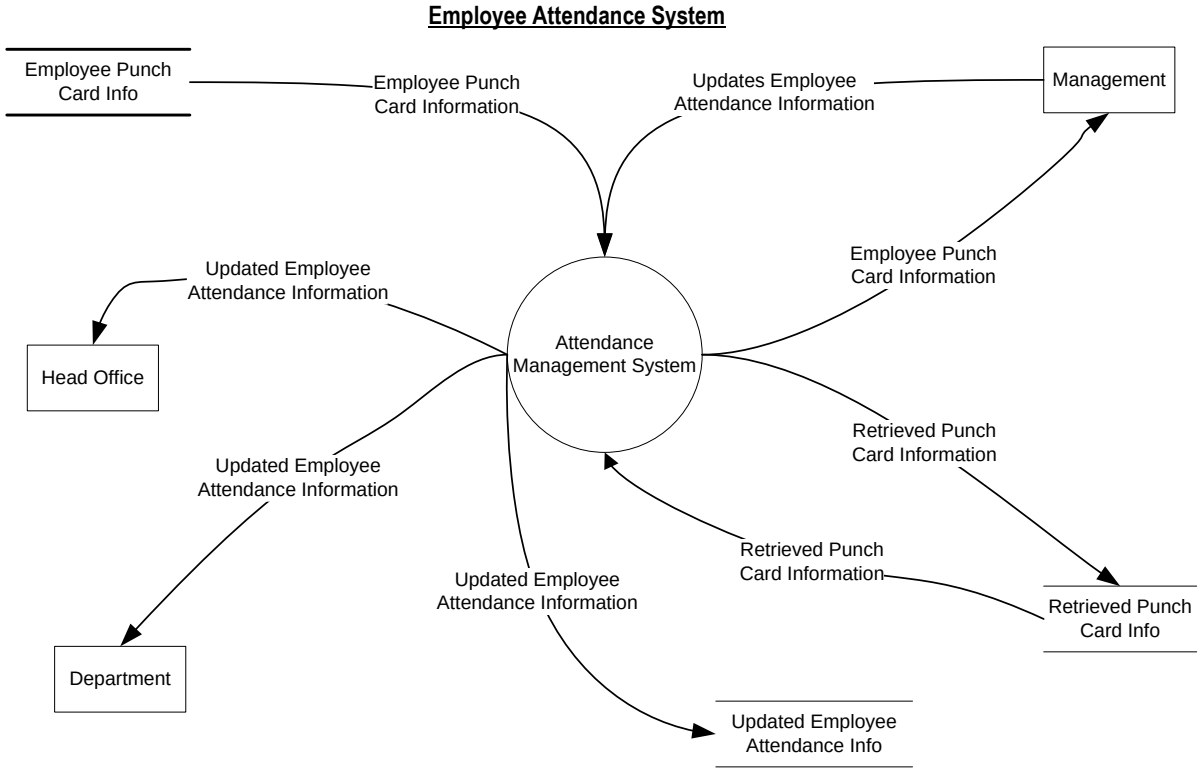

Figure 8: Context of Attendance System

The Attendacne System receives all Attendance from employee (first entry, lunch time, any outgoing, overtimes), keeps in the system. Management time to time updates the information if required.

- System imports Punch Card Attendance information.
- Management updates then information as required.
- Head Office and Department views the attendance information.

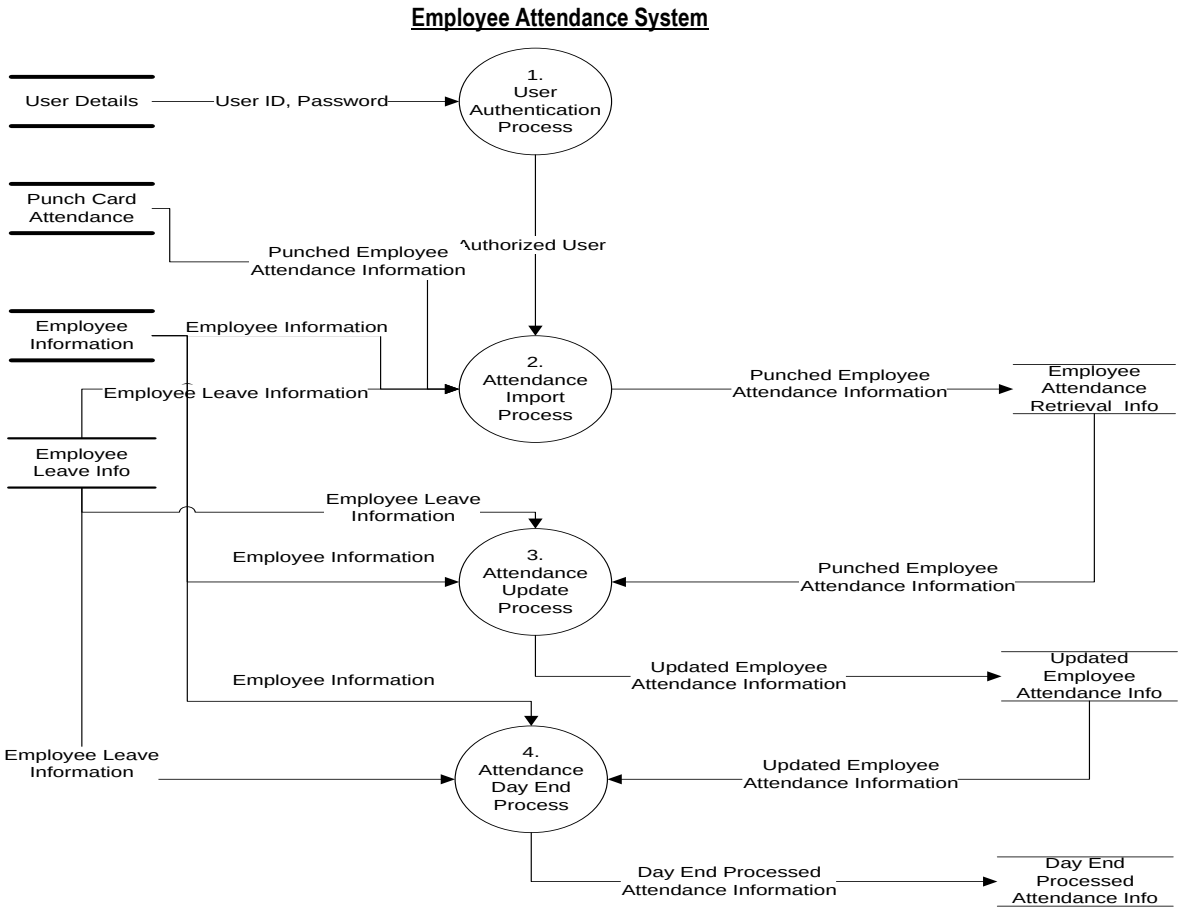

Figure 9: DFD of Attendance System

The system has 3 processes:

- Employee Punch Card Retrieval Process
- Attendance Updating Process
- Attendance Day End Process

Login is a common process for all modules. It ensures user authorization. Factory higher Level User Retrieved Punch Card Information from another storage. After received HR department attendance, matches with system and then updates the database as required.

Login is a common process for all modules. It ensures user authorization. Employee wise approved Leave stored in the system use here.

- Attendance Import Process: System Imports attendance information from Punch Card Storage and keeps in the system.
- Attendance Update Process: System uses Leave Information and imported attendance information for updating and keeps the updates information in the system.
- Attendance Day End Process: System uses Updating Information and after processing Day End keeps in the system.

Payroll System:

Payroll System (PS) software module's prime task is prepares salary. This module uses employee information from Employee Information System (ES) which contains employee salary structure of all employees.

This module will prepare Production wise and Fixed Salaried employee's salary sheet individually. For Production based employee salary this module uses Production Module. For Fixed Salaried and also Production based employee it uses employee Attendance Module. It contains concern employee's details salary information. Salary information contains all salary, allowance, deduction and loan installment information.

PS, the centralized intelligent component, will streamline the exchange of information between Employee and the departments/sections involved. LS, the single window internet application, will provide global visibility and access to the central database populated from the information exchanged between the stakeholders. PS Portal for the ERP-HR will provide the interface for the stakeholders.

The interaction between LS players in the current system is depicted in the diagrams below:

Employee Payroll System

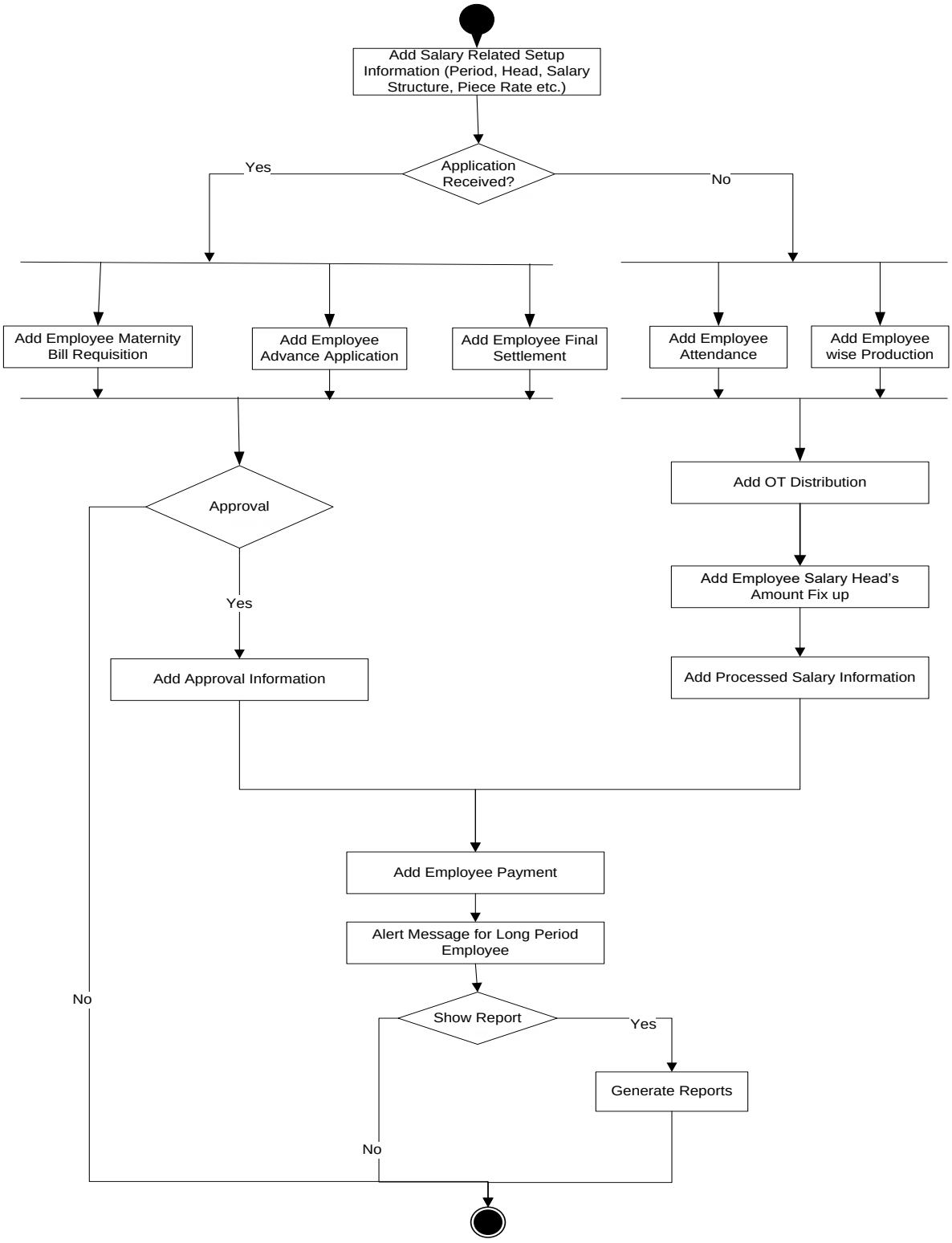

Figure 10: Activity Diagram of Payroll System

- PS allow authorized personnel to log in to the system.
- The Website Administrator and Regular User has the options for performing either administrative tasks i.e. employee Payroll updating and other related activities or generates report.
- The authorize user adds Employee Maternity Bill Requisition, Advance Application, Employee Final Settlement and Employee wise Production to the system.
- The first three require Approval, the user (approval authority by authority hierarchy) adds the approval information for Maternity Bill Requisition, Advance Application Final Settlement.
- The user adds OT Distribution into the system.
- The user adds Employee Salary Head's Amount Fix up in the system.
- In Salary Process OT Distribution and Head wise amount uses and system keeps processed salary information.
- System alerts about long period employee to management.
- System generates reports according to the user requirements.

Employee Payroll System

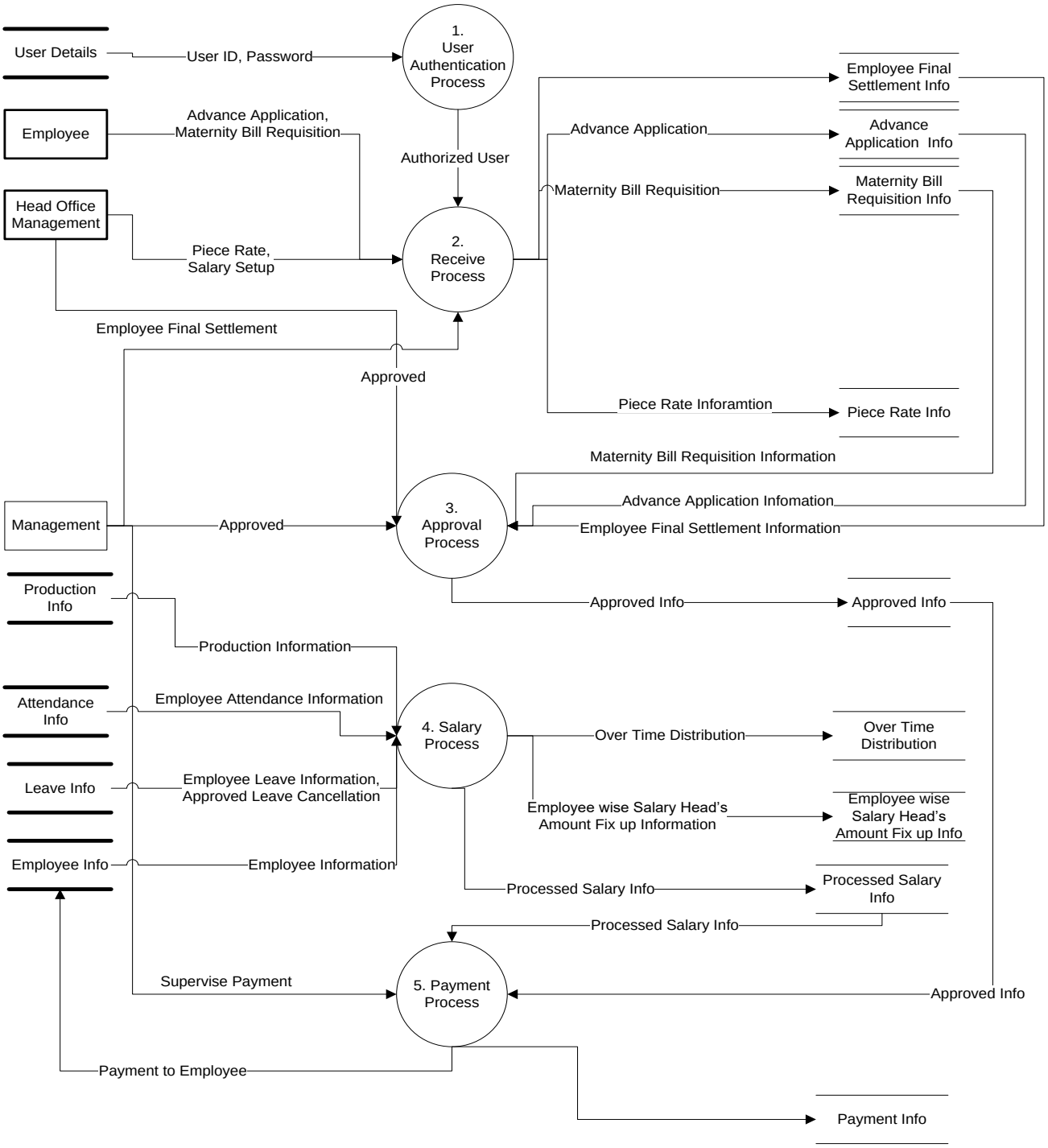

Figure 11: System Level DFD of Leave System

Payroll System has 5 processes except Login: Receive Process, Approval Process, Pre-Salary Process, Salary Process, Employee Payment Process.

- Receive Process: System receives employee information form employee database, Employee submits Advance Application and Maternity Bill, Piece Rates & different Salary Setup from Head Office Management, Final Settlement of an Employee from Employee Closing information from Employee Database and keeps in to the system.
- Approval Process: Advance Application, Maternity Bill and Final Settlement requires different level of approval. System keeps the approval information.
- Salary Process: Salary Process requires some pre-requisite activities. This process uses Salary Setup Information, Production Information, Piece Rate Information and attendance Information and produced Over Time Distribution and Employee wise Salary Head's Amount Fix up and at last processed Salary Information in the system.
- Employee Payment Process: This process keeps information of the employee payment of Approved Advance, Final Settlement and basically Processed Salary.

3 FUNCTIONAL REQUIREMENTS – SCOPES, ATTRIBUTES & USE CASES

3.1 User Login

Scope ID: HRMS-Login
Name of Scope: User Login.
Allow User to login into the system.
Description:

1. Website Administrator, Registered Members, Regular User and Other Authorized User . Authorized User login into the system by providing his/her user ID and password. After that system will validate his/her user ID and password to declare the user is authorized or not.
2. User's information depicted from the predefined database.
3. If the user is declared unauthorized by the system then it will go back to the authorization process again.
4. All User are able to perform operation as per obtained privileges and or roles.

3.1.1 Attribute List of Scope HRMS-Login

Attribute Name	Description	Mandatory/ Optional
User ID	Text, (derived from User Info Table)	M
Password	Text, (derived from User Info Table)	M
Full name	Text	M
User name	Text	M
Password	Text	M
Email	Text	O
Account number	Text	M
User type	Text, (derived from user type)	M
Last login	Date	M
User category	Text, (derived from user category)	M
User role	Text, (derived from user role)	M
Role start date	Date	M
Role end date	Date	M

3.1.2 Use Cases

3.1.2.1 User Login

Use Case ID: **HRMS-Login/uc/01**

Use Case Name: **User Login**

Actors: Website Administrator, Registered Members, Regular User and Other Authorized User

Description: Through this use case user can log into the system by providing their valid user ID and password. After login, users will get a welcome message and be able to access various features of the system depending on their privileges.

Preconditions: User ID, password and Privilege is stored in the storage .

Post conditions: Website Administrator, Registered Members, Regular User and Other Authorized User entered into the system

Normal Flow:

1. User provides his/her user ID and password to login.
2. System will validate his/her user ID and password and declares whether user is Website Administrator, Registered Members, Regular User and Other Authorized User or not.
3. System identifies Website Administrator, Registered Members, Regular User and Other Authorized User as General user or Administrative user.

Alternative Flows: 2a. Incase of Website Administrator, Registered Members, Regular User and Other Authorized User failed to login, system will go back to the login screen.

3.2 Manage User

Scope ID: HRMS-User
Name of Scope: User
Description: Allow Administrator to add, view, update, delete User related information into the system.

1. The Administrator will be able to Add, Update & Delete the information. No other user can not have the privilege..
2. Administrator will be able to view user's information as required.
3. Administrator will be able to delete particular user's information as required.
4. No Delete action takes place if any other function or processes use the information.

3.2.1 Attribute List of Scope HRMS-User

Attribute Name	Description	Mandatory/ Optional
User ID	int(11) , PK	M
Full Name	varchar(50)	M
User ID / Name	Varchar(20), unique	M
Password	varchar(20)	M
Confirm Password	varchar(20)	M
Email	varchar(50)	
Rank	int(11)	
Batch No.	varchar(20)	M
Employee ID	int(11)	M
Mobile No.	varchar(50)	M
National ID	varchar(20)	M
Place of Posting – Division	int (11), (derived from scope HRMS-Loc)	M
Place of Posting – District	int(11) , (derived from scope HRMS-Loc)	M
Place of Posting – Thana	int(11) , (derived from scope HRMS-Loc)	

3.2.2 Use Cases

3.2.2.1 Add User

Use Case ID: **HRMS-User/uc/01**

Use Case Name: **Add User**

Actors: Administrator

Description: This use case will allow Administrator to add User information into the system.

Preconditions:

- User must be Administrator and logged into the system (HRMS-Login/uc/01).

Post conditions: User information is stored. System makes the information as approved automatic.

Normal Flow:

1. User enters details attributes.
2. User commands to save information.
3. System checks for duplicate entry.
4. System stores the information.

Alternative Flows:

2a. Incase of Administrator failed to login, system will go back to the login screen.

3.2.2.2 View User

Use Case ID: **HRMS-User/uc/02**

Use Case Name: **View User**

Actors: Administrator.

Description: This use case will allow the Administrator & User to view User information stored into the system.

Preconditions:

- User must be Administrator and logged into the system (HRMS-Login/uc/01).
- User information (HRMS-User /uc/01) must be stored in the system.

Post conditions: User information is viewed.

Normal Flow:

1. User selects particular User information..
2. System shows respective User information.

Alternative Flows:

2a. Incase the information not found, system will generate corresponding message.

3.2.2.3 Update User

Use Case ID: **HRMS-User/uc/03**

Use Case Name: **Update User**

Actors: Administrator

Description: This use case will allow all Administrator to update particular User information stored into the system.

Preconditions:

- User must be Administrator and logged into the system (HRMS-Login/uc/01)..
- User information (HRMS-User /uc/01) must be stored in the system.

Post conditions:

- User information is updated.
- System shows a list with last updated information.

Normal Flow:

1. Particular User information is viewed by performing HRMS-User/uc/02.
2. User changes information as necessary and commands to update..
3. System checks for duplicate information.
4. System generates alert for confirming update..
5. System updates existing information.

Alternative Flows:

3a. For each match found, system will generate an alert.

5a. Incase mandatory field defined in attribute list is missing, system will generate corresponding alert.

3.2.2.4 Delete User

Use Case ID: **HRMS-User/uc//04**

Use Case Name: **Delete User**

Actors: Administrator

Description: This use case will allow Administrator to mark particular User information (stored in the system) as deleted

Preconditions:

- User must be Website Administrator and logged into the system (HRMS-Login/uc/01)..
- User information (HRMS-User/uc/01) must be stored in the system.

Post conditions:

- User information is marked as deleted..
- Deleted User information will not be viewed.

Normal Flow:

1. Particular User information is viewed by performing HRMS-User/uc/02.
2. User commands to delete.
3. System generates alert for confirming update.
4. System updates (marks) the User record as deleted
5. No delete if User record use in another function or process.

Alternative Flows:

4a. Incase particular User use in another function, system will inform user that record cannot be deleted.