Assignment On

PAYROLL MANAGEMENT SYSTEM

CO302 : DATABASE SYSTEM

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ACKNOWLEDGEMENT

We would like to express our special thanks of gratitude to our Database System professor Dr. Sarat Saharia for his guidance and support in understanding the basic concepts to accomplish this project.

We are glad to work on real world project which led our understanding and knowledge of Payroll system in organisations. We once again want to thank Dr. Sarat Saharia for letting us work on this project.

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ABSTRACT

"Payroll Management System" is one of the core areas of any organisation. Usually, it is pursued to manage the employees *expenses, allowances, salary, gross salary, deduction, tax* and many more for a specific time period. Management and accounting are two main essential parts for payroll.

Payroll is an area in which any organisation or company won't take any risk because it leads to some financial and serious legal consequences. Also the organisations need to ensure that each and every the employee is getting paid as per government rules and regulations.

This project will ease to accomplish all these task easily and systematically.

1.Introduction

1.1 Project Overview :

A payroll management system deals with the financial aspects of employee's salary, allowance, deductions, gross pay, net pay etc. and generation of pay slips for a specific period. The database contains record of employee and other information regarding the payroll.

1.2 Purpose & Scope:

Purpose of payroll system are:

- Manage Employee Information *efficiently.*
- Define the *allowances, deductions, leave ,etc.*
- Generate *pay-slip* at ease
- *Security*

For small business it is possible to handle payroll manually but it leads to more time wastage in calculating every factor. Manual calculation is probe to miscalculation and lead to headache for everybody. So it's a good idea to have a digital payroll system to let the things go smooth.

Scope of payroll system are:

- Recurring payroll service : gross pay calculation, payroll related taxes and many more.
- Social insurance management.
- Preparation and submission of tax declarations.
- Annual service connected to payroll processing and social security administration.
- Providing data report for the *client's* accounting.

E-R Diagram

An entity relationship diagram (ERD) shows the relationships of entity sets stored in a database. The e-r data model uses a collection of basic objects called *entities,* and *relationships* among these objects. An entity is a "thing" or "object" in the real world that is distinguishable from other objects. The entity-relationship model is widely used in database design.

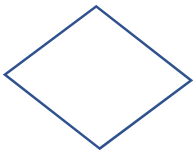
E-R diagram illustrates the logical structure of database. It helps to visualize how data is connected in a general way, and are particularly useful for constructing a relational database.

Notations:

Entity

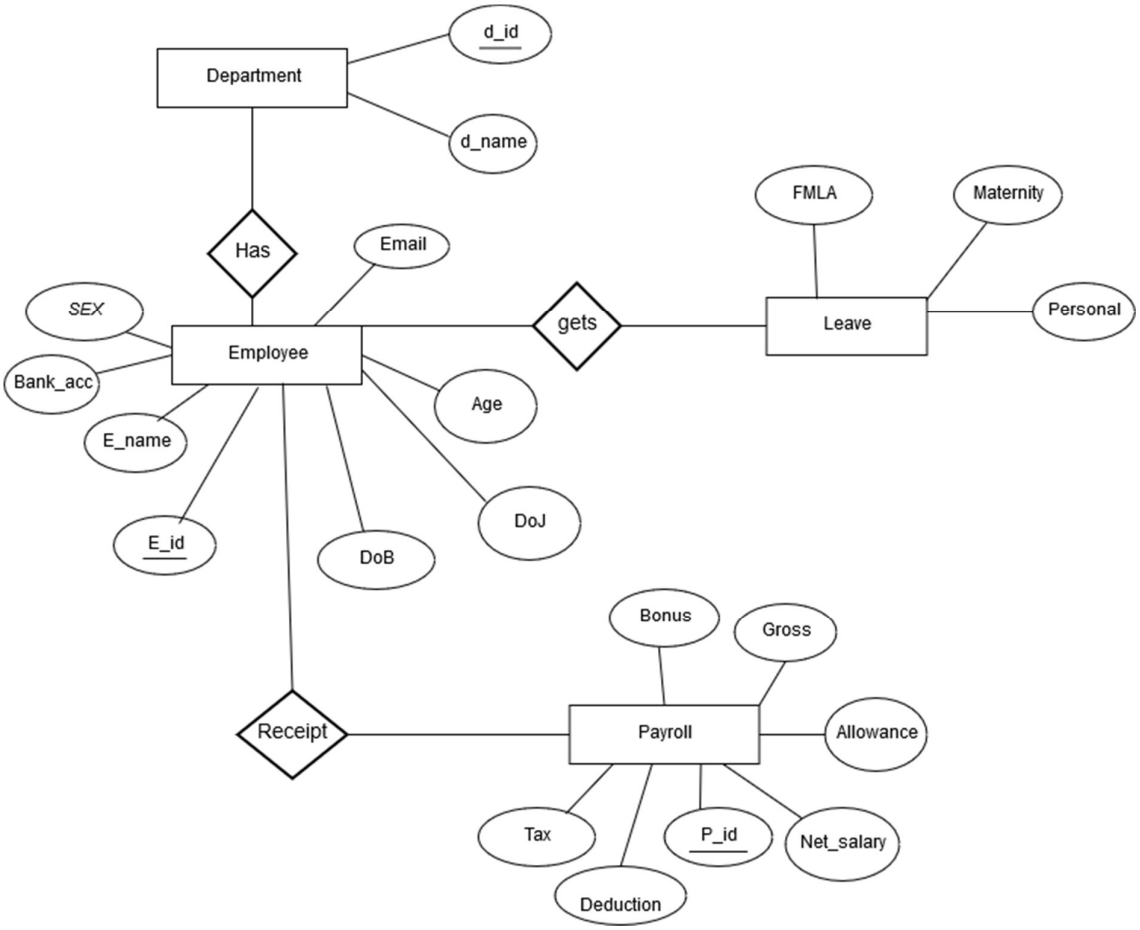
Weak Entity

Actions



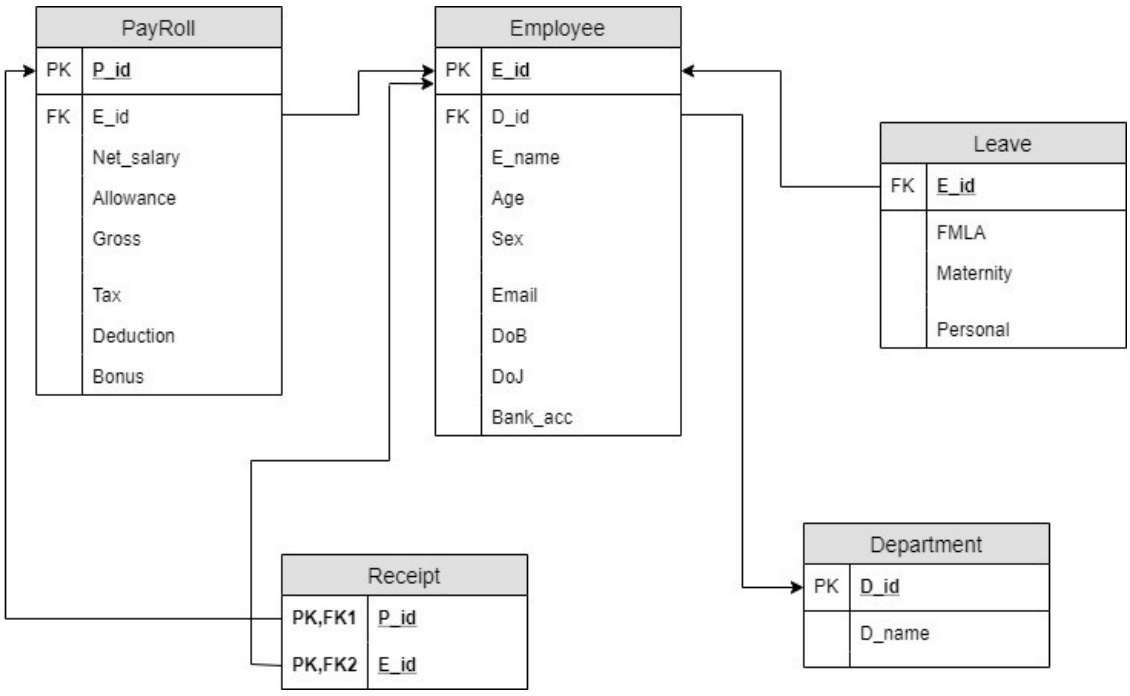
Attributes

Lines



E-R Diagram of Payroll System

Relational Model



Relational Model

Functional Dependency

Functional Dependency:

A functional dependency is a relationship between two attributes generally between super key(primary key) and other non-key attributes.
If there is a functional dependency a -> b then:

t1[a] = t2[a] , and t1[b] = t2[b].

The functional dependency in the respective relations are :

In relation **Department,**
D_id -> D_name

In relation **Employee :**

E_id -> E_name,
E_id -> Age
E_id -> Sex
E_id ->Email
E_id ->DoB
E_id ->DoJ
E_id -> Bank_acc

In relation **Payroll :**

P_id ->Net_salary
P-id -> Allowance
P_id ->Deduction
P_id -> Gross
P_id -> Tax
P_id -> Bonus

References

Information about Payroll : https://en.wikipedia.org/wiki/Payroll

Database concepts (E-R diagram ,Relational model , Functional dependency, and Normalization) : Database System Concepts by Abraham Silberschatz.
