

CSA1101

System Analysis, Design, and Prototyping

Deliverable 4

Data Flow Diagram (Context Diagram and Diagram 0)

Payroll Management System

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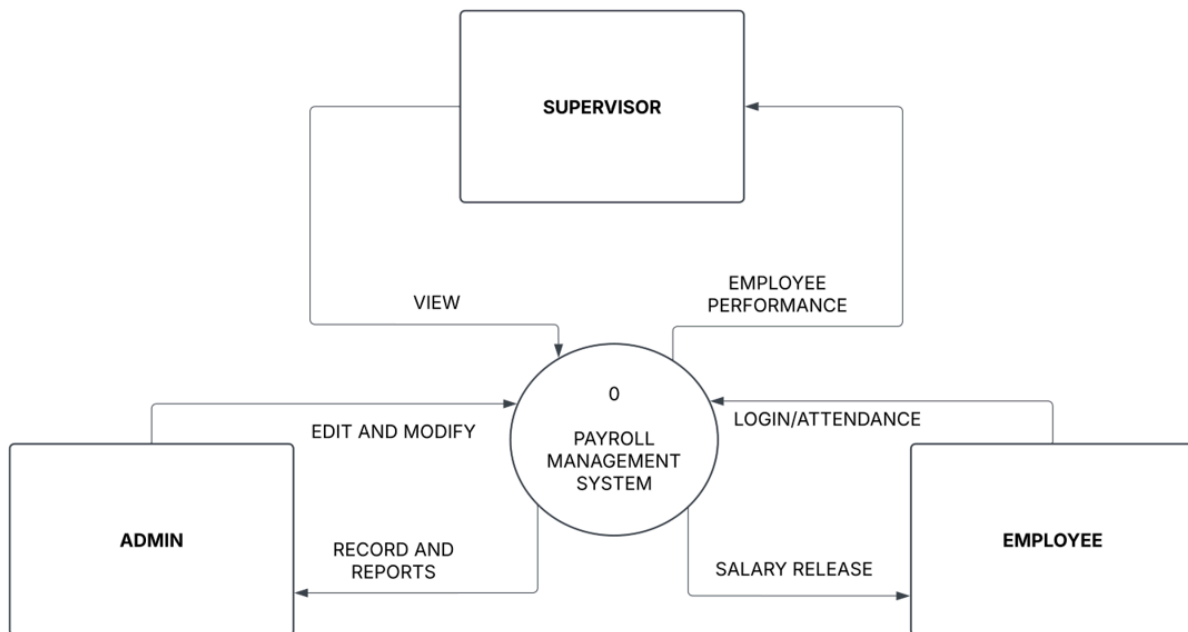


Figure 1: Diagram 0

Detailed Payroll Management System Breakdown

- Login & Authentication (Process 1.0)
 - Employees and Admin login to access the system.
 - System verifies user credentials and records login time.
- Attendance & Work Hours Tracking (Process 2.0)
 - Employees clock in and out.
 - System calculates total work hours.
- Payroll Processing (Process 3.0)
 - Salary computation based on attendance, deductions, and bonuses.
 - Tax and benefit deductions are applied.
- Salary Release (Process 4.0)
 - Approved payroll is sent for salary disbursement.
 - Employees receive payment notifications.
- Reports & Record Keeping (Process 5.0)
 - Generates general reports.
 - Stores salary history for future reference.
- Managing Users (Process 6.0)
 - Can manage and modify user details

Short Discussion: Diagram 0 expands the Payroll Management System into six core processes, detailing how payroll data is collected, calculated, processed, and stored. Each process plays a crucial role in ensuring payroll accuracy, from tracking attendance

to final salary release. By organizing these functions systematically, the system reduces human errors and automates tedious payroll tasks, leading to a more efficient payroll management process. Additionally, the record-keeping feature helps maintain accurate salary histories, providing transparency for both employees and administrators.

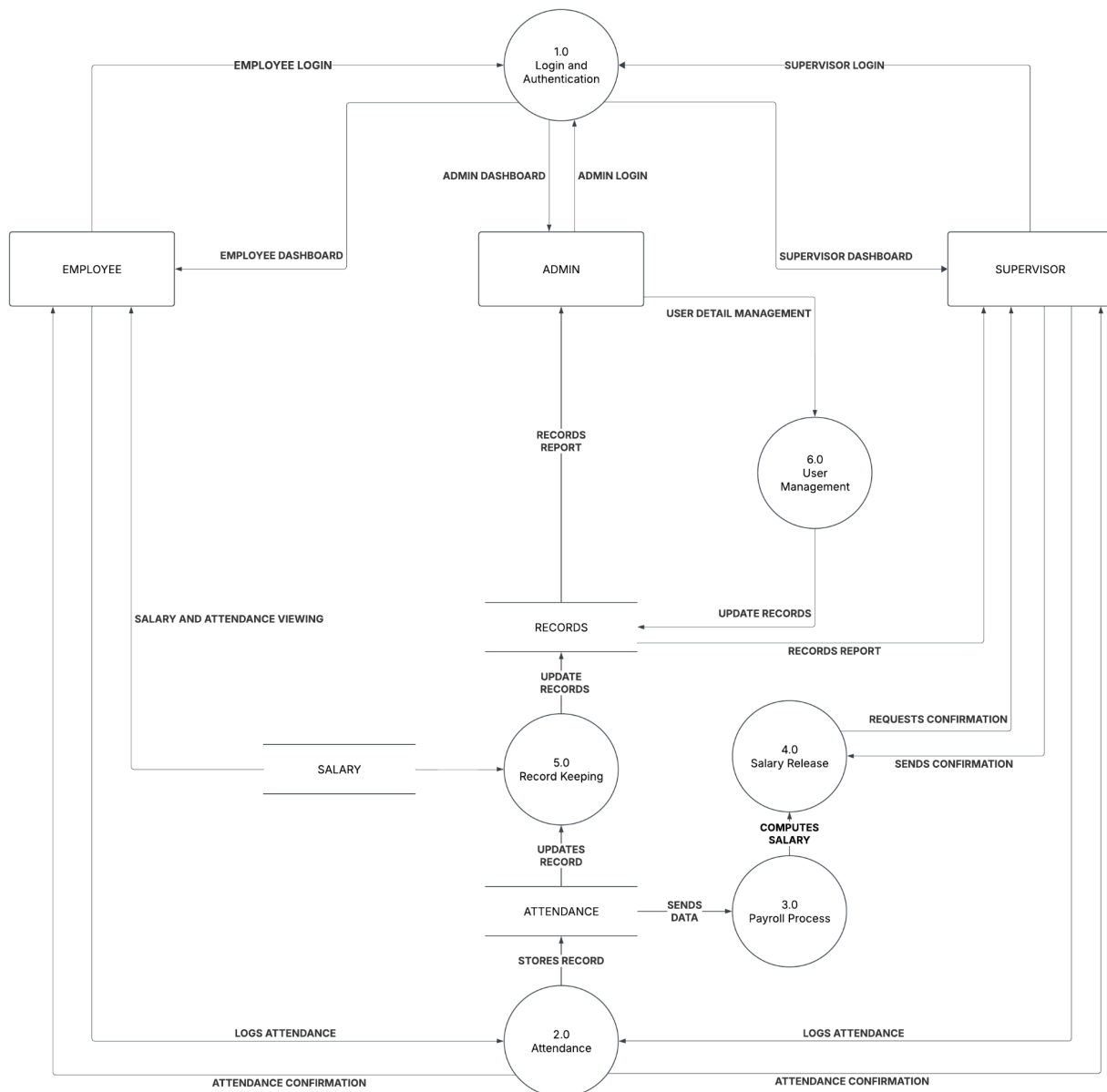


Figure 2 : Level 1 Diagram

Entities and Processes:

- External Entities:
 - Admin: Manages system access and payroll processing.
 - Supervisor: Reviews and approves payroll before salary release.
 - Employee: Logs attendance and receives salary.
- Processes: (1.0 to 6.0)
 - 1.0 Login & Authentication: Employees and admins log in, and the system verifies credentials.
 - 2.0 Attendance & Work Hours Tracking: Employees record attendance, and the system calculates work hours
 - 3.0 Payroll Processing: System computes salaries based on attendance, deductions, and benefits.
 - 4.0 Approval & Salary Release: Payroll is approved before salary disbursement.
 - 5.0 Reports & Record Keeping: Generates payroll reports for future reference.
 - 6.0 Managing Users: Can manage and modify user details.
- Data Store:
 - Salary: Stores payroll details, including salaries, deductions and payment histories.
 - Record: General record of the employees including details, attendance, and salary details.
 - Attendance: Stores employee attendance records and total hours worked.

Short Discussion: The Level 1 Data Flow Diagram (DFD) provides a detailed breakdown of the Payroll Management System, showing how data flows between different processes and external entities. This diagram expands on the Context Diagram by dividing the system into six key processes, ensuring a structured and organized payroll system. This breakdown enhances efficiency, accuracy, and transparency in payroll management, minimizing errors and ensuring employees receive correct compensation. By structuring the payroll system into smaller processes, it becomes easier to manage and troubleshoot any issues that may arise.